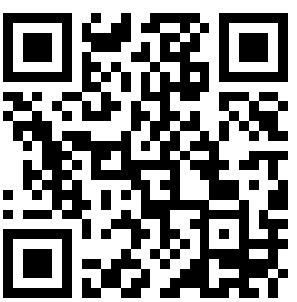
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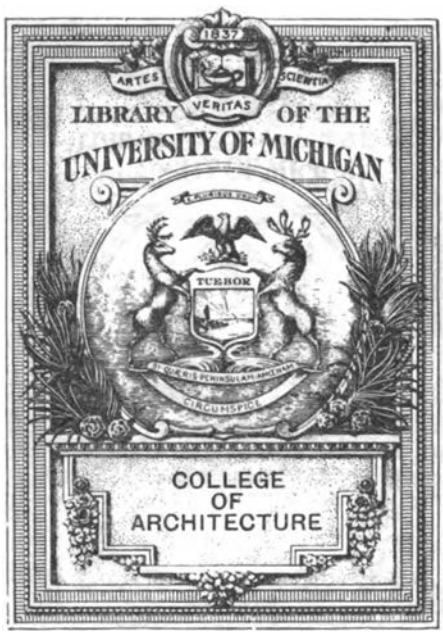
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JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

VOLUME XI—JANUARY, 1923—DECEMBER, 1923

Published Monthly by THE PRESS OF THE AMERICAN INSTITUTE OF ARCHITECTS, Inc.
250 West 57th Street, New York, N. Y.

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LOUIS H. SULLIVAN

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Published Monthly by

THE PRESS OF THE AMERICAN INSTITUTE OF ARCHITECTS, INC.

Thomas R. Kimball, *Omaha,* President; N. Max Dunning, *Chicago,* Vice-President; William Stanley Parker, *Boston,* Secretary; Ben J. Lubschez, *New York City,* Treasurer; Herbert B. Briggs, (Briggs & Nelson), *Cleveland;* D. Everett Waid, *New York City;* M. B. Medary, Jr., (Zantzinger, Borie & Medary), *Philadelphia;* George C. Nimmons, (George C. Nimmons & Co.), *Chicago;* S. F. Voorhees, (McKenzie, Voorhees & Gmelin), *New York City,* Directors.

CHARLES HARRIS WHITAKER, *Editor*

Publication Office, 305 Washington Street, Brooklyn, New York

Editorial Office, Fisk Building, 250 West 57th Street, New York, N. Y.

50 CENTS A COPY. $5 PER YEAR. (Foreign, $6)

Checks or P. O. orders should be made payable to The Press of The American Institute of Architects, Inc., and all communications should be sent to Editorial Office.

Copyright, 1923, by The Press of The American Institute of Architects, Inc. Entered as second-class matter, at the Post Office at Brooklyn, N. Y., under Act of Congress of August 24, 1912. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized by the Third Assistant Postmaster General.

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JOURNAL OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Vol. XI JANUARY, 1923 No. 1

The Autobiography of an Idea

By LOUIS H. SULLIVAN

CHAPTER VIII.

Louis Goeth on a Journey

EARLY in the summer of '70 Henri List felt an impelling desire to visit his second daughter, *Jennie,* whom he had not seen in a number of years. In 1862, she was married to a certain Walter Whittlesey, a contracting railway engineer, and they lived on a 300-acre farm at Lyons Falls, N. Y. On the 29th day of February, 1864, she added to the world's population a daughter: in due time named Anna, under Presbyterian auspices. Mrs. Whittlesey, at the time we are considering, was 34 years of age—one year younger than her sister, *Andrienne,* greatly beloved mother of Louis Sullivan. When Henri List's desire had ripened into a resolve and was so announced, there was "the devil to pay," as was said at times in those days. Louis became frantic. He must go too. He, also, had not seen his *Tante Jennie* in many years. He must see where she lived and how she lived. He must see his dear little cousin Anna, and Uncle Walter too. He must see the farm, and the river and the great waterfall. "Grandpa, I have never seen a waterfall, only in pictures, and in pictures they don't move and they don't roar; I want to live with a *real* waterfall; and I want to see the Berkshire Hills; and the Hudson; you know, Grandpa, pictures don't give you any real idea; why Grandpa, a picture of a tree isn't anything at all when you see a real tree, like our great Ash at Cowdry's; and to think, Grandpa, I've never been farther away than Newburyport; take me with you, Grandpa. I want to see something big; everything in Boston and Wakefield has grown so small; we are so shut in; my geography says there are big things as you go west, that outdoors gets bigger and bigger; I want to go, Grandpa; now is the time; I may never have another chance." Grandpa, at first, was angry and obdurate. He thought only of what a pest, of what a continuous, persistent nuisance his growing grandson would be, and the thought became a nightmare; for Henri List, conforming to custom, was growing older, was acquiring nerves; his easy-going humor showed occasional thin spots of temper. He roared at the "dear little Cousin Anna" business, but the possible significance of the pleadings concerning a "shut-in life" and "big things as you go west" dawned upon him, grew stronger, and he came finally to believe that what he had heard was not altogether boyish nonsense but a rising cry for expansion, a defining hunger for larger vision, bigger things; that his grandson, as it were, was outgrowing his cocoon. Upon second and third thoughts he agreed; whereupon the few remaining sane ones also agreed that Louis needed kennel, collar and chain.

The day came. They departed *via* the Boston and Albany Railway in the evening. Sleepless, restive, Louis awaited, as best he might, the coming of the Berkshire Hills into his growing world. He knew he would see them near dawn. The *hour* came; he entered the foothills and began winding among them, as with labored breath the engines, like heavy draft horses, began a steady pull, the train dragging reluctantly into steadiness as succeeding hills grew taller—with Louis eagerly watching. The true thrill of action began with the uprearing of imposing masses as Louis clung to the solid train now purring in the solitudes in ever-lengthening swings—deep valleys below—until, amid mists and pale moon gleaming, arose the mighty Berkshires, their summits faint and far, their immensities solemn, calm, seeming eternal in the ghostly fog in the mild shimmer, clad in forests, uttering great words, runic words revealing and withholding their secret to a young soul moving as a solitary visitant, even as a wraith among them, the engines crying "We will!", the mountains replying "We will!" to an expanding soul listening within its own mists, its own

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shimmering dream to the power without and within, amid the same echoes within and without, bereft of words to reply, a bare hush of being, as though through mists of mind and shimmer of hope, SUBLIMITY, in revelation, had come to *one* wholly unprepared, had come to *one* as a knock on the door, had come to *one* who had known mountains only in books. And Louis again, in wonder, felt the power of man. The thought struck deep, that what was bearing him along was solely the power of man; the living power to wish, to will, to do. That man, in his power, with broad stride, had entered the regioned sanctity of these towering hills and like a giant of Elfinland had held them in the hollow of his hand. He had made a path, laid the rails, builded the engines that others might pass. Many saw engines and rails, and pathway, and *one* saw what lay behind them. In the murky mist and shimmer of moon and dawn, a veil was lifted in the solitude of the Berkshires. Louis slept; his nerves becalmed, amid the whistle's sonorous warnings, the silence of the engine, the long, shrill song of the brakes, with mingling echoes, as the train, with steady pace, wound slowly downward toward the Hudson, leaving the Berkshires to their silence and their solitude—and Louis slept on, under the wand of the power of man.

They reached Albany in broad daylight. The Hudson, to Louis' dismay, did not impress him as greatly as he had hoped and believed it would. Its course was straight instead of broadly curving, and the clutter of buildings along its western flank seemed to belittle it. It appeared to him as a wide waterway, not unpleasant of its kind. It seemed to lack what Louis had come to believe the character of a river. The bridge crossing it, with its numberless short spans and lack of bigness, beauty and romance he gazed upon in instant disdain. It appeared to creep, cringing and apologetic, across the wide waters which felt the humiliation of its presence.

Yet he received a shock of elation as the train had moved slowly along the bridge, carrying him with it; and as he gazed downward upon flowing waters, again he marvelled at what men could do; at the power of men to build; to build a bridge so strong it would carry the weight of a great train, even with his own precious and conscious weight added thereto. And Louis mused about the bridge; why was it so mean, so ugly, so servile, so low-lived? Why could not a bridge perform its task with pride? Why was not a proud bridge built here? Was not New York a great state? Was it not called in his geography "The Empire State"? Was not Albany the Capital City of that state? Then why so shabby an approach? Was not the broad Hudson figuratively a great aqueous frontier between Massachusetts and New York, each state proud in sovereignty? And was not this bridge a presumptive greeting between sovereign states? For surely, the railroad train came straight from proud Boston to exalted Albany? And a veil lifted as there came to his mind a striking verse he had read:

"Why were they proud?
Again I cry aloud
Why in the name of glory
Were they proud?"

And there came up also to him the saying: "By their fruits ye shall know them," as, lost in imagery, he visioned forth the great Bay State, saluting the great Empire State, saying, solemnly:—The Sovereign State of Massachusetts greets the Sovereign State of New York. Let this noble bridge we herewith present you be a sign and a bond of everlasting amity between us, even as Almighty God proclaimed unto Noah of old and his sons: "I do set my bow in the cloud, and it shall be for a token of a covenant between me and the earth." Thus Louis, ruminating rather fiercely, wished to know what was behind the pestiferous bridge. He keenly felt that man's amazing power to do, should, in all decency and all reason, be coupled with Romance in the deed. And even more keenly he felt, as his eyesight cleared, that this venomous bridge was a betrayal of all that was best in himself, a denial of all that was best in mankind.

That day they took the New York Central train for Utica. After traversing the roughage, the Mohawk Valley opened to them its placid beauty as in welcome to a new land. And to Louis it was in verity a new land, known to him up to this very present hour as a geographical name—an abstraction—unknown to him and wholly unimagined, in its wealth of open rarity, its beauteous immensity of atmosphere. Here was freedom; here was expanse! Louis ranged with his eyes from near to far, following the sweep of the valley floor from the Mohawk to the distant low-flowing hills, and to and fro caressingly; and as mile after mile of valley passed by, and again mile upon mile, Louis' peaceful mind passed into wonder that such an open world could be; and now he marvelled, not at man's power and his works, but at the earth itself, and a reverential mood claimed him for its own, as he began in part to see with his own calm eyes what Mother Earth, in her power, had done in her varied moods, and to surmise as best he could what more she had done that he knew not of. And all this while the Mohawk wound its limpid way, gentle as all else; and Louis, softening into an exquisite sympathy, cast his burden upon the valley, and there he found rest; rest from overintrospection, rest from overconcentration; freed from suppression and taboo.

Thus Louis became freshened with new growth as a tree in spring, and a new resilience came to take the place of the old. He was cleansed as by a storm, and purified as by fire; but there was no storm, no fire, no whirlwind—there arose from the valley a still,

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small voice, and Louis heard the voice and recognized it as his own returning to him, and he was overjoyed and strengthened in his faith and became as one translated into the fresh, free joy of living; for in this valley, this wilderness of light and earth he had found surcease.

Louis turned to Grandpa, whom he found dozing. The hills were coming together, a lurch of the train awakened Grandpa; he regarded Louis with a lazy smile and asked him if he had found the "big things," and how about the "shut-in life." Louis at once overflowed concerning the Berkshires, the Hudson, and the Bridge, but said not a word about the valley—*that* was sacred. When he had finished, Grandpa's face spread into one of those grimaces that Louis knew but too well as a preliminary to speech; and Grandpa said: "As to your bridge, young man, I know nothing; as to the Hudson, you know nothing; as to your Berkshires, they are an impertinence."

Grandpa was an incorrigible tease. With inward chuckle, with sweet, succulent sinfulness, he gazed his fill upon a crestfallen face, knowing the while how quickly and how well he could restore its color; then, having gloated long enough, he, as always, relented—but slowly, for effect; he began: "Louis, what good does the study of your stupid geography do you? Suppose you *can* bound all the states, you haven't an idea of what the states are. You see a crooked black line on your map and it is marked such or such a river; what do you know about that river? Have your teachers ever told you anything of value about a river? Any river? Have they ever told you that there are rivers and rivers each with its special character? Have they ever given you a word-picture of a river, so that you might at least summon up an image of it, however short of reality? They have not. They can not. They are not inspired. They are victims of routine, wearied on the daily treadmill until they can no longer see into the heart of a child. Now, I have watched you since you were a babe in arms, and I have mostly let you alone for fear of meddling with nature's work; for you were started right by my daughter, the mother who carried you and yearned for you. She is sound to the core. She alone of my children might fittingly wear the red cap of liberty. Yet you do not know your own mother. *I* know *you*. I know your abominable selfishness—come from your father; and your generosity and courage—come from my proud daughter. You have a God-given eye and a dull heart. You are at one and the same time incredibly industrious and practical, and a dreamer of morbid dreams, of mystic dreams, sometimes clean, brilliant dreams, but these are too rare.

"What you have said, from time to time, concerning man's power to do, has astounded and frightened me, coming from you. *That idea* you never got from any of us. *There* shines the light of the seer, of the prophet, leading where?—to salvation or destruction? I dare not think how that flame may grow into conflagration, or mellow into a world-glow of wisdom. But I know, worst of all, that adolescence is at hand; that you are in grave danger of a shake-up. Hard work and clear, straight thinking may pull you through; that is my sincere hope. I regret, now, having spoken harshly: I did not intend to, but one thought led to another as a river flows. Now let us return to earth and I will tell you about the Hudson."

Then Grandpa, aroused to eloquence, made a splendid, flowing, word-picture of the Hudson, from Albany to the sea, that brought out all the rare qualities of his fine mind, and so aroused Louis that he made the journey with him—lost to all else. Just then the train slowed up and came to a full stop. Louis looked out of the window. They were in a ravine, with high walls of rock, jagged and wild, and through this gorge came dashing, plunging, swirling, sparkling, roaring over the ledges in cascade after cascade, laughing and shouting in joy, the same Mohawk River that had flowed as gently as the footstep of a veiled nun, through the long, quiet valley they had traversed. Louis was exultant, he leaped from the train, waved his hat, and in spirit sang with the waters the song of joy. The bell clanged its warning note, Louis was aboard with a swing, and as the train moved on, from the rear platform he waved his farewell to Little Falls.

They soon arrived at Utica; and Grandpa, who had begun to feel the fatigue of the journey, announced that they would spend the night there in order to be fresh on the morrow. Louis, still restless, took a long, evening stroll. Utica had not impressed him. It seemed staid and somnolent, giving out an air of old and settled complacence, differing however, in kind and quality, from that of New England. So he strolled; his thoughts reverting to Grandpa and his extraordinary monologue; and for the first time, since he had begun to think such thoughts, he asked himself, what lies hidden behind Grandpa?

* * *

The Black River at that time flowed irregularly northward, as presumably it does today. Originating in hills not far northeast of Utica, it finally, after much argument with the lay of the land, debouched into Lake Ontario, not far beyond Watertown. About midway in its course it picked up the Moose River, and a short distance beyond their junction broke into a rough and tumble waterfall of perhaps forty feet descent, beyond which, its surface at first much ruffled, it went smoothly on its way as far as the eye could comfortably follow. The water-tumult was named Lyons Falls. Near the falls, on a narrow flat, close to the west bank of the river, sat dismally, in true American style, in the prevailing genius of ugliness, a

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hamlet or village, also called Lyons Falls. It was occupied at the time by what were then known as human beings and was the terminus of a canal, already in decay, that had somehow found its way from the City of Rome. At a level higher than the village flat, ran, substantially north and south, a railway, named, if memory serves, the Rome, Carthage & Watertown. During what time the village had served as the terminus of the railway, it flourished; when the line moved on, the village drooped and withered into what has eminently been set forth as a state of innocuous desuetude. At the station was a dirt road at right angles to the railroad, that quickly fell around a curve down to the village. To the westward, however, it ran straight as a section line over the hills and vanished.

From the railway station the ascent was gradual for a space, and at a distance, say of a hundred yards from the railway, and close to the northern side of the dirt road, rested the home of Walter Whittlesey, a rather modern structure for that day, surrounded by spruce trees that looked as though they had been dragged there and chained. Across the road from the family residence was the ice house, secreted in a lovely and refreshing glen of wildwood; at a decorous distance northeast of the "Mansion" was a big barn with its out-buildings, all in a state of dilapidation, and adjacent thereto was a worn and weary apple orchard, lichen-covered and rheumatic with age. Beyond this orchard was sheer stubble over a vast acreage.

Not very far west of the house, however, was a charming valley, quite incidentally berthed between the looming earth-billows. Throughout the length of this ever-to-be-hallowed spot busily ran a rivulet to the encouragement of a swath of herbage, and of thankful shrubbery clinging to its edges. Part way up the western slope was a long horizontal out-cropping of limestone ledge, along which, in comparative safety, grew a slender grove of tall, hardwood trees, with inviting undergrowth. One cannot drive a plow through a limestone ledge, and it is too much trouble to drain a low spot where there are plenty of hills. The groveland paid its rent in firewood, the rivulet paid no rent at all,—thus were they tolerated in their beauty. Hay was the general crop.

The Black River was crossed by a wagon bridge at a point between the Moose River and the falls. The road continued on to Lyonsdale. This same Black River gave an impression of performing a bold, high-handed deed. It split its territory sharply in halves. From its left bank rose wave upon wave of smooth hills mounting to a high plateau, while, as sharply from its right bank spread a huge, somber, primeval hemlock forest, mounting in turn upon its hills beyond the range of vision. Out of this forest rushed the Moose River, its waters icy and dark. Into this forest ran no road for long. The Black River appeared to have done this big, high-handed act; but the recurrence of the name Lyons, and the presence of a baronial seat at Lyonsdale, just within the edge of the forest, might have offered a diverging explanation to one intent upon what lies beyond appearances. However, such was the lay of the land.

The train bearing Grandpa and Louis, after the preliminary whistle and bell clanging of ceremony, slowed up at the station. Grandpa, clean shaven, erect, aglow, descended with dignity; Louis, somewhat begrimed because of his fixed belief that the place for his head lay outside the car window, jumped after him, already excited by the Black River. He wanted to investigate everything at once or immediately; oh, yes, he must kiss *Tante Jennie.*

They were greeted at the station by Walter Whittlesey, a sizeable man, swarthy, grave, full bearded—black sprinkled with gray, wearing the wide felt hat of a landowner who knew horses. He had given instructions, and had so notified Grandpa, that all baggage and luggage would be cared for, extraneously, by menials. He was a calm, courteous man, whose bearing suggested a lineage of colonels on horseback, blue grass, bourbon, blooded stock, beauteous women, and blacks.

The three walked leisurely up the road, to the white house with green blinds where *Tante Jennie,* otherwise Mrs. Jenny List Whittlesey, awaited them with the reserve of a gentlewoman whom long practice had enabled to speak with delicate precision in a voice scarcely audible, and to inhale her smiles.

As the trio mounted the steps leading to the veranda, Louis in his rough and ready way casually noticed, not far from the doorway, a young lady reclining in an easy chair, quietly rocking, deeply absorbed in a book. Scarcely had he entered the open door but she had affirmed: "I'm going to like that boy."

Within the "spare room" of the house, Grandpa folded his daughter in fervent arms, kissed her with the profound affection of an ageing father, and wept. Auntie did not weep; she amiably returned her father's greeting, and said something in very pure French that seemed to satisfy. Louis went through the performance awkwardly, and as hastily as possible. Auntie gave him the dry kiss of superculture and assured him in very pure English of her gratification at his arrival within her home.

Louis at the earliest moment escaped to the veranda. He had forgotten all about the young lady, and was startled and abashed to find her still there, gently rocking, absorbed in her book. Before he could retreat she arose in greeting with a smile known otherwhere only in Paradise; she said in glee: "My name is Minnie; I am eighteen, and a 'young lady' now. Oh Louis! I have waited for you so impatiently, and here you are at last. I am sure we shall like each other; don't you think we will? I'm in society in

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Utica and I'm going to tell you lots of things. See, I wear long skirts and do up my hair, but I can't climb trees any more; isn't that a shame? But I'll run races with you and we'll have lots of fun; and I'll tell you all about the books I've read, and all about society. Here I've been for a month reading French books and speaking French with Aunt Jenny and have grown weary of myself; now you and I are to be chums! Don't you think you'll like me?"

And Louis, taken thus unawares, and thus caressed with words, dared at last to look into gray Scotch eyes that seemed endowed with an endless fund of merriment, of badinage, of joy, of appeal, of kindness, and saturated with an inscrutable depth beyond all of these. He gazed steadily at a tender face, narrow, tapering, slender, and very pale, delicately freckled; at nostrils trembling; at a wide thin-lipped super-sensitive mouth; at large ears; at thin, vagrant, dark, sandy hair; at a sprightly medium figure, all alive. She was clad in dark blue silk. He found in her not beauty but irresistible pervading charm. As he was thus absorbed Minnie said: "Sit down beside me, Louis dear, and watch me die. Sit very still and watch." Whereupon, leaning back in her easy chair, she closed her eyes, deepened her pallor, closed her nostrils, made a thin line of her mouth, elongated her face, and lay deathly still, as though in veritable *rigor mortis,* until Louis' nerves were on edge. Then, still dead and rigid, the fine line indicating her closed lips slowly widened across her face, the thin lips parting slightly as of themselves, cadaverously, the teeth also, a little later; after a seemingly endless wait, from this baleful rictus there came out moans, wails, gurgles, the ears began to crawl as of themselves. Then of a sudden the corpse sat bolt upright, with wide glaring eyes, grasped Louis by the shoulders and in fierce, frothy words forecast for him the direst of misfortunes by sea and land. Then she patted Louis' pale cheek, fell back into her chair and giggled softly, casting at Louis the funniest, merriest, glances. "How old are you, Louis?" "Fourteen." "Oh, I knew that. I asked your auntie. But isn't it lovely, fourteen and eighteen; fourteen and eighteen!—and to think that I have died for you, and have come back to you!

"Tomorrow we'll go to church. The new minister's a rather nice chap. I like to hear him pray, he's so genteel about it; and he's sound in doctrine, so your auntie says, and you know she's a blue Presbyterian." And Minnie immediately took Louis under her wing.

Next day she *took* him to church, leading him by a string, as it were, set him down beside her in the family pew, and their whisperings mingled with other whisperings in the repressive silence. Then the minister appeared in the pulpit, a fairly young man with mien and countenance betokening earnestness, piety and poverty. Louis thought he prayed well, as with quiet fervor he set forth his belief that God was within his temple, and assuredly within the hearts of his flock. When it came to the sermon, Louis sat up straight and took eager notice, for the good man had just read from the big bible this text: "And the Lord went before them by day in a pillar of a cloud, to lead them on the way, and by night in a pillar of fire, to give them light to go by day and night." Louis needed no sermon; in a flash he knew that all his life he had been led on by a pillar of gleaming cloud, and a pillar of fire; and his far-reaching instant vision forecast it would be thus until the end. Yet he took much heart in listening to the youngish man in the pulpit grasp the totality of this simple story, transmute it into a great symbol, and in impassioned voice lift it to the heights of idealism and of moral grandeur, refashioning it into a spiritual pillar of cloud and a pillar of fire ever present in the hearts, the minds, the souls of all humans, as he urgently, yea, piteously besought the blind to see.

As they walked home Minnie remarked that it was an extra-fine sermon, but as Louis did not reply she scented danger and tactfully chatted about little things, until her joyous sweetness detached him from his pillar of ravishing cloud and the pillar of wondrous fire. Soon she had him laughing as gaily as herself and plucking wayside flowers for her. For Minnie was intuitive to a degree. She knew that Louis had been deeply stirred, that he had been dreaming somberly as they left the church: and this she would not countenance. She believed that if one must dream it should be of happiness, and the dreamer wide awake to the joy of living. They sat for a while by the falls, but Louis was not content. There seemed to be something purposeless in this clumsy tumbling about of dark waters, losing their balance, falling helplessly over ledges and worn boulders, lost in their way among them, and reeling absurdly off at the bottom. It all seemed to lack order and singleness of purpose. Near the falls was a small wooden mill afflicted with the rickets, and this alone seemed in tune with the falls.

So they trudged home and Aunt Jenny said the blessing. Grandpa had just returned from a long walk, his favorite pastime—fifteen or twenty miles—nothing for him. It became his daily habit. He always went bareheaded, always got lost and always found his way back.

Next day Minnie told Louis, in confidence, she knew of a charming spot not very far away, where there were ledges of rock and tall trees, and a darling rivulet with green along its banks. She *took* him there, and would not even let him help her over the lichen and moss covered rocks. With Louis in tow she found a shady spot, with ferns and undergrowth forming a nook, and the wide-branching trees a canopy. She had taken books with her, and on a large, ancient stone which she called her pulpit, she perched with her slave. Below them ran the rivulet, and above the opposite

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crest there showed a bit of the roof of the dwelling. Minnie clapped her hands with joy. "Louis, don't you think I'm good to bring you here? It is the solitary oasis in this desert of hayland. There is hay, hay, hay for miles."

Presently she opened a book and read from Tennyson, making her selections carefully varied, feeling her way through Louis' responses to see where she could reach his heart, how she could bare it, and then keep her secret. She read from Byron, recited many other poems with a skill unknown to elocutionists, and a stealthy, comfortable look came into her eyes now turned green, her face wreathed in a Mona Lisa smile, as she said: "Louis, this is a great, beautiful good world if but we knew it, and to this very spot I have often come in thankful mood, and from this very pulpit prayed to these trees to make me pure in heart." And then she told Louis about the many books she had read, largely French novels—for practice, she said; and then Louis told her he had read all of Captain Mayne Reed's books, all the Leather Stocking Tales, some by Maryatt, and some wonderful and beautiful stories in the Bible; and he recited for her, verbatim, the story of Elijah, the whirlwind, and the still small voice.

The smile on Minnie's pale face became luxurious, her gleaming eyes about to close, as she said half-warningly: "Louis, Louis, you are in danger!" and refused to explain. Then suddenly coming to herself she cried: "We must go back to the house at once; if we are late at supper, your auntie will give me just one look, and I will know exactly what that one look means; but *you* won't." And she took Louis by the hand, her books under the other arm, resumed her jaunty mood and led him to the house, delivering to his Auntie a human package not merely stirred, but churned into butter and whey.

Auntie again said grace; the thoughts of all bowed heads but hers were on supper. The evening was spent by the family on the dark veranda singing old-fashioned hymns; after which the peace of night came over all—but one.

Next day, Minnie, repentant of her wickedness, appeared as a fresh blown morning glory, gave hearty, cheerful greetings, to all, and to Louis talked as might an ordinarily affectionate sister. Her eyes were crystalline, her carriage buoyant. Then, at the appointed time, she began her hour of French with Auntie; and as Louis, nearby, listened, he framed a desire and a resolve to learn the language which Minnie seemed to read and speak as easily as Auntie. The lesson over, Minnie came to Louis, took a place beside him and as one wooing, said "Dear *protègé:* the hour is at hand. I have much to say. The woods are calling, the birds are waiting. Let us now repair to the pulpit and be two sensible humans." To the pulpit they repaired, that day and many a day. Once seated on the great stone, Minnie put Louis at his ease and began rapid-fire questions, about Louis' home and school life. She wished every detail; and Louis answered faithfully. He told her not only the story of his life, but the story of every one and everything therewith connected: Minnie saying: "Fine, fine, how well you tell it," in running comment. He even told Minnie one of Julia's fairy tales, tales of the "Good people," and Minnie cried: "Oh, what a lovely brogue, isn't it sweet?" and Louis said "yes, it was," and added that Julia had taught him some real Gaelic words, but he had forgotten the meaning of most of them. "That gives me a bright idea, Louis; you don't know French, so I will give you a pass-word, in French, that is better than any Gaelic. Say to me, once every day, *Je t'aime;*" and Louis said to her once every day *Je t'aime*—deeming it a secret. And Minnie would gravely say each time, in approval, that he pronounced it beautifully.

She told him conversationally about herself and her home. She described in detail her finishing school, and mimicked its follies. She raved over her adored brother Ed, fresh from Yale. Told of her coming out, of Utica society, and her set, and of the landed aristocracy, the old families, the exclusive, best people; said her father was a big grain forwarder, and had plenty of money, as far as her simple needs were concerned, and described minutely her trip to Europe. She travelled this ground to and fro with many a mimicry, flippancy, wise saw, and splendid enthusiasms.

So Louis began to see that people were graded. He was pained at many things Minnie casually described. She was revealing too much. She was unconscious of lifting many veils, as Louis was unconscious of repeating world-truth when he said, every day, *Je t'aime.* He was not lifting any veil for Minnie; this self-same Minnie having one small devil peeping through each eye. Their talk, throughout that live-long day, was gossip.

When Minnie came, through questioning, to a full sense of the depth of Louis' ignorance of the world, of social organization both in its ephemeral and its momentous inert and stratified aspects, that he was provincial, that he was honest, frank, and unsuspecting, she became alarmed at the new danger, and determined to prepare him; and in so doing, she lifted at least a corner of a sinister and heavy veil that lay behind appearances. This she did with skill, and a little at a time, proving her case in each instance, by direct illustration, and remarks none too complimentary. But Minnie could not be serious for long at a time; she preferred frivolity, nonsense and high spirits—never for a moment neglecting to keep Louis dazed in her land of enchantment.

Minnie became Louis' precious teacher. She made him feel he was not being taught, but entertained with gossip. She knew that what she said in persiflage,

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would later sink in deep, and she knew why it would do so.

Minnie was both worldly and unworldly. With nature she was dreamy; but when it came to people, she became a living microscope, her sharp brain void of all illusion, for her true world was of the world of people—there she lived—as Louis' world had been a world of the wide open—of romance. Hence, with Louis she was ever gentle, even though she dangled him as though he were a toy balloon.

An aching in her guarded heart was soothed by him; and he became for her a luxury—a something to remain awhile a precious memory. Thus Minnie filled the air with laughter, and with debonnaire delight—meanwhile feeding honey drop by drop—just to see upon a human face the rare, the precious witching aspect of idolatry.

* * *

So came a day when Minnie, on the pulpit, talked of things pertaining to herself. Among other words she said the young men of her set were grossly stupid; incapable of thought above the level of the sty. Their outlook upon life she said was vapid, coarse and vain. That they held women to be property, their appendage, their vehicle of display. They were all rich, she said, and this made matters worse. To be anchored to such brutes, scarcely decent in their evening clothes, she said, was horror. She would be owned, she said, by no man rich or poor. She must be free, she said; free as air. Knowing all this now, she had marked her course in life, and she said that never would she marry;—the risk of sorrow was too great. All this she said as lightly as a swallow on the wing.

At these last words, something fell away in Louis' solar plexus, sometimes known as the sensorium, and Minnie said: "Never mind, never mind, you'll outgrow it, Louis, you are fourteen, I'm eighteen. While it lasts, let us be dear friends together; the dearest comrades ever known. Your heart's in mine and mine in yours, I know. Let these great oaks, as witnesses, betroth us in such way, and prophesy a lovely memory."

Louis with unheard-of stoicism held back his tears. And Minnie said: "Come now, let's be going; don't refer to this again. Let's be as we've always been, together, carefree—and let laughter ring again."

Such was Minnie's way of doing and of saying. She was Louis' loyal friend. She mothered him in sprightly malice and in tenderness alike. All her vagaries and sweetness came from one constant nature. She was ever thoughtful of the needs of others. She was exquisitely human. To Louis, long adapted to the elderly, she was held by him as in a shrine, to be the only truly human he had ever known; and her kindness in adopting him, and making him her own, not for a day, but for all the glad summer long, made him feel as though his life, before her floating into it, had been but a blank. How could he ever repay. She had come, it seemed to him, out of the invisible that lies behind all things, all dreams, to be his fairie queen.

And now it seems as though a half a century had stood still.

(*To be continued*)

Indices, Bound Volumes and Back Numbers

An Index of Volume Ten has been prepared and will be mailed to all subscribers on receipt of a request therefor.

Arrangements have been completed for binding Volume Ten and we desire to call the attention of subscribers to the fact that this is the only notice of binding that we shall issue. It is customary to wait until 1 February before putting the binding actually in hand, in order to give distant subscribers a chance to get their copies of the JOURNAL into our hands. Until the first of February, 1923, the price for binding will be : Buckram $3.25, and Half Morocco, $5.00. Postage extra.

Each year there are numbers of subscribers who lack certain numbers of the volume they wish bound. It is of the utmost importance that requests for back numbers be in our hands without delay. Missing numbers cannot always be supplied by us and in order to supply them it is frequently necessary to go to considerable trouble. The office of the JOURNAL will do its best to find back numbers for Volume Ten or for other volumes, but we again call the attention of subscribers to the fact that back numbers are more and more difficult to obtain each year. Therefore, those who wish to be sure of having a complete file should take steps to that end without delay.

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Vingt Ans Aprés--II.

By H. VAN BUREN MAGONIGLE

Photographs by the author

Venice.

There is more than one beautiful way to approach Venice, and more than one lovely hour to enter this city of dreams, where the sky is like an opal and the sea repeats its tones, and the air is tinged with the pale wraiths of every sunrise and sunset and every grey or sunny day that has ever dawned and died over the enchanted place. You may go up from Chioggia by sailing boat or steamer at any time of day and watch the rosy cloud low down on the rim of the lagoon grow into the flushed towers and domes and palace fronts that once seen are loved forever. Coming from the west one would choose the hour of sunset. The scene that greets us as we come out of the station at the head of the unforgettable landing stairs, their broad expanse dotted with shouting boatmen and embarking and disembarking folk, never stales. The craft are crowded so close the water is hardly visible. The eye runs rapidly over certain uniforms and caps on one of which appears the name of the hotel of our choice. Magically we are handed to our places in the gondola, magically our baggage follows and is stowed away, and we glide out of the press without touch or scrape of gunwale. We loll back on our cushions. We apostrophise life. "Life!" we say, "Life! What more can you offer!" And we slip away down stream with an occasional low call from one of the gondoliers, past the old façades of rose and gold we knew so well so long ago, the touches time has given them in the intervening years kindly veiled by the gathering twilight. For it is not well to come back to Venice after many years in the light of full day. Sad to say, at the very first sight of her beloved face in the bright morning, the heart of her lover misses a beat—so old, so worn, so haggard it seems; she mutely pleads for time; gladly you grant it; and in a few hours or days the enchantress resumes her sway and the memories of old tendernesses conspire to make that which at first, to pained and puzzled eyes, seemed shabby and dishevelled, presently be revealed as only mellow and picturesque. But this is all for the morrow. Just now we are moving down the Grand Canal, the low sun touching faintly the myriad chimney tops, the shadows seeming to rise from the water like an exhalation gradually to fill the tideways to the brim.

The tall, thin gondolier forward stops rowing, comes back, half kneels, and points to a palace. He smiles ingratiatingly. It is impossible not to notice that the ancient man has few teeth if any. Through those ragged gates of speech come strange utterances of which we can catch only the first word, *"Shignore!"* followed by such incomprehensible gibberish as it is seldom one's privilege to hear. At last we realize that he is speaking an extraordinary mixture of pidgin French, pidgin English, and the Venetian dialect of the Italian tongue, delivered in a mould of baby-talk presumably suitable for foreign comprehension, and wonderfully complicated by his toothless state. *"Shignore!"* . . . he breathes upon us and reveals another cause of incoherence; Mr. Volstead has not yet succeeded in persuading Venice to his views. The old boy continues indescribably to describe palaces, and at first we suffer him, with an occasional *"Gia, gia"* of comprehension; but he is beginning to spoil this first hour in Venice looked forward to with the tremulous eagerness every self-respecting American buries in the innermost recesses of his being. At last, *Shignore!* he says, lifting his chin, opening his mouth, and indicating the aridity of his throat with an expressive thumb. *"Non ancora. Basta! Avanti!"* "Not yet. Enough! Forward!" we say. He retires unwillingly to his oar, and habit asserting itself, throws his weight upon it. A cry, a deft stroke, and we whirl out of the broad canal into a narrow channel dark as night. High overhead the sky is flushed with the last warmth of the afterglow. We wind through darkness from whence come low cries of greeting or of warning, dark shapes looming and passing, and at last shoot out into the *Canale di S. Marco* under the *Ponti dei Sospiri* and the *Ponte della Paglia* and float gently to the watergate of our hotel.

* * *

The next morning one of the first things to greet the astonished gaze of one eager to renew old impressions is the unnatural, yes, preternatural, cleanliness of the Ducal Palace, the Library, and sacred S. Marco itself. Gone the old patine. One had not expected the new Campanile to have much; the old one fell just after our last visit; but apparently that it might not have to blush for its old neighbors, someone has scrubbed them to a ghastly pallor; they look wan, like beauteous children of the slums suddenly pounced and operated upon with soap and water. Rage and disappointment seize us. But soft! In a little we are appeased. *They have not washed behind the ears!* And on the back sides of things, in the loggias and arcades, and on side canals, we find the good old dirt, bloom and fruit of the kindly years—and we know we need only wait and come again.

The Altercators.

Our windows are on the *Riva degli Schiavoni,* the Strand of the Slavonians. Directly opposite across the wide expanse of the *Canale di S. Marco* is *S. Giorgio Maggiore.* Below us is a gondola station from which arises day and night the sound of altercation. However late we may retire it is still going on—and that one of us in whom the magic of the Venetian night overcomes the power of well-earned sleep, and who spends hours hanging out of the window, reports that not until three or four does it subside and the Altercators curl themselves up in their craft to refresh themselves for the next bout. This begins at the first glimmer of the dawn. Beppo wakes, stretches and begins to red up his boat for the day's work; in so doing he may spatter a few drops of

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THE RIALTO
Morning

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water on Zanni's gondola alongside or bump it ever so slightly. Instantly, like the explosion of a bomb, Zanni is awake and waking the sleeping echoes with language of which the meaning is to one of us, happily, sealed. Beppo's relations, particularly the ladies, are described and impugned with a meticulous exactitude and a solicitude for detail that bespeaks either a great gift of observation and ample opportunity for its exercise or an imagination of epic sweep and power. The family pig, the Holy Family, and more saints than one suspected, are intimately involved. Other sleeping Altercators sit up and consign both Zanni and Beppo to the profoundest and nastiest depths of Hell. Beppo is not to be outdone. He hurls back insults into the teeth of all his hearers. He invents new and more fantastic repartee. Long before this, in America, such language would have resulted in at least one fractured skull and the clang of the ambulance bell would be heard in the land followed by the deeper innuendo of the patrol wagon. But as breath and imagination begin to flag, the tumult and the shouting gradually die down into mutterings with *porco* for refrain, and an occasional short explosion like a belated firecracker as one more good thing to say occurs to them.

The sun is up by this time, and Beppo and Zanni sit down to break their fast—together.

* * *

Heaven is merciful to the sweet young things and dear old ladies who daily fare forth in gondolas with only the rudiments of Italian. As the kind-faced gondolier backs out into the stream or makes a landing, someone gets in his way or scrapes his precious paint. Whereupon, while out of deference to the ladies he does not split the welkin with unseemly noise, the gentle, soft-voiced man sets up a quiet stream of blistering imprecation and invective that, if they could have understood him, would make his passengers feel, like the spinster in *Providence and the Guitar*, they hardly counted as maiden ladies any more.

The Shrinking One.

Coming back from a stroll we hear a voice raised in accents of passion from the landing stairs. That of itself would not by this time attract us, but a circle of attentive listeners seems to promise unusual entertainment and we draw near. Two or three of the Altercator's guild are standing in a group to the left, one or two sitting on the bench to the right. Occupying the center of the stage is another, striding to and fro, beating his breast, smiting his brow, turning to his circle of auditors with arms flung wide, straining face lifted to the God to whom also he appeals. Any one of the crowd might have posed for the expression of the listening man in Briggs' cartoons who picks his teeth and drawls "Yeh" to his enthusiastic interlocutor. Then we notice a slight boy of perhaps seventeen, of the middle and therefore moneyed class, shrinking behind one of the gondoliers to the left. We gather by degrees that he is the cause and the object of this passion-



THE OLD TRAGHETTO

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THE ALTERCATORS

ate oratory. What foul wrong can this pale child have done the brawny *tenore robusto* at Stage Center? The burden of the discourse being, as usual, biographical with a tincture of theology, we are unable to disengage effect and cause. Presently one of the seated gondoliers rises with an authoritative air, moves quietly over to the Shrinking One and mutters something which, though inaudible, a thumb jerked over the shoulder makes plain. "Clear out!" it says. The boy slips away. Does the offended hero of the piece spring after him, snatch him back, shake the *soldo* or *centesimo* or whatever it is all about, out of his very soul? Not at all. He pays no attention and goes on with the show. He is doing it well and enjoying it both as actor and audience. Purest histrionics. It is time for luncheon, and we leave him to his pleasure in powers unusual even in Italy.

Numero Due.

One morning we take the gondola of a strapping fellow of about thirty, bravely arrayed in a broad brimmed hat and a red sash, almost, but not quite, as clean as those the private gondoliers wear. He is most polite, most considerate, refraining from unnecessary and unwelcome information, offering a respectful arm at landings, springing to his feet with cheerful alacrity after long waits at the *Frari* and *Carmine*. We come back to the landing of the Altercators after a "course" of about two hours. It so happens that the first bills I pull out of my wallet are the exact amount of the proper fare without the necessary and inevitable *buona mano*. To free my fingers while I fish out the tip, I hand him the bills. As at the touch of a magician's wand the simple courteous creature is transformed into a demon of the pit. His face convulses with fury; he throws his clenched fists toward heaven; he opens his mouth and emits a prefatory, preparatory bellow. I raise a calming hand. *"Pazienza! Pazienza! Aspettiamo un' poco."* And give him his tip. The magician, money, wreathes the distorted face in enchanting smiles. *"Signore!"* he cries, patting his chest and the gunwale alternately, *"Sempre al' suo servizio, Signore! Ecco, Signore! Numero Due, quando vuole. Numero Due, ricorda!"* "Sir, Number Two is always at the service of the Sir, when he will. Number Two, remember!"

Grub Bridge.

A sentimental journey to a spot once familiar takes me across the Grand Canal by way of the old *traghetto* to Grub Bridge, so named in olden days because it lay on the direct route to meals. I find it changed—there are always changes. But, lingering there, memory led me back twenty years and to a certain angle in the wall where she sat me down in student guise, humbly to make a sketch in water color; and as thus I sat, a beautifully appointed gondola swam up to the steps and a young and handsome gondolier, be-sashed and sailor-hatted, sprang out and

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THE RIVA DEGLI SCHIAVONI

offered his arm to a genial but important looking personage who, while his gondolier lugged up and unpacked an easel and stool and other painting paraphernalia, walked about and squinted up his eyes in the manner of the artist, at the very subject I was sketching. A great light broke upon me! It was none other, as the novelists used to say, it was none other than the famous F. Hopkinson Smith, painter, author, engineer. I trembled in my young shoes. What if the august eye should chance to light upon my poor parody of a charming motif! By dint of squinting here and squinting there he at last established himself somewhere behind me, just around a friendly shielding corner. After a while I became absorbed and forgot everything until the tinkle of silver and the soft clash of china roused me to consciousness of my surroundings and of the activities of the gondolier, who was busied in setting out a most appetizing luncheon in the boat. Just as it is in the book! I had never quite believed it, thought it was just a literary gesture, that tale of the delectable luncheon when sketching; the figs, purple and white; the luscious grapes; the cheese of more than mortal strength and aroma; the wine of Olympian vintage; served with respectful friendliness or friendly respect by the handsome young gondolier who confesses his love for some Venetian fair between courses, and is made happy ever after by the gift of the gondola. But here it all was, under my very eyes; I felt like a character in the book; at the least I could claim to be a part of the scenery, on the spot like that. Modesty had restrained me from accosting Mr. Smith before, and if now I spoke he might construe my homage as a bid for lunch from a forward fellow. So I put in some accents in the pavement and in the vine on the wall, packed up and went home.

Home for the moment was just back of the *Palazzo dei Leoni* and by merely leaning out of my window I could see the painter up at the turn of the *calle*. My training had been of the most severe artistic probity which, superadded to a character of natural virtue, made me tell the most bitter truths even in a sketch. If it was there, it went in. If the sun didn't shine you waited till it did, or made a study in diffused light. A sketch begun in the morning was finished in the morning, if it took a year. But never, by all that was moral, did you add, or subtract, or *lie!* To lie in a sketch! One might strike down an aged parent, but not, not That! Imagine then the crescent horror of that afternoon. I went off somewhere after luncheon in the opposite direction and came back late. I glanced up the *calle* and there was F. Hopkinson Smith, still painting! I went in and leaned faintly on the window sill. The dusk fell swiftly as I watched him in dismay. The moral foundations of my world were shaken. Until darkness supervened and hid him from my sight, F. Hopkinson Smith painted on.

Some years later I saw a picture by Mr. Smith catalogued in a show and looked it up. It was his sketch of Grub Bridge. The very one, slightly to the left of mine, and farther away. And, horror of horrors, it was in brilliant sunshine! The last remarks of my moral world fell crashing about me. Were the Jesuits right after all, and does the end justify the means?

Colors.

The commander of the U.S.S. *St. Louis*—"he was beloved of all his men" as the Bab Ballads have it—has brought his ship up from Constantinople so that the boys may have a run ashore in a civilized country. She is anchored almost opposite our windows. It is good to see the Flag anywhere in foreign parts, but a special thrill runs through us as we mark the reverence paid it on our ships. Every morning the music marches aft and

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every man jack on deck stands to attention until the flag is run up and the last notes of the Star Spangled Banner die away, salutes and goes on with his work. And again in the evening, the bugle blows Retreat and it flutters down to be caught, almost tenderly, in a sailor's arms, so that it shall not touch even the spotless deck. And every morning, and every evening when we are there, we too stand to attention at our window and participate in the ceremony. It is wonderfully enheartening; for one never knows how patriotic one is until one sees abroad the Flag that means Home and represents the striving of our errant human nature toward Peace, Liberty, and the Square Deal.

The Singing-Boat and the St. Louis.

We have been out on the *Giudecca* this evening, weaving silently in and out among the bluff-bowed high-sterned craft that are always anchored there, and as we pass the *Dogana* on our way back, a singing-boat hung with lanterns moves out of the Grand Canal toward the *St. Louis*. We follow and join the group of gondolas and sandolos that is soon increased to a great mass floating raft-wise, gunwale to gunwale, peopled with listeners. The musicians sing the familiar songs of Italy to the accompaniment of guitars and mandolins. Later, as the instruments strike into an unfamiliar air, from the gondola beside us floats up the voice of a girl like the voice of the sweet night itself. Above us towers the side of the warship and in the faint light cast upward from the lanterns of the singing-boat we can see, tier on tier, hundreds of American boys, clustered on every conceivable perch, sitting in appreciative silence through every number and breaking into storms of applause at its close. A young officer in the trim and spotless white of our naval uniform paces steadily to and fro on the after deck, a symbol of the duty and discipline that rules all these young lives. *A rivederci.*

There is more than one way to enter Venice but I could not now imagine any right way to leave her save as we did, even though the Italian time table enforces rising in the dark and partaking of an outline of breakfast in circumstances that make the simple familiar act seem almost furtive.

We take the waiting gondola in the dark side canal, float out into wider waters and lo! a full moon in the western sky and all the stars. How to convey any sense of the wonder of the change we witness, breathlessly, in the half hour ensuing, as the sky pales in the east from deep cerulean to the tender colors of the dawn, and the moon is transformed from a golden ball to a disc of silver, and the palaces, in those minutes just before the sun comes, stand cool and grave and silent bathing their feet in the rising tide and then, suddenly, blush and smile at his first kiss! We find relief from an overpowering emotion in the commonplaces and bustle of the station. We have not said goodbye—nor shall we.



A RIVEDERCI

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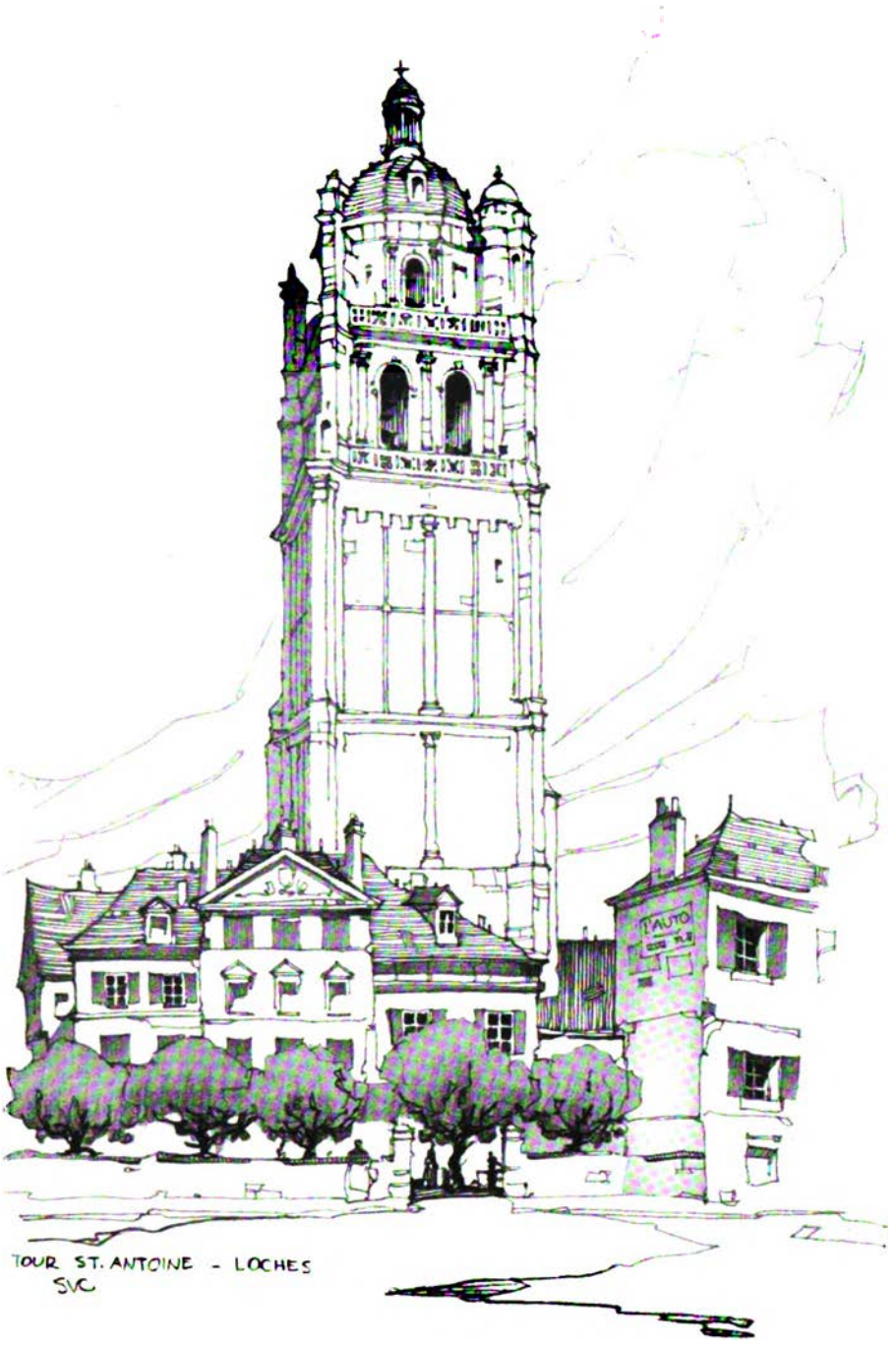


Five Sketches

SAMUEL V. CHAMBERLAIN

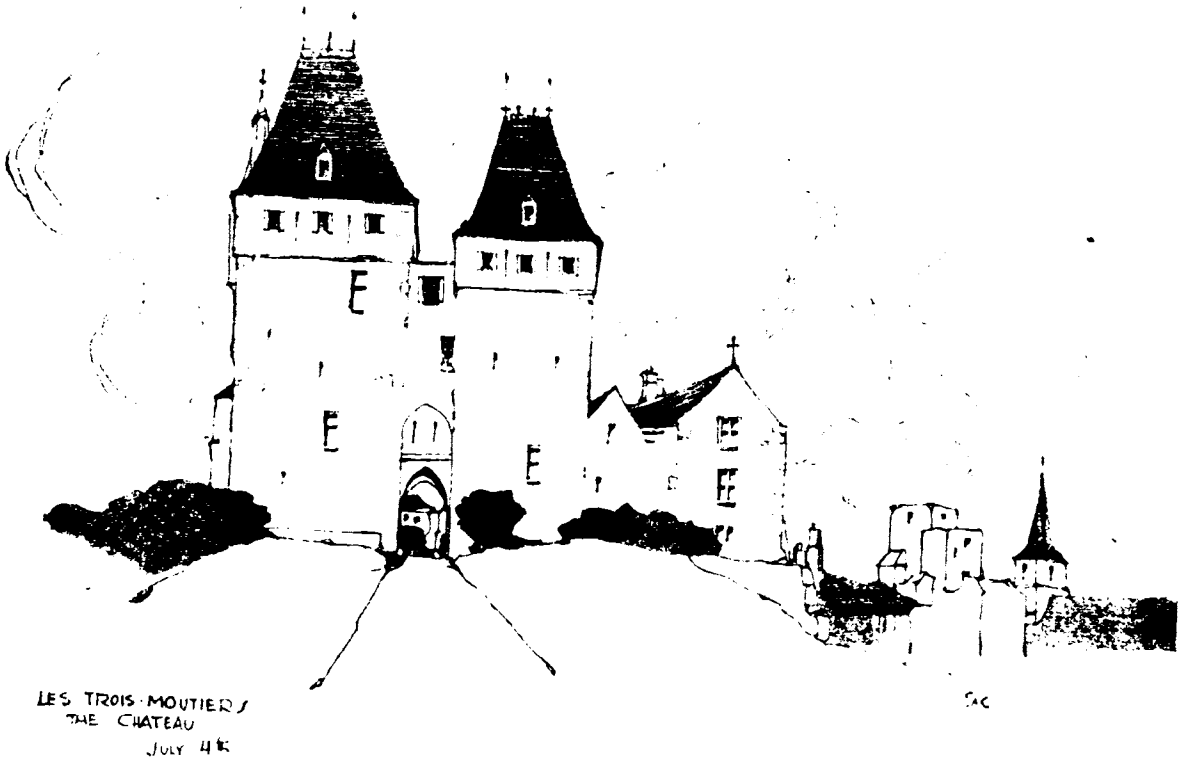
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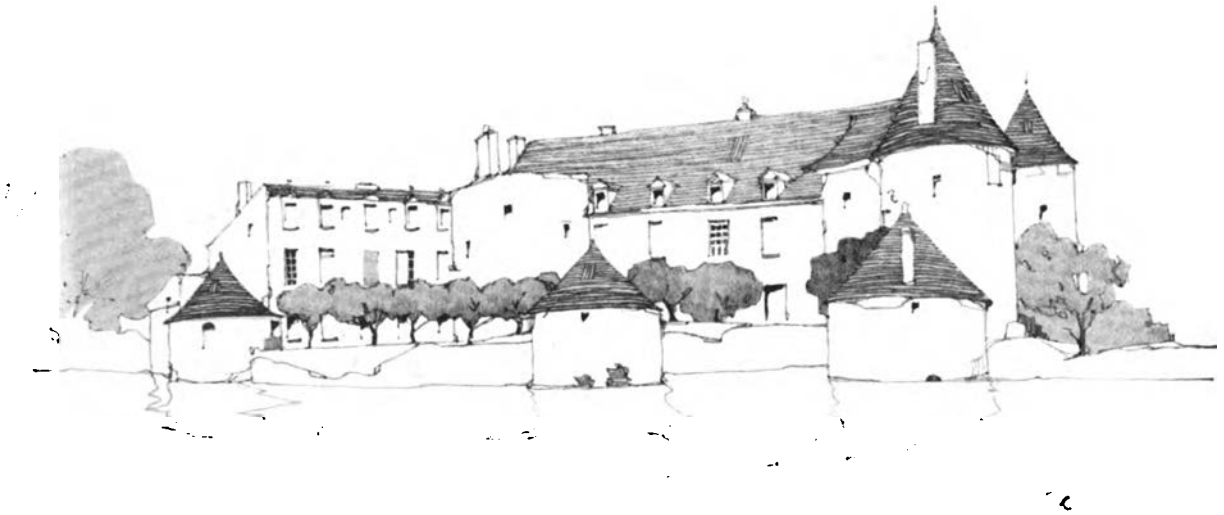
Samuel V. Chamberlain

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THE CHATEAU OF PLESSIS-CHERCHEMONT
PARTHENAY - JULY 4

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AN OLD FORTIFIED CHAPEL
NEAR POITIERS
AT VERRUYE - JULY 17

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The Housing Crisis in Paris

By EUGENE H. KLABER

Before the World War, Paris thought of its housing problem in much the same terms as did the New York Legislature, when it voted temporary exemption from taxation for dwellings built within a certain period.

This attitude may be briefly stated as follows: More dwellings are needed for our population, particularly for workers; under present conditions, builders are not meeting the need; let us offer special encouragment to promote the building of cheap housing.

Growth of the Housing Crisis

The last half of the nineteenth century witnessed a double development of the City of Paris. The first movement was one of increasing congestion of the city itself, due in large part to its growth as a manufacturing center. Increasing industries brought an increased working population, recruited from the provinces and rural districts and, in its train, greater congestion of the poorer sections of the city and higher rents. The city did what it could, by way of regulation of building construction and, from time to time, opening of new streets through overcrowded districts. As elsewhere, these regulations were inadequate to meet the question of proper housing of the poorer people. Slum districts became more crowded than ever. The rents of the newer buildings were higher than the poorer paid workers could well afford, and they inevitably gravitated to the more antiquated houses, where the crowding of large families in small quarters was scandalous.

Recognizing the danger to the increase of the population that this overcrowding involved, the National Government attempted, by loans to private philanthropic and cooperative societies, to encourage building of workingmen's houses, always with an eye to rendering assistance first and foremost to large families. This led to the construction, here and there, of "Model Tenements." Finally, in 1906, communes were authorized to lend funds to, or purchase stock of, housing societies, tenement houses being the principal form of dwelling contemplated.

The second movement was one of decentralization. As land and rent became higher, inside the fortifications of Paris, factory owners began to locate their establishments in the zone of the surrounding suburbs. Real estate owners saw the advantage they had in the possession of cheap land within a short distance of the city and built tenements, which drew not only the workers of adjacent industries, but also many whose daily task was performed within the city walls.

These suburbs, St. Denis, Levallois, Charenton, etc., quickly grew from small villages to large cities, but cities without any regulated growth.

Land owners laid streets and built houses to suit themselves, naturally with an eye only to their profit and restrained by no general plan of development. The authority of the City of Paris extended only to the fortifications, yet here was a zone of cities rapidly growing up at its very doors and vitally affecting the life of Paris, and over which it could exercise no control.

One result of this anarchic development was the creation of a vast working class district. Except for limited sections, the stratification of wealth within the city was formerly horizontal, the wealthier families living on the lower floors and the poorer on the upper. With the movement of the laboring classes to the suburbs, the division became to a large extent vertical. In other words, instead of all classes of the population being mingled, as in the past, a growing separation developed.

As a second result of the anarchic growth of the suburbs, they became the fever spots of Paris. The suburban communes were poor; they had not the wealth of Paris to tax for public improvements. Although in many instances, they grew to be one continuous settlement (Levallois, Clichy, St. Ouen, St. Denis, Aubervilliers), there was no effective cooperation between them. Poor sewerage, poor paving, filthy housing and disease were the consequences. With a far less density of population, many of the suburban *communes* show a greater percentage of mortality from tuberculosis than even the more congested *arrondissements* of the city.

This, then, was the housing problem that confronted Paris: Overcrowding within the city and in the suburbs; the failure of private enterprise as an incentive to home building; the failure of governmental loans to housing societies; no control by the city of its future development, which perforce lay without its walls; no adequately planned transportation system between city and suburbs or intersuburban.

The Program of Action

In considering the program of action and the results achieved in Paris and its suburbs, it must be remembered that the attempt was not to arrive at a universal solution of the Housing Problem. In the words of M. Sellier:[1] "It should be emphasized that the Departmental Housing Office is not called upon to consider the planning of garden cities in the true sense of the term. . . . The Office was not established to attempt a social experiment of this nature; its purpose is not to serve as a medium of theoretical experiment, interesting as that might be; it has a very limited and definite object: to create settlements that may further the decentralization of the City of Paris and its suburbs and serve as an example to those who develop real estate and who, for the last thirty years, have literally ruined the suburbs, and to show how, making due allowance for the normal economic and moral conditions of city life, it is possible to provide the working population, both manual and brain workers, dwellings giving the maximum of material comfort, sanitary conditions which

[1] *La Crise du Logement* et l'intervention publique en matiere d'habitation populaire dans la region parisienne. Paris, 1921. 4 vols. M. Sellier's book is the history of the failure of pre-War efforts and the development of another method of attacking the problem. His four volumes deal with the origin and development of the housing crisis, pre-War efforts to alleviate it, the new point of view and consequent legislation, and housing work actually accomplished. It is published by the Housing Office of the Department of the Seine, and whereas individual opinions are frequently presented in it, it may fairly be said to describe not only the work of the Office, but also its policies.

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may eliminate the inconveniences of large cities, and artistic surroundings, contrasting markedly with the ugliness of former practice. Considerations of the last category should be developed to the highest degree attainable, without vitiating the economics of the operation and maintaining for the institution that character, as a practical example, which it should have."

In a word, the problem was conceived in terms of the relief of the housing shortage in Paris and the orderly extension of the city into the surrounding districts.

Realizing the impossibility of concerted action on private initiative, the Chamber of Deputies and Senate passed a law in 1912, authorizing the creation of public housing offices (Offices Publics d'Habitations à Bon Marché), and state aid was voted, not to exceed one-third of the cost of construction, provided, however, that housing receiving subsidies be occupied, in large part, by families having more than three children under the age of sixteen.

In 1913, M. Sellier proposed to the Conseil General of the Department of the Seine the creation of a Public Housing Office in conformity with the law of 1912, and urged that the work of the Office be directed principally to the creation of garden suburbs. Through his efforts and those of his associates, the Housing Office (Office Public d'Habitations à Bon Marché du Département de la Seine), was established in 1916 and the Conseil General appropriated F.10,000,000 to carry on the work, adding F.17,000,000 in 1919.

Commenting on the nature of the work proposed, M. Sellier wrote: "It would seem that the Office would misconstrue its original purpose in turning its efforts toward the layout, construction and management of sanitary tenements, . . . or the sanitation of existing housing, but rather that its principal purpose should be to plan the rational extension of the agglomeration and the building of garden suburbs."

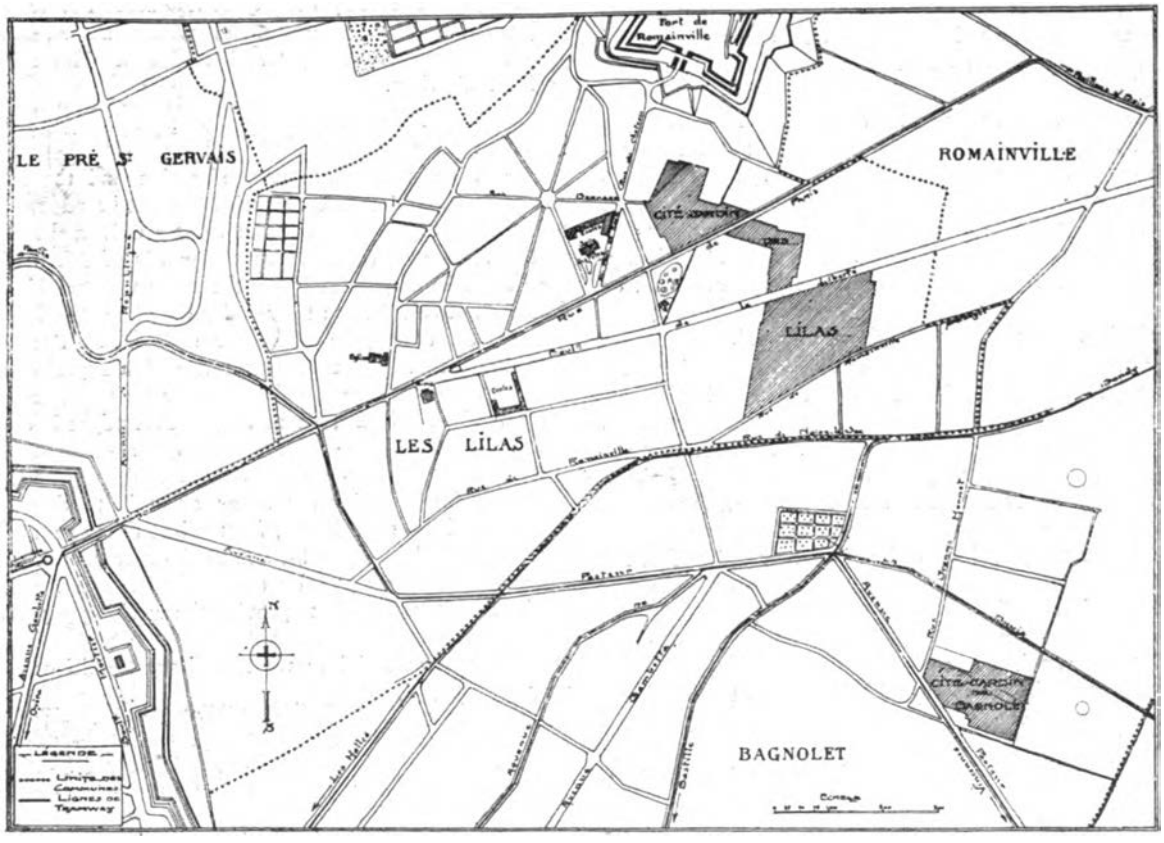
Following the spirit of its inception, the Office therefore guided itself in its work by the following program:

"To erect on ground acquired in the suburbs, under unquestionable sanitary and esthetic conditions, settlements offering their inhabitants the maximum of comfort at the least possible cost.

"To apply such measures as may guarantee to the community its eminent right to profit by increased valuation, the elimination of every kind of individual speculation and the safeguarding of those æsthetic and sanitary regulations which are the basis of its projects.

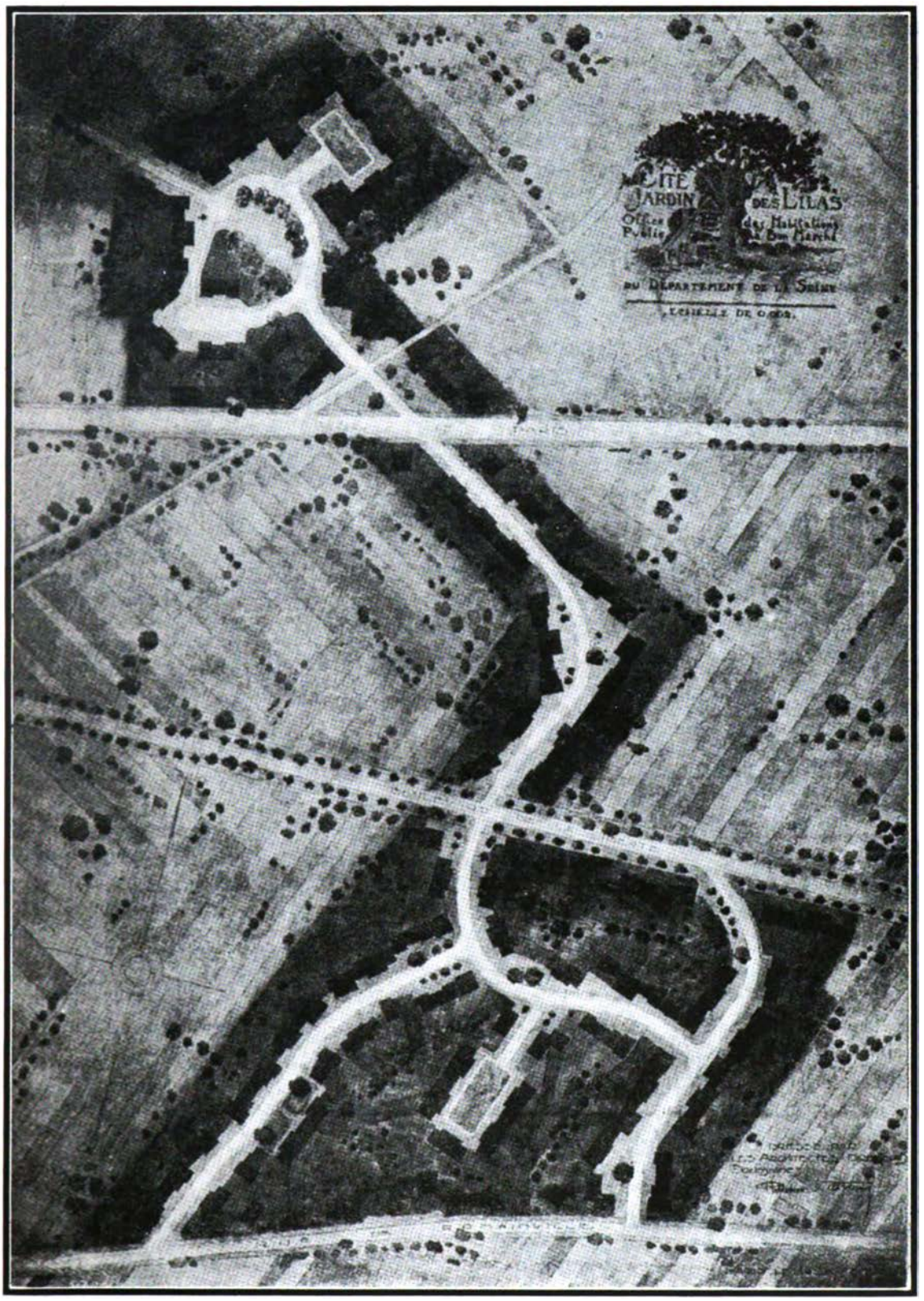
"To limit, insofar as it is compatible with economic necessity and social needs, the erection of collective dwellings, constructing by preference individual houses, either detached or attached, according to the architectural scheme."

Although the spirit of this program pervades the book, no indication is given what, if any, measures have been adopted restricting speculation, whether or not any of the houses are to be sold, or of the terms of lease or sale of individual houses.



RELATION OF GARDEN SUBURB OF LES LILAS TO PARIS

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THE GARDEN SUBURB OF LES LILAS

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OFFICE PUBLIC
DES HABITATIONS
A
BON MARCHÉ
DU
DEPARTEMENT DE LA
SEINE



FAÇADE LATÉRALE
TYPE 6

TYPE 1

REZ DE CHÉE : PORCHE D'ENTRÉE, SALLE A MANGER CUISINE, 2 CHAMBRES, CELLIER W.C

PREMIER ETAGE : 2 CHAMBRES, DÉBARRAS

TYPE 2 bis

REZ DE CHÉE : ENTRÉE, SALLE A MANGER, CUISINE 1 CHAMBRE, DÉBARRAS, CELLIER, W.C

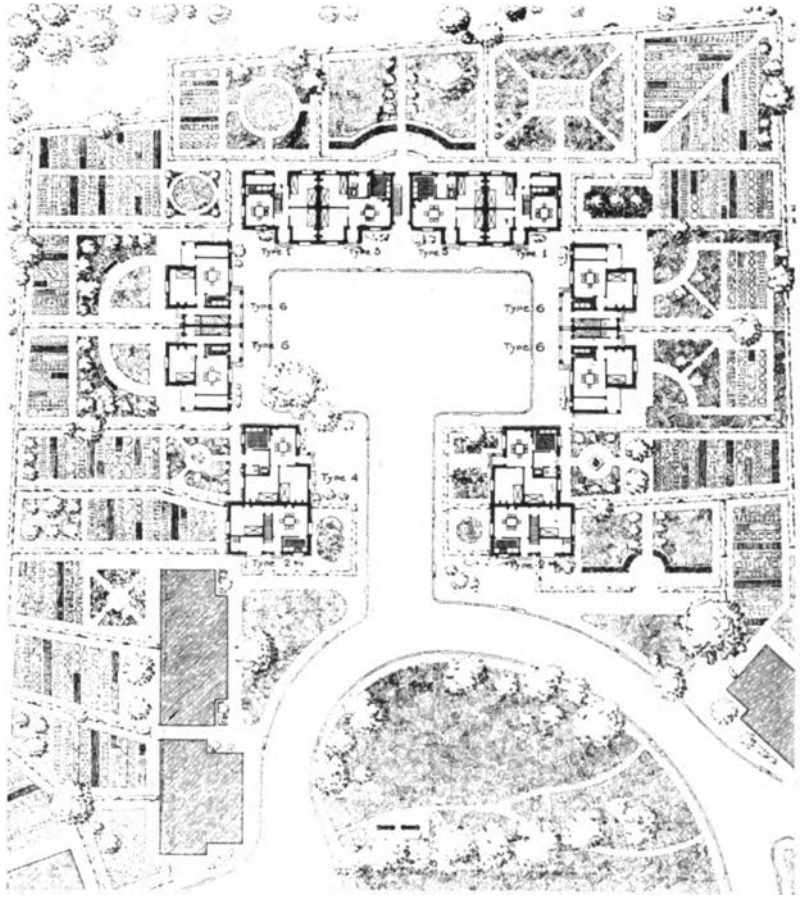
PREMIER ETAGE : 2 CHAMBRES

TYPE 4

REZ DE CHÉE : PORCHE D'ENTRÉE, SALLE A MANGER CUISINE, 2 CHAMBRES, CELLIER, W.C



FAÇADE SUR JARDIN TYPE 6



PLAN DU REZ DE CHAUSSÉE

CITÉ JARDIN
DES LILAS GROUPE
DE
DOUZE PAVILLONS
DES
TYPES 1.5.6.4. ET
2 BIS



FAÇADE LATÉRALE
TYPE 6

TYPE 5

(2 LOGEMENTS SEMBLABLES)

REZ DE CHÉE : PORCHE D'ENTRÉE, SALLE A MANGER CUISINE, 2 CHAMBRES, CELLIER, W.C.

PREMIER ETAGE : SALLE A MANGER, CUISINE, W.C., 2 CHAMBRES, DÉBARRAS

TYPE 6

REZ DE CHÉE : LOGGIA, SALLE A MANGER, CUISINE, 1 CHAMBRE, CELLIER, W.C., APPENTI

PREMIER ETAGE : 2 CHAMBRES, DÉBARRAS



FAÇDE JARDIN TYPES 4 ET 2 BIS

P PELLETIER - A TEISSEIRE
ARCHITECTES

GROUP OF HOUSES IN LES LILAS

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FAÇADE PRINCIPALE

P. PELLETIER - A. TEISSEIRE
ARCHITECTES

OFFICE PUBLIC
DES HABITATIONS
A
BON MARCHÉ
DU
DÉPARTEMENT DE LA
SEINE



CITÉ JARDIN
DES LILAS. GROUPE
DE
DOUZE PAVILLONS
DES
TYPES 1.5.G.4. ET
2 BIS

FAÇADE LATÉRALE

GROUP OF HOUSES IN LES LILAS

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Results Accomplished

The work of the Housing Office of the Department of the Seine may be divided into two categories: temporary and permanent measures. Its efforts have been confined to the suburbs, leaving the city itself to the care of the Municipal Council, which has had F.200,000,000 at its disposition for housing purposes since 1912.

In order to afford some measure of immediate relief, the Office bought, in the suburbs, a number of apartment houses which had been started but left incomplete on account of the war. These were completed as fast as possible and rented. Semi-permanent bungalows were also erected on a tract of land at Bagnolet.

As soon as the initial appropriation was made, the Office started its study of location of the proposed garden suburbs. To avoid the delays entailed by a public competition, the architects who were successful in the Paris Housing Competition of 1913 were chosen to study the new developments.

Owing to the high prices of materials and labor immediately after the war, the Office deemed it inadvisable to proceed at once with new construction. It was not until 1921 that work was started. In the meantime, its architects and engineers entered into extensive study of their problem. Not only were the properties acquired studied from the point of view of transportation, sanitation, water supply, etc., but the experience and practice of foreign countries were examined with great care and the resultant plans show strongly the influence of this preparatory work.

The general layout of the garden suburbs show a very strong English influence, whereas in the grouping and elevations of houses, both English and American models seem to have been widely consulted. Where tenement houses form part of the scheme, they follow traditional French models.

The typical accommodations furnished consist of either a common room or a dining room and small kitchen, one to four bedrooms (most commonly two or three), and a water closet. In some cases a fuel and wine shed is furnished and occasionally a small porch. Bathrooms appear in none of the plans, although some of the suburbs provide common bath houses and laundries. Closet space is uncommon. Fireplaces are the only means of heating.

About half of the dwellings are planned for large families, that is: those having four or more children. Families with five children are provided with only three bedrooms. In view of the fact that the bedrooms, except those of the parents, are all quite small, this allowance seems entirely inadequate, and if the original intention of accommodating large families in such quarters is carried out, serious overcrowding will result.

Since the start of building operations, progress has been made toward the realization of the schemes laid out for Drancy, Bagnolet, Suresnes, Les Lilas, Stains and Arceuil. The reproduced illustrations of the garden suburb of Les Lilas will give a conception of the typical method of approach, layout of the land and details of the houses.

At the end of July, 1922, the Office had completed 797 dwellings in small houses, both temporary and permanent, and 169 in tenements. For 1923, a program of 2,000 small houses and 225 tenement dwellings will be attempted, it is announced.

Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

The Future of Our Big Cities

As a result of their haphazard and planless growth, the gigantic cities of the old and the new world are gradually becoming more hopelessly unable to carry on their work. Size does not add to efficiency. In both New York and London it seems to decrease it. And yet both cities accept their probable colossal future growth not only without complaint but with self-satisfaction.

Dr. Walter Laidlaw, the Executive Secretary of the New York City 1920 Census Commission, wrote in an article in the New York *Times* of 10 December, 1922:

"In 2020 if the rate of growth of 1910-20 should be preserved for the next hundred years, the city proper would have 14,408,048. But 9,000,000 people are about all that the city could comfortably sustain. If we place the population per acre on a level slightly under the 100 mark it will just about work out to the ultimate humane goal of 9,000,000. It would be much better if we could restrict our population to an average nearer fifty to an acre, but that probably is too much to expect.

"Circled New York (all the area within 19 miles of City Hall), passed Greater London on 21 September, 1916. To see how fast we have grown up it is only necessary to look at the figures. In 1890 we had 3,326,998 within the circle; by 1900 the total had become 4,612,153; in 1910 it was 6,491,659, and in 1920 we had 7,820,676 against 7,480,201 for Greater London a year later. If the rate of growth in the last ten years was kept up, we would house 21,512,116 within the circle by 2020, and 14,408,048 in the City. But if the city some day should become a metropolis having 300 people to an acre, as it now has in 2,866 acres, the population would reach the huge total of 30,000,000. If we plunged deeper into possibilities, and imagined that half the city should have an average such as that in its most densely settled district, above 600 to the acre, we would get a truly staggering total of 60,000,000."

In New York the subways are packed, the roadways are black with slowed-up traffic. If the city grows much more it looks as though Fifth Avenue would congeal into a single immovable mass. Police Commissioner Enright admits that he has come "to the end of the rope." Nothing more can be done with one-way streets or flashing lights or policemen's batons to lessen the congestion of central New York or to speed the slow-moving traffic.

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Dr. John A. Harriss, special Deputy Police Commissioner in charge of traffic regulations, however, seems more hopeful. He proposes the cutting of crosstown boulevards 360 feet in width through the sections in which traffic is most often tied up. The first of these, somewhere between 42nd and 59th Streets from river to river, he estimates would cost seventy million dollars! And this is only part of the price we must pay for the pleasure of boasting that New York is the biggest city. Dr. Harriss is not satisfied with the difficulties of the present congestion. He is looking for even harder problems. He says: "As I visualize and imagine this vast city with its limited available land fast being built up, I can picture New York within 100 years with a population of 25,000,000, as follows:

"1. Battery to Fourteenth Street—Storage and provision warehouses.

"2. Fourteenth to Forty-second Street—Manufacturing and wholesale buildings.

"3. Forty-second to Fifty-ninth Street—Financial. All north and south avenues and streets commercial and office buildings.

"4. Fifty-ninth to 110th Street—De luxe shopping district.

"5. 110th to 125th Street—Additional shopping district.

RESIDENTIAL

"6. 125th Street to Harmon, across Westchester to Long Island Sound to the State line of Connecticut, crossing many new concrete drawbridges over the East River to Queens, which is destined to be thickly peopled, and extending far into Long Island. Riverside Drive will always remain residential from Seventy-second Street and will provide superb residences all the way to Poughkeepsie."

What a chance for the traffic and transit experts! Think of the new and expensive subways and boulevards they will be able to cut so as to relieve congestion if Dr. Harriss' grotesque dream should come true!

New York's problem is not unique—it is apparently not a result of the peculiar geographical position of its centre, the island of Manhattan. London also has grown haphazardly and by the absorption of what were villages around the metropolis. The *Westminster Gazette* of 21 November says of London's traffic problem: "Most insistent of all the difficulties of this great London is the movement of its population to and from the daily work. For half a century past every new device has been tried. Railways have been made underground, the whole tramway system has been changed in a mechanical direction, and has been extended north, south, east and west. The motor omnibus has replaced the horse vehicle, the motor-cab, the "growler" and the hansom. Yet London is more congested than ever, traffic through its streets more difficult, the time spent in getting to and from work more prolonged. A less courageous people might give up the puzzle in despair, affirming that, as Londoners travel more the more the facilities for travel are increased, it were better to call a halt to improvements. Happily, London makes no such answer. From every point of view it is an immense benefit to public health and well-being that the capital should extend ever outwards, giving its new citizens fresher air and happier home conditions than they could find in a London which ever leapt upwards higher and higher, in the manner of the centre of New York. The resulting movement daily of a large population over longer distances is a task that we feel can be surmounted. The streets may be unduly congested, but we can delve underground for the means of quick transit."

And so London sinks more millions into subways as does New York. As a result the circle of thickly populated regions that pours its multitudes into the congested business center grows greater and greater. Where is the end?

International Garden Cities and Town Planning Federation Conference in Paris

As a result of the postponement of the Rome Conference of the Congrés International de l'Habitation which had been arranged for September the Conference of the International Garden Cities and Town Planning Federation was held at Paris on 21 October. Delegates and members attended from Austria, Belgium, Denmark, Egypt, France, Great Britain, Holland, Ireland, New South Wales, Spain, Sweden and Victoria. M. Louis Bonnier, President of the French Section, presided in the absence of Mr. Ebenezer Howard. The delegates to the Conference, besides visiting a large number of housing schemes in and around Paris, devoted one day to a visit to Rheims. There they inspected the Cité Jardin Le Foyer de Remois, a development of some seven hundred houses which is being erected by a limited dividend Society under the presidency of M. Ceharbonneau.

Papers were presented on "The Future of the Garden City Movement" by Senator Vinck of Belgium, Henri Sellier of France and G. M. Harris and C. B. Purdom of England.

MR. H. CHAPMAN, the Organizing Secretary of the Federation, in speaking of "The Garden City Movement in relation to Town Development in the Future" said in part:

"The Garden City movement has been confused in people's minds with forms of site-planning, fashions in architecture and semi-philanthropic housing; it has also been confused (possibly because the term 'garden city' sounded so well in those drab 19th century days when it was first used), with visions of an Earthly Paradise, expensive and uneconomic and only within the reach of a limited few under very favorable circumstances. There has also been to a slighter extent another misconception as to the aim and scope of our movement. We are not merely concerned to work for the building of new towns such as Letchworth and Welwyn; our duty is a much greater and wider one than that. These two garden cities must be recognized not as patterns or moulds for cutting out or moulding similar cities but as demonstrations of efficient, economic and organic town building to provide for their inhabitants the best material basis for the development of agriculture and private and corporate life. Geographical, geological and other conditions will vary in different countries and in different parts of the same country, fresh knowledge will come with wider experience

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so that the type of town should improve upon what we have.

"Our principles must be applied with full allowance for all the varying factors. We must re-create a feeling, an affection, for towns that was once widespread and has in most countries been almost non-existent for so many generations that our task is made heavier by the lack of tradition. In the middle ages, particularly in the time of the guilds, this town spirit thrived, men thought of themselves not only as members of their profession or craft but as citizens of their town, and communities were knit together as no town communities have been since. It is not necessary to enlarge upon the examples of civic art they left. It is true that little was known about sanitation, preventive medicine and many other necessary sciences for the development of towns, but the point is that the towns did function, they were organic, and as far as one can judge they fitted their time and civilization quite well. It is true also that life is much more complex now and that we could not, even if we would, produce the same kind of corporate life. A complex life is a good thing on the whole; it is well to get a variety of experiences; but many of the experiences of those who live in the great city agglomerations, such as London, Paris, Berlin and New York, are not necessary and certainly not pleasant."

Sir Theodore Chambers said in reference to the "Garden City as a demonstration of Economic Town Building":

"Most people who have given any thought to the subject admit readily the social and economic advantages to be derived from a city consciously designed, and deliberately brought into being, upon a carefully selected area of undeveloped virgin land unencumbered with the restrictions imposed by vested interests and the mistakes of the past. They see that there is no physical difficulty in starting anew and planning a town which will provide better conditions for both industry and home life.

"Nevertheless very few garden cities are built. The reason for this is that they cost money. Not a great deal of money. Far less than most people would imagine. Still they demand capital. Now capital, at least under the régime in which we are living (and whatever some people may think, it will probably ever be so) demands a 'paying proposition.'

"Few people believe that the building of a new city is a financially sound business. It is the object of this paper to justify the garden city as a 'financial proposition' and to show that given sufficient courage, energy, foresight and patience combined with technical knowledge the building of a new town is a commercial project of the first rank, beset with less than the normal trading risks, and this by reason of certain intrinsic and economic factors which place it quite definitely in front of very many industrial enterprises for the development of which, owing to custom and habit, capital is readily forthcoming. The secret of this assurance lies in the basic fact of the land values which the presence of a community inevitably brings into existence. The essential element in the finance of the new city is the absolute ownership of the land upon which the town is built and of a sufficient area surrounding the town to constitute a complete land monopoly, so that the land values created will for all time be the property of the promoters, their heirs and assignees. It may be stated, parenthetically, that it is the realization of the fact that immense land values are created by the presence of population that has led the pioneers of the movement in England to lay stress on the desirability of so constituting the financial machinery of the enterprise that the dividend accruing to the capital raised shall be reasonably limited, the surplus profits being used for the benefit of the city and its inhabitants—or to put the matter in another form—that the land of the city shall be held in public ownership or else held in trust for the community."

Mr. C. B. Purdom who has taken such an active part in the development of Welwyn outlined its brief history as follows:

"The second garden city was established in 1920 by the formation of another joint-stock company called Welwyn Garden City, Limited, and the purchase of an estate of about four square miles in Hertfordshire, 20 miles from London and about 13 miles from Letchworth. . . . A town has been planned for a population of about 50,000 inhabitants. . . . The estate was carefully surveyed in the first instance and a plan prepared by the company's architect for a complete town with industries. The cost of the land was just under £40 an acre.

"The business of the company involved amongst other things the construction of roads and sewers, the provision of a drainage system and other public services, such as water and electricity supply, and the disposal of the building land so developed. The net disposable area of the estate for houses, commercial buildings, factories, etc., is about 1,500 acres, after providing parks, etc., and allowing for the agricultural belt.

"In spite of the extraordinarily difficult economic situation that has existed since the scheme was started its progress has been remarkable. The land when purchased was purely rural country upon which no building had been done for several generations. The opening of the new railway station on the main line and the provision of public services has entirely transformed the character and value of the estate.

"Nearly 400 houses have been built, with a number of workshops; a large engineering works is being established, and an important confectionery manufacturing business is about to be removed there from London. The population is rapidly approaching 2,000.

"In place of the usual small shops that are usually built in the early stages of a growing town a large departmental store has been opened by a society formed for the purpose under expert management, the capital being specially subscribed; the surplus profits of this enterprise will go to the town. It is intended to attempt to make the town a shopping centre for the whole district."

The New Town Agricultural Guild has been formed by a group of people interested in the garden city and in the improvement of the agricultural industry to undertake the development of the agricultural belt and is providing a pure milk supply for the town as well as market gardening produce.

The capital for Welwyn Garden City has been obtained in the form of shares and mortgages and debentures and loans and up to date is as follows:

Shares	*Mortgages and Loans*	*Debentures*	*Total*
£115,719	£126,483	£77,000	£319,202

Interest upon the mortgages and loans and debentures has been paid, but no dividend has yet been paid upon the shares. The net revenue for 1921-2 (which was the second year of the company's existence), amounted to £5,015.

An important factor in the company's finance are the loans made by the Public Works Loan Board under the

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provisions of the Housing Act of 1921. Under that Act the State may lend money to approved bodies for the purchase of land and the construction of roads, sewers and water supplies required in garden cities at (at present) 5 per cent, the loans to be repaid over a period of from 15 to 60 years (according to the character of the works). The amount of the loan is not to exceed the cost of the particular works and is limited to seventy-five per cent of the value of the property (i. e., real estate). Welwyn Garden City, Limited, has already been advanced, under this statute, the sum of £115,983 (included in the above figure of £126,483), to be repaid over 30 years. The statute is likely to prove of great importance to the future of the garden city movement; for it is evidence, in a practical way, of the recognition by the State of the public value of real garden cities."

Sub-Division of Labor--III

By FREDERICK L. ACKERMAN

In the two preceding papers reference was made to the ever contracting frontiers which serve, as time goes on, to mark off the divisions of labor; how it is that the machine process is working out to reduce the need of skill on the part of the workmen engaged in it; how this has created a situation in which such handicraft industries as the building trades are handicapped in maintaining a sufficient quota of workmen. Reference was also made to competition between the various trades in a single industry and the jurisdictional rules and the consequent strikes, and the lockouts which grow out of this competition and which operate to retard production. Attention was called to the curious fact that the jurisdictional rules of the unions are not to be clearly distinguished, when viewed objectively, from the systematic procedure in the machine process as the same has been formulated by the modern production engineers, although these rules are viewed as sabotage while the recommendations of production engineers are accepted as made in the interest of producing a greater volume of goods. It follows to point out another matter.

In what has preceded, the terms "labor" and "division of labor" have been used to cover the activities of "workmen." But it is ordinarily taken for granted that there is more involved in producing goods than manual labor and the movement of machines. Goods are ordinarily assumed to be a product of the activities of business men, bankers, engineers, scientists and "labor." So that the specialized activities of all these could be viewed as sub-divisions of labor in the sense that they are assumed to contribute toward the production of goods. Opinion, aside from that held by "labor" and a few others, would have it that it was primarily activities of the business men and the bankers that make the wheels of industry go 'round—that is to say, produce goods. Hence, none of these need feel hurt to be rated as laborers and to have their specialized activities referred to as divisions of labor.

But so to rate what they do and so to classify their activities is to imply what is popularly understood to be the case—that the aim of all who are in any way engaged in production is the production of goods—that is to say, such a volume of goods as may be produced, "labor" permitting, by the material ways and means at hand. That some are primarily interested in using the material ways and means of production may be true, for example, of the engineers and the scientists—or it may not. But it is not true of the others, for their central interest is limited to the field of price or the "market."

For profitable business will not stand for so large a production of goods as the community needs for current consumption. This is a commonplace, of course, which is well understood. So that no more need be said in support of the assertion that the central interest of all who engage in the production of goods and services is unavoidably in the maintenance of supply at a point appreciably short of the communities' need, or more precisely, short of the communities' effective demand.

When production was carried on by the processes of handicraft and distribution was accomplished by the means of petty trade, the maintenance of this relationship was of no very great concern. At least individuals could ordinarily look out for their own interest in this respect without very serious effects upon the community at large. But machine industry is vastly more productive and the distribution of goods is no longer a matter of petty trade. So productive is the machine process that it cannot possibly be allowed to run at anything like its capacity. For to allow it so to run under distribution regulated by the price system would be to bring privation and hardship not only to the producers, but to the community as a whole.

So that there has grown up under the operation of the price system a new function in connection with production. No longer does the common welfare hang on the ability to produce; it now hangs upon the success which attends control of production, or in other words, upon retarding the use of our material plant and equipment and the workmen employed. So that in final analysis, strikes, lockouts and jurisdictional rules on the part of workmen fall into line with what must be done to save the day for price and profit. But the retardation effected by what organizations of workmen may see fit to do in their own behalf is after all not to be depended on; neither is it sufficient.

So that steps have to be taken by others to bring about a curtailment of production and a withholding of goods from sale which will take effect at the proper time and place. The bulk of testimony given before the Lockwood Committee in its inquiry into conditions in the building industry was largely given over to the ways and means of controlling output in the interest of price. Other inquiries elsewhere run to the same effect. It is not necessary, however, laboriously to read the testimony of official investigations nor the more scientific inquiries made recently by groups of competent engineers in order to gain an insight into the rapidly developing methods of throt-

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tling the productive capacity of the industrial community. In the daily press a large proportion of the news items carried on the financial pages treat of what "Trade associations" are doing in the interest of stabilizing the market —regulating production in the interest of price; of how the government forecast and reports of production are used to determine the extent to which efficiency should be withdrawn in the case of a given commodity; of how usual it is for groups of producers to organize locally, by states or groups of states or even nationally and internationally, to the end that the facts concerning supply may be known so that production may be duly curbed if need be in the interest of price. One of the important functions of the use of loan credit has come to be that of valorization. The use of national credit for the purpose of withholding a commodity from the market or of sustaining a given group of producers while they proceed with plans of withholding their productive effort pending a rise of prices is not questioned, seriously.

Obviously to sustain activities of this sort extending over vast areas and in which millions of producers are concerned requires the labor of a considerable army of accountants, statisticians, of clerks, heads, directors, and officers of associations and corporations and of departments of the state. So that it is in a very definite sense that the modern situation reveals something new in the line of sub-division of labor in that a very considerable number are now exclusively engaged for pay at doing what is called work, the outcome of which is to reduce the volume of goods produced.

On the face of this, so accustomed are we to the operation of the piece system, it may appear that such a new division of labor is necessary under the inordinately productive machine process. But a little reflection should serve to dispel that error. If a community may not consume what it is fully capable of producing, the fault lies clearly in the system of distribution. Hence the direction to take in search of a remedy should not be at all difficult to see.

There is no doubt the point will be made that these economic discussions have nothing whatsoever to do with Architecture; that they lie wholly outside—alien to the architect's proper interest. And it will be reiterated that it is taking quite unnecessary risks so to peep at these singular circumstances and facts.

But that is to agree. For the purpose in so referring to these singular circumstances and facts has been to suggest that as such they stand to block the way toward well building at every turn. Such conditions as are covered by the terms "Housing Problems" and "City Planning Problems," the inadequacy of buildings in urban centers with respect to utility when related to our knowledge and ability to plan adequately, the peculiar flimsy, shoddy, non-durable character of the bulk of modern buildings, the waste, the sham, the pretensions of modern building—all this is the outcome, the material expression of these singular circumstances and facts. So that the critic who objects that such economic discussions have nothing whatever to do with Architecture, that is, well building, is right to this extent; the discussion concerns itself with the circumstances and facts out of which Architecture is not made.

London Letter

There is no doubt that the exhibition of American work held last winter in the R.I.B.A. galleries has had far reaching results, not only through the renewed interest it has awakened in the achievements of American architecture, but in stimulating a desire on the part of English architects to display their work in similar fashion.

This latter fact has been evidenced by the ever-increasing dissatisfaction which is expressed, particularly among the younger architects, at the system generally in vogue in England of organizing architectural exhibitions. The Royal Academy encourages by its regulations the display of drawings which are an end in themselves—elaborate perspectives which gloss over with wash and even seccotine the dry and commonplace designs which they too often illustrate. Buildings without interest of form or texture are made to glow with reflected light, and the deposits of an earthy color-blend lend a richness to materials which in execution may appear hard and drab. The practice has led to the employment by architects of specialists who can convert the most unattractive design into a semblance of beauty, and whose skill with pencil and brush redounds to the credit of the building's often uninspired creator. It would almost appear that the "manner" of one of these able perspective artists exerts an actual influence on design, so strong is the superficial resemblance between the works of different architects illustrated by the same hand. And one sees at the Royal Academy the extraordinary occurrence of almost a wall-full of drawings from one hand, with the same tricks of expression applied alike to War Memorials and Factory.

The American Exhibition made us for the first time realize the true significance and possibilites of architectural photography. The work shown was illustrated by portrayals of reality, photographs which were in themselves beautifully composed, and in which the subject was in most cases truly and admirably shown. There were beautiful drawings in plenty, but the backbone of the Exhibition was certainly the collection of photographs. Photographs have not reached the pitch of veracity enjoyed by the science of geometry. They can and do lie; and there is a danger that much of the solemn mystery lent, let us say to a great interior, by shimmering light and mysterious shadow, is largely the product of a photographer's skill.

But there can be no real comparison here with the ready "faking" of architectural perspective. The executed building is the architect's acid test, and the best means of portrayal is the photograph, since the model cannot be considered on the score of expense and space and for the reason that to the uniniated it is full of pitfalls of deception. The public and the architects who visited the American Exhibition were impressed where the Academy would have left them unmoved.

Proof of the fact lies in the composition of the proposed exhibition of executed work to be held next month at the R.I.B.A. It is safe to prophesy that photographs will come into their own, and that the mysterious drawings of the "House for Mr. X," unsupported by evidence of execution will be pitilessly banished. And at next spring's projected exhibition of "Twenty Years of British

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Architecture," to be held by the recently formed "Architecture Club," the triumph will be complete—"Drawings except of the postage stamp variety are excluded," says Mr. J. C. Squire, the President, "as the show is primarily meant for the general public."

As an indirect result of the American Exhibition may be cited the interesting proposal under consideration by the Society of Architects for a student scholarship tenable in America, for the purpose of studying modern American work. Such a scheme is in line with enlightened efforts of the Society in the direction of Architectural education.

The Faculty of the British School at Rome has, we understand, been approached at various times with the idea of allowing Rome students to terminate the period of studentship by a trip to the States. Similar privilege has been granted to a limited extent in respect of European countries, and the inclusion by America is probably only a matter of time and gentle but continuous pressure.

A certain amount of curiosity is permitted as to the result which may be expected from the publicity which has recently been given to the work of the younger and more "advanced" School of Dutch Architects.

Many photographs and descriptions of modern Dutch work have appeared since the visit last year to the Achitectural Association of Mr. Keppler, the Director of Housing in Amsterdam, and a large number of members of the Association paid a return visit to Holland in September. The general opinion seems to be that the exponents of the more fantastic expression in design will tire their public and find themselves supplanted by men who will crystallize their work into soberer forms. Although the advanced Dutch School professes to scorn tradition or copyism from other countries, yet it is easy to see the reflection of Dutch tradition in this very modern work, and an even more frank architectural indebtedness to such men as Frank Lloyd Wright, reproductions of whose designs are in the hands of many a Dutch student, and whose influence may be seen in more than one executed building in Amsterdam.

At the time of writing the new Council of the R.I.B.A. is hard at work upon its Registration Bill, upon the success of which the Council depends if only to justify its existence in its present form. The Council was elected for the unanimity of its members in desiring Registration before Unification. The former Council desired Unification first, and then Registration. The aims were the same, but each body saw its attainment through a different line of action. The Non-Unification group has been victorious, and in recent elections have thrown overboard nearly all the old members, men of great architectural eminence, who had served the Institute well and faithfully. The new Council with a few exceptions represents the "business" side of architecture as opposed to the "design" side. It is being watched with critical eyes, and one feels that the political storm which recently burst in the architectural sky may soon again appear on the horizon.

The *Architects' Journal* announces, in a recent issue, a proposal made by the Board of Architectural Education for the holding in London of a Congress on Architectural Education. The announcement is certainly a little premature, as one judges that the Council of the R.I.B.A. has not yet given formal approval.

The Congress would be held at some date in the autumn of 1923, and would be international in character. The principal architectural schools of the world would be invited to send exhibits of their work and the aim of the Congress would be to discuss the present systems of education and investigate methods of advance and improvement. Such a Congress would be of first importance to architectural progress, and in addition to its immediate effects on education would tend to increase the solidarity of the architectural profession in an international direction. X.

The Secretary's Page

REAL progress has been made by the Apprenticeship Commission of the Building Congress in relieving the shortage of skilled workers in the building industry in New York City. Two hundred and fifty young men have already received apprenticeships in the painting and decorating trades, and developments along this line are under way in the brick laying, tile setting, mosaic, sheet metal, plastering and other trades. Frank L. Glynn, Managing Director of the Apprenticeship Commission, said that the cooperation of unions and employers in this work has been exceptional. The Board of Education will also aid in working out the program of the Congress.—*N. Y. Chapter Bulletin.*

ARCHITECTS desiring to obtain registration transfer to another State now have the way opened through two precedents of late date. Those who were registered in New York through exemption may apply to the Board of Examiners, Mr. William P. Bannister, Secretary, 339 Lexington Avenue, for what is known to the National Council of Architectural Registration Boards as a Senior Examination. They should also apply to the National Council of Architectural Registration Boards, Mr. Emery Stanford Hall, Secretary, 1107-64 E. Van Buren Street, Chicago, Illinois, for the necessary blanks and make application to have their credentials examined and placed on file so that they may obtain the transfers that can be operated through the National Council of Architectural Registration Boards. A draft on Chicago for $15.00 should accompany the application to Mr. Hall.—*N. Y. Chapter Bulletin.*

UNDER authority of a vote of the Town of Needham, Massachusetts, on 27 March, 1922, a special committee was appointed to procure plans for a high school building, and as a result of a competition conducted in May last, by said committee, the program of which had the approval of the Chapter's sub-committee on competitions of the American Institute of Architects, the design of one of the competitors was unanimously selected and recommended by the Jury as the winning design, and so declared by said committee, then representing the town.

At a subsequent meeting of the town there was opposition to the lot that had been proposed, and another committee, the personnel of which, in part at least, is the same, was appointed to report its recommendations, including choice of site, plans and estimates, with power to employ an architect to prepare the drawings and speci-

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fications on which *bona fide* estimates of cost should be based, and a sum of money to include architect's services was appropriated for the purpose.

The architect of the winning design had, at the request of the former committee of the town, for the purpose of presentation at a town meeting, prepared a water-color perspective drawing of his design, furnished a preliminary estimate of approximate cost and advised as to the cost of developing his design for the purpose of securing actual bids as above, and believes that his advice may have been instrumental in the procurement of the appropriation for that purpose.

The present representative committee of the town has decided on the site, and it appears has been instrumental in having certain questionnaires sent out to various architects, including the winner of the competition, indicating that they do not recognize that the town is under even a moral obligation under the competition it caused to be instituted, and which provided—as its then committee recognized—for a compensation decidedly nominal in character.

Communities should recognize their obligations, as do private individuals, and there certainly is no incentive to enter competitions for public work if an award under a supposedly safeguarded, and properly drawn program is to be held so lightly that a change in personnel of the community's representative body is understood also to mean the repudiation of its acts on behalf of its community.

The Professional Adviser, Jury and Competitors were all members of this Chapter, and in the opinion of the Committee on Ethics and Competitions it would appear to be unethical for members of this Society, other than the winner of the competition, to endeavor to secure an appointment as architect of this building.

Committee on Ethics and Competitions, by J. LOVELL LITTLE, Chairman.—*Bulletin of the Boston Society of Architects.*

AN EXPRESSION of appreciation for the exhibit arranged under the auspices of the Institute has been received from Mr. Howard Silkey, Chairman of the City Planning Committee of the International Health and Safety Exposition held recently at San Francisco.

THE TWENTIETH annual convention of the Iowa Chapter was held in Chicago, 23-24 October. The popularity of the innovation of Chicago was attested by the good attendance, there being twenty-four members present, many of whom were accompanied by their wives.

The convention was opened with a short address by President Cleveland, who introduced Mr. Louis Sullivan as the principal speaker of that session. Mr. Sullivan's talk, in the main, was based on "The Autobiography of an Idea," now appearing in the JOURNAL. There may be many who are not in accord with Mr. Sullivan's ideas, but certainly none who heard him could doubt his deep sincerity, nor withhold admiration for his courageous defense of his convictions.

Prof. F. R. Watson, of the University of Illinois, gave an illustrated lecture on Architectural Acoustics, and there were addresses by Irving K. Pond, an illustrated lecture on School Planning by Dwight H. Perkins (given at the office of Perkins, Fellows & Hamilton), and an address on "Research in Building Materials" by Milo S. Ketchum, Dean of the College of Engineering, University of Illinois.

The subject of Mr. Pond's address was "Some Modern Tendencies in Art." The following are a few extracts:

"Art is at bottom a matter of temperament and emotions."

"Instinct and emotions are the parents of Art."

"The law of Affinity is the greatest law of Nature."

"Fixed laws in art creations are absurd."

"The growing tendency of the straight-jacketing of Art is to be deplored; example: license and registration laws."

"Technical schools never were of value to Art."

"Art Commissions are insolent and stupid."

—*News Letter of the Iowa Chapter*

AT THE farewell luncheon to Mr. W. R. B. Willcox, given by the Washington State Chapter, Mr. Gould reviewed for the members present the long and interesting term of service that Mr. Willcox has given to the Institute and to the Chapter; paid many well-deserved compliments to Mr. Willcox for the inspiration of his example in the Chapter and bade him God-speed in his new work as professor in charge of the Department of Architecture at the University of Oregon. Mr. Alden, after equally friendly references to the love and esteem which the Chapter bears to Mr. Willcox, presented him with an engraved pin of the Institute. Mr. Willcox responded all too modestly and the meeting closed with friendly farewells and good wishes for both Mr. and Mrs. Willcox in their new home.

AT THE November meeting of the Washington State Chapter, Mr. Harlan Thomas said that he had been studying the evils of "no-zoning" and was forcibly impressed with the results, after his recent visit to twenty American cities where these evils were so apparent. Mr. Thomas felt that the architect in his training should be equipped to advise, not only as to the planning of the building, but as to the proper type of building to be constructed in a given location, and particularly public buildings. He believed that stores, office buildings, theatres, banks, wholesale buildings and others, should be localized in given districts in order to reduce the growing traffic problem. He mentioned the fact that Seattle is not static in this regard. In connection with Mr. Thomas' talk, Mr. Alden spoke for the zoning commission and asked that the Chapter give its help to the commission in preparing that portion of the ordinance regarding the percentage of areas to be covered by buildings of various types.—*Washington State Chapter Minutes.*

AT THE November meeting of the Milwaukee Chapter, Mr. Albert Kelsey gave an address on "Inspired Works in Products of Clay," illustrated by a series of novel and unusual views of St. Peter's, and followed with some interesting views of Central American Architecture, showing the use of tile, and with views of the Pan-American Building at Washington and the Orphan Home near Philadelphia.

Mr. D. K. Boyd showed pictures of modern American tile installations, as used in connection with exteriors as well as interiors of buildings, public and private.

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Public Information Page

The Public Information Committee has received a letter from Ethel B. Power of *The House Beautiful,* published by the management of the *Atlantic Monthly,* 8 Arlington Street, Boston, who says that they are paying special attention to domestic architecture, that there is always an unlimited demand for examples of good house architecture and that they are at all times glad to receive photographs of work from different architects and to publish such as are suitable for their magazine, giving proper credit to the authors.

Several of the Chapters issue interesting bulletins. Will the secretary of each Chapter doing this make it a point to see that a copy of the bulletin is sent to the Chairman of the Public Information Committee of the Institute as soon as it is released?

This month sixteen reports have been received and the greater number of these have matter of considerable interest for the other Chapters. Some of the Chapters are continuing or have inaugurated an energetic activity as the following excerpts show.

THE SAN FRANCISCO CHAPTER is pressing forward publicity work along the line inaugurated by the Washington, D. C., Chapter last year. Meanwhile H. C. Allen, Chairman of its Public Information Committee, is drawing up a circular of information to all persons interested in building operations somewhat similar to the pamphlet issued by the Iowa Chapter in 1920. It plans to print about 5,000 for distribution among real estate offices, contractors, the Chamber of Commerce, the Builders' Exchange, material dealers and Chapter members to explain the duties and functions of an architect. They have also set aside $250 as the nucleus of an educational fund to be enlarged by private subscription. As soon as this is large enough they will use the interest for prizes for annual contests among junior draftsmen.

It will be of interest to all the Chapters to know that the Public Information Committee of the Institute is working on an Institute document on the Functions of the Architect in the hopes that this may relieve the separate Chapters from issuing independent pamphlets.

THE ERIE CHAPTER is a new one and received its Charter last June. They have begun to work energetically on local matters, notably on the Building Code and have combined some of its meetings with the Erie Art Club.

THE RHODE ISLAND CHAPTER is cooperating with representatives of the Providence Real Estate Exchange, the Fire Underwriters' Association, Providence Builders' and Traders' Exchange, the Master Builders' Association, and the Providence City Plan Commission, looking toward a complete revision of the Building Laws of Providence. These laws will be formulated in conjunction with a new Housing Ordinance and a new Zoning Ordinance. Mr. F. Ellis Jackson, President of the Chapter, will be Chairman of an Advisory Committee. At the recent monthly meetings it has had talks from Charles Z. Klauder, Lester G. Hornby, who spoke on etchings, and Robert Whitten, of Cleveland, who is an expert on Zoning. At the December meeting R. Clipston Sturgis spoke on modern problems which face the architect.

THE KANSAS CITY CHAPTER has begun a series of lectures on Sunday afternoons at the Art Institute. The first ten will comprise lectures on the various phases of the home, the small house, its plan, design and furnishing, which will be given by Messrs. Courtland Van Brunt and Edward Buehler Delk. A second series after the first of the year will treat on the building industry and architecture as an art. Mr. Ernest O. Brostrom, the Chairman of the Kansas City Public Information Committee, says that he has obtained several suggestions from this page of the JOURNAL and as a result has taken up the publication of some articles on Architecture and the Arts pertaining thereto in the real estate sections of the local papers. They are considering talks before the various civic organizations and clubs. These should prove fruitful.

THE NEW JERSEY CHAPTER Committee through Mr. Hugh Roberts is also acting in conjunction with the State Society of Architects so that they have a combined numerical strength of 302 members. This enables them to work with the Legislature in amending laws pertaining to architecture and the building trades. The Chapter has been helpful in fostering an Atelier conducted by Ernest H. Fougner which will present problems to the Beaux Arts Society. The last is a new suggestion for this page and may well be followed by other Chapters in sections of the country where draftsmen and students of architecture who are not in college are not provided with a means of education.

JOHN V. VAN PELT,
Chairman, Committee on Public Information.

Letters to the Editor

Earnings on Building Investments

TO THE EDITOR:

Please permit me to call your attention to a mistake that Mr. George C. Nimmons made in his article printed in your November, 1922, issue entitled "The Passing of the Skyscraper." The tabulated statement at the bottom of Page 360 assumes that office buildings of various heights are erected on land leased at an average annual rate of $54,000.

The results given are as follows:

"Earnings on TOTAL INVESTMENT:"

5-stories	10-stories	15-stories
4:36%	6:00%	6:82%
20-stories	**25-stories**	**30-stories**
7:05%	6:72%	5:65%

As the buildings stand on leased land and $54,000.00 ground rent has been included in "Overhead and Annual Expense" and deducted from "Income," it is inevitable that the "Annual Net Earnings" apply to the building only and the wording and percentages should be given as follows:

"Earnings on BUILDING INVESTMENT:"

5-stories	10-stories	15-stories
10:25%	10:36%	10:22%
20-stories	**25-stories**	**30-stories**
9:84%	8:73%	7:00%

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If Mr. Nimmons intended to show the true "Earnings on Total Investment" he should have omitted the $54,000 ground rent item which would have increased his "Annual Net Earnings" by $54,000. This would have given percentages as follows:

"Earnings on TOTAL INVESTMENT:"

5-stories	10-stories	15-stories
6:42%	7:51%	8:01%
20-stories	25-stories	30-stories
8:11%	7:55%	6:34%

It must be borne in mind that Mr. Nimmons does not undertake to illustrate more than the first year's experience of the several buildings, while statistics show that the useful life of first-class office buildings averages about thirty years and that land value in the central business district of our large cities doubles in about ten years.

Store rentals are always raised as land values increase, while office rents are never raised on account of increase in land values. This works greatly to the advantage of. the lower buildings and more than overcomes the higher earnings of tall buildings during the first few years.

It should also be remembered that there is an investment experience as well as an operating experience. Mr. Nimmons' illustration gives the land value at $1,500,000. Assuming that the building will have a useful life of thirty years; that the land will double in value twice during the period, and that the building will depreciate 2% annually, or 60% during the thirty years, the investment experience will be as follows:

	5-stories	10-stories	15-stories
Land Appreciation	$4,500,000	$4,500,000	$4,500,000
Building Depreciation	664,800	1,232,400	1,800,000
Investment Profit	$3,835,200	$3,267,600	$2,700,000
	20-stories	**25-stories**	**30-stories**
Land Appreciation	$4,500,000	$4,500,000	$4,500,000
Building Depreciation	2,361,000	3,007,800	3,768,600
Investment Profit	$2,139,000	$1,492,200	$ 731,400

I am in full accord with Mr. Nimmons' contention that the skyscraper is passing and should pass. I have been managing office buildings for years and know from experience and observation that on any lot in any American City a low building will pay larger income and greater profit on the investment *in the long run than a tall building.* It is not only better for the investor, but better for the City to have office space spread over more land.

EDWIN S. JEWELL.

Mr. Nimmons' Reply

TO THE EDITOR OF THE JOURNAL:

I am glad to reply to Mr. Edwin S. Jewell's letter concerning the calculations of the earning power of office buildings as discussed in my article on "The Passing of the Skyscraper" which appeared in the November issue of the JOURNAL.

Mr. Jewell contends that it was wrong to spread the net earnings of the buildings of various heights over the value of both land and building because it was assumed that the building had been erected on land that was leased. If it had been assumed or stated that the owner of the building in each case had been interested or involved in providing the money with which the building was erected, or if the object of the calculations had been to show how much profit an individual or a group of individuals might make under the assumption of any such specific example, then his statement would have been correct. But no statement was made to warrant his assumption, and it was not the object of the calculations to show any other result than the ratio of building earnings to the value of both land and building. In fact a considerable part of the article was devoted to a discussion of the earning power of buildings in relation both to land values and cost of buildings, and these calculations were made expressly for the purpose of supporting the statements made in the discussion.

As to the scheme of financing, one might add that another assumption, which would have just as much justification as the one made by Mr. Jewell, might have been made, viz., that a "Holding Company" owned the building in each case, and that it had secured a ninety-nine year lease on the ground and on the basis of this, made a loan sufficient to erect the building. In this case the Company might not have had a dollar of its own tied up in either land or building, and whatever surplus there was after paying operating and overhead expenses would, in this case, have been one hundred percent. profit. This, however, would not have demonstrated the general proposition concerned in the problem under discussion.

The calculations might readily have been based on a direct interest charge on the value of the land and cost of building, and the final results would have been the same. But a second mortgage and a ground lease were introduced simply because it was thought that the calculations might be more interesting, as a great many of our present skyscrapers were erected on such a financial plan before the existing state laws made bond issues difficult to handle on the basis of a ground lease.

Mr. Jewell's calculations of the investment experience with such buildings are interesting and suggest the raising of the question as to whether or not the modern office building will become obsolete in thirty years. Many real estate men and others have assumed that the value placed upon the average office building will have disappeared in fifty years, and that the depreciation therefore of such property should be fixed at 2% per annum. This subject has been much discussed in recent years on account of its important bearing on income taxes. Builders and architects have usually taken the position that office skyscrapers have not yet been in existence long enough to determine how long they will last. The most striking challenge to this estimate of a 2% depreciation is that the three original skyscrapers—the Home Insurance Building, the Rookery Building, and the Tacoma Building of Chicago—are each well over thirty years old, apparently as good as they ever were, and are well filled with tenants paying a higher rental for space than they ever did at any previous time.

In conclusion I wish to state as a matter of interest concerning the economic height of office buildings, that Mr. Edward M. Bassett, chairman of the Zoning Commission of New York, recently made a study and check of the calculations under discussion, and accepted them as a correct demonstration of the problem involved, with the modification that in a block of property where all of the buildings were built up to a high limit that the economic height would drop from twenty to about sixteen stories high.

GEORGE C. NIMMONS.

Structural Service Department appears on the second right hand page following

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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.

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Modern Methods of Protection Against Lightning. (35n6)—(*U. S. Dept. of Agriculture. Weather Bureau. Farmers' Bulletin 842, by Roy N. Covert. Pages 32. Size 6" x 9". Illustrated.*) This bulletin gives concise, practical and up-to-date information for installing equipment so as to secure the greatest degree of protection with the type of installation chosen.

Materials Used in Lightning Protection.—The material used in protecting a building from lightning may be classified under four heads: conductors, fasteners for conductors, aerials, including points and supports, and grounds. In order to avoid electrolytic corrosion, the use of two different metals in the same system, such as copper and iron, should generally be avoided, particularly if moisture is continually present. It is not always practical or necessary, however, to adhere strictly to this rule, but if two dissimilar metals are placed in contact their drying off quickly after rains or snows is essential to the prevention of corrosion.

Copper, iron, and aluminum all meet the requirements for strength and electrical conductivity and therefore durability and first cost are the determining factors. Copper resists corrosion almost indefinitely in soil relatively free from ammonia and in air except where exposed to acid fumes. Iron, either galvanized or copper plated, is widely used on account of its low first cost. It must, however, be carefully protected from corrosion before being installed and continually watched to see that it does not deteriorate. Aluminum, although it is almost equally as non-corrosive as copper except in the presence of alkalies, is but rarely used.

Kind of Equipment to Choose.—There are several factors that enter into a choice of the type of equipment, viz., the value of the building, the nature and value of its contents, whether the protection of life is involved, what sum of money is available for investment in protection, etc. In general a durable and adequate protection is best but the installation of such an equipment may be impracticable, or even uneconomical. In this event a less costly installation may be made, at some sacrifice of durability and efficiency, and a large measure of protection still be assured. With the object of meeting these various needs the following three sets of specifications have been prepared: Copper-cable installation; Installation of iron conductors and fittings; Inexpensive equipment.

Specifications for Copper-Cable Installation.—Conductor. Tightly twisted-copper cable of commercial purity shall be used, approximately one-half of an inch in diameter, and composed of seven strands of four wires each. The cable shall be run as directly as possible on the building, and sharp bends or loops shall be avoided. Bends or loops of the cable where it passes over the edge of the roof on the way to ground shall have large radii. Where the aerials meet the horizontal conductor the cable shall be formed into an inverted Y, the vertical part of the aerial meeting the horizontal in an arc of about 16 inches radius.

Where end-to-end joints of the conductor become necessary, the strands at the cut ends shall be interwoven for a distance of 5 or 6 inches and carefully soldered. The conductors shall be run in single lengths where possible and unnecessary joints avoided. Where branches with the main conductor occur, the joints shall be soldered, the branch cable meeting the main cable in an arc of 20 to 24 inches radius. These joints shall be made by laying the cables side by side, binding the two together for several inches with copper wire, and then soldering carefully.

Cable Fasteners and Supports.—Use gun-metal or copper screw type fasteners spaced about 6'0" apart and securely screwed to the building. In connection with masonry expansion bolts must be used. Should the screwing of the fasteners to the shingle roof render a leak possible where the screw enters, make holes water-tight by means of lead washers.

No insulators shall be used with the fasteners or for any part of the equipment.

Aerials.—Aerials shall be located at points indicated on drawings. (See note).

Points.—Solid, copper-bayonet points, without plating, shall be used. The joints of the points to the vertical copper cables forming the aerials shall be soldered.

Supports or Braces for Aerials.—Tripod supports shall be used. Fasten to roof with brass screws or with sherardized iron through bolts when possible. When through bolts are used provide lock nut or upset end of the bolt.

Height of Aerials.—Aerials shall be 4'0" high above ridges, gables, and flat roofs; 1'6" above the tops of chimneys, peaks, and pointed parts of the building.

Grounds.—Dig a narrow trench of sufficient depth to reach permanent moisture and to a distance of 15 feet or so away from the foot of the conductor to be grounded, or to a greater distance if the earth is rocky and the trench must be shallow. Separate the cable into its four strands for a distance of 6 to 7 feet from the outer end, which should reach to the end of the trench; or strand the cable for a greater length if the trench is shallower and longer. Embed the cable placed in the bottom of the trench in granulated charcoal, pea size, saturated with water, using about 5 inches of charcoal above the cable and the same thickness below. Fill in the earth and tamp thoroughly. Where the cable enters the trench and passes to the bottom, make a bend of large radius.

Protect the cable from injury and corrosion where it enters the ground by surrounding it with a block of dense concrete, 6 inches in diameter, extending 6 inches above

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Atlantic Terra Cotta feature for Pershing Square Building, New York. York & Sawyer—John Sloan, Architects; Chas. T. Wills, Inc., Builders.

Rugged and Ragged

The Pershing Square Building, now nearing completion, is one of the largest buildings in New York and has one of the most valuable locations, on 42nd Street, directly opposite the Grand Central Terminal.

The Architects, York & Sawyer and John Sloan, are using Atlantic Terra Cotta with ragged edges, gray in color, haphazard flashes of golden brown, and dark blue glaze in some of the modeled detail.

Atlantic Terra Cotta lends itself readily to unusual specifications.

"Questions Answered" on request



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ground and not less than a foot below. Also protect the cable by surrounding it with a piece of 1 inch galvanized iron pipe about 8 feet long, the lower end embedded in the concrete block. When in place, fill the pipe to the top with a cement grouting.

Interconnection and Grounding.—Cross-connect the gutters and down spouts to the lighting conductors, using No. 6 B. & S. gauge copper wire with soldered joints, the gutters connected at each end and the down spouts at the lower ends. Solder the gutters to the down spouts.

Pipes and other metal work, within the building, extending for a considerable distance parallel to the lightning conductors on the roof or the side of the building, shall be cross-connected to the nearest conductor at one end and the other end grounded or connected to another conductor on the exterior, provided the distance from the interior metal work to the conductor is 8 feet or less. Use No. 6 copper wire and solder the joints. Small masses of metal more than 6 feet from the nearest conductor outside or cross-connected metal work within will not be cross-connected.

Specifications for Installation of Iron Conductors and Fttings.—Conductors. Galvanized-steel, star-section rod with copper couplings shall be used, three-fourths of an inch in diameter. Run the rod as directly as possible on the building, but avoid sharp bends or loops. Make the bends or loops of large radius where the conductor passes over the edge of the roof. Where the aerials meet the horizontal conductor, the conductor shall be formed into an inverted Y.

Rods shall be 8′0″ stock length with each end provided with copper couplings. End-to-end joints shall be made by screwing the rods together. Where branches from the main conductor occur, Y conductors shall be used so that easy bends may be formed with laterals.

Cable Fasteners and Supports.—Use galvanized-iron screw fasteners with sherardized-iron screws or bolts. For details and further specifications see "Copper-cable installation."

Aerials.—See specifications for copper-cable installations.

Points.—Solid, copper-bayonet points without plating shall be used. The point shall be screw-jointed to the star-section rod forming the aerial.

Supports or Braces for Aerials.—Use a galvanized-iron tripod support, fastening it to the roof with sherardized-iron screws, through bolts, or expansion screws, as the case requires. When through bolts are used, provide a lock nut, or upset the end of the bolt.

Height of Aerial.—See specification for copper-cable installations.

Grounds.—Construct a copper-plate ground, the area of the plate to be at least 10 square feet; its thickness one-eighth of an inch. Rivet and solder a ½-inch copper cable to the plate, the cable of sufficient length to extend to surface of ground and be screw-jointed to the star-section rod. Bury the ground plate in earth where there is permanent moisture, with about 5 inches of broken charcoal, pea size, above the plate and the same thickness below. Saturate charcoal with water, fill in hole, and tamp thoroughly.

Protect the conductor, including the joint of copper-cable to galvanized-iron rod where it enters the ground, by surrounding it with a block of dense concrete, 6 inches in diameter, extending 6 inches above the ground and a foot below.

Interconnection and Grounding.—Follow specifications for "Copper-cable installation," excepting that No. 6 galvanized-iron telegraph wire, Birmingham wire gauge, and galvanized fittings and screws shall be used instead of copper.

Specifications for Inexpensive Equipment.—Conductors. Use extra heavy ½-inch galvanized-iron pipe for the conductors. Run the pipe as directly as possible on the building, but avoid sharp bends or loops. To form the bends required, as for example where the pipe passes over the edge of the roof on the way to ground, the pipe should be bent into proper shape. The conductor pipe shall be screwed together with couplings. Where branches from the main conductor occur, as at the ends of the building on the roof, "Y-bend" fittings may be used and the branch pipes bent into arcs of large radius. Intermediate branches with the principal conductor should be made with crosses or tees.

Conductor Fasteners and Supports.—Galvanized-iron pipe straps or plumber's clips shall be used for attaching the pipe to the building. Use iron screws for wood, and iron expansion screws for masonry. The holes in the roof where screws enter should be made water-tight by means of suitable washers.

Aerials.—See specifications for copper-cable installation. The aerials will be constructed of standard galvanized-iron ½-inch pipe and fittings; the points of iron rod. Install aerials 3 feet high above ridges, gables, and flat roofs; 18 inches above the tops of chimneys, peaks, and pointed parts of building.

Grounds.—Use pipe grounds consisting of 10′0″ length of 1″ extra heavy pipe driven into the ground until its upper end is about 4″ above the surface of the ground. To the upper end of the ground pipe screw a ½″ x 1″ reducer and a short ½″ nipple and join into the conductor by means of a galvanized-iron union.

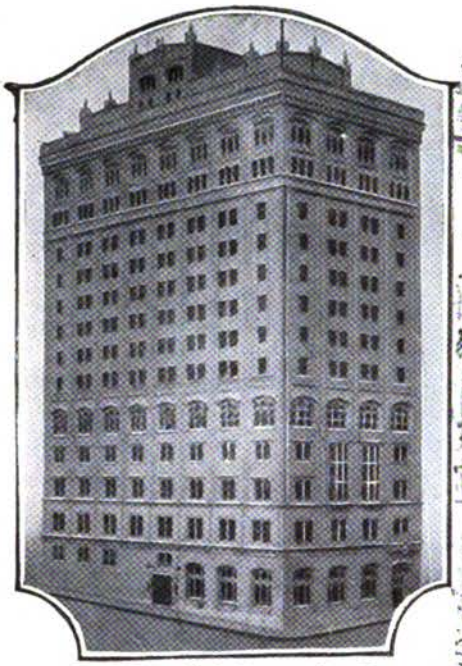
Interconnection and Grounding.—Follow specifications for "Copper-cable installation," excepting that No. 6 galvanized-iron telegraph wire, Birmingham wire gauge, and galvanized-iron fittings and iron screws shall be used.

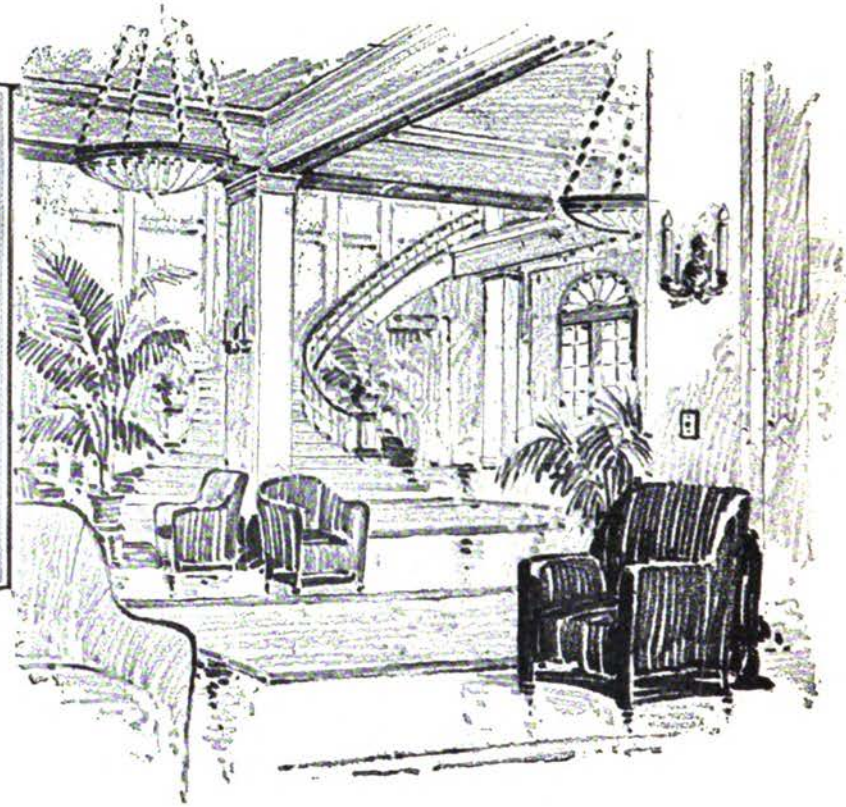
Note.—Location of Aerials. As a general rule along ridges and flat roofs the aerials should be spaced not more than 25′0″ apart. On extensive flat roofs it is therefore necessary to place aerials not only around the edge of the roof, but, in addition, at points more or less uniformly distributed about the area within the edge. Each elevated portion of the building, such as chimneys, peaks, towers, gable roofs, etc., ordinarily should be protected by one or more aerials.

Special care should be used in protecting steeples or towers. Sometimes several aerials will be required. Two conductors at least should be run from the aerials to separate grounds and the conductors cross-connected to the balance of the system.

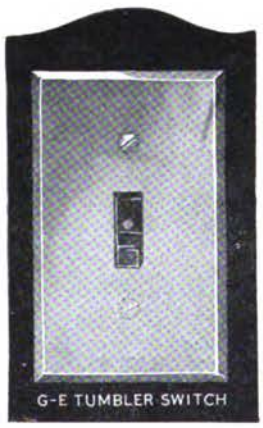
Gypsum Tile. (10)—(*U. S. Dept. of Commerce, Bureau of Standards. Circular No.* 108. *'Gypsum—Properties, Definitions and Uses"* (3*g*) *Pages* 21. *Size* 7″x10″). Gypsum tiles come in a great variety of sizes, to suit all purposes. One size commonly used for building partitions is 12 inches wide by 30 inches long by 3 inches thick. They are usually "cored"—that is, with holes run through them longitudinally —although solid tiles can be obtained. These holes are introduced principally to make the tiles lighter, thereby reducing the freight costs and the labor of handling. The air spaces which they form may assist the tile somewhat to resist the transmission of heat. For the same reason, the tiles are usually made of calcined gypsum in which is included not more than 5 per cent, by weight, of wood fiber. This makes them of such a nature that they can be cut with a wood saw. Gypsum tiles must be set in gypsum mortar,

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made of 1 part calcined gypsum, by volume, to 2 parts of sand. One tile of the material of the dimensions noted above will weigh about 30 pounds. When laid on edge, the usual method, it can be expected to carry a load of 1260 pounds with a large factor of safety. The surfaces of these tiles are usually roughened to form a key for the plaster.

In the design of precast reinforced gypsum tile, strength rather than lightness is the paramount consideration. These tiles do not contain any sand or fiber, and are of solid or cored pattern. They are made of second-settle calcined gypsum, with as little water as possible, so as to develop maximum strength. Tiles of this character are used mainly for roof construction, being covered, of course, with standard roof coverings to protect them from the weather. While certain stock sizes are recognized, it is customary to make the tile to order, so that they will fit into the supporting members of the roof.

Gypsum Wall Plaster. (21a2)—(*U. S. Dept. of Commerce, Bureau of Standards, Circular* 108, *"Gypsum—Properties, Definitions and Uses."* (3*g*). *Pages* 21. *Size* 7"x10"). About three-fourths of all the gypsum mined finds its final market as wall plaster. The simplest forms of gypsum sold for this purpose is the straight calcined gypsum, which is used as an addition to lime putty for white-coat work. This is sold as "gaging plaster," sometimes called "stucco," and can be had either unretarded or retarded to set in about 20 minutes.

Calcined gypsum does not work so smoothly under the trowel as could be desired. As a concession to the plasterer, therefore, it has become common practice to add 10 per cent to 15 per cent of clay or hydrated lime to the material at the mill. The mixture so produced, retarded to set in from one to six hours, is the gypsum plaster of commerce, which is sometimes termed "hard wall plaster." It is also sold as "neat gypsum plaster" in the East and as "cement plaster" in the West. The adjectives "fibered" and "unfibered" denote whether or not any hair or wood fiber has been added to it.

Neat gypsum plaster is designed to be used for the scratch and brown coats of plaster. For this purpose sand must be added to it on the job. For scratch-coat work it is customary to use 1 part of neat plaster by weight to 2 parts of sand; for brown coat the proportions are 1 to 3. Plaster to which the sand has been added at the mill is now obtainable. It is known as "gypsum sanded plaster," "ready-mixed scratch coat," or "ready-mixed brown coat."

Another variety is known as "wood-fiber plaster." This is neat gypsum plaster containing about 1 per cent by weight of wood fiber. It is designed to be used with or without sand, depending upon the nature of the base or background to which it is to be applied.

Wall plasters and other building materials made of gypsum have a remarkable ability to resist fire. The reason for this is due to the chemically combined water of crystallization which, as stated, is about 20 per cent by weight. The heat breaks up these crystals and liberates the water, the process being slower as the heat penetrates farther into the gypsum. As long as there are any water crystals in the gypsum to be broken up the material will not warm appreciably above the temperature of boiling water.

Specification for Neat Gypsum Plaster. The following specification has been adopted as tentative by the American Society for Testing Materials and is recommended by the Bureau of Standards:

Definition. Neat gypsum plaster is a plastering material in which not less than 85 per cent of the cementitious material is calcined gypsum, mixed at the mill with other materials.

Composition. Neat gypsum plaster shall contain not less than 85 per cent, by weight, of calcined gypsum. The remainder may consist of materials to control the working quality, setting time, and the fibering.

Time of Setting. Neat gypsum plaster shall set in not less than 1½ hours.

Tensile Strength. Neat gypsum plaster shall have a tensile strength of not less than 150 pounds per square inch (10½ kg-cm²).

Sewage Disposal for Residences and Small Institutions. (29c2)—(*Engineering Experiment Station, Purdue University. Bulletin No.* 6 *by R. B. Wiley. Pages* 35. *Size* 6" *x* 9". *Illustrated.*) This bulletin has been prepared with two objects in view: first to furnish enough information for the average rural resident to provide for proper disposal of the sewage from his home, and second, to inform school and institutional trustees on the general subject of sewage treatment that they may know in a general way what type of disposal may be installed.

Contents.—Methods of Disposal, Dilution, Methods of Treatment, Cess-Pools, Septic Tank, Imhoff Tank, Tank Covering, Disposal of Septic and Imhoff Tank Effluent, Absorption, Irrigation, Contact Beds, Sprinkling Filters, Sand Filters, Siphons, Sludge Beds, Grease Traps, Location Piping, Concrete.

North Dakota Laws and Rules in Regard to the Construction, Inspection, Ventilation and Sanitation of School Buildings. (35b)—(*Compiled by Edward Erickson. Published by State Department of Public Instruction. Pages* 24. *Size* 6" x 9". *Illustrated.*) *Contents.*—The Law in Regard to Construction of School Buildings and Inspection, Ventilation and Sanitation Thereof; Introductory Statement; Heating and Ventilating of School Buildings; Ventilation; Plans and Specifications for School Buildings; Dimensions of School Rooms; Blackboards; Lighting; Color of Walls and Ceilings; Window Shades; Heating and Ventilation; The Jacketed Stove; The Hot Air Basement Furnace; Steam Heat; Fan System of Ventilation; The Furnace Room; Fire Protection; Fire Drill and Guards for Public Schools; Sanitation; County Board of Health Has Authority to Condemn School Buildings; Toilets; Drinking Fountains; Water Supply.

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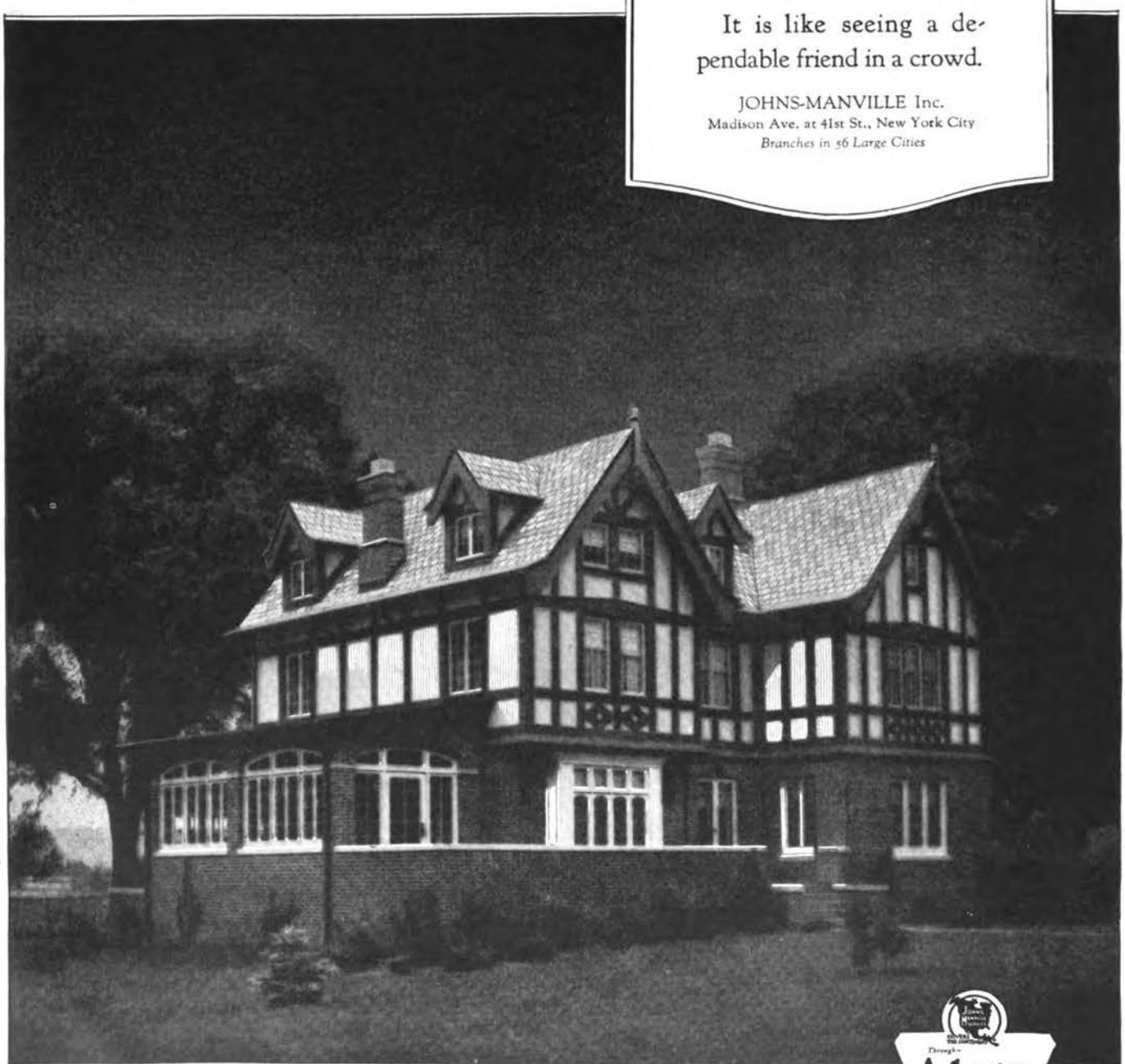
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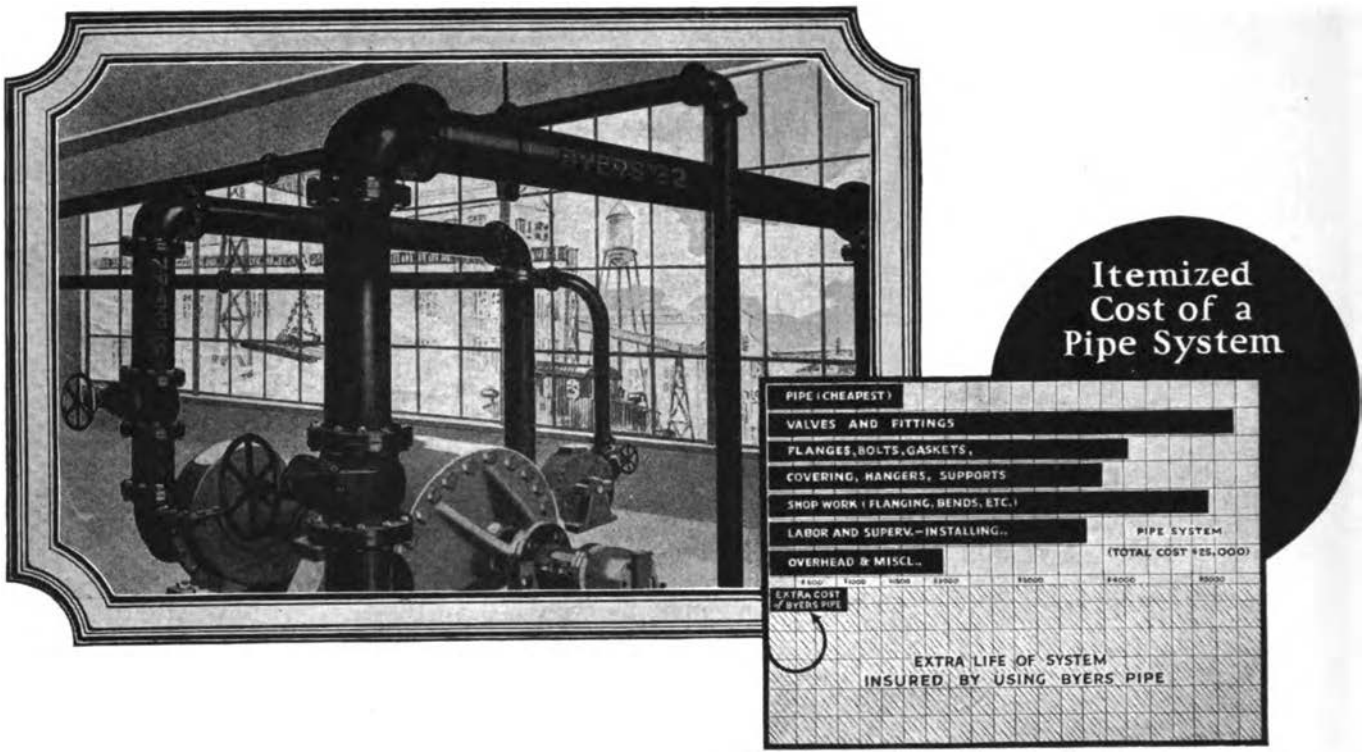
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JOURNAL OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Vol. XI FEBRUARY, 1923 Number 2

The Autobiography of an Idea

By LOUIS H. SULLIVAN

CHAPTER IX.

Boston

The English High School

WHILE at Lyons Falls, Louis made acquaintance of the sons of the tenant farmer: twins, two or three years older than he, who appraised them accordingly. Broad shouldered, heavily built throughout, with large featured homely faces evenly browned by the sun, they had big coarse hands which Louis envied them. They swayed and lurched in talking, shifting their feet; good natured, heavy-minded fellows, taller than Louis. One day they said they were bound for Brown's Tract and would have as guide a trapper, a grown man; that they would head for a certain lake twenty miles away, where the trapper had a shack and a canoe; that they were after game; they asked Louis if he would like to come along. Louis jumped at a chance he had been aching for. Many a day he had wondered what a forest could be, within its depths, as he gazed at the mass of sombre and silentious green rising from the dark waters of the river and had seen no hope to solve the mystery. The boys warned him that it would be rough, heavy work, with some danger; but he said the rougher the better, and that as to the dangers he was curious.

Now, afoot, heavy laden, they have passed the fringe of the forest, and begun the ascent of a rough stony trail, climbing and descending the hills in a winding obscure way. Five miles in, they cross a "bark road," so called, a ragged gash through the woods with stumps of trees, loose boulders and corduroy for roadbed. Strewn along the way of the road lie huge naked hemlocks stripped of bark for the tanneries to southward. No trail beyond this road; the real hard work, the stern hardship begins in the utter wildness of ancient fallen trees, tangled wildwood, precipitous ravines, the crossing of raging torrents—feeders of the Moose River—roaring under masses of forest wreckage, involving high danger in the crossing, their waters dark brown, forbidding, foaming brown-white; detours to be made around impassable rock outcroppings; wadings through cedar swamps; a bit of smooth needle-carpeted floor, for relief at times; many panting rests, many restarts, grimly wending their way between close-set uprearing shafts of mighty hemlocks, and tamaracks, with recurring narrow vistas quickly closing as the trampers cross a plateau, and then again descent and climb and hardship, hidden danger of falling aged trees, no warning but the groan, then a crash and trembling earth: so pass four weary ones through a long August day, amid cathedral gloom, the roaring and the stillness of primeval forest.

By sundown they have made ten miles. A hasty camp—no tent, a quick fire—coffee, bacon, hardtack, water from canteens; a small tamarack felled, its delicate fragrant boughs laid thick for a bed, a circle of smudge-fires, and shortly, four humans, in soaking boots, and clothing soaked with sweat and spray, sleep the instant sleep of exhaustion, in the dark of the moon, in the pitch black forest, as the circle of smudge fires faintly smoulders.

At early dawn the trapper blows no horn, he rings no bell, but in bright good humor emits the awful siren of the screech-owl: the dead turn in their slumber-graves. Once more—the dead jump up. Campfire lighted, hurry-up, fires trod out, packs again on sore backs, stiff legs start and shortly limber. That day six miles of going, and again death-asleep. Next day four miles of easy going as they reach the margin of a wide basin or valley, with level floor and stop at one end of a sumptuous lake, resting placid and serene as a fathomless mirror upheld by forest walls. At this point is a limited natural clearing; nearby is the shack, a large rough-hewn affair of unbarked sapling logs; and, bottom up, in the deep shade are found

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canoe and paddles. It is early afternoon. They take their ease, lying awhile on the green sward, then spread boots and clothing in the sun to dry, bathe in the cool shallows safe from the icy spring-fed deep of the lake, resume half-dried boots and clothes and leisurely arrange the camp. Meanwhile the trapper, tall and lank, brings in a brace of partridge. Now all is joy, the pains forgot, the prize attained—they burst into raucous song to the effect that they are "dreaming now of Hallie."

Louis, musket in hand, walked to the edge of the shore, stopping not far from the timber wall. The lake, to his eye, appeared three miles long and three-quarters wide. He raised his gun and fired straight ahead. Instantly set in an astounding roar. It smashed, dashed and rolled sonorously along the mighty wall, suddenly fainting into an unseen bay, then rolling forth again into the open, passing on like subdued thunder; from the beginning scattering wild echoes, which in turn re-echoed criss-wise and cross-wise, an immense maze of vibrations, now passing slowly in decrescendo into a far away rumble and nearby trembling, fainting, dying, as the forest sternly regained its own, and primal stillness came. This display was too dramatic, even for Louis. Once was enough. It seemed too much like an eerie protest, the wildly passionate rejoinder of a living forest disturbed in its primal solitudes of contemplation. Yet the stupendous rhythm, the orchestral beauty of it all, sank deep in Louis' soul, now become as one with nature's mood. He wandered from the camp, wishing to be alone, where he might be himself, solitary, in nature's deep, and commune with venerable immensities that gave forth a voice of haunting stillness which seemed to murmur and at times to chant of an unseen, age-long, imminent, eternal power, which Louis coupled as one with a gentle sensuous, alluring power to whose moving song of enchantment he had trembled in response, within a bygone springtime in the open.

The brief camp-life was much the usual thing. Game was scarce, but small speckled trout could be scooped up in quantity from a slow, deep rivulet in a nearby beaver meadow.

Came time to return. The trapper said he could lead them back by an easier way, but it meant a detour of thirty miles to Lyons Falls. They made the distance in three days. They had been away ten days all told: and Louis was exultant that he had made as good a showing as the farm-boy twins. * * *

All too soon came the hour to begin the journey homeward. Good-byes were said—some of them wistful.

At Albany, Grandpa revealed a plan he had cherished in secret: They were to take the day-boat down the Hudson to New York. Louis was profuse in gratitude as he pre-figured coming wonders which he was to see with his very own eyes, and appraise with his own sensibilities. And so it was, as Louis passed almost directly from the sublimity of forest solitudes to the grandeur of the lower Hudson. As they passed West Point, Grandpa said that he had once taught French at the United States Military Academy, and that his pleasure there had been to swim the Hudson, across and back every morning before breakfast. Grandpa's stock immediately jumped many points, for Louis held prowess in high honor. As they passed the Palisades Louis was astounded as Grandpa explained their nature—huge basalt crystals standing on end. The life on the river all the way down had greatly entertained him; now he came in sight of greater shipping and entered an immense floating activity. Of New York Louis saw but little; and when Grandpa said it was here they landed when he with his family came from Geneva, Louis took the information deafly, not even inquiring when and why they had moved to Boston. Grandpa felt the hurt of this indifference. Here was this boy, his own cherished grandson, whose fourteen living years had been filled to overflow with vivid episodes, with active thoughts, with dreams, mysteries, prophetic intuitions and rude industrious practicalities, all commingled; here was this boy, ignorant, grossly innocent and careless of the vicissitudes and follies of a seething human world. He shuddered momentarily at the chasm that lay between them. For Grandpa all too well knew the profound significance of a wholly truthful story of any human life, told continuously, without a break, from cradle to old age; could it be known and recorded of any other than one's self. He knew that the key to the mystery of human destiny and fate lay wrapped and lost within these lived but unrecorded stories. He knew also that Louis was now paying in ignorance the penalty of a sheltered life. Then he told Louis another secret: They were to leave on a Fall River boat and traverse the length of Long Island Sound. Thus, Louis, in renewed joy and ecstasy made his first long trip on the salted sea. Then duly came Boston, Wakefield and the romantic journey's end. * * *

Louis still had time to brush up rapidly for the high school examinations. He had chosen the English High rather than the Latin High. He was accustomed to thinking and acting for himself, seldom asking advice. His thoughts in mass were directed ever toward his chosen career; and he believed that the study of Latin would be a waste of time for him: the time element was present always as a concomitant of his ambitions. He wished always to advance in the shortest time compatible with sure results. He had no objection to Latin as such, but believed its study suitable only to those who might have use for it in after-life. He had a keen gift for separating out what he deemed essential for himself.

On September third, his birthday, he received a letter from Utica, filled with delicate sentiments, encourag-

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ing phrases, and concluding with an assurance that the writer would be with him in spirit through his high school days.

The English and Latin High Schools, in those days, were housed in a single building, rather old and dingy, on the south side of Bedford Street; a partition wall separating them, a single roof covering them. The street front was of granite, the side walls of brick. There were brick-paved yards for the recess half-hour with overflow to the street and a nearby bakery. It was a barn-like, repellant structure fronting on a lane as narrow as the prevailing New England mind of its day.

Louis passed the examinations and his name was entered in the year book 1870-71.

He was among those—about forty in all—assigned to a room on the second floor, presided over by a "master" named Moses Woolson. This room was dingy rather than gloomy. The individual desks were in rows facing north, the light came from windows in the west and south walls. The master's platform and desk were at the west wall; on the opposite wall was a long blackboard. The entrance door was at the north, and in the southwest corner were two large glass-paneled cabinets, one containing a collection of minerals, the other carefully prepared specimens of wood from all parts of the world.

The new class was assembled and seated by a monitor, while the master sat at his desk picking his right ear. Louis felt as one entering upon a new adventure, the outcome of which he could not forecast, but surmised would be momentous.

Seated at last, Louis glanced at the master, whose appearance and make-up suggested, in a measure, a farmer of the hardy, spare, weather-beaten, penurious, successful type—apparently a man of forty or under. When silence had settled over the mob, the master rose and began an harangue to his raw recruits; indeed he plunged into it without a word of welcome. He was a man above medium height, very scant beard, shocky hair, his movements were panther-like, his features, in action, were set as with authority and pugnacity, like those of a first mate taking on a fresh crew.

He was tense, and did not swagger—a man of passion. He said, in substance: Boys, you don't know me, but you soon will. The discipline here will be rigid. You have come here to learn and I'll see that you do. I will not only do my share but I will make you do yours. You are here under my care; no other man shall interfere with you. I rule here—I am master here—as you will soon discover. You are here as wards in my charge; I accept that charge as sacred; I accept the responsibility involved as a high, exacting duty I owe to myself and equally to you. I will give to you all that I have; you shall give to me all that you have. But mark you:—The first rule of discipline shall be SILENCE. Not a desk-top shall be raised, not a book touched, no shuffling of feet, no whispering, no sloppy movements, no rustling. I do not use the rod, I believe it the instrument of barbarous minds and weak wills, but I will shake the daylight out of any boy who transgresses, after one warning. The second rule shall be STRICT ATTENTION: You are here to *learn,* to *think,* to *concentrate* on the matter in hand, to hold your minds steady. The third rule shall cover ALERTNESS. You shall be awake all the time—body and brain, you shall cultivate promptness, speed, nimbleness, dexterity of mind. The fourth rule: you shall learn to LISTEN: to *listen* in *silence* with the *whole* mind, not part of it, to listen with your *whole heart,* not part of it, for sound listening is a basis for sound thinking, sympathetic listening is a basis for sympathetic, worth-while thinking, accurate listening is a basis of accurate thinking. Finally you are to learn to OBSERVE, and to REFLECT, to DISCRIMINATE. But this subject is of such high importance, so much above your present understanding, that I will not comment upon it now, it is not to be approached without due preparation. I shall not start you with a jerk, but tighten the lines bit by bit until I have you firmly in hand at the most spirited pace you can go. As he said this last saying, a dangerous smile went back and forth over his grim set face. As to the rest, he outlined the curriculum and his plan of procedure for the coming school year. He stressed matters of hygiene; and stated that a raised hand would always have attention. Lessons were then marked off in the various books—all were to be "home lessons" and the class was dismissed for the day.

Louis was amazed, thunder-struck, dumb-founded, over-joyed! He had caught and weighed every word as it fell from the lips of the master, to each thrilling word he had vibrated in open-eyed, amazed response. He knew now that through the years his thoughts, his emotions, his dreams, his feelings, his romances, his visions, had been formless and chaotic; now in this man's utterances, they were voiced in explosive condensation, in a flash they became defined, living, real. A pathway had been shown him, a wholly novel plan revealed that he grasped as a banner in his hand, as homeward bound he cried within, *At last a Man!*

Louis felt the hour of freedom was at hand. He saw, with inward glowing, that true freedom could come only through discipline of power, and he translated the master's word of discipline into its true intent:—*Self Discipline of self power.* His eager life was to condense now in a focusing of powers: what had the words meant:—"silence," "attention," "promptness," "speed," "accurate," "observe," "reflect," "discriminate," but powers of his own, obscurely mingled, uncoördinated, and, thus far, vain to create. Now, in the master's plan, which he saw as a ground plan, he beheld that for which, in the darkness of broad

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daylight, he had yearned so desperately in vain; that for which, as it were with empty, outstretched hands, he had grasped, vaguely groping; as one seeing through a film, that for which he had hungered with an aching heart as empty as his hands. He had not known, surely, what it was he wished to find; but when the master breathed the words that Louis felt to be inspired: "You are here as wards in my charge; I accept that charge as sacred; I accept the responsibility involved as a high exacting duty I owe to myself and equally to you. I will give to you all that I have, you shall give me all that you have"—a veil was parted, as it were by magic, and behold! there stood forth not alone a man but a TEACHER of the young.

On board the train for Wakefield, Louis took account of himself; he viewed the long, loop-like journey he had but recently completed, still fresh and free in memory's hold. He had gathered in, as though he had flung and drawn a huge lassoo, the Berkshires, the Mohawk and its valley, Little Falls, the Black River, the Moose River, the primeval forest, and the Falls, the Hudson, the Catskills, and the Palisades, New York Harbor, Long Island Sound; he had voyaged by rail, by river, and by sea. All these things, these acts, with their inspiring thoughts and emotions and reveries he had drawn into himself and shaped as one single imposing drama, ushering in a new and greater life. Or, in a sense reversed, his "child-domain," holding, within the encircling woods, his ravine, his rivulet, his dam, his lovely marsh, his great green field, his tall, beauteous, slender elm; land of his delight, paradise of his earth-love, sequestered temple of his nature-worship, sanctuary of his visions and his dreams, had seemed at first, and hopefully, to extend itself progressively into a larger world as far as Newburyport and Boston, there, however, to stop, to remain fixed and bound up for seven long years, held as by a sinister unseen dam, the larger, urgently growing Louis, held also back within it, impatient, repressed, confined, dreaming of power, storing up ambition, searching for what lies behind the face of things, agitated and at times morose, malignant:—when of a sudden the dam gives way, the child-domain so far enlarged, rushes forth, spreading over the earth, carrying with it the invisible living presence of Louis' ardent soul, pouring its power of giving and receiving far and wide over land and sea, encompassing mountains and broad valleys, great rivers, turbulent waterfalls, a solemn boundless forest enfolding a lustrous lake, and again a noble river mountain-banked, an amazing harbor, and the great salt waves of the sea itself.

Thus were the boundaries extended; thus were the power and splendor of Mother Earth revealed in part; thus was provided deep and sound foundation for the masterful free spirit, striding in power, in the open, as the genius of the race of purblind, groping, striving, ever hoping, ever dreaming, illusioned mankind.

And thus it seemed to Louis that he was becoming stronger and surer of himself. Reverting to the words of the master, he dared affirm that this very power was within him, as a ward in his charge; that he must accept that charge as sacred; that he must accept the responsibility involved as a high exacting duty he owed to himself and equally to it; that he must give to it his all, to insure that it might give to him its all.

And Louis now saw clearly and in wonder, that a whim of his Grandpa, not the Rice Grammar School, had prepared him to meet Moses Woolson on fair terms. With confident assurance he awaited the beginning of what he foresaw was to be a long and arduous disciplinary training, which he knew he needed, and now welcomed.

That evening he told Grandpa what he thought of Moses Woolson and his plan; and Grandpa, with inward seeing eyes, smiled indulgence at his grandson seated on his knee, one hand about his neck, as he mused aloud: "My dear child, allowing for the rosy mist of romance through which an adolescent like yourself sees all things glorified, I will say that in the whole wide world it is true there may be found a few such men as you portray; but as a venerable and prudent Grandpa I shall reserve the right to wait awhile that we may see how the ideal and the real agree. But you go at it just the same, regardless of what may be passing in the back of my bald head." And Louis laughed, and kissed and hugged his Grandpa, and settled to his lessons, as grandma knitted by the student lamp, as uncle Julius thrummed away on a helpless guitar and sang the melancholy sentimental ditties of the day, and as Grandpa, in slippers, gazed with incredulity at a boy on the floor oblivious of them all.

As it has but little import in this story, we shall pass over the breaking-in period of Moses Woolson's class, and begin an exposition of Moses Woolson's plan and method, and Louis' responses thereto at that period the master himself had forecast as "when I have you firmly in hand at the most spirited pace you can go." Suffice it to say that with great skill in intensive training he had brought them to this point within three months.

The ground work of his plan was set forth in his opening address, and is now to be revealed in its workings in detail.

The studies on which Louis set the highest value were Algebra, Geometry, English Literature, Botany, Mineralogy and French language. All these subjects were to him revelations. Algebra had startled him; for, through its portal he entered an unsuspected world of symbols. To him the symbol x flashed at once as a key to the unknown but ascertainable. Standing alone, he viewed this x in surprise as a mystic spirit

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in a land of enchantment, opening vistas so deep he could not see the end, and his vivid imagination saw at once that this *x*, expanded in its latent power, might prove the key to turn a lock in a door within a wall which shut out the truth he was seeking—the truth which might dissolve for him the mystery that lay behind appearances. For this *x*, he saw, was manipulated by means of things known.

Thus he saw far ahead; looking toward the time when he would be mature. Geometry delighted him because of its nicety, its exactitude of relationships, its weird surprises—all like fairy tales, fairy tales which could be proved, and then you said: Q.E.D. He began to see what was meant by a theorem, a postulate, a problem, and that *proof* was a reasoned process based on certain facts or assertions. It was well for him, at the time, that he did not perceive the Euclidian *rigidity*, in the sense that he had noted the fluency of Algebra. As to Botany, had he not always seen trees and shrubs and vines and flowers of the field, the orchard and the garden?

Now he was learning their true story, their most secret intimacies, and the organization of their world. He loved them all the more for this. Mineralogy was new and revealing, the common stones had begun as it were, to talk to him in their own words. Concerning French he was ardent, for he had France in view. English literature opened to him the great world of words, of ordered speech, the marvelous vehicle whereby were conveyed every human thought and feeling from mind to mind, from heart to heart, from soul to soul, from imagination to imagination, from thought to thought; and to his ever widening view, it soon arose before him as a vast treasure house wherein was stored, in huge accumulation, a record of the thoughts, the deeds, the hopes, the joys, the sorrows, and the triumphs of mankind.

Moses Woolson was not a deep thinker, nor was Moses Woolson erudite or scholarly, or polished in manners, or sedate. Rather was he a blend of wild man and of poet. But of a surety he had the art of teaching at his finger tips and his plan of procedure was scientific to a degree, so far beyond the pedagogic attainments of his day that he stood unique, and was cordially hated by his craft as lambs might fear and hate a wolf. Today men would speak of such a man as a "human dynamo," a man ninety-nine per cent "efficient." His one weakness was a temper he all too often let escape him, but his high strung, nervous make-up may be averred in part extenuation, for this very make-up was the source of his accomplishment and power: He surely gave in abundance, with overflowing hands, all that he had of the best to give.

His plan of procedure was simple in idea, and therefore possible of high elaboration in the steady course of its unfolding into action and results. For convenience it may be divided into three daily phases seemingly consecutive, but really interblended; first came severe memory drill, particularly in geometry, algebra, French grammar and in exact English: This work first done at home, and tested out next day in the school room. Second, (first, next day) a period of recitation in which memory discipline and every aspect of alertness were carried at high tension. At the end of this period came the customary half-hour recess for fresh air and easing up. After recess came nature study with open book. Chief among them Gray's "School and Field Book of Botany"—Louis' playground; then came a closing lecture by the Master.

Thus it may be said, there was a period of high tension, followed by a period of reduced tension, and this in turn by a closing period of semi or complete relaxation, as the master reeled off in easy, entertaining talk, one of his delightful lectures. It was in the nature studies, and in these closing lectures, particularly those in which he dwelt upon the great out of doors, and upon the glories of English literature that the deep enthusiasms of the man's nature came forth undisguised and unrestrained, rising often to the heights of impassioned eloquence, and beauteous awakening imagery. These lectures, or rather, informal talks covered a wide range of subjects, most of them lying beyond the boundaries of the school curriculum.

Thus, in a sense, Moses Woolson's school room partook of the nature of a university—quite impressively so when Professor Asa Gray of Harvard came occasionally to talk botany to the boys. He did this out of regard for Moses Woolson's love of the science. The unfailing peroration of these lectures—every one of them, was an exhortation in favor of "Women's Rights," as the movement was called at the time; for Moses Woolson was a sincere and ardent champion of womankind. On this topic he spoke in true nobility of spirit.

But the talks that gripped Louis the hardest were those on English literature. Here the master was completely at his ease. Here, indeed, he revelled, as it were, in the careful analysis and lucid exposition of every phase of his subject, copious in quotation, delightfully critical in taking apart a passage, a single line, explaining the value of each word in respect of action, rhythm, color, quality, texture, fitness, then putting these elements together in a renewed recital of the passage which now became a living moving utterance. Impartial in judgment, fertile in illustration and expedient, clear in statement, he opened to view a new world, a new land of enchantment.

One day, to Louis' amazement, he announced that the best existing history of English literature was written by a Frenchman, one Hyppolite Taine by name. This phenomenon he explained by stating that the fine French mind possessed a quality and power of detachment unknown to the English; that Monsieur Taine further possessed that spiritual aspect of sympathy, that

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vision, which enabled him to view, to enter freely and to comprehend a work of art regardless yet regardful of its origin in time or place; and he rounded an antithesis of French and English culture in such wise as to arouse Louis' keenest attention, for the word *culture,* had hitherto possessed no significance for him, it was merely a word! Now his thoughts, his whole being floated o'er the sea to distant France, whereupon he arose from his seat and asked Moses Woolson what culture really meant, and was told it signified the genius of a people, of a race. And what was meant by the *genius* of a people? It signified their innate qualities and powers of heart and mind; that therefore their culture was their own expression of their inmost selves, as individuals, as a people, as a race. Louis was magnificently bewildered by this high concentration. He seemed to be in a flood of light which hid everything from view; he made some sheepish rejoinder, whereupon Moses Woolson saw his own mistake.

He came down from his high perch to which he had climbed unwittingly, for it was dead against his theory and practice to talk above the heads of his boys. He thereupon diluted the prior statement with a simply worded illustration, and Louis was glad to find his own feet still on the ground. Then Louis put the two aspects of the statement side by side again, and "culture" became for him a living word—a sheer veil through which, at first, he could but dimly see, but living word and sheer living veil had come from without to abide with him. It seemed indeed as though Moses Woolson had passed on to him a wand of enchantment which he must learn to use to unveil the face of things. Thus Louis dreamed.

By the end of the school year Moses Woolson through genius as a teacher, had turned a crudely promising boy into, so to speak, a mental athlete. He had brought order out of disorder, definition out of what was vague, superb alertness out of mere boyish ardor; had nurtured and concentrated all that was best in the boy; had made him consciously courageous and independent; had focussed his powers of thought, feeling and action, had confirmed Louis' love of the great out of doors, as a source of inspiration; and had climaxed all by parting a great veil which opened to the view of this same boy, the wonderland of Poetry.

Thus with great skill he made of Louis a compacted personality, ready to act on his own initiative, in an intelligent purposeful way. Louis had the same capacity to absorb, and to value discipline, that Moses Woolson had to impart it, and Louis was not a brilliant or showy scholar. He stood well up in his class and that was enough. His purpose was not to give out, but to receive, to acquire. He was adept in the art of listening and was therefore rather silent of mood. His object was to get every ounce of treasure out of Moses Woolson. And yet for Moses Woolson, the master and the man, he felt neither love nor affection, and it is quite likely that the master felt much the same toward him. What he felt toward the man was a vast admiration, he felt the power and the vigor of his intense and prodigal personality. It is scarcely likely that the master really knew, to the full extent, what he was doing for this boy, but Louis knew it; and there came gradually over him a cumulative reciprocity which, at the end, when he had fully realized the nature of the gift, burst forth into a sense of obligation and of gratitude so heartfelt, so profound, that it has remained with him in constancy throughout the years. There may have been teachers and teachers, but for Louis Sullivan there was and could be only one. And now, in all too feeble utterance he pleads this token, remembrance, to the memory of that ONE long since passed on.

* * *

Meanwhile a cloud no bigger than a man's hand arose into the clear blue above the horizon of Henri List's placid life. Early in 1871 Anna List, his wife, his prop, his anchor, his life's mainstay, was taken with her first and last illness. Louis was forbidden her room. All was quiet; furtive comings and goings; whispered anxious words. The cloud arose, darkened the world and passed on. One morning, it was told, that he, Louis, might see her. He went directly to her room, opened the door, and entered. The white shades were down and all was light within. On the bed he saw extended an object fully covered by a sheet. He advanced, drew aside the sheet, rashly pressed his lips upon the cold forehead, drew back as though stung.

Standing erect he gazed steadfastly down upon rigid features that seemed of unearthly ivory.

Grandmamma had vanished!

What signified this cold menace he now scanned? This stranger in the house—whence Grandmamma had gone forever?

What meant this effigy, this ivory simulacrum that had come here in her stead?

It could not see, it could not hear, it could not feel, it could not move, it could not speak, it could not love!

Grandmamma had vanished!

She had passed on with a great cloud that had cast its shadow.

And here, now before him lay a counterfeit, where once she was.

An object, a nothing, a something and a nothing, which Louis could not think or name; an ivory mask which repelled, which instantly he rejected, as a ghastly intrusion.

And they had said that he would see his Grandmamma!

Ah! then, was this petrified illusion his Grandmamma?

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They lied!

His true Grandmamma was in his heart and would remain there till his own end should come. Whatever this object before him might be, it was not Gran'ma!

His Grandmamma had vanished!

He replaced the shroud. Dry-eyed, and as one filled with a cold light, he left the room.

Never before had Louis seen what Death, the cloud no bigger than a man's hand, leaves behind it as it passes overhead and vanishes.

* * *

An upright white marble slab, in the cemetery, at the point of the promontory that juts into Lake Quannapowitt, says to the stranger wandering therein, that ANNA, wife of Henri List, died 2 April, 1871, aged 66 years.

In this laconic statement the cynic hand of Henri List is clearly seen, even as at the funeral service in the "spare room" he was prostrate in an overwhelming flood of hysteria and tears, even as Louis stood by, gazing at him in wonder that a strong man could be so weak; even as Louis, cold and harshly irritated by the Baptist minister, whose sensuous words in praise of human bloodshed, he cursed. Driven to desperation by the whining quartet, he rushed into the open, sat under a tree and damned them all to perdition. Why had he been dragged into this gross orgy of grief? Could he not be left alone and in peace, to revere in memory that grandmamma who still lived on within his heart? The others with their noisy and their mercenary grief would soon forget. He, never. As thus he raged, a peach tree in full bloom in the garden caught his eye. He hastened to it as to a friend, in dire need. Its joyous presence in the garden gave him courage, for spring again was singing her great song. The air was vocal in a choir of resurrection. Here indeed was resurrection and the life. It seemed to him not in the least incongruous that his beloved had vanished into that great life whence she came—whence he had come; and that as Life was within him, so was his beloved within him as life within a life to be treasured evermore.

Thus near the peach tree in full bloom, Louis' tortured mind was stilled. He accepted death as an evanishment, he accepted Life as the power of powers. It seemed, indeed, as standing near his friend, gazing fondly round about and upward through the invisible firmament, that this great power, Life, in gesture and in utterance through the song of spring, had set its glowing rainbow in the passing cloud as a token of a covenant that the pure of eye might see. And indeed it seemed to him as quite lucid that the cloud with the glowing rainbow in its heart might well stand forever as a symbol of a token of a covenant between Life, and Man's proud spirit, and the Earth. Thus Louis dreamed. And it seemed as though a small voice coming from afar, said, "If one must dream let the dream be one of happiness."

* * *

For the second time the house of Henri List had collapsed and gone down. This time in fragments. Soon the farm was sold. Julia, she of flaming hair, bewitching fairy tales, and temper of Iseult, cook and companion for nine long years, vanished in turn; Julius, the son, now twenty-five, offered a place, "in Philadelphia," went there; his father followed.

Louis found welcome and shelter with the next door neighbors, the John A. Tompsons, whose son George for years had been his playmate. And the earth resumed its revolution about its own private axis as before; day following night as usual. Daily, George Tompson went to "Tech" to pursue his studies in railway engineering. Daily, Louis paid his renewed respects to Moses Woolson. Daily, John T. Tompson returned from Boston at an exact hour, removed his hat, walked to a glass cabinet, took exactly one stiff swig of Bourbon straight, smacked his lips, twinkled his eyes, sank into an easy chair which had remained in the same place for exactly how many years no one knows, dozed off for exactly ten minutes, arose, stretched his short muscular body, smiled widely, displaying false teeth, dyed-black side whiskers and moustache, a fine high forehead and dark fine eyes with as merry a twinkle as one could wish; then he went forth to see if each cultivated tree and shrub and bush and vine were exactly where they were in the morning. This man, gifted with extraordinary deftness of hand and a high-spirited intelligence, became a wonder and an inspiration to Louis, who spent the following two years in this charming household where epicureanism prevailed.

That spring and summer Louis botanized and mineralized with incessant ardor, and he saw what it signified that each thing should have a name, and what order and classification meant in the way of organized intelligence, and increased power of manipulation of things and thoughts. His insight into the relationship of function and structure deepened rapidly. A thousand things now began to cohere and arrange into groups which hitherto had seemed disparate and wide apart. To be sure Moses Woolson was the impelling cause and it was up to Louis to do the work and to search and find and see these things objectively and clearly for himself. Thus logical connections began to form a plexus in his growing mind, beside which also upgrew a sense of equal logic and order in action. Now, John A. Tompson had this faculty of order and delicate precision in so marked a degree that Louis kept a close eye on his doings. In the fall Louis returned to the English High School and entered the Second Class under a sub-master named Hale. Mr. Hale was a scholar and a gentleman, a shining light of conscientious, conventional, virtuous routine.

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With that clear and ruthless faculty, which boys possess, of spotting the essentials of their elders, Louis at the first session so sized up Hale; and dismay and despair swept through him in an awful wave of depression; it seemed as though the light of life had gone out. What was this tallow dip to the hot sun of Woolson. What could this mannikin accomplish? What could this respectable and approved lay figure do for one who had been trained intensively for a year by Moses Woolson? Let us therefore quickly draw the veil; and forget.

At the end of this school year, George Tompson asked Louis why he did not try for "Tech." And Louis replied that he supposed that he must first finish "High." "Nonsense," said George, "You can pass easily." And thus encouraged, Louis passed easily.

It should be mentioned that at the time of the great Chicago fire, Louis received prompt word that the family were safe and sound beyond the reach of its fearsome ravages. And also that Louis' faithful correspondence with those far away must not be overlooked.

Thus he now felt safe and strong to face in "Tech" his first adventure, as prelude to an architectural career.

(*To be continued*)

The Restoration of the Parthenon

By STANLEY CASSON[1]

The restoration of all ancient buildings leads inevitably to controversy. Doubt is invariably cast either upon the competency of the restorers or upon the possibility of reproducing the original appearance of the building to be restored. The criticism comes either from archæologists who mistrust the capacity of the restorers to understand the technique of the original builders or from sentimentalists who prefer ruined buildings to remain in the form in which we have been accustomed to see them for many centuries.

Proposals to restore the Parthenon are not new. A controversy of the most acute kind raged in France in 1905 when an extensive restoration was planned. Opposition was for the most part sentimental. The Parthenon should be left, said opponents of the scheme, in the state in which it has been. It is a magnificent ruin and should be left as such. To restore or reconstruct it would shatter our illusions. Complete reconstruction is impossible and partial reconstruction would be inadequate.

In the spring of this year the Council of the archæological department of the Greek Government considered and subsequently approved a scheme for the restoration of the Parthenon, so that whatever criticism was raised and is still levelled against the scheme will have to accommodate itself to the *fait accompli*. In fact, however, the scheme is now held up for want of money and it is extremely unlikely that much will be done in the matter for the next year, at least.

The scheme proposed was simple and not ambitious. All parts of the building which are no longer in position but which can be replaced and incorporated have been assembled and a commencement has been made at the restoration, with these intact parts and such minor additions as they need, of those parts of the temple of which most can be reconstructed from the parts so assembled.

The bulk of the damage to the Parthenon was, of course, caused in 1687 when Athens was besieged by the Venetians under Morosini. On that occasion the majority of the columns on the north and south sides of the building were blown outward by the explosion of the powder which the Turkish defenders had stored in the *cella* of the temple. The drums of most of these columns lie still on the Acropolis, though the greater part of the architrave which they supported is in fragments and the roof has almost completely vanished.

The general plan of the restoration was in the hands of M. Balanos, who was to be assisted by a skilled Russian architect. From the progress of the first part of the restoration the probability of success in the remainder would be decided. The plan of restoration for this year comprised only the reerection in their original position of three columns on the north side, namely, the seventh, eighth and ninth (counting from the west end). The component parts of these three columns are for the most part in existence, and the bulk of the architrave which they support is extant. The work of erection has, in fact, already begun, and the necessary scaffolding has been erected. A few column drums are so badly cracked by their fall as to be unsuitable for incorporation and they will be replaced by drums of grey limestone. Damaged edges of other drums will be patched with the same grey stone. The remainder of this row of columns will be completed if the stability and general appearance of the three reerected columns are considered satisfactory. This reerection will involve the rebuilding of five more columns only, since the three columns at the east end

[1] Fellow of New College, Oxford, University Lecturer in Classical Archæology and sometime Assistant Director of the British School at Athens.

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THE PROPYLAEA. COLUMNS OF THE EAST FRONT BEFORE RESTORATION. FOUR OF THE CAPITALS AND MOST OF THE SUPERIMPOSED GABLE HAVE BEEN RESTORED

(the fifteenth, sixteenth and seventeenth) are not only intact but the best preserved in every way in the building. Thus of the total of eight columns which will require reerection three are already surrounded by the necessary scaffolding. It should be noted, however, that the difficulty of dealing with these three is that one of them (the ninth) is itself a reerection, carried out in the middle of the last century. But it is re-erected in a clumsy manner and will have to be pulled down and put up again before it is strong enough to support the architrave which will ultimately be placed upon it. Of the remaining five, two (the eleventh and twelfth) stand to a height of seven and eight drums respectively while the others have fallen completely, except for the basal drum.

Of the architrave and triglyphs enough remains to restore the complete alignment, though fragments only of the cornice are extant.

The temple as so restored will thus show its peripteral colonnade on three of its four sides with a total of thirty-one columns standing. The south side does not at present enter into the scheme of restoration. Of the total of fifteen columns on this side (the two end columns have been counted in as belonging to the east and west ends) a larger number has suffered serious damage than on the north side. The force of the explosion seems to have blown more columns down and, in addition, to have done so with more force, so that the scattered drums are more damaged than on the north side. At present the reconstruction of this side is not entertained in the general scheme, and it will not be considered until the results of the preliminary restoration of the three columns on the north have been studied.

The plan of restoration or reconstruction is thus at present limited. Only one side is to be dealt with and only three columns of this side. In view of the definite plan thus proposed it is interesting to consider the merits of the various arguments brought forward in opposition to the scheme as a whole.

First of all there is the sentimental argument already referred to. Why should the building be touched at all? we are asked. It has stood so for many centuries, and we have been accustomed to a view of the Parthenon which shows it with the central columns of each side in ruins. What advantage is to be gained by a partial restoration?

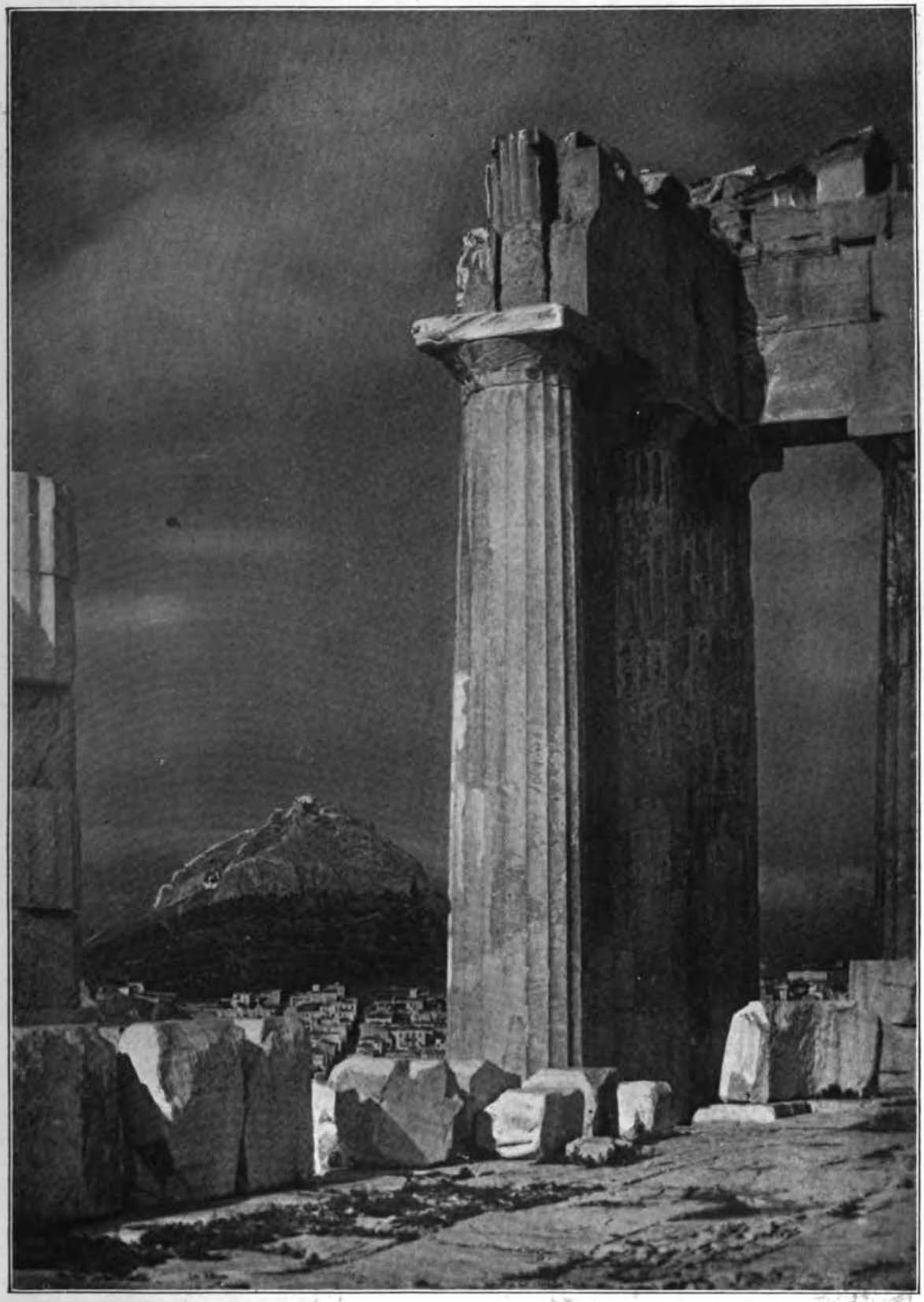
This argument is largely based on untrue premises.

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THE PROPYLAEA. INTERIOR SHOWING A RE-ERECTED IONIC COLUMN AND ROOF

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THE PARTHENON. COLUMNS AT THE NORTH EAST CORNER. THESE ARE THE BEST PRESERVED COLUMNS IN THE BUILDING

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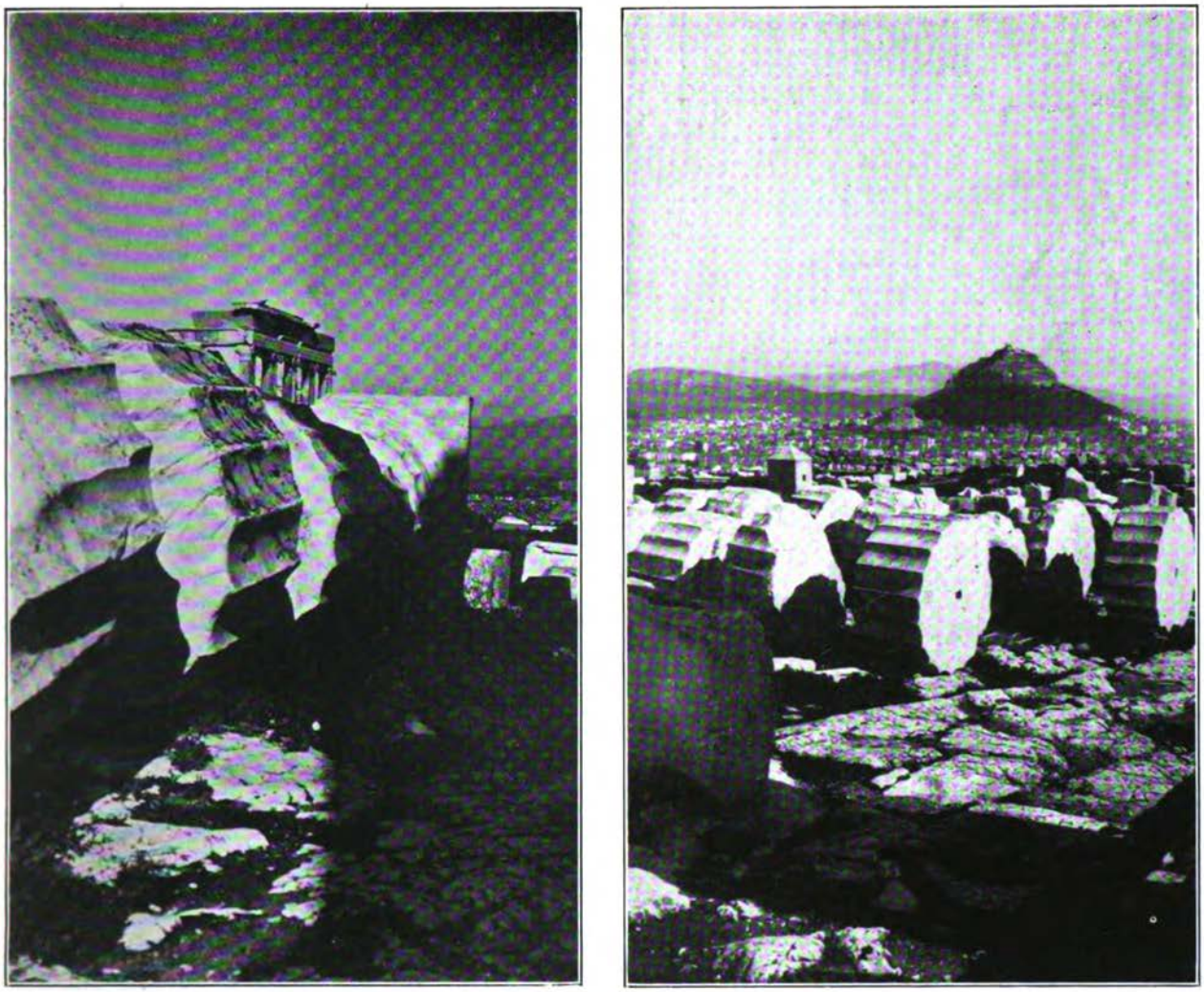


THE ACROPOLIS FROM THE SOUTH WEST



THE PARTHENON. THE COLUMNS AT THE EAST END

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THE PARTHENON—DRUMS OF FALLEN COLUMNS ON THE NORTH SIDE

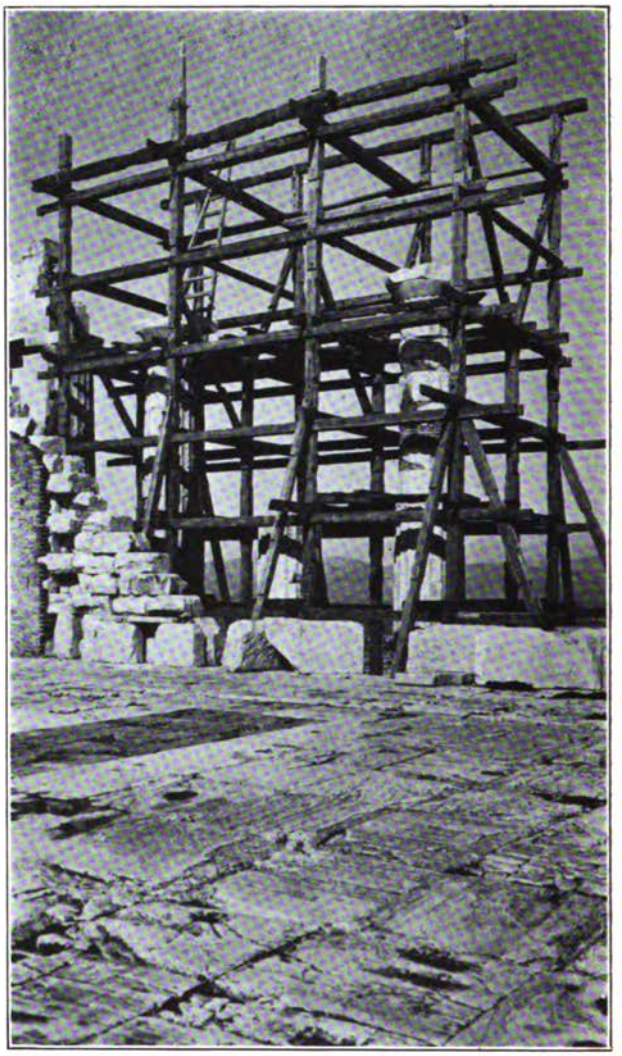
In the early days of Greek independence when Athens was still a Turkish town in appearance the Acropolis was covered with a mass of Turkish houses, bastions and walls. These were removed shortly after 1835 by the influence and agency of a group of European archæologists and architects, amongst whom Ross and Hanssen are the best known; and the general appearance of the citadel was, by a process of clearance, restored as far as possible to the appearance which it bore in the time of Pericles. The Parthenon was disengaged from its later accretions of Byzantine and Turkish date. The Erechtheium was cleared of the vast mass of surrounding and superincumbent Turkish domestic architecture and the Propylaea was cleared of the defensive walls and bastions in which it was enmeshed. The little temple of Athena Nike, or "Wingless Victory," which had been pulled down in 1686 by the Turks and made into a defensive tower was, shortly after 1835, rebuilt from its fragments.

To say, therefore, that by restoring the Parthenon we are destroying the appearance of the Acropolis as it has been known to travellers and scholars for centuries is incorrect. The present state of the Acropolis dates only from 1835, while the Parthenon as we see it today is in a condition which has lasted only since 1687, for it was then that the side columns were blown out. Any sentiment, then, which regards the Acropolis as being desecrated is a false sentiment. If the clearance of 1835 and succeeding years, which restored the citadel as nearly as possible to its fifth century condition and transformed it from a mediæval to a Periclean ruin, was acclaimed almost universally as an improvement in its condition, surely a continuation of the same process can hardly be condemned. The Parthenon that emerges from this present restoration will not only resemble very closely the Parthenon of the days before the explosion of 1687 but will also recall the Periclean building in the same way as the removal of the mediæval buildings made it possible to form some idea of the Periclean Acropolis.

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THE PARTHENON. NORTH SIDE SHOWING SCAFFOLDING OF THE COLUMNS TO BE REBUILT, TAKEN FROM THE INTERIOR OF THE CELLA



THE PARTHENON. NORTH SIDE SHOWING SCAFFOLDING BETWEEN THE CELLA WALL AND THE PERIPTERAL COLUMNS

Perhaps a more insistent argument against restoration is that which alleges that any restoration of column or architrave will necessitate the addition of large quantities of new parts, which, from their newness, will strike the eye unpleasantly and give so patchy an effect as to destroy the beauty of the building. This can best be answered by referring to buildings which have already been restored on the Acropolis itself and at other Greek sites. The most notable instances are the Propylaea, the Erechtheium and the Treasury of the Athenians at Delphi.

The Propylaea has been restored, but in no sense reerected, during the last twelve years, largely by the aid and advice of such distinguished architects as were resident in Athens. Of these Mr. Dinsmoor, an American, is one of the most prominent. Weak blocks of the architraves and of the gable have been partly restored and missing blocks, in some cases, wholly replaced by blocks of new Pentelic marble, accurately cut and fitted. Most visitors to the Acropolis do not realize that the Propylaea as it stands today is very largely restored indeed. Four of the column capitals on the east side are almost entirely new, while a large part of the roof of the same side and one of the Ionic columns in the central aisle have been reerected. No unwarranted restorations or improvements have been added and the present appearance of the building is vastly improved. Yet no protests have been heard and the work of restoration went on uncriticised and was generally approved.

Large additions have in the same way been made to the Erechtheium. Drums of the columns in the north porch are of new marble and the whole building is full of patches of new work. Yet the restorations

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THE TEMPLE OF ATHENA NIKE (*left*)—THE PROPYLAEA. CAPITAL AND TOP OF RE-ERECTED IONIC COLUMN. (PHOTOGRAPH TAKEN WITH TELEPHOTO LENS)

are now sufficiently weathered for the white Pentelic marble to have taken on to a large extent the delicate oxidisation or patina which is one of the qualities of Pentelic marble; and the additions, in consequence, are not glaringly obvious. The inner Caryatid on the east side of the Caryatid porch is entirely new, the work of a German architect, Imhof, and yet it does not obtrude itself unduly on the eye.

The Treasury of the Athenians at Delphi is one of the triumphs of the art of restoration. The building is a small temple *in antis* in the Doric style, 9.75 metres in length and 6.68 in breadth. It was rebuilt from what was a veritable rubble-heap by the French architect Replat soon after 1894. Most of the blocks of the stylobate and steps, of the *cella* walls and gable, were assembled, but of the two Doric columns between the *antae* only one column-drum had survived. The walls of the *cella* were found to taper in thickness towards the top and each wall was of a different thickness. This naturally facilitated the process of reconstruction. The Metope sculptures were removed and placed in the museum, but weatherproof casts were put in their place. No trace of the pedimental sculptures was found. The building as restored and re-erected remains one of the beauties of Delphi and does more to recall the original condition of the shrine than any other of the less complete buildings which remain.

In view of these three examples of reerection and restoration it seems difficult to contend seriously that the same process, when applied to the Parthenon, would ruin its appearance.

The little temple, in the Ionic style, of Athena Nike affords a less cogent argument. It was reerected hastily and not in a very satisfactory manner. Its beauty is largely diminished by the absence of one complete side of the frieze which was removed by Lord Elgin before it was reerected and is now in the British Museum. Its place is taken by an inferior cast which is not weatherproof and which has, in consequence, gone a dark black color. Missing ends and corners of blocks

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THE PARTHENON. NORTH EAST CORNER SHOWING SCAFFOLDING OF THE NEW RESTORATION, ON THE NORTH SIDE

are restored with odd material, in some cases even in red brick so that the effect is not pleasant. But the building could with advantage be pulled down and re-erected again sufficiently well to take its place with the Treasury of the Athenians and the other buildings which have been scientifically restored.

It is clear, then, that none of the arguments against restoration which have been dealt with above can be seriously considered as sufficient to dissuade the Greek Government from its present plan of restoration of the Parthenon.

There remains one argument which is more cogent. It is contended that while buildings like the Erechtheium or the Treasury of the Athenians afforded what are, on the whole, comparatively simple problems for the restorer, the Parthenon is a graver and more complicated subject. The extant column drums of the fallen columns are not properly sorted out and cannot be sorted into their proper positions without a vast number of alternative trial fittings which will involve an endless amount of work and experiment before even one column can be reerected. To do this in the case of the large total of columns which have to be so treated will consume all the money and time available for the work. To this it is only possible to reply that the architects who have charge of the work believe that they can establish the necessary fittings by preliminary measurement and are satisfied that no very extensive experimental work is necessary. Otherwise the work would not have been undertaken.

It seems a pity, however, that the funds available limit the restoration of missing column drums and other parts to the use of limestone instead of marble. This is a serious flaw in the scheme. Marble has been used in all the other restored buildings referred to and it seems unfortunate that the Parthenon, the noblest building of them all, should be patched with this unsightly stone instead of proper Pentelic marble. But until the restoration becomes an international affair we must, perforce, be content with what the present impoverished government can afford.

In all restoration the chief danger is the imagination of the restorer, which may lead him to add or improve where additions and improvements are unnecessary and undesirable. But this is a greater danger in Gothic and Mediæval buildings than in those of Classical Greece.

Greek architecture is composed of such simple elements that the restorer, provided he be conscientious, will find it difficult to go wrong. The only mistake that may be made in the case of the Parthenon is that the restorer may be tempted to add too much. So little of the architrave and its associated parts remains among the fallen fragments that the restorer may want to improve beyond his means. But the actual plan contemplated is, fortunately, limited. There is to be no attempt to replace the roof for the simple reason that its structure is not known. In the same way the interior columns of the inner shrine and the *cella* walls will be left unrestored.

As a matter of fact, there is not enough material to make a restoration possible. But to reerect the fallen columns seems quite within the limits, both of the evidence and of the material. We are not faced with fundamental problems of design which, as in the case of the Mausoleum of Halicarnassus, is not known. The Parthenon was a Doric building of the utmost simplicity, with its main outlines both known and extant.

What is missing can be as clearly understood as the metre of a lost hexameter. What is difficult is the actual process of reconstruction. But if the architects in charge of this work are satisfied as to its possibility, we are not justified in challenging their decision.

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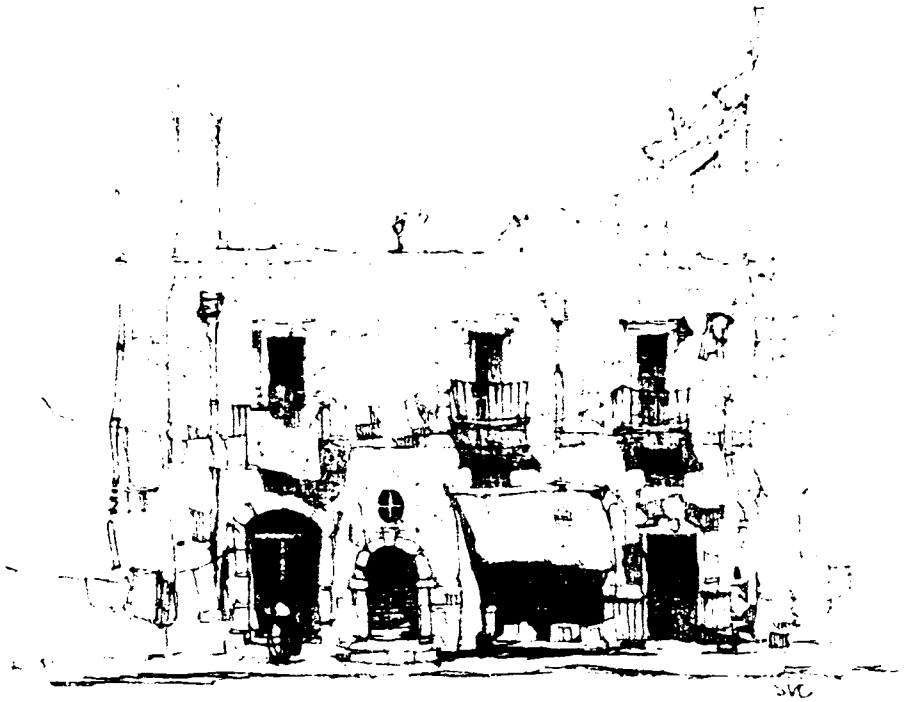


Five Sketches

(Including frontispiece)

SAMUEL V. CHAMBERLAIN

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A Street in Atrani

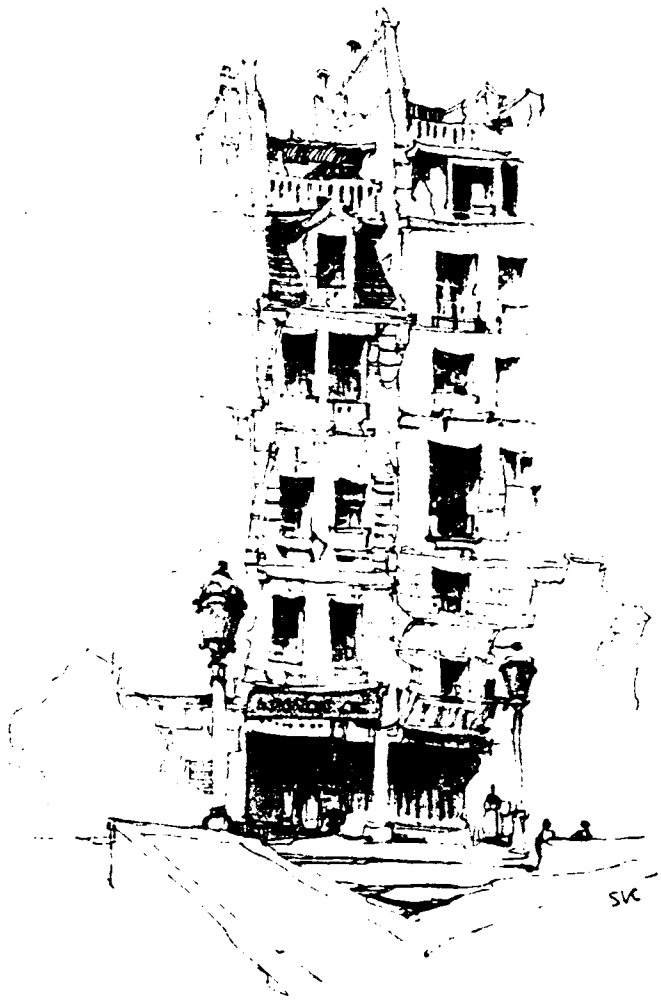
Samuel V. Chamberlain

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Another Voyage in My Paper Boat

By IRVING K. POND

Trimming the Craft

Again I apologize for a seeming tardiness in delivering to my readers the cargo gathered on my most recent voyage to foreign lands in my paper boat. In order to make these voyages I must have my sails filled with favoring breezes blown in from the Octagon. With the return of the editor to his post a hurricane ensued and an avalanche of stuff, gathered in force from all quarters of the globe, was hurled at my defenseless head. It came from South America, South Africa, New South Wales, Canada, France, Belgium, Denmark, England, in staggering bulk, to supply material for my delectation. The pictorial elements are more interesting than sometimes they have been and demand my attention and generally favorable comment. Some I pass over in sadness and with a feeling of depression that their authors could not have risen higher above the commonplace—indeed that they could not have been a bit more unlike the rest of us; for whatever we may be, or our products, we expect higher things from others; and it depresses us—at least it depresses me—to be faced with the evidence that after all mankind is a rather commonplace bunch and that most of us let the past or some other agency do our thinking for us. But this is not the wind to fill the sails of adventure and I am glad to let it die down.



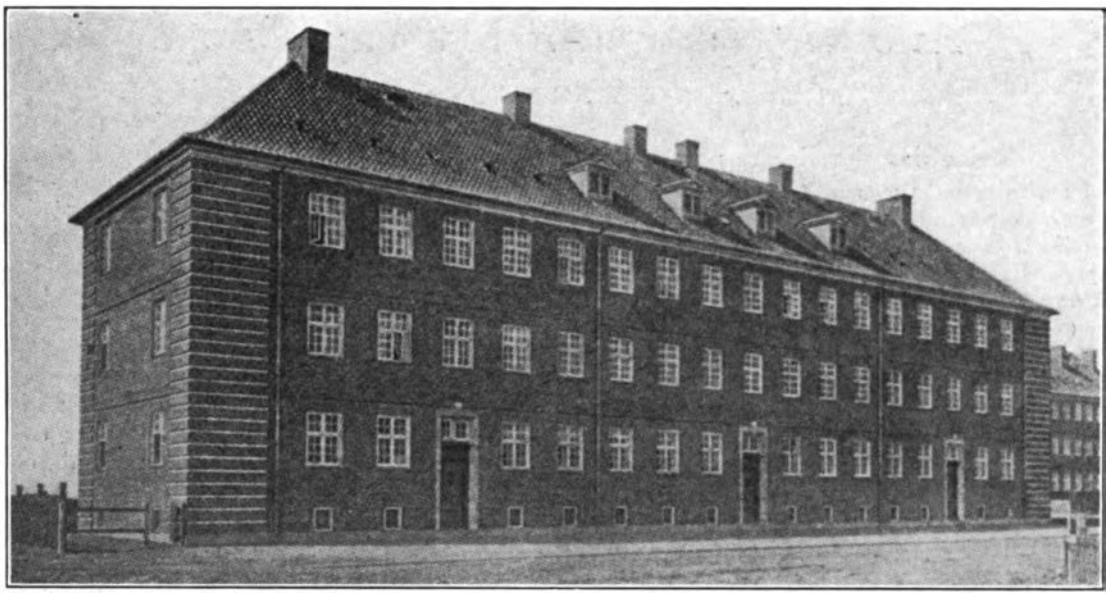
"Architekten" COPENHAGEN

The Breeze Favors

I have spoken heretofore of the agreeable fenestration and massing in the work of the Danes. Simple, austere, bare almost to nudity as some of the work is, yet there is a proportioning of solids and voids which our own designers of human habitations, especially in the apartment or tenement house expression, might study to advantage. I direct your attention to some reproductions from *Architekten* of Copenhagen. Not an applied feature except the crest over the portal of the private residence and the rather over-emphasized corners of the tenement block. While the wind is blowing continentalwards let us note an issue or two of *L'Architecture*, especially that devoted to the 46th Congress of French Architects at Strasbourg.

The profuse manner in which the convention city is illustrated would indicate that it was almost *terra nova* to a majority of the French architects, for though the buildings shown in the cuts mostly antedate the sorrowful 1870, yet, though so near the border of France, they must have been hedged about with an atmosphere, so to speak, which made them inaccessible to younger French eyes and only a misty vision to the older. And now France and the French architects may glory in them. I find myself glorying with them as I scan these pages. I am frank to say that my sympathies are with the mediæval rather than with the more modern examples even though the latter seem more in accord with the contemporary French attitude toward art. In the former, as evidenced in the Cathedral and in some of the wonderful half-timbered houses, there was the will to *build* in the spirit of sincerity, and of inherent beauty. In the latter, as exemplified in the Hotel du Gouverneur and others of its class, is displayed a real French ability and intention to do sweetly—pretty stunts of draughtsmanship and craftsmanship; to fill spaces to no especial purpose; "to construct," as the Scotch critic said recently and aptly, "furniture in stone." The two types are shown in close juxtaposition in the pages of the magazine, as they stand in the "redeemed"

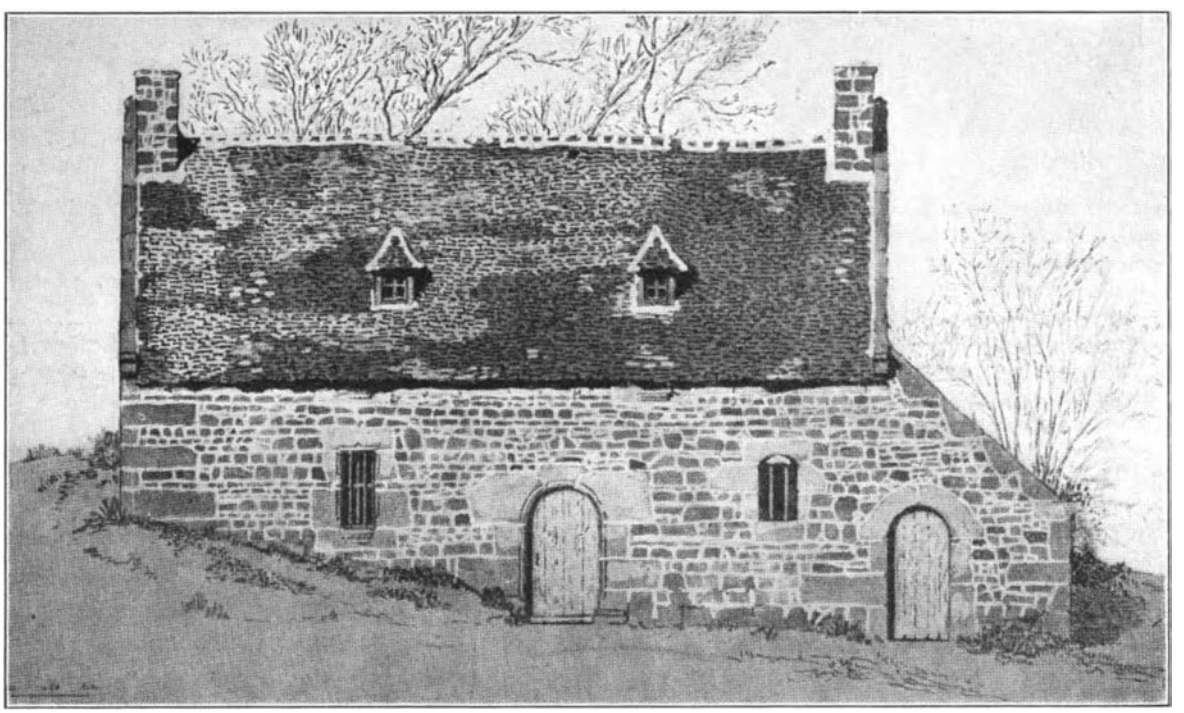
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"Architekten" COPENHAGEN

city, and their merits and demerits can be conveniently contrasted. The French of recent, and of comparatively recent, years may be considered as falling under the same gentle indictment which is hurled against the poor Greeks by Henri Mayeux in a previous issue of *L'Architecture*. He says, in "The Rationalistic Pretense (*le pretendu rationalisme*) of Greek Architecture," that the Greeks "sought beauty and sacrificed reason." I am inclined to feel that though there may not always have been a thoroughly logical expression of the plan yet there may have been reason in that; and certainly Doric and Ionic beauty were conceived in reason. Perhaps, after all, Greek art, like the Bible, may be relied upon to furnish substantiation for as many and as adverse theories as the minds of men can formulate. An article on the houses of Brittany in the 10 October issue is accompanied by charming sketches one of which we reproduce.

ARCHITECTURE is now the name of the *Journal of the Society of Architects,* and the first number, that for November, contains much interesting and readable ma-



"L'Architecture" HOUSE IN BRITTANY

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"The Architect"

GARDEN VIEW—KILNQUAY, FLUSHING, FALMOUTH
W. A. Forsyth and H. P. G. Maule, *Architects*

terial. By the way, I prefer the old title as less commercial and more professional, but the large open type and fair margins now make a page de luxe, all the more attractive because of the single column but, also, more tiresome to the eye in reading. I quote a paragraph from Mr. Robert Atkinson's comprehensive report on the Victoria Scholarship Competition, conducted by the Society, the subject this year being an Olympic Stadium. The idea underlying the paragraph is not altogether new to the progressives in this country but our schools need to be reminded of it, while in England the conservatives, who appear greatly in the majority, if we can trust the published illustrations of contemporary work, will find the doctrine heretical. Mr. Atkinson says:

"I wish to say a few more words in conclusion to deprecate the recent tendency in architecture to reproduce historical details as the beginning and end of design. It is still the fashion, unfortunately, to study historical buildings from the outside, which is actually not studying architecture at all. You are only studying external expression, the details of which may or may not be applicable to your new building. Architecture would rapidly become nothing but a study of detail if such were to go on indefinitely. Fortunately the practice is breaking down and, except at the Academy, where nothing but the exterior of buildings appears to be considered, everyone knows that a fine plan properly drawn is just as beautiful as any elevation. I must congratulate the Society on the conditions of their competitions, which always meet with an unusually good response. I think it is due to these that students have confidence that they will get a good run for their money. The judging of students' competitions is not always done as it should be. There is often a tendency to give the prize to a plan or set of drawings which have nothing to commend them except the enormous amount of labor expended on them. Quality and common sense seem to be unnecessary. We ought, therefore, as students, to be very thankful to The Society of Architects for doing these things as they should be done."

The Stadium for the British Empire Exhibition, 1923, by Messrs. John W. Simpson and Maxwell Ayrton, accompanying this report, probably meets with Mr. Atkinson's approval. It meets with mine.

Presidential Prose—and Cons

This is the open season for presidents of architectural bodies in England; that is, having been run down, they now return fire, and the British architectural columns are filled with their resounding words. Mr. Paul Waterhouse, President of the R. I. B. A., as reported by the architectural press generally, refuses to fire at any one particular target, though in his random fire he hits one or two and misses some others. When he says that he "frankly admires the London County Council Building" I think that he misses a big one,—and I begin to feel that perhaps some of the targets which I thought I saw wabble a little weren't fairly hit. "Architecture is an Art whose

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"*The Architect*"

THE HALL—KILNQUAY, FLUSHING, FALMOUTH
W. A. Forsyth and H. P. G. Maule, *Architects*

business," he says, "is to clothe utility in beauty—utility for the citizens, beauty for the city." "Balance utility and beauty lest either should over-weight the scale." That seemed to hit—but did it? I object to the term "clothe"; it directs my mind back to Mr. Atkinson's paragraph just quoted. Real architecture does not clothe in extraneous forms. Real architecture is utility, if you will, conceived as beauty—conceived in beauty and "clothed" in its own fair form and only in that. That seems to me a fairer hit. I like the inaugurations of these R. I. B. A. presidents. I was present on one of those delectable occasions and had the privilege of seconding the motion of thanks to the then reelected president (Leonard Stokes, F.R.I.B.A.), for his able address. The surroundings were inspiring and I really did thank the president for his remarks and the Society for permitting me to thank him. We do not do the thing with quite the finish over here as it is done over there.

The Architect of 17 November contains the presidential address of Mr. E. J. Partridge, new president of the Society of Architects. As I have hinted previously, *The Architect* was not altogether favorable to the proposed but afterward deferred schemes of the R. I. B. A. Committee on Unification and Registration and so, gladly I imagine, makes space for this address which analyses the situation and promises the Society that it shall not be swallowed up in any scheme for Unification which does not preserve its individual integrity. That great question will not down—its ghost still walks. *The Architect,* by the way, should not take Mr. Mencken too seriously. If he wanted an architect a week hanged in England, think of what he would want in conservative Boston! Would one a day satisfy him?

Mr. Francis Jones, F.R.I.B.A., in his presidential address before the Manchester Society of Architects, argued for education as a basis of Unification; and we might all agree to that if we could unify our ideas on education and the channels through which education should flow. When we consider the subject of education my mind reverts again to Mr. Atkinson's paragraph, for while he did not write with education before his eye there is more to be read between the lines than is presented baldly in the text.

From Mere Words to Deeds

But let me turn now from a consideration of Words to an observation of Deeds. The bunch of architects who affect the mediæval in this country struggle, oh! so hard, to have the children of their brains(?)—no,—of their draughting rooms, born old, at least born looking old—as note a recent memorial building in New Haven. Somehow we miss the spirit of age in the exuberance of our youth and, in simulating age, we do not express ourselves or anything very intimately related to us. With our British brothers it is different. It seems easy for them to express the spirit of age; it is all about them and enters willy-nilly into their work even when they are dealing with problems of a youthful modernity. With them it

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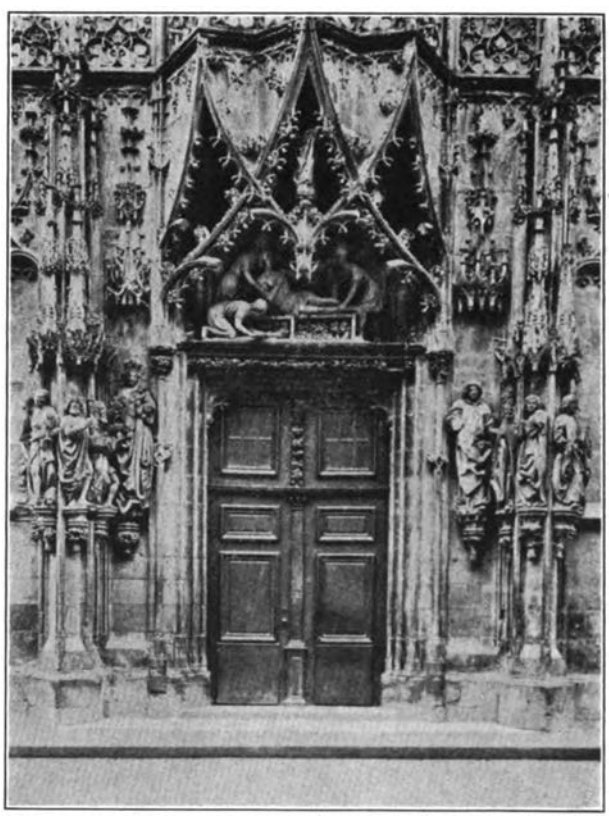
STRASBOURG—MAISON KAMMERZALL *"L'Architecture"*
Place de la Cathédrale



STRASBOURG *"L'Architecture"*
Rue de la Douane No. 1



STRASBOURG—HOTEL DU GOUVERNEUR *"L'Architecture"*
Escalier d'Honneur



STRASBOURG—THE CATHEDRAL *"L'Architecture"*

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does not seem like a mere clothing of youth in the habiliments of age—they achieve the spirit of age. Note the lovely little residence at Kilnquay, Falmouth, by Messrs. W. A. Forsyth and H. P. G. Maule, Architects. The house was born old—the spirit of mellowness, of poise, and calm, has been caught and held. The house is quite fully presented both of itself and in its surroundings in *The Architect* of 10 November.

Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

Origins of Zoning

In his recent admirable work on the law of city planning and zoning, Mr. F. B. Williams says that "Zoning, although in germ French, was first developed in Germany, and it is in that country that it has been most widely employed."[1]

As intimated by Mr. Williams, the wide legalized application of zoning in Germany does not imply that the idea of zoning is German in origin. Therefore the statement may be apt to arouse our curiosity as to the gradual development of the zoning idea. A retrospective search will convince us that use-zoning, at any rate, found some practical application in the Middle Ages, while its importance was recognized by several of the famous writers on architecture in the 15th, 16th and 17th centuries.

In the mediæval cities industrial and commercial activities were, as is well known, generally localized to certain streets or districts, but usually not in a promiscuous way. The very names of streets in the centre of ancient old-world towns often remind us of the activities once principally carried on in them. If so many names of streets had not been changed, we should now have a more adequate idea of this districting of activities. Was this an automatic phenomenon, so to speak? In most instances it was probably not effected through legislation. However, instances are known in which certain trades and crafts were excluded from legally designated districts or streets, and inasmuch as this was the case, it implies at least a rudimentary application of use-zoning.

Particularly significant is the appearance of the zoning idea in Italian treatises on architecture during the 15th century. Leone Battista Alberti emphasizes the importance of use-zoning in his great fundamental work *"De re aedificatoria."* So do also Filarete in his *"Trattato di Architettura"* and Francesco di Giorgio Martini in *"Trattato di architettura civile e militare."* These works were all written before the year 1500.

Alberti's main statement regarding zoning is immediately preceded by the assertion that "the principal ornament of the city will arise from the disposition of the streets, squares and public edifices, and their being all laid out and contrived beautifully and conveniently according to their several uses: for without order, there can be nothing handsome, convenient or pleasing. Let us lay out the platform of our city," Alberti continues, "in such a manner that not only strangers may have their habitations separate, convenient for them, and not inconvenient to the citizens; but also that the citizens themselves may converse, negotiate and dwell together commodiously and honorably, according to their several ranks and occasions. It will add much to the beauty of the city if the shops for particular trades stand in particular streets and districts in the most convenient parts of the town. Goldsmiths, silversmiths and painters may have their shops in the public place and so may the sellers of drugs, of habits and other creditable trades; but all nasty, stinking occupations should be removed out of the way, especially the offensive smells of tanners, which should be set by themselves and towards the north, because the winds seldom blow into the city from that corner."

The desirability of use-zoning could scarcely be more definitely stated. It was a common-sense suggestion on the part of a writer, who not only was acquainted with the tendency toward use-zoning in mediæval practices, but who also was conversant with allusions to the usefulness of districting, contained in Vitruvius' books on architecture, as well as in writings by Plato and by Aristotle.

Filarete and Francesco di Giorgio Martini advance similar ideas. Filarete applies them to the planning of the city of Sforzinda, an elaborate conception, fanciful and visionary, but in reality very valuable in its essential contents. To the planning and grouping of Sforzinda Filarete gives the final touch in saying that "the houses of the craftsmen were allotted to the various guilds, so that each class of craftsmen lived in a separate group. Moreover, the superior crafts, as those of the merchants, the money changers and the goldsmiths, were admitted to the principal squares, while the inferior crafts, as those of the shipbuilders, the wheelwrights, the ropemakers and the coopers, were restricted to the suburbs; and, finally, the masons and the farriers were assigned places near the city gates. Only the druggists and the barbers were, for the sake of convenience, permitted to settle in any street, so as to be distributed over the whole area."

Giorgio Martini's suggestions regarding districting are even more detailed. He wants to admit druggists, tailors and mercers to all the main streets, in which, on the other hand, neither shoemakers nor cabinetmakers should be tolerated on account of the noise incidental to their work. Butchers should be restricted to five or six places because of the smell. Slaughter houses must be erected in the outskirts. "In general," he concludes, "all trades essentially beautiful and dignified may be located in the principal streets and public squares, whereas those which are obnoxious through filthiness should be segregated."

Less in evidence are such speculations in the chapters on city planning contained in the subsequent, important works of Pietro Cataneo, of Andrea Palladio, and of Vincenzo

[1] *The Law of City Planning and Zoning*, by Frank Backus Williams. Macmillan, New York City. 1922.

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Scamozzi. Palladio says nothing with a bearing on this aspect of planning; Cataneo at least grazes the matter; Scamozzi is more communicative.

With Scamozzi's voluminous, but uncompleted work, *"Idea dell 'architettura universale,"* we have entered the seventeenth century. It appeared in 1615, 130 years after the publication of Alberti's *"De re aedificatoria."* North of the Alps, even as far northward as in the Scandinavian peninsula, city planning had by this time, to some extent, accepted the Italian doctrines, as regards the formal aspects of planning. Most visible were the effects in France; England was practically untouched. But it is only in the course of the seventeenth century that city planning begins to move more decisively in the direction which points forward to the development during the nineteenth century. Now France appears as the country that above all claims our interest. From the reign of Henry IV onward France applies strict and well-defined administrative methods and, in the seventeenth and eighteenth centuries, gradually builds up a city-planning and building legislation of considerable scope.

In the course of this process appear attempts at practical application of zoning, mainly, however, of bulk-zoning. With a view to restricting the height of houses a local ordinance was issued in Paris in 1667. Up to that date no limitation had been imposed. Henceforward, it would not be permitted to erect houses whose fronts exceeded eight toises (fifty-one feet) in height, measured from the ground to the main cornice. Was there no exception to this rule? Such an exception with regard to a defined area, street, or district, would evidently constitute an attempt at zoning. In fact, special regulations permitting a greater or enforcing a lesser height, within a restricted area, were subsequently enacted. Some such instances date from the years 1672, 1720 and 1765.

However, especially interesting is the decree of the year 1728 concerning bulk- and use-zoning as applied to a group of buildings for a specific industrial purpose. In southern Paris, on the Bièvre Creek, there existed a number of tanneries. The ordinance referred to restricted this industry to a zone along the creek, prohibiting the erection of any new buildings for this purpose outside its limits and at the same time restricting the height of new structures to thirty feet.

Yet zoning regulations of greater range came into appearance before the Revolution. There is the ordinance of 1724 "regulating the limits of Paris," which contains an article prescribing special height limitations for the suburbs. This injunction was formally rescinded in 1765, but in the following year it was proposed to divide the northern suburbs into an outer and an inner zone with a permissible height (inclusive of roofs) of fifty and sixty feet, respectively, the lower height also to be applicable in the suburbs south of the Seine. This proposal, as well as others of similar purport, prove that the question of bulk-zoning was very actual in Paris at the time, as was also the pertinent matter of regulating the width of the streets. In 1765 it was decreed that no suburban streets should be less than thirty feet wide, and finally there were enacted in 1783 and 1784 the first comprehensive, differentiated regulations regarding the width of streets and the height of houses. This legislation was soon superseded by the similar law of 1796, which divided the streets into five classes, according to width, and regulated the height of buildings proportionally.

It is to be noted that the regulations thus quoted were inspired by purely practical motives, even if these motives, in some cases, had nothing to do with hygienic considerations. Besides, there were instances of bulk-zoning for æsthetic reasons. This is exemplified notably by the Place des Victoires and by the Place Vendôme, surrounded by private houses, which formed an architecturally uniform whole of specific height, regulated and protected by law.

What has been said may suffice to prove that the idea of zoning is of ancient origin, while the method has been seized upon with special energy by our age in order to make it adequately and efficiently serve the ends of well-conceived city planning. Its relation to the whole of which it forms part, is that of a servant to his master. This implies that it must not be considered, either in theory or in practice, as being merely an independent method of palliating evils, which are the legacy of the neglectful past.

NILS HAMMARSTRAND.

Architecture—the City's Hope!

"The American Vitruvius: An Architect's Handbook of Civic Arts" [1] is a volume neither to be waved aside with a grand gesture nor to serve as occasion for expert quibblers to display their facility. One studies with increasing interest and enthusiasm the text and the huge documentation. (There are over twelve hundred illustrations, carefully and at times exhaustively captioned.) The conviction grows that the authors, Werner Hegemann and Elbert Peets, have produced a book of exceptional value to the American architect. Nor from its beneficent influence should those who call themselves "city planners" be excluded.

It would be undiscriminating to harp upon the obvious, but probably unavoidable, difficulty occasionally found in pursuing the cross references between the text and the captions of the illustrations, and between the captions themselves. It is relatively unimportant that there are in the text occasional infelicities of expression. And last but not least, it would appear proper (incredible as this may seem) to avoid using the volume as a pretext for verbose amplification of divergent opinion. The author's purpose is definitely stated, and it would be churlish to deny that that purpose is admirably achieved.

In the foreword of the volume it is stated that "the purpose was not to make a history of civic art, nor to formulate a well-rounded theory of its practice, nor to produce a full record of its present state. The objective has been the compilation of . . . a representative collection of creations of civic art." Further on, the authors say "One of the foremost aims . . . is to bring out the necessity of extending the architects' sphere of influence, to emphasize the essential relation between a building and its setting, the necessity of protecting the aspect of the approaches, the desirability of grouping buildings into harmonious ensembles, of securing dominance of some buildings over others, so that by the willing submission of the less to the greater there may be created a larger,

[1] Published by Wm. Helburn, Inc., New York City. 1922.

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more monumental unity; a unity comprising at least a group of buildings with their surroundings, if possible entire districts and finally even, it may be hoped, entire cities."

Such an idea will be more than familiar to those who were trained in the better architectural schools. It will not be new to those men who, in their student days or later, made themselves really familiar with historic architecture, who spent their holidays sketching colonial mansions, who were alert to trace the schemes of newly designed structures back to the particular école plates inspiring them, who argued architecture among themselves until the early morning hours. Nevertheless it is well that the essential integrity of this idea should be re-emphasized in these days when, according to a noted educator, "we have reached the point of reverence for mediocrity, for submergence of individuality in mass ideals and creeds." Days when a practitioner may forget that his title of architect is a dubious one if he finds himself trying to conceive a building independent of its surroundings.

"The artist himself, running continuously against the opposition of the so-called 'practical' man with his 'lack of funds' and his untrained imagination, gradually learns to make concessions and to be satisfied with compromise. He finally loses the nerve to propose big plans and to fight for them, as he learns that support is much more readily enlisted for the production of little things. It is invigorating, even for the strongest, from time to time to see together a large number of compositions, daring solutions, straightforward proposals untainted by compromise." After saying this, the American Vitruvius proceeds to set forth just such examples.

Messrs. Hegemann and Peets, without debate, concede enormous importance to those practical problems "which newspapers and public officials can appreciate and even property rights can be induced to recognize." But if this book on civic art deliberately avoids treatment of the engineering aspects of city planning it is because "the authors feel that the young profession of city planning is drifting too strongly in the direction of engineering and applied sociology."

The first chapter of the American Vitruvius deals with the modern revival of civic art. In it are discussed the teachings of Camillo Sitte and the mediæval and renaissance designs upon which he based his arguments. This has a peculiar value because Sitte's book (An Architect's Notes and Reflexions upon Artistic City Planning—1889) has not been translated into English. Unwin, Triggs and other writers have quoted him and reproduced plates from his book, but the present writers have given a synopsis of the book and have reproduced a very much greater number of his plans and sketches. His theses form no mean part of the argument presented by Hegemann and Peets. The gist of the matter with respect to plazas and open spaces lies in the proved necessity of relating the mass and elevations of the principal buildings to the area of the open space, to the height and dominant motifs of the various buildings, to any free-standing structures in the composition; and (perhaps most important of all) the unifying of the group of buildings, together with the arrangement and control of openings in the bounding frame of buildings made by impinging streets. For example, the Place de L'Etoile is shown as typical of an open space whose bounding frame is too much broken by the many radiating streets. That Sitte possessed both discrimination and taste is made quite evident. Two of his particular bête noires are cited; first, the plaza which is not designed by an artist but is an ugly left-over which results from permitting many streets to intersect indiscriminately at one point, producing no effective building sites; and, second, the casual way in which public buildings which are not adapted to stand free are so often dropped somewhere into plazas ill suited to set them off. American architects will be interested in Garnier's objection to the shape of the site for the Paris opera forced upon him by Haussmann. Likewise in the present authors' criticism of Garnier's adaptation of his building to this site! In fact, the main thesis of relation of building to site, even when the latter partakes of elements beyond the control of the designer, is first disclosed in this chapter and is reiterated throughout the book.

The second chapter is devoted to Plaza and Court Design in Europe. A particularly valuable portion treats of the size of renaissance plazas and contains a plate of sections showing both vertical and horizontal angles of vision. Here one encounters the designer's adjustment of the scale of the façades of buildings to the open areas upon which they face. This seems especially pertinent in view of the frequency with which modern designers adopt, for buildings of nondescript location (upon a narrow street, for example), the motifs and scale of some well known building which was related to a definite plaza area. The descriptions and plans of the royal plazas of France are supplemented by a plate showing a portion of the plan of Paris superposed upon which are nineteen projects, in different locations, submitted in the competition of 1748 for the placing of a statue of Louis XV. The chapter is concluded with an interesting treatment of modern plaza design.

The Groupings of Buildings in America follows, in chapter three. Here are presented analyses of plans of the various World's Fairs, of civic centers, hospitals and institutional groups. The reader, by this time, has become fascinated by the wealth of material subject to his analysis; and he finds himself agreeing or taking issue with the authors upon the merits or demerits of plans or elevations.

One cannot hope adequately to describe a reference book such as this. It is noticeably difficult with respect to the chapter (four) on Architectural Street Design. This material is also presented analytically. Vistas and terminal features, churches in street design, harmonious street façades, street arcades and colonnades are discussed. The thesis is that brutality in street arrangement (so typical in American cities), maladjustment of building sites, the lack of dominant horizontal motifs, are handicaps in achievement of artistic results. Sitte is quoted as saying that "practically any system of street design can be brought to an artistic effect provided it is not carried out with that brutality which may satisfy the local spirit of modern American cities and which, unfortunately, has lately acclimated itself in Europe." To be æsthetically successful it becomes clear that there should first be an understanding of the handicaps, and then adequate meas-

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ures to correct and control the condition. How to control the impositions of the self-willed and æsthetically sterile municipal engineer, how to encourage individual property owners to merge and coordinate the designs of adjoining façades,—these are problems the solving of which will produce real advancement in civic art. Apropos of the problem of unifying street façades, the authors call attention to the probability that the solution will more readily be found in those sections where inexpensive dwellings are located than where the more costly residences are found. The street of moderate or low cost houses more easily lends itself "to harmonious design, to uniform material and color, to the grouping of single and row houses, and to effective rhythmical repetition."

In discussing Garden Art as Civic Art (chapter five) one finds oneself still in contact with the original thesis mentioned in the presentation of the problems of plazas and other open spaces. Indeed, cognizance was taken at that time of the adaptability of formal plantings, in lieu of buildings, to be the "frame" or a part of the frame of composed and restful open spaces. Private estates are treated as examples of buildings controlling the design of large areas; and similar consideration is given to the problems of parks and gardens, garden squares and cemeteries. One imagines the advocacy of an intelligent adaptation of park treatment to the conditions of actual site and probable use would arouse no opposition if stated thus generally. However, in what appears to be a consistent development of the idea, the authors may find themselves treading upon the toes of partisans of "always informal" landscape design. Between an absurdly informal treatment "upon the pretence that the area is a piece of untouched nature" and a beaux arts scheme made by anyone but a genuine artist, a choice would drive one quite mad. But the authors suggest no such alternative; they are much too wise. None but a careless reader, misinterpreting the thesis, would be likely to take serious issue with them. And, carefully digested, their argument should be a sane antidote for much that has been put over under the name of landscape gardening.

The discussion (in chapter six) of City Plans as Unified Designs is an attempt to present the problem of civic art in its highest aspect and most complex form. By contrasting the achievements and failures (according to the point of view) of large cities like Rome, Paris, London, Berlin, and smaller cities such as Versailles and Carlsruhe, the student is made to realize that this major problem has never been solved. There is a tonic warning against being misled by exceptional accomplishment in detail. Admit what one will as to the merit of detailed developments in any of these cities, there yet remains a viewpoint from which their city planning effort appears as a distinct failure. They are indeed—these old cities as well as our newer ones—hardened sinners. Lest the picture be too dark, the authors add exhibits of encouraging achievement in garden suburb and modern housing development. The contrast of these with the familiar æsthetic desolation of vast areas of older urban dwellings only serves to emphasize the failures.

City planning, like all other planning, is primarily the establishing of relationships. The degree in which the number of relationships to be established is restricted represents the degree of failure in the planning. Logically, therefore, trained imagination and analytical ability are prime requisites. But frequently those persons who undertake or support city planning endeavor are content to restrict the planning to detailed and simple projects. They wish to be "practical" (whatever that is!) and they do not see the ramifications of complex problems. It has already been noted that the authors of the American Vitruvius recognize this great psychological obstacle.

Mr. Peets' final chapter (seven), upon the Plan of Washington, sketches the development of the plan and points out many defects. In the main, his criticism appears quite just, even though it may prove startling to those who have accepted without question the assumed perfection of L'Enfant's plan. Apropos of the McKim-Burnham-Olmsted scheme the author quite dispassionately indicates some question as to the probable artistic results. Although space may not be devoted here to an abstract of Mr. Peets' argument, his indictment will be seriously considered by those who have followed the preceding arguments in this volume. This, one infers, is all the author would ask of any reader or student. Actually, throughout the book, the idea is set forth both implicitly and explicitly that a designer should approach his problem with the open-mindedness of the genuine student.

In conclusion, one cannot summarize better the reasons for presenting this monumental work as "An Architect's Handbook," than by quoting the authors themselves: "It is much easier and more respectable to be an engineer, an 'uplifter' or a business man, than it is to be an artist. But unless our efficient civilization is to produce nothing but its own efficiency, our cities must not be shaped solely (sic) by engineers. . . . . If the public inaction in the field of civic art is due to a lack of appreciation and the difficulty of cooperation, it is not easy for the architectural profession to allege the same reasons. Civic Art is their peculiar field; the number of practitioners is small; their tastes and training are much more uniform than among the general public; strong professional societies exist. . . . The medical profession looks upon an uncontrolled epidemic as a stain upon the honor of the profession,—and was there ever a more deadly plague than the ugliness of the modern city! The best hope for mitigation lies in the strong unified action of the architectural profession." FREDERICK BIGGER.

European Comment on Housing in the United States

Next to the report of the Milwaukee Housing Commission, that of the Reconstruction Commission of the State of New York was probably the most fundamental in character of any official statements on housing which have been made in this country. A recent issue of *Volkswohnung* analyzes the last named report very completely and concludes with the following observations:

"The report and proposals of the Committee are interesting in more than one respect. They show, above all, how undeveloped is housing policy in the United States as compared to Continental Europe; how little is understood of the function of the State and the community in housing; and what happens when so important a respon-

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sibility for the common good—the necessity for good housing for those who cannot get it through their own effort—is left to the mercy of private initiative, not only unsupplemented but unregulated. As a matter of fact the proposals set forth by the Reconstruction Commission of the State of New York are extremely conservative. They contain nothing that has not been long recognized and practiced in other countries. Nevertheless, they were considered as too radical. That child-like faith which believes that the common good can only be achieved by private initiative is still a too powerful agency in the United States. National pride, which refuses to recognize the indisputable fact that a great proportion of American citizens are unable to provide themselves with a decent home, ranged itself against any state aid for housing. Instead, a clever subterfuge was invoked. Tax exemption —really a concealed subsidy and which cannot and never did give any direct benefit to the occupant of a home—was adopted and its benefits are being drawn off by builders and speculators, while tax-exempt houses, so-called, are built to rent for from $20 to $30 per room per month." *Volkswohnung* concludes with an approval of the statement made by Mr. Stein in his recent article comparing the housing policies of Amsterdam and New York: "The housing problem in New York is not yet understood. The city seems determined to grow according to the whim of the speculative builder, who continues to build ugly boxes in rows. And the worst of it is that his work stands there to mock us long after we have recognized the necessity of united effort and technical direction in housing and city planning."

Standardized Zoning

The Department of Commerce has recently issued a preliminary edition (August, 1922) of "A Standard Enabling Act under which Municipalities can Adopt Zoning Regulations."* This is an unusually neat piece of work. Three pages of explanatory notes precede the recommended Act; and the Act is clarified by illuminating comments, which appear as footnotes, concerning the significance of particular words and phrases used in the Act. These footnotes bring one quite up to date with respect to the state of judicial opinion concerning the interpretation of the words and the phrases used. It is also made very clear why particular words and phrases are used in the Act rather than other words and phrases. The entire document, Act and footnotes, is confined to seventeen typewritten pages, something of a feat in condensation when it is taken into account that the legalities of the case are very fully covered.

Aside from its value as a guide to those concerned in the preparation of Enabling Acts of this sort it is of equal value as a suggestion in the matter of presentation, as the following quotation of the first page so clearly indicates:

"A Standard State Zoning Enabling Act"

"Section 1. *Grant of Power.* For the purpose of promoting health,[1] safety, morals, or[2] the general welfare[3] of the community, the legislative body[4] of the cities and"—

1. *"health"*—It is to be noted that the word used is "health" not "public health"; for the latter narrows the application. There are some things that relate to the health only of the people living in a given dwelling, such, for instance, as the size of inner courts, and have only a remote relation to public health. If the term "public health" were used the Act might be set aside in a given case where it would be possible to show that the particular provision in which legal action was being taken did not concern itself with the public health, but only with health.
2. *"or"*—It should be noted that the word used is "or" and not the word "and." If the latter word were used then it might be necessary to show to the satisfaction of the court that *all* four of the purposes mentioned were involved in a given case, viz., health, safety, morals and general welfare. The use of the word "or" limits the application to any one of the four instead of to all of them.
3. *"general welfare"*—The main pillars on which the police power rests are these four, viz., health, safety, morals and general welfare. It is wise, therefore, to limit the purposes of this enactment to these four. There may be danger in adding others such as "prosperity," "comfort," "convenience," "order," "growth of the city," etc., and nothing is to be gained thereby.
4. *"legislative body"*—This term is sufficiently understood to include all forms of government including Commission and City Manager, as well as the older forms of government. Whatever form of government exists, there must be some local body performing legislative functions.

It is evident that the notes are the work of others than amateurs in zoning; they indicate experience, particularly the experience of having made contact with judicial opinion. And so the notes appear as fatherly advice to the inexperienced in zoning and to those who would push the matter too far ahead of the time honored judicial point of view.

The fact that the document comes from the Department of Commerce may be viewed by most as of no particular significance; its origin may be accepted as an altogether matter-of-course event in the ever-expanding functions of the State. That the State had seen fit to so take notice of zoning might be viewed as the all-important matter.

But one might take the point of view that the origin of this document is in itself a matter of consequence—for Departments of State are conceived with certain aims and purposes in view; and the achievement of those aims and purposes is likely to condition the work undertaken by them. Its origin in the Department of Commerce may therefore be looked upon as an event which not only clarifies the aims of zoning, but as also likely more firmly to establish them.

A.

* A Standard State Zoning Enabling Act Under Which Municipalities Can Adopt Zoning Regulations, prepared by The Advisory Committee on Zoning, Appointed by Secretary Hoover. Edward M. Bassett, Lawyer, Counsel, Zoning Committee of New York; Irving B. Hiett, Realtor, Ex-President, National Association of Real Estate Boards; John Ihlder, Housing Consultant, Manager, Civic Development Department of the Chamber of Commerce of the United States; Morris Knowles, Consulting Engineer, From the Chamber of Commerce of the United States; Nelson P. Lewis, Municipal Engineer, From the Nation Conference on City Plannings and National Municipal League, Past President American City Planning Institute; J. Horace McFarland, Master Printer and Civic Investigator, President, The American Civic Association; Frederick Law Olmsted, Landscape Architect, President, The American Society of Landscape Architects, Past President American City Planning Institute; Lawrence Veiller, Housing Expert, Secretary and Director, The National Housing Association; John M. Gries, Chief, Division of Building and Housing, Department of Commerce.

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Public Information Page

THE COMMITTEE ON PUBLIC INFORMATION AND PUBLICATIONS announces the issuance, in the near future, of an Institute Document on *The Functions of the Architect.* This publication is still a matter of careful study, and the first edition will be distributed for criticism by the members of the Institute, so that the second edition may be in definite form. The Committee also has made material progress in procuring a series of articles on architectural subjects, written by men of ability, for distribution to newspapers throughout the country. Chapter Committees on Public Information will be the avenues of distribution so that the articles may be made available to local newspapers.

THE ILLINOIS CHAPTER has begun the issuance of a bulletin called "The Leaflet," its motto being "to make the profession of ever increasing service to society."

THE BALTIMORE CHAPTER, under the leadership of Mr. John H. Scarff, has continued its articles in the Baltimore *Evening Sun.* One lately published treats the subject of furniture and makes special reference to Duncan Phyfe. This Chapter is also inaugurating a study of a city plan for Baltimore.

THE KANSAS CHAPTER is working with the Kansas Society of Architects in an effort to obtain the passage, this winter, of a State License Law, and is also active in inducing some of the local newspapers to publish special building numbers.

THE MICHIGAN CHAPTER held a meeting this fall to which some fifty contractors were invited for a discussion of the growing tendency of large contracting firms to establish architectural departments. The Chapter had prepared a list of eighteen questions and the answers of the contractors developed interesting points of view that were beneficial to both sides.

THE SOUTH CAROLINA CHAPTER has begun to act along the lines suggested by the activities of other Chapters and is taking up with the *News and Courier* of Charleston the subject of publishing articles related to architecture.

THE SOUTHERN CALIFORNIA CHAPTER sends a very full and interesting report. Following the example of the Washington Chapter, they have induced the Los Angeles *Examiner,* in its real estate section, to present to the public different aspects of the architect's work. They have asked a selective list of architects to supply drawings for publication with comments on the subjects treated and they have issued special articles. "Why He is an Architect" is a sample of one of the headlines, and several of these articles treat in a general way the functions of the architect.

The newspaper staff has become quite interested and seems to think the work of sufficient value to ask for more of this material. The Education and Publicity Committee, of which David C. Allison is Chairman, has outlined a program for the publicity activities of the Chapter for the next year and has planned a campaign with a paid advertising expert working under the Committee's direction. They are issuing a full page rotogravure section of the Midwinter Number of the Los Angeles *Times* which has a circulation of over 500,000. They have taken a page for a year in the monthly magazine published by the Los Angeles Realty Board. They are cooperating with the Los Angeles *Examiner* in developing a "Building Section" for that paper. Members of this Chapter are writing articles and furnishing sketches for the purpose besides furnishing news items to the local newspapers. Finally, they publish the work of various members in the *California Southland,* a monthly printed in Pasadena. This is quite costly and the money is furnished by the Allied Architects Association, an organization composed of sixty or seventy architects, all members of the Southern California Chapter, although this does not include the entire membership. They have formed a corporate institution which maintains a high class architectural office and devotes itself exclusively to work paid for out of public tax money. It has already received two large commissions, one of which is finished as to the first contract, which consisted of designs and working plans for a two or three million dollar courts and jail building. It has had marked success. The stated motive of the organization is to design good public buildings and not to make money, although it charges full architect's commissions. This leaves a balance which the Association is willing to use to a large extent for the advancement of architecture in general. At a later date we hope to give further details. This work of the Southern California Chapter is so fecund with possibilities that your Public Information Committee hopes that each Chapter will ponder it. The scheme may bear fruit elsewhere if the soil be suited thereto. Possibly such a work, carried on primarily to improve civic architecture, would be better sustained by the whole chapter membership instead of by a group. Sumner P. Hunt, President of the Southern California Chapter, is also filling an executive position on the City Planning Commission of Los Angeles.

THE TEXAS CHAPTER, despite the energy of the Chairman of the Public Information Committee, has had difficulty in inducing the members actually to produce the articles that it needs for publication. The Chapter meets annually and the last convention approved the initial work of the Texas Public Information Committee, urged that the work be pushed in Dallas where it was begun and that it be extended immediately to the other larger cities of Texas. This it is preparing to do.

THE WASHINGTON CHAPTER proposes to revive the newspaper publicity that it carried on so successfully a year ago. It has undertaken two pieces of work, news of which cannot be released until a later date, but which will be awaited with interest.

Again, the Committee begs the chairman of each Chapter Committee to send in a report of the activities of his Chapter and Committee. To be of use it should reach New York not later than the fifth of each month. Please be kind enough to act immediately for the March issue of the JOURNAL.

JOHN V. VAN PELT, *Chairman.*
126 East 59th Street, New York City.

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The Washington Plan--A Hopeful Outlook

According to press reports from Washington, plans to make the south side of Pennsylvania Avenue one great Mall, filled with drives and public buildings, as contemplated in the so-called McMillan plan of 1901, will be carried forward to completion, which is now the prediction of Charles Moore, chairman of the Commission of Fine Arts. His views are interesting and timely, in view of the fact that an entire cabinet session recently was largely given over to discussion of a building and park development program for Washington.

Mr. Moore declared that the plans "cannot help but go through," pointing to the park driveway now being put in by the office of public buildings and grounds as evidence of the work being under way. This driveway is being built on the north side of the Mall from the Meade monument, to be erected in the Botanic Gardens, to the Monument.

Mr. Moore conferred with President Harding recently and in the course of the conference, it is understood, they discussed the plans of the Fine Arts Commission for the beautification of the National Capital.

Although Mr. Moore would make no comment on the conference with the President, it was plain, from his optimistic conversation, that he felt that the President is squarely behind the Arts Commission in its plans for the future, especially in regard to the Mall plan.

"We will leave it to the American people to supply the money to carry out the plans," Mr. Moore said. "But when it is spent we want it spent in orderly fashion."

Chairman Moore declared that it was desirable to carry out the plan of 1901 from the Capitol to the Washington Monument, as the plan was founded on the scheme of L'Enfant in 1792. In 1901, Mr. Moore pointed out, the National Capital had secured the necessities of community life, such as waterworks and sewerage systems, and then the real adornment of the city began.

Mr. Moore, in his report for the year ended 30 June, 1921, stated: "There was no intention to have the plan adopted; it was simply a project for the development of the Capital along lines of convenience, good order and beauty. The inherent excellence of the plan as presented is proved by the fact that during the two decades that have elapsed since its publication many and great improvements have been made in accordance with it; its main outlines have been filled in beyond the possibility of change; those departures which have occurred, as in the case of the location of the Interior Department, the architectural design of the war risk insurance building, and the location of the Navy and munitions buildings, are conceded to be mistakes and blemishes. There is no movement to change the plan. On the contrary, all forces are working together toward the realization of it."

In concluding his report, Mr. Moore said: "This is a restless era. All sorts of suggestions are being made for improvements and changes. Many of these new projects are based on the desire of individuals to exploit themselves. Others are due to ignorance of the existing plans and the progress of the work being done in accordance with it, or to impatience as delays in accomplishing plans.

"The Commission of Fine Arts is not concerned with the rate of progress; they are vitally concerned that the progress shall be always toward the goal set in 1792 and again in 1901. It is a matter of satisfaction to them that both Congress and the executive departments are giving an increasingly strong support to the plans, as the understanding of what they mean and whither they tend becomes apparent in the unfolding of the designs."

The Secretary's Page

AT ITS December meeting the Philadelphia Chapter voted that all Chapter member dues be fifteen dollars. The Baltimore Chapter at its December meeting voted that the dues of all members be ten dollars.

IN CONNECTION with the appointment of Mr. Milton B. Medary, Jr., as a member of the Commission of Fine Arts, the following resolution was adopted by the Philadelphia Chapter:

"The members of the Philadelphia Chapter of the American Institute of Architects extend hearty congratulations to their fellow member, Mr. Milton B. Medary, Jr., upon his appointment to the National Commission of the Fine Arts; and also express their gratification that the honor has been accorded to one so eminently deserving by reason of his personality, knowledge, judgment and ability."

CONVENTION organization of Chapter delegates was the subject of discussion at the December meeting of the Philadelphia Chapter. Messrs. Bright and Boyd spoke about the general policy of the Chapter, criticising the lack of organization at conventions and the non-participation in discussion on the floor. Mention was also made of the apparent failure of the Chapter to support candidates for national offices from this Chapter.

Particular reference was made to the failure of the Chapter to participate in the Building Congress Movement, and its action in cooperating with the Industrial Relations Committee of the Chamber of Commerce was condemned. Mr. Boyd spoke of the Building Congress which he has organized, and expressed his wish that the Chapter would join in its activities.

Mr. Boyd asked whether it would not be possible in the event of a shortage of delegates at national conventions for those present to elect others to fill out the delegation. Mr. Lovatt replied by saying that he had inquired at Chicago concerning this, and had been told that such a procedure would be illegal. Mr. Davis spoke of the difficulty of accrediting delegates due to the failure of those elected to notify him of their intentions concerning participation, in sufficient time.

President Lovatt replied, saying that the criticisms and suggestions were received heartily and will be seriously considered. He also stated that the new administration will doubtless be glad to consider the points raised.

FOUNDING an architectural library for the state of Colorado is sought by the Colorado Chapter in an appeal

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for support by the architects of the State. It is pointed out that the procedure governing the Registration Law provides that funds accruing therefrom shall be used as the nucleus of a fund to provide for an advanced course in architecture in the State. Thirteen years of operation of the law have produced $5,400, a sum which is not considered as indicating that the amount will ever be sufficient to influence an architectural course at the State university. Hence the library project which would be of the greatest advantage to the Denver Atelier, which is now a firmly established institution with a large enrollment of students and an accredited standing.

DISCUSSING the proposed Architects' Office Building for Philadelphia, Mr. Walter Thomas addressed the Chapter at its December meeting. He considered that location was a prime factor, and that it established itself in the region of the principal streets south of Walnut street and the corners of the minor streets between Fifteenth and Nineteenth. A ten-story building of approximately 30,000 square feet would cost about $300,000, of which one-fourth would have to be raised. Rentals would be figured at $1.50 per square foot. A spirited discussion ensued with the result that Mr. Thomas's committee was asked to report further and that the sense of the meeting was "that the Chapter, through this committee, should initiate the movement and become a member of the syndicate so formed."—*Minutes of the Philadelphia Chapter.*

THE BOSTON CHAPTER, at its December meeting, voted to adopt the regulations which had been framed by Messrs. J. Lovell Little and Ralph W. Gray, to govern the award of the Harleston Parker Medal. The Deed of Gift of the medal is as follows:

Boston, 5 December, 1921.

"To the Honorable the City Council, Boston, Mass.

"Gentlemen: It is my pleasure to present to the City of Boston the sum of one thousand (1,000) dollars, to be held by the City in perpetual trust to apply the net income thereof annually to defray the expense of producing a suitable gold medal, the design of which once approved by the Boston Society of Architects shall not be changed, to be known as the Harleston Parker Medal to be presented by the Mayor of the City from time to time, but in no case at more than three years' interval to such architects or firm of architects as shall have, in the opinion of the Boston Society of Architects, or its successor, by vote at its annual meeting, completed the erection for any private citizen, association, corporation, or public authority, the most beautiful piece of architecture, building, monument or structure within the limits of the City of Boston or of the Metropolitan Park District, as defined in Section 3, Chapter 407, of the Acts of the Legislature for the year 1893; any unexpended income shall from time to time be devoted toward stimulating, as said Society shall vote, the improvement of architecture in the said District. "J. HARLESTON PARKER."

THE KANSAS CITY Chapter, at its January meeting, reviewed the question of the proposed registration law. Its Committee reported that it was still awaiting communications from the Registration Committee of the St. Louis Chapter, and that it had been informed that a slightly amended copy of Senate Bill 111, previously rejected by the Executive Committee of the Chapter, had been reintroduced in the House of Representatives, apparently in the interest of the engineers, and without consultation with the Committee.

WILLIAM G. PERRY and Shaw & Hepburn announce that they have formed a partnership for the practice of architecture under the name of Perry, Shaw & Hepburn, at 177 State Street, Boston.

The Parade of the Critics

Not long ago, as noted recently in these columns, Mr. H. L. Mencken, the Baltimore critic, speaking of the architecture of London, announced that an architect each week ought to be hanged in that city. Mr. Irving K. Pond, in this issue, suggests that if Mr. Mencken could see Boston a daily hanging might scarcely suffice him.

Now we clip from *Architecture* (The Society of Architects) a letter to its editor containing a much less painful solution of the agitating problem. The communication follows:

SIR: Why don't you send a competent young man around London to suggest improvements in existing ugly public buildings, and to mark the hopeless ones for demolition? For example, the Houses of Parliament could be made almost presentable by removing the top storey; and a list of the tombs which should be cleared out of Westminster Abbey would be very useful to a Bolshevik leader in the event of a dictatorship of the proletariat being established. That would give a practical turn to much pointless grumbling and sniffing.—Yours, etc., G. BERNARD SHAW.

American Academy in Rome —Annual Prizes

The American Academy in Rome announces its competitions for Fellowships in architecture, painting, sculpture, landscape architecture, musical composition and classical studies. The stipend of each Fellowship in the fine arts is $1,000 a year for three years. In classical studies there is a Fellowship for one year with a stipend of $1,000, and a Fellowship paying $1,000 a year for two years. All Fellows have an opportunity for travel, and Fellows in music, from whom an extra amount of travel is required in visiting various musical centers of Europe, receive an allowance not to exceed $1,000 a year for traveling expenses. In case of all Fellowships, residence and studio, or study, are provided free of charge at the Academy, with board at cost.

The awards of the Fellowships will be made after competitions, which, in the case of the fine arts, are open to unmarried men who are citizens of the United States; in classical studies, to unmarried citizens, men or women. It should be particularly noted that in painting and sculpture there will be no formal competition involving the execution of work on prescribed subjects, as heretofore, but these Fellowships will be awarded on the basis of a thorough investigation of the artistic ability and personal

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qualifications of the candidates. To this end, candidates are requested to submit examples of their work and such other evidence as may assist the jury in making a selection.

Entries will be received until 1 March. Anyone interested should write for circular of information and application blank to Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Avenue, New York.

The Significance of the Fine Arts

The Committee on Education of the American Institute of Architects announces the publication of the "Significance of the Fine Arts," the book which has frequently been mentioned in these columns, has been discussed at Conventions, and has been the subject of long and serious labor on the part of the Committee. Whatever may be the individual differences of opinion as to the manner in which any of the essayists have done their work, it seems certain that the best effort of the Institute will be devoted to the support of the Committee in its work. It must be remembered that the Committee has not sought to bring out a history of art but to develop a public appreciation of the arts, which is quite another matter. On that basis every member of the Institute can join in promoting the sale and use of the "Significance of the Fine Arts."

Drawing Lots for an Architect. Why Not?

A rather amusing method of choosing an architect is reported from a city of over four million inhabitants situated somewhere along the Atlantic seaboard. It appears that a prominent corporation was about to erect an addition to its present building involving the expenditure of possibly a million dollars. The type of design of the present building practically imposed conformity in the design of the exterior of the extensions. The corporation had purchased the original building from its previous owners; perhaps for that or other reasons the original architect of the structure did not appear to be under consideration in connection with the proposed additions.

A short while ago the corporation in question sent out a letter in substance in this form:

"We are contemplating the erection of an addition conforming in all respects to the building which we are now occupying at * * *

"In view of the fact that we have a great many friends in the architectural profession, we are reluctant to designate an architect for this work and it has occurred to us that you would find no objection to the following plan: the selection of a limited list of competent architects * * * asking them to have a representative accept our invitation for luncheon at * * * at which time the architect will be selected by lot.

"We realize the above method is novel, but we hope that you will appreciate our point of view in adopting this method of selection."

In accordance with this invitation a group of twenty distinguished architects joined the officers of the corporation in a most delectable lunch party. To those who were not present, it would be cruel to describe either the solid or liquid refreshments, either as to quality or quantity. It appears from authentic accounts that so delightful and humorous a spirit was evoked during the luncheon that by the time it came to drawing lots for the job it was certain that the necessary disappointment of nineteen of the twenty architects would be more than smoothed over by their amiable state of mind.

After the cigars were lighted each of the architects present drew an envelope from a hat and at a given signal all of the envelopes were opened. The surprised expression on the face of the winning architect announced the result to his companions at the festive board. A toast was offered to his health and success with accompanying congratulations to the client and the luncheon meeting was adjourned.

On the whole this method was less expensive in time and money to the client, infinitely less expensive to the architects than would have been a competition (indeed, they got a free lunch out of it and had no expenses) and on the whole, we wonder if it is not infinitely more reasonable and sensible than the proverbial architectural competition. A number of architects who were present have assured us that it was much more good-natured and much less of a strain on the temperaments involved. (*Communicated.*)

A Summer School for American Architects, Painters and Sculptors--Fontainebleau, France

Announcement is made by the Executive Committee in America of the opening of a summer school as indicated above, from 25 June to 25 September next, in connection with the School of Fine Arts at Fontainebleau, under the direct patronage of the French Government through its Ministry of Fine Arts. This group of permanent schools was conceived by Monsieur Fragnaud, is located in the palace, and is under the direction of Monsieur Laloux, Membre de l'Institut and one of the best known patrons of the Ecole des Beaux Arts. In the summer school now announced, under the general direction of Monsieur Laloux, the director of architecture will be Monsieur Carlu; of painting, Monsieur Goguet; while Messieurs Alaux and Bray have accepted the directorship of ateliers for architecture.

Monsieur Baudoin will give an optional course in fresco, while an optional demonstration course in sculpture and modeling will be entrusted to Monsieur Lejeune (First Grand Prix in sculpture and Grand Medaille d'Or). Lectures will also be given by Messieurs Leprince-Ringuet, Fenaille, Calmettes, and Moreau-Vauthier.

The cost of the course will be at the rate of $100 a month, inclusive of board, lodging and tuition fees. As the French steamship line allows a discount of 30% to students, the entire cost of the course could be brought within $500. This sum would also include the excursions

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by autobus, which are announced in the circular of the school.

The Executive Committee in America, charged solely with the recruiting of students, is as follows: Messrs. Whitney Warren, *Chairman, Department of Architecture;* Ernest Peixotto, *Chairman, Department of Painting;* Edwin H. Blashfield, *President, National Academy of Design;* Howard Greenley, *President, The Architectural League;* Thomas Hastings, *President, Beaux Arts Institute of Design;* J. Monroe Hewlett, *President, The Mural Painters;* Hermon A. MacNeil, *President, National Sculpture Society;* James Gamble Rogers, *President, Society of Beaux Arts Architects.*

For architects, all applications should be made to Mr. Whitney Warren, 126 East 75th Street; for painters and sculptors, to Mr. Ernest Peixotto, 215 West 57th Street, New York City.

Jurisdictional Awards--Notice of Rehearing on Metal Trim

The National Board of Jurisdictional Awards announces a rehearing of the question of metal trim, at Washington, in the American Federation of Labor Building on 19 February next at 10 a.m. Because of the existing situation the Board is anxious to give everyone an opportunity to be present. The request for a rehearing was granted at a meeting of the Board held in Chicago recently.

The Editor's Notebook

THERE is something curiously cosmic in the history of the nine Wertheimer portraits by John Sargent that are now to be found in the National Gallery. Wertheimer was a Bond Street dealer in old masters, and knew them and their values, and had a taste that savored Oriental vases and pieces of furniture. He was a man of his race and had a personality, and the Sargent portrait has him cigar in hand, facing the painter as easily as he faced an old canvas upon which he had to set a value. There must have been something magnetic—indeed, must there not always be that spark if a great piece of portraiture is to result?—between these two men, one out of the old, old East, and the other from the crudely new West. It would be interesting to speculate upon this thing we call magnetism, in the case of an artist and his work, for it has a deal to do with the result, and it is probably true to say that Sargent never could have been inspired to the point of his greatness in his own land. Age counts in the moulding of races and faces, and there is more than some mere likeness in all great portraiture. Indeed, who can ever forget Mrs. Wertheimer by John Sargent? As one has well said, if all traces of authorship were removed, a few hundred years hence, "The Lady in Black" would be one of the then old masters, and none would gainsay her place with the greatest of them. Besides those two I have mentioned, there were the five portraits of the children and those of Mrs. Wilson Young and Mrs. Fachiri.

Asher Wertheimer died four years ago, and the nine portraits now become an English national possession. Up the commonplace steps of the worse than commonplace piece of architecture that tries to dominate Trafalgar Square and fails, an endless stream of humans will pass to view the great work of a great American portrait painter, and who shall say that it is not just that the National Gallery should have them, and be grateful to the dealer of Bond Street that he saved them from the fate of that traffic in which he was so expert? For art, there was something more than casual in this meeting of East and West.

MR. HILAIRE BELLOC is taking considerable interest in architecture. Last year he lectured to the students at the Architectural Association in London and an echo of what he there said has already been heard by our readers.[1] Much in the same vein he now addresses English architects in "The Return of the Norm," an article appearing in the last number of ARCHITECTURE, the new name for the old JOURNAL OF THE SOCIETY OF ARCHITECTS, London. Some of his opinions would require whole treatises if one were to pursue them to the point of definitiveness, if such a point exists, and yet Mr. Belloc is not afraid to utter opinions in a fairly positive way.

"The characteristic of our time in architecure is chaos," he begins, and although some architects would here take umbrage, we doubt if they could make out a very good case in defense. There is certainly no repose in our modern cities. They are as restless as the lives of the people who live in them. Their streets and their buildings are chaos, not merely in an æsthetic sense, by the way, as our traffic engineers are beginning to note. Of course, Mr. Belloc goes on to define his chaos as one of borrowed style, of mixtures of styles, the canons laid down in the architectural development of past civilizations. The French, he thinks, still preserve a sort of norm for official buildings. The Prussians achieved a sort of unity, although he terms it barbaric, but "in England and America, and to a less extent upon the continent of Europe, the note is chaos."

The explanation he offers is the complete lack of authority and rule of life in these modern days; as a consequence there can be no expression of unity in external things. Yet when Mr. Belloc affirms that because mankind will never accept chaos, but that sooner or later in architecture "one style will establish itself and will spread and become the norm," we confess to a vague surmise that he is departing from the rôle of analyst, for the moment, to become the protagonist of the thing in which he believes,—of authority, to the establishment of which he looks forward with such hope, and with such faith that it will restore balance and sanity and order to a world of chaos.

In other words, we accept his plea for the "central authority" with a feeling that it has already taken form in his mind, which has the effect of somewhat upsetting our estimate of his perceptions. It is easy enough to make out a brief for a change in the form of authority. Certainly the present form of national state will undergo many great changes. It is not improbable that it will disappear. An examination of the budget of any nation

[1] See London Letter in the JOURNAL for September, 1922.

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shows such figures for war that it is inconceivable that humanity will continue an authority that can do no better than that. But, if for the sake of argument, we admit that the change will be back to the religious state, we cannot make that support the theory of a return to the architectural norm.

Has not Mr. Belloc lost to sight the fact that man is less influenced by what he sees than by what he does not see? The decline of the church, for example, if studied in connection with architecture, might lead to the searching question: When man has given an architectural image to his faith does that not indicate the decline of interest in that faith? Does not the rise and decline of every period of art mean that very thing? Architecture is an expression that always seems to be marching just behind man's spiritual or intellectual development, and never in advance of it.

We could admit, for example, that an authoritatively imposed norm of life such as would produce an architectural norm, might afford a more pleasurable existence than the present state, with its inflamed hatreds and its recurrent wars of increasing devastation, but even so we still have to reckon with other things. Man as he is is not the last word, as Shaw has pointed out over and over, and unless he mends his ways he will be supplanted. In the meantime, if we accept the Sermon on the Mount as the postulate of man's place in the scheme of things, it is now fairly evident that only after centuries of horrible and grotesque effort shall we achieve that place.

But, as we have said, Mr. Belloc invites whole treatises by his article, and it would be unfair to leave it without crediting him with that kind of speculative mind that architecture needs so much. A new style may come, he thinks, through the mind, or through a mind, or by discoveries in materials that will change the whole scheme of building. Yet it remains a curious commentary that his plea for a norm is supported by probabilities that are endless. They might evolve in endless procession, for example, each being mistaken for a norm, just, as it might be said, that there was once a norm for king's palaces, or for domes on capitols, or spires on churches. But if we are on fairly stable ground when we assert that architecture is, in its culmination, an expression of the spirit of man, are we on as safe ground when we dare to assert that the architectural form in itself exercises an influence on the essential morality of a people? Is there anything in history to support such a belief?

THE NEWSPAPERS, by the way, are at present replete with pictures of palaces from which kings have long since departed. In spirit, the kings have been gone from many a palace for many a day, and yet the form has straggled along, serving no other purpose than to plunge the mind of man into that obfuscation in which he seems to take such evident delight. Looking backward upon Alhambra and Louvre, to venture but a little way into the past, and thence down to Buckingham, we become aware of the durability of form after spirit has departed. And, looking about us, can we pretend that the architectural forms of the present are greatly influencing the conduct of government? Is government improved by good architecture? And this is a side of the development of architecture which artists and historians so persistently avoid or neglect.

In speaking of king's palaces, through the endless corridors of which I have roamed in my day, like many another, I am again reminded of the influence of the unseen. The quest of architectural forms would, I believe, never lead me across the street to examine any king's palace, but I would give I know not what, if I might see the palace of the Queen of the South. Do you remember it as Dunsany has it in the tale? Shard, the pirate, comes up by evening, with the "silver spires of slender Bombasharna, a city that was the glory of the coast. And in the midst of it, far away though they were, they saw the palace of the Queen of the South; and it was so full of windows all looking toward the sea, and they were so full of light, both from the sunset that was fading upon the water and from candles that maids were lighting one by one, that it looked far off like a pearl, shimmering still in its haliotis shell, still wet from the sea."

But, to come back to the norm, let me now confess my own disbelief in the use of any central authority, and let me illustrate by quoting a passage from Wells' new tale of "Men Like Gods," in which he imagines a world physically quite like our own, but some thousands of years ahead of ours in experience. He calls it frankly Utopia, and "Utopia has no parliament, no politics, no private wealth, no business competition, no police or prisons, no lunatics, no defectives or cripples, and it has none of these things because it has schools and teachers who are all that schools and teachers can be. Politics, trade and competition are the methods of adjustment of a crude society. Such methods of adjustment have been laid aside in Utopia for more than a thousand years. There is no rule or government needed by adult Utopians because all the rule and government they need they have had in their youth."

"Said Lion: *'Our education is our government.'*"

And this from "The Legends of Smokeover" by L. P. Jacks, the best book that I have read in many a year:

Professor Ripplemark is speaking and says, "'Teaching' is primary, 'ruling' is secondary. That is to say, we teach, not in order to bolster up a system of University discipline, but we apply discipline only so far as it is needed to promote the ends of teaching. How does that strike you as a model for the constitution of human society in general?"

"Unquestionably the true model," said Rumbelow: "government a department of education instead of education a department of government." What a day for architecture that will be! C. H. W.

Obituary

H. P. Knowles

Died at New York City, 1 January, 1923

Elected to the Institute in 1915

(Further notice later.)

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

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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.

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Rules for Sanitation and Safety of Swimming Pools. (35f2)—(*California State Board of Health. Special Bulletin No. 38, by Ralph Hilscher. Pages* 12. *Size* 6"x9".) The California Swimming Pool Act, adopted by the State Legislature in 1917, provides that the State Board of Health shall have jurisdiction over the sanitation, healthfulness, cleanliness and safety of all swimming pools within the state The work of accumulating information regarding these pools, of reporting upon the needs for improvements or upon questions of granting permits, and of advising with pool owners and operators regarding means of meeting the requirements of the law, was delegated by the Board to its Bureau of Sanitary Engineering.

The rules that follow were adopted by the Board at its meeting on Dec. 4, 1920, as a substitute for the rules adopted in August, 1919. Following each rule is a discussion intended to give a general idea of the considerations on which the Bureau of Sanitary Engineering bases its opinions and recommendations regarding fulfillment of the particular rule.

Rule 1. *The Bacterial Contamination of the Water in the Pool Shall be Maintained at a Practicable Minimum.*

The possibility of swimming pool water spreading bacterial infection among bathers is generally recognized. Exact information regarding the magnitude of this danger and its relation to the bacterial quality of the water, as determined by present water analysis methods, is deficient. It is considered, however, that the number of bacteria present does constitute a measure of the cleanness of the water, even though it may not measure definitely the hygienic qualities.

The tentative bacterial limit, adopted by the Bureau of Sanitary Engineering, for water taken from any part of the pool, is 1000 total colonies per cubic centimeter on standard agar medium incubated 24 hours at 37 degrees C., and a B. Coli content that produces gas in not more than half the standard lactose broth tubes incubated 24 hours with one cubic centimeter each of the water. This limit is set, not because it can be definitely stated that greater counts represent dangerous conditions or that smaller counts represent safe conditions, but because studies have shown that counts within these upper limits can be readily obtained by reasonable attention to various details of design and operation that influence the cleanness of pool water.

Pools in which sea water is used apparently accumulate bacteria somewhat more slowly than fresh water pools. The salts of sea water seem to have a moderate disinfecting action that probably can be relied upon to a limited extent in preventing excessive bacterial growths. It can not be asserted, however, that salt water pools are safer on this account. The destructive effect of salt water on the bacteria found in swimming pools has been shown to be rather slow, requiring hours to effect a material reduction. Furthermore, the disinfecting action does not appear to be great with some types, for instance the common intestinal bacteria known as B. Coli.

The number of bacteria in a pool depends primarily upon the number of bathers and upon the quantity of water supplied. Indications are that under the usual operating conditions at least 800 gallons of clean water should be supplied for each bather if the pool is to continue in acceptable sanitary condition. This clean water may be either new water from the original source of supply or it may be pool water that has been purified by any of the accepted methods for removal or destruction of bacteria.

(a) *Fill and Draw Operation.* The simplest type of swimming pool operation is that in which the pool is filled with water, then used for a time, and finally emptied and refilled with new water. Usually the walls and bottom are scrubbed or otherwise cleaned whenever the water is changed. The necessary frequency with which the water is changed may depend upon bacterial contamination, if the patronage is heavy, or it may depend upon other conditions that merely influence the appearance or clarity of the water (see Rule II). So far as bacteria are concerned, the rule for emptying will be based on the approximate allowance of 800 gallons per bather. For instance, a pool of 100,000 gallons capacity operated on the fill-and-draw plan might be used by about 125 bathers before it would be necessary to refill with new water.

(b) *Replacement of Water During Use.* In some cases the pool water is intermittently or continuously replaced by addition of new water while the pool remains in use, making complete emptying necessary at less frequent intervals than in the case of a pool operated solely on the fill-and-draw principle. If the quantity of new water added is large, the frequency of complete emptying may depend more upon conditions that influence the clearness of the water (see Rule II) than upon bacterial content. In this type of pool also it is well to consider that the maintenance of acceptable bacterial quality will require a total water supply of 800 gallons or more per bather.

(c) *Circulation Through Filters.* Without interruption of bathing, water may be removed from one portion of the pool, passed through a filter and returned to another portion of the pool, thereby removing the greater part of the bacteria and permitting the water to continue in use a longer time than in cases (a) and (b). Where filters are used, however, they are usually intended more for removal of color and suspended matter than for removal of bacteria. (See Rule II, Clearness of Water.) In cases of prolonged usage of water in a pool, the maintenance of satisfactory bacterial quality usually requires disinfection, the filters being depended upon almost solely for clarifying purposes. Filtration for bacteria removal alone is much more expensive but no more effective than disinfection.

(d) *Disinfection.* Destruction of bacteria in swimming

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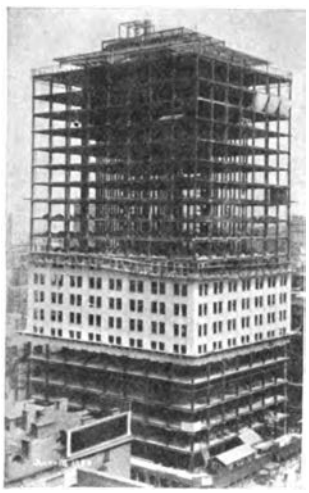
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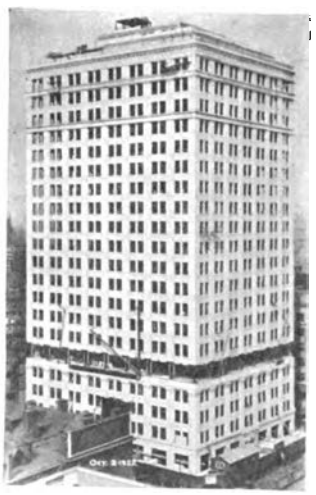
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pool water may be accomplished with chlorine gas, chloride of lime, sodium hypochlorite, ozone, ultra violet light, etc. The active ingredient is the same in the first three, namely, chlorine. This is the most common and the cheapest substance now used for water disinfection. Ozone is effective but considerably more expensive, and the same may be said of ultra violet light. Copper sulphate has limited disinfecting action, but its usefulness is mainly confined to the control of algae growths. If used in sufficient quantity to destroy bacteria it is likely to cause the water to take on a milky appearance, due to the precipitation of copper hydrate.

In disinfecting pool water with chlorine gas a proper dose will range from about 2 to 5 pounds per million gallons of water. Chloride of lime generally contains about 25 per cent available chlorine and a proper dose of it consequently will range from about 8 to 20 pounds per million gallons. Sodium hypochlorite is obtained in solution form under various trade names, with available chlorine varying between wide limits.

Chlorine gas is applied with a special device for measuring the flow of gas and feeding it into the pool water in the circulating system.

Chloride of lime may be applied in several ways. For continuous application it is made into a solution with a tank of water, and this solution, passing through a measuring device, is fed gradually into the circulating system. It may also be introduced intermittently to the pool itself, once a day or oftener, as conditions demand. In some cases this is done by placing the powder in a cloth bag which is dragged through the pool until the chemical is dissolved. Another common method is to make a solution of the chemical in three or four gallons of water, strain through a fine cloth or allow to settle in order to remove suspended particles, and then throw or pour the clarified solution over all parts of the pool. The easiest way to make a chloride of lime solution is first merely to add enough water to form a thin paste in which the lumps can be crushed, after which the bulk of the water is added. The reserve supply of chloride of lime should be kept in a tightly covered container in a dry place, to prevent a rapid loss of strength.

Sodium hypochlorite solution may be used, either by feeding more or less continuously into the circulating system or by application intermittently over the surface of the pool.

Rule II. *Water in the Pool Shall at all Times of Use be Sufficiently Transparent, under Existing Lighting Conditions, When the Water Surface is not Excessively Agitated by Bathers, to Enable a Person Standing at the Side of the Pool to Distinctly see the Bottom of the Pool Where the Depth of the Water is Six Feet or Less.*

This rule is made primarily to prevent accidents, due to underwater collisions, and to facilitate quick rescue of injured or drowning bathers. Ability to see into a body of water depends upon several factors, most important of which are turbidity of water, due to fine solid particles in suspension, color of water, due to dissolved coloring ingredients, and light. A very slight turbidity will give to a large volume of water a cloudy appearance and, in the majority of cases, is the principal cause of difficulty in keeping the water of a swimming pool transparent. Only occasionally is the true color of a pool water sufficient to constitute a serious objection. Abundance of light is always desirable. White surfaces on the pool walls and bottom, to reflect the light, may materially assist a pool in complying with this rule.

If the addition of new water is depended upon to maintain the pool clear, the pool will need to be completely emptied and the walls and bottom cleaned at intervals depending upon local conditions. The new water, of course, should be clear. Clouding of the water while in the pool may be caused by lint from suits, dyes dissolved from suits, sand or dirt carried in by bathers from beaches, minerals precipitated from the water, growths of algae or microscopic organism, dust carried by wind, etc. Open air pools are apt to become turbid more quickly than indoor pools for the reason that they offer more favorable conditions for algae growth. A pool will usually begin to show considerable cloudiness within a week if special precautions are not taken to prevent it.

It is often desirable to prolong the use of pool water by removing the suspended matter with filters. The common design provides for removing water from the pool at one or more outlets, passing it through the filter, and then returning it to the pool through one or more inlets. The greatest removal of foreign matter will be attained if the water that flows from the pool to the filter is always the most highly contaminated water of the pool. It would be most desirable to create a condition of uniform velocity over the cross-section of the pool, eliminating all short circuits or direct currents from inlets to outlets as well as all "dead areas." The newly added water could then be considered as having the function of pushing ahead of it all the older water toward the outlets, and the outgoing water would then always be the most used water of the pool. This exact condition is not attainable, however, as numerous counter currents are set up by bathers and temperature effects. The nearest approach is probably made by admitting water at a number of points of various depths across one end of the pool and removing the water at a number of points of various depths across the opposite end. The outlets necessarily should be remote from the inlets, and either an inlet or an outlet should be at or near each corner of the pool, as it is in the corners that dead areas most easily form.

Practically all filters used in connection with swimming pools are of the rapid sand type. While no slow sand filters have been installed to purify pool water, at least in California, it would appear that filters of this type might in some cases offer advantages. Rapid sand filters are made of a moderately coarse sand, are operated at a rate of two or three gallons per minute per square foot of sand surface, and are cleaned possibly twice a week by backwashing with an upward flow of water at a rate three to five times as great as the filtering rate. A slow sand filter handling swimming pool water could probably operate at about 0.25 gallons per minute per square foot, in which case its area would be about ten times that of a rapid sand filter of equal capacity. A slow sand filter is made of rather fine sand, on the surface of which the impurities of the water are laid down as a film or mat that is removed possibly once a month simply by scraping. This type of filter requires no back-washing. Its piping is considerably simpler and its bacterial efficiency somewhat greater than that of the rapid sand filter.

Experience indicates that the filter and circulating equipment should be of sufficient capacity to handle the entire pool contents in 8 to 12 hours, and that a volume of water equal to the entire pool contents should be filtered every day.

At some plants the water is treated with alum as it passes to the filter. A coagulum or floe is thus formed which is intended to aid filtration, but experience has shown that in purifying swimming pool water this treatment is of questionable benefit. Filtration without alum usually gives satisfactory results with pool water if conducted with proper care. Alum requires time to react with the alkalinity of the water to form a floe, and in some cases alum has been an actual detriment because the floe has not formed until the water passed out of the filter to the pool. Separate reaction and coagulating basins do not appear to be

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warranted in the filtration of swimming pool water. Sea water in particular does not lend itself well to alum treatment.

Copper sulphate treatment of swimming pools is beneficial is destroying algae or moss growths. This is particularly true in outdoor pools where the direct sunlight aids such growths. The dose needed varies with the different organisms and experience is usually necessary to determine the proper dose and frequency of application for a given pool. Usually treatment with half a pound of chemical to each 100,000 gallons of water, repeated two or three times a week, is a satisfactory program. The chemical is most easily introduced by placing it in a cloth bag which is dragged through all parts of the pool until the chemical is dissolved. If a pool is subject to algae growths the treatments should not be delayed until the presence of algae is made apparent by increased turbidity. Copper sulphate does not clarify the water. The desired results are obtained only by keeping the early-comers killed, thus preventing multiplication into the large numbers necessary to cause noticeable turbidity.

Rule III. *Facilities for Adequately Protecting the Pool Water Against Unnecessary Sputum Contamination by Bathers Shall be Provided.* The device used in practically all up-to-date pools to meet this requirement is the combined overflow and expectoration gutter, extending completely around the pool.

This gutter should be attached to or inserted in the wall, with its crest at an elevation three or four inches above the proposed operating water level, then splash will cause a moderate quantity of surface water continually to pass into the gutter, carrying with it floating material. It should be sufficiently open to permit its easy use as a place for persons in the pool to expectorate, but it is desirable so to design the gutter as to minimize the possibility of a bather's fingers or arms coming in contact with the bottom where filth may accumulate. The chance of a bather's arm or foot becoming wedged in the gutter, resulting in possible injury, should also be considered in designing. The gutter surface should be smooth and rounded at the edges to facilitate cleaning, and numerous drain outlets, preferably not over 12 feet apart, should be provided.

Rule IV. *All Persons Known to be or Suspected of Being Afflicted with Infectious Diseases Shall be Excluded from the Pool.*

Rule V. *Contamination of the Pool Resulting from Lack of Personal Cleanliness of Bathers Shall be Maintained at a Minimum.*

This rule necessitates providing ample and convenient bathing and toilet facilities, and preventing the conveyance of outside dirt or soil to the pool enclosure. The swimming pool, it must be remembered, is not to be considered as a proper place to cleanse the body and every practicable means should be provided to prevent its use as such.

Congestion should not be permitted to develop as a result of having too few plumbing fixtures. If patrons must stand in line and await their turn, a potential menace to the quality of the water in the swimming pool results as, under such conditions, some patrons will choose to forego using these fixtures before entering the pool.

In determining the number of fixtures needed it is necessary first to decide upon the maximum rate at which patrons will be admitted to the dressing room sections. In large, heavily patronized bath houses, the rate of arrival may be several hundred an hour. Even the smaller public establishments should afford plumbing accommodations for at least 60 per hour.

Studies recently made of some of the habits of bath house patrons indicated approximately that 14 per cent of the men patrons and 25 per cent of the women patrons use the bath house toilets, and that 36 per cent of the men patrons use the urinals. All patrons should be expected to use the showers. These studies further indicated that the time that should be allowed a person for use of a fixture is as shown in the following table:

	Men	*Women*
Shower	1½ minutes	1½ minutes
Toilet	5 minutes	3 minutes
Urinal	1½ minutes	

Based on these observations, the number of new arrivals at a bath house per hour of each sex that one fixture for each sex will accommodate is as follows:

	Men	*Women*
Shower	40	40
Toilet	86	80
Urinal	111	

Shower rooms should be so located that no bather can go from his dressing room to the pool without passing by, or preferably through, a shower room. The location of showers with reference to dressing rooms should be such that their convenience will be evenly distributed, to avoid congestion of any one shower. All showers should be plainly marked.

The shower water should be comfortably warm, otherwise many bathers will wish to avoid it. Each shower head should be supplied with liquid soap, the containers for which, however, should be of such material or so protected or so located as to prevent their becoming broken and a source of injury to bathers.

Rule VI. *Construction and Appliances Shall be Such as to Reduce to a Practical Minimum Danger of Drowning and of Injury to Bathers from Falls or Collisions.*

Diving into too shallow water frequently results in injury. Depths should be plainly marked at frequent intervals on the sides of the pool. No diving stand or springboard should be placed over water having a depth of less than seven feet.

Obstructions or steps in poorly lighted places should be avoided. Special attention should be given to preventing walks becoming slippery. The best practice in this respect is to build walks of roughened or grooved tile or concrete. Rubber or fibre matting is not favored for sanitary reasons. Walks used by bathers should have ample width to prevent congestion and unnecessary collisions. A width of at least four feet is desirable.

Rule VII. *Dressing Rooms, Hallways, Toilet Rooms, Shower Rooms or Other Places to Which Patrons of a Bath House Have Access, Shall be Kept Clean and Well Ventilated at All Times.*

Rule VIII. *Bathing Suits and Towels When Distributed by the Pool Management to Bathers Shall be Clean and Free From Excessive Bacterial Contamination.*

Rule IX. *The Management of the Pool Shall Have Printed and Posted in Conspicuous Places About the Establishment Notices Briefly Informing Patrons of the Requirements to Which They are Subject in the Maintenance of a Safe and Sanitary Pool.*

Rule X. *A Written Record of All Operations Influencing Sanitation of the Pool Shall be Maintained by the Management and Kept at all Times Available to the State Board of Health.*

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STRUCTURAL SERVICE DEPARTMENT

Measuring Sand for Concrete. (4b1)—(*Circular of U. S. Dept. of Commerce.*) The reliability of concrete construction is likely to be increased, and the cost in some cases reduced, by the application of a newly developed method of measuring sand, which is now being tested at the Bureau of Standards of the Department of Commerce. The method has been termed the "inundation method" and consists of measuring sand in a container which has been partly filled with water before the sand is put in, so that when the sand is in, the water is up to the top and the sand completely soaked.

The volume occupied by a given amount of sand when shoveled into a measuring device varies with the moisture content of the sand; the difference in measured volume between dry and moist sand being usually from 10 to 15 per cent and occasionally running as high as 50 per cent. But it is found that if the sand is completely soaked or "inundated" uniform measuring results can be obtained no matter how much the original moisture content may have varied.

In making concrete the proportions of cement, sand, stone, and water are so chosen as to get the required strength and workability with a minimum of cement, since the cement is the chief factor in the cost. Inaccurate measurement of the sand may result in too large a proportion of sand, in which case the concrete is too weak; or in too small a proportion of sand and hence a concrete too rich in cement.

But this rich concrete is not necessarily stronger than the concrete the contractor intended to make, for the sand has brought in some water in addition to that which is added on purpose; and if this extra water is not allowed for and the amount of water added correspondingly decreased the concrete will contain too much water. It will be sloppy and when set will not be dense enough to give the necessary strength. The contractor, therefore, is merely wasting cement and doing good to no one.

It is hoped that with the inundation method it may be possible to specify concrete by the strength required rather than by arbitrary proportions. The contractor can then find the proportions of the materials he is using that will give the requisite strength and can adhere closely to these proportions. The result will be a concrete whose proportions are more nearly what they were intended to be, and with which a lower factor of safety can be used.

Comment.—The above circular was submitted to Mr. Nathan C. Johnson, of Hool & Johnson, Consulting Engineers, for criticism and comment and the following report was received:—Within the past five years, intrinsically valuable laboratory investigations have been made as to proportioning the materials of concrete for strength. Yet there seems to have been little disposition on the part of either engineers or contractors to go further than to write specifications embodying such scientific proportionings, without provision for enforcement in the field, although it has been known for a long time that the customary volumetric measurement of materials for each batch of concrete was uncontrollably inaccurate.

If, therefore, this investigation of the inundation method of proportioning sand serves no other purpose than to direct attention to the necessity and value of insuring more accurate proportioning in field work it will be well worth any trouble that may have been expended on it.

The inundation method itself seems to be along the line of the principles embodied by me in a patented apparatus for grading sands in the field by means of wet measurement. In the course of these investigations, the measurement of saturated sands by batches was attempted in a small way, but abandoned as being sloppy and unnecessarily cumbersome. Out of these investigations, however, arose the weight proportioning method which has now been in commercial use at the Sherman Island Development of the International Paper Company for some two years past. In this latter method *all* materials composing the batch of concrete including the cement are automatically weighed and the results show a remarkable uniformity in strength and remarkable economy both in cement and in labor.

Practically nothing has as yet been published on weight proportioning, although it was first put into practical use some four years ago in Canada to be followed by a refining of the weighing apparatus at the above mentioned job. But, whether the method of proportioning used be that of inundated sands or weight proportioning, too much emphasis cannot be placed upon the necessity for discarding the present haphazard, wasteful and inefficient volumetric measurement and proceeding to a business-like and economical basis, so that a customer who is buying a structure will have some assurance beyond accidental correctness as to the strength and value of his structure.

It will be now of great interest to observe how effective and how well-liked the inundated sand method will prove in practical work. In accuracy, this method and the weight proportioning method are about alike for the measurement of commercial materials, the error in each case being about 2 per cent. to the requirements of commercial procedures and due to the characteristics of the materials separately and in association.

Road Materials of Kansas. (11)—(*Kansas State Agricultural College. Engineering Experiment Station. Bulletin No. 12, by C. H. Scholer. Pages 51. Size 6" x 9". Illustrated.*) A summary of the results of the tests upon the natural road-building materials of Kansas, as made in the Road Materials Laboratory, is presented in this bulletin. The results were secured with the primary object of determining the suitability of the various materials for use in highway construction, but much of the information relative to sand, gravel and stone is equally valuable to those interested in general concrete construction.

Water-bound roads depend for their stability upon the cementing property which the material develops when moistened with water and then dried. Water-bound roads do not give very good satisfaction in regions where there are long periods of excessive rainfall or long periods of drought, neither will this type of road carry very heavy motor traffic without exceedingly high maintenance costs. The water-bound types of roads are represented by earth, sand-clay, gravel and water-bound macadam. In some cases a water-bound base course is used to take a wearing surface of a different type of material, like brick or some bituminous wearing surface. The water-bound base usually consists of coarse stone which is cemented together by sufficient screenings, stone dust or clay to bind the whole together in a firm, compact mass.

Sand-clay roads are built up either of the natural material which shows such a grading of sand and clay as will give a reasonably hard wearing surface when compacted under traffic, or by the addition of sand to a clay road, or of clay to a sand road. This type of road, while offering a considerable improvement over a road consisting of a sticky clay or a loose, friable sand, is not permanent in its nature and would not justify the hauling of materials over any great distance; consequently, definite specifications are not written covering a sand-clay road. There is no definite line of separation between a sand-clay road and a gravel road. A road which is called a gravel road in some localities would be called a sand-clay road in other localities. In general, if less than 25 per cent of the material is coarser

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than would pass a ¼-nich screen, the material would certainly be classed as a sand-clay road. The specifications of the Kansas Highway Commission demand a much coarser grading than this before a road could be called a gravel road.

Water-bound macadam roads consist of a roadway surface built up of coarse stone to which has been added the proper percentage of stone chips and dust to obtain a smooth, dense surface when compacted under the roller. The stone dust should have a good cementing value when mixed with water and dried, so that the pieces of stone will be firmly bound together and small particles will not be blown away by winds and the action of motor traffic.

Where the stone does not have proper cementing value or the traffic is so heavy that the stone dust is inadequate for a binder, a bitumen consisting of either a refined tar or asphalt of the proper consistency is used. This is applied as a liquid during the construction and penetrates the surface to a considerable depth, producing what is known as the penetration bituminous macadam. Bituminous material prevents the seepage of water into the stone and the base, and also binds the particles together and lessens the grinding and abrasive action of traffic.

A common type of bituminous pavement in cities, which is also adapted to country pavements, is the bituminous concrete wearing surface constructed upon either a cement concrete or water-bound macadam base. In this type of pavement the wearing surface consists of a mixture of fine and coarse sand and gravel or stone, known as the aggregate, mixed with the bituminous cement, which is applied to the roadway hot and rolled to the desired grade.

Cement concrete pavements consist of properly graded aggregate cemented together by Portland cement. Since the surface of the pavement must take the wear and abrasive action of traffic, it is necessary that the aggregate be tough and durable. Due to the difficulty of securing such stone and gravel in Kansas, a large mileage of the roads in the state consists of the so-called two-course pavement, in which the base course is built up of the softer and cheaper aggregate and the wearing course of the harder and usually more expensive material. Where satisfactory material is available, the one-course type of road is usually preferred.

A large amount of brick-surfaced road has been constructed to date with very satisfactory results. The brick road bas been of two types. The monolithic type is constructed by placing the brick on the green concrete surface and grouting between the joints, thus making the brick wearing surface and the concrete base a monolithic slab.

The other type of brick road now being built is the bituminous-filled brick with sand cushion on concrete base. In this latter type of roadway the brick is laid on a thin cushion of sand and the joints between the brick are filled with a proper bituminous filler of either asphalt or refined tar.

To make the test data presented in this bulletin of more practical value, there is included a typical set of specifications governing the various classes of natural materials to be used in highway construction. These specifications agree in general with those of the Kansas Highway Commission and the Bureau of Public Roads.

Following the specifications for each class of material a short non-technical discussion is given covering the more important points in the testing of the materials.

Studies in Wood Decay. (19a31)—(*The School of Forestry of the University of Idaho. Bulletin No.* 1 *by Henry Schmitz and A. S. Daniels. Pages* 11. *Size* 6″ x 9″. *This* bulletin deals with laboratory tests on the relative durability of some of the western coniferous woods, especially those growing in Idaho.

Conclusions.—It would seem that, from the results of the preliminary experiment above discussed, it would be safe to conclude that:

1. White fir and Englemann spruce may not be as susceptible to decay as generally thought.
2. When different genera are considered, the specific gravity of the wood is not necessarily an indication of its durability.
3. Within the same genus, the number of annual rings per inch is not necessarily an indication of the durability of the various species.
4. Certain fungi causing very prevalent and complete heart rots of standing timber may not induce a high rate of decay due to their slow growth.
5. The durability of any wood is not only a question of the inherent properties of the wood itself, but also depends upon the species of fungi prevalent in any particular locality in which the wood is used.
6. Under the conditions of these experiments, western red cedar is the least susceptible to decay, while western white pine is most susceptible and Douglas fir represents approximately the average of durability.
7. Experiments involving the use of the different species of wood under natural conditions are necessary before final conclusions can be drawn.

Sewage and Sewerage of Farm Homes. (29c2)—(*U. S. Dept. of Agriculture. Bureau of Public Roads. Farmers' Bulletin No.* 1,227 *by George M. Warren. Pages* 55. *Size* 6″ x 9″. *Illustrated.*) The aims of this bulletin are to emphasize basic principles of sanitation and to give directions for constructing and operating home sewerage works that shall be simple, serviceable, and safe.

Contents.—Plans and advice. Sewage, sewers, and sewerage defined. Nature and quantity of Sewage. Sewage-borne diseases and their avoidance. How sewage decomposes. Importance of air in treatment of sewage. Practical utilities. Privies. Disinfectants and deodorants. Kitchen sink drainage. Cesspools. Septic tanks, history, purposes, limitations, further treatment of affluent, house sewer, siphons, manhole frame and cover, overflow concrete work, steel reinforcement, sewer from tank to distribution field, distribution field, distribution system, cost data, operation, field data. Grease traps. General Procedure.

Trees for Town and City Streets. (38e2)—(*U. S. Dept. of Agriculture, Bureau of Plant Industry. Farmers' Bulletin No.* 1208 *by F. L. Mulford. Pages* 40. *Size* 6″ *x* 9″. *Illustrated*). Only vigorous trees that will withstand the adverse conditions of a city should be planted on its streets. The habit of growth should be suited to the width of the street, and the foliage should be of a pleasing texture. Trees that bear showy flowers, fruits, or nuts are usually not desirable for street planting. Some trees are also objectionable because their roots penetrate defective sewers; others because they have a tendency to heave sidewalks.

Oaks are probably more generally satisfactory for street planting than any other group of trees, followed closely by elms and sycamores. Palms do not make good shade trees, though sometimes appropriate for formal effects. The silver and ash-leaved maples and the poplars are not often satisfactory.

This bulletin describes the principal trees that are used for street planting in the United States.

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THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

Wren as a Young Man
Frontispiece

Sir Christopher Wren--1632-1723
R. CLIPSTON STURGIS

Four London Churches by Wren
Drawn by KEITH MURRAY

The Autobiography of an Idea
LOUIS H. SULLIVAN

Bath--A Planned City
ROBERT ATKINSON

The Architectural League's Exhibition
LEWIS MUMFORD

"The Job"--Getting It and Executing It
SULLIVAN W. JONES

MARCH
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WREN AS A YOUNG MAN

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JOURNAL OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Volume XI MARCH, 1923 Number 3

Sir Christopher Wren

1632-1723

THE thought of Christopher Wren is so closely and inevitably connected with St. Paul's, and the city churches, that one rarely thinks of his early life, and how little, by inheritance or education, he was prepared for a notable career as an architect.

He was born in 1632, and came of a family of intellectual ability, and of ingrained adherence to the Church and the King: his uncle Matthew, the Bishop of Ely, his father Dean of Windsor; both of these royal appointments. King Charles was beheaded when Christopher Wren was seventeen, and the Restoration occurred when he was twenty-eight.

One finds it difficult to imagine a boy, of brilliant intellectual capabilities, calmly pursuing his studies at Westminster, proceeding at the age of fourteen to Oxford, then a camp and a court as well as a seat of learning, and continuing the pursuit of the classics, mathematics and astronomy, and exercising his ingenuity in various inventions. Surely a strange education for an architect, but still more strange that he should have been able to study at all under such conditions.

While he was at Oxford, indeed almost immediately after his reaching there, King and Court fled, and the Cromwell forces under Fairfax took possession of the city. Protection was promised it, but protection was something that could not be extended to the fine arts and literature any more than it can now be extended to them in Russia. On a small scale England was suffering what Stoddard has rightly called the "revolt against civilization," an unreasoning hatred of everything connected with the Church and the State, and the individuals connected with these institutions, and the arts which these individuals knew and loved. Churches were despoiled and wantonly injured; Cambridge and Oxford were ruined; and records of inestimable value were destroyed. A contemporary writes: "The very same have stopped the mouth of all learning, lest any should be wiser than themselves."[1] Except for the quaint phrasing this might be a news item of today from Russia.

Certainly this was not only an uncongenial atmosphere for study, but one filled with such incitements to adventure that possibly nothing except Wren's very delicate health as a boy prevented him from active participation in these stirring times, and enabled him to pursue his studies.

Even these, from our modern, professional point of view, did not tend toward architecture. When he entered Wadham at fourteen he had already shown brilliant ability in the classics and sciences; Wadham was under some protection as Dr. Wilkins had married Cromwell's sister, and so Wren's education proceeded, and he devoted himself to mathematics, astronomy and various inventions. Here one sees the first significant sign of the quality of mind so necessary in architecture, careful analysis and logical deduction. At twenty-one he was made Fellow of All Souls, and at twenty-five was given the chair of astronomy at Gresham College in London, and later, after the Restoration, he was made Professor of Astronomy at Oxford.

One finds it difficult to imagine this life of a scholar during those turbulent years. To the public disturbance was added all the personal anxiety and grief consequent on the position of his family. Bishop Wren, his uncle, was for eighteen years a prisoner in the Tower, and his father, the Dean, in constant trouble, and all his friends and associates impoverished or persecuted, or both. He continued his studies through the period of the Protector and rejoiced with all England at the Restoration.

It was shortly after this that the King appointed Wren assistant to Sir John Denham, Surveyor Gen-

[1] Quercla Cantabrigiensis.

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eral of Works; and here one has the first suggestion of architectural affairs. Evelyn says of him: "I knew him to be a better poet than architect"; but a biographer says: "He appears to have a most retentive memory as well as a very quick eye and power of apprehension,"[1] certainly valuable traits for an architect, but nothing even suggestive of what we would call professional education.

In 1663 he designed the chapel of Pembroke Hall for his uncle the Bishop, and immediately after began the Sheldonian Theatre at Oxford. This was six years in building and covered the period of the plague and the great fire. Before the fire Wren was engaged in the restoration of old St. Paul's, which, like Peterborough, was constructed with walls and columns faced with cut stone but filled with loose rubble.

In 1663, largely through Wren's influence, the Royal Society was incorporated, and in the preamble written by Wren is another statement significant of Wren's attitude toward the arts. The Society is to take "care as in the first place for Religion so next for the riches and ornaments of our Kingdoms." How nearly all the ornaments of the kingdom had been lost none knew better than Wren.

His life at this time was varied with innumerable occupations in the arts and sciences. The Royal Society's activities covered: food supply and plant diseases; grass and hay; wines; migrations of fish and fowl; epidemics; recirculation of breathed air, speedometers for carriages and hypodermic syringes for experiments with the injection of opium, alcohol and laxatives. An appalling list of his treatises and papers on such subjects is given in the "Parentalia."

Then came, in 1665, his visit to Paris when the Louvre was under construction; a notable preparation for his own great career as architect. He writes of this: "no less than a thousand Hands are constantly employ'd in the Works; some in laying mighty Foundations, some in raising the Stories, Columns, Entablements, &c., with vast Stones, by great and useful Engines; others in Carving, Inlaying of Marbles, Plaistering, Painting, Gilding, &c. Which altogether make a School of Architecture, the best probably, at this Day in Europe." Humor and quaint commonsense are combined in this comment: "The Women, as they make here the Language and Fashions, and meddle with Politicks and Philosophy, so they sway also in Architecture; Works of Filgrand, and little Knacks are in great Vogue; but Building certainly ought to have the Attribute of eternal, and therefore the only Thing uncapable of new Fashions."

Here he met: Architects; "Sig. Cavalier Bernini, Mons. Mansart, Mons. Vaux, Mons. Gobert, Mons. Le Pautre.

Messieurs Anguiere and Sarazin; Sculptors and Statuaries.

Mons. Perrot; famous for Basso-relievos.

Van Ostal, Mr. Arnoldin; Plaisterers, perform the admirable Works at the Louvre.

Mons. Orphelin, Mons. de Tour; Gravers of Medals and Coins.

Painters in History

Mess. Le Brun, Bourdon, Poussin, Ruvine, Champeine, Vilcein, Loyre, Coypel, Picard.

Miniard, in History and Portraits.

Mons. Beaubrun; in Portraits for Women.

Mess. Baptist, Robert, for Flowers.

Mr. Matthews, an English painter, at the Rue-Goblins; works for the Arras-weavers; where Mons. Bruno is the Designer, and an excellent Artist. There I saw Goldsmiths working in Plate admirably well.

Abbè Burdelo works in Enamel.

Mons. de la Quintinye, has most excellent skill in Agriculture, Planting and Gardening."[1] Surely a splendid group of companions.

This then was his preparation for architecture. Truly a well-rounded experience in all the arts and sciences, but absolutely no professional training. In him at least we see that a mind well trained to think clearly, and stored with memories of what is best in literature and the arts and sciences, is the most necessary equipment for an architect; without these all other knowledge is useless.

In 1666 came the great fire. Wren was then thirty-four and was in the midst of the work on the Sheldon theatre and on the restoration of old St. Paul's; the cessation of the latter work, owing to the plague, gave Wren the opportunity to go abroad, as noted above, but before going he had to set many affairs in order for his absence. Among them were the repairs on Trinity College, Oxford, where he had difficulties familiar to us today for he writes, "if I had skill in enchantment to represent the pile, first in one view, then in another, I should certainly make them of my opinion"; neither Guerin nor Eggers were available!

On his return to London after the plague he again took in hand the repairs of St. Paul's, and then came the fire and instead of repairing old St. Paul's, Wren had a city as well as the great Cathedral to rebuild. He was appointed surveyor general and principal architect for rebuilding the whole city; the Cathedral and the fifty-one parochial churches, and other public structures.

All the modern principles of city planning are laid down by Wren at this time; the use of incombustible material; wide streets; main thoroughfares; central points accented; public buildings isolated; dangerous trades located out of town; provision for water-borne traffic; dignified and harmonious design. There was

[1] Wren-Phillimore, p. 128.

[1] Parentalia, pp. 105-106.

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of course much opposition, just as there was in Boston after the fire of '72, and Wren was unable to carry through his plan.

He met with similar difficulties in getting his designs for the Cathedral approved. The Italian Renaissance had established its sway, and yet there were many who had a justifiable love for and pride in the wonderful work of the preceding centuries.

Wren eventually produced a compromise "so rectified, as to reconcile, as near as possible, the Gothick to a better manner of architecture" and having got this approved proceeded to do what he wished. "From that time, the Surveyor resolved to make no more models, or publickly expose his drawings, which (as he had found by experience) did but lose time, and subjected his business many times, to incompetent judges."

From now on Wren's life was one of manifold and almost incredible activities. It would be as unnecessary as tedious to attempt any catalogue of his work. Steadily through the years of Charles II, and James II, and William and Mary, and Anne, he continued the work on St. Paul's,—thirty-five years of strenuous service. His yearly salary was £200, and even this the commissioners attempted to reduce when, toward the close, the work seemed to progress slowly.

In 1710 his son Christopher laid the last stone of the lantern in the presence of his father and Mr. Strong the master builder. The scene is described by Dean Milman in his Annals of S. Paul's: "On one side the picturesque steeple of S. Mary-le-Bow, on the other the exquisite tower of S. Bride's, with all its graceful, gradually diminishing circles, not yet shorn of its full and finely-proportioned height. Beyond, and on all sides, if more dimly seen, yet discernible by his partial eyesight (he might even penetrate to the inimitable interior of S. Stephen's Walbrook), church after church, as far as S. Dunstan's-in-the East, perhaps Greenwich, may have been vaguely made out in the remote distance; and all this one man had been permitted to conceive and execute;—a man not originally destined or educated for an architect, but compelled as it were by the public necessities to assume the office, and so to fulfill it, as to stand on a level with the most consummate masters of the art in Europe, and to take his stand on an eminence which his English successors almost despair of attaining."

Queen Anne died in 1714, and George the German King came in. The Commissioners prevailed upon George I to dismiss Wren. Like all great men he took this great injustice with quiet dignity, continued his other work and lived quietly until 1723, when he died peacefully in his chair after dinner, a beautiful ending to a wonderful life.

R. CLIPSTON STURGIS.

The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER X.

Farewell to Boston

During the two years Louis dwelt in the home of the John A. Tompsons, in Wakefield, he was very busy in thought and deed. A certain materialistic clarification of intellect was proceeding within a new light which enabled him to see things superficially and to share in that state of illusion concerning realities which was the common property of the educated and refined. The dreams of childhood—that form of mystical illumination which enables the little one to see that upon which the eyes of its elders seldom focus—were thereby eclipsed; and, in one less romantic and willful by nature, would have vanished permanently from active consciousness in the usual and customary way. For this very period of imaginative childhood is by most adults relegated to obscurity; and if referred to at all, dismissed as inconsequential and "childish." But childhood, thus banished, remains sequestered within us unchanged. It may be obscured by an overlay of our sophistication, our pride and our disdain; we, the while, unaware that to disdain our fertile childhood is precisely equivalent to disdain of our maturity. Hence the illusion that we are no longer the child; the delusion that we are any other than grown children. For where lives the man who does not firmly believe in magic and in fairy tales; who does not worship something with a child-like faith, who does not dream his dreams, however sordid or destructive, however high, however nobly altruistic? And Louis thus dared to disdain and eclipse his own childhood. For was he not rising now like a toy balloon into the rarefied atmosphere of intellect? And what had intellect to do with childhood? Intellect, indeed, was the cachet of manhood, in whose borderland he was now wandering, making ready to cross the frontier, some day to enter what men called "real life." This mood began when Louis was well settled in the Massachusetts Institute of Technology,—familiarly know as "Tech"—pursuing his special course in Architecture.

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To John A. Tompson's tutelage Louis owed many pirouettes, particularly some knowledge and some understanding and misunderstanding of the great oratorios. Under the sway of their beauty, the sensuous allure of the sacred music, Louis would return again and again to his childhood's sensibilities and faith. But there came a telling change when he had acquired from John A. some knowledge of their structure, some definition and labelling of the wondrous chords and modulations that had exalted him to an agony, and had borne him along in a great resplendent stream of song, which became a stream of wonder upon wonder, that men had made these things—had made them all out of their heads. And in this maze of hero-worship he had dreamed again and again his natal dream of power, of that power within man of which no one had told him; for he had heard only of the power of God. And in this special dream he had in truth and noble faith seen man as magician bringing forth from nothingness, from depths of silence of a huge world of sleep, as though, by waving of some unknown unseen wand, he had evoked this sublime, this amazing fabric; which equally would pass away and vanish with the sound of the last note, even as the bare thought of such passing left a haunt within.

It was then John A. Tompson, he of the precise, the articulate, the exact, the meticulous, the hard intelligence—who bit by bit led Louis on. He dispelled for him the music-world of enchantment wherein simple faith had seen the true substance and value of results; he substituting therefore a world of fact and technique. It was all subtly done, bit by bit. The first effect of this was to arouse in Louis a new interest—an interest in technique—in the how. John A. Tompson, himself, indeed loved these oratorios, with a fanaticism peculiarly his own, somewhat as though he were impersonating a machinist's vise. He clung to them indeed as though imagining he was a shipwrecked mariner and they a saving raft; yet he was quiet and gleeful amid the dangers of the open sea of sound.

He used to grit his teeth when he was pleased and he frequently was pleased when on shore he was giving Louis a hypodermic of technique. Louis' utter innocence of music's artful structure, form and content was John A.'s joy, his secret delight. Thus Louis learned, concerning chords, that the one in particular that had overwhelmed him with a sort of gorgeous sorrow was called the dominant seventh, and another that seemed ëerie and that gave him a peculiar nervous thrill and chill was named the augmented fifth. Louis had been very curious concerning these two chords; and furthermore he was insistent to know why certain parts of the music filled him with joyful, inspirating and triumphant pleasure, while other parts made him sad even to melancholy and despair. He was told that these opposites were known as the major and the minor modes and he was much concerned too, regarding what he later learned were the diatonic and the chromatic scales—and further concerning that strange swaying and turning of surging harmonies:—that it was a movement technically known as a modulation from one key into another. Now Louis became avariciously curious concerning all the remaining technicalities and names, and amassed them as one might collect precious curios. It seemed to him that in giving names to all these sounds and movements he had heard and felt, was much like giving names to the flowers and shrubs and trees he had loved so well. But this difference he marked: that while his plants and trees in spite of names lived on in mystery, and slept their winter sleep, to be again awakened by the call of Spring, giving names to music had dispelled the mystery, and had caused its sweet enchantments one by one to pass in defile into a group of words, which might mean much or nothing according as one first had felt the living power without their aid. That the danger was that music might become enslaved to the intellect and might nevermore be free. For as he began to see the full bulk of the mechanics, the mechanisms, and the tyranny of rules he became alarmed that music might die. For he could not yet see that here also, spite of names, the mystery, the enchantment would live on even though it be in winter sleep, and, at imagination's rousing call, again and again would renew its onward flow of rejuvenescence, and thus retain its magic power to stir the heart.

Thus Louis learned a modicum concerning music. A very trifle, to be sure. For he lived in Puritan New England where large utterances of joy and faith in the Earth, of faith in Life, of faith in Man, were few and far between.

Nevertheless he had now definitely entered the cultural world, within which were the blest, without which were the damned: The world of intellectual dissection, surgery and therapeutics; the world of *theory,* of conjecture, of analysis and synthesis; the world of Idea, of Abstraction, of tenuity, of minute distinctions and nuances, filled with its specific belief in magic, its own superstitions, its aberrations, its taboos, denials and negations, and yet equally a world of vast horizons, of eagle-eyed range, of immense powers of ethereal flight to the far and the near, seeking the stars to know them, seeking the most minute to know it, searching the invisible to inquire what may be there, ever roaming, ever inquiring, inquisitive, acquisitive, accumulating a vast fund of the how and why, wherewith to record, to construct, to upbuild; and yet, withal, in giant service to the willful power of Imagination without whose vitalizing spark it could not stir; while in the fullness of its strength it can no more than carry on the heart's desire.

The living relationship of Intellect and Instinct has far too long been overlooked. For Intellect is recent, and neuter, and unstable in itself, while Instinct is

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primordial and procreant: It is a power so vast, so fathomless, so omnipresent, that we ignore it: for it is the vast power of all time that sleeps and dreams: it is that power within whose dream we dream:—even as in our practical aspect, our hard headed, cold-blooded, shrewd, calculating suspicious caution we are most obviously dreamers of turbid dreams, for we have pinned our faith to Intellect; we gaze in lethal adoration upon a reed shaken by the wind.

About this time flamboyantly arose Patrick Gilmore with his band and his World Jubilee. Then Louis discovered there had been in existence music quite other than oratorio, hymn, sentimental songs of the hoi polloi and burnt-cork minstrels, or the classic grindings of the hurdy-gurdy.

He found it refreshing and gay, melodious above all. When he heard full bosomed Parepdela sing in *coloratura,* he could scarcely keep his seat; never was such soprano heard in oratorio, and when the elder Strauss like a little he-wren mounted the conductor's stand, violin in hand, and dancing, led the orchestra through the lively cadence of the Blue Danube, Louis thought him the biggest little man on earth; and when it came to the "sextette" from Lucia, Louis roared his approval and listened just as eagerly to the inevitable encore. And the "Anvil Chorus" oh, the Anvil Chorus! And so on, day by day, night by night from glorious beginning to glorious end. He had heard the finest voices in the world, great orchestral out-pourings, immense choruses. But he was, above all, amazed at the power of the single voice, when trained to perfection of control. He felt again with delight its unique quality, its range, its fluency, its flexibility, its emotional gamut, its direct personal intimate appeal; he felt a soul, a being, in the single voice, the heartful, the perfect instrument whereby to interpret and convey every state of feeling and of thought; and he was glad indeed.

This blossoming of music exotic to all he had known hitherto, made him glad, made him gay, relaxed his sobriety, refreshed his outlook on life. It filled him with a new consciousness of beauty; of a beauty that seemed free and debonair, like a swan in the pool, like rain on the roof, like roses on a garden wall, with groves, and a turquoise sky; like bold and joyous horses, saying ha! ha!—and like unto furtive gentle creatures of wood and stream, and like curling breakers when close by, or the tossing of trees in a hearty gale.

* * *

More excitement: Came the great conflagration of November 9th and 10th, 1872. Louis saw this terror from its trifling beginning—a small flame curling from the wooden cornice of a building on the north side of Summer street. There were perhaps a half dozen persons present at the time. The street was night-still. It was early. No fire engine came. Horses were sick, "epizoötic" was raging. Engines must be drawn by hand. All was quiet as the small flame grew into a whorl and sparks shot upward from a glow behind; the windows became lighted from within. A few more people gathered, but no engine came. Then began a gentle purring roar. The few became a crowd but no engine came. Glass crackled and crashed, flames burst forth madly from all windows, and the lambent dark flames behind them soared high, casting multitudes of sparks and embers abroad, as they cracked and wheezed. The roof fell, the floors collapsed. A hand-drawn engine came, but too late. The front wall tottered, swayed and crumbled to the pavement, exposing to view a roaring furnace. It was too late. The city seemed doomed. With this prelude began the great historic fire. Louis followed its ravages all night long. It was a magnificent but terrible pageant of wrathful fire before whose onslaught row after row of regimented buildings melted away. As far as the eye could reach all was consuming fire, and dire devastation; an inferno, terrible and wonderful to look upon. Louis went here and there, retreating as the holocaust advanced ever northward. All the city seemed doomed, but it was not. All hope seemed lost, but it was not. The end came at last; courageous, weary and worn men triumphed, after agonies of hope and despair. What a terror, what a holocaust, what ruin of men, what downfall, what instant collapses of fortune, what a heavy load to meet and bear, what a trial and a test. Yet a proud spirit, the eternal spirit of man rose to the height of the call of calamity. The city was rebuilt. For Louis it was a terrifying experience: so sudden, so overwhelming, so fatalistic, so cruel.

When the ruins cooled Louis found it difficult to locate the streets. They seemed labyrinthine, lost in a maze of wreckage and debris; bit by bit he found his strange way about. At night he was put on guard duty as a member of the M. I. T. battalion. Clad in full uniform with Springfield rifle and fixed bayonet at right shoulder, he walked his beat from Tremont street to Pleasant street as far as opposite the tower of the Providence Depot, and return. For hours in the night, all alone, he walked this beat and saw not a soul. At first it was novel and exciting, but as nothing happened, he became weary from loss of sleep, bored by the monotonous to and fro, and glad to be relieved. He had two nights of this. Then came a show of order throughout the city and the great work of clearing and upbuilding, in due time began. He returned to his studies in Tech.

He had liked military drill, he had had two years of it at "High." He liked the exercise, the sense of order and precision, the neat evolutions and the compact team work of the many cadets. But he considered it as discipline in play. He had no thought of war other than to loath it, as the wild dream of madmen who stood safely behind the veil. For Louis, long since had begun to sense and to discern what lay behind

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the veil of appearances. Social strata had become visible and clear, as also that hypocrisy of caste and cant and "eminence" against which his mother, time and time again, had spoken so clearly, so vehemently in anger and contempt. Her ideal she averred was a righteous man, sound of head, clean of heart, a truthful man too natural to lie or to evade. These outbursts of his mother sank deep into the being of her son; and in looking back adown the years, he has reason justly to appraise in reverence and love a nature so transparent, so pure, so vehement, so sound, so filled with a yearning for the joy of life, so innocent-ecstatic in contemplation of beauty anywhere, as was that of the one who bore him forth, truly in fidelity, to be and to remain life of her life. Thus the curtain of memory ever lifts and falls and lifts again, on one to whom this prayer is addressed. If Louis is not his mother's spirit in the flesh, then words fail, and memory is vain.

* * *

Upon his entry into "Tech" Louis felt a marked change in atmosphere from that of "High." It was now an atmosphere of *laissez faire,* of a new sort of freedom. Tuition paid, the rest he found was up to him. There was no special regularity of hours or of attendance. He might exert himself or not as he saw fit. He might learn as much or little as he chose. There was no discipline further than this: that one was expected to conduct himself with decorum and with a reasonable degree of application. It was broadly assumed that the student was there in his own interest and would apply himself accordingly.

The school was housed in Rogers Hall, adjoining, on the south, the Museum of Natural History, at Boylston and Berkeley streets. The quarters were pleasant and airy, the long drafting-room or atelier facing broadside to the south. There was also a Library and a Lecture Room. At this date the school was comparatively new, having been opened in 1865. Louis therefore was among its early students. This one building housed the Institute entire.

The School of Architecture was presided over by Professor William R. Ware, of the Boston architectural firm of Ware and Van Brunt. Among the important works of this firm were, the Memorial Building at Harvard, and the large Railway Station at Worcester. Professor Ware was a gentleman of the old school; a bachelor; of good height, slender, bearded in the English fashion, and turning gray. He had his small affectations, harmless enough. His voice was somewhat husky, his polite bearing impeccable and kind. He had a precious sense of quiet humor; and common sense seemed to have a strong hold on him. Withal he was worthy of personal respect and affection. His attainments were moderate in scope and soundly cultural as of the day, his judgments were clear and just. The words, amiability and quiet common sense—sum up his personality; he was not imaginative enough to be ardent.

His assistant, Eugene Letang, was a *diplomé* of the Ecole National des Beaux Arts, Paris, France, and specifically an *ancien* of the *atelier libre* of Emil Vaudremer, *architecte,* a winner of the Grand Prix de Rome.

This man Letang was sallow earnestness itself; long and lean of face with a scanty student beard. Let us say he was thirty. He had no professorial air; he was a student escaped from the Beaux Arts, a transplanted *massier* as it were of the *atelier,* where the *anciens,* the older students, help the *nouveaux* the younger set along. He was admirably patient, and seemed to believe in the real value of the work he so candidly was doing; and at times he would say: "From discussion comes the light." So here was a student absorbed in teaching students; while Professor Ware conserved the wordly pose and poise of the cultural Boston of the time,—creating and maintaining thus an air of the legitimate and approved.

There were perhaps not over thirty students, all told, in the architectural course, and Louis found them agreeable companions. Some of them were University graduates and therefore older than he and much more worldly wise, in their outlook. And there were as well a few advanced students. A few were there as rich men's sons, to whom the architectural profession seemed to have advantages of tone. Arthur Roche was one of these. A few were there as poor men's sons. They worked hard to become bread-winners. Among these was William Roche Ware, nephew of the Professor, and George Ferris of Milwaukee. What certain others were there for, including Louis, is a somewhat dubious surmise. But Louis began to like companionship for the first time. Hitherto he had been entirely neglectful of his school comrades, caring neither who nor what they were as persons. Here, however, there was space, freedom of movement and continued personal informal intercourse. So Louis began to put on a bit of swagger, to wear smart clothes, to shave away the down and to agitate a propaganda for inch-long side whiskers. A photograph of that date shows him as a clean-cut young man, with a rather intelligent expression, a heavy mop of black hair neatly parted for the occasion, a pearl stud set in immaculate white, and a suit up to the minute in material and cut. But inasmuch as in this photograph he neither moves nor speaks, we are free to infer that, being young, there may be either something or nothing of real value there. Louis, however, knew more about that picture than the picture knew or could convey of him. For memory, reviving, he knew all his past; and this does not in the least appear in the picture, nor what was of abiding significance in that past. So Louis posed a bit, sensing the reflected prestige and social value of a student at "Tech." But he did not altogether make a nuisance of

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himself, but a complete nuisance, for he was toppy rather than vain.

Louis had gone at his studies faithfully enough. He learned not only to draw but to draw very well. He traced the "Five Orders of Architecture" in a manner quite resembling copper plate, and he learned about diameters, modules, minutes, entablatures, columns, pediments and so forth and so forth, with the associated minute measurements and copious vocabulary, all of which items he supposed at the time, were intended to be received in unquestioning faith, as eternal verities. And he was told that these "Orders" were "Classic," which implied an arrival at the goal of Platonic perfection of idea.

But Louis by nature was not given to that kind of faith. His faith ever lay in the oft-seen creative power and glory of man. His faith lay indeed in freedom. The song of Spring was the song in his heart. These rigid "Orders" seemed to say, "The book is closed; Art shall die." Then it occurred to him: Why five orders? Why not one? Each of the five plainly tells a different story. Which one of them shall be sacrosanct? And if one be sacrosanct the remaining four become invalid. Now it would appear by the testimony of the world of scholarship and learning that the Greek is sacrosanct; and of all the Greek, the Parthenon is super-sacrosanct. Therefore there was and has been in all time but the unique Parthenon; all else is invalid: Art is dead. And it should not be forgot that the unique Parthenon was builded by the ancient Greeks, by living men. It was physically upreared in an exact spot on the Acropolis at Athens, a timely demonstration of Greek thought concerning ideas.

Now after centuries of ruin the Parthenon is dead; therefore all is invalid, Art is dead. This line of reasoning amused Louis quaintly. It seemed to him romantic; much like a fairy tale. And this is all that he gatherered from the "Orders"—that they really were fairy tales of the long ago, now by the learned, made rigid, mechanical and inane in the books he was pursuing, wherein they were stultified, for lack of common sense and human feeling. Hence he spent much time in the library, looking at pictures of buildings of the past that did not have pediments and columns. He found quite a few and became acquainted with "styles" and learned that styles were not considered sacrosanct, but merely human. That there was a difference in the intellectual and therefore social scale, between a style and an Order. Professor Ware did not press matters thus; he did not go so far as to apotheosize the cognoscenti and the intelligentsia. He himself was quite human and in a measure detached. The misfortune was that in his lectures on the history of architecture he never looked his pupils in the eye, but by preference addressed an audience in his beard, in a low and confidential tone, ignoring a game of spitball underway. Yet a word or a phrase reached the open now and then concerning styles, construction and so forth, and at times he went to the blackboard and drew this and that very neatly. Louis picked up something of all this melange, but his thought was mostly on the tower of the New Brattle Street Church, conceived and brought to light by the mighty Richardson, undoubtedly for Louis' special delight; for was not here a fairy tale indeed! Meanwhile there were *projects* to be done and Eugene Letang surely earned his pay in the sweat of his brow. Prof. William Ware did the higher criticism and frequently announced he had no use for "gim-crack" roofs.

Thus passed the days, the weeks, the months in a sort of misch-masch of architectural theology, and Louis came to see that it was not upon the spirit but upon the word that stress was laid, even as though it were a weighty matter of sprinkling or immersion. He began to feel a vacancy in himself, the need of a something more nutritious to the mind than a play of marionettes. He felt the need and the lack of a red-blooded explanation, of a valiant idea that should bring life to arouse this cemetery of orders and of styles, or at least to bring about a *danse macabre* to explain why the occupants had lived and died.

Moreover, as time passed he began to discover that this school was but a pale reflection of the Ecole des Beaux Arts; and he thought it high time that he go to headquarters to learn if what was preached *there* as a gospel, really signified glad tidings. For Louis felt in his heart that what he had learned at "Tech" was after all but a polite introduction to the architectural Art: as much as to say, "I am glad to meet you." He reflected with a sort of despair that neither immaculate Professor Ware nor sweaty, sallow, earnest Eugene Letang was a Moses Woolson. Ah, if but Moses Woolson had been versed in the story of architecture as he was in that of English Literature, and had held the professorship; ah, what a glowing flame would have come forth to cast its radiance like a rising sun and illuminate the past. But why dream such foolish dreams?

Louis made up his mind that he would leave "Tech" at the end of the school year, for he could see no future there. He was progressive, aggressive and impatient. He wished to live in the stream of life. He wished to be impelled by the power of the living. He knew what he wanted very well. It behooved him he thought, before going to the Beaux Arts, to see what architecture might be like in practice. He thought it advisable to spend a year in the office of some architect of standing, that he might see concrete preparations and results: how, in effect, an actual building was brought about. So he said a warm good-by to Boston, to Wakefield (to his dear South Reading of the past), to all his friends, and made straightway for Philadelphia where he was to find his uncle and his grandpa. On the way he stopped over in New York City for a

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few days. Richard M. Hunt was the architectural lion there, and the dean of the profession. Louis called upon him in his den, told him his plans and was patted on the back and encouraged as an enterprising youngster. He listened to the mighty man's tale of his life in Paris with Lefuel, and was then turned over to an assistant named Stratton, a recent arrival from the Êcole to whom he repeated the tale of his projects.

Friend Stratton was most amiable in greeting, and gave Louis much time, receiving him in the fraternal spirit of an older student toward a younger. He sketched the life in Paris and the School—and in closing asked Louis to keep in touch with him and be sure to call on him on the way abroad. Thus Louis, proud and inflated, went on his joyous way to face the world. He arrived in Philadelphia in due time as they say. He had noticed in New York a sharper form of speech, an increase of energetic action over that he had left behind, and also a rougher and more arrogant type of life. Stratton had mentioned that Louis, on his arrival in Philadelphia, should look up the firm of Furness and Hewitt, architects, and try to find a place with them. But this was not Louis' way of doing. Once settled down in the large quiet village, he began to roam the streets, looking quizzically at buildings as he wandered. On the south side of South Broad street a residence, almost completed, caught his eye like a flower by the roadside. He approached, examined it with curious care, without and within. Here was something fresh and fair to him, a human note, as though someone were talking. He inquired as to the architect and was told: Furness and Hewitt. Now, he saw plainly enough that this was not the work of two men but of one, for he had an instinctive sense of physiognomy, and all buildings thus made their direct appeal to him: pleasant or unpleasant.

He made up his mind that next day he would enter the employ of said Furness and Hewitt, they to have no voice in the matter, for his mind was made up. So next day he presented himself to Frank Furness and informed him he had come to enter his employ. Frank Furness was a curious character. He affected the English in fashion. He wore loud plaids, and a scowl, and from his face depended fan-like a marvelous red beard, beautiful in tone with each separate hair delicately crinkled from beginning to end. Moreover, his face was snarled and homely as an English bulldog's. Louis' eyes were riveted, in infatuation, to this beard, as he listened to a string of oaths yards long. For it seems that after he had delivered his initial fiat, Furness looked at him half blankly, half enraged, as at another kind of dog that had slipped in through the door. His first question had been as to Louis' experience, to which Louis replied, modestly enough, that he had just come from the Massachusetts Institute of Technology in Boston. This answer was the detonator that set off the mine which blew up in fragments all the schools in the land and scattered the professors headless and limbless, to the four quarters of earth and hell. Louis, he said was a fool. He said Louis was an idiot to have wasted his time in a place where one was filled with sawdust, like a doll; and became a prig, a snob, and an ass.

As the smoke blew away he said: "Of course you don't know anything and are full of damnable conceit."

Louis agreed to the ignorance; demurred as to conceit; and added that he belonged to that rare class who were capable of learning, and desired to learn. This answer mollified the dog-man, and he seemed intrigued that Louis stared at him so pertinaciously. At last he asked Louis what in hell had brought him there, anyway? This was the opening for which Louis had sagaciously been waiting through the storm. He told Frank Furness all about his unaided discovery of the dwelling on Broad street, how he had followed, so to speak from the nugget to the solid vein; that here he was and here he would remain, he had made up his mind as to that, and he looked Frank Furness in the eye. Then he sang a song of praise like a youthful bard of old to his liege lord, steering clear of too gross adulation, placing all on a high plane of accomplishment. It was here, Louis said, one could really learn. Frank Furness admitted as true a part of what Louis had said, waving the rest away as one pleasantly overpraised, and said: only the Greeks knew how to build.

"Of course, you don't want any pay" he said. To which Louis replied that ten dollars a week would be a necessary honorarium. "All right," said he of the glorious beard, with something scraggy on his face, that might have been a smile. "Come tomorrow morning for a trial, but I prophesy you won't outlast a week." So Louis came. At the end of that week Furness said, "You may stay another week," and at the end of that week Furness said, "You may stay as long as you like." Oh what a joy! Louis' first task was to retrace a set of plans complete for a Savings Institution to be erected on Chestnut street. This he did so systematically and in so short a time that he won his spurs at once. In doing this work he was but carrying out the impulsion of Moses Woolson's training in accuracy and speed; and Moses Woolson followed him thereafter everywhere.

The other member of the firm was George Hewitt, a slender, moustached person, pale and reserved, who seldom relaxed from pose. It was he who did the Victorian Gothic in its pantalettes, when a church building or something of that sort was on the boards. With precision, as though he held his elements by pincers, he worked out these decorous sublimities of inanity, as per the English current magazines and other English sources. He was a clean draftsman, and believed implicitly that all that was good was English.

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Louis regarded him with admiration as a draftsman, and with mild contempt as a man who kept his nose in books. Frank Furness "made buildings out of his head." That suited Louis better. And Furness as a freehand draftsman was extraordinary. He had Louis hypnotized, especially when he drew and swore at the same time.

But George Hewitt had a younger brother named John, and John was foreman of the shop. He was a husky smoothed faced fellow under thirty. Every feature in his clean cut, rather elongated face, bespoke intelligence and kindness, in fact a big heart. He had taken a fancy to Louis from the start. He was the "practical man" and Louis ran to him for advice whenever he found himself in a tight place. John was patience itself and made everything clear with dainty sketches and explanatory notes. These drawing were beautiful and Louis frankly told him so. He begged John to teach him "touch" and how to make such sketches, and especially how to "indicate" so crisply. This John did. In fact, it was not long before he had made of Louis a draftsman of the upper Crust, and Louis' heart went out to lovable John in sheer gratitude.

In looking back upon that time Louis Sullivan gives thanks that it was his great good fortune to have made his entry into the practical world in an office where standards were so high—where talent was so manifestly taken for granted, and the atmosphere, the free and easy one of a true work shop savoring of the guild where craftsmanship was paramount and personal. And again he goes back to the day of Moses Woolson and his discipline. We may say in truth that Moses Woolson put him there. For without that elastic alertness and courage, that grimness Moses Woolson imparted, it is sure that Louis would not have broken through the barrier of contempt in that first interview.

Louis worked very hard day and night. At first he had lived with his grandpa and uncle in West Philadelphia. But soon he decided to move into town to be nearer the office and to be freer to study into the small hours. His relaxation on Sundays was Fairmount Park and a walk up the rough road of the Wissahickon valley, a narrow beauteous wilderness such as Louis had never seen, and with which he was completely charmed. He loved the solitude through which the Wissahickon purled its way. The companionship of the wild was soothing to him. Its isolation gave him comfort and surcease. Thus passed a hot summer.

* * *

The offices of Furness and Hewitt occupied the entire top floor of a new, brick, four-story building at the northeast corner of Third street and Chestnut.

One day in September, it was very warm, all windows were open for air, the force was wearily at work. As they worked, there came through the open windows a murmur, barely noticed at first; then this murmur became a roar, with wild shouting. Then: all to the windows. Louis saw, far below, not pavements and sidewalks, but a solid black mass of frantic men, crowded, jammed from wall to wall. The offices of Jay Cooke & Co., were but a short distance south on Third street. Word came up that Jay Cooke & Company had closed its doors. Louis saw it all, as he could see down both Chestnut street and Third. Chestnut westward from Third also was a solid mass. The run on the banks had begun. The devastating panic of 1873 was on, in its mad career. Louis was shocked, appalled at the sight. He was too young, too inexperienced, to understand what it really meant, even when told it was a panic in finance, that credit had crumbled to dust, that men were ruined, and insane with despair, that this panic would spread like wildfire over the land leaving ruin in its wake everywhere. And still he could not understand what had brought it about.

The office held steady for a while, there was work on hand which had progressed so far that it must be completed.

One day in November Frank Furness said: "Sullivan, I'm sorry, the jig is up. There'll be no more building. The office now is running dry. You've done well, mighty well. I like you. I wish you might stay. But as you were the last to come it is only just you should be first to go." With that he slipped a bill into Louis' hand, and wished him farewell and better days.

Within a week Louis took the Pennsylvania train for Chicago. He saw the great valley of the Susquehanna; surmounted the huge Alleghenies; passed along the great descending Horse-Shoe Curve, the marvel of the day; and then night fell. He was aroused and broadened by what he had seen. It was all new. His map was enlarged. So was his breadth of view; his inner wealth.

Next morning he was utterly amazed and bewildered at the sight of the prairies of northern Indiana. They were startling in novelty. How could such things be! Stretching like a floor to the far horizon;—not a tree except by a watercourse or on a solitary "island." It was amazing. Here was power—power greater than the mountains. Soon Louis caught glimpses of a great lake, spreading also like a floor to the far horizon, superbly beautiful in color, under a lucent sky. Here again was power, naked power, naked as the prairies, greater than the mountains. And over all spanned the dome of the sky, resting on the rim of the horizon far away on all sides, eternally calm overhead, holding an atmosphere pellucid and serene. And here again was a power, a vast open power, a power greater than the tiny mountains. Here, in full view, was the light of the world, companion of the earth, a power greater

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than the lake and the prairie below, but not greater than man in his power: So Louis thought.

The train neared the City; it broke into the city, it plowed its way through miles of shanties disheartening and dirty gray. It reached its terminal at an open shed. Louis tramped the platform, stopped, looked toward the city, ruins around him; looked at the sky; and as one alone, stamped his foot, raised his hand and cried in full voice:

THIS IS THE PLACE FOR ME!

That day was the day before Thanksgiving in the year Eighteen Hundred Seventy-three.

(To be Continued)

Architects Advisory Council of the City of Washington[1]

STATEMENT OF ORIGIN

Upon the initiative of the Washington Chapter of the American Institute of Architects, a committee was organized in July, 1922, to determine ways and means of assisting in the development and beautification of the City of Washington. Subsequently, by authorization of the chapter, this committee was enlarged to ten members and reformed as a non-organization body designated "The Architects Advisory Council," with which non-Institute members could be invited to affiliate. At a meeting of this Council nucleus on 29 September, five such additional members were provided for and a division of the work among sub-committees authorized.

SCOPE

The announced program of the Council covers two distinct fields of activity—first, a technical restudy of the further extension of the Highway system to bring it up to the standard of, and in accord with, the Park system; and second, architectural supervision of all private building development in addition to the existing engineering supervision. This program has received the endorsement of the American Institute of Architects, of the Fine Arts Commission, of the Commissioners of the District of Columbia, of the Office of Public Buildings and Grounds and of the Zoning Commission.

ORGANIZATION

To accomplish the work outlined above, a tentative scheme of organization is issued. This organization will be subject to review and change when definite rules and regulations based on experience have been formulated. The organization provides for an Executive Committee and three sub-committees, one for coordination of street and park elements and two for building development.

EXECUTIVE COMMITTEE

This committee will consist of the Chairman of the Council and Chairmen of the three sub-committees, two of whom will act as Secretary and Treasurer. It will develop organization and working regulations for the Council as a whole, and for its sub-committees, arranging in detail for Council elections and overlapping terms of service. It will coordinate the work and the publicity of the sub-committees and will establish working regulations with other organizations. It will study questions of legal authorizations and financial support.

SUB-COMMITTEE ON WASHINGTON PLAN

The function of this committee will be to study the application of the Highway Plan to existing conditions; to have expert technical service engaged to restudy the plan as a whole or details as needed; to coordinate diverse elements and interest in Highway and Park plans.

SUB-COMMITTEES ON BUILDINGS

The work on building development breaks up into two distinct phases—one supervisory, along the lines of the Fine Arts Commission, to prevent the erection of poorly designed buildings in a form detrimental to the appearance of the city; and the other educational, to create on the part of the public discriminating taste and a demand for better buildings; to arouse on the part of the real estate and banking interests a sense of civic responsibility and of financial security in better building; and to obtain on the part of the architects and builders cooperative effort in furthering this program.

The first of these committees is designated the *Committee of Plan Review*. Its function will be specifically, to devise ways and means of bringing *all private* work under some supervision even if not as *detailed* as that which is now requested by the Commissioners on major projects; to obtain submissions for review at preliminary stage instead of in working drawings; to devise a system of jurors or advisors varying with the project to be reviewed to meet personal equations and special situations and to prevent excessive demands on Chapter members; to prevent abuse of the consultation privilege; to obtain backing of public opinion; to expedite action on plans.

The second committee is designated the *Committee on Design of Buildings*. Its functions will be in general as indicated above with detailed elaboration in each direction. It will maintain, through interlocking membership, contact with the Chapter committees on Building Regulations and on Zoning and will cooperate with both of these committees in obtaining desirable changes of regulations.

HORACE W. PEASLEE, *Chairman*,
Architects Advisory Council, Washington, D. C.

[1] NOTE: The organization described in this article has actually been functioning in Washington for several months. It has already participated in the review of several important projects, and we are informed that as many as fifty building designs are now submitted to it weekly by private builders.

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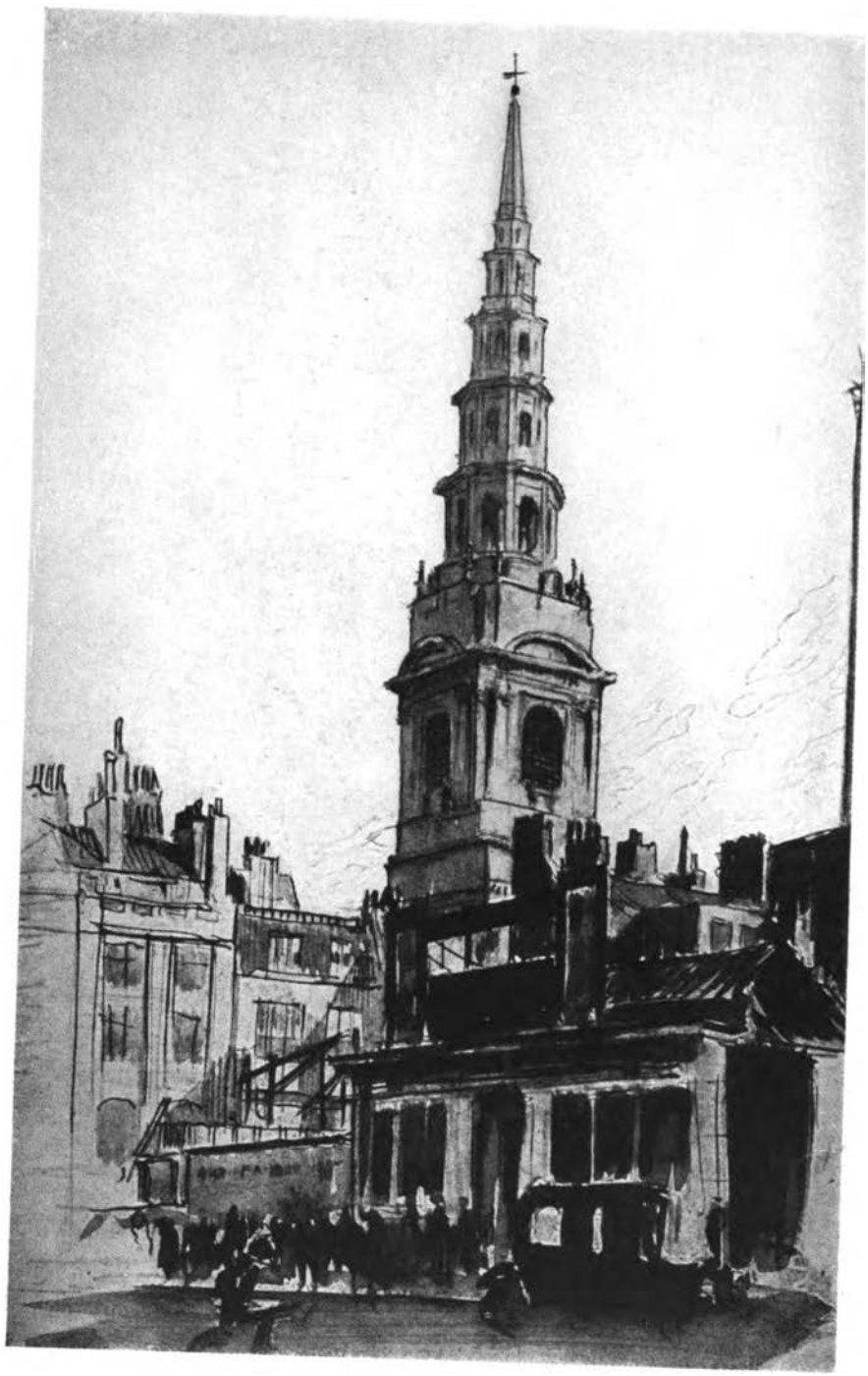
Four London Churches by Wren

Drawn by KEITH MURRAY

Courtesy of Architecture (London)

ST. STEPHEN WALBROOK

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St. Bride Fleet Street

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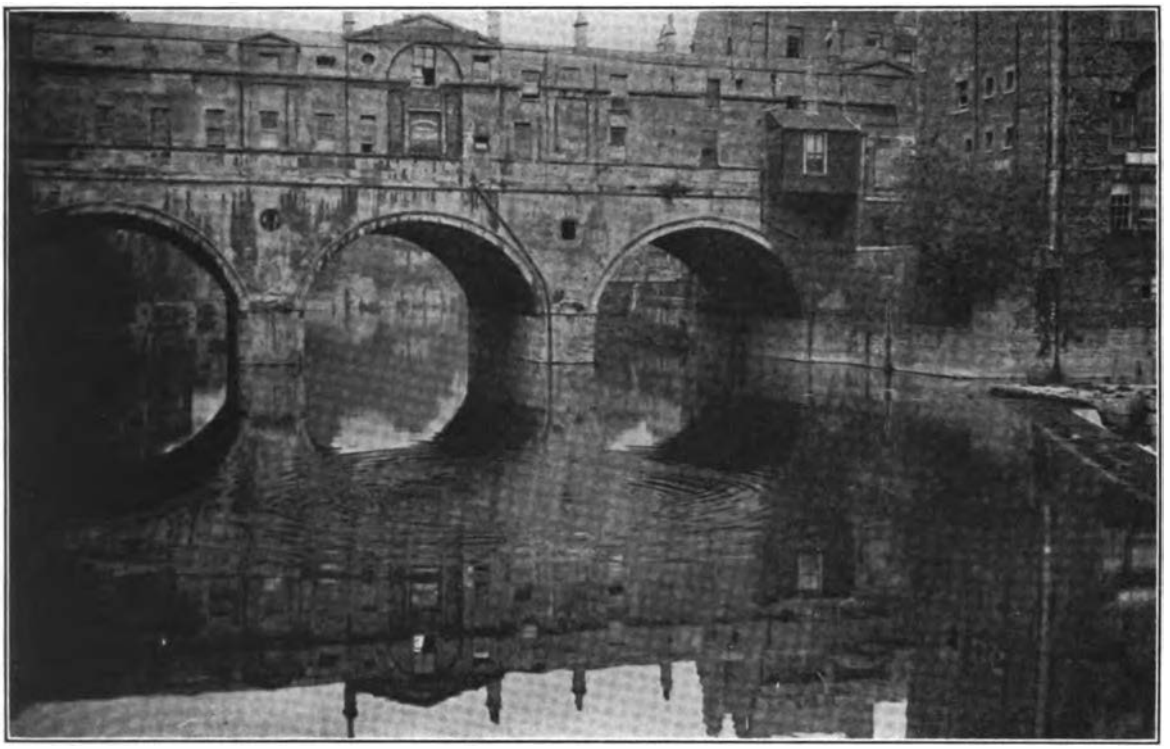
St. Magnos London Bridge

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ST. VEDAST FOSTER

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PULTNEY BRIDGE—BATH

Robert Adam, *Architect*

Bath

A Planned City

By ROBERT ATKINSON, F.R.I.B.A.

Modern town planning is a study of recent growth begun by certain enthusiasts who reverted to the English village as a model for suburban development. Latterly it has been extensively practised both in its original village form and in that ampler elaboration which deals with larger towns and cities. The English village with its one or two thousand inhabitants, its haphazard growth and self-centered support, naturally implied limitations. When used as a basis for a suburban development to house five to ten thousand people, supposedly those with employment outside its limits, the form became unwieldy, while the introduction of the necessary transportation, amusements and, to a certain extent, local business, called for changes which radically affected its more central parts.

It is conceivable that garden city planning is only possible up to certain limits of size, beyond which it is necessary to provide a business nucleus; failing this, outside enterprise will step in as at Golders Green, and supply, adjacent to the garden city but outside its centre and control, the industrial necessities called for by the garden city dwellers. In course of time, unless such a colony is protected by a belt of parks or controlled land, or is far removed from the encroachments of suburbia, it will be surrounded by the very type of suburb it is striving to supersede.

To enable the garden city system to extend to any possible size, its requirements as a town need special provisions, main roads, shops, theatres, and transportation, and on this extended basis of the original garden village has arisen the garden city. These logical developments are now creating the realization that the arguments out of which they were born are equally applicable to the design of large towns with their congested districts, valuable sites and higher buildings, and that these are equally just as interesting and capable of being made the basis of an ordered and harmonious beauty.

The cycle having now been completed, the larger grasp of the whole problem of public life has necessitated a revival of the study of amenities, street adornment, and the grouping of buildings (as opposed to their individual requirements and interval planning), and has quickened the appreciation of those cities which show interesting examples of that kind of comprehensive town planning, such as Bath, Edinburgh,

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SHOP FRONT—ARGYLL BUILDINGS—BATH



BATH STREET ARCADE—BATH

Baldwin, *Architect*

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Shop Front—Abbey Green—Bath



Shop Front—Terrace Walk—Bath

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BALCONY DETAILS—MARLBOROUGH BUILDINGS—BATH



LATE EIGHTEENTH CENTURY DOORWAY—BATH

Dublin, and the West End of London. The revival, on the whole, is a healthy sign of progressing taste and sympathy. It has spread with violent rapidity to America and the Continent of Europe, and one really wonders how, for so long, the beauties of ordered design were buried beneath the selfish interests of the last century of industrialism. It is with these ampler developments of town planning, as applied to the City of Bath, that it is here proposed to deal.

Viewed from one of the many hills which form a natural amphitheatre, Bath presents a patchwork of silvery grey that gradually climbs and blends into the green of the surrounding verdure, broken here and there by parks or gardens or by the more conspicuous buildings. A stately river winds slowly past and the grey distance is closed by hills of some considerable altitude. The warm grey tone due to the almost universal use of native freestone imparts to the scene a repose which, by evening light, gradually becomes diffused with a warm richness of color long to be remembered. From its streets the surrounding hills are almost always visible; all the vistas are closed by their rich greens, while the terraces and crescents act as foregrounds.

Bath thus presents a never ending combination of hills, river, streets and squares,—grateful visions of what may be accomplished by a combination of natural elements and man's intelligent employment of his opportunities. The city fills one with admiration for the sheer nerve and audacity of its creators. Town houses in stately rows are pushed out into what were once the open fields and lanes of the countryside. Here is truly a pleasure city, complete in all its details. No tentative attempts at villas which were afterwards to be altered into shops or converted into tenements, and finally to be demolished and replaced with town buildings, but a direct and final city without hesitation, without fear of the future, without ruinous delay through vacillation. This directness defies both time and change and yields a stateliness such as even softens and refines abuse.

So completely has the original theme been preserved that very little imagination is needed to people the squares and circuses of Bath with knee-breeches and

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THE PUMP—BEAUFORT SQUARE—BATH



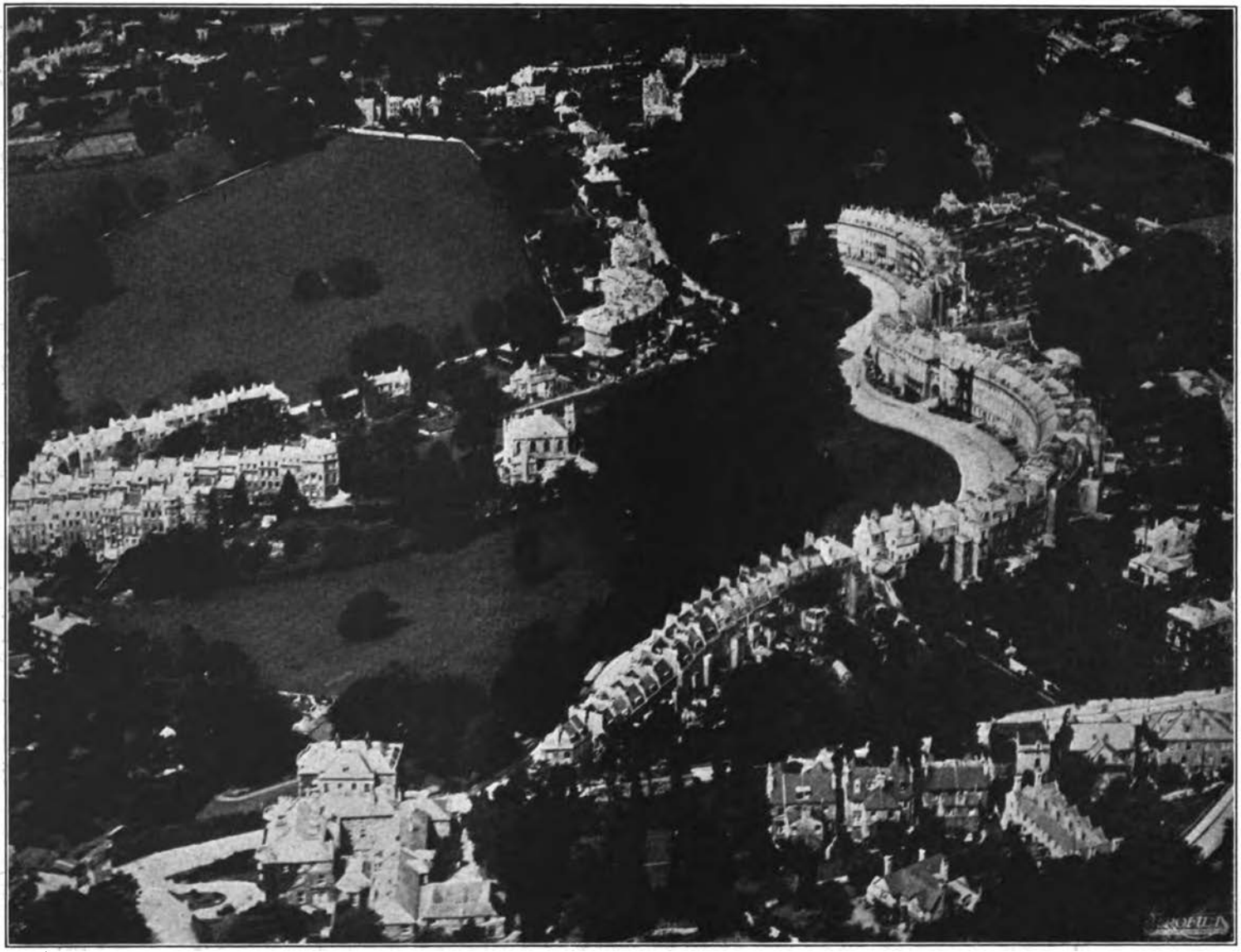
THE PUMP ROOM—BATH Baldwin, *Architect*

silk stockings, lawns and brocades, fops and popinjays, flirts and sedan chairs,—all the paraphernalia of the past seems to be present as the accompanying actors live again and take their places everywhere. For here is a city over the head of which the last hundred years have passed with scarcely a mark; its monuments remain unscathed, and its eighteenth century completeness remains to a remarkable degree. As a town it is perhaps more complete in the natural beauty of its site and a better example of fine civic ideals than any other in the Kingdom. It compares very favorably with Bordeaux or Nancy,—similar in period and in aims,—being tempered by a more restrained taste and its restricted size. It conveys a definite and enchanting impression of a city beautiful which only needs more generally to be rediscovered in order to be appreciated at its full value,—"a veritable antique and sacred city slumbering," "a base of dreams and memories."

The history of Bath goes back to the time of legends and myths. Long before the advent of the Romans there was a city there, and Stukeley says: "The magnitude of Bath in its ancient state could not have been less, in respect of the land to its whole area, than that of Babylon when Cyrus took it." Invasion and siege, battle and spoliation, all laid their devastating hands upon the town. In the days of the Romans life seems to have followed very closely after the pattern of life in the Imperial City. Here lived many wealthy citizens with their families, servants and slaves. The city was busy with the coming and going of warriors, with the swift riding of couriers, and the slow passage of convoys. The sun lay hot upon the temples white and splendid; the baths echoed with cries and laughter, and were the Mecca in Britain for a people long accustomed to the enjoyment of public baths. That buildings were erected for their use prior to the Romans seems undoubted and yet no trace of them remains.

But the planning of Bath is a story of the eighteenth century, for by the year 1800 all of the city that we now know and admire was either completed or practically in hand. After the Restoration Bath had come into its own. The visit of Charles II and Catherine of Braganza in 1663, with the court, taxed the accom-

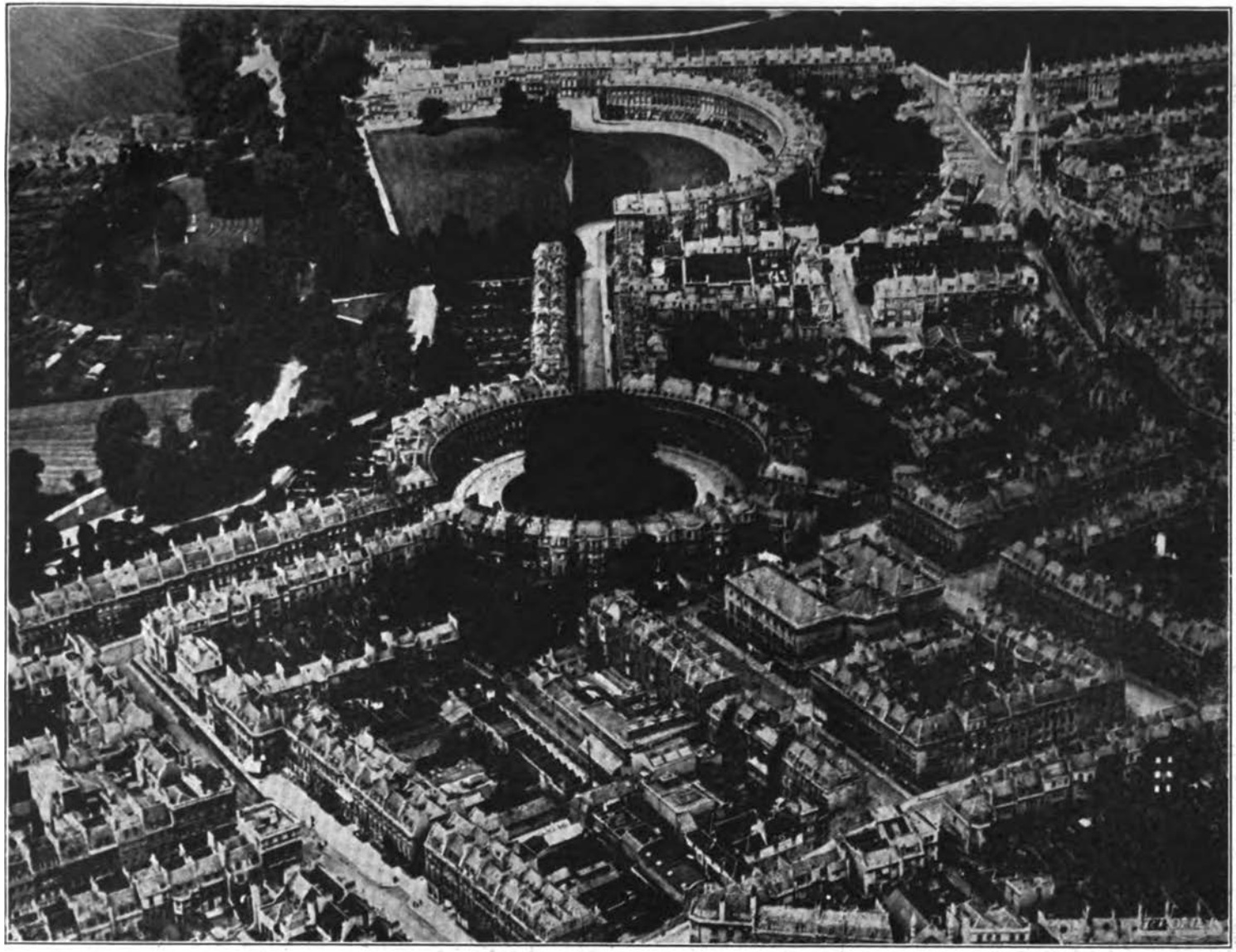
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LANSDOWNE PLACE LOOKING WEST—BATH

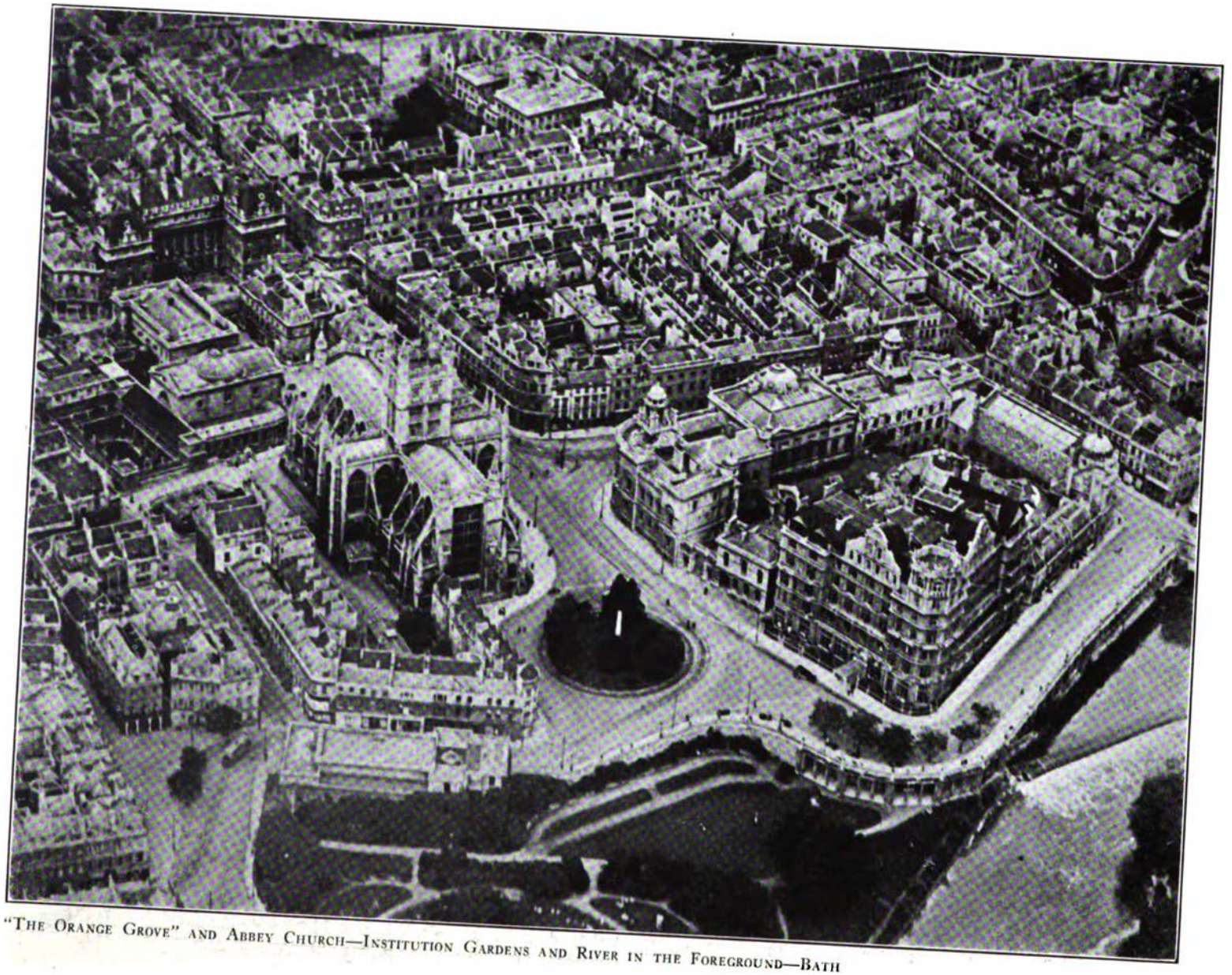
Baldwin, *Architect*

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THE CIRCUS AND ROYAL CRESCENT LOOKING WEST—BATH

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"The Orange Grove" and Abbey Church—Institution Gardens and River in the Foreground—Bath

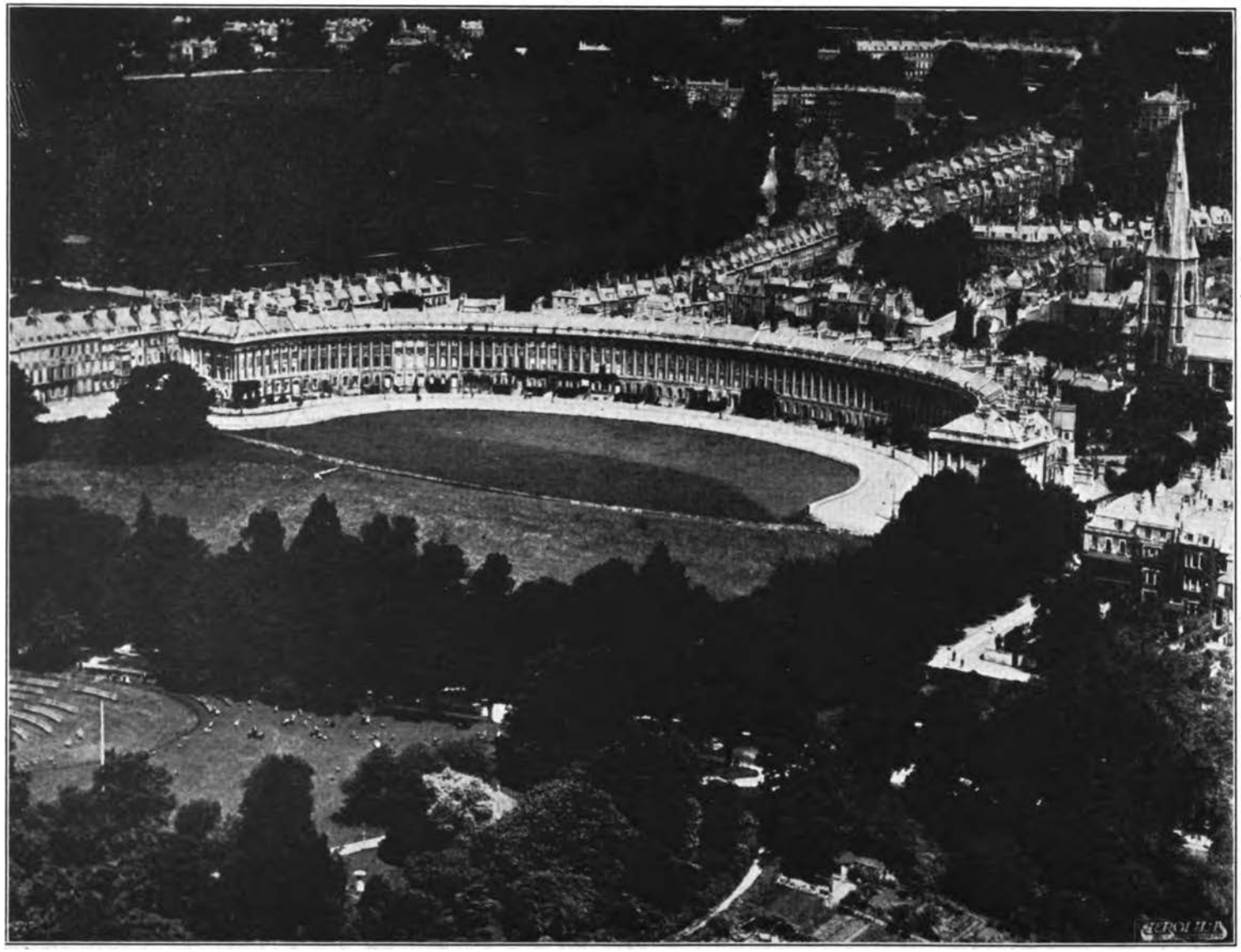
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QUEEN SQUARE DISTRICT LOOKING WEST—BATH

Architect generally, John Wood, Sr.

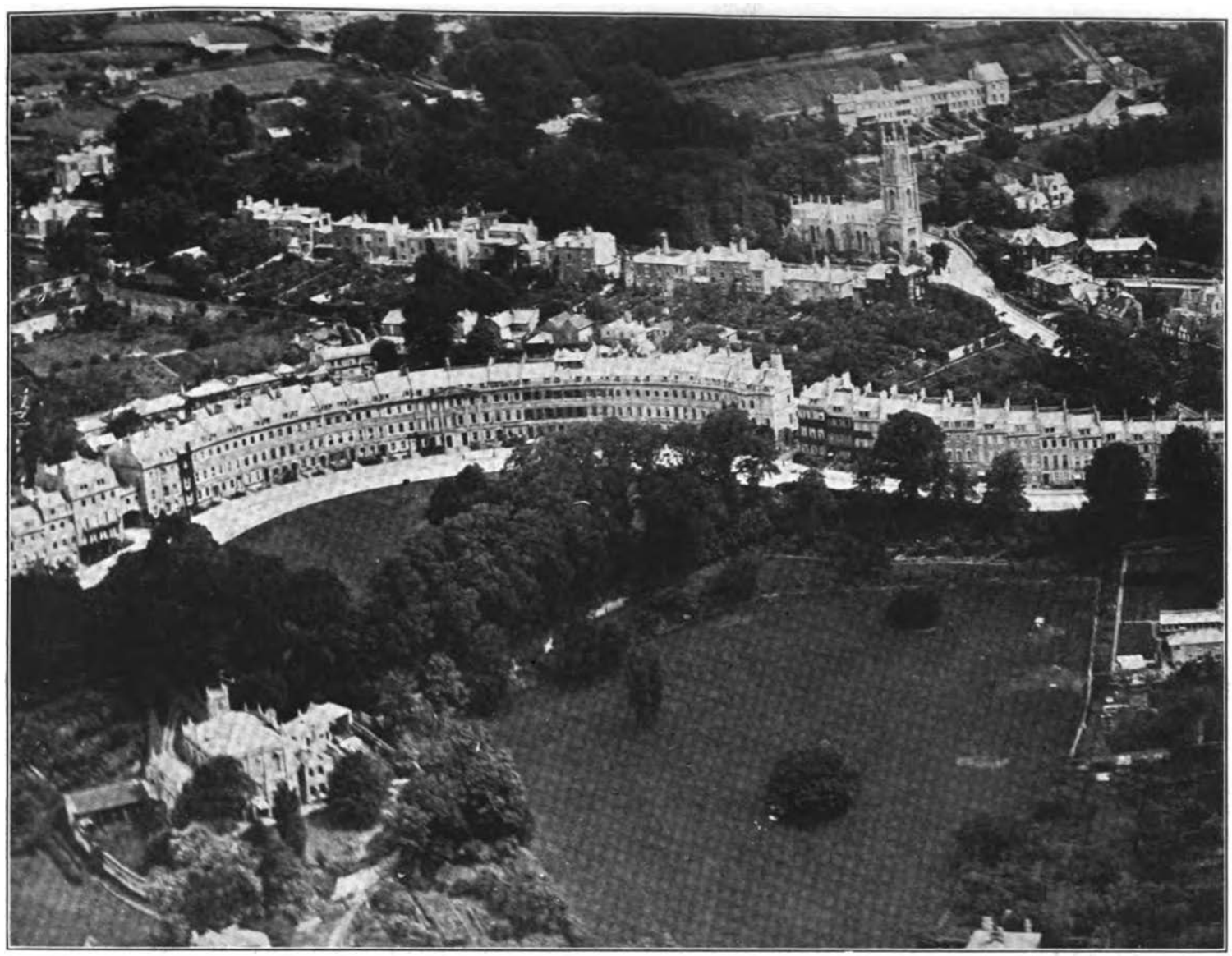
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THE ROYAL CRESCENT—BATH

John Wood, Sr., *Architect*

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LANSDOWNE PLACE LOOKING NORTH—BATH

Baldwin, *Architect*

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BATH—1789

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THE ROYAL CRESCENT—BATH — John Wood, Jr., *Architect*



ARCADE TO BATHING BUILDINGS—STALL STREET—BATH — Baldwin, *Architect*

(The Roman Bath is under these buildings)

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THE PUMP ROOM—BATH *From an Old Print*

modations of the city so that many were unable to find lodgings. At this time the medical properties of the waters were also discovered by the King's physician, Sir Alexander Frayser. "From this period," says Wood, "the drinking of the Hot waters of Bath may be justly said to have been established and from the same period the trade of the city began to turn from the woolen manufacture to that of entertaining the strangers." The city had become a fashionable watering place. The life of the Merry Monarch and his court transformed Bath into another Whitehall. Gambling and pleasure were the order of the day and great crowds flocked to the city to take the waters. Dancing and cock-fighting, together with plays which were acted in a converted stable, were the chief amusements. Yet so great was the confusion that reigned that it became imperative to organize the public life of the city. This was undertaken by one Captain Webster, but with little success, and with his death the opportunity produced the man in the person of Beau Nash, the tale of whose extraordinary career is now everywhere familiar.

By the early years of the eighteenth century Bath had reached a sedate middle age. The horse play of youth had been tempered by wisdom. Intellectual life was in the ascendant. The courts of Charles and Anne had given way first to the blue-blooded aristocracy and then to the refined middle class. A society was springing up which was neither plebeian nor haughty. Habits were changing. The stiffness of earlier days had departed. Home life was taking the place of transient residence. The city increased in size at a furious pace. Streets were in progress everywhere, and the new squares displayed the influence of scholarship to a remarkable degree. Eyesores were seldom perpetrated and even the less capable architects were producing work of taste and elegance.

In the early schemes at Bath (Wood) such things as public buildings or chapels were placed as finishes to vistas, thus providing artificial climaxes. In later schemes there is practically no street work, properly so called, but mainly terraces and crescents, so that the climaxes, to a great extent, were omitted. Bath owes its beauty and its character to a continuous group of local architects beginning in the early eighteenth century with Killigrew, Strahan, Harvey, the Woods (father and son), followed in the middle of the century by Attwood, Baldwin, Palmer, and Eveleigh, and at the end of the century and into the early years of the nineteenth by Masters, Pinch, and Goodridge. Up to the time of these later men Bath had been treated in a generous way. Fine streets and buildings had been laid out and erected. Plans had been laid down many years in advance, many of them still in-

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complete. But it was left to the generation immediately succeeding 1830 to abandon all these fine schemes, all thought for beauty in planning and in street frontages, and to revert to the haphazard cut-my-neighbor's-throat methods of other provincial towns. The result is to be seen in the ordnance map of today, and it may be fearlessly said that nothing has been done since 1830 which could not have been better done before that time.

To the architect and town planner the study of eighteenth century Bath is an engrossing affair. Some idea of the results achieved during this period may be gained from the illustrations which accompany these brief notes. Abundant evidence will present itself to even the most skeptical, to convince us that the planning of a city is the one way by which architectural harmony may be developed and the restlessness of individual striving be avoided. It is likewise true that Bath, not unlike other places, is experiencing a renewal of growth which calls for the most careful planning. Its historical repute and general amenities are making it increasingly popular among the pleasure resorts of Europe, and the further extension of its bathing facilities has become imperative. The problem is rendered the more difficult because of the desire not to demolish the bathing establishments themselves. They are historic monuments and could not even be altered without material damage, while the Roman Baths, the only existing remains of any distinction in Britain, are in the very heart of the city. Yet the existence of these difficulties does but render the case for planning all the more emphatic. Experience presents us with new factors and indicates that our planning must be conceived in ampler terms and with a due respect for that march of events which, unless it be analyzed and provided for, will quickly make all our cities unworkable. The field of architecture is passing from the small unit to the larger one, and the individual concept of the individual building will in some manner have to give way to the inexorable necessity of viewing urban development as a common problem in public welfare.



LANSDOWNE PLACE—BATH

Tenth International Congress of Architects

BRUSSELS, 4-11 SEPTEMBER, 1922

At the brilliant Ninth International Congress of Architects, held in Rome in 1911, it was decided to hold the Tenth in Petrograd in November, 1914. The Great War decreed otherwise and men's minds were turned temporarily from construction to destruction. The Belgians, the first to be hurt in the great struggle, were the first to recover, and by the initiative of the Société Centrale d'Architecture de Belgique, the Tenth International Congress of Architects was formally inaugurated under the high patronage of H. M. Albert I, and was held in Brussels 4-11 September, 1922. It was held in connection with the sequi-centennial of the Société, and, following closely the recent struggle, it was quite natural that only allied and friendly countries should be invited to participate.

It was natural, too, that this Congress, which marks the renaissance of these great gatherings, was not, in point of numbers, comparable with some of the former. Nevertheless, in the work acomplished and in the results attained, it was of a great importance, not only to the Belgians, but to all countries participating.

The Committee of Organization, under the capable presidency of J. Caluwaers, and with R. Moenaert as secretary, had prepared a program of subjects of truly vital and international importance and arrangements for

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excursions to places of fascinating interest. The courteous reception of the Belgians to the foreign delegates, and the capable and efficient manner in which the meetings were conducted reflect great credit upon its organizers.

The American members of the Committee of Patronage were: The Hon. Charles E. Hughes, Secretary of State; the Hon. A. W. Mellon, Secretary of the Treasury; the Hon. Herbert Hoover, Secretary of Commerce; His Excellency Mr. Fletcher, the American Ambassador to Belgium; Dr. Nicholas Murray Butler, President of the Columbia University, New York; Mr. Robert W. de Forest, President Metropolitan Museum of Arts, New York; Hon. Thomas Nelson Page, former Ambassador to Italy; Hon. John Barton Payne, former Secretary of the Interior; Hon. Elihu Root, former Secretary of State; Mr. Daniel C. French, sculptor.

The countries represented were: England, Denmark, Spain, United States of America, France, Holland, Japan, Mexico, Luxemburg, Russia, Poland, Sweden, Switzerland and Uruguay.

The inaugural meeting of the Congress was held in the Palais des Académies at 2 p.m. on 4 September, under the presidency of Jean Bapt. DeWin, president of the Société Centrale d'Architecture, and Albert Rosenbom as secretary, in the presence of a distinguished audience, including foreign ambassadors and ministers. His Majesty, owing to absence from Brussels, was not present, but was represented by his personal aide de camp, General Baron Moor. Addresses of welcome were made by the President of the Congress and the Minister of Fine Arts. These were responded to by official delegates from the countries represented. Messieurs J. M. Poupinel, of the Permanent Committee, and Charles Girault, Membre de l'Institut, responded for France; Cass Gilbert and Major George Oakley Totten spoke on behalf of the United States. The meeting, though cordial, was at the same time extremely dignified and impressive.

The following day the International Exposition of Architectural Drawings and Designs was opened in the Palais d'Egmont. While the European Exhibit was interesting, it was far outweighed by the splendid exhibits of Photographs and Drawings of American Architecture which had been prepared in the earlier spring for the Paris Salon by the Institute Committee on Foreign Building Co-operation, of which Charles Butler was the chairman, and Julian Clarence Levi the secretary. This exhibit was apparently a revelation, to many of the foreign architects, of the splendid work done by American architects during the past twenty years.

The subjects for discussion at the Congress were the following:

1. The Responsibilities of the Architect.
2. Schedule of Charges.
3. The Appointing of State and Municipal Architects.
4. The Rights of Authority.
5. The Profession of Architecture; its aims and its rights.
6. Women Architects.
7. Public National and International Competition. The position of the winning architect in an International Competition working in a foreign country.
8. Town Planning.
9. Small Houses.
10. The Influence of Locality on Architecture.
11. The Preservation of Historic Monuments, with consideration of their economic, hygienic and social exigencies.

A paper on Small Houses by Edwin A. Brown, chairman of the Institute Committee on Small Houses was of special interest to the architects of the devastated countries.

Other papers by Americans which created special comment were those on Women Architects, by Lois Lily Howe and Eleanor Manning, and on Town Planning, by Mr. Curtis, and a translation of the Institute's Schedule of Charges.

General discussions followed the reading of the papers and resolutions were adopted. These have not yet been made public, as it is not wished to forestall the *compte-rendu* of the Congress.

One morning was devoted to visits to the notable buildings of Brussels and two days to an excursion which comprised a visit to Bruges and the devastated region of Ypres. Another day was spent in Brussels. A special reception was held for the members of the Congress in the beautiful Hotel de Ville, and a cordial welcome and remarkable discourse were given by the Burgomaster of Antwerp.

The sessions of the Congress were closed by a brilliant banquet in the sumptuous *Salle des Fetes* of the Hotel Metropole. Mr. DeWin proposed the health of King Albert of Belgium and the rulers of the various countries represented. He then presented Major Totten with the Diploma and the Medal of the Société Centrale d'Architecture de Belgique.

Major Totten read a telegram from the President of the American Institute of Architects which expressed the hope that the next Congress would be held in the United States. This invitation was received with great enthusiasm, and at the closing meeting it was unanimously voted to hold the next International Congress of Architects in the United States.

Charles Girault, Membre de l'Institut de France, is the president of the Permanent Committee of the International Congress of Architects, and J. M. Poupinel is the secretary general.

The members of the American section were appointed by the Secretary of State as official delegates from the United States Government to the Congress. They were Cass Gilbert, chairman; Francis R. Allen, Glenn Brown, William Rutherford Mead, George Oakley Totten, Jr.

The names of Professor William A. Boring, William Holabird and John M. Donaldson will be added to the present committee at its next meeting.

GEORGE OAKLEY TOTTEN, JR.,
Delegate of the American Institute of Architects.

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The Architectural League's Exhibition

New York City, January-February, 1923

I went to the Architectural League's Exhibition the other day, as on a pilgrimage, setting out on foot from a remote part of Brooklyn. This long walk through the dormitories and traffic-warrens of our metropolis gave me a little insight into the reality, of which the current exhibition is, after all, only an evening shadow; and it is this mid-day reality that I must first dwell a little upon.

My tramp led me past blocks of stuccoed houses where the effort of the builder to exert his imagination began and ended with the solarium, which is now the principal room in every modern Flatbush dwelling; it swung me into an avenue of three-story brick apartment houses, where closets parade as rooms, and rooms as apartments; it confronted me with a settlement where country farm-houses, of charming design, butted onto the street with scarcely a bush or a carpet of grass to frame the approach; it conducted me through block upon block of the cheap and nasty whose blankness left a scar in the memory; and finally brought me to the Plaza in front of Prospect Park, where an arch and a fountain on one hand, and a water tower and a museum in the neighboring distance, gave the first hint of "architecture," as it is known in the Annual Exhibition.

More furlongs of tramping. More blocks with nothing that could be called architectural in the high and formal sense until a little nest of buildings near Borough Hall —banks, churches and an occasional dwelling—teased me to wander out of the straight and narrow path that led to the Brooklyn Bridge; but even with these occasional glimpses into our Georgian past or our Beaux Arts present I encountered nothing so complete and satisfying and distinctive as the humble stone work and the inevitable stretches of cable that make up the East River's oldest span.

My route towards Fifty-seventh street led through the clattering distractions of Broadway; so that what follows might go without saying except for the fact that had it not been for accidental compositions of color, in which distant sky-signs played an important part, my eyes would scarcely ever have been carried above the level of the shop windows. There was "architecture" on this route through the city, without doubt; but what is Grace Church in the daytime, bullied and chivied into insignificance by the office buildings that slouch in the neighborhood; or what is that transplanted Spanish tower in Madison Square now that its scale has been sacrificed in that upward surge of lofts and offices—and ground rents? Or what, for that matter, is any single piece of work, however worthy to be photographed by itself and put on show, in the midst of the perpetual jangle and dissonance of a bitter commercial competition?

It is a little different on Fifth Avenue, I am aware; for there is an active Fifth Avenue Association, and a certain honor among retailers; but I affirm that my way through the city was not chosen perversely, and that if architecture had as yet entered fundamentally into our lives, we should be as conscious of it every moment as we are when we wander through the parts of Oxford or Innsbruck that were built before the nineteenth century. The fact is, that whatever avenue one chooses to follow in New York, one's discoveries come to the same thing: there are isolated patches or strings of "architecture" which at least simulate good work and offer vice's homage to virtue, but sooner or later one comes upon something that is "not architecture," something coarse and sullen and inadequate, something which bears the same relation to good building that hog-latin bears to English—not the relation of the colloquial to the refined nor the friendly to the formal, but the relation of an inexpressive clutter of sound to an articulated language.

Has not our recent architectural effort a little of the dispersal and incoherence of Mr. T. S. Eliot's poem, "Wasteland," jewelled here and there with erudite and quite unintelligible scraps of Latin, Greek, Sanskrit, and what not? If we had achieved a genuine architectural language for the modern community during the last fifty years or so that we have spent in l'Ecole des Beaux Arts, we should find the Beaux Arts spirit in every nook and corner, in our factories and our homes as well as in our libraries and mansions; and I confess that I have not been able to discover it. I realize that a "Beaux Arts" factory is a contradiction in terms, since structural formalism implies a divorce between the useful and the beautiful, which no friendly efforts will ever patch up: indeed, a little tour through the suburbs and factory districts of Paris last summer confirmed my notion that the Beaux Arts style is essentially a boulevard and exposition architecture, and that under its influence the domestic dwellings of the middle classes and the tenements of the lower orders have reached a hideousness which compares favorably with the absolute zero in aesthetics of Parisian factories.

It seems to me, in fact, that the fundamental criticism of the neo-classic revival is as substantial on social grounds as it is in the domain of aesthetics: our classic renaissance is in the very nature of its mission incapable of infusing our shops, dwellings, and factories with its spirit, for the reason that it demands that a Wall Street clerk live like a Lombardy Merchant Prince, and that a factory be given over to contemplation rather than to mechanical production. Since these conditions cannot be fulfilled on any grand scale, there remain in the modern city wide areas where the classic influence ceases, and something definitely "not architecture" takes its place.

This criticism cannot, I think, be brought against the medieval inspiration; for the score or so of genuine successes we have achieved during the last decade in office buildings, warehouses and schools witnesses the fact that the medieval spirit is still alive and still capable of giving a fine turn to new forms and materials, instead of having shamefacedly to disguise these forms and materials in order to support a heavy overload of pillared façades and conspicuous ornament. The winning design for the Chicago Tribune Building, for example, shows this healthy

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appreciation of materials; and in particular, takes advantage of the leaping, lantern-like effect made possible through the use of steel. In this department the exhibition of Contemporary British Architecture, which the League generously harbors, points an interesting contrast.

Whilst the medieval revival in England still flourishes in the domain of theology and economics, thanks to the efforts of Mr. G. K. Chesterton and Mr. Arthur Penty, it has all but ceased to influence British architecture; and it has petered out, I think, because it has been timid in taking advantage of materials that the late cathedral builders in the Middle Age would have sold their souls to work with. The American architect's freedom from the letter of medievalism has brought him a little closer to the spirit; and presently he will have the courage to abandon the fatuous blankness of plate glass and give the openings in his steel lantern a little more positive color; particularly in cases where artificial light is more or less of a necessity even in the daytime. Is it too much to hope that before long we shall have an entrance to an office building which will gleam like the windows of a medieval college or a banqueting hall? Once we have the will to perfect and present esthetically the essentials in our buildings we shall not have to worry over the superficies of decoration; and it is chiefly perhaps because we have left the essentials crude, and have not, in fact, dealt with them lovingly, that the problem of "style" enters unhealthily into so much of our work.

Unfortunately the British Exhibition does not give the opportunities for comparison and reflection that a presentation of German or Austrian work would give: the British are too near to the Americans in tradition and temperament and a pervasive regard for gentility to give us the opportunity of profiting even by their enormities. The Renaissance tradition in England is not merely long in duration but concentrated in place: its chief monuments are in London and Oxford, whereas the medieval buildings are dispersed in market towns which are visited and revered chiefly by yearning Americans. The result is that classicism is almost synonomous with taste and education in England—unless one has pronounced High Church tendencies—and modern British work is a record of small individual triumphs in craftsmanship rather than of new departures and inspirations in general design.

It is, alas! a truism to say with Professor Lethaby that what architecture needs for the present, if it is to gain a new vitality, is nakedness and sunshine—and, one might add, building space; but one sees this platitude demonstrated even in modern British work, like the bare interior of Westminster Cathedral, like the chancel of Pretoria Cathedral, and like the school library by Mr. C. R. Mackintosh, in which the architect has obviously been more concerned to design comfortable chairs and appropriate tables than he has been to give a scholarly suggestion of the British Museum or the Bodleian. Almost all that is promising in our modern work is, to begin with, bare. It is, indeed, a good symbol for an age in which the great cities of Europe, like Vienna and Petrograd, are shrinking away, in which all our creeds and loyalties are tumbling calamitously into limbo; in which another war may make even America thankful to have so much as its daily bread. With a few honest blank walls we might revive a spirit of decoration which would make the laborious modeling of our draughting rooms quite needless.

Now that the colored tile is coming back—that is, now that Greek and later Oriental art is seen as a living thing and not as a marmoreal form—it might be well for the architect to remember that the graphic artist need not be kept *within* the building, still less within the art gallery. On the walls of a modern building the artist might do by design all that the modern signboard occasionally achieves by accident; and a little into the bargain. As Mr. Thomas J. Craven recently pointed out in a brilliant review, many modernist painters are often undeveloped craftsmen, deprived of an opportunity to do serviceable work on buildings, and so railroaded into galleries and museums which they have scarcely sufficient intensity of inspiration to fill. If the architect would provide for the employment of the painter a little more frequently and would give him as much leeway as an individual as the plasterer demands under the regulations of his trade union, we might, within another generation, have an architecture of clean walls and bright surfaces which would serve to confirm that return to the elements for which our factories and public schools have furnished a substantial basis.

The work exhibited by the League shows, however, that great strides must be made in both departments before the present gap between architecture and decoration can be bridged; for the only language common at present to painters, sculptors, interior decorators, architects and city planners is a weak *omnium gatherum* of classical tags which are quite useless for any high and articulate effort at sincere expression. With the exception of Mr. Benton's decoration entitled Chapter I, Symbolical History of the United States, and three panels by D. Putnam Brinley, which were both interesting in detail and effective at a distance as "spots," the paintings at the exhibition were either wishy-washy as paintings, or, whatever their merits as paintings, showed an almost complete indifference to architectural opportunities and necessities. The sculpture was even less hopeful; although one is aware that men of ability like Mr. Paul Manship and Mr. Gaston Lachaise have been happily called in on such semi-public buildings as the A. T. & T. offices; and as for interior decoration—well, the posture of interior decoration in these United States deserves a whole chapter by itself; and I shall take it up at some other time.

What seemed particularly evident to me in this year's exhibition, perhaps because of my humble approach to it through the highways and byways of the city, was that it so far fails as an educative instrument because it shows only the brightest efforts of contemporary architecture and makes no attempt to relate these efforts to the mass of shoddy work in our cities and suburbs. One of the most beneficent effects a public exhibition could have would be to erase the notion that architecture is properly concerned only with the grand, the overwhelming, the monumental, or the costly; and to demonstrate that every building is—in so far forth, as William James used to say—architecture. We need more groups like Mr. Kiessling's Playhouse Group at New Canaan, Connecticut, in order to make our Gopher Prairies realize that there is

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a certain architectural salvation in achieving the best that is in Gopher Prairie, rather than in imitating the worst that is in Zenith—in demanding something more appropriate rather than something big.

In addition to this we need a scale by which to measure contemporary effect; and the best way of developing a sense of scale, it seems to me, is not merely to point to the best that has been done in the past but to call attention to the worst that is being built in the present. Let us open up a chamber of horrors in which all that is mean and insincere and inadequate in present-day building would be anonymously shown and analyzed and held up to ridicule. In a recent book on city planning there is a chapter on the "Promotion of Beauty by Police Power"; but it should be plain enough that such external stimuli to beauty are about as much to the purpose as the cat-and-ninetails is to education. Nothing can really put the architect and the builder on their mettle except critical appreciation; and we do not get critical appreciation by any series of prohibitive regulations, no matter how drastic and how effective. Our esthetic education in the building of cities has so far pushed some of our "advanced" critics to the point of advocating the establishment of long, monotonous vistas like the Rue de Rivoli: plainly, so much legislation might achieve! Meanwhile, there have been signs of a more genuine appreciation of beauty and a more jolly readiness to co-operate in achieving it, in the little string of buildings that flank St. Thomas' on Fifth Avenue; and all that we can hope of architectural education is that it will give architects and public sufficient intelligence to infuse each particular work—whether it is erected in the middle of Fifth Avenue or at the end of a cowpath—with this spirit. Instead of restrictive legislation from without we need a common inspiration from within—that, too, is platitude. All of which comes to saying that good architecture, as distinguished from good individual works of architecture, will flourish in the community only when our efforts conform to a common pattern which aims at the good life. Failing such a common pattern architecture is probably destined to remain the material equivalent of a sabbatical religion which we conveniently tuck away in the corner during our six working days.

LEWIS MUMFORD.

City and State Architects

The Board of Directors of the Institute has received many requests from different parts of the country for an opinion as to the wisdom of encouraging or discouraging the appointment of City Architects, State Architects or Architects for School Boards. About a year ago a circular letter was sent from the Octagon to the officers of the various Chapters requesting an expression of opinion on this subject. Many replies were non-committal, but the majority of those that expressed a definite opinion were favorable, providing the functions of the official architect were clearly limited.

The Board of Directors at its recent meeting in Denver asked two of its members, Robert D. Kohn and D. Everett Waid, to prepare a draft of a statement embodying the principal suggestions received from various parts of the country. They were furthermore asked to publish the statement in the JOURNAL, with the idea that such publication might be the basis of more extended discussion in the various Chapters and thus result in a more definite expression of opinion that would serve as a guide to the Board of Directors in announcing the Institute policy on the subject.

In accordance with this action of the Board the above named Committee hereby presents a tentative draft for the consideration of the architects throughout the country:

"The American Institute of Architects believe the appointment of official architects is desirable and to be encouraged, where the scope of their powers is definitely fixed and limited to the field of maintenance, repair and alteration of buildings and the determination of policy and general building requirements. But the appointment should stipulate clearly that the official bureau shall have the help and corrective influence afforded by the service of architects in private practice whenever new structures or new schemes of building are being developed.

"An official architect can supervise the care and repair of existing buildings and the standardization (within reasonable limits) of routine requirements for new buildings. What is true of the City is equally true of the Federal and State Governments.

"Although the American Institute of Architects thus recognizes that there is a field of valuable and indeed essential service to Government which can best be rendered under present conditions by an official architect, the Institute believes it to be to the best interest of the public and to the ultimate good of the building art that architects in private practice should be called upon to design and supervise all new buildings of any importance which the Government may need. Any other procedure generally leads to monotony, institutionalism, and dry rot in building methods.

"That there have been notable instances where official state, City or school architects have produced creditable new buildings for many years, only illustrates the exceptional qualities of mind and the spirit of self-sacrifice of the particular architects who have devoted themselves to the public service. As a rule it is impossible to secure such men for an official salary and for a limited period of appointment. It is more and more difficult to find an architect of the calibre to conduct an organization which can efficiently maintain, repair and alter existing buildings despite all the official machinery obstructing governmental work, and at the same time properly design and make working drawings and let contracts and supervise construction for a series of new buildings, giving adequate attention to all the aesthetic and human problems of architectural design."

The special Committee of the Board cordially invites from the various Chapters of the Institute and from the individual architects, whether Institute members or not, such comment or criticism of the above document as may be of constructive value in determining what action the Board of Directors shall take in giving expression to the Institute opinion on this important question of policy. Comment should be addressed to the Chairman, D. Everett Waid, 1 Madison Avenue, New York City.

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Public Information Page

THE CENTRAL NEW YORK CHAPTER finds its members so scattered throughout the State that it cannot hold meetings at short intervals. Therefore it publishes a very complete Bulletin with a mimeographed text of some six pages and a blueprint cover. This serves to cement the membership and to keep them in touch with activities that are prosecuted through Committees.

THE CLEVELAND CHAPTER unanimously passed the following resolution at its January meeting: "That all Chapter Members be recommended to insert in all specifications and contracts the following clause: 'Contractor shall see to it that jurisdictional strikes are avoided by making agreements to the effect that jurisdictional disputes shall be settled in accordance with the Constitution, Rules and Decisions of the National Board for Jurisdictional Awards in the Building Industry.'" A special Committee was then appointed by the Chapter to post the members of developments in the field of Jurisdictional Awards.

THE NEW JERSEY CHAPTER'S relations with the New Jersey Society of Architects are very interesting. All members of the Chapter are members of the Society and $6.00 of the $12.00 of Chapter dues are paid over by the Chapter to defray the Society dues. The only requirement for membership in the Society is honorable practice of the profession and payment of $6.00. Neither Chapter nor Society exercises control over the other body. At present the officers of the Chapter hold corresponding offices in the Society and the eight members of the Chapter's Executive Committee are among the fourteen members of the Society's Executive Committee. This might not continue to be the case. In matters of State-wide interest the Chapter does not attempt to duplicate the Society's work or lap over it. The Society is forming County divisions somewhat like small Chapters. There is to be a Division in each County in which five members reside and other Divisions will be formed of the members of more sparsely settled Counties. The Chapter and Society work in harmony and the Chapter feels that the Society opens avenues for its upbuilding. In the matter of the Small House Service Bureau, the Society has taken a position opposed to that of the Institute. It would appear that in New Jersey architects are more generally called in when small houses are to be built than they are elsewhere.

THE NEW YORK CHAPTER has begun an investigation on its own account into the improper practices that obtain in the Building Trades. The investigations of the Lockwood Committee have borne such meagre fruits that the Chapter feels the Institute, which should be a defender of the public's interests, ought to become active. Two meetings have been held at which representatives of the Employers' Association and representatives of the labor unions were speakers and entered into debate.

The Chapter has gathered together two exhibitions of smaller buildings, one principally domestic and the other semi-public and commercial. A few larger monuments such as the Morgan Library and the new Standard Oil Building were included in the latter. These have been turned over to the American Federation of Arts which sends exhibitions about the country on tours. Societies of sculptors, craftsmen, landscape architects and painters have responded to the call of the American Federation of Arts in the past. The architects have turned a deaf ear and it would appear that these two exhibitions of the New York Chapter are the first that have gone out of a distinctly architectural nature. It would be interesting to see similar exhibits from other parts of the country. California could undoubtedly recruit a most interesting group of drawings and photographs showing the domestic architecture of that region. Localities desiring to receive these exhibits should address Miss Leila Mechlin, 1741 New York Avenue, N. W., Washington, D. C.

Last year the Public Information Committee of the Chapter initiated a study of certain parks and sections of New York with a view to their improvement and beautification and also a study of fountains, wading pools, etc., to be used in playgrounds, city blocks and parks. The project has been enlarged and an important exhibition is to be held under the auspices of the Chapter showing past, present and proposed future developments for the city. The Russell Sage Foundation has expressed its sympathy and has offered its help and the City Administration has also expressed its interest and willingness to co-operate.

THE MICHIGAN CHAPTER is making progress in its activities in the Trades School to teach plastering, tile setting and mason work.

THE SOUTHERN CALIFORNIA CHAPTER'S development of the Allied Architects' Association to design and build public buildings is controlled as follows: "The by-laws of the Association provide that 'any architect who, because of his ability and qualifications has advanced the art and profession of architecture and thereby is especially fitted to render professional services for public welfare is eligible as a member * * *' At present all members of the Association are Institute Members. The only assurance that the Association has of securing work is through the confidence of the various municipal authorities. As a matter of policy, it has refused to turn to politics to get its work. Its first contract, the Criminal Courts and Jail Building, was so successfully handled that the Board of Supervisors became strong adherents of the Association and have continued to entrust it with operations. When a piece of work has been secured the Association office writes a clear statement of the problem, the members discuss the details in a regular meeting and those who desire submit sketches which are hung, discussed and criticized in successive meetings. The members who desire to do so may modify their sketches, adopting any points brought out by the discussions or other sketches. Finally the directors formally adopt a design and select as chairman of the Jury on Design the member who, in their opinion, is best fitted to carry the design through to completion even though it may not have been his design that has been adopted. Five or six assistants are appointed to aid this chairman and they all meet once or twice a week to discuss the work as it progresses under the personal direction of the Chairman. The Association conducts its own draughting room and the Directors have

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active charge of the whole undertaking. Every member who contributes to a design is paid for his time. Each member receives the same pay per hour and the total time allowed each member on each job is allotted in advance by the Directors in their budget of the job. The Directors receive no pay for their official activities. Contracts for public work are awarded by public bidding. Superintendence during construction is handled by the Association's paid superintendents. The Chairman on Design follows its execution.

In eighteen months the original membership of thirty-three has increased to over fifty. The Association is now engaged in developing its secondary purpose—service to its own members, and is working on an architect's contract, standardization of details and specification forms. It has an estimating and checking department, an engineering force, a legal department and a draughting force of whose facilities the members are making a constantly increasing use. It has adopted a budgeting system with bonus to employees. In addition to this, as noted last month, it is carrying on through the Chapter a publicity and educational program. The educational work will include lecturing and slides in schools, neighborhood clubs and the atelier and draughtmen's Societies are to be helped. A splendid start has been made in forming a comprehensive architectural library for the use of all architects and students.

The foregoing is merely a report of a movement that may presage important developments in the practice of architecture. The Institute Committee on Public Information would be glad to receive notice of the objection, if there be any, to such a merger or trust.

JOHN V. VAN PELT, *Chairman,*
Committee on Public Information.
126 East 59th Street, New York City, N.Y.

Architects' Small House Service Bureau of the United States

Items from the Annual Report of the President

At the time of submitting this report there are seven Divisions actually incorporated: the Northwestern, the Mountain, the North Central, the Atlantic, the North Pacific, the Lake and the Potomac. By the time of the Convention we may yet have further additions to the number of Divisions so that the organization of the Bureau will be nearly complete as planned.

The membership of the various Bureaus, represented by the holders of special stock in the U. S. Bureau is still very small, there being but 100 at the present time. This is something that must be remedied at once and each and every Division is asked to take steps at once toward enlarging its membership. This item will be dwelt upon later in this report.

The Bureau has now had one year's experience with its Bulletin and with its Home Builders' Clinic. Having no funds for promotional work the U. S. Bureau asked the Northwestern Bureau to back the enterprise and to permit Mr. Maurice I. Flagg to take charge of both for the U. S. Bureau. As a return for this service any funds that might accrue through the exploitation of either source were to go to the Northwestern Bureau until such time as the U. S. Bureau felt it could take over the services for itself. It is worthy of note that they are now practically on a self-supporting basis.

There has been, and I presume it was to be expected, a considerable amount of adverse criticism to the Bureau idea in the profession itself. (Perhaps the value of an idea can be estimated by the amount of criticism it develops.) Much of this has developed through inaccurate understanding of the Bureau idea, and some through personal fear of possible loss to practice. More has been added to this criticism by material interests that were not willing to see any professional interest aroused in small house building unless it could serve as exclusive propaganda for their particular product.

One must be either for or against any new move. You cannot sit on the fence indefinitely and get anywhere. Constructive criticism is of the utmost value. Destructive criticism alone doesn't get anywhere. The appearance of anything depends mostly on the point of view.

Nothing is perfect. There are two sides to every ledger. When the end of the year comes we have a mass of debits on one side and credits on the other. For the sake of convenience we use red marks to show the losses and black marks to show the gains. Should we not look at the Bureau idea in just the same way? Take all the items against the idea, make them as strong as you can, and put them all down in red. Don't miss one of them. Then, to be entirely fair, take all the items in favor of the idea and set them down in black. You will find such an overwhelming predominance of the black that there will be no question in your mind then. You will feel, as so many of us do, that the idea must go on.

The architect has long been accused of being a selfish individual. Whether that is true or not is not for me to say. Here, however, is a very simple means of helping to give a real service to the country at large and to his own community. Look on it, if you will, as a club or society. It is a society with a membership fee that is all paid on admission. After that there are no further dues. For the sum of $110 you become a member, not only of your local Division of the Bureau but also of the National body. And as the Bureau grows in strength and power of service you may receive not only the eight per cent dividend on your life membership fee but also the possibility of actually helping in the work of the Bureau for a fair financial return for such direct work, work which in many cases you would have been glad to donate for any such purpose. How many of you have not already, during your life, contributed competition work for sporadic attempts to provide plans for the public, with some interesting middle party making something out of the deal for himself?

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Some disappointment may be felt by many at the relatively small sales of the Bureau. This past year the Northwestern Division has sold but about 300 plans, the Mountain Division about 100 plans, and the North Central has just started reporting sales of its plans. However, the inquiries have run into the thousands and people do not buy plans for a house as they buy shoes or articles of clothing. Also they generally buy but once in a lifetime. I do not think that a single plan has been sold on the first looking over of the plans. Sometimes years will go by after the house idea has been implanted in a person's mind before the actual buying of plans and the carrying out of the building. The Bureau idea and its publicity have been under way barely long enough to make a part of the public realize what it is and what it means.

With all this slowness the Northwestern and Mountain Divisions show that they are more than holding their own with all their enlarging of their work and expenses. This coming year will bring its own rewards and such results that all connected with the Bureaus will be well satisfied with the part they are playing in the small house work.

One of the great difficulties before the Bureau has been removed. Heretofore the Bureau itself has been the only one to tell of what it is and what its relationship to the A. I. A. really is. Now the Board of Directors of the A. I. A. has issued the definite statement which appeared in the Minutes Supplement to the JOURNAL for February.

From Our Book Shelf

Art? Not Much!

Whoever chances to be puzzled over what kind of a building to put on a given piece of land could not do better than to consult "Building for Profit."[1] Its author has analyzed the business of building and put the pros and cons fairly before us. The picture is disheartening in the extreme, for we are shown the real business in its true colors. The plain truth, as here presented, is that the building business has gobbled up the building industry and architecture as well. It has become, as Mr. Bolton plainly states, a mere gamble as to whether or not the owners of a building,—the book is of course devoted to urban problems alone,—can either capitalize successfully an already created land increment, or whether he can anticipate one in such a way that he can cash it in. To do either of these things one must wage that one can beat one's fellow gamblers to it. That is, one must bet on one's judgment as to where the people will flow or can be made to flow. If you guess right your building venture may be profitable.

Now it seems strange that the obverse of the picture does not suggest itself to a mathematician like Mr. Bolton. What are the social results of this method of building cities? How long can society stand the frightful cost of this form of game? How long can business traffic continue thus to enslave the technicians in the building industry? There probably is no answer to any of these questions, but it is indeed curious that they never suggest themselves.

Architects will find, in Mr. Bolton's estimation, the precise part which he thinks they play in the game of building for profit. Some of them will be angry. Some of them will be surprised. All of them will think about it, more or less. C. H. W.

[1] Building for Profit. By Reginald Bolton Brown, New York City. The De Vinne Press.

National Art Survey of Scotland

The new parts, III and IV, carry on admirably this study of Early Scottish work. It is of a simple character which suggests the value, occasional at least, of having architecture executed without the hampering influence of too much knowledge.

The early New England work, before 1740, was an expression of the elements necessary to house the early settlers, so simple that it carried with it the force and the beauty that pertains to all work which is adapted to its purpose. More necessary than protection from the heat of summer was protection from the cold of winter, so stories were low, windows few and small, fireplaces and flues generous, and the whole was covered with a roof steep enough to shed the snow. From these simple necessities came some elements of beauty.

Just such naif qualities appear in the Scotch work. The house is set on a hill, and the accidents of grade suggest elements of design. A new fashion comes in in the south, and a porch (very awkward in proportion) and elaborate ornaments over the windows are the Scottish interpretation. It is like the English interpretation of the Italian Renaissance, only more so. So Argyll Lodging at Sterling is worth studying. What applies to the general plan and the exteriors, applies also to the interior finish. This is late seventeenth century, when through Inigo Jones and Wren the Italian Renaissance was pretty firmly established, but not, at least in remote places, very well understood. There are some interesting interiors in Caroline House, but one feels the absence of a sense of proportion or scale which is generally found in these simpler reflexes of the Italian work. Here and there, as in the Northwest room one finds good proportion and ornament well studied and well balanced.

The metal work is almost invariably good, both design and execution.

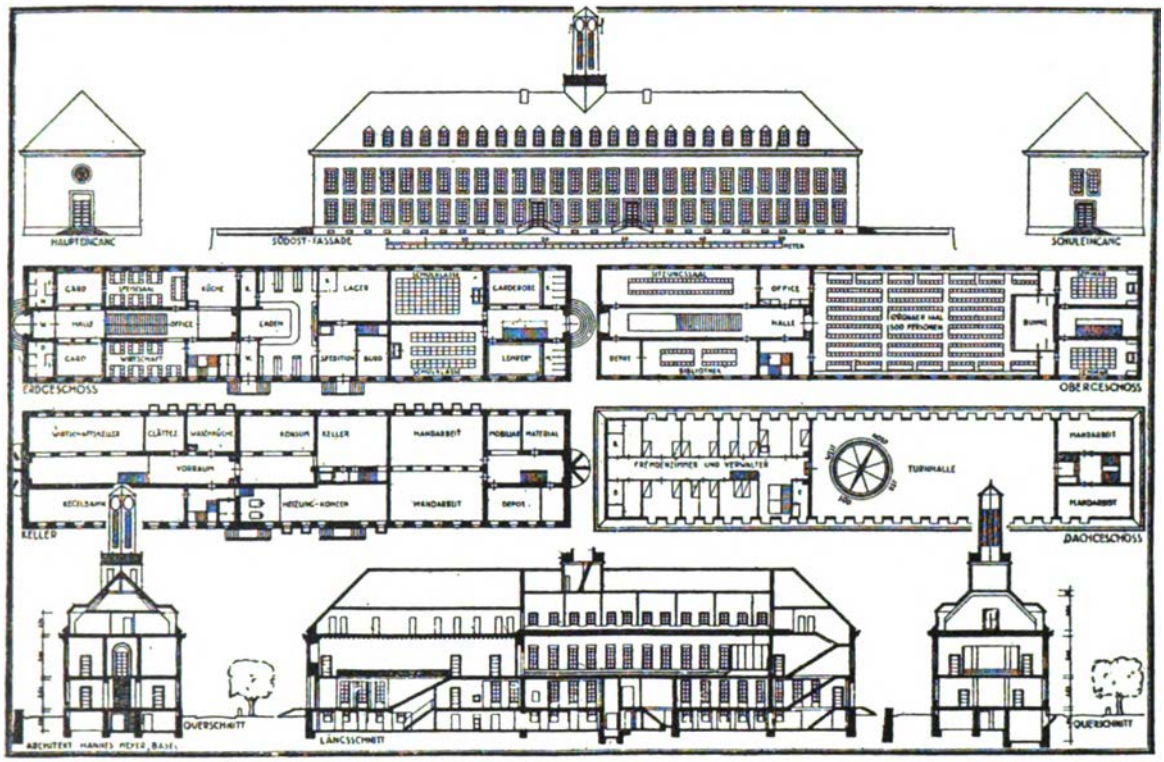
On the whole these volumes are a valuable contribution to our architectural records of the past.

The present issue, Parts III and IV, cover Argyll Lodging, Cowane Hospital, both at Stirling; Caroline Park and Royston Castle at Granton, and Torphichen Priory Church, the two last named, in ruins. These two parts complete Volume I, and contain in all 72 plates. R. C. S.

A Correction

Mr. Samuel V. Chamberlain asks us to announce that the drawings of *Cour de Dragon, A Street in Atrani* and *Quartier Latin,* signed by him and reproduced in our February issue, were redrawn from sketches by Mr. Ernest Grunsfeld, Jr. The latter two were incorrectly titled and should read *A Street in Naples* and *Rue de Jour.*

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CENTRAL COMMUNITY BUILDINGS—FREIDORF, BASLE, SWITZERLAND — Hans Meyer, *Architect*

Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

Real Co-Operative Housing

Since the War so-called co-operative housing schemes have been widely advertised in this country. On examination, most of them prove to be merely private profit-making enterprises, in which speculative builders sell their equity to a group of tenant-owners. The underlying motive of the erection of the building is profit, and this same motive actuates the tenant owners who invest as often as not with the idea of profiting at the expense of those tenants who are not shareholders.

In pleasing contrast to them, we note the co-operative housing scheme of "Freidorf," executed at Muttenz in the outskirts of Basle, by the Union of Swiss Consumers' Societies (Verband Schweizerischer Konsumvereine) which is described in the January number of *Die Volkswohnung* (Berlin).

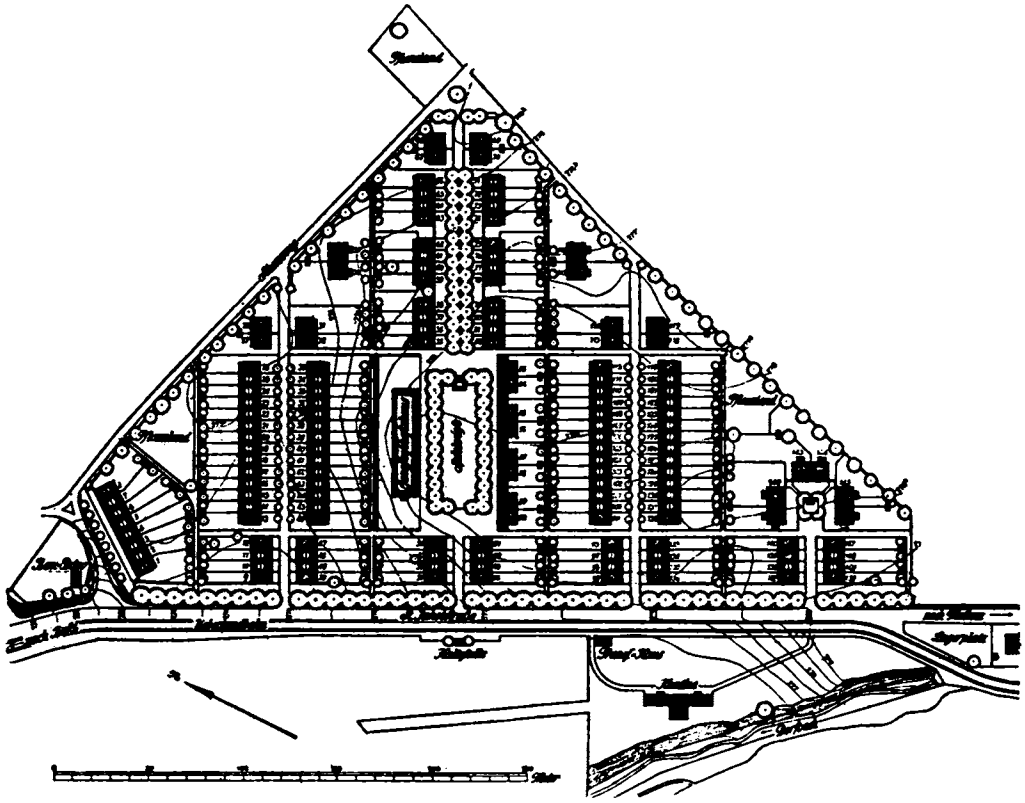
This organization spreads all over Switzerland, and comprised in 1920, 493 societies with a total membership of 362,284, and a capital of 172,000,000 francs. Before the War, the Union had undertaken a number of co-operative enterprises; in purchasing, in manufacture and in insurance.

The post-war housing crisis led to the formation of a co-operative housing society in 1919. Basle was chosen as the location of the development, not only because it is the home of the national body, but because it also had 35,000 members of co-operative societies of a population of 140,000, a proportion equalled nowhere else in Europe. 7,500,000 francs were appropriated for the land and buildings.

In founding Freidorf, the intention of the Union was to do something more than create homes for its members. It was rather to establish a self-contained housing settlement, the members of which would have a sense of solidarity, fostered by obligations to the community as well as privileges enjoyed in it. The agreement between the national Union and the corporation is not a mere expression of contractual relationships; it enunciates the ethical principles which it is intended shall govern the life of the new community. These consist of the promotion of the social well-being of the members; political and religious neutrality and prevention of propaganda; prevention of speculation in lands and houses; surplus funds to be turned over to the Union for eventual use in establishing similar settlements; a life of co-operation in which mutual counsel and aid shall supplant self-seeking and personal ambition.

The settlement was limited to 150 families, on the principle that small groups offer the best chance of successful co-operation and that cultural development of the

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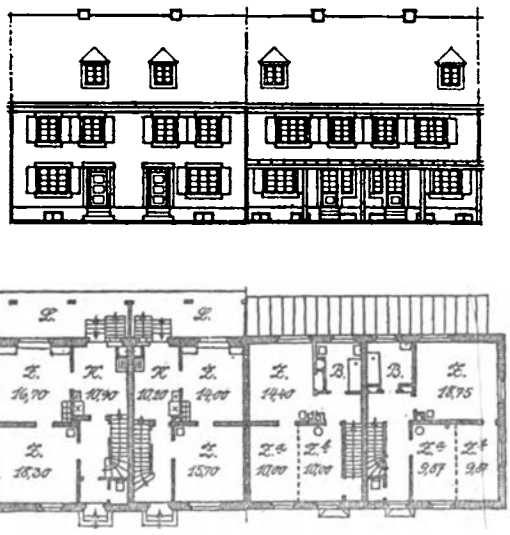


TOWN PLAN—FREIDORF

Hans Meyer, *Architect*

individual, which, in the words of the agreement, is to "awake and further in the members a selfless, sacrificing and serving love of God and man, of right and duty, of home and Country."

Every man and woman of Freidorf is obliged to render some service to the community. Seven commissions have charge of the settlement and service is rendered under their direction. New settlers are given to understand that it is not optional but obligatory to keep their houses and grounds in proper condition. The Community House, a large building in the center of the settlement, affords opportunities for education, social life and recreation. It contains a hall seating 500, a gymnasium, committee rooms, school rooms, library, a store, a restaurant, a cafe, bowling alleys, and rooms for guests.



TYPICAL HOUSES—FREIDORF

Hans Meyer, *Architect*

The layout and plans of Freidorf, prepared by Hannes Meyer, architect, of Basle, deal with a tract of about twenty-one acres, about two miles from the center of Basle, lying on one side of an arterial highway, which forms one boundary of the triangular terrain. All the houses face streets at right angles with the main road. The dwellings are either in rows or semi-detached, with a small garden in front and a large one in the rear. The houses are of the utmost simplicity in exterior design, depending for their effect on setbacks, grouping in rows and planting of trees and shrubs. The planting of the front gardens and of all trees is determined by a common plan; it is only in the shrubbery and flowers that the individual may express his personal preference.

The work of construction was begun in December, 1919, and by March 1, 1921, all of the 150 houses had been completed. The houses are four, five or six rooms, and offer comforts which at the present time are very rare in European housing schemes; bath rooms, some closet room, glass-covered porches in the rear, storm windows, roof insulation, and electric facilities for cooking and heating water.

E. H. KLABER.

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An International Municipal Bibliography 88[1]

The International Union of Cities, Brussels, has begun publication of its main work. It will be welcome to all interested in municipal development and especially to those whose interest centers around housing and city planning. The timeliness of the bibliography is as obvious as is the fast rising tide of literature on these subjects. Since the war, to which the "Tablettes" refer, France, Belgium and Holland seem to be leading, each having eight new publications.

The organization and execution of such a bibliography will, no doubt, be greatly facilitated by those national "centers of civic documentation" which have been or are being formed in various countries and which are affiliated with the International center at Brussels. Where national unions of cities exist,—and there are now many in Europe,—it has become their material task to form the various national centers of civic documentation. However, there is also opportunity for cities, as well as for civic organizations, to join the International center in Brussels.

As regards America's part in this international co-operation, a national center of civic documentation is being formed in Washington. It is expected that it will operate in a small way before long and that eventually it will affiliate with the International at Brussels, according to information from Mr. Stephen Child of Washington, who is active in furthering this matter.

Samples of the bibliography which have reached us testify to its importance and value. It is no mere enumeration of articles indexed from other publications, but each quotation is supplemented by a brief analysis of the contents. The various items are numbered in accordance with the decimal classification established by the International Institute of Bibliography and Documentation, and the analytical notes are printed on one side only of loose sheets, thus permitting them to be clipped and filed according to the special needs of the subscriber. This is decidedly a great advantage.

[1] Tablettes documentaires municipales. Bibliographie analytique des études et informations relatives aux questions municipales. Union International des Villes, Bruxelles, Belgique, 3 bis Rue de la Régence. (The "Tablettes" are published weekly, each series comprising 800 to 1000 analytic notes yearly. The price for the whole collection is 240 francs per annum, but each series may be obtained separately at 40 francs. They may be ordered through the office of the JOURNAL, 250 West 57th Street, New York City.)

The "Tablettes" give brief information on a great number of periodicals of many countries. In the analytic notes there are six series, comprising: City Planning, Housing, Water-supply, Sewers, Street-cleaning, Light and Heat, Transportation and Communication, Public Hygiene, etc. A glance at the parts so far received is convincing evidence of their value, one which is likely to be greatly increased as international co-operation becomes better developed and organized. N. H.

The Annual Conference of the International Garden Cities and Town Planning Association

This will be held in Gothenburg, Sweden, 3-11 August, this year. There will be also held an international city planning exhibition arranged by the city of Gothenburg as part of the great exhibition with which the city will celebrate its tercentenary next summer.

The conference as well as the exhibition should attract many visitors from America. Aside from the interest offered by the meetings and exhibitions, there will be an opportunity to study some of the noteworthy Swedish achievements in city planning, particularly those of Stockholm and Gothenburg. Both these cities have suffered much from unsatisfactory housing, extensively dependent on a defective city planning system. In the course of the last twenty years, however, they have successfully paved the way for better future developments. City planning methods are gradually improving and better housing for the great mass of the population is one of its chief aims.

These communities have acquired large outlying tracts for the development of suburban settlements, making great sacrifices in order to gain possession of the land so necessary in furthering improved planning and housing. The progress of Sweden in these matters, during the last quarter of a century, is well worth study.

N. H.

Housing in Germany

In the Community Planning Section for this issue, Mr. Stein had intended to print an article on housing in Germany from the pen of Dr. Hecker of Dusseldorf, but the illustrations were so long held up in the mail that publication will have to be deferred until April.

Congress of the Building Industry--Boston

In summing up the work of the Congress in Boston during the two years of its existence, Mr. William Stanley Parker said in his annual report: "The work of the Congress may be said to have been focussed on three main subjects: 1. Industry Ethics; 2. Seasonal Unemployment; 3. Training of Mechanics.

INDUSTRY ETHICS

"Our discussion of Industry Ethics has not been brought to a conclusion. It has developed frank statements of conditions which show clearly the need of higher standards of practice in all the divisions of the industry, some of which now have no formulated codes of ethics, while some show a failure to live fully up to their codes already established.

"This joint discussion is valuable in the opportunity it offers to each group to see itself as it is seen by the rest of the industry; and out of it may well come a statement of the fundamental conditions that should govern all our acts. It is well for architects to agree among themselves on their code of honorable practice. Is it not still better for the architects and the other cooperating groups to agree with each other on a code of practice that is devised jointly for the common good. Such a

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code has been developed in New York. Its development here is one of the matters immediately before this Congress.

Seasonal Unemployment

"Seasonal unemployment is now being studied for the purpose of determining what measures can reasonably be taken that will tend to reduce it. I believe it is substantially correct to say that, in the building industry two years ago, there had been no joint discussion of this problem and that in each group directly affected it was tacitly accepted as an inevitable result of various causes beyond control, while in the groups not brought into direct contact with it there was little appreciation of either its extent or its significance.

"Today in New York, Philadelphia, and here in Boston and perhaps elsewhere, joint investigations are in progress and a strong conviction is being developed that it is one of the basic ills in the industry, to which management must give its thoughtful attention if it would decrease the cost of building, increase the contentment and stability of labor, and make easier the winning of new recruits to the apprentice ranks of labor so long neglected.

Apprentices

"This last named matter, the training of new mechanics, is the third subject now under consideration. Our report of progress involving a constructive suggestion concerning the recruiting and training of apprentices in the various trades in the industry is significant, for it comes from a joint committee composed of representatives of general contractors, sub-contractors, labor, engineers, architects, and material distributors. In the past none but contractors and their own labor groups have attempted to cooperate for the development of an apprenticeship system, and this has been done separately in each trade. A type of permissive legislation has resulted which, like much permissive legislation, remains largely a theory and shows negligible results in actual practice. For in spite of many individual efforts, there is today an insignificant number of apprentices without any uniformity of standing or any coordinated system of training.

Portland, Oregon

From the recent annual report of the President of the Portland Congress we learn that the chief activity during the past year has been directed toward a solution of the question of apprenticeship. President Ellis F. Lawrence then takes up an analysis of the different groups of the Congress, architects and engineers, general contractors, specialty contractors, mechanics, manufacturers, financiers of building, distributors, promoters and realtors, and the public, and asks some straightforward questions as to what shall be done about this and that condition in the different groups. Says Mr. Lawrence, of the architects:

"1—Without a well organized and competent profession, how can we hope to remove the abuses resulting from the competitive system and how can we hope to abandon other wrong practices in methods and construction?

"2—Can we afford to jeopardize the status of the industry in the eyes of the public by allowing the professions of architecture and engineering to be weakened or contaminated by wrong practice—or to be underpaid?

"3—Can we allow the state registration laws regulating these professions to be unsupported or loosely enforced?

"4—Without strong professional organizations, can we hope to curb the operation of incompetents and shysters?

"5—Can the industry afford to sanction the guaranteeing of costs by our professional membership?

"6—Will it be safe to allow the profession to encroach on the fields of contracting, manufacturing, distributing or financing?

"7—Can the architects afford to be financially affiliated with real estate firms?

"8—What are we to do with licensed practitioners who subject themselves to no professional discipline, who destroy the confidence of the public by unprofessional acts?

"9—Must we not maintain a strong support and supervision of the institutions training our future architects and engineers?

"10—What of the training of the draftsmen of Portland, not able to attend architectural and engineering schools?"

Honor Awards

Southern California Chapter

The Southern California Chapter held, during the month of January, an architectural exhibition in the Museum of History, Science and Art, in Exposition Park. From the 992 drawings and photographs submitted, 660 were selected by the Hanging Committee. With Mr. D. C. Allison as Chairman, Messrs. W. M. Clarke, H. C. Chambers, Pierpont Davis, W. J. Dodd, Robert Farquhar, Fitch Haskell, Harwood Hewitt, Myron Hunt, Elmer Grey, Reginald Johnson, Templeton Johnson, Robert Murray, E. C. Neff, S. M. Spaulding, Winsor Soule, and A. C. Zimmerman constituted the Hanging Committee and a sub-committee under the chairmanship of Mr. D. J. Witmer acted as the Year-Book Committee. In addition, Messrs. John R. Kibbey, H. F. Withey, Alfred Rea, Lloyd Rally and George Hall acted in a general capacity. The work was carried through by collaboration between the Chapter Committee on Institute and Chapter Affairs, Mr. Edwin Bergstrom, Chairman, and the Committee on Education. The Chapter takes great pride in the fact that the whole was done by architects at their own expense and that no advertising support was asked for, from any source, and the report of Mr. Bergstrom records the hope that this principle may come to prevail in all such undertakings by architects.

The monthly Chapter meeting of January was made the occasion for giving out the Honor Awards established by the Chapter. The Jury of Award consisted of Messrs. Arthur Brown, Jr., John Galen Howard, and Ernest Coxhead of San Francisco, who judged the exhibition of such interest that arrangements have been made for transferring the whole exhibit to San Francisco. The list of Honor Awards is appended:

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CLASS	BUILDING AND LOCATION	ARCHITECT	OWNER	CONTRACTOR
SECTION 1—Dwellings, Single:				
Class A	Residence, 1971 N. Catalina St., Los Angeles	Henry F. Withey	E. L. Liebke	
	Residence, 208-210 Witmer St., Los Angeles	Witmer and Watson	Mrs. J. M. Witmer Mrs. David J. Witmer	J. V. Gierding
Class B	Residence Pomar Lane, Montecito	Soule, Murphy and Hastings	Frederick L. Baxter	Alexander McKellar
	Residence, 1730 Sycamore St., Hollywood	Harwood Hewitt	Mrs. Alice Lynch	Davina Craig
Class C	Residence, 500 S. Rossmore, Los Angeles	Pierpont Davis	Pierpont Davis	
	Residence at La Canada	Harwood Hewitt	W. P. Hanson	A. C. Miller
SECTION 2—Dwellings, Multiple:				
Classes A, B, C, D (No Award)				
Class E	University Club, Los Angeles	Allison and Allison Frank Lloyd Wright, Jr., Landscape Architect	University Club	The Foundation Company E. Petersen, Decorative Painter E. J. Theesewright, Decorator Marshall Laird, Furniture
Class F	Flintridge Country Club, La Canada	Myron Hunt	Flintridge Country Club	James Johnson
	California Yacht Club, Wilmington	Edwin Bergstrom	Calif. Yacht Club of L. A.	John Simpson
SECTION 3—Commercial Buildings				
Class A	Studio and Stores, 405 Western Ave.	Henry F. Withey	Henry F. Withey	
Class B (No Award)				
Class C	Limoneira Packing House, Santa Paula	Allison and Allison	Limoneira Company	
Class D	County Nat'l Bank & Trust Co. Bank, Santa Barbara	Myron Hunt	County Nat'l Bank & Trust Company of Santa Barbara	Parker Brick Co.
	Bank of Italy, Los Angeles	Morgan, Walls and Morgan	Bank of Italy	Lange and Bergstrom, Tropico Potteries
SECTION 4—Semi-Public and Cultural Buildings:				
Class A (No Award)				
Class B	Whittier College, at Whittier	Allison and Allison	Whittier College	Daniels and Farris
	Huntington Library, San Marino	Myron Hunt	Henry E. Huntington	W. C. Crowell
Class C (No Award)				
Class D (No Award)				
SECTION 5—Schools:				
Class A	Union High School, at Palo Alto	Allison and Allison	Palo Alto Union H. S. Dist.	E. A. Heddinger
Class B	Glendora Intermediate School No. 2, Glendora	Allison and Allison	Glendora Grammar School Dist.	Henry Clarke Co.
Class C (No Award)				
SECTION 6—Public Work: SECTION 7—Group Planning: SECTION 8—City or Community Planning: SECTION 9—Landscape Work: Class A, B, and C (No Award)				
Class D	Meyer Estate, Beverly Hills	Johnson, Kaufmann and Coate Paul G. Thiene, Landscape	Ben R. Meyer	Bradley Construction Co.
	Severance Estate, 30 Oak Grove, Pasadena	Johnson, Kaufmann and Coate Paul G. Thiene, Landscape	John L. Severance	
Class E (No Award)				
SECTION 10—Architectural Photography in Fine Arts:		Wm. M. Clarke		

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The Editor's Note Book

A friend who sends me some notes on the last book of Professor Lethaby (they will presently appear in our columns), utters a mild complaint over the pessimistic tone in modern literature. Very likely those who read much are bound to experience a feeling quite akin to that of my friend, and yet a moment's thought would perhaps offer some consolation. If the modern writers who attempt truly to view our present are not giving us the happy, Victorian picture of life as "lived happily ever after," may they not be doing their best, consciously or unconsciously, to make us pause and give heed to things that are crying for attention, and which, unless they are attended to, will fester and have their more dismal reckoning in the end? I think the world has vastly more to fear from the confidence of optimists than from the doubts of the pessimists, just at present.

But then, if one were to write about such a thing, for example, as the late architectural competition for the Chicago Tribune Building, would the note of optimism or of pessimism be any more than an echo of the writer's philosophy? One architect writes to me, for instance, and says: "What fools the architects are! There were 204 competitors in the *Tribune* competition. The cost of producing a set of plans that would have had any chance must average pretty close to 2,000 dollars. That makes a total of 408,000 dollars, as the cost to the profession. Deduct prizes awarded to non-winners, an item of 50,000 dollars, and that leaves 358,000 dollars. Estimate the possible profit to the architect, on a building cost of 4,000,000 dollars at 100,000 dollars, and the *Tribune* competition cost the profession 258,000 dollars, or, in other words, the architects handed 258,000 dollars worth of advertising to the *Tribune*."

But another takes a different view and proclaims: "The competition is the great way by which the young man may enter the profession and it is the certain way to bring out the very best in architectural skill. We must charge off the waste to the cost of advertising the profession, and set against the loss the great stimulation given to the draughting-room." And a third, at this point, remarks that he has noticed that after a competition has been lost, "the let-down in the draughting room is a thing to be reckoned with." So there you are. Pessimists and optimists are met together and the issue, as usual, is nil. For myself, I do not see where the competition is ever justifiable except as we confess the failure of government and use the competition to avoid a political game of wire-pulling, but I doubt very much whether that makes me a pessimist; and wire-pulling is by no means confined to public work.

What, if anything, might make me a true example of unmitigated pessimism, is a paragraph such as I came across some weeks ago. The London correspondent of the *Guardian* was writing of the anniversary of Hoare's famous bank in Fleet Street, founded 250 years ago. There the famous diarist, Mr. Pepys, kept his money, and his account is to be seen "in the earliest of the surviving ledgers, which shows that he deposited £200 there in 1680—long after the diary stops.

"Modern in everything, Pepys overdrew his account by £13, and it never balanced. It is queer to look at the yellow flourishing writing in the crumbling, old book—the first of an unbroken series which fill the whole of the sides of one of the upstairs rooms. Cromwell banked at Hoare's. The firm was in business long before the Great Fire, after which they migrated to Fleet Street from Cheapside.

"The first entry in the earliest surviving ledger is January 12, 1673, hence the anniversary. There may be London private banks as ancient as Hoare's, but I doubt whether there is any that can show such an unbroken dynasty of family ownership, and such a close domestic and financial marriage. To this day a member of the house of Hoare sleeps every night in one of those still bedrooms overlooking an unknown garden behind the magnificent mahogany doors. Since the seventeenth century one of the partners has unlocked the bank doors at nine o'clock every morning. In the old days it was not safe to trust to coaches being to time, and the same is true of railway trains. From the time of Sir Richard Hoare, Lord Mayor in 1711, at least, eldest son has succeeded eldest son at the top of the firm. Many royal dynasties are ephemeral and shaky compared with this commercial one.

"They show you the old leather black jack which hung as sign outside the Old Leather Bottel, which was pulled down when Hoare's built their house and bank in 1825. The house is too famous architecturally for more to be said than that it is one of the finest creations of Smirke. House and bank have the same feeling of dignified domesticity. Behind the counting-house, with its fine Georgian stove, where I believe the clerks still use quill pens, you find at the end of the passage a quiet little bank parlor built on the site, so they say, of Dr. Johnson's Mitre Tavern. Under the carpet is the hole through which they used to lower the wine barrels into the vaults, now piled with deed and plate boxes.

"Up a staircase with a noble balustrade you go into the family apartments. Round the gleaming mahogany table in the dining-room the partners still lunch every day. Their pepper pot is an old sand sprinkler, their mustard pot of silver a converted wafer holder. They sit on beautiful chairs made by Chippendale for that room. Round the walls of the room, whence you look upon the surviving plane tree of three planted by the partners half a century ago, are ranged an astonishing collection of sixteen family portraits, beginning with the original Sir Richard in periwig, the successor of the founder. There is the later Sir Richard, who called out the London trained bands against the Young Pretender. The three brothers dominated the bank in the first half of the nineteenth century, and were known as the Adelphi. You see the old flint-locks laid in to intimidate the Gordon Rioters. A seventeenth-century Benjamin Hoare is seen in a delightful eighteenth-century picture primly riding to hounds.

"The firm has its own well going down 400 feet to the green sand under the London clay, and they have their own swimming bath, which is only a century old."

Yes, you say, it's all very pretty and quite in the best English tradition, but why the pessimism? The answer is not easy. I surely am not a blind worshipper of the business of banking. Neither have I any idolatrous be-

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lief in the father-to-oldest-son transfer of a business. Some of the Hoare boys might have been great architects or painters, and probably there were several who took to banking with a heavy heart. What is it then in the picture that arouses a reflection the reverse of optimistic? I know my Dickens and Kingsley and Reade well enough to know that the law of primogeniture was a false god and could not endure, and that the English Enclosure Acts struck one of the greatest blows to freedom since Roman law superseded the canonical, but how then should I feel saddened at the thought that in the present day there are so few Hoare families and traditions, with wells running down to the green sands under London, and luncheons served in business offices, on mahogany tables with Chippendale chairs?

It is because, I think, that in my youth I was taught to believe in what I now see to have been a false ideal of liberty and freedom. It was a fine flavor in our young lives, that glow that came from Magna Charta and Revolution and Declaration, but the taste of political liberty has turned stale and unprofitable, and we have lived to see the world torn to shreds by forces that have nothing to do with true liberty, or beauty, or the creation of architecture, or the restoration of art, or freedom in any sense of the word. And nothing is harder than to surrender a cherished ideal or a well beloved theory. It is the last thing with which a man parts, after all, and the parting is never a merry job. Perhaps there are many others who also feel themselves to have been cheated in their youth, and who, quite unconsciously, give their writing a pessimistic turn. If so, let me counsel them to turn to the pages of Lewis Mumford's "The Story of Utopias," for here is a tale which carries no dogma, that is told with infinite charm, and which shows to all of us that in our very hearts we are true Utopians. Man has never ceased, and never will, to dream of an exit from the too materialistic world in which he has imprisoned himself as surely and as fatally as the spider builds its web for the fly. Those who have had the gift, such as Plato and Voltaire, Morris and Bellamy, have given their dreams shape and form and set them before us, and Lewis Mumford now comes to our aid and gives them a sort of common human denominator. The most confirmed believer in "things as they are" could not go unmoved at the "Story of Utopias," and I daresay that even the most dyed-in-the-wool follower of the law of business for profit only would slyly set himself to improving upon Plato or to showing how Fourier's plan might have succeeded with certain modifications. I would fain quote whole pages out of this delightful book of Mumford's, but as a professional optimist, I shall let the following serve as a taste:

"The chief business of eutopians was summed up by Voltaire in the final injunction of Candide: Let us cultivate our garden. The aim of the real eutopian is the culture of his environment, most distinctly not the culture, and above all not the exploitation, of some other person's environment. Hence the size of our Eutopia may be big or little; it may begin in a single village; it may embrace a whole region. A little leaven will leaven the whole loaf; and if a genuine pattern for the eutopian life plants itself in any particular locality it may ramify over a whole continent as easily as Coketown duplicated itself throughout the Western world. The notion that no effective change can be brought about in society until millions of people have deliberated upon it and willed it is one of the rationalizations which are dear to the lazy and the ineffectual. Since the first step towards eutopia is the reconstruction of our idols, the foundations for eutopia can be laid, wherever we are, without further ado.

"Our most important task at the present moment is to build castles in the air. We need not fear, as Thoreau reminds us, that the work will be lost. If our eutopias spring out of the realities of our environment, it will be easy enough to place foundations under them. Without a common design, without a grand design, all our little bricks of reconstruction might just as well remain in the brickyard; for the disharmony between men's minds betokens, in the end, the speedy dilapidation of all they may build. Our final word is a counsel of perfection. When that which is perfect has come, that which is imperfect will pass away."

It is good counsel for the pessimists, but much better for the optimists.

C. H. W.

"The Job!"*

Getting It—and Executing It

By SULLIVAN W. JONES

The practice of architecture begins by getting the job. If you don't get the job you can't practice architecture, no matter how much or how little you may know. And if you can get the job you at once become an architect, and with the aid of a collection of honest manufacturers and a good contractor one can practice the profession with a degree of credit which somehow seems to accumulate as time passes. If we really understood, or rather, if we would admit what architecture really is, we would, I think, like practical men, go down to Washington and ask for aid in an effort to simplify, standardize, and, most important, stabilize our profession.

So architecture—I mean the practice, not the product, because the latter sometimes is not what it is called—is two-part or two-phase, *i. e.*, getting the job and doing the job. The first phase is sometimes agonizing,—the latter always is. Of course there is a consolation that goes with the pain of disappointment in the first phase.

* An address to the New York Chapter, 14 February, 1923.

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If you suffer in this phase there isn't any second phase in which to suffer; you can't do a job when you have it not!

However, I am not particularly concerned with the first phase of the practice of architecture, its pains and its pleasures. To me it is all very mysterious. But knowing something about the second phase, my sympathy goes out to those who win and my congratulations to those who suffer disappointment in the getting contest. So I leave the first phase to those who know how to play the cards, and will consider the second.

Doing the Job!

Let us assume that we have got the job. We are human, and are tingling with the pure exhilaration of success, tinctured with ambition. We are just an average architect. We are about to go through an average experience, which stretches over a considerable period. It begins with exquisite satisfaction. We know the joy that comes in contemplating the creation of something. Every fibre responds to the urge, the opportunity to conceive. We have a way of regarding this joyous beginning as architecture. Would it were so. Then there comes a laborious period of incubation during which we form and build up, on paper, the tissues of our offspring. Surveys, codes, ordinances, service requirements, cruel money limitations that fetter the imagination and take the joy out of life, sewer levels, sub-soil conditions, floor loads, mechanical equipments, materials, systems, manufacturers, conflicting claims, hesitation, data not found, a multitude of catalogues, indecision, discussion, conference, decision, working drawings and specifications, all stirred up into a fog driven by unrelenting time.

Then there comes a pause—for bids. A period of suspense, when every move and gesture is searched for its significance. Then the paroxysm.

The price is too high!

Changes, cuts, substitutions, new bids. Thus do we bring our offspring into being. A hole in the ground, footings, steel, walls, floors, roof, a net work of pipes, ducts and conduits, machinery—and finished. All cleaned down and out, followed by a sigh of relief.

No, not finished.

Groans for last payments. What is the matter? The insides don't work. The structure looks all right,—it's architecture. But it needs doctoring. The windows leak frigid air. The cellar, the walls, and the roof leak water just when they shouldn't. There are leaks also in the lighting circuits. Because the windows leak air, the building is underheated. It's under-elevatored also. The floors dust. We thought they wouldn't as we used Tom Smith's compound. He said they wouldn't. The paint is blistering. Some one on the tenth floor wants gas, and there isn't any in the building. That ceiling we plastered on the under side of the concrete slab is loose and about to fall in spite of the plaster bond we used.

But it's ours, this building, this troublesome offspring, so we have to pull it through. The specialists, quasi-specialists, and quacks with cure-alls are consulted or thrust their wares and services upon us. We are sure that everything is going to be all right. After a time that seems eternity, things begin to straighten out, or seem to, which is the same thing according to Einstein. Then we kiss the job good-bye and thank God it is out of the office. Straightway we start the process all over again. And because we are human, though architects, we forget the anguish and remember only the pleasures.

What Is the Answer?

I don't know the whole answer. It is like trying to say what is the matter with the world today, like trying to lay down a formula for substituting the Christian spirit for selfishness as the motive in the affairs of men, when you are dealing with explosive, rebellious, supine, inert, mercurial human material and human nature. We can, however, correct some things and alleviate the pain. We can apply some palliatives or anesthetics. The American Institute of Architects has a plant where it manufactures the anesthetic of the Know How. That plant is the Committee on Structural Service. The product can be had for the asking.

In speaking of the Committee and its work I ought to refer to two points of view with respect to the nature of architecture, or rather, to where the emphasis should be laid. They are unnecessarily in conflict—these two points of view. They are expressed respectively thus —architecture is an art, with the emphasis on esthetics; and, architecture is the building with the emphasis on the art construction. Now, architecture is both design and structure, always has been both and always will be both. You can't have one without the other any more than you can have music without musical instruments or the vocal chords, or painting without paint. Neither can you have music or painting without the inspiration and the ability to conceive. And moreover the knowledge of the media of expression and the manner in which the media are employed—the technique—is all important. The Structural Service Committee is specializing on the things out of which and the processes by which buildings are made. I will admit that this is something of an undertaking and getting more so.

Only fifty years ago building materials and finishes were simplicity itself. There were no equipments except speaking tubes, bell wires on walking beams and plumbing that would make any simplification enthusiast blush for shame. Structural materials could be counted almost on the fingers of the two hands. Their characteristics were well known, their performance could be counted upon. They were worked by artisans who took a pride in the work. A few daring souls were using iron, not steel beams. Paint was made of lead or zinc or both and honest linseed oil. Varnish was made of fossil gums, much as the ancients made it. The asphalt shingle had not come to disturb the esthetic sense of fitness. Tradition still held sway and moulded our tastes.

Then things began to happen. With amazing rapidity one development turned upon another. New wants appeared and invention and ingenuity did their best to answer them and in turn encourage newer wants. The electrical industry is scarcely more than half a century

(*Continued on page* 127)

Structural Service Department appears on the second right hand page following

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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.

"The Job!"

(*Continued from page* 126)

old and behold our buildings and our lives are electrified. We now apply power to everything in order to save human energy. The modern building is more than architecture, it is a vast and intricate machine, thrusting itself forty stories into the heavens. We accept these things as a child accepts his environment without question or thought of what is behind them. Architecture has been revolutionized. It has become engineering largely and the architect has become fifty per cent engineer without being conscious of the change. There are today 3,500 manufacturers of materials and equipments all seeking the architectural outlet to national markets. And there are as many more manufacturers seeking only local markets through the architect. Their products are without number and are for a multitude of purposes.

Every day new materials and devices are put on the market. New uses are found for old ones and old uses for new. Vast industries have grown up and now thrive upon materials that were formerly waste by-products. Products with old trade names and holding fast to past reputations have changed and are still changing in composition and structure. Some of them bear not the slightest resemblance to their ancestors. Sometimes the changes are for the better and sometimes the reverse. The architect selects those things which he needs from the products of world-wide industry and is himself the market outlet for producers everywhere.

The Architectural Market

The pressure on the architectural market outlet is constantly increasing with competitive expansion, increasing production and the introduction of new products. If we group the countless products so offered or thrust upon us, with respect to their use or function, they fall into not less than 225 groups or classes, each highly competitive within itself. Some of these groups or classes are competitive in a more fundamental sense. Metaphorically speaking, when the architect steps out of the sanctuary of design into the market place to select those things which seem best suited to his purpose, he is assailed by a babel of 4,000 voices, each crying for recognition, each claiming that right. Most of the things offered interest him not at all on that particular occasion. The architect does not and cannot know the relative merits and fitness in the thousands of things offered. No human mind can absorb and hold the amount of authoritative information and data requisite to wise selection or to intelligent discrimination. The waste involved in this process is appalling.

It is here principally that the work of the Structural Service Committee counts. The architect must be able to fall back on reliable basic data by which to judge of fitness, of serviceableness and use performance. He cannot depend upon the knowledge won from his own relatively narrow experience. The position of the beginner is without hope. No architect has the time, even if he had the scientific aptitude to make tests and investigations; moreover such an individualized process involving repetition and duplication would be enormously wasteful.

Standards and Stability

It is here that standards and standardization help the architect. It is here that scientific research comes to his rescue. He must rely on standards and on the knowledge which research places at his command. He must write his specifications, which are instruments of purchase, in standard terms,—otherwise the specification cannot function and he and those who seek to sell become confused and lost in a maze of conflicting claims and judgments.

The Structural Service Committee is the Institute's agency for research and standardization. It is the Institute's spade with which to dig for the facts that make possible more intelligent architectural practice and hence for architectural services of greater value.

Let me mention a few of the things that the Structural Service Committee is doing:

1. Encouraging and promoting research and standardization which will make possible a progressively more intelligent architectural practice and cooperating in such activities with other professional and technical bodies, the Government and industrial and trade associations.

2. Keeping the architectural profession fully informed on progress and development in the art and science of construction and on structural materials and appliances.

3. Representing the Institute in the National Research Council, Engineering Division, in research activities relating to structural materials and methods conducted by the U. S. Bureau of Standards, and functioning similarly in cooperation with a number of university and other research laboratories and institutions.

4. Representing the Institute in the national and international standardization movement as a member in the American Engineering Standards Committee, on a number of the committees of the American Society for Testing Materials, and at the Department of Commerce, Bureau of Standards and Division of Simplified Practice.

5. Collaborating with a number of producer associations in the standardization of specifications, and formulating a similar program with the Architects' Small

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House Service Bureau of the U. S. for the preparation of standard specifications for the small home.

6. Reviewing and abstracting all current technical literature, reports of independent tests and researches, reports of Government and State Departments and Bureaus, and discussions in the technical periodicals, extracting such information as will be helpful to the architect and aid him in making wise selections and the proper use of materials. All such abstracts are published each month in the JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS.

7. Conducting an information service for architects and others, comprising answers to specific inquiries regarding materials and their uses, structural practices and experience. The answers to such inquiries are compilations of all available authentic information secured from commercially disinterested sources. The Committee itself expresses no opinions. It has always held the view that the Producer is for the architect one of the most important, and in some respects the most important source of information and data.

These things are being done, and the members of the Institute are helping to pay the expense of their doing —not because they saw the need but because other interests, the other professions, other technical bodies have asked for and even insisted upon architectural cooperation. I wish to emphasize the fact that these committee activities are the result of outside demand. The Structural Service Committee has gone into these enterprises and acted as though it had the whole-hearted enthusiastic support of the profession. It has put the profession on the map in research and standardization. It is creating a new set up for the profession with the producer element in the building industry. The profession is being looked to more and more for leadership. What are we going to do? Are we going to throw down the torch and turn back? Or are we going to take our place in the march of progress and discharge our responsibilities to ourselves, to the great industry the building of which we are a part and to our ideal of professional service?

The Producer as a Vital Factor

The Producers' Section is the outcome of an effort to eliminate waste and establish mutual respect and confidence in the business relationship of architects and manufacturers. The Producers' Section is for the present an informal body of manufacturers who have associated themselves with us and are giving their support to the joint promotion of certain highly desirable purposes. The fact that a manufacturer is a member of the Producers' Section does not mean that he, his policy, or his product have been approved or sanctioned, but merely that he accepts the purposes of the Institute and particularly of the Structural Service Committee and is willing to cooperate in their accomplishment. His membership is in reality a declaration of agreement with the purposes of the Institute, and should add to his prestige in the eyes of the profession. I need not dwell upon the importance of eliminating or at least materially reducing the waste resulting from the only partially successful efforts of producers to present their products, and from the architects inability to discriminate and make wise selections. In passing I should mention the secondary waste which grows out of the first and is due to wrong decisions, the use of wrong materials and devices or the improper use of the right one.

The importance of a better understanding between architects and producers, of basing their dealings on mutual respect and confidence cannot be exaggerated. We cannot build without the producer and his product. Without them we cannot practice architecture. The producer needs us. Let us make him, whose product is worthy, our friend and cooperator. His calling is as honorable as ours. Our problems of construction are his also. We have in the product a mutuality of interest which cannot be dissolved. Therefore, I say, let us capitalize that mutuality of interest for our common benefit.

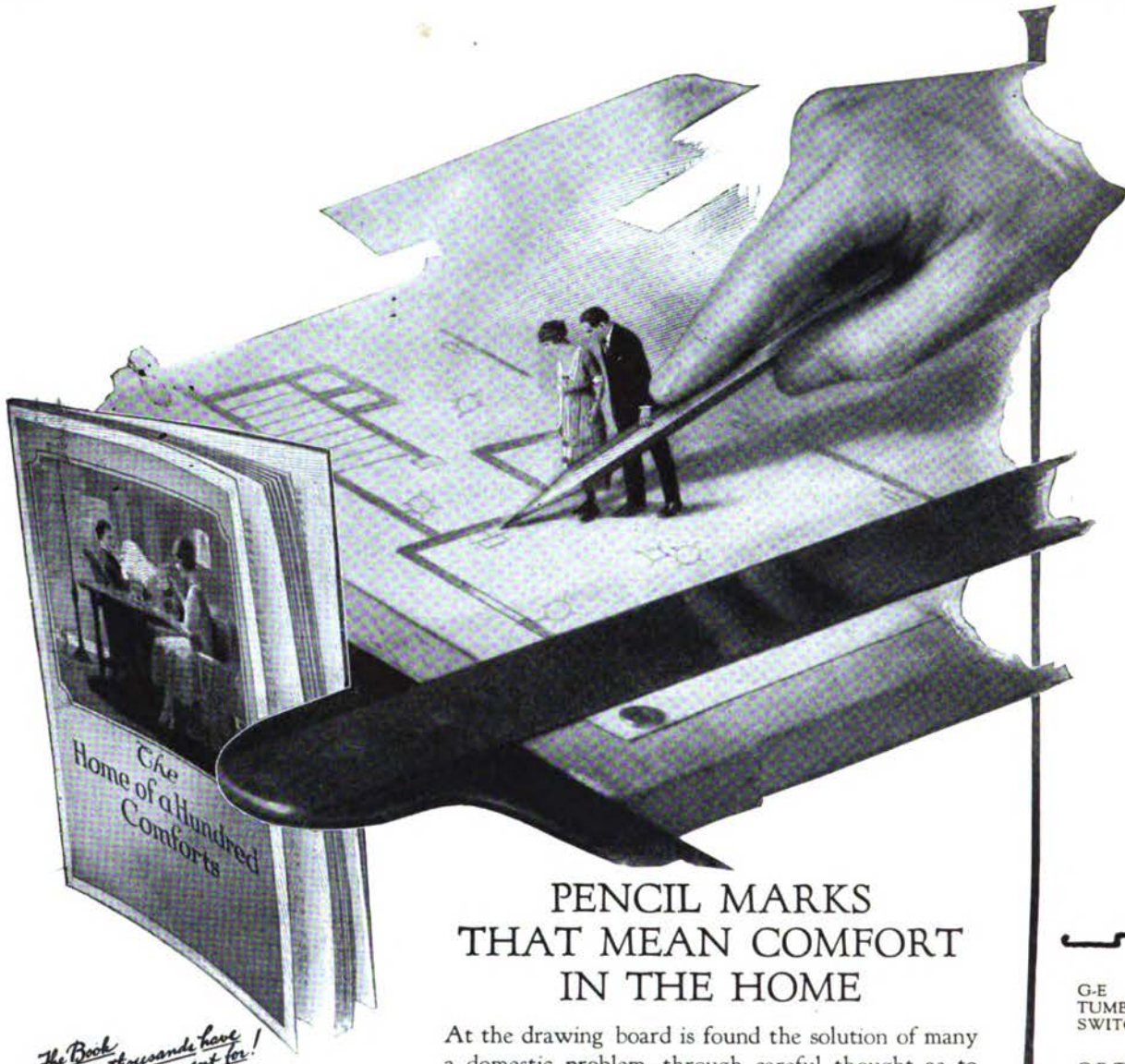
What will the architect profit by such an improvement in relationship? We can get the kind of information we need about the manufacturers' product and moreover, get it in such form as to be most useful. We can get information on which we can rely. We can write better specifications. We can specify with less chance of error and greater assurance that our specifications will be understood. We can, with smaller expenditure of effort, keep ourselves informed of progress and development. We can summon to our aid in solving our problems the whole resources and ingenuity of productive industry. We can build better buildings.

The Lighting of Public Buildings. (31f17)—(*Lighting Data. Edison Lamp Works. Bulletin L. D.* 135. *Pages* 23. *Size* 6″ × 9″. *Illustrated.*) A thoroughly satisfactory building really depends upon the preliminary planning of the lighting simultaneously with the structural elements, and as public buildings in general are elaborate structures with special lighting requirements, the best results are obtained only when these features are carefully considered beforehand. For example, adequate space should be available for lamps and reflectors above skylights where such lighting is employed; flexible control and a sufficient number of circuits to take care of future demands should be provided for; and convenience outlets at frequent intervals to meet particular conditions are all factors worthy of preliminary consideration.

Synopsis.—Lighting of Art Galleries. Paintings. Statuary. Lighting of Museums. Lighting of Libraries. Lighting of Municipal, County and State Buildings. Lighting of Banks.

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"The New York Public Library," *Electrical World,* Dec. 2, 1911; "Illumination of St. Louis Public Library," *Electrical World,* July 13, 1912; "Electricity in the Harper Memorial Library (Chicago)," *Electrical World,* Sept. 21, 1912; "The Artificial Lighting of Libraries," *Illuminating Engineer* (London), July, 1913; "Indirect Lighting in School Room Library," Herman Plaut, *Lighting Journal,* March, 1913; "The Library Lamp," M. Luckiesh, *Lighting Journal,* Dec., 1915; "Library Illumination (Milwaukee Public Library)," F. A. Vaughn, *Electrical World,* June 14, 1913; "The Lighting of Schools, Libraries and Auditoriums," F. A. Vaughan, University of Pennsylvania Lectures, *Illuminating Engineering Society,* p. 307; "The Lighting of the Widener Memorial Library," *Electrical Review,* Aug. 21, 1915; "The Relation of Light to the Proof of Documents," A. S. Osborn, Transactions, *Illuminating Engineering Society,* Vol. IX, p. 498; "Indirect Lighting of a Banking Room from the Cage Grill," *Electrical World,* Sept. 28, 1912; "When Architect and Engineer Co-operate," S. G. Hibben, *Lighting Journal,* March, 1913; "Electric Wiring and Illumination of the Continental and Commercial Bank of Chicago," *Electrical World,* July 26, 1913; "Indirect Lighting Chicago Bank Interior." *Electrical World,* Oct. 25, 1913; "Concealed Lighting Fixtures in the Swedish-American Bank in Chicago," C. M. Bunn, *Lighting Journal,* Feb., 1914; "Modern Lighting of a Bank by Reconstruction of Old Fixtures," Walter R. Moulton, *Lighting Journal,* May, 1916; "New Method of Lighting Bank Cages," *Electrical Review,* February 24, 1917.

Church Lighting. (31f17)—(*Lighting Data, Edison Lamp Works. Bulletin L. D.* 136. *Size* 6" x 9". *Pages* 19. *Illustrated.*) No set rules can be laid down for designing church lighting as the structures vary widely in type and the artistic effect plays such an important part. In other words, this class of lighting cannot be standardized as that for the industrial plant, office or store. In attempting to discuss the subject, one can only outline the conditions likely to be encountered and schemes which have proven satisfactory in service.

In the church, in contrast to the theater, or assembly hall, the lights are turned on the entire time that the congregation is present, and particular attention must be paid to the arrangement of lighting units, concealing the lamps from view or equipping them with diffusing glassware.

As pointed out, the lighting units should be in architectural conformity with the structure, yet utility of the lighting must be given consideration. By this is meant—first, use every precaution to prevent eyestrain, which leads to drowsiness and attendant discomfort; second, provide enough light in all parts of the room for easy reading. Experience has shown that, if there is no annoying glare or bad contrast, an intensity of from 0.75 to 1.5 foot-candles is sufficient for reading at short intervals, as for instance, during the singing of a hymn or psalter responses.

It is impracticable to specify the wattage necessary to obtain the desired illumination or give figures on the utilization constants for the different systems suggested, due to the wide variation in character of surrounding. The illustrations show some typical examples, and these, with the data presented in the bibliographical references, indicate the range of values which have been applied.

Synopsis.—General Requirements of Modern Lighting. Methods to Avoid in Church Lighting. Feasible Schemes for Ritualistic Churches. Evangelical Churches. Special Lighting Requirements of Chancel—Choir Loft—Windows—Clock Tower and Belfry—Exterior. Suggestions Regarding Wiring.

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Effect of Color of Walls and Ceilings on Resultant Illumination. (31f1)—(*Bulletin L. D.* 102, *Lighting Data, Edison Lamp Works. Size* 6" x 9." *Pages* 11.) No matter how carefully designed a lighting system may be as to type and size of lamps, type and make of reflector, spacing, height, etc., if the surroundings are not adapted to re-

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flecting such light as strikes them, then an inefficient system may result. The question of proper painting of walls and ceilings is therefore of great importance.

It is safe to say that differences between well painted white ceilings and ordinary light bluff or similar colored ceilings give increase of between 20 and 30 per cent in illumination where semi-indirect or similar lighting systems are in use. This is really a conservative figure.

The freshly scraped surface of a block of magnesium carbonate reflects more light than any other object—88 per cent of the light falling on it is sent back. We cannot expect as good results from ordinary painted surfaces, for the usual mediums, including even zinc white, are quite gray as compared with magnesium carbonate. A paint made with magnesium carbonate as a pigment more nearly approaches this value and is desirable from a standpoint of light reflection. As comparative average values for properly prepared and freshly mixed samples, the following figures apply:

Paint	Coefficient of Reflection New	Coefficient of Reflection After Ageing 1 Yr.
White Lead and oil	0.75	0.67
Lithopone	0.77	0.72
Calcimine type	0.74	0.67
Flat enamel (magnesia bearing)	0.76	0.73
Gloss enamel	0.75	0.75

There is comparatively little choice between any good white paints when fresh. The story is different, however, after they have been exposed to normal daylight conditions.

It is seen from this table that the enamels have held their own very well. The lithopone paint has fallen off by 6 per cent of its initial value. Calcimine and white lead have fallen off about 10 per cent. The falling off of calcimine is due largely to its porous nature which permits it to absorb dirt readily. The falling off in white lead and calcimine is progressive and does not decrease in rate. Numerous observations on lead and oil paint in use for two years indicate a falling off of about 20 per cent. The slight falling off of flat enamel occurred in the first month, no further decrease being observed. The coefficient of reflection of the gloss enamel was constant throughout the test.

These tests were all made under constant laboratory conditions, and must serve only as a guide for judgment. They form a starting point for observation and practice.

Now, as to the actual painting itself, it is obvious that a gloss enamel will not fulfill one of our initial conditions, due to its high value of specular or image reflection. We are, therefore, forced back on some type of what we have called flat enamel. This paint must contain no lead and probably no linseed oil. It must be composed of chemically inert white substances ground exceedingly fine (to produce density) and mixed in an inert vehicle which is impervious and non-porous when dry. It must dry flat and be washable.

The most permanent and highest practical coefficient of reflection and diffusion can be obtained with plaster surfaces treated as follows:

First coat—good impervious surface,
Second coat—straight lithopone paint,
Third coat—gloss enamel and lithopone mixed equal parts,
Fourth coat—flat enamel (magnesium bearing) flowed on.

For metal surfaces, after the usual preparation, apply first coat of red lead thinned with raw linseed oil drier and turps to give an eggshell finish. Over this a coat of lithopone paint mixed one gallon to one quart of good varnish; then the second, third and fourth coats as applied to plaster.

From an illuminating standpoint the walls of a room are not as important as the ceilings and they should be less bright. A simple painting formula will apply. It is, in brief: First coat—good impervious surfacer mixed with equal part lithopone paint. Second and third coats—straight lithopone paint, the last tinted with japan tint thinned with turps.

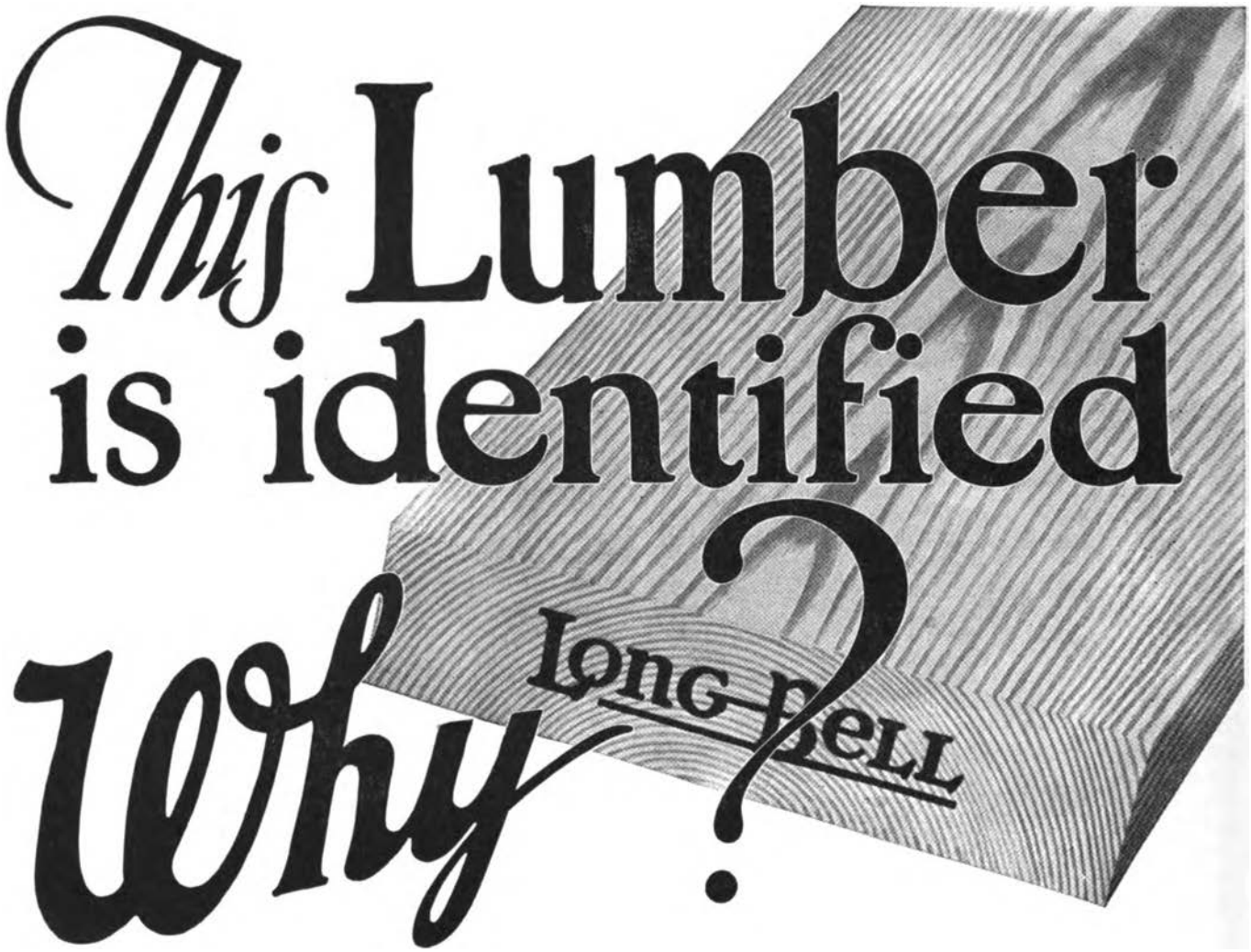
If it is necessary for any purpose to use a gray tint it should never be obtained by mixing lamp black in the paint. This is the substance having the lowest known coefficient of reflection. To obtain the gray it is desirable to mix vermillion and emerald green to get black and then thin out with white. This produces what is known as a warm gray and has a reasonable high coefficient of reflection.

In this bulletin the following subjects are discussed: Special considerations applying to industrial plants, offices and schools, stores and residences; permanency of wall finishes; method of applying paint; economics of situation; measurement of reflection factor, coefficients of reflection.

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Arthur F. Mathews
RAY BOYNSTON

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Saving Kenmore for the Nation

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JOURNAL OF THE
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Volume XI APRIL, 1923 No. 4

Arthur F. Mathews

Institute Gold Medallist in Painting, 1923

By RAY BOYNSTON

THE intense preoccupation with the single phase of art that is expressed in painting, and particularly in the easel picture, has made of most painters in modern times specialists who have little except a theoretic contact with any other medium of the visual arts. Consequently the arts of architecture, painting, sculpture, design, tend to become insulated from each other. This intense personal vision may exist within the limits of a framed picture, or in a detached piece of sculpture without having any proper place in architecture and without being able to give us a livable design for a piece of furniture or a rug. An artist who can plan the structure and detail of a building with style and completeness, design furniture and carve it with an exacting sense of craftsmanship and the fitness of ornament, brings a breadth of vision into the field of painting that makes for dignity and unity to a comprehensive scale. This is that genuine equipment of the artist which gives him the authority that we associate with the great figures of the renaissance,—men who were great builders as well as artists and consummate craftsmen besides. They were able to realize their vision in architecture, in painting, or in sculpture; in bronze, in gold, in wood, or in stone; in tapestry, in fresco, or in mosaic.

Arthur Mathews, who is to receive the gold medal of the American Institute of Architects in recognition of his achievements in painting, is one of the rare figures of our time who have brought to the service of art the training and outlook of the craftsman and the builder as well as the painter.

In his long career Mathews has been an architect, a lithographer, teacher and director at the Hopkins Art Institute, mural painter, artist and craftsman at all times, and continues actively as a mural painter at the present time. By virtue of the scope and distinction of his achievements and the ripeness of his experience, he is to be honored, not only among the painters of California and the Pacific coast, where he has lived and accomplished all of his work, but as an artist of national importance. The steadfastness with which he holds to his convictions and purposes in art and the vigor of his intellectual grasp of it are in themselves distinguished.

He comes of a family of architects, having a father and two brothers in that profession. His apprenticeship began as an architectural draughtsman in his father's office in Oakland, where he remained until he was twenty-one years old. After leaving there he worked for a period as a designer and lithographer with the firm of Britton & Rey. He had been painting since he was fifteen years old and in 1885 he went abroad to study and remained there for some time. He was at the Académie Julien for a year as a pupil of Boulanger, and while a student there received the grand gold medal, an honor that is only given to a student who holds first place in composition drawing and painting in the same concours. This medal had not been given for nine years previous to his receiving it.

His experience as a designer and lithographer was a valuable one. In that period of the history of San Francisco it was a smaller community, more isolated and more self contained; there were no specialists and consequently a high general efficiency was required. A designer for a firm of lithographers had to be able to turn out anything that was asked of his firm and this set a premium on adaptability and alertness.

While still at work as a draughtsman in his father's office, Mathews essayed some projects in architecture that gained him a certain amount of recognition. In 1879, in an effort to correct the sanitary and other defects of the public school buildings in New York City, the "Sanitary Engineer" instituted a competition for a design for a model school building. The problem

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involved accommodations for 800 pupils on a lot 100x100 feet, surrounded on three sides by buildings, providing a courtyard, classrooms with the greatest possible amount of outside light and ventilation, a school auditorium, and separate entrances and classrooms for boys and girls. Nearly one hundred designs were submitted and the jury appointed to pass on them awarded the first prize of $250 to Arthur F. Mathews.

At about the same time public interest was reawakened in the unfinished Washington Monument. The shaft, raised to the height of one hundred and seventy-four feet, had stood unfinished for twenty-five years on account of lack of funds. The design had never been popular with architects and an effort was made at this time to have the whole project reconsidered and new designs submitted in competition, utilizing the completed portion of the shaft in a new structure of entirely different character. Although the Monument Commission was never prevailed upon to accept the suggestion, a number of architects voluntarily submitted projects which were published and commented on in the art journals.

Among others that were reproduced in the *American Architect* in 1879 was a design by Mathews. It was further commented on in an article by Henry Van Brunt in the *American Art Review*. Considering the manner in which he lays bare the pretentions and shortcomings of other designs reviewed in the same article, the attention he bestows on this one is highly complimentary; and considering the fact that it was the work of a boy of nineteen, submitted anonymously, it must have seemed even flattering to the author of the design.

The following is quoted from Van Brunt's review: "In strong contrast to all the other suggestions for the completion of the monument, an interesting project from California, published anonymously in a late number of the *American Architect,* and here reproduced by permission, affords abundant and satisfactory recognition of the scale of the structure, and makes adequate use of sculpture as a decorative accessory. It is a spirited and poetic composition, correctly set forth in the style of the modern French Renaissance, and might have been submitted in the latest architectural concours of the Ecole des Beaux Arts. It would seem that a style which has been so consistently and so consecutively developed from Roman types, which has been so refined by the study of a race of artists through successive centuries of civilization, and which in this progress has received such abundant accretions, such as a boundless wealth of phraseology, and has thus become so pliable to the expression of modern ideas,—that such a style might have resources peculiarly applicable to the interpretation of the theme which we have now in contemplation. The present essay draws upon these resources perhaps with a too liberal hand, but it presents on the whole a conception which might well be accepted as the expression of a nation advanced in the higher arts of life.

"The monument has its roots firmly planted in the ground by means of successive stages or stories with battering walls; it stands, as Browning says, "four-square," and finishes at the top with a sudden upward leap, presenting in general outline and in its multiplicity of detail strong points of affinity with some of the better Hindu pagodas. Indeed, in respect to detail it is enthusiastically overloaded, although this fault is largely condoned by the severity of its sky lines.

"The iconology of this design might be improved. This, however, is not an essential point. Evidently the design is but a study; it is the outline of an heroic poem, crowded with incidents, set forth with a degree of rhetorical elegance which is full of promise. It has the merit of being distinctly monumental and entirely appreciative of the colossal scale of its masses."

An interesting episode of Mathews' career was a period of about fourteen years, during which he had his studio in connection with a shop in which he personally supervised the design and execution of fine cabinet work and furniture. The shop employed sometimes forty or fifty skilled workmen at a time. The project was not only successful as a business venture, but was notably successful as an experiment in collaboration between artist and craftsman. During all this time Mathews carried on his painting and executed some of his most important commissions, for painting has always absorbed his principal efforts.

He has twelve panels in the State Capitol at Sacramento, six in the Oakland Library; and in San Francisco, three in the Lane Library, one in the Children's Hospital, one in the Mercantile Bank, one in the Mechanics' Institute which replaces an earlier decoration of his that was destroyed in the fire of 1906, and a large lunette that was placed at the entrance of the Court of the Four Seasons of the P.P.I.E. in 1915, and is now hanging in the Palace of Fine Arts.

In the Masonic Temple in San Francisco he has done the whole group of half a dozen lodge rooms, even detailing the original designs of some. Everything from top to bottom, including the carpets, was designed in the shop, along with the cabinet work and special carvings, under his supervision. Several of the rooms are richly ornamented with carved panels, pilasters and brackets. Many of the pieces he made himself and all were done under his direction. Here is where his craftsmanship comes to the aid of his sensibilities as an artist and a decorator.

In the development of complete interiors Mathews shows to advantage his clear understanding of the functions of mural decoration and in this he has shown a comprehensive technique. His professional under-

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standing of architecture has no doubt imbued him with a respect for the significance of walls and the spaces of a room that others do not so readily attain. The manner in which he has treated the Commandery of the Masonic Temple is a good exposition of it.

Flaubert, in some one of his letters, speaks of the sheer ecstacy he experienced in contemplating the untroubled surface of a huge unbroken wall of masonry. Something akin to this can be experienced in contemplating the interior of this room. It is in a way distinguished for the things that have not been done. Four massive arches rise to support the dome, their rich cinnamon-colored surfaces undisturbed by a single ornament or decoration of any kind. The four pendentives hang like gold pennants stretched between them without any ornament except a circular medallion in the center of each. They soar upward to a dome that poises as lightly as a bubble on the tops of the arches, seeming barely to touch them. The dome is covered with tracery of silver and blue with a great sun of gold and vermillion in the center, surrounded by a band of vermillion containing the signs of the zodiac; further out from the center is a ring of circular medallions containing symbols of the order. The base of the dome is punctuated by a row of round arched windows, the tops of whose arches have been decorated on their lower surfaces with medallions.

The lower portion of the walls is paneled in dark wood; the remaining space up to the moulding from which the arches spring is treated with a red brown color about the value of the wood, relieved by a paneled tracery in blue. It produces a subdued pattern of about the same interval as the panels below, but preserves the feeling of a surface undisturbed that is extraordinarily satisfying. The spaces within two of the arches have been decorated with paintings which take the form of lunettes with supporting panels below. There is not a single gesture or grandiose flourish in the room. It has a very genuine nobility that is simple and austere in its richness.

The arts carry on in their fashion the search after reality, the burden shared by philosophy and religion. In apprehending this reality in some degree satisfaction comes to the soul of man. This reality is sometimes apprehended in the beautifully proportioned space that makes an entity of a room; in the perfectly organized forms of a piece of furniture or a carved figure; or in organizations of color that evoke the emotions of form realized. When a man can bring his vision to reality in any of these forms, we call him an artist; when he can command all three in the service of art it is fit that we should do him honor.

The Autobiography of an Idea

By LOUIS H. SULLIVAN

CHAPTER XI.

Chicago

Heard and seen by all stands the word *PERSONALITY,* in solitary and unique grandeur.

Heard and seen by all stands the word *Personality,* eminent, respectable, much admired.

Heard and seen by all in the crowd it calls together, and through which it deftly wanders like a shrewd hunch-back, the word *personality,* now a dwarf, grimaces salaciously.

And now it is a word on fire; a tiger in the jungle; a python hanging from the limb, very still.

How deep, how shallow is that which we call the soul.

How monstrous, how fluent, how vagrant and timorous, how alert are the living things we call words. They are the giants and the fairies, the hobgoblins and the sprites; the warrior and the priest, the lowly and the high; the watch-dog and the sheep; the tyrant and the slave,—of that wonder-world we call speech.

How like hammers they strike. How like aspens they quiver. How like a crystal pool, a rivulet therefrom, becomes a river moving sinuously between the hills, growing stronger, broader as its affluents pour in their tributary power;—and now looms the estuary, and the Ocean of Life.

Words are the most malignant, the most treacherous possession of mankind. They are saturated with the sorrows of all time. They hold in most unstable equilibrium the vast heritage of man's folly, his despair, his wrestling with the angel whose name is Fate; his vanity, his pride before a fall, his ever-resurrecting hope—arising as a winged spirit from the grave of disaster, to flit in the sunshine for a while, to return to the dust and arise again as his civilizations, so laboriously built up, have crumbled one by one. And yet all the beauty, all the joy, all the love that man has known, all his kindness, all his yearnings, all his dreams for better things; his passionate desire for peace and an anchorage within a universe that has filled him with fear and mystery and adoration; his daily round of toil, and commonplaces; his assumption of things as they are; his lofty and sublime contemplations, his gorgeous imageries; his valor, his dogged will, his patience in

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long suffering, his ecstacies, his sacrifices small and great—even to the casting aside of his life for a thought, a compassion, an ambition,—all these are held bound up in words; hence words are dangerous when let loose. They may mean man's destruction, they may signify a way out of the dark. For *Light* is a word, *Courage* is a word, and *Vision* is another. Therefore, it is wise to handle words with caution. Their content is so complex and explosive; and in combinations they may work beautiful or dreadful things.

All these thoughts have flowed from the one word, Personality, with which we began.

At Louis' age upon reaching Chicago, personality meant little as a formal word. He recognized by sight and feeling, by observing action and appearances, many of the phases of the powers of man upon which a word is built for use.

For words in themselves he had come to form a passing aversion, since he had noted their tendency to eclipse the vibrant values of immediate reality. Therefore, he preferred to think and feel and contemplate without the use of words. Indeed, one of his favorite pastimes was deliberately to think and feel and contemplate without the use of words, to create thus a wordless universe, with himself, silent, at the center of it all. Thus came about a widening clarity; an increased sensitiveness to values; a separate isolation of the permanent and the ephemeral; and it seemed, also, as though within his small, self-created silence he listened to the strident noises of the world as coming from without. All this Louis did with buoyant jocularity, for fun, for "practice" as he called it. And yet now and then a word came to him of a sudden, in surprise, a sort of keyword that unlocked, that opened and revealed. Among such was the word *self-expression,* which gave him a rude shock of hilarity and wonder. He said: What!—which expressed quite well what he meant.

For the first week in the strange city, Louis was the prodigal returned; and the fatted calf was offered up in joy. The next week he spent in exploration. As everybody said: "Chicago had risen phoenix-like from its ashes." But many ashes remained; and the sense of ruin was still blended with ambition of recovery. Louis thought it all magnificent and wild. A crude extravaganza. An intoxicating rawness. A sense of big things to be done. For "Big" was the word. "Biggest" was preferred, and the "biggest in the world" was the braggart phrase on every tongue. Chicago had had the biggest conflagration "in the world." It was the biggest grain and lumber market "in the world." It slaughtered more hogs than "any city in the world." It was the greatest railroad center, the greatest this, and the greatest that. It shouted itself hoarse in *réclame.* The shouters could not well be classed with the proverbial liars of Ecclesiastes, because what they said was true; and had they said, in the din, we are the crudest, rawest, most savagely ambitious dreamers and would-be doers in the world, that also might be true. For with much gloating of self-flattery they bragged: "we are the most heavily mortgaged city in the world." Louis rather liked all this, for his eye was ever on the boundless prairie and the mighty lake. All this frothing at the mouth amused him at first, but soon he saw the primal power assuming self-expression amid nature's impelling urge. These men had vision. What they saw was real, they saw it as destiny.

The elevated wooden sidewalks in the business district, with steps at each street corner, seemed shabby and grotesque; but when Louis learned that this meant that the city had determined to raise itself three feet more out of the mud, his soul declared that this resolve meant high courage; that the idea was big; that there must be big men here. The shabby walks now became a symbol of stout hearts.

The pavements were vile, because hastily laid; they erupted here and there and everywhere in ooze. Most of the buildings, too, were paltry. When Louis came to understand the vast area of disaster, he saw clearly and with applause that this new half-built city was a hasty improvization made in dire need by men who did not falter. And again spread out in thought, the boundless prairie and the mighty lake, and what they meant for men of destiny, even as the city lay stretched out, unseemly as a Caliban.

In spite of the panic, there was stir; an energy that made him tingle to be in the game.

So he bethought him he would enter the office of some architect; for a few buildings showed talent in design, and a certain stability. Outstanding among these was the Portland Block, a four-story structure of pressed brick and sandstone at Washington and Dearborn Streets. So he inquired concerning the architect of this structure and was told the name was Jenney: Major Jenney; or in full, Major William Le Baron Jenney. There were still some buildings under way, or arranged for, on the momentum of pre-panic days, though the town was otherwise badly hurt. A great fire, and a panic in finance, certainly made load enough for any community to carry, but Chicago, hard hit, bore up bravely.

Louis learned incidentally that the Portland Block had in fact been designed by a clever draftsman named Cudell. This gave him a shock. For he had supposed that all architects made buildings out of their own heads, not out of the heads of others. His experience in the office of Furness & Hewitt, in Philadelphia, it seems, had given him an erroneous idea. Yet the new knowledge cheered him in this hope: that he might some day make buildings out of his head for architects who did not have any heads of their own for such purpose.

He had once supposed that the genius for creating ugliness was peculiarly a Yankee monopoly; but he

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later found in New York and Philadelphia that almost all the buildings in these cities were of the same crassness of type; a singularly sordid, vulgar vernacular in architectural speech. So when he found the same thing almost universally in evidence in Chicago, he assumed that this illiteracy was general, and a jargon peculiar to the American people at large. The only difference he could see between the vernacular of the East and that of the West was that one was older and staler; and he cited Fifth Avenue, New York, as an instance. It is true that, scattered through the east were architects of book-attainment in fair number, and a few of marked personality and red blood—particularly one Henry Richardson, he of the strong arm and virile mind—sole giant of his day. In Chicago there were two or three who were bookish and timid, and there were some who were intelligently conscientious in the interest of their clients. Among the latter may be mentioned Major Jenney. The Major was a free-and-easy cultured gentleman, but not an architect except by courtesy of terms. His true profession was that of engineer. He had received his technical training, or education at the *Ecole Polytechnique* in France, and had served through the Civil War as Major of Engineers. He had been with Sherman on the march to the sea.

He spoke French with an accent so atrocious that it jarred Louis' teeth, while his English speech jerked about as though it had St. Vitus' dance. He was monstrously pop-eyed, with hanging mobile features, sensuous lips, and he disposed of matters easily in the manner of a war veteran who believed he knew what was what. Louis soon found out that the Major was not, really, in his heart, an engineer at all, but by nature, and in toto, a *bon vivant,* a gourmet. He lived at Riverside, a suburb, and Louis often smiled to see him carry home by their naked feet, with all plumage, a brace or two of choice wild ducks, or other game birds, or a rare and odorous cheese from abroad. And the Major knew his vintages, every one, and his sauces, every one; he also was a master of the chafing dish and the charcoal grille. All in all the Major was effusive; a hale fellow well met, an officer of the Loyal Legion, a welcome guest anywhere, but by preference a host. He was also an excellent raconteur, with a lively sense of humor and a certain piquancy of fancy that seemed Gallic. In his stories or his monologues, his unique vocal mannerisms or gyrations or gymnastics were a rich asset, as he squeaked or blew, or lost his voice, or ran in arpeggio from deep bass to harmonics, or took octaves, or fifths, or sevenths, or ninths in spasmodic splendor. His audience roared, for his stories were choice, and his voice, as one caught bits of it, was plastic, rich and sweet, and these bits, in sequence and collectively had a warming effect. The Major was really and truly funny. Louis thought him funny all the time, and noted with glee how akin were the Major's thoughts to the vertiginous gyrations of his speech. Thus we have a semblance of the Major's relations to the justly celebrated art of architecture.

The Major took Louis in immediately upon application, as he needed more help. And to the fact that Louis had been at "Tech" he attached the highest importance—as alumni of any school are apt to do: so much for temperamental personality.

There was work enough in the office to keep five men busy and a boy, provided they took intervals of rest, which they did. In the Major's absences, which were frequent and long, bedlam reigned. John Edelmann would mount a drawing table and make a howling stump speech on greenback currency, or single tax, while at the same time Louis, at the top of his voice, sang selections from the oratorios, beginning with his favorite, "Why Do the Nations so Furiously Rage Together"; and so all the force furiously raged together in joyous deviltry, and bang-bang-bang. For a moment Louis quieted the riot and sang, "Ye people rend your hearts, rend your hearts, but not your garments," whereupon there followed a clamor of affronts directed toward Elijah the Prophet. The office rat suddenly appears: "Cheese it, Cullies; the Boss!", which in high English signifies: Gentlemen, Major William Le Baron Jenney, our esteemed benefactor, approaches! Sudden silence, sudden industry, intense concentration. The Major enters and announces his pleasure in something less than three octaves. Thus the day's work comes out fairly even. For "when they work they work; and when they don't they just don't."

On the stool next to Louis sat patient Martin Roche, now, and for many years, of Holabird and Roche. There was a tall, fleshy, mild-voiced American-German who had taught school; and a rachitic, sharp-faced, droll, nasal Yankee, who drawled comic cynicisms and did the engineering. "The old man," he would say, "is some engineer. . . . Like the Almighty, he watches the 'sparrow's fall,' but when it comes to the *tons* he's a l-e-e-t-l-e shy now and then, and sometimes then and now. You fellows work for glory, but I just work for coin." And then he rasped in song: "And as I said be-f-o-o-o-r, don't fall in love with a groceryman what keeps a grocery store." And thus he cackled on, as he figured strains; this time, he said, on a basis of three sparrows, while Louis hummed: "And as I said before, don't fall in love with a groceryman what keeps a grocery store."

John was the foreman. By nature indolent, by vanity and practice very rapid. He laughed to scorn and scattered to dust those that were slow; and would illustrate, in roseate tales, how fast he had done this and that. It speedily became evident that John was a hero-worshipper, as John blandly worshipped John in the presence of all; and Louis casually remarked that John's unconsciousness of his own personality was

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remarkable to the point of the fabulous and the legendary, whereup they became fast friends.

Louis had instantly noted in John a new personality; brawny, twenty-four, bearded, unkempt, careless, his voice rich, sonorous, modulant, his vocabulary an overflowing reservoir. A born orator—he must talk or perish. His inveterate formula was, "I myself"—did—was—said—am—think—know—to the sixteenth decimal and the nth power of egoism. It gradually dawned upon Louis that he had run across a THINKER, a profound thinker, a man of immense range of reading, a brain of extraordinary keenness, strong, vivid, that ranged in its operations from saturnine intelligence concerning men and their motives, to the highest transcendentalisms of German metaphysics. He was as familiar with the great philosophers as with the daily newspapers. As an immediate psychologist, never before or since has Louis met his equal in vitality, in verity, and in perspicacity of thought. He, John, knew all that all the psychologists had written, and much, of his own discernment, that they but recently have begun to unveil. Louis found in John a highly gifted talker, and John found in Louis a practised listener, so their bond of union may be summed up in the token "I myself."

One day John explained his theory of *suppressed functions;* and Louis, startled, saw in a flash that this meant the real clue to the mystery that lay behind the veil of appearances. Louis was peculiarly subject to shock from unexpected explosion of a single word; and when the word "function" was detonated by the word "suppressed," a new, an immense idea came suddenly into being and lit up his inner and his outer world as one. Thus, with John's aid, Louis saw the outer and the inner world more clearly, and the world of men began to assume a semblance of form, and of function. But, alas, what he had assumed to be a single vast veil of mystery that might perhaps lift of a sudden, like a cloud, this great veil proved in experience to be a series of gossamer hangings that must slowly rise up one by one, in a grand transformation scene, such as he had viewed when, as a small boy, he saw "The Forty Thieves," where all was transformed into reality by a child's imagination. Now would it be possible for him, through the reverse power of imagination, to cause the veils of the hidden world to rise and reveal. On this threshold, for a passing moment, he faltered. Then resurging courage came.

Louis soon noticed that while *he himself* had a clear program in life, John had none. That all this talk, while of deep import to him, was for John merely luxurious self-indulgence and a luscious hour and parade of vanity; that he, the elder, regarded the younger with patronage, much as a bright child, but a tyro in the active world; while Louis saw that John was merely drifting. In this regard each kept his thoughts to himself, while encouraging the other.

In Philadelphia, one hot summer's evening, Louis had gone to the Academy of Music to hear a Thomas Concert. During the course of the program he had become listless, when of a sudden came the first bars of a piece so fiery, that, startled, all alert, he listened in amazement to the end. What was this? It was new—brand new. The program now consulted, said: *Vorspiel,* Third Act, Lohengrin—Richard Wagner. Who was Richard Wagner? Why had he never heard of him? He must look him up; for one could see at a glance that this piece was a work of genius.

He mentioned this episode to John Edelmann, shortly after they had become acquainted; and John said: Why, at the North Side Turner Hall, Hans Balatka and his fine orchestra give a concert every Sunday afternoon, and Hans is introducing Wagner to Chicago; let's go. They went.

Louis heard the Pilgrims' Chorus—and raved. They went every Sunday afternoon until Spring. There followed in course, the *Vorspiel* to Lohengrin, to Die Meistersinger, to the Flying Dutchman, the Ride of the Walkyrie, the amazing fabric of the overture to Tristan und Isolde, the immense solemnity of Siegfried's Tod, the exquisite shimmering beauty of Waldweben.

Louis needed no interpreter. It was all plain to him. He saw it all. It was all as though addressed to himself alone. And as piece after piece was deployed, before his open mind, he saw arise a Mighty Personality—a great Free Spirit, a Poet, a Master Craftsman, striding in power through a vast domain that was his own, that imagination and will had bodied forth out of himself. Suffice it—as useless to say—Louis became an ardent Wagnerite. Here, indeed, had been lifted a great veil, revealing anew, refreshing as dawn, the enormous power of man to build as a mirage, the fabric of his dreams: and with his wand of toil to make them real. Thus Louis' heart was stirred, his courage was ten-folded in this raw city by the Great Lake in the West.

Yet John had the good sense to caution Louis to let the philosophers alone for a while; to let them lie in possession,—paraphrasing Siegfried's Dragon—as each had merely built an elaborate scaffolding, but no edifice within, and each was more concerned with the symmetry of his scaffold than with aught else, unless it be to scorn the flimsy scaffoldings of others. He said that Schopenhauer showed some intelligence, because he was a man of the world, while the others were more like spiders, weaving in the gloom of obscurantism, festoons of cobwebs in their dens, far from the light of the world of men and things. That Louis had better let the *ding an sich*—the ultimate thing—alone, and keep his eyes on the world as it is; that he would find plenty to interest him there, and that if he had the eyesight he would find a great romance there, also a great tragedy. That—quoting Carlyle,—he said, "The eye sees that which it brings the power to see;" which again shocked

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Louis; for the thought rose up: Maybe the veil is not without, but covers my own eyes: as John went on, preaching of the world of men and their significance, for worth or ill, in the social order, and Louis again was shocked at the words "social order."

But their talks were not always so strenuous and disturbing; for John was mercurial—an inventor of self-moods,—a poseur, infatuated with the pessimistic attitudinizing he assumed at will, for the sake of the sensation of gazing into the mirror of his thoughts which reflected the image of one he deemed the greatest philosopher and psychic of all time, still unknown to the world. But John had many other moods, as many as he chose to summon, and on the whole, he was jolly, bombastic, much alive, and in public, loud of speech in an over-weening beggary to attract attention, and thereby feed his hungry vanity. But withal he was Louis' warm friend, and showed it by a devotion and self-sacrifice singular in one so absorbed in self worship. And be this said here and now: The passing years have isolated and revealed John Edelmann, as unique in personality among fine and brilliant minds. Be assured he will not turn in his grave, unless in bliss, should he hear it said that he was the benefactor and Louis the parasite and profiteer.

They were both fond of exercise, and frequented the gymnasium. John, though not so very tall, was huge in bulk and over-muscled. He excelled in feats of strength, while Louis was dexterous and nimble in lighter work. As spring approached, John talked more and more about the "Lotos Club," whose members had boat houses on the bank of the Calumet, near the bridge where the I. C. R. R. crosses. He spoke of a "Great Chief," one William B. Curtis by name, who had founded the Club, who had beaten Dr. Winship at heavy lifting; was a champion all-round athlete, and had chosen the club name because of a bed of Lotus not far down the sluggish stream. He had said briefly, he preferred the Greek word *Lotos* to the Latin *Lotus*.

So in the spring the two went to live in John's boat-house. There were three other houses, one occupied by said William B. Curtis, who, when asked, said his middle name was Bill,—and "Bill" he was called. Louis was simply wild with joy over this new life. He was now actually a member of a real athletic club. He had never been a member of any club. And these young men, all older than he, were heroes in his eyes, if not demi-gods: they showed such skill in performance, and were so amiable toward a youngster. The mighty "Bill" was 38, so he said. He was the man of brains who never bragged. He was too cynical to brag, and deadly literal in speech. As a mathematician he had revised Haswell. His brain was hard, his manner human. He knew his anatomy, and had devised special exercises to develop each separate muscle in his body. So when in the sunlight he walked the pier for a plunge, he was a sight for the Greeks, and Louis was enraptured at the play of light and shade. He had won a barrel full of medals and he said he kept them there.

By a strange paradox he detested display. He had no vanity. He had a quizzical sense of humor which he displayed when he said the club was no club, because there were no dues, no entrance fees, no by-laws. All that was needed in an applicant was a sound constitution and a paper shell. And yet he said he had named the Club the Lotos because of his love of flowers, and the nearby presence of the lotus field. His brain was remarkably well stocked with varied information of the so-called higher sort, but he seldom talked of such, except briefly in derision. He was the exact opposite of John, but with an equal egoism which he kept under cover, and which passed as modesty—although he cared not in the least. All this interested Louis, who was beginning to observe men as individuals, and to study personalities; to observe in particular the working of men's brains; for he had begun to notice, with keen and growing interest, that the thoughts of a man corresponded exactly to his real nature. So Louis discerned in Bill a highly trained mind, self-centered and selfish in its nature. Louis guessed that the man had a past; that at least there was something hidden. So he spoke to John, who said: "You are right. Bill is not in athletics for fun, but for his health. Medals interest him only as tokens of condition. When he was a young man he was attacked by consumption. The doctors gave him up. Bill took to open air exercise. With his scientific brain you can imagine how systematically he went about it. He effected a cure; but now he has only one lung—would you guess it?" Briefly to complete the story of this man, the most remarkable that has ever appeared in the field of amateur athletics,—he became editor of "Wilkes Spirit of the Times" and remained such for years. At the age of 63 he, with a companion, was making the ascent of Mt. Washington when a blizzard overtook them near the summit. The bodies were found a quarter of a mile apart.

The effect of Bill Curtis upon Louis was not merely that of a magnificent athlete and man of brains, but primarily, and most valuably that of exemplar in the use of the imagination and the will, doggedly to carry out a program. That a consumptive should have risen to become a great athlete, was enough for him. The living fact profoundly and permanently strengthened Louis' courage in carrying out his own program. Though Louis did not especially warm up to the man, because their natures were not sufficiently alike, he has never forgotten what he then owed to the force of example of a clear brain. So Louis added "Bill" to his growing collection of personalities.

* * *

In the carrying out of his own program Louis' thoughts turned definitely toward France; which meant, specifically, the *Ecole des Beaux Arts*. He

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wished now to go to the fountain head of theory. Of practice he had enough for present purpose.

On July 10, 1874, he sailed from New York on the steamship Britannic, on her maiden trip eastward. Before she left her pier there were grand doings aboard —flowers, speeches, high society. For she was proclaimed "The Pride of the Seas." She displaced three thousand tons. She was headed for Liverpool.

Prior to leaving, Louis called again upon his friend Stratton in New York, and was given further pointers—first of all, to call at the American Legation.

Louis found the ocean trip disappointing and stupid, with exception of the ship's great vertical engines and deep stoke-hole, the various apparatus, and the working of the ship by officers and crew, which he studied carefully, as he had become much interested in engineering.

While Louis was leaning on the railing, watching, with vague emotion, his native land fade in the mist, and sink from sight, as though irrevocably lost, he felt a pang of nostalgia; the sea seemed so lonely—after brisk excitement. Near by at the rail were others also watching the land disappear. As it became dim, a grating voice spoke out: "Thank God we have seen the last of the damned Yankees." The words were said in savage bitterness and contempt. Another voice agreed. Louis turned to the left and saw two short swarthy men, black bearded, black eyed. For a moment Louis thought it would be nice to throw them both overboard. He looked at them, wide-eyed, with something of the sort in view, and they talked on in lower tones. Louis was puzzled by the speech. Why "damned Yankees"? he asked himself. Why this hatred, this anathema? The phrase sounded racial; it stuck in his mind like a burr. It was said with such conviction as to seem impersonal; as though included in something larger. Never had he heard such virulence addressed to his own people. He pondered long over this; were the "Yankees" a hated people? If so, who hated them?

Louis did not know a soul aboard. He was proud of the ship, proud to be on it, but he was lonesome, and no one paid the slightest heed as he prowled up and down, in and out. The weather was fair all the way. The waves seemed eternally to roll and roll,—without crests. A vast expanse of water, dark blue, almost black; the circular horizon always present and only fifteen miles away. Never had his world seemed so small in fact, yet so limitless and grim in suggestion. He seemed to be always at the top of the world, always in the self-same spot, always in the midst of deadening monotony; day after day not a sail in sight, not a sign of a storm. Day after day confined to a solitary ship moving on through a wilderness of water, the vessel rhythmically rolling and heaving in its course, night and day, night and day; would it never end? Laughter, aboard, had long since ceased. Where was the romance of the high seas? The end came in a total lapse of ten days. The waters turned blue and then green. The boat came to a stop off Queenstown. Enshrouded in heavy mist, Louis saw a coast line of mountains or high hills. This is all he ever saw of Ireland.

The way along St. George's Channel seemed glorious. The clear, deep waters, and the glimpses of coast line restored his spirits as he felt his normal condition of clarity return. Here at last was an old world, which, as a new world he was to discover. How high his hopes, how buoyant his thoughts, as they swung into the Mersey. England came near to him, and nearer, then slowly nearer, then in contact, as the ship came to dock. Then came all the bustle and the joyous greetings about him, as Louis pressed his foot on English soil. Ah, what fluttering emotion, the overflow of bubbling youth. At last, at last, he had arrived where for years he had dreamed to come, and the broad Atlantic now lay between him and his native land. Now was to come that Great Adventure, which, as a joyous youth *sans peur* he faced with elation, and a confidence known only to pure fools. He stayed but a day or two in Liverpool, for his immediate objective was London. He was at pains to make it a daylight ride, for he wished to give his eyes all the treat of novelty. And what he saw was a finished land—something that had ripened through the centuries. This finished land impressed him with a sense of the far-away. It did not seem to vibrate; and, subaudite, came to him a stream of ancient tales. He found quiet, unobtrusive charm in the countryside, he noted patches of crops arranged with a precision, an inch by inch economy of space, that gave him a feeling that the people of this Island must be crowded, as each small farm was pressed tight against its neighbors, and each crop pressed tight against the others. This tightness confirmed his impression of a finished land. It was a revelation to him, who had come from the middle west of America with its vast prairies sparsely settled. He noticed, too, the amazing solidity of the roadbed, and the smoothness with which the train flew on at high speed. He saw, too, that there were no grade crossings; that everything was immensely solid in contrast to the flimsiness with which he was familiar. And the country roads were wonderful, so sound, so smooth, as they wound their way; and the charming streams he crossed; the verdure, the lovely groves, the hamlets, the villages, the many church spires rising from masses of green, the rural air everywhere, charmed him with the softness, the velvet, the down of age and tradition. Surely it was a finished land, beautifully finished, sturdy, vigorous, solid, set, and he felt the power of this land, this tight-crowded land, and he thought as an inference it must be true that in such a crowded land its people must be tightly self-conscious and self-centered. But he did not as yet clearly discern the portrait of this Island crowded on all sides by the sea.

Arriving in London, he thought the roof of the

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Charing Cross Station would fall down upon him. It was so solid, so oppressively heavy, he was glad to escape to the street. In London he spent two weeks, most of the time joyfully. The weather, it appears, was extra fine. In this strange world called London, he walked many miles every day and examined most carefully everything within reach, and he thrilled to the booming of "Big Ben," the like of which he had never heard. It seemed to be an old world sound, a remnant or an aftermath of the Age of Romance. The power of its stroke almost said to him: "I am that I am!" One evening in his wanderings he found himself in the Haymarket and saw there shoals of wretches. He was rudely shocked, in horror, in pity and dismay. When he finally escaped from the many fingers clutching at his sleeve, he thought: Is *this* also London—does Big Ben boom in pride for these?—and a veil slowly lifted by degrees. And in the shops where he went to make his small purchases, the rudeness, the brutal rawness of the clerks, or clarks, amazed him. At the Music Halls he was equally astonished at the brilliance of the demi-monde. London was too much for Louis. He lacked the worldly wisdom to grasp its immensity, the significance of its teeming, struggling population, the cold reserve in certain places. But he noted the manifold variety, the surging crowds, the dismal hardness of so many faces, and a certain ruthlessness; and everywhere, in the jammed highways, the selfish push of those who must live. So he confined himself to the pleasanter aspects, such as Hyde Park, Rotten Row, and the Thames embankment. He was curious at the vast Houses of Parliament, vertical everywhere; and St. Paul's, black with soot; and many structures in which he sensed, in their visages, the solemn weight of age. They did not appeal to him in their historic message so much as in the sense of that which is old. This massive oldness made a new sensation for him. So passed the days.

Louis left England with so many intermingling impressions thrust suddenly upon him, so many seeming contradictions and paradoxes, that time was needed for the turbid mixture to settle, to clarify, and to reveal a dominant idea.

Thus Louis reached the shores of France much puzzled as to England.

He had sailed from Dover to Dieppe.

In the course of the passage, all the transcendental curves, known and unknown to mathematics, were revealed to him by the packet, which distorted and twirled the very heavens, in its can-can with the sea.

As they moved into the little harbor of Dieppe, what was left of Louis gazed at the quaint city with acceptance and delight. How different from England. What a change in physiognomy. How cheerful the aspect—a delicate suggestion not so much of age as of mediaevalism; he had read about it in many books—a surviving fragrance of romance. But on the way through Normandy, Louis was equally startled, at the rigid spacing of trees, at the dinky chateaux, new-made, stuck here and there as though forming the heads of pins. All was clean, all was stiff. But the farms and the cattle were a revelation, especially the cattle—never had he seen such.

As the train passed through Rouen, twilight was under way, and the spire of the Cathedral seemed to float in the air as though there were no earth.

Arrived in Paris after night-fall, Louis saw the streets aglow. He boarded a *fiacre,* and shouted to the *Cocher:*

Hôtel Saint Honoré!

(*To be continued*)

Saving Kenmore for the Nation

It should be of interest to all architects, and especially to the readers of the JOURNAL, to learn that a concrete movement has been undertaken to preserve historic Kenmore, in Fredericksburg, Virginia, as a national asset. Next to Mt. Vernon, no other building now in existence relates so intimately to the private and personal or family life of George Washington. Kenmore was erected in 1752 by Colonel Fielding Lewis for his bride, Betty Washington, the sister of the nation's first President, and readers are referred to the issue of the JOURNAL for March, 1915, for a more detailed account of the active personal interest that Washington took in the design and construction of this splendid old colonial home.

In the early part of 1922 a group of residents of Fredericksburg, learning that Kenmore was about to be placed on the market and that the spacious grounds were in danger of being subdivided into small building lots, took counsel to see what could be done to save this historic asset to the nation. Out of this first effort grew the Kenmore Association, founded along the lines of the Mt. Vernon Society, and with similar objects in view. The Kenmore Association lost no time in obtaining an option to purchase the property at a price of $30,000, and then instituted a nation-wide campaign to raise, by contributions, this amount of money and enough more to provide for the proper maintenance of the property in perpetuity. The response was immediate and gratifying, evidencing the interest of people in all sections of the country in

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KENMORE

this patriotic movement, and in a very short time sufficient funds were received to enable the Association to take over title to the property on a basis of deferred payments for the unpaid balance. At the present time about half of the purchase price has been contributed.

The purpose of this brief article is to bring to the attention of architects and others the fact that there is now an opportunity to "save" Kenmore, and that it can be done at a relatively small cost. The Planters National Bank of Fredericksburg is acting as Treasurer for the Kenmore Association and will gladly receive contributions to this cause, or they may be sent to the president of the Association, Mrs. Vivian Minor Fleming, of Fredericksburg, to whose patriotic and untiring efforts the inception of this work and its successful record of accomplishment to date are due. It is hoped that readers of the JOURNAL will join in this undertaking, and make it, as it should be, an achievement resulting from a patriotic interest widespread throughout the land.

A Scholarship Competition

In our advertising pages the Alabama Marble Company announces a Scholarship Competition in the use of marble.

As is well known to members of the Institute, the Alabama Marble Company has for a long time been in consultation with the Board of Directors of the Institute over the question of arrangement of this kind of a competition. It seems evident that the Alabama Marble Company is looking a long way ahead, and that it proposes to test out its theories of making it financially possible for at least one architect to give a year's time to the study of marble. So far as we know, this is the first effort of this kind that has been made in the United States, and the results will certainly be watched with the keenest interest.

Competition in Uruguay

The JOURNAL is asked to announce an International Competition for a public building to be the seat of the municipal government of Montevideo.

The prizes are announced as follows: First, 10,000 pesos; second, 5,000 pesos, and third, 3,000 pesos; but the jury has the right not to award any of these, if, in its judgment, the plans are not worthy.

A Uruguayan peso at the present rate of exchange is about 85 cents.

A complete program can be had on application to the Honorable Jacobo Varela, 1317 F Street, N. W., Washington, D. C.

The competition closes at Montevideo, Uruguay, on 8 August, 1923, and the usual conditions as to method of procedure will govern the jury.

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Decoration for Lane Medical Library
Arthur F. Mathews

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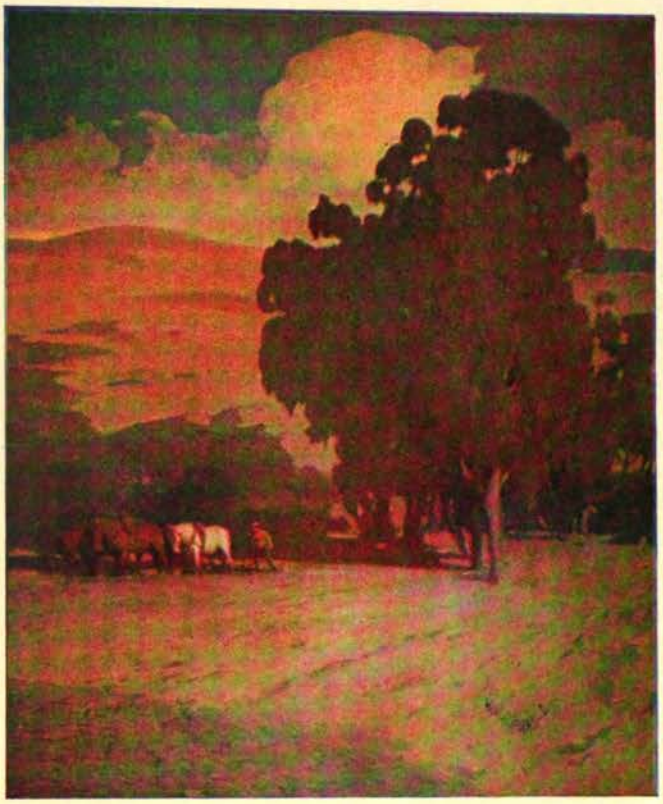
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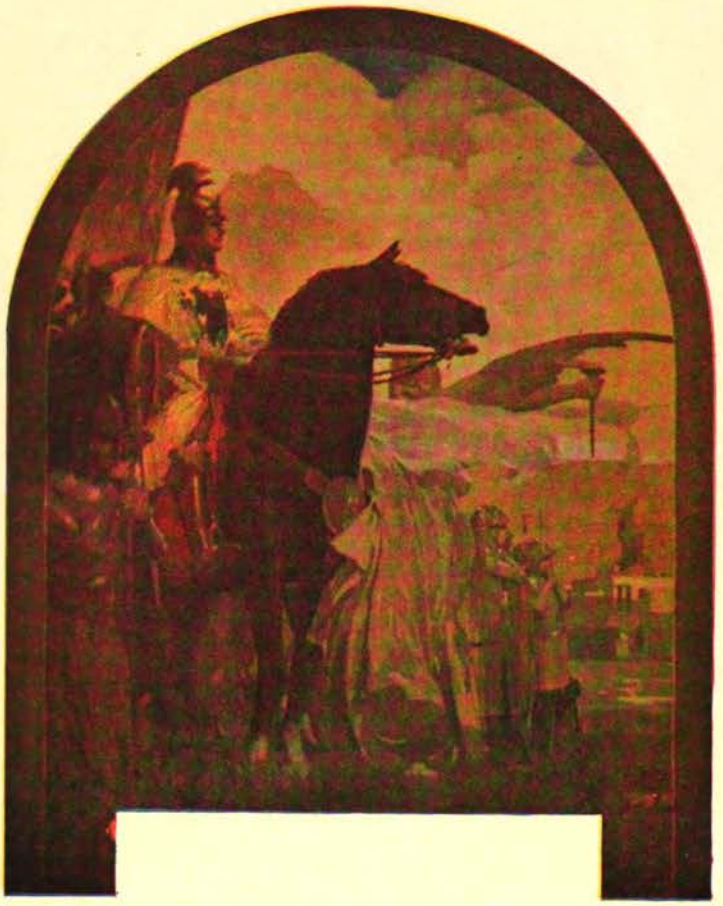
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RESIGNATION—Oakland Library
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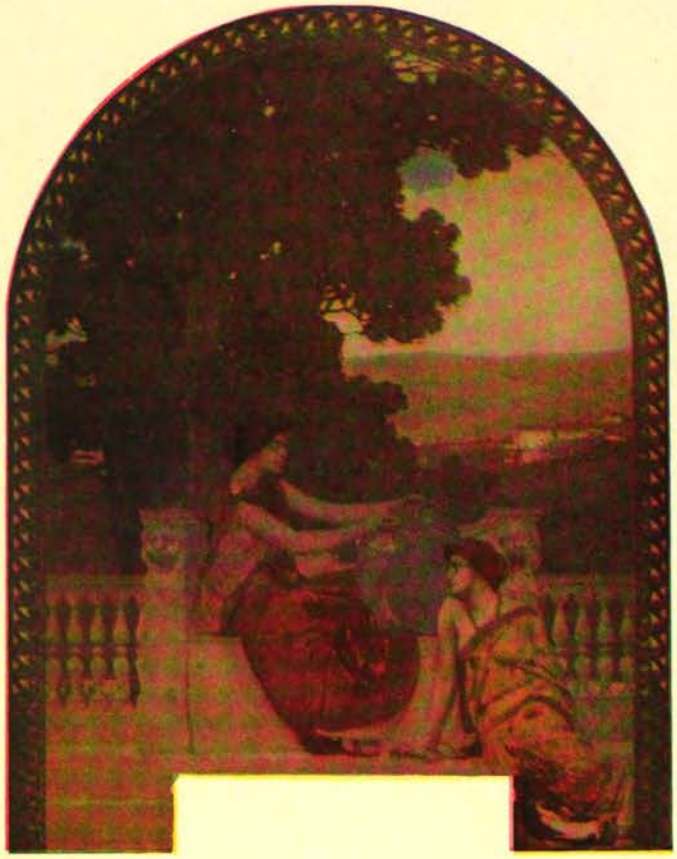
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From Foreign Shores---Casting Off

By IRVING K. POND

Enchanted are not necessarily enchanting ports. Enchanted objects are themselves under a spell; enchanting objects cast the spell over the enchanted. I am not enchanted, not even deluded; I suffered disillusionment a long time ago. Yet, though I am under no spell, the medium through which I observe them casts a sort of enchantment over the ports I visit in my paper boat. My frail bark enters the bight and comes innocuously to rest in a haven of enchantment. Really, as you well know, there is no bark nor bight. They are but images conjured up in the imagination of the skipper of my frail craft, which is getting into involved currents and must be steered toward the shore. We just miss the Norwegian Maelstrom and land, hap'ly, first in a Swedish and then in a Danish port.

Swede and Dane

In a package of photographs I glimpse several subjects so characteristic that I offer them for reproduction. Simplicity of composition, strength and vigor of form, rationalistic employment of materials, these elements characterize these works of the hardy North. Good proportions and a pleasing relationship between solids and voids add their charm. I would have you note the treatment of the hardwood floors, various doors and arch-



HOUSE IN STOCKHOLM J. TENGBOM, *Architect*



HOUSE IN STOCKHOLM J. TENGBOM, *Architect*

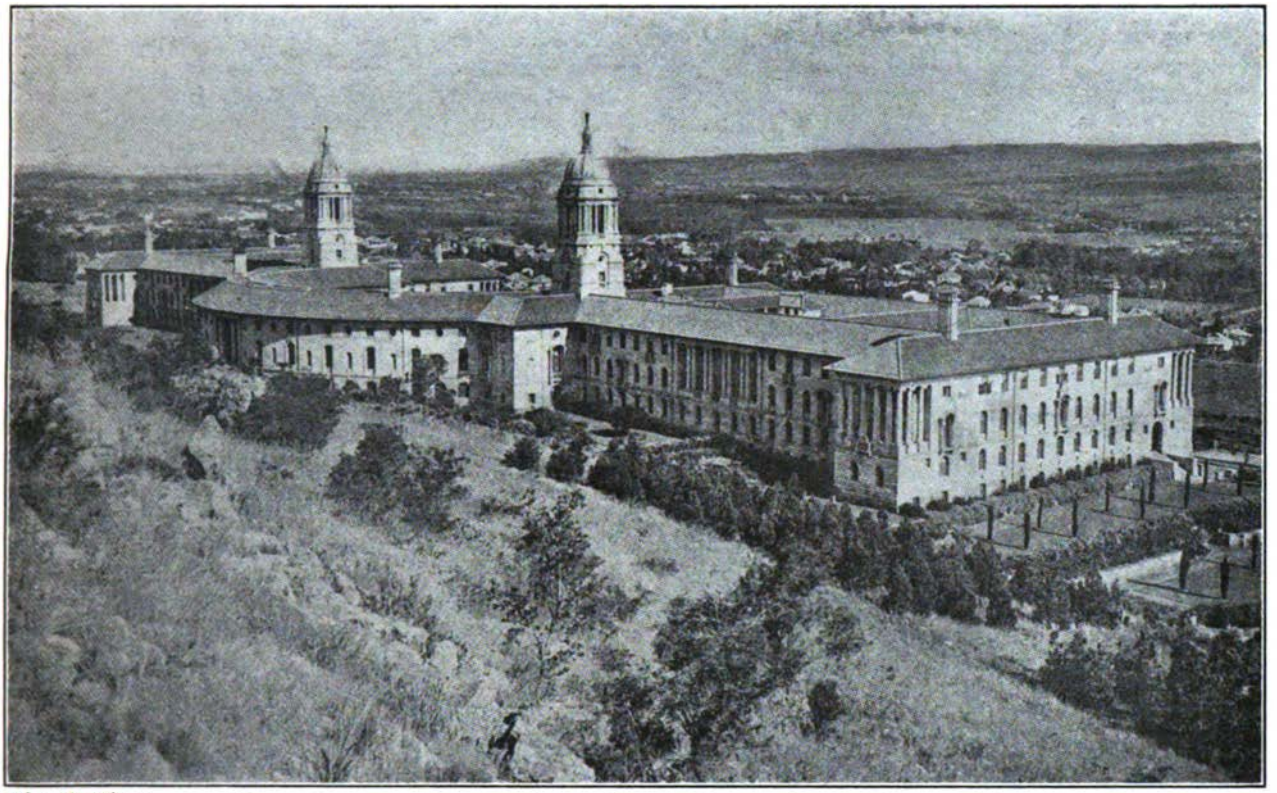
ways, and the roofs broken to give scale and to relieve monotony. These exhibits from Stockholm are frank revelations of individual and racial characteristics. *Architekten* (Dec. 30), of Copenhagen, gives several illustrations of the work of a seemingly real architect, H. B. Storck, who, born in 1839 and dying in 1922, reached in the fullness of his powers a ripe old age. A portrait gives us the counterfeit presentment of a man of serious mien, scholarly and dignified. The illustrations of his buildings show them to be characterized by qualities inhering in the man and in his race. Had space permitted I had gladly shown much of the work of this strong personality, and I regret that linguistic limitations on my part prevent my deeper penetration into his individuality.

To England

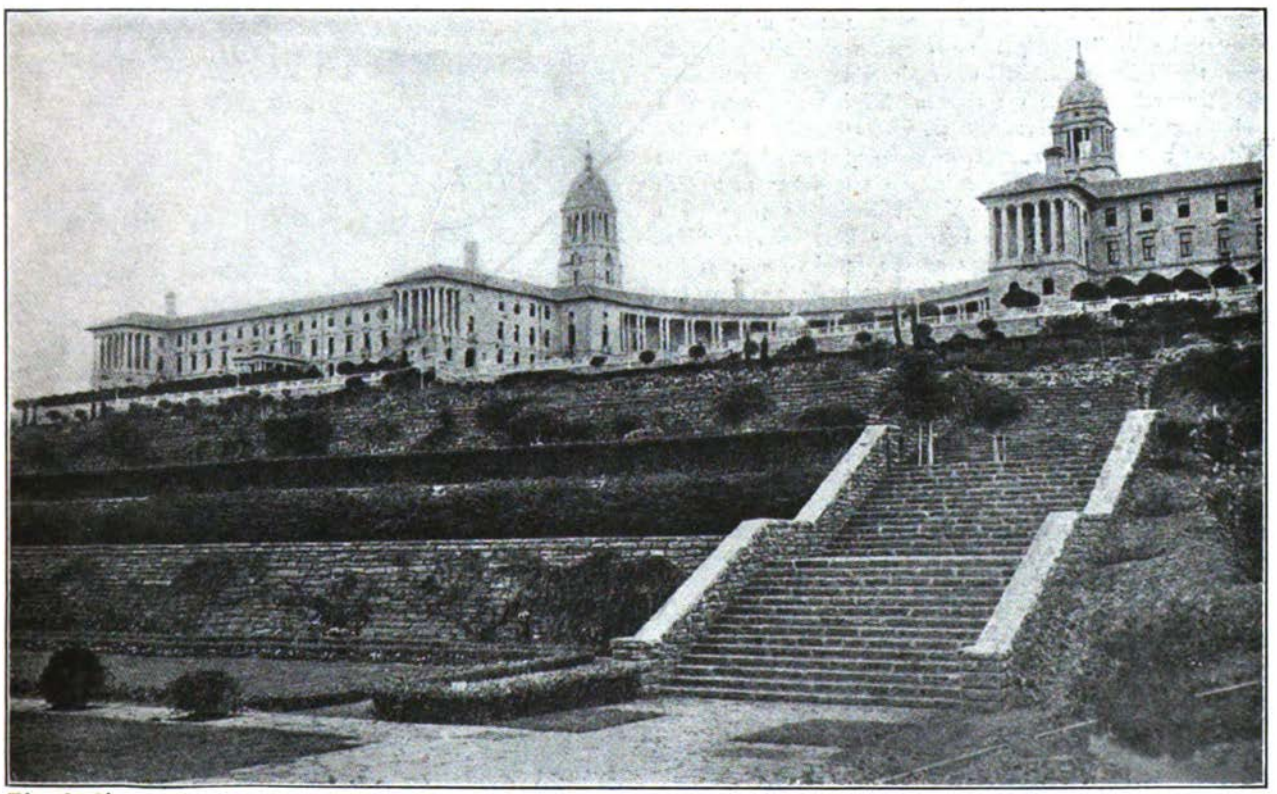
One advantage of voyaging on paper seas is that the channel holds no terrors; the crossing being quite imperceptible and only a few words long. And now we are in the midst of British sights and sounds and are feeling altogether at home. The British are so like the Americans in so many ways that I find it difficult to be as respectful to them as I feel I ought to be; for I never have been able to take my own countrymen any too seriously, although I believe that my attitude toward them is tempered to a degree with an appreciative understanding.

In putting on its new dress, or, perhaps better, in giving itself a new form, one of the avowed purposes of

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The Architect UNION BUILDINGS—PRETORIA, SOUTH AFRICA. HERBERT BAKER, A.R.A., *Architect*



The Architect UNION BUILDINGS—PRETORIA, SOUTH AFRICA. HERBERT BAKER, A.R.A., *Architect*

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HOUSE IN STOCKHOLM J. TENGBOM, *Architect*

Architecture, the Journal of the Society of Architects, London, was to make itself a more potent medium of communication between the profession and the laity; to give the laity a means of addressing the profession directly and at the same time of helping the laity to a more complete and sympathetic understanding of architecture; not of the practice, necessarily, but of the thing itself. The *Journal* in opening its pages has met with some response, a bit of which I shall comment upon later. But first, that the laity may have some definite mental concept of what they are expected to sympathize with, would it not be well for somebody, perhaps the architects themselves, to establish some broad, fundamental principles which may be generally and freely accepted as underlying the art? Mr. H. Bartel Cox, in a communication in the December issue, drawn out by my reference to a valuable article from his pen, mildly complains that I discourse "on architecture and on architects very much in the abstract." I admit, to an extent, the soft impeachment; but I have not confined my preachment to the abstract. I have very definite notions of what I conceive architecture should be and should mean to the individual and to the race; and I have set them forth concretely in my writings, as in my sketches and executed designs. This probably is news to several people—even among the architects! I am sorry to have misinterpreted Mr. Cox in stating that he advocated "Centralization, i. e., education by the government as in France." Of course, I know and I know that Mr. Cox knows, that individual members of the government such as, for example, M. Poincaré, M. Clemenceau, or M. Quelque Autre, do not teach in the French National School of Arts, but that the School is supported by the government and is under its patronage. I think that if one will read to the end—and the reading will repay one—Mr. Cox's "A Plea for the Modern Outlook" and, too, his communication, one will feel that I did him no particular injustice.

A Need for Standards

However, that architects and laity need some standards for judgment, if not some standardized principles, is made apparent by the two reviews signed by A. Trystan Edwards, one defending the use of the Orders in the design of the "County Hall," the other drubbing with some show of justice a portfolio of designs of detached buildings, called "A Modern City." In this Mr. Edwards makes it quite clear that no "City" is involved, but only a lot of detached toy houses, not one with a plan able to function. That phase is brought out; but I missed any philosophical discussion of the stuff as architecture. Perhaps the critic felt that none was demanded; yet there must be some canons by which such emanations may be judged as to their architectural merits or demerits.

Hilaire Belloc contributes an interesting, and in a way provocative, study entitled "The Return of a Norm" in this same issue. As the article was editorialized by C. H. W. in the February issue of this *Journal* (A. I. A.),



CENTRAL POST OFFICE, STOCKHOLM. F. BOBERG, *Architect*

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HOUSE IN STOCKHOLM J. TENGBOM, *Architect*



HOUSE IN STOCKHOLM J. TENGBOM, *Architect*

I mention it only to introduce the few words I wish to offer on the appearance of certain distinguished members of the literary branch of the laity upon this new avenue of intercommunication between architecture and the world outside. In the January issue of *The Journal of the Society of Architects* our attention is called particularly to communications from two literary lights; and distinguished literary lights they are, as I have indicated. Although, if you did not already know this to be their reputation, you never would guess it from these present efforts. George Bernard Shaw—you've read his plays; and he always plays, though to that I do not seriously object—contributes a few frivolous lines, the tenor of which has for the moment escaped my memory. I remember quite clearly, however, the bearing of the epistle from Singenervin (visualized St. John Ervine), whose novels you have enjoyed. This gentleman, writing none too constructively in the present instance, says in effect: "There's ne'er an architect dwelling in all Denmark (nor in all the lands bordering upon the Seven Seas, for that matter) but he's an arrant knave"; and I answer with Horatio: "There needs no ghost, my lord, come from the grave to tell us this." All the strictures he passes upon architects have been leveled against them from time immemorial and are part of their stock of traditions. What Mr. Ervine is shying his shaft at is human weakness and not architecture. Think, for instance, of what architects or others might find to criticize in novels and plays: the foul atmosphere, the cramped mental state, the superficialities, and the like. The architecture of the theatre and of the dwelling cannot be much worse than the plays produced or the lives lived therein—that is, in some of them; and those, often, the most highly functional and beautiful. In your next epistle to the architects please, Mr. Ervine, give us some original message, something constructive, some revelation as original and as imaginative as that delivered some time since by your namesake in the Isle of Patmos.

An article on "The Architect's Training at the French National School" is readable and should carry some lesson. That there is so much of potential value in that training makes the more incomprehensible to many of us that, in spite of it, or because of it, France, throughout the period of its influence, has produced an architecture



IMPROVEMENTS IN CENTRAL LONDON—SUGGESTED BY JOHN MURRAY, F.R.I.B.A. Looking from the Strand over the Thames

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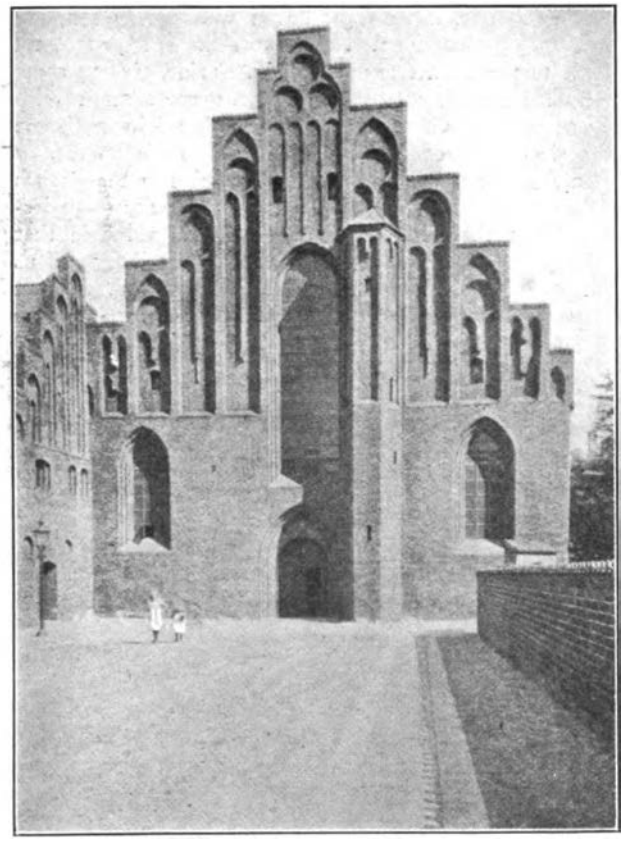


A House in Stockholm J. Tengbom, *Architect*

so entirely devoid of human sentiment and of emotional appeal, an architecture that is so lacking in the human quality. Artisanship, craftsmanship, draughtsmanship all are there; the thing which warms the heart is missing.

The Late Sir Ernest George

The London architectural journals, as well as the *Journal of the R. I. B. A.*, carry notes upon the death of



Architekten H. B. Storck, *Architect*

St. Maria—Helsingfors



Construction W. Grayson Brown, *Architect*

Prince of Wales School, Hamilton, Ontario

Sir Ernest George, R.A. The opening words of the tribute of Mr. Paul Waterhouse, President *R. I. B. A.*, were these: "If ever the word 'gentleman' meant a man of perfect gentleness, that man was the late Sir Ernest George." I had the honor of being acquainted with Sir Ernest, and was at one time a guest in his London home. There I gazed upon his wonderful drawings, numberless it seemed. Not a few were framed and hung upon the walls; the bulk rested in cabinets and portfolios. Many are known to the public through reproductions. I have upon the wall of my draughting room one or more of these reproductions which hung there long years before I came to meet the artist personally. And when I did meet him I compared him immediately in my mind with our own Robert Swain Peabody, another such artist, another such "gentleman." After all, there must be some virtue in a profession which, if it did not produce, did develop and hold such fine spirits. Those of our band who have not been inspired, not only by the work, but by the names of Ernest George and Peto, Ernest George and Yates—and Peabody and Stearns—have been deprived of much of that which makes the profession of architecture a means of spiritual expansion to some of us.

On a Zig-Zag Course

The Architect (Dec. 22) gives illustrations of the Union Buildings (Government Buildings), Pretoria, South Africa, by Herbert Baker, A.R.A., Architect. I shall criticize neither the crescent nor the use of the Orders in this structure; indeed they seem to justify themselves and the architect in employing them. This building will be illustrated herewith if the plates lend themselves to reproduction. It is not because the subjects are less charmingly or suggestively presented by indefinite outlines that I wish the English plates were more clearly printed, but that *The Journal* could reproduce certain of them more satisfactorily for its readers.

As we have just touched at Pretoria, we can't be far from Cape Town. Anyway, we are near enough to make it quite visible to me, through the medium of the *Architect, Builder and Engineer,* of that burg, that they, the architects, down there have got the "bug" and are going to stir up feeling between themselves and the engineers by trying to put through (or over) an Archi-

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tects' Registration Bill, which, as the engineers see it, will limit the legitimate practice of professional engineers. The subject is discussed in the engineering section of the paper. The engineers of South Africa seem not to be so keen on registration, and the discussion ends in these words: "The whole subject of professional registration bristles with difficulties, and it is a moot point—as witness the recent discussion in the United States—whether registration will accomplish all that is claimed for it and whether in a developing country it is to the public interest to be too rigid."

Construction, of Toronto (Dec. 22), gives space to the schools of the Dominion. In plan and elevation, especially in elevation, these buildings, generally worthy as they are, are too much like their ilk in the United States and too little like those of the mother country to intrigue me much. One of the best we reproduce.

Through the medium of the *Architect's Journal,* of London, we get a glimpse of Russian Soviet art, especially the art of the theatre, though as the originals of the illustrations are from Russia, we cannot be said to view the product through English eyes. Weird, patched up, pseudo-symbolic stuff a lot of this stage scenery is. They, in Soviet Russia, do not seem to want beauty—it is too ideal; nor do they want realism in the Soviet Theatre: they want, seemingly, to get as far away from realism or any illusion of reality as is possible—and, knowing or imagining what Soviet reality is like, we cannot find it in our hearts to blame them. Mark Twain's description of his wrecked raft as "like a box of matches struck by lightning" would aptly characterize the setting of the balcony scene in "Romeo and Juliet" as presented at the Kamerny Theatre in the year of Grace 1922. I know not why I said "Grace," for that suggests charm, and charm has been banished from Soviet art. I could not say "the year of our Lord," for the Lord has been banished from Soviet life. Perhaps I may as well have said nothing.

My ports of call must be enchanted, for no deeply vital image seems to impress itself upon my retina. For all that, I am getting rather to enjoy these voyages—so faint a puff in the paper sail produces such an illusion of motion.

Letters to the Editor

The Dome of St. Peter's

Sir: In the JOURNAL for December, 1922, there appeared an article by me on the subject of some notes I had made in my research on the dome of St. Peter's. Mr. Egerton Swartwout, in the January issue of the *American Architect* took occasion to express, rather facetiously, his disagreement with my statements. I opine that he needs some correction in his facts. The delay in my reply is accounted for by the fact that I am in Rome.

From various of his statements, one is forced to believe that Mr. Swartwout has never seen the model of the dome which is not on public view at this writing. It can only be seen by special permission from the Vatican authorities. Thus the average tourist does not say, as Mr. Swartwout jocularly remarks: "how interesting, and pass to the next exhibit."

There is no record that Michelangelo made models previous to the one mentioned in the following letter[1] which was written in Rome by Michelangelo on February 13th, 1557, to Leonardo di Buonarroto Simoni in Florence: " . . . 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 Most Reverend Cardinal di Capri in special, and I estimate that it will keep me in Rome for another year at least. I entreat the Duke. . . ."

[1] Michelangelo—A Record of His Life, by Robert W. Carden, pp. 300.

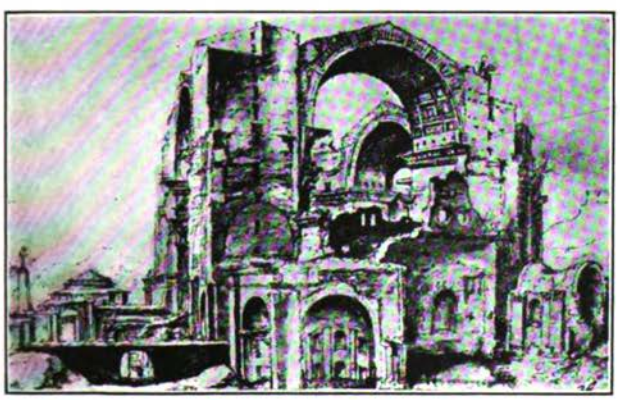


FIGURE 1 HEEMSKERCK—1532-1535



FIGURE 2 HEEMSKERCK—1532-1535

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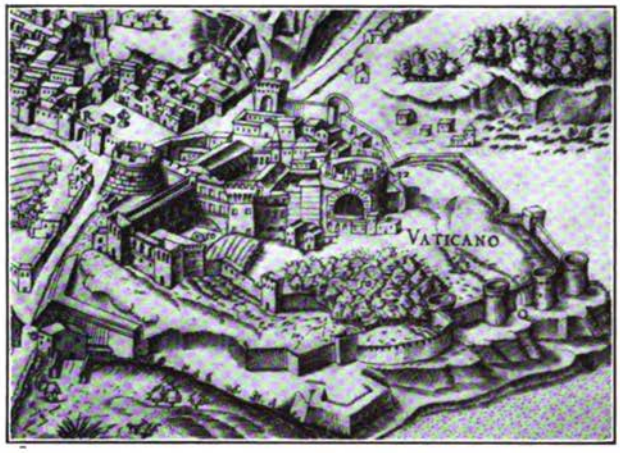


FIGURE 3 DATE AND ENGRAVER UNKNOWN

Mr. Swartwout says, "Michelangelo could and probably did model hundreds of little domes," which is no doubt true; but it appears certain that, up to the date of his letter, no models of his on anything like a large and intelligible scale had been provided for St. Peter's.

It is to be regretted that Mr. Swartwout, in his endeavor to prove his point, should so completely ignore what I said about the heightening of the dome. A person who had not read my article would infer from his criticism that I did not so much as mention this salient change. Now then, Michelangelo made the model in 1557, seven years before his death. This gave him ample time to study the model from every angle and to realize what it was not possible for him to see before, namely, that the lantern would be eclipsed by the curvature of the dome as one approached the main entrance to the church as Michelangelo intended the church to be, that is, a church built in the form of a Greek cross, and not the church with a long nave as finally built.

Giacomo Della Porta, who was responsible for the completion of the cupola after Michelangelo's death, was a pupil of the great master. It is almost incredible that, if Della Porta had departed in so vital a point from Michelangelo's design as to heighten the dome very considerably, no notice should have been taken of the fact. Let me quote Symonds[2] on this subject; he says: "Taking, then, Vasari's statement in conjunction with the silence of Fontana, Poleni and other early writers, and duly observing the care with which the proportions of the dome"—that is, the dome as a whole—"have been preserved, I think we may safely conclude that Michelangelo himself abandoned the third or semispherical vault, and that cupola, as it exists, ought to be ascribed entirely to his conception." Further, it is a recorded fact[3] that Pope Pius IV strictly forbade any departure from Michelangelo's designs, although after the death of Pope Pius IV, Pope Sistus V omitted the con-

[2] J. A. Symonds, PP., Life of Michelangelo.
[3] Charles H. Wilson, Life and Work of Michelangelo, p. 520.



FIGURE 4 HEEMSKERCK—1532-1535

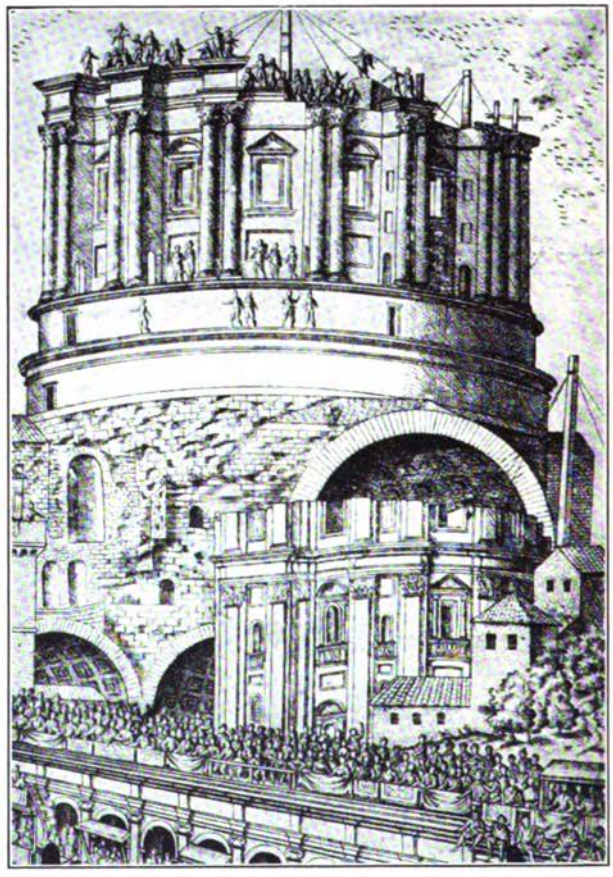


FIGURE 5 1563
Note the engraver's inaccuracy in the panels below the windows

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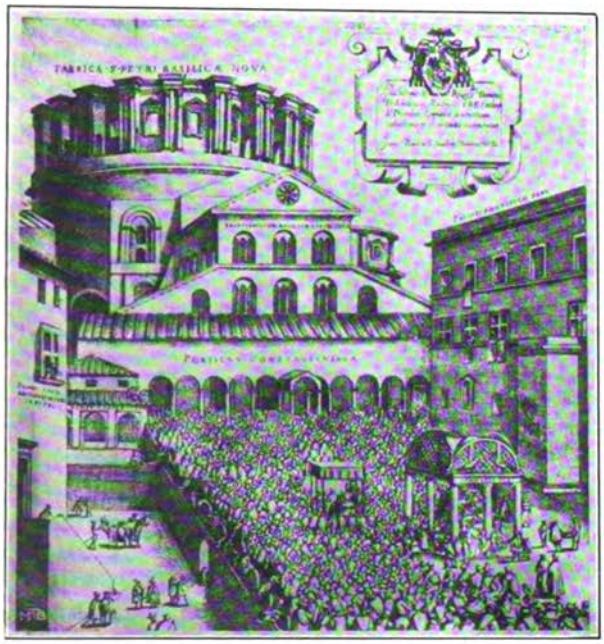


FIGURE 6 GIAMBATTISTA—1575
Note the engraver's inaccuracy in the window heads as in comparison with Fig. 5, where they are accurately shown.

soles and statues, probably because of a lack of funds, and his desire to see the dome free from scaffolding during his pontificate.

With these points clearly in mind, let us answer Mr. Swartwout's reasons for the omission of the consoles. He says, "that projections from a form circular in plan tend to confusion, because they catch light in different ways." It is this variation and play of light and shade which gives to the dome its beauty and which expresses its solidity. There is a similar variation in the flutes of a column,—a variation which is pleasant to the eye and gives form to the column. If one admits that the buttresses are correct in the design of the whole and are necessary for stability, then the consoles which are a continuation of the buttresses are correct. The steel-like line of the silhouette of the dome is not complete without the consoles, and, moreover, the long sweep was to have been terminated by the statues. As it stands today, the hard angular termination is far from being pleasant. The added weight of the statues at the end of the consoles would have given an added security to the thrust of the ribs, while the crown of Apostles, or Saints, would have increased the splendor of the design. Furthermore, the omission of the consoles not only weakens the support given to the ribs, but also gives a stilled effect to the dome by abruptly separating the perpendicular lines of the drum and attic from the curve of the dome. It is difficult to believe that this would have received the designer's consent. Charles Wilson[4] writes as follows, "The beautiful curved buttresses bending back from the blocking course at the corinthian piers are altogether omitted. So serious a change as this is not likely to have been the work of Michelangelo, and it may be therefore supposed that he did not build the attic. The effect of the omission is very unfortunate." And another quotation on the same point from the same author says: "The entablature of the drum breaks into projections over the buttresses, and it is particularly to be noticed, that above each of these, starting from the summit of the blocking course, an abutment sweeps back or batters, with a beautiful curve, dying out in the cornice of the attic, just below the projecting ribs of the cupola. Not only is this admirable in design but it is equally so constructively and in harmony with sound principles."

[4] *Ibid*, p. 531.

Now let us spend a moment in observing the progress of the dome from the time Michelangelo became architect-in-chief until his death. First let us consider certain dates. Michelangelo became the architect in charge in 1547. The model was made in 1557. The work on the drum of the dome began in 1558, Michelangelo died in 1564. This list of dates will prepare the reader for some photographs taken from original engravings, now in the possession of Dr. Ashby, Director of the British School at Rome, which give an idea how the dome was progressing at different periods. The names of the engravers, where possible, and the date of the engraving, will be found under each illustration. Figures 1 and 2 show the condition of the supporting arches; figure 3 shows the columns of the buttresses being put in place; figure 4, that the work has reached the height of the entablature; figure 5, the entablature under construction; figure 6, that the work has reached the top of the entablature. This is the point where the work was stopped by the death of Michelangelo in 1564. Therefore, the reader will plainly see that there is no proof that the consoles and statues were intentionally omitted by Michelangelo.

Does Mr. Swartwout believe that Michelangelo would for a moment think of placing delicately carved statuary on a building before the latter was finished?

The work was discontinued for 20 years after the death

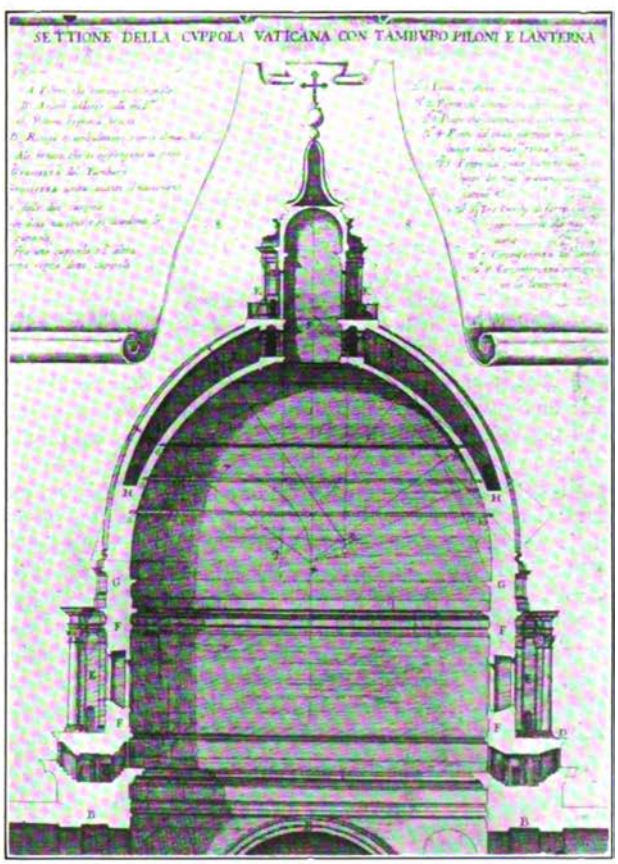


FIGURE 7

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of Michelangelo. Although exposure to the weather for so long a period may be the cause of some of the cracks visible today in the buttresses and drum, yet most of the cracks in the dome are due first, to a hasty erection of the dome under Della Porta and Fontana; second, to the fact that the dome has been struck by lightning several times; and last, to earthquakes. The cupola proper above the drum was completed by Della Porta from July 15, 1588, to May 19th, 1590, six to eight hundred workmen being employed day and night upon the work. A solemn mass was celebrated in the church below as the last stone was being laid. The cross, which contains relics, was placed on top in November, 1593.

Gimmaldi tells us that the mosaic of the inner dome was begun in 1598 and completed in 1612.

Mr. Swartwout says, "just what the curve as it exists really is I don't know, and frankly I don't think anyone knows." I would like to have him know, and I have, therefore, had a plate from Fontana photographed (fig. 7). Durum[5] and Poleni[6] will also show him very interesting diagrams. There are original drawings by Michelangelo in the Museum Wicar at Lille of the dome of St. Peter's, and another in the Museum Teyler at Haarlem. Domenico Fontana published in 1590 the work he had undertaken for St. Peter's. Carlo Fontana republished (edition of 1614) the works of his relative. In this connection it is interesting to know that the lines of both the external and internal domes were cut into the pavement outside the walls by Della Porta and Domenico Fontana. Carlo Fontana compared these curves with the actual measurements of the domes, and he tells us that he found the curves to be correct. Unfortunately this pavement was destroyed in the 19th century, but unquestionably Carlo Fontana's publication gives us not only the curves in the pavement, but also the true profiles of both the real domes. The dome has been measured by others, as, for example, by Poleni. Particular attention is called to Carlo Fontana's book entitled Templum Vaticanum, Ipsius Origo, which contains many interesting engraved plates and data.

The breaks in the cornice of the buttresses, to which Mr. Swartwout refers, do exist in the model; I have measured them very carefully and have at hand all the dimensions.

He also refers to the windows on the curvature of the dome as changed from the model. This is not so: the ones on the curvature of the dome are a direct copy of the ones on the model. The windows on the model appear differently, it is true, because they are made of cardboard and are not in three demensions, but the exact details which the windows were to take in the actual dome are drawn on the cardboard and have the shadows cast and rendered.

From Mr. Swartwout's "regrets," one would judge that he believes that the paid critic has exclusive right to the press. Surely the investigator should likewise have his place—he should even be encouraged to present his researches, especially if he has spent many days of careful study upon the originals.

VICTOR L. S. HAFNER,
Fellow in Architecture, American Academy in Rome.

[5] Durum- Baukunst der Renaissance, p. 77-92.
[6] Giovanni Poleni—Cupola del Tempio Vaticano.

From Our Book Shelf

What's What in English Gothic

The architectural student of today is more fortunate than the student of thirty years ago, in that he has a wealth of good books at his command—books, too, that are inexpensive enough to be within the reach of almost anyone. Mr. Samuel Gardner has added one more to the list,[1] although the following excerpts from the preface denote that the volume is primarily intended for the layman. He says: "I myself have derived so much pleasure and benefit from this delightful study that I have always felt anxious to interest others in it to the extent of my ability. Many people have told me that they love Gothic architecture, but know nothing about it. They do not realize that, as Ruskin puts it, "Architecture is an art for all men to learn, because all are concerned with it; it is so simple that there is no excuse for not being acquainted with its primary rules, any more than for ignorance of grammar or spelling, which are both of them far more difficult sciences. Nevertheless, enlightened and patriotic Englishmen who have had a liberal education think it no shame to confess complete ignorance of our great national art. And thus it will be so long as the value of æsthetic culture is ignored at our public schools. It is a truism that the love of beauty comes next to the love of goodness, but the cult of beauty, whether in nature or art, is sadly neglected under our modern systems of education."

Mr. Gardner's book is well thought out, concise and carefully arranged, and we must thank him for his sympathetic judgment in the selection of plates, for he has mingled well-known and monumental examples of Gothic architecture with the more modest and less known. There is a small architectural dictionary, illustrated with very attractive pen and ink drawings by Mr. Arnold Mitchell, and nearly two hundred plates. It seems a pity that the plates are not the full size of the page, for many of them are too small to use in studying detail; but perhaps the author's endeavor to keep the cost down had something to do with this.

It seems to me that Mr. Gardner has succeeded in what he set out to accomplish, and that his book might well be added to the stack of those given to high school boys and girls, though it isn't worth while for the man who is practicing architecture.

BERTRAM G. GOODHUE.

[1] A Guide to English Gothic Architecture, by Samuel Gardner.

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Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*



TYPE OF HOUSE AT GROSS-ROMINTEN, NEAR GOLDAP, EAST PRUSSIA — HANS I. PHILIPP, *Architect*

The Housing Situation in Germany

By HERMANN HECKER, *Architect,* Düsseldorf

At the end of the war everybody in Germany hoped for a quick return to normal conditions in housing which meant that governmental control, a war measure, would soon come to an end. This has proved to be impossible. Under pressure of prevailing circumstances control has even had to be extended.

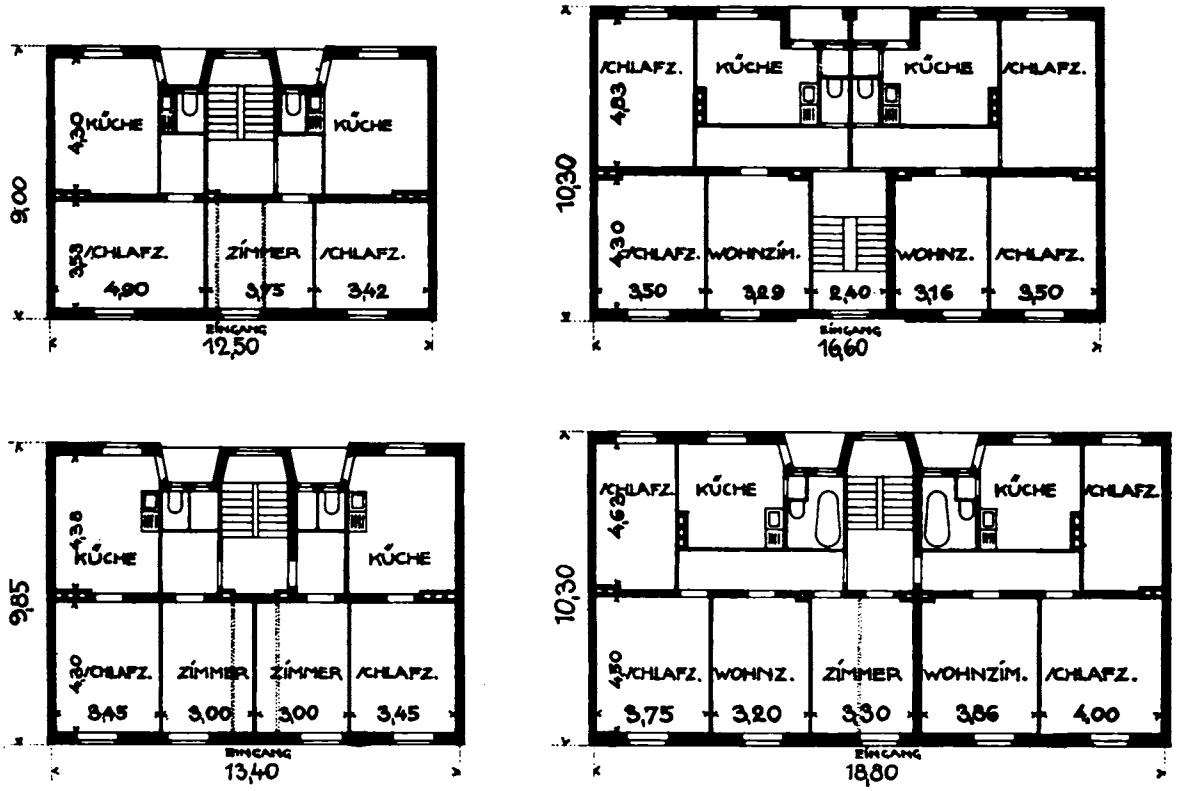
At present, no tenant can be given notice to leave, and rents are not regulated according to the law of supply and demand. Tenants have, so to speak, become holders of a perpetual lease. Even if a house owner urgently needs a rented dwelling for his own use, the tenant can not be forced to leave. Tenants are not permitted to trade their dwellings, but if they desire to move to another place a tenant may obtain an apartment by exchanges, through the agency of special dwelling boards, invested with important powers. Apartments can be obtained only through the agency of these boards and the conversion of dwellings into offices is permitted only if equivalent new dwellings are constructed and placed at the disposal of the municipal authorities. *The house owner's right to dispose of his property is thus expropriated* and a new concept of property and of property rights is gradually being formed.

At the end of the war, rents were the same as in 1914. Families of soldiers even paid lower rent, reduction having been compulsory in their cases. Firmly resolved to restore normal economic conditions, the Government decided, after the armistice, to maintain the pre-war level. Underlying this decision was the idea that the mortgaging of property would increase if rents rose, making future reduction impossible. It was decided that what happened after the Franco-Prussian war, when the rapid increase of rents unfavorably affected housing conditions and caused a general rise of the cost of living, should not occur again.

It seemed unfair that the house owner should be allowed to enjoy a special privilege, while those who subscribed to the war loans and bought Government bonds, or the poor servant girl, who placed her gold savings in the savings bank, had to be satisfied with paper marks. Therefore, the pre-war basis of rent was maintained, and paper instead of gold is considered as legal tender.

Prices for the main necessities, such as food, clothing, and lodging, during the war had been balanced to some degree through public regulation. Foodstuffs were rationed, clothing could be obtained only upon presentation of a certified order for delivery, rents were stabilized. But post-war conditions were such that economic

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Apartment Houses Erected by the City of Düsseldorf from Its Own Plans

control by the Government could not be uniformly maintained. Only rents remained stationary, having been for a long time so low as to appear ridiculously out of proportion to the general cost of living. The cost of foodstuffs and of clothing has increased so rapidly that the standard of living has steadily deteriorated. A bright ray was always the cheap rent which remained stationary. It encouraged the belief that normal times would return.

The depreciation of the mark destroyed the well-being of that part of the population which possessed capital in income bearing forms. Moreover, rent restriction very much reduced the economic well-being of the landlord. Living on independent means derived from the revenue of capital or of real estate is unknown today. Everybody must work. And frightful is the misery of aged people who are unable to make a living. Dwellings, like foodstuffs and clothing, must ultimately be used up, even if at a much slower rate, and they must be constantly renovated. But the cost of renovation increases as the value of the money sinks.

Moreover, when the war came to an end, there was a shortage of dwellings, as the use of building materials had been strictly controlled by the Government and only war industries had been allowed to erect houses for their workers. But as the mark declined, the cost of construction increased. This caused a terrible disproportion between the low rents of the old houses and the high interest to be paid on building capital. Thus the economic regulation of the production of new houses had to be invoked; it became necessary, in other words, to make this form of production part and parcel of the general economic system.

In anticipation of post-war building activity certain changes, favorable from the social viewpoint, took place during the war. Breadwinners being absent, many dwellings were abandoned. Thus housing conditions automatically improved. Congested quarters became emptied; unsanitary dwellings were eliminated. After the armistice soldiers soon began to return, demobilized in a precipitate way. Numerous marriages having been contracted during the war, many new households were founded. Where settle? Building had been interrupted for four years. All who had a dwelling, however modest, clung to it, refusing to admit lodgers as this was of no advantage owing to the depreciation of the mark. Yet this was fortunate in some measure because it prevented overcrowding in many places, although as the people must be housed somewhere, dismal overcrowding resulted in other places.

To improve conditions the systematic rationing of dwellings was resorted to. Every person may now claim a dwelling place only as determined by law. Rooms exceeding the legal number are detached and placed at the disposal of the regulating authority, after an inspection of the existing apartments by commissions made up of representatives of all political parties. Many families, who in time of peace had built an agreeable house of their own, are now forced to receive undesirable tenants of whom they never can get rid. Many have sacrificed part of their fortune to build an extra dwelling in order to be spared, temporarily, at least, the inconvenience of

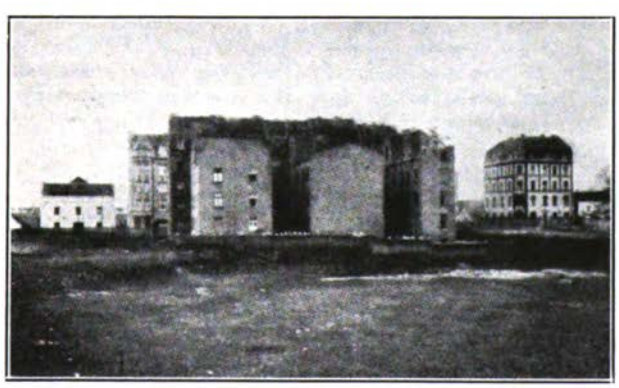
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DÜSSELDORF—Interior Court of Type Shown Opposite GOERKE, *Architect*

rationing. However, the improvement of the dwelling standard of the lowest classes of the population, which has resulted from the unprofitableness of letting out rooms, causes a demand for more dwelling space than can be provided by the rationing of the few larger apartments. Thus the housing shortage becomes ever more acute, ever more oppressive, and is augmented by the return of Germans from the old territories and through foreign immigration.

The delivery of coal, in execution of the treaty stipulations, necessitates the presence of extraordinary numbers of miners in the mining districts. To provide dwellings for them a special tax on coal is being levied. Moreover, communities and cities in general began construction at once after the war, without intervention or regulatory acts by the terribly shaken German State. Construction was hastily organized and started in order to relieve unemployment among building laborers. Debts have thus been heaped upon debts to finance building. The central government and the states have finally printed money, have given subsidies, which which are "To yield interest in the future," in order to help overcome these difficulties. However this again engendered the difficult problem of interest and of amortization. For even if the cost of the new houses may determine the level of rent, the constantly growing poverty makes it impossible to keep rents on an economic level. This situation gave rise to the idea that rent restricting regulation should be applied for aiding the construction of new houses, rents of old houses



HOW THE SPECULATOR DID IT—Buchheim near Mülheim

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One of a Group of Houses Erected by the City of Düsseldorf as an Experiment in the Use of New Materials. The Walls are of Hollow Cast Pumice Stone (volcanic) and the Ceilings are of Slabs of the Same Material

being gradually regulated to correspond to the depreciation of the mark. This everybody realizes. But the house owner—it is being asserted with somewhat grim humor—must not be given the "benefit" of this increment; in consideration of the national plight the house owner must become impoverished just as is the paper money capitalist. It has finally been seen that the entire increase of rent should be collected as a dwelling construction tax and be used for the erection of new houses. This principle has now been definitely formulated and has been embodied in the National Rent Legislation. The Dwelling Construction Tax for the time being, will amount to at least fifteen times the rent. Half of this goes to the State. Cities, however, are permitted to levy larger amounts.

This law, provisionally valid for a period of four years practically provides for the expropriation of privately owned houses at their pre-war value. House owners enjoy an indemnity calculated on the basis of pre-war rent and paid in depreciated paper money instead of in gold. The small landlord who before the war spent his savings of 6,000 gold marks, equal to 1,500 dollars, in building himself a little house, is now forced to accept a rental of 6,000 paper marks or of seventy cents at the present rate of exchange (January, 1923). At present the construction of the same house would cost 8,000,000 paper marks, or ninety-four dollars. The difference between 8,000,000 and 6,000 marks or 7,994,000 paper marks—or such greater difference as there may be, owing to continued decline of the mark —will gradually be levied on the property according to the National Rent Legislation. As long as the owner occupies the house himself, he puts up with it; as soon as he sells or lets it, he sees plainly to what a degree we all have become impoverished.

The landlord nowadays merely fulfills the function of a manager, who collects the building tax for the building fund, which is administered by the Government. It is true that these measures are carried out in an equitable manner, thanks to the honesty and justice of our civil servants, uncorrupted in spite of the difficult economic situation and their own plight.

Tenants, whose right of lease is guaranteed through the new law, however, are bound to share in the constantly rising cost of reparation and of renovation, as well as in the growing taxes and charges. These expenses now amount to a sum thirty-five times the pre-war rent and have to be met separately from the Dwelling Construction Tax which is now fifteen times the rent. In reality, most of the population are, however, unable to pay these items, on account of the constantly increasing cost of food and clothing. In this time of terrible dearth, when most families are unable to procure coal, and increasing dearth of food is threatening, rents have increased at least fiftyfold. The aged man, who through many years' economy has succeeded in clearing his house of encumbrances is now compelled to pay a building tax many times greater than his income from rent. Our economic situation becomes ever more puzzling!

Yet the financial trouble is not our only difficulty. We are reduced to living from hand to mouth, and day

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Group of Houses in Dortmund. Alternate One-family and Multi-family Houses Erected for Miners. Here Stress is Laid on the Rational Application of Zoning, Avoiding Rigid Uniformity of Type

to day, and have to revert to primitive forms of political economy. Thus, capital and money are considered solely as means to an end, as working agencies. As the main factors in housing production we recognize:

Land, Labor and Materials

In order to build, land is needed. Before the war discussion of the housing problem revolved around the land question. The firm ground of a well organized money market and of a well protected ownership was at the basis of the discussion. However, post-war conditions have entailed the destruction of this basis. Today all German property has become liable to seizure. Hence, economics would be without foundation, had not the former sanctity of private property been superseded by an ever increasing subordination of the individual interest to that of the commonwealth. Land is in the first place public property. If interests conflict, the interest of the individual is subordinate to the public interest. This is the new concept of land rights that is becoming accepted.

In observing that the collapse of the mark has caused expropriation of private capital to the last cent saved by the small man, one does not find it singular that landed property likewise shares in the great economic calamity. Is it not a national duty to cede land that is needed for housing one's compatriots in a satisfactory way? For this reason laws for the expropriation of building land and of garden land have been enacted.

If land for housing purposes cannot be acquired by private agreements, expropriation is quickly effected. Construction may begin at once; the amount of the indemnity is fixed afterwards by a special adjudication. Just as the house owner must relinquish his property at its pre-war value and must accept paper marks instead of gold as full legal tender, so the land owner must accept expropriation on the same basis. I myself am building at present a group of houses on land that once formed part of the estate of a great landed proprietor, who has not been hurt seriously by expropriation, although the indemnity paid has been, in part, merely M 1.80 per square meter. The expropriation has, however, made it possible to erect a great number of modest family houses surrounded by spacious gardens. Already it is encouraging to observe how the inhabitants of this settlement, drawn from the ranks of the socially discontented, show signs of relief and of a new attitude towards life. Is not this a public gain?

Every due regard is shown for the needs of agriculture and of provisioning, and in these regards expropriation is subject to certain restrictions. But the pernicious effects of land speculation are finally eliminated. Compulsory expropriation of land for building purposes is necessary only in rare cases, for the fact that expro-

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DORTMUND—Grouping of Medium Size Houses. D. AND K. SCHULTZKE, *Architects*

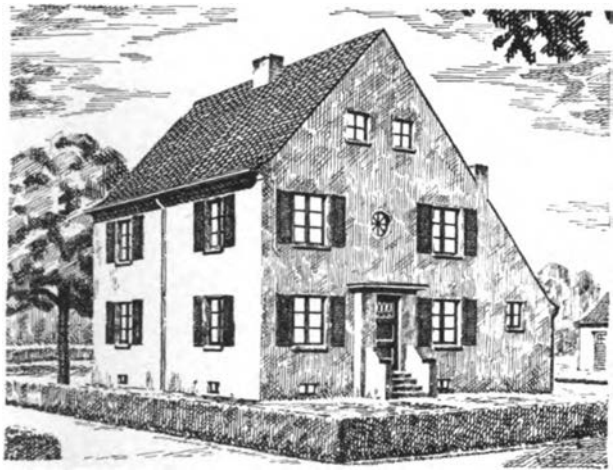
priation is possible has had a wholesome influence on private interest; land owners generally would rather sell voluntarily at a somewhat higher price than have their property taken at its pre-war value, paid in paper marks.

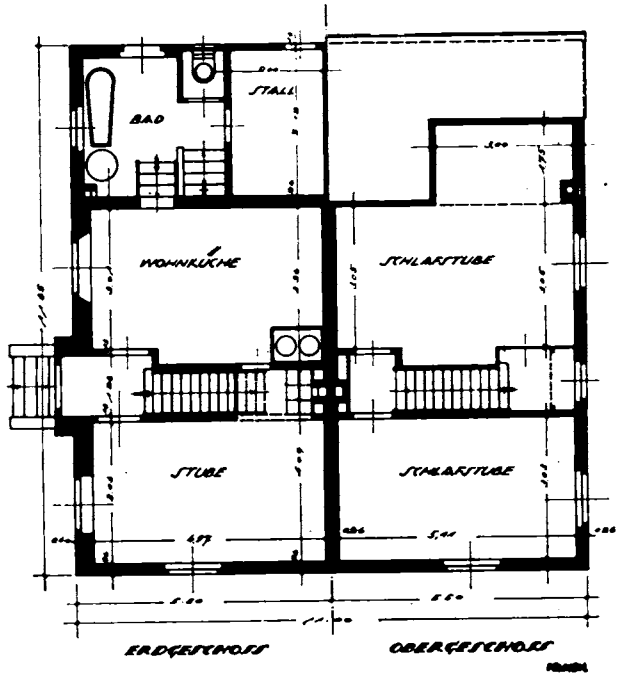
A particularly good idea is contained in the National Settlement Act. In districts with numerous great estates landed proprietors are, in consequence of this law, induced voluntarily to co-operate in developing settlements for their poorer compatriots. Land owners unite into "associations for land supply" and regulate the provision of land, alloting the burden of sacrifice among themselves. Unfortunately, however, the enormous cost of construction still forms an obstacle to the more extensive practical application of this excellent idea.

Two marks in paper money per square meter of land, and 550 marks per square meter for tarred roofing paper! Is not this enigmatic? No, certainly not. Land is not produced, and increment values produced through pre-war improvements have been amortized in past economic periods. Roofing paper, on the other hand, is a quickly wasted by-product of the coal industry. It reflects the coal prices; it reflects the rising cost of living and of labor. And this also is the weak side of the development of land values. Certainly, land is cheap, but only so long as its value is not being increased through post-war improvements. If streets and sewers have to be constructed, and gas pipes and water conduits must be laid down at the present cost of labor and material, then the cost of land will, of course, increase rapidly. Consequently the construction of new streets must be limited as much as possible. If construction is undertaken it must be carried out in the most rational and least expensive manner in recognition of the circumstances. For the time being we must utilize existing streets to the limit of their possibilities. This implies that city planning and housing are carried out on a new basis, making it necessary for the architect to solve new problems in a productive way.

Thus, the land problem is not the most difficult. More difficult is the problem of procuring building materials. (In approaching this problem, it may seem natural to make the unsophisticated reflection that "building materials, at any rate, exist in abundance.") A great land owner, possessing a forest close by an industrial village, received in the first days of the revolution a letter sent by some communists who notified him that the forest had been expropriated "by virtue of the laws of the Revolution." They sent laborers to the forest to cut timber. But the workers had to be paid, and when the damage had already been done it was discovered that the timber cut "by virtue of the laws of the Revolution" was more expensive than timber already in the market! Evidently wages form, so to speak, an essential part of building materials. But wages are regulated according to the decline of the mark. Moreover, as great quantities of the building materials produced in Ger-

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Two-family house erected by the Freiheit Building Association, Düsseldorf. The houses are built by an association of building trades workers and are completed by the occupant in his spare time.

HECKER, *Architect*

many are bought with foreign money, their price is unfortunately subject to great fluctuations.

Every possible measure has been taken to prevent the rise of the cost of materials. Above all, great technical efforts have been made. Many new building materials have been invented especially with a view to the saving of coal. Attempts have been made to supervise and to regulate trading in building materials. For this purpose special organizations, "societies for promoting housing," have been created. The export of materials is sharply controlled.

However, it becomes evident that everything is bound up with the three main raw materials, *iron, wood and coal.* Coal, in particular, is of decisive importance. The nation controls the coal production. In connection with this, control of production and of use of building materials have also been established. Distribution of coal to producers of building materials is dependent upon the maintenance of a fixed tariff. In the end, however, this also is futile owing to the economic situation.

Wages regulate prices: During the war public control was, in great measure, extended to the whole field of employment. The soldier gave his work and his life for thirty-five pfennigs a day. The population was under the duty of rendering "emergency service." If demobilization had been carried out gradually, this compulsory military service might have been advantageously utilized for a reconstruction of the devastated regions. Instead,



FREIHEIT—Town Plan

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SOME HOUSING DEVELOPMENTS IN BERLIN — R. SALVISBERG, *Architect*

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DORTMUND—House, the Walls of Clay, Erected by the City of Dortmund as an Experiment in Reducing the Use of Coal in Producing Building Materials

this useful organization, capable of being directed to a new and beneficial purpose, was quickly destroyed. Compulsory service has been abolished. Workers must be hired in the labor market. The attempt to realize a social ideal, the eight-hour day, as decreed by the peace treaty, weakens our productive capacity. In the field of housing the situation is somewhat relieved through voluntary organizations. Energetic men have formed building associations, carrying on building of their own houses in their spare time. Such organizations already have achieved a quite notable success, in spite of the theory of the eight-hour day.

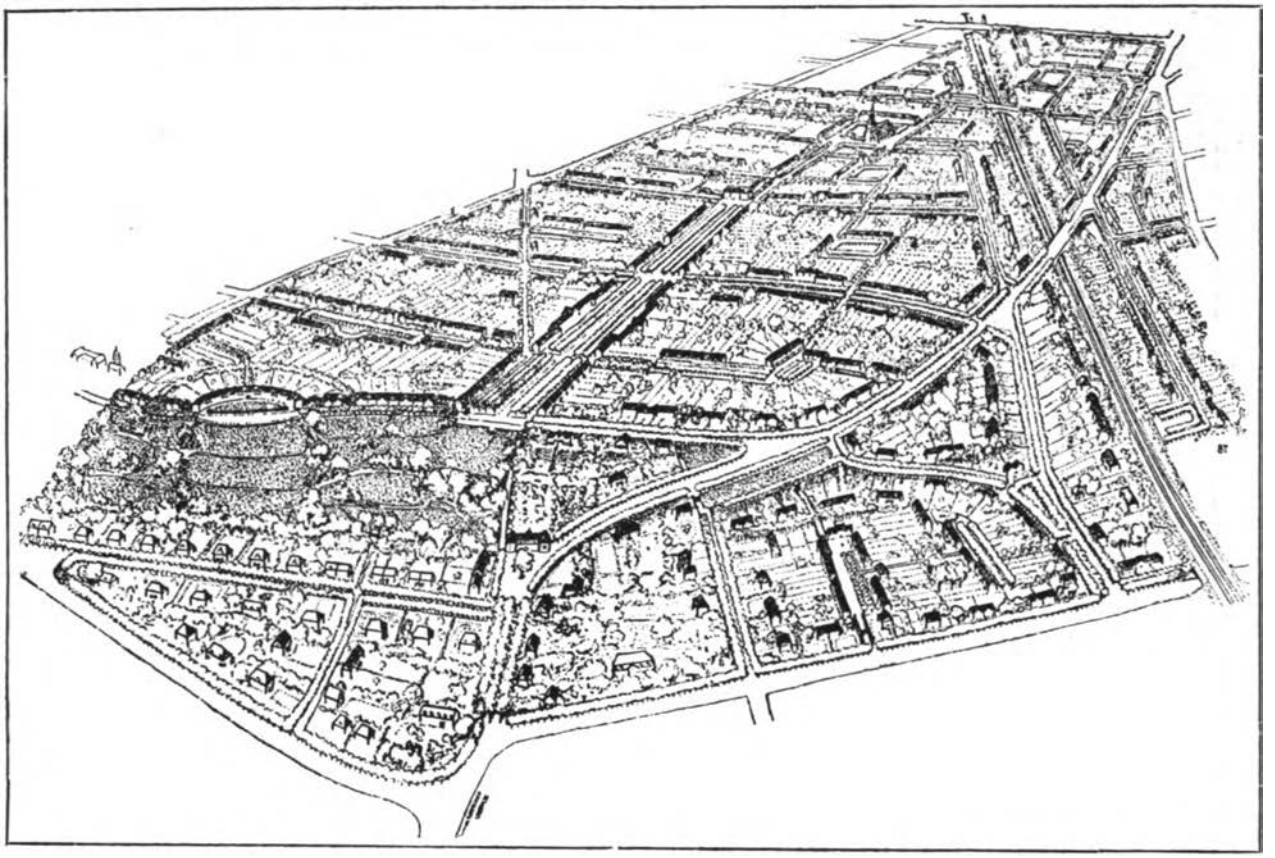
Where will it lead? We architects daily ask ourselves this question. We deplore this waste of energy, which, in the last analysis, has its root in the fact that the economic war continues to rage in the economic field. We observe, in particular, the misery of the laborer, who, in spite of seemingly exorbitant wages, is unable to sustain a family even very modestly. We observe the distress of the building contractors, who, in spite of apparently enormous "usurious profits," do not know how to procure working capital, while the mark continues to decline. We are aware of the special difficulties attendant upon processes of production that give a slow return, and overlook also that the situation of the *peasants*, who already at the moment of writing (January, 1923) must charge 300 marks for a liter of milk, as against eighteen pfennings formerly, is not so favorable as the starved population generally assumes. The seemingly usurious profit does not suffice for procuring the raw materials and wages necessary to production.[1] All become constantly richer in paper marks; in reality, however, all become constantly poorer. We architects, who are less intent on making money than on doing useful work, suffer the distressing experience under which, in spite of growing building costs and compensations, the depreciation of the mark consumes more than the best effort, even of the busiest among us, can earn. We acknowledge it,—our employees are paid starvation wages. And yet we are unable effectually to raise them because our fees come in according to the depreciations of the mark. All who work on a mark basis can live only from hand to mouth.

We architects know that our own professional work, like the activity of the nation as a whole, can recover only if economic conditions are stabilized. We know that the building activity of the last few years was only the bustle of the desperate. Men who possess capital spend their fortune on enormously expensive renovations of their houses, for next year their means will not suffice to cover the cost. On the whole, why save? Rather realize, create actual values, be it ever so costly! Thus economic life becomes feverishly active. Only not save! Invest! Buy! Make improvements! The last economic reserves of the nation are mobilized and stir production. New manufactories rise—and all this, in last analysis, resulting merely in making Germany poorer.

For the intellectual workers, particularly for architects, the road is indicated. The lowering of our living standard in the present misery—only few of us can afford to buy a new suit of clothes—must not debase us into the loss of our self-respect. On the contrary, it should arouse us to greater efforts in the public interest. To Germany of today many things seem unpleasant, if we only observe the visible surface. But below the surface significant inner developments are taking place which once—perhaps

[1] Although building in Germany seemed very active at the time of our visit last July, it has now practically come to a standstill, because of lack of raw materials and the unstable mark.—C. S. S.

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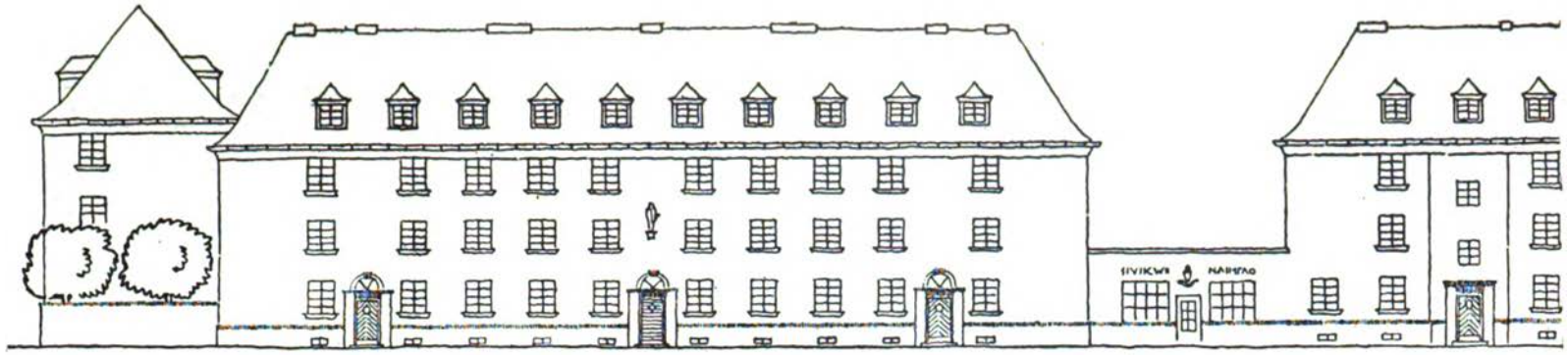
TOWN PLAN FOR FALKENBERG—Near Berlin



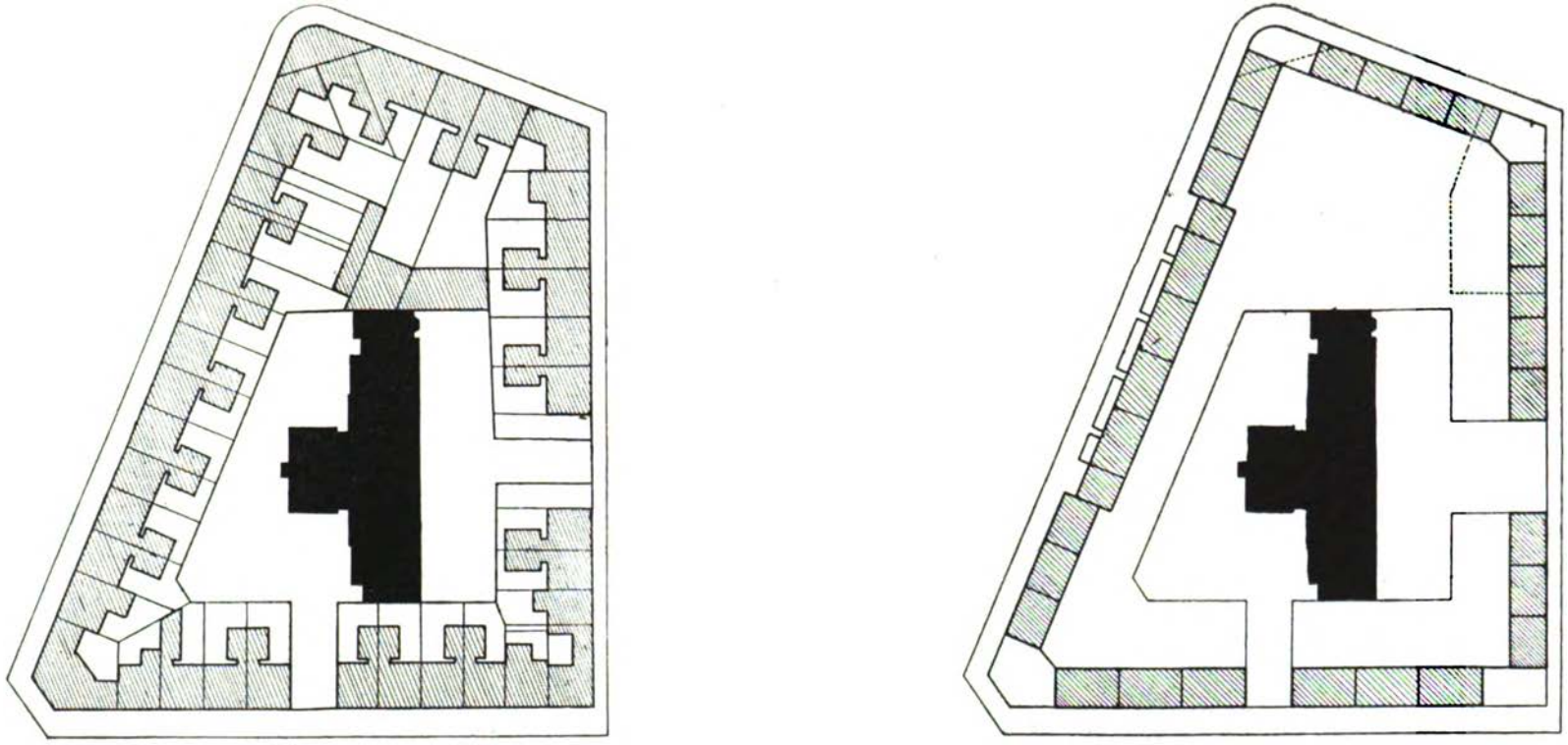
HOUSE AT KIANTEN NEAR GOLDAP—East Prussia

HANS J. PHILIPP, *Architect*

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DETAIL OF ELEVATION

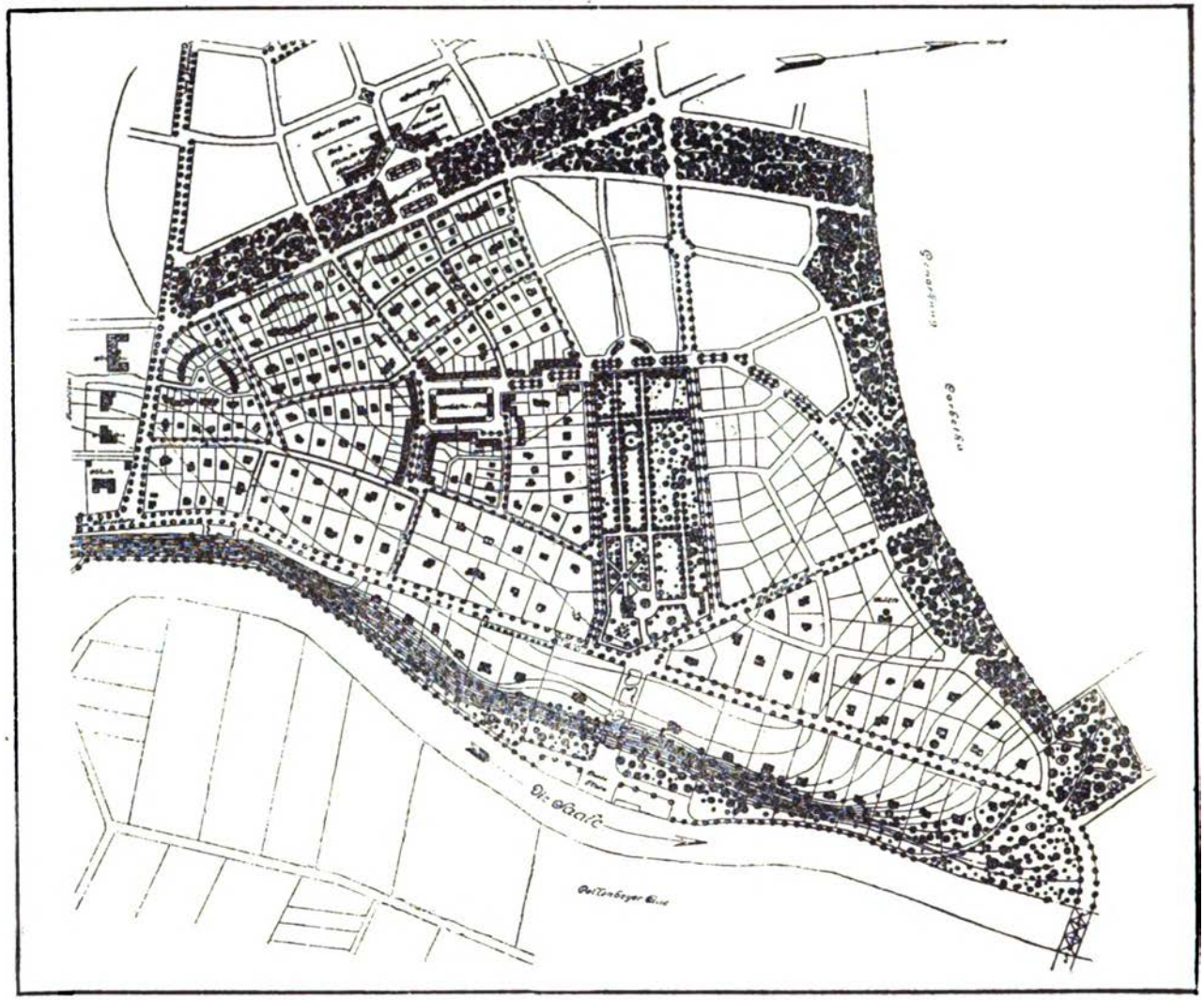


BLOCK DEVELOPMENT AROUND A SCHOOL IN DÜSSELDORF

FREESE, *Architect*

Due to the decreased price of land, as explained in the article, even in the interiors of the large cities, much greater spaciousness is now resulting. The illustration at the left shows the development possible under the building laws, and as it probably would have been built by speculators. At the right is shown how the municipality did it. Note the omission of buildings on the corner lots, which are left for planting.

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SCOPAU—Town Plan for a Garden City

after still harder times—will make our people sound and strong. Social and class distinctions lose their former hold. Intellectual and manual workers get into close contact. Students work during vacation in the mines in order to earn the means for their studies. Many former officers have entered business, which thus has gained great organizing talent. In political life the leader is more and more taking the place of the mountebank. The biological fact that "blue blood" is neither better nor worse than bourgeois blood is being recognized. Princes become useful, capable members of the working nation! The new constitution, the republican form of government, is accepted even in conservative circles. Thus the present misery has its beneficial effects, especially in the field of housing.

The high building costs enforce simplicity and economy. Progress is being made in organization and legislation. Planning is being carried out in a much bigger way than in the days of speculation. Legislation is being framed to promote the quick attainment of technical aims.

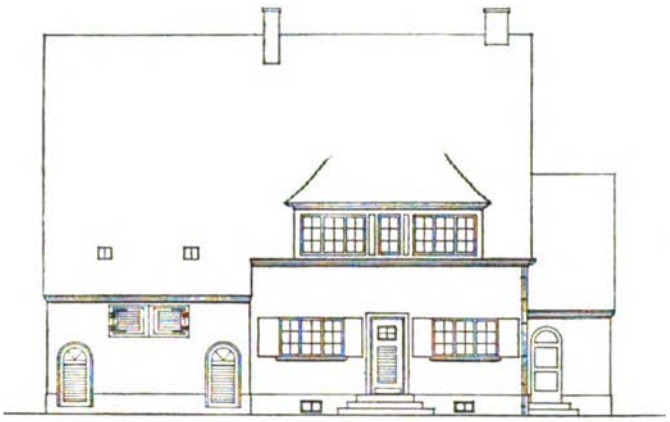
In this social organization the work of the architect is a greater factor than formerly. The relation between architect and contractor has become clearer. In building the greatest economy is regularly observed, producing artistic results characterized by simplicity under the forced avoidance of superfluous ornament. Land speculation and its effects having been eliminated, the pleasant and salutary grouping of buildings is facilitated. Small, modestly planned houses, with the greatest possible garden space, are now erected instead of tenement barracks.

In interior planning great progress is to be observed. Parlors disappear. They would be rationed, forsooth, by the Housing Board for the benefit of lodgers. The formal parlor is thus replaced by the useful living room. The housewife, who cannot keep servants as formerly, appreciates practical arrangements more than before. A more solid concept of interior convenience is also to be noticed in the dwellings of workmen, who prefer to buy furniture for the best good of the household rather than to save quickly depreciating money. A house is no more considered as merely an investment, but as one of those social values for which nations exist.

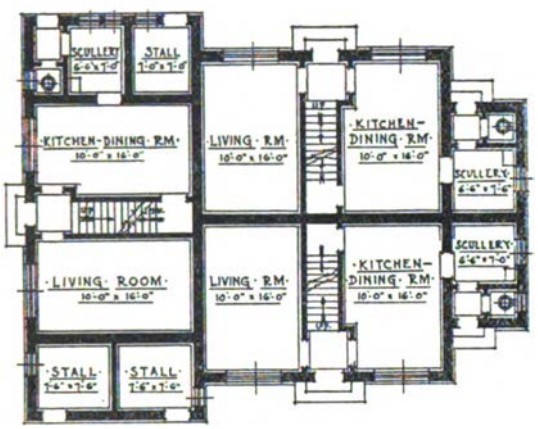
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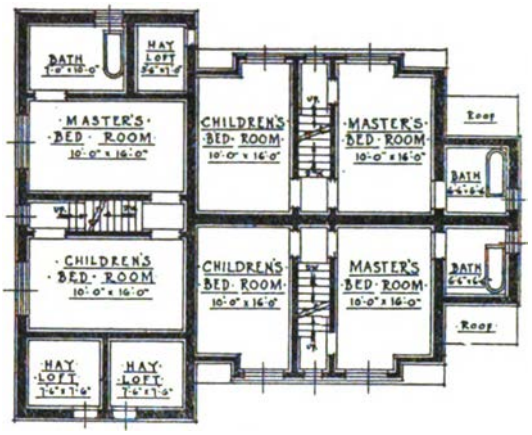
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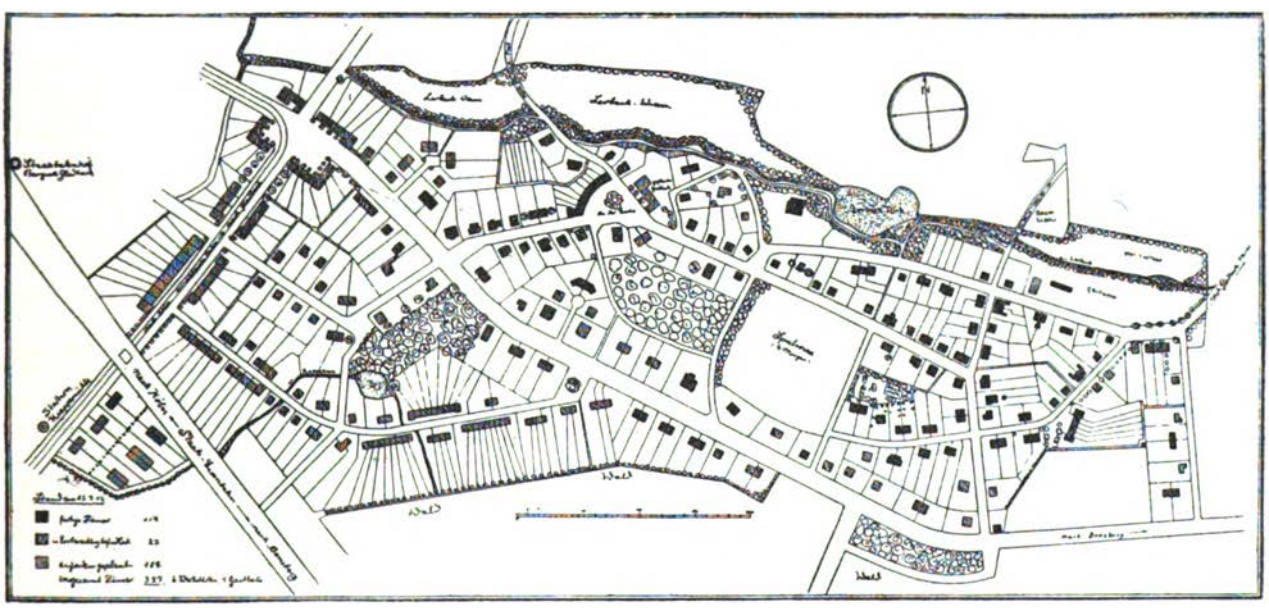


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GRONAUERWALD—Three-Family House



GRONAUERWALD, NEAR COLOGNE—Town Plan

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A Report of the Addresses Made in Western Cities to Further the Recognition of Art

In visiting Central and Western cities in the interest of the Education Committee of the Institute, there were various phases of the subject to be considered in addressing audiences of distinctly different characteristics, yet all were based upon one axiomatic fact, *i. e.*, that the public were, under a democracy, the patrons of the Arts. It naturally followed that the public should acquire some knowledge of the Arts in order to be intelligent in its patronage, and should be given a general opportunity to obtain such knowledge during the period of educational instruction, before the necessary struggle for existence deprived it of the time which would permit study other than that of specific avocations. In order to justify any such attitude in regard to the public, it was requisite to state convincingly the position of the arts as a pervading integral part of life, and that ignorance of them created a positive menace to the complete happiness of a community, because it produced an environment which was sordid and stultifying. It required no skill to elicit a cordial response to such an indisputable statement, and there merely remained an elaboration of the theme, illustrated by pertinent examples of its results, and an appeal for good will and co-operation. There was no attempt to instruct, no isolation of the arts as occult, but on the contrary the recognition of the fact that they were common to all mankind, and that universal opportunity for their study and appreciation should, therefore, be given to all mankind.

It was obvious that the appeal must be made to: First, Educators as representing the policy of action; second, to public servants as representing the Arbiters of Action; third, to the members of Artistic professions as representing the exponents of action; fourth, incidentally, to University students, as being future incumbents in all three of the other classes.

With these initial desires in mind I left Philadelphia after a conference with Mr. Zantzinger, the chairman of the Educational Committee, on the afternoon of Monday, 29 January, and arrived in St. Louis the next evening. There I was met by Mr. Le Baume, and we went at once to a meeting of the St. Louis Chapter, at which there were present some forty-five members. My reception as a representative of the Institute was more than cordial, as it was, in fact, everywhere throughout my trip.

I naturally spoke in regard to their aid as members of Class 3, and especially as to the public service of architects outside of the specific duties of the profession.

The talk and discussion that followed were relating to the importance of calling the attention of legislators, and others who had the disbursement of monies for objects which should be examples of artistic attainment, to the necessity of a knowledge of the Arts in order that the work should be worthy of the objects. It is undoubted that the constant failure to obtain the best results, far from being lack of interest or of desire for good work, comes from uncertainty as to relative merits of proposed achievements. The great importance of providing opportunities for further enlightenment on these subjects was suggested and received instant response.

At this time it was arranged with Professor Ferrand, of Washington University, to address the students and faculty of the Architectural Department on 31 January. At this meeting other members of the University Faculty were present, especially engineers, whom I particularly desired to address, as I frankly told them everywhere that I considered the members of their profession had been in the past and too often were in the present, offenders in neglecting the arts in their work, and stated that I was rejoiced to see a marked change recently in their attitude and knowledge.

The co-operation of architects and engineers was esteemed to be not only desirable but eminently a question of common sense. The more conspicuous a structure, the more careful study in all its phases was desirable, and as great engineering projects were usually isolated, with no adjacent factors which tended to minimize their conspicuous character, they required careful study and skillful design far exceeding their mere utilitarian purpose to make them agreeable objects to the eye. The opportunity for study should be readily obtainable, and the engineering schools were more and more acknowledging an affiliation with the arts which they have long ignored.

On Thursday, 1 February, I addressed the Student body of the University of Kansas, at Lawrence. The large assembly hall was filled. My address to these students was not only in regard to the broadening effect of knowledge of the arts and the resultant refreshing influences on their lives, but also as to their duties as potential citizens with the welfare of the community in their hands, because the character of the environment which they made could either inspire or depress. I cited the remark of Darwin in the latter part of his life, that he regretted narrowing his endeavors entirely to scientific research, as he found he had "lost some of his former keen appreciation of the beauty that was about him," and it was the duty and the privilege of cultivated men to enhance that beauty.

Applause was instantaneous, but this was not a unique example, for the same type of appreciation was everywhere manifest. At 4:30 I met and addressed the President and Faculty, speaking to them in regard to so arranging studies, that wherever possible, and I felt that it was almost universally possible, the relation of the arts to special studies should be recognized in the courses, and as examples cited that in Grammar and Syntax, themes might have some artistic achievements given as subjects, in Physics, the uses of woods, clay products and stone might be considered, and in Chemistry the attention paid in Pottery and Porcelains, etc., and in all Polychromy to their debt to Chemistry, might be reversed and the supreme results of its expression in the Arts be acknowledged, in fact, to show definitely that much of the highest expression of Chemistry appeared in the Arts.

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These are only a few of the applications which I made in talking to educators, and a sympathetic response always followed.

In the morning of 2 February, in Kansas City, at the Art Institute, my audience was a general public one, but largely composed of those already interested in the Arts. No exhortation was, therefore, necessary, and my appeal was made for concerted action, rather than for isolated individual endeavor, *i. e.,* that for themselves, and especially for the younger generation, they should let it be definitely known that they did not consider art as either occult, or the prerogative of the few, that they should ask that it be taught as a necessary factor in "the pursuit of happiness," which has, even in the most material conditions, been considered as essential to the well-being of mankind, and that they should maintain that it gave a very high type of happiness, peculiarly devoid of evils, having as its initial attribute, power of idealistic expression.

Its teaching should relate it to every phase of visual expression, should be devoid of isms and be considered a natural factor of civilization.

At 12:45 I was a guest of the City Club at a meeting which was very largely attended, representatives of the Real Estate Exchange and city officials being present.

My theme was based upon the fact that the arbiters of the expenditure of public and private monies were trustees whose duties were that they should solve problems for the permanent public good, not for temporary and ephemeral gain, that opportunism was of distinct value merely as a step to an ultimate carefully considered purpose, far-sighted in its conception. I disclaimed any idea that civic bodies or individuals deliberately desired second rate results, but I claimed that many of the trustees of public monies had had no opportunity given them to learn, which would entitle them to judge between mediocre and admirable propositions. That such a state existed I had the personal testimony of many legislators, trustees and private individuals, whose *amour propre* would not permit them to publicly acknowledge the fact. Hence they were peculiarly subject to charlatanry, which when it became evident, only belittled their opinion of all advice in regard to the arts. There was but one relief from such a condition, and that was a universal knowledge of the arts, not a profound knowledge, but a working knowledge. The condition could not at once be corrected.

The good will and good intention was manifest, but back of it was an ignorance due to lack of opportunity, and neglect in education. I was once asked by a group of Harvard students to define "What is an education?" and every road of approach to that definition led to but one answer, in one word, Altruism.

I recommended to the Real Estate men a consideration of that answer, and also to legislators as considering the best interest of the community, not of local interests. To both an endeavor to increase the knowledge of the coming generations in regard to the subjects of their action, which were very often those of the arts, seemed to be a wise and creditable procedure. In the evening there was a dinner and a largely attended meeting of the Kansas City Chapter, at which my address was similar to that before the St. Louis Chapter.

On Monday, 5 February, at Colorado College, Colorado Springs, I addressed the student body in the morning, again calling the attention of the students to the fact that they were potential makers of their cities, and builders of important buildings and patrons of the arts, and educators. Also, because I had now arrived where cities were in the making, rather than with hampering traditions, that a knowledge of the arts was essential to the beauty of their environment, already so highly endowed by nature.

At 3 p. m. I met the President and Faculty. The talk later took the form of conference with suggestions given for further expansion of studies, for which there was a cordial desire. At 4:30 there was a large audience of the public in the College Hall. The people of Colorado Springs are quite conversant with artistic matters, but they averred that they welcomed inspirational statements, which, to my mind, seemed superfluous, but which they were kind enough to say were welcome.

Their real need seemed to be solidarity, and to that point I limited most of my remarks. At 10:00 in the evening I was at Denver, at the Chappell House, which has been given to the Art Students for their centre. This was an audience made up largely of Art Students, and there was an opportunity to appeal for common action, and for common sense, for a recognition that all the arts were intimately related to each other, and that art students were prone to confine their attention to a limited portion of the gamut of the arts. I cited Prof. Ware's remark that artists "were often queer as they did the thing they liked, and found fault with others for not liking it"—advising them to attempt to have the public, who were their patrons, so informed that they understood the effort of the artists and thought in terms in common with them. Incidentally, this would go far to improve the work of the artists, for the public often possessed a salutary horse-sense. Tuesday, 6 February, was spent at Colorado State University, at Boulder, where the Faculty and entire student body were addressed. The situation of the University is an extremely beautiful one, and wise efforts are being made to correlate the various buildings, and unify the effects. The opportunity is unrivalled. Using these facts as a theme, I made the appeal that not only should they give the object lesson that the University was to be in its entirety, but that its alumni should impart their appreciation of the arts to others. In the evening in the Art Institute at Denver there was a large public audience and all the various ramifications of the beneficial influences of study of the arts were mentioned.

On Wednesday, 7 February, in the morning the Faculty and student body of Denver College were addressed, the students in engineering representing a considerable portion of the audience. While a large part of the address was general in its character, especial attention was paid to the inadequacy of a merely utilitarian solution of any piece of work from a spoon to a bridge, and that the offense of the lack of development increased geometrically with the size of the object. The remarks were received more than graciously, and accepted with apparent enthusiasm.

At noon I had the pleasure of lunching at the Cactus

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Club in Denver, and speaking to its members informally. The Club is one of keen and active men of many varied occupations.

There was general appreciation and approbation of the efforts of the Institute, and expression of satisfaction that the encouragement of extension of knowledge of the arts is undertaken.

In the evening at a private house there was a dinner at which were present a number of those interested in artistic projects, the conversation and discussion being general. On Friday, 9 February, I arrived at Salt Lake City, and met and addressed the Utah Chapter.

This Chapter has energy and *esprit de corps,* and is evidently influential in making the recent architecture of the city excellent in character. It more than cordially welcomes speech which would encourage and stimulate attention to the arts, and with that end in view had me address a public meeting, which comprised civic officials. The address was, therefore, more general than specific, and advocated the common-sense attitude that the people, the patrons of the arts, should know something about the arts. As Monday was Lincoln's birthday, although I had arrived in San Francisco, there was no opportunity to speak. On Tuesday I went to Miss Bridge's School at Piedmont. This is a very well known girls' school, which Mr. John Galen Howard desired that I should visit. I spoke upon art in the household and the importance and value of the minor arts, and also upon the unique opportunity which women had, of influencing general taste by the object lessons of the environment which they controlled. Later, at Berkeley, at noon, I spoke to the local Chamber of Commerce, and also to the New Arts and Crafts Society, calling attention to the benefit to the individual of personal work in the minor arts, the consequent broadening of horizons, and its value as an antidote to the inertia or the hysteria that lack of pleasurable occupation induced. The experiences of Chambers of Commerce in advocating artistic expression, and of Arts and Crafts Societies in fostering willing but ignorant and adolescent endeavors were cited. At 2:00 I addressed the Faculty and Students of the Architectural Department at Berkeley State University of California. Naturally there was little to be said, excepting an explanation of the desires and purposes of the Institute, and an appeal for the promulgation of these desires by the Department. The University has 16,000 students and to create an active unit for the advocacy of art in its midst is well worth while. Later in the afternoon I addressed a portion of the Faculty and the Public.

The theme, therefore, was general, and upon many phases of the situation. On 14 February I made a similar address to the Faculty and Students of Stanford University at Palo Alto.

The following Friday I was in Portland, Oregon, and at noon lunched with, and addressed, the City Club. Portland is thoroughly alive to its opportunities and is taking advantage of them. In fact, throughout the West there is a responsive attitude in marked contrast to the anaemic receptive attitude of officials, etc., in many eastern cities.

The results are rapidly becoming evident. Stimulus and encouragement were everywhere welcomed, advice courted. An open-mindedness to co-operation, and a desire to get the best results are characteristic of the West. It has not become muscle-bound and shows no desire for or indication of approaching that complacent condition.

In the afternoon of the 16th I met at a private house a number of influential Portland people who were much interested in the work of the Institute, and at 5:00 went to Reid College and addressed the Faculty and Students. My final informal talk was at the University Club, at a farewell dinner of a number of M. I. T. students.

My journey ended in Boston on 21 February.

Throughout it there was the most cordial co-operation and support. The book, "The Significance of the Fine Arts," was advocated as being of distinct value to both the layman and the student, and many enquiries in regard to it were made, and a number of copies presented to the heads of student bodies.

C. Howard Walker.

When Spring Comes!

When spring comes, birds and men think of their nests: "loud sing cuckoo!" So in New York there has been a flutter of interest in furniture and interior decoration within the last few months: witness the furniture sales in the department stores, the Architectural League's exhibition, the Decorative Exhibition at the Belmaison Gallery, the Seventh Exhibition of Industrial Art at the Metropolitan Museum. For all the freshness and quickness one finds in the designs, all these shows of "modern" work might have been clapped together in a single wing of the Metropolitan, devoted to antiquities; and even if one add Mr. Joseph Urban's decorations at the Wiener Werkstaette, it is plain that our choice in interior decoration lies largely between the stage and the museum, between the spectacular opulence of the Viennese school and the facile piety of the Americans; and anything like a chair, a table, or a wall which is neither stagey nor archæological is out of the picture.

Let us first grant these exhibitions all their conspicuous merits: they exist, and there is doubtless something to be said for them. First of all, they show many pieces of furniture and many strips of textiles that are beautiful and interesting in their own right. There is a quiet perfection in a Colonial dresser, a full richness in a Florentine walnut table, which one would like to see more often; and it is well that our designers and cabinet makers should be conscious of the achieved beauty of earlier designs. In fabricating a reproduction the cabinet maker cannot help appreciating the quality of the craftsmanship that went into the earlier work, and up to a point he cannot help acquiring a little of that craftsmanship, even in the mere act of duplication. More and more our furniture manufacturers are becoming conscious of the shoddiness and lack of refinement in machine production; so the craftsman, driven out the front door by power machinery is coming back through the rear. The production of authenticated antiquities has become an open and respectable trade; it is no longer a piratical

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enterprise. So far the influence of the Museum, with its conscious effort to educate the manufacturer and designer, has been helpful and—if one may be candid—purifying.

It would be unfortunate, however, if we exaggerated the power of the Museum models to teach lessons in craftsmanship; for as soon as craftsmanship has a life of its own, as for instance in the ironwork of Mr. Samuel Yellin, it refuses to imitate point by point the original patterns; or if it attempts to imitate them, the very vitality of the designer or the exigencies of his problems will cause new features to be introduced. Mr. Edwin Muir has well said that a living thought cannot utter itself in the same words twice; and the same is true of a living design. In emphasizing form rather than method the Museum's grand effort to educate us in "the best that has been thought and done in the past" turns its back upon the vital problem of our age; namely, how with modern mechanical methods to produce appropriate forms; and so it leaves us in pretty much the same stew that we have been in ever since machine-production took the place of handicraft.

We moderns are cuckoos, and if we do not lay our eggs in others birds' nests we at any rate live our lives in them. Those who can afford the snobbery of antiquity can now dwell in Tudor castles with furniture almost as solid and uncomfortable as Henry VIII's; or they can surround themselves with delicate sophistications in upholstery and painting which have some of the charm of Watteau or all the vulgarity of Louis XV. I daresay that it is better for communities or individuals who have not realized any personal characteristics to dress up in stage costumes rather than to shiver openly in all their uninviting nakedness; but I am not prepared to admit that the present period, for all its dishevelment and disorder, is the æsthetic blank our interior decorators and our museum instructors would have us believe. If those who have achieved power and wealth in the modern industrial world wish to escape from the factory and the office into Tudor mockeries, well and good; if they wish to forget their relations with railroads, ships, blast-furnaces, grain elevators, well and good, too. The fact is that blast-furnaces and grain elevators are more significant to modern æsthetics than the ancient models which our museum habitués favor us with; and I am wondering how long it will be before this perception expresses itself in our interior decoration.

Nothing so clearly demonstrates the futility of museum models, it seems to me, than the timidity of contemporary designers in the face of any commonplace modern problem. I have earnestly hunted around for an electrolier as honest and serviceable and genuinely beautiful as an electric radiator I happen to possess: unfortunately, radiators are designed in conjunction with the machine shop, whereas electroliers are designed in conjunction with the museum, or with the museum at one remove—the library; and one finds a hundred examples of "arty" rubbish in the form of candles, torches, wicks and gas-jets to one successful utilization of the flexible and easily handled instrument an electric bulb is.

I am afraid, alas! that the campaign of education which the Metropolitan Museum is so valiantly conducting will only perpetuate these genteel absurdities and circumlocutions. The result is that we frustrate our genuine artists and craftsmen by condemning them to make copies of antique articles, much as the Roman slave was made to reproduce the statues of Phidias and Praxiteles; while at the same time we attempt to give, by means of machinery, those ultimate touches which craftsmanship used to give to a job out of love and leisure. On one hand we have craftsmanship harnessed to the mechanical reproduction of "models:" on the other, as in the ingenious and murderous machine which produces the spiral legs and columns used by the baroque carpenters, we have machinery devoted in good measure to fake craftsmanship. These are two sides of the formula which perpetuates our insincerity, our unimaginativeness, and our bad taste.

At present, the clean logic of the situation lies between the party of Messrs. Cram and Penty and the other medievalists, with their frank desire to re-establish handicraft conditions in industry and a handicraft culture in society, using the industrial mechanism at the most as one might use an auxiliary engine on a sailboat to beat against the wind; and the modernists who feel that machinery can never be put in its place unless we carry out its precepts and follow its inherent technique exhaustively, taking advantage of all its shortcuts and precisions; so that our beds will be built as soundly as our bridges, and our dwellings will serve their purposes as efficiently as our factories. Most of our current efforts in interior decoration represent not so much a wise compromise between these two points of view as a complete perversion of each of them. Modern interior decoration in America expresses for the most part nothing but our snobbery and servility; and if these are hard words, well, they are hard words, and the facts in back of them are even harder.

Now, a genuine revival of handicraft would probably afford an excellent incentive for new designs, new motifs, and new forms of decoration; indeed, I have recently seen some pottery and furniture from Mexico which shows that even in the New World handicraft continues to live and breathe; but about the prospects for such a revival in these United States it is useless to speculate. We must take what little comfort we can from the movement which Ruskin started in England half a century ago as a sort of backfire against industrialism; as a result of that revival one can purchase a gorgeous handwoven couch-cover at Heal's in London for less than one would pay for the machine-product in New York; and possibly, in time, even in mechanical industry the gasoline engine and the water-driven dynamo will restore the center of gravity to the individual craftsman in his own shop, who will carry a job through for a flesh-and-blood customer, instead of producing, let us say, an endless series of chair-legs for a central factory which in turn supplies a blind market.

The notion that handicraft and cottage production are uneconomical rests on very shaky foundations; what we mean is that handicraft does not lend itself readily to the commercialized multiplication of the cheap and nasty for a world market. From the standpoint of humane living, however, a good part of modern industrialism, with its alternations of intense drudgery and empty unemployment, is uneconomic. It needs only such a shutting off of the market and such an opening up of the

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land as is taking place in Central and Eastern Europe to shift the balance of power from the mechanized cities to villages where handicraft rotates with agriculture as a seasonal occupation; and then we shall see what we shall see. Unless a similar change takes place in America, it will be useless to expect any rejuvenation in carpentry, ironwork, stonework, and pottery; handicraft will remain for us a "luxury," a means of achieving conspicuous waste; in short, one of the servile arts, performing a task which neither an independent worker nor an independent artist would willingly set his hand to.

Our real hope for good interior decoration at present rests with the modernists; and yet they have, I confess, little to show us. Here and there one can pick up a single article or a piece of furniture which adequately demonstrates the finished, geometric perfection of machine work; such, for example, was a steel daybed I ran across the other day in which there was not a single element except the genteel mahogany finish to take away from its fine inflexible lines. A kindred honesty and perfection I found in one of Mr. Urban's chairs—an arrangement of pillows on a naked wooden frame; and I dare say that with a little inspiration one might compose a whole room which would exemplify those qualities of niceness and smartness which, as Professor Lethaby has well pointed out, is about all we can expect from the present state of the arts. It is not, let me emphasize, the crude products of industrialism that I am pleading for; the industrialism that created dormitories of procrustean iron beds, acres of plate glass windows, and miles of hideous iron façades. What one really wants is an æsthetic of industrialism, which will give all objects that fulfill a modern purpose or that are created by modern machinery the characteristic form that these means and ends call for.

So far from being inimical to art, the æsthetic of industrialism provides, it seems to me, a remarkable frame for art. Precisely because, if we are faithful to the logic of machinery, we shall have to do away with a host of fake decorations and fake "objets d'art," a certain space is cleared away in the modern house which the painter and the sculptor can fill. The artist today is the only craftsman that we have left whose hands are not devoted to mechanical reproduction. This is his good luck, in that it enables his art to be free, and his misfortune, in that his works have for the most part no destination in society other than the museum or the art gallery. Even if the modern artist's picture at last finds a place in some individual's dwelling, it will be only one "pretty object" amid a galaxy of fine wares, with as much chance of being singled out and enjoyed in a proper mood as it would have in an auction room.

Now, if the artist is to have a half a chance in a modern interior, we must stage *une grande nettoyage*—a spring cleaning—in order to get rid of the oddments and excrescences that appear on our furniture, in the design of our textiles, and where not. The artist asks for nothing better than that the chairs, tables, hangings, walls, and ceilings should be nothing more than harmoniously arranged planes of reticent tone. In such a milieu paintings and pieces of sculpture will stand out properly—will stand out as well as a kakemono in the bare interior of a Japanese apartment. Indeed, if the exhibitors at the Architectural League would only attempt to contrive to furnish a couple of rooms which would solely attempt to show modern pictures, wall decorations, and statues to utmost advantage, we might be spared so many essays in pseudo-antiquity on the part of the furniture makers, whilst we stimulated and attracted a group of genuine artists, something above the level which the League so abundantly shows. What is the promise of our mechanical age? Is it not this: that by turning out a hundred things that are similar, the machine gives us the freedom and leisure to produce the one thing that is unique? Translated into interior decoration, this would mean that the major part of our domestic apparatus might in time become as similar as—let us say—our kitchen equipment, while in due compensation a great many people might possess pictures and sculptures which now can be bought and appreciated only by a few. Thus we should humanize industrialism, perhaps, by carrying it to its conclusions; and so far from impoverishing ourselves and starving the artist, we should find the artist again at the center of things, and we should be surrounded by his creations.

LEWIS MUMFORD.

Pre-Convention Notes

The Fifty-sixth Annual Convention of the American Institute of Architects will be held in Washington, D. C., 16-18 May, and will not only mark another chapter of Institute history, but will most certainly give a new imprint to this annual gathering of the profession.

During the last few years a great deal of thought and inquiry has been given to the question of how to provide a convention that would yield the greatest amount of enjoyment to the largest number of delegates. The subject has been canvassed in the columns of the JOURNAL, and in almost every meeting of the Board of Directors it has been in order to consider this matter. Out of all these inquiries one belief has steadily seemed to take a definite form and shape,—that the majority of the delegates wished to condense as far as possible the purely business sessions of the convention so that the rest of the time could be left for developing an atmophere more architectural in character than that which pervades the convention room when the old and very hackneyed subjects are before the delegates.

The present one offers a peculiarly happy coincidence, because for the third time in its history the Institute will present its gold medal to one of its members. Mr. McKim received the medal in 1909, and it was given to Mr. Post in 1911. Now Mr. Henry Bacon is to become the happy possessor of this distinguished emblem as a tribute for his design of the Lincoln Memorial.

Thus the award of the medal will actually take place within the portals of the building itself, and it is planned to make this occasion one of great impressiveness.

The ceremonial pageant which is being planned under the direction of a special committee composed of Mr. Howard Greenley, Chairman, and Mr. Monroe Hewlett, is already busily occupied with the details. It is planned

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to have a procession composed of the officers and members of the Chapters present at the convention, together with the representatives of all the craft and trade organizations that participated in the work of executing the building. So far as the plans have developed at present, it seems probable that the participants in the pageant will assemble at the east end of the Lagoon and then proceed in two divisions on either side of the Lagoon to a central meeting point in front of the Memorial. The Chapters are being asked to provide a special banner and pennon, significant of the State from which they come and embodying such traditions as may be worthy. It is also expected that a suitable simple robe will be provided for those taking part in the pageant.

It seems very likely that official Washington will be represented at the ceremony, and certainly it is true that the setting offered by the location of the Memorial, which faces the Lagoon and the Washington Monument and the far stretch of the Mall on one side, and the Potomac River and the wooded hills of Arlington on the other side, is one nobly designed to lend an impressive architectural aspect to the event.

So far as the sessions of the convention are concerned, while the details are not yet complete, it is to be noted that the morning sessions only are to be devoted to business. The rest of the time is to be set apart for the various exhibitions, special meetings, illustrated addresses, the scheme of which was finally reviewed by the Executive Committee at its session in Charleston, South Carolina on March 30, 31, 1923, too late for inclusion in this issue of the JOURNAL.

During the Convention week an exhibition is to be held in that part of the Corcoran gallery immediately above the Convention Hall known as Gallery "A." The exhibition is to be confined to exhibits of the work of those who have received gold medals of the Institute, or the Allied Arts or Crafts medal. The work shown will include drawings and photographs of the work of Henry Bacon, cartoons and illustrations of the work of Arthur F. Mathews of San Francisco, mural decorator; examples of the work of Samuel Yellin of Philadelphia; exhibits of typography by F. W. Goudy, and the tile work of Henry C. Mercer of Doylestown; and, it is hoped, some examples of the work of the sculptor, Paul Manship, though Mr. Manship's absence for the year in Europe makes it difficult to get adequate representation.

The Board rooms of the Octagon will also contain a special exhibit of Swedish architecture, chosen by the Society of Technology of Sweden and sent to America under the auspices of his Royal Highness, Prince Christian. This exhibit will probably be formally opened by the Swedish Ambassador in Washington.

Dr. C. Howard Walker has very kindly consented to give a talk, illustrated by stereopticon views, at one of the evening sessions.

A Correction

"The American Vitruvius: An Architect's Handbook of Civic Arts," was recently reviewed in the JOURNAL, and in error William Helburn was noted as publisher. The work was brought out by the Architectural Book Publishing Company of New York.

Public Information Page

THE THIRD ANNUAL Own Your Home Exposition will be held at the Coliseum, Chicago, on the 24-31 March next. The architectural committee collaborating is as follows: Mr. R. C. Spencer, Chairman, and Messrs. R. S. De Golyer, Charles H. Hammond, J. C. Llewellyn, Elmo C. Lowe, and F. W. Puckey.

THE COLORADO CHAPTER has been actively interested in obtaining beneficent legislation affecting the State licensing law. It is also interesting itself in the Denver Atelier which sends designs to the Beaux Art Institute of Design and in the Denver Art Association.

THE DAYTON CHAPTER has inaugurated a scheme to assist the Small House builder. Each member prepared a complete set of drawings for a small residence, which were turned over to the Chamber of Commerce to be sold at a nominal fee. A sufficiently large number of these plans were sold, houses being built from them to warrant the efforts which were made. The Chapter expects to press this work locally in the hope of changing the viewpoint of the Small House Builder. Some interesting articles have been prepared for the Press, and the Chapter believes that it has had some success in the way of publicity.

THE KANSAS CITY CHAPTER has been doing notable work through the *Kansas City Star* and in other local publications. The local press now appreciates the fact that an architect's name should always be associated with mention of his buildings. Ernest O. Brostrom, Goldwin Goldsmith and other energetic members of this Chapter deserve mention on account of the splendid energy they have shown in these matters. The afternoon lectures at the Art Institute are being continued, and are meeting with marked success.

THE RHODE ISLAND CHAPTER is working on a bill for the licensing of architects and a zoning ordinance for Providence. This Chapter is also assisting the City Council in the preparation of a new building code for Providence.

THE TEXAS CHAPTER is planning an exhibition at the Dallas Architectural Club for early April. It is hoped to use specimens of the work exhibited in connection with a newspaper campaign.

JOHN V. VAN PELT, *Chairman,*
126 East 59th Street, New York City.

The twenty-sixth architectural exhibition of the Philadelphia Chapter and the T Square Club of Philadelphia will be held 12th to 27th May, at the Art Alliance Galleries. Exhibits will include drawings, models and photographs of proposed or executed work, or structural, decorative and landscape architecture; academic drawings; sketches and paintings of decorative subjects. Three nationally known architects compose the Jury of Selection. All accepted exhibits will be subject to publication in the Year Book, and shall remain throughout the exhibition.

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London Letter

The advent of the New Year has naturally brought forth the expression of hopes for better prospects in the building industry; and in addition some interesting reviews of progress in the past combined with concrete suggestions for the future. 1922 has been for Europe a year of almost universal misfortune, and the building industry in England cannot be said to have been in the enjoyment of a period of prosperity. At the same time there is no doubt that the end of the year has witnessed an increase of optimism and a few tangible signs of improvement.

There are very reasonable grounds for hope for the future. The deflation in wages from the immediate post-war standard has been arrived at with a remarkable absence of ill-feeling between operatives and employers. The level which wages have reached is one approaching finality, resulting in a feeling of stability as regards present day building values which is encouraging to the building owner. In fact building is once more becoming a practical proposition. On the other hand there still remain the high prices of certain building commodities which can only be brought down by free competition with the assistance of architects and discriminating specifications.

One great difficulty seems to be the maintenance of reduced working hours in the shape of the forty-four-hour week. The increase in overhead charges caused by the forty-four-hour week reacts strongly on the cost of production, and there is a feeling in many quarters that the week should be increased in the summer months, giving a total average for the year of forty-seven to forty-eight hours. Certainly some extraordinary results have been obtained by small non-federated builders who sub-let their trades on the basis of piece-work, and while this method is generally unpopular there seems to be no valid objection to the system of "bonus on output."

THE EXHIBITION of Contemporary British Architecture held at the Galleries of the R.I.B.A. has helped the cause of architectural propaganda in England. It was well reviewed by the Press, where it was frequently remarked that there are a great many architects doing excellent work whose names are yet completely unknown to the public.

On the occasion of the exhibition of these drawings and photographs in the United States there were certain to be some expressions of disappointment. England has suffered since the war from a dearth of large building enterprises, and the absence of new "monumental" work from the exhibition is thereby explained. Gilbert Scott's Liverpool Cathedral, the London County Hall by Ralph Knott, and the Port of London Authority Building by the new Knight, Sir Edwin Cooper, are all familiar as pre-war designs. The younger generation has as yet had no opportunity to express itself in large buildings. The result is the presence, in the exhibition, of a limited number of familiar large works, and a larger proportion of new domestic buildings which reach a satisfactory level of merit. There are many notable absentees from this exhibition, the importance of which was overlooked by many habitual exhibitors, but on the other hand some "lesser lights" have been allowed a welcome opportunity. The exhibition jury made its selection by invitation and also by competitive elimination.

Every visitor formed his own judgments, but it may be interesting to know that amongst the exhibitors are several whose work is being followed with particular keenness by the younger architects. Amongst these may be mentioned Gilbert Scott, Sir John Burnett, Sir Robert Lorimer, Robert Atkinson, Clough Williams-Ellis. The influence of Rickards and Brewer lives after them in the stones of the buildings on which they imprinted their personalities.

THE CELEBRATION of the Wren Bicentenary was the occasion of some light irony in the public press at the expense of architects.

It appears that the Royal Institute decided to hold a "Wren Ball" in connection with the ceremonies in honor of Sir Christopher, with the very laudible intent of handing over the proceeds to the Dean and Chapter of St. Paul's to assist the Cathedral Restoration Fund.

In order to lend impressiveness to the ball it was proposed to hold it in the City Guildhall, to which end it became necessary to approach the City Fathers assembled in conclave. Unfortunately the proposition seems to have been brought forward in the absence of its R.I.B.A. sponsors, with the result that the spirit of the Institute scheme was entirely missed. A wave of indignation is said to have passed over the meeting as one indignant City Father asked whether architects always celebrated the death of their great men by dancing!

But the ball was held all the same—in the Institute Galleries.

A SEVERE, though perhaps only temporary reverse has been inflicted on those members of the R.I.B.A. who are espousing the cause of architectural Registration without prior Unification of the profession.

At a general meeting of the Institute called towards the end of January, the Council asked for approval of the proposal to place before Parliament a Registration Bill, the draft of which had been previously widely circulated in the Institute.

The result of the voting was a severe defeat for the Council. The proposal for a Registration Bill which is not completely supported by the architectural societies as a whole was rejected by a two to one majority.

Expert opinion sees no hope for the acceptance by Parliament of a bill which has not the united support of the entire profession behind it.

"X"

February, 1923.

Structural Service Department appears on the second right hand page following

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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

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Differences Between Heartwood and Sapwood. (19a)—(*Forest Products Laboratory Technical Note No.* 189.) Sapwood is the outer light-colored portion of a tree trunk through which the water passes from the roots to the leaves, and in which excess food is stored temporarily. Heartwood is the central core of the trunk. In most woods the heartwood can be distinguished from the sapwood by its darker color. But in hemlock, aspen, cottonwood, some beeches, all spruces except Sitka spruce, basswood, holly, hackberry, tupelo gum, and the true firs (not Douglas fir), there is very little difference in the color of the heartwood and the sapwood.

As new sap is formed on the outside of the tree trunk, the inner sapwood changes to heartwood. During this change the living cells die; the pores of some woods become plugged up with a froth-like growth, known as "tyloses"; and the cell walls, and in some species the cell cavities, become infiltrated with various substances, some of which darken the wood. These infiltrations do not add appreciably to the weight of the wood, except in species like ebony and rosewood in which the pores become filled with deposits.

In over 500,000 tests which have been made by the Forest Products Laboratory, Madison, Wisconsin, on the various species of woods grown in the United States, no effect upon the mechanical properties of the wood due to its change from sapwood into heartwood has ever been noticed. The heartwood of the oak, pine, and other structural timbers is not intrinsically stronger than the sapwood, as has often been supposed to be the case; nor is the sapwood of hickory and ash intrinsically stronger than the heartwood, as is sometimes claimed in connection with handle stock.

The essential differences between heartwood and softwood are as follows:

Heartwood, as a rule, is more durable than sapwood in damp locations and less subject to attack by stain and mold-producing fungi. It usually is colored and therefore considered more ornamental than the white sapwood, except in a few cases; in yellow pine interior finish and maple flooring, for example, the white sapwood is preferred. Heartwood is less permeable to liquid and therefore more suitable for tight cooperage, tanks, and conduits; and it responds more slowly to changes in atmospheric humidity, which often is of advantage when uncoated wood is exposed for a relatively short time to a different humidity. The heartwood of some species contains more valuable extractable materials, such as tannin and dyes, than does the sapwood.

Sapwood, as a rule, takes preservative treatment better than heartwood. It seasons faster, but when green usually contains a larger percentage of moisture which often makes it heavier. Because sapwood is the outer portion of the tree it contains few common defects, such as knots, shakes, and pitch streaks. In resinous species the sapwood usually contains less resin than the heartwood. Sapwood is more free from odor and taste, which may be an advantage in some cases, and a disadvantage in other cases.

What Is Meant by "Hardwoods" and "Softwoods." (19a1)—(*Forest Products Laboratory. Technical Note No.* 187.) No definite degree of hardness divides the "hardwoods" from the "softwoods." In fact, the only absolute distinction which can be made between the two classes of wood has nothing to do with their hardness or softness. The terms are simply one of several pairs of popular descriptive names in use for referring to trees of the two great groups botanically known as the Angiosperms and the Gymnosperms.

The botanical distinction between these groups, which is that the seeds of the Angiosperms are enclosed in pericarps and the seeds of the Gymnosperms are exposed, is in itself of no commercial importance. But there are numerous general differences which make it necessary for wood users constantly to refer to Angiosperms and Gymnosperms by some name or other. Differences in structure, appearance, properties, size, and quality of the timber and in regions of growth keep the woods of the two groups more or less separated, from the logging operation down through the manufacturing process to the ultimate use.

The terms "hardwoods" and "softwoods" are the most generally accepted popular names for the two classes of trees, although they are perhaps the most misleading. It is true that many Angiosperms, such as oak, hickory, sugar maple, and black locust, are notably hardwoods, and that many Gymnosperms, such as most pines and spruces, are rather soft woods. But there are a number of outstanding exceptions. Basswood, poplar, aspen, and cottonwood, which are all classified as hardwoods, are in reality among the softest of woods. Longleaf pine, on the other hand, is about as hard as the average hardwood, although it is classified as a softwood. Yew, another so-called softwood, is about three times as hard as basswood and considerably harder than most oaks.

Another common name for the Gymnosperms is "conifers." This is more accurate than "softwoods," as all native Gymnosperms except the yew are cone-bearing trees.

Gymnosperms are sometimes spoken of as "the evergreens" and Angiosperms as "the deciduous trees," from the fact that most trees in the former group keep their foliage the year round and most of those in the latter group lose their leaves during the fall or winter months. The exceptions among the softwoods are bald cypress and tamarack, which have no leaves in winter. With hardwoods it is more or less a matter of climate. Many tropical hardwoods are green the year round.

The most accurate popular descriptions of the two groups

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Detail at Fifth Story

Random Fire Flashed

The Pershing Square Building, designed by York & Sawyer and John Sloan, is New York's newest skyscraper.

The building occupies the city's most valuable site—probably the most valuable building site in the world—on 42nd Street, opposite the Grand Central Terminal.

The Pershing Square Building is entirely of Atlantic Terra Cotta and wire-cut brick. The Terra Cotta is rough in texture, gray with random fire flashes of golden brown. Dark faience colors are used to accentuate natural shadow in some of the lower story detail. The jointing is in small scale.

The Atlantic Terra Cotta harmonizes with the brick in color, texture and scale.



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350 Madison Avenue, New York

Southern Factory
Atlanta Terra Cotta Company
Atlanta, Georgia

Largest Manufacturers of Terra Cotta in the World

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are "trees with broad leaves" for the Angiosperms and "trees with needles or with scale-like leaves" for the Gymnosperms. These are the definitions generally given by dictionaries for hardwoods and softwoods, or hardwoods and conifers. They divide woods almost exactly in accordance with the botanical grouping. The few Gymnosperms, such as ginkgo, which have broad leaves are not native to this country.

A difference in cellular structure which has been found to exist between the commercial Angiosperms and Gymnosperms is a very reliable means of distinguishing between the two groups, the hardwoods being called the porous and the softwoods the nonporous woods. The term "porous" refers to the presence of certain comparatively large open-end cells or pores in the wood, in addition to the small closed-end cells, or fibers. These large specialized cells are found in practically all Angiosperms, their function being to conduct sap from the roots to the leaves. The Gymnosperms have developed no pores for this purpose, but use their fibers to elevate sap.

U. S. Govt. Specifications for Interior Varnish. (25b11)—(*Circular of the Bureau of Standards No.* 117. *Federal Specification Board Standard Specification No.* 22. *Size* 7" x 10". *Pages* 6.) The varnish shall be suitable for general interior use, including both rubbed and unrubbed finish, exclusive of floors. It must be capable of easy application with a brush in the ordinary manner according to the rules of good standard practice, must flow out to a good level coat free from runs, sags, pits, or other defects, and dry with reasonable promptness to a hard, somewhat elastic glossy coating which can be rubbed in 48 hours or less. The manufacturer is given wide latitude in the selection of raw materials and processes of manufacture, so that he may produce a varnish of the highest quality. The varnish must meet the following requirements:

Appearance.—Clear and transparent.

Color.—Not darker than a solution of 3 g of potassium dichromate in 100 cc of pure sulphuric acid, specific gravity 1.84.

Flash Point (Closed Cup.)—Not below 30 degrees C. (85 degrees F.).

Non-volatile Matter.—Not less than 45 per cent by weight.

Set to Touch.—In not more than 4 hours.

Dry Hard.—In not more than 24 hours.

Dry to Rub.—In not more than 48 hours.

Toughness.—Film on metal stand must stand rapid bending over a rod 2 mm (1/8 inch) in diameter.

Working Properties.—Must have good brushing, flowing, covering, leveling, and rubbing properties, and must show no impairment of luster or other defect when used where natural or illuminating gases are burned or when subjected to air currents during the process of drying or application.

Water Resistance.—The dried film must stand application of cold water for not less than 18 hours without whitening or showing other visible defect.

This circular also contains specification for sampling, laboratory examination, basis of purchase.

U. S. Govt. Specification for Basic Sulphate White Lead, Dry and Paste. (25a21)—(*Circular of the Bureau of Standards No.* 85. *Federal Specifications Board. Standard Specification No.* 6. *Size* 7" x 10". *Pages* 9.) Basic sulphate white lead may be ordered in the form of dry pigment or paste ground in linseed oil. Material shall be purchased by net weight.

(*a*) *Dry Pigment.*—The pigment shall be the sublimed product prepared from lead sulphide ores, free from impurities and adulterants, and shall meet the following requirements:

Color.—Color Strength. When specified shall be equal to that of a sample mutually agreed upon by buyer and seller.

	Minimum Per Cent	Maximum Per Cent
Coarse particles:		
Retained on standard No. 325 screen	....	1.0
Composition:		
Lead oxide	11.0	18.0
Zinc oxide	....	9.0
Total impurities, including moisture	....	1.0

The remainder shall be lead sulphate.

(*b*) *Pastes.*—The paste shall be made by thoroughly grinding the dry pigment with pure raw or refined linseed oil.

The paste as received shall not be caked in the container and shall break up readily in oil to form a smooth paint of brushing consistency. It shall mix readily in all proportions without curdling with linseed oil, turpentine, or volatile mineral spirits or any combination of these substances.

The paste shall consist of:	Minumum Per Cent	Maximum Per Cent
Pigment	89	91.0
Linseed oil	9	11.0
Moisture and other volatile matter	..	0.7
Coarse particles and "skins" (total residue retained on No. 325 screen, based on pigment)	..	1.5

This circular also contains specifications for Sampling, Laboratory Examination of Dry Pigment, Laboratory Examination of Paste, Reagents.

U. S. Govt. Specifications for Basic Carbonate White Lead, Dry and Paste. (25a21)—(*Circular of the Bureau of Standards No.* 84. *Federal Specification Board. Standard Specification No.* 5. *Size* 7" x 10". *Pages* 8.) Basic carbonate white lead may be ordered in the form of dry pigment or paste ground in linseed oil. Material shall be purchased by net weight.

(*a*) *Dry Pigment.*—The pigment shall be the product made from metallic lead and shall have a composition corresponding approximately to the formula $2PbCO_3\ Pb(OH)_2$. It shall be thoroughly washed after corroding, shall be free from impurities and adulterants, and shall meet the following requirements:

Color—Color strength.—When specified, shall be equal to that of a sample mutually agreed upon by buyer and seller.

	Minimum Per Cent	Maximum Per Cent
Coarse particles retained on Standard No. 325 screen	....	1.0
Lead carbonate	65.0	75.0
Total impurities, including moisture	....	2.0

(*b*) *Paste.*—The paste shall be made by thoroughly grinding the above described pigment with pure raw or refined linseed oil.

The paste as received shall not be caked in the container and shall break up readily in oil to form a smooth paint of brushing consistency. The paste shall consist of:

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	Minimum Per Cent	Maximum Per Cent
Pigment	90	92
Linseed oil	8	10
Moisture and other volatile matter	..	0.7
Coarse particles and "skins" (total residue retained on No. 325 screen based on pigment)	..	1.5

This circular also contains specifications for Sampling, Laboratory Examination of Dry Pigment, Laboratory Examination of Paste, Reagents.

U. S. Govt. Specifications for Iron-Oxide and Iron-Hydroxide Paints. (25a25)—(*A Circular of the Bureau of Standards No.* 93. *Federal Specification Board. Standard Specification No.* 13. *Size* 7" x 10". *Pages* 8.) This specification applies to iron-oxide and iron-hydroxide paints of red and brown colors. The paint may be ordered in the form of either semipaste paint or ready-mixed paint.

The basis of purchase may be either by net weight or by volume (231 cubic inches to the gallon).

(*a*) *Pigment.*—The pigment in both semipaste and ready-mixed paint shall be very finely ground iron oxide, iron hydroxide, siliceous minerals or a mixture thereof, to which carbon pigment may be added, if necessary, to produce the required color. It must be free from organic coloring matter (dyes or lakes). The pigment shall show an analysis not less than 30 per cent of ferric oxide (Fe_2O_3). The total of the ferric oxide, insoluble siliceous matter, and loss on ignition shall be not less than 9 per cent.

(*b*) *Liquid.*—The liquid in semipaste paint shall be entirely pure, raw or refined linseed oil; in ready-mixed paint it shall contain not less than 75 per cent pure linseed oil, the balance to be combined drier and thinner. The thinner shall be turpentine, volatile mineral spirits, or a mixture thereof.

(*c*) *Semipaste.*—Semipaste shall be made by thoroughly grinding the pigment with pure raw or refined linseed oil. The semipaste is received, and three months thereafter shall be not caked in the container and shall break up readily in linseed oil to form a smooth paint of brushing consistency. It shall mix readily with linseed oil, turpentine, or volatile mineral spirits, or any combination of these substances, in all proportions without curdling. The color and hiding power when specified shall be equal to that of a sample mutually agreed upon by buyer and seller. The weight per gallon shall be not less than 13½ pounds. The paste shall consist of:

	Maximum Per Cent	Minimum Per Cent
Pigment	72.0	68.0
Linseed oil	32.0	28.0
Moisture and other volatile matter	0.7	....
Coarse particles and "skins" (total residue retained on No. 200 screen based on pigment[a])	0.5	....

a. The No. 200 screen is the same as the screen formerly known as 200 mesh.

(*d*) *Ready-mixed Paint.*—Ready-mixed paints shall be well ground, shall not settle badly or cake in the container, shall be readily broken up with a paddle to a smooth, uniform paint of good brushing consistency, and shall dry within 18 hours to a full oil gloss, without streaking, running, or sagging. The color and hiding power when specified shall be equal to those of a sample mutually agreed upon by buyer and seller. The weight per gallon shall be not less than 12 pounds. The paint shall consist of:

	Maximum Per Cent	Minimum Per Cent
Pigment	57.0	53.0
Liquid (containing at least 75 per cent linseed oil)	47.0	43.0
Water	0.5	....
Coarse particles and "skins" (total residue retained on No. 200 screen based on pigment)	0.5	....

This circular also contains specifications for Sampling, Laboratory Examination, Semipaste, Analysis of Pigments, Laboratory Examination—Mixed Paints, Reagents.

U. S. Govt. Specifications for Turpentine. (25a12)—(*Circular of the Bureau of Standards No.* 86. *Federal Specifications Board, Standard Specification No.* 7. *Size* 7" x 10". *Pages* 11.) These specifications apply both to the turpentine which is distilled from pine oleoresins, commonly known as gum spirits or spirits of turpentine, and to turpentine commonly known as wood turpentine, which is obtained from resinous wood, whether by steam or by destructive distillation. When ordering under these specifications, the purchaser shall specify whether (a) gum spirits or (b) wood turpentine is desired. When wood turpentine is specified, it may be stated whether steam or destructively distilled wood turpentine shall be furnished.

Turpentine shall be pure and conform to the following requirements:

Appearance.—Shall be clear and free from suspended matter and water.

Color.—Shall be "standard" or better.

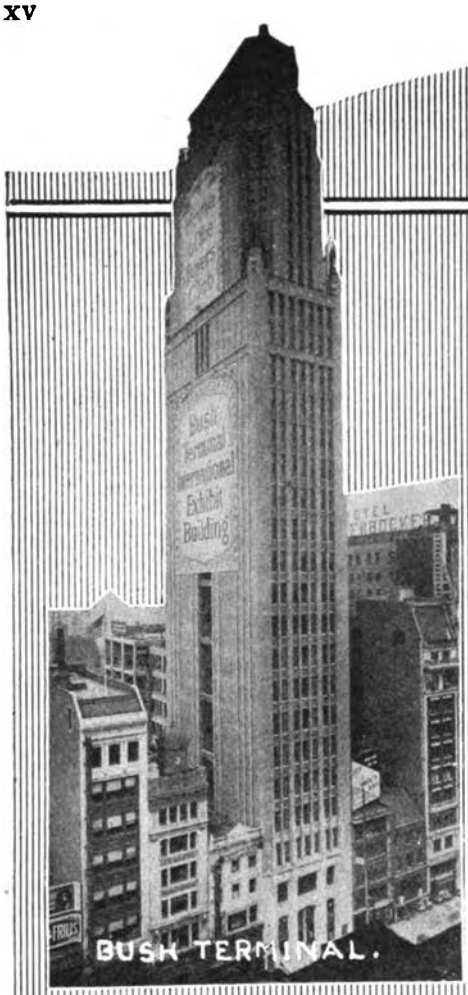
Odor.—Shall be characteristic of the variety of turpentine specified and, if desired, shall conform to the odor of the sample agreed upon.

	Maximum Per Cent	Minimum Per Cent
Specific gravity, 15.5/15.5 degrees C	0.875	0.862
Refractive index at 20 degrees C, gum spirits	1.478	1.468
Refractive index at 20 degrees C, wood turpentine	1.478	1.465
Residue after polymerization with 38 NH_2SO_4	....	....
Gum spirits	....	....
Volume (per cent)	2.0	....
Refractive index at 20 deg. C	....	1.500
Wood turpentine	....	....
Volume (per cent)	2.5	....
Refractive index at 20 deg. C	....	1.480
Initial boiling point at 760 mm pressure (per cent)	160.deg. C	150.deg. C
Distilling below 170 deg. C at 760 mm pressure (per cent)	....	90

This circular also contains specifications for detection and removal of separated water, sampling, laboratory examination and basis of purchase.

Recommended Minimum Requirements for Small Dwelling Construction. (40b)—(*Report of the Building Code Committee of the Department of Commerce. Published by the Bureau of Standards. Pages* 100. *Illustrated.*) Investigations by a Congressional Committee during 1919 and 1920 disclosed that existing building laws through variations and inconsistencies of their provisions and through unduly restrictive or expensive requirements, were operating

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to prevent needed activity in the building industry. That these conditions might be remedied, a committee of experienced architects and engineers was organized by Secretary Hoover, to investigate building practice and code requirements and to prepare standard building regulations based on the latest and best information, which might be recommended to cities and states adopting or revising building codes.

The first report of this Committee presents recommendations for the construction of one and two-family dwellings having exterior walls of solid or hollow masonry, concrete, and frame, the latter including veneer and stucco surfaces.

In order that its recommendations might have sound bases of information and opinion, the committee obtained the cooperation of nearly one hundred architectural and engineering societies, builders' exchanges, and industrial organizations producing building materials. Special questions also were referred to large groups of individual engineers, architects, building officials, to the Bureau of Standards, and to others whose experience qualified them to discuss such subjects. Tentative recommendations were drafted and submitted widely for discussion and criticism by those interested in the work, and the final report reflects the influence of this consideration.

The Committee recommends that building codes permit 8-inch solid brick and 6-inch solid concrete walls for 2½ and 3-story dwellings accommodating not more than two families each; that 8-inch hollow building tile, hollow concrete block, or hollow walls of brick (all rolok) shall not exceed 20 feet in height to the gables; and that frame construction be limited to 2½ stories. Metal lath and plaster on wood studs properly firestopped is approved for party and division walls, but at least every alternate wall in row houses must be 8-inch solid brick or concrete or 12-inch hollow building tile, concrete block, or hollow wall of brick.

Requirements for quality of hollow masonry units agree fairly well with present practice, but those for brick are somewhat below the medium grade established by the American Society for Testing Materials. The report recommends revised working stresses for timber used in dwellings, based on investigations of the U. S. Forest Products Laboratory. Live loads to be required as bases for design are 40 pounds per square foot for floors of wood, and 30 for those of monolithic type, or of solid or ribbed slabs. Foundation walls of brick are required to be 12 inches thick for excavated enclosures, and similar concrete walls shall be as thick as the walls they support but not less than 8 inches. Special hollow building tile 12 inches thick is permitted for foundation walls of frame buildings. Detailed recommendations are given for firestopping and chimney construction, also for the treatment of built-in garages.

The recommended requirements are followed by a lengthy appendix containing explanatory material and much educational matter for the guidance of builders, with particular reference to the merits of 8-inch and 12-inch masonry walls, use of lumber, stucco construction, plastering, and other important subjects.

The Committee is composed of the following members: Ira H. Woolson, Chairman; Consulting Engineer, Nat'l Board of Fire Underwriters, New York, N. Y.; Edwin H. Brown, Architect, Minneapolis, Minn.; William K. Hatt, Professor of Civil Engineering, Purdue University, Lafayette, Ind.; Rudolph P. Miller, Formerly Sup't of Buildings, New York, N. Y.; John A. Newlin, in charge of Section of Timber Mechanics, Forest Products Laboratory, Madison, Wis.; Ernest J. Russell, Architect, St. Louis, Mo.; Joseph R. Worcester, Consulting Engineer, Boston, Mass.

Electric Service from Rural Transmission Lines. (31)—(*Iowa State College of Agriculture and Mechanic Arts. Bulletin No.* 47 *by A. B. Campbell. Pages* 24. *Size* 5¾″ x 8½″.) This bulletin has been prepared for those interested in extending electric service from the transmission lines and central stations with rural communities.

Synopsis.—The application of electricity on the farm. How electrical energy is carried to the rural districts. Plans followed in serving rural districts. How to proceed to obtain rural service. Line construction specifications. Selection of voltage for rural lines. Transformers. Metering on farm lines. House wiring. Lamps and fixtures. Interference with telephone lines. Factors involved in cost of rural service.

Operating a Home Heating Plant. (30)—(*U. S. Dept. of Agriculture. Bureau of Public Roads. Farmers' Bulletin No.* 1,194 *by A. M. Daniels. Pages* 28. *Size* 6″ x 9″. *Illustrated.*) Many home heating plants are burning more fuel than they should or are not heating the house satisfactorily. This may be due to the selection of a plant of the wrong design, size or type, faulty installation, poor operation, or to loose fitting doors and windows. In this bulletin the requirements that should be met in order to heat the home satisfactorily are discussed and advice is given concerning the selection, installation and operation of the plans.

Contents.—Requirements for satisfactory heating. The chimney flue. Selection and installation of heating equipment. Understanding the heater and operating it intelligently. Weather-tight houses essential. Humidity. Ventilation requirements.

Physical Testing of Non-Bituminous Road Materials. (11)—(*Agricultural and Mechanical College of Texas. Bulletin No.* 17 *by Roy M. Green. Pages* 27. *Size* 6″ x 9″. *Illustrated.*) Modern methods of testing materials for highway construction have been developed during the past forty-five years. Prior to that time reliance was placed, either upon service tests, or upon the appearance of the material and the opinion of its suitability from merely a superficial inspection. Through a study of the physical properties of materials that have been used successfully in road construction there has been worked out a system of tests which gives an indication of the properties desired in only a few hours. These tests approximate conditions on the road, but the element of time is eliminated.

Contents.—Tests made upon rock for water bound macadam construction, for bituminous roads and pavements, for concrete pavements and structures. Tests made upon gravel for gravel roads, and for concrete structures. Tests made upon sand for sand clay roads and for concrete construction. Tests made upon clay for sand clay roads. Tests made upon paving brick and paving block. Tests made upon stone for stone block pavement.

Poultry House Equipment. (351)—(*New Jersey Agricultural Experiment Station. Vol.* 10. *No.* 1. *Pages* 4. *Size* 6″ x 9″. *Illustrated.*)

Synopsis.—Light and ventilation, Floors and litter, Roost and dropping boards, Feed bin and mash hoppers, Grit and shell hopper, Water device, Electric light equipment, Nests and brooding coops.

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LOUIS H. SULLIVAN

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DR. CHARLES W. ELIOT

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IRVING K. POND

Samuel Yellin and His Work
GEORGE HOWE

The Grant Memorial
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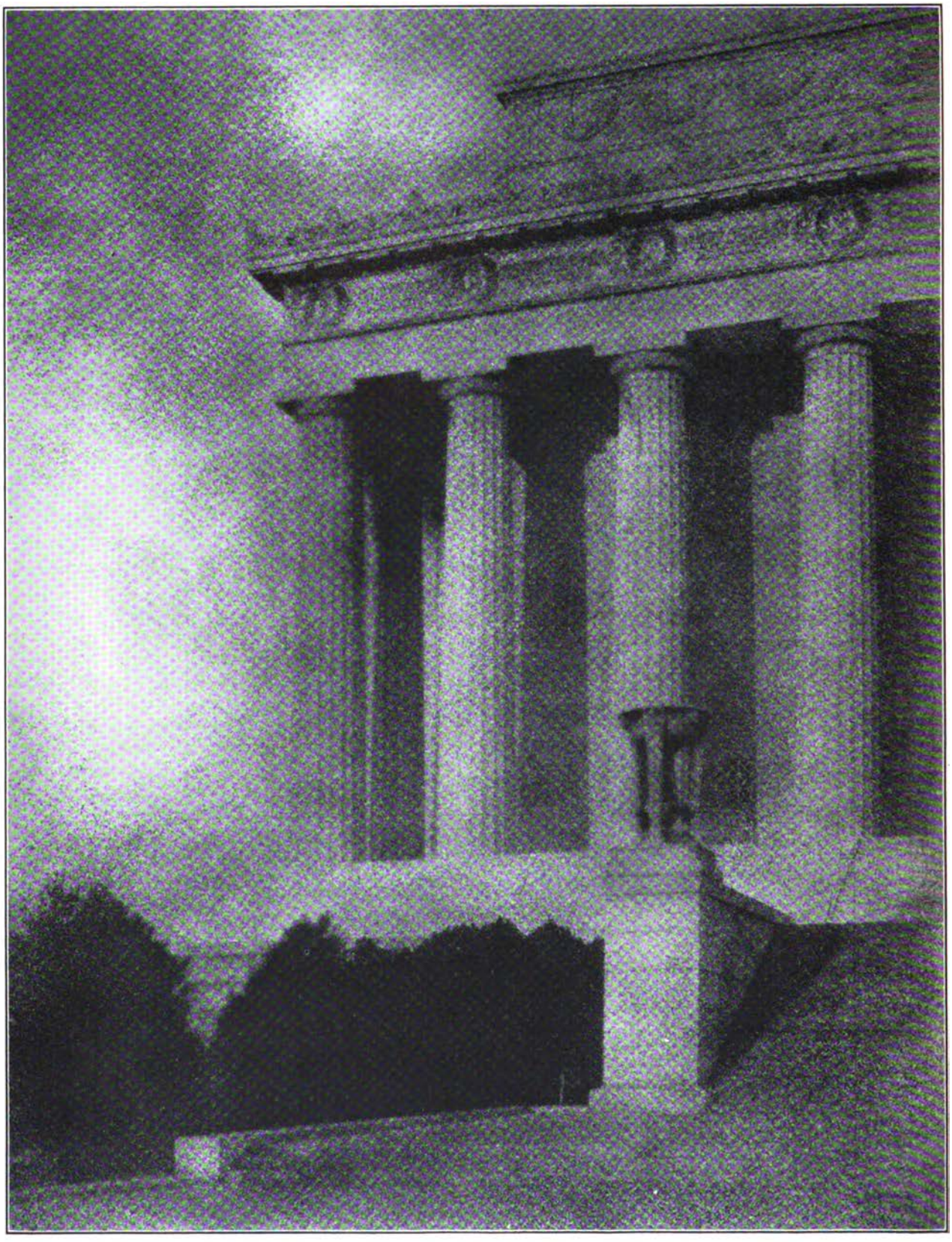
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Vol. XI MAY, 1923 Number 5

The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER XII.

Paris

AFTER a brief stay at the Hotel St. Honoré, Louis found permanent quarters on the seventh floor of a rooming hotel, at the southeast corner Rue Monsieur le Prince and Rue Racine, in the Latin Quarter. Nearby were the "Boule Miche" toward the east, the Odeon, the Luxembourg Palace and its gardens to the southwest. From this lofty perch which he always reached on the run, two steps at a time, the City of Paris spread before him to the north, and on the small balcony, reached by casement doors, he would sometimes sit in the twilight and be caught by the solitary boom of the great bell of Notre Dame.

Early he had discovered that the French of his High School, for excellence in which he had taken first prize in a matter of course way, was not quite the colloquial French he now heard, spoken with exasperating rapidity and elision. As to the bill of fare, the *Menu,* at the first attempt he perspired awhile in anguish, then put his finger on a line at random, and set down the result in a special notebook. He must learn current French in a hurry. He engaged a teacher to come every day at a fixed hour. When on the streets, he walked close to the people ahead, to catch every word; in this way his ear caught up words, locutions, intonations, and emphasis; and soon he began to feel he was on the way, even though he did not understand a tenth of what he heard.

He early visited the American Legation, complied with requirements, received information and advice, was told to buy certain textbooks, and was referred to a certain Monsieur Clopet as the very best tutor in mathematics. At the Legation he made the startling discovery that the Beaux Arts entrance examinations were to begin in six weeks; and furthermore, he had scanned the Program of Admission, and was startled again at the range of subjects he was not up on. Was he downhearted? Not a bit. It was a *certainty* he would pass because he must *pass.* He had come to Paris from far-away Chicago with that sole end in view; so why argue? He knew it meant six weeks of the hardest work he had ever done. He figured on eighteen hours a day. He knew he was in physical condition. He would allot one hour each day to gymnasium work, and keep on simple diet. What stood uppermost in his mind and gave him self-reliance to face any task, was this assurance: Had he not been trained in discipline and self-discipline by Moses Woolson? Had he not been trained and tried by that great teacher in the science and the art of thinking, of alertness, of close attention and quick action, in economy of time, in sharp analysis, in the high values of contemplation?

He lost no time in calling upon Monsieur Clopet. He was greeted in simple gracious words, by a small dark man, who, to Louis' joy, spoke only French. The preliminaries over, Monsieur Clopet asked: "And what are the books you have under your arm?" Louis replied: "Books I was told at the American legation I would need." "Ah, yes, let me see them." He took the books, selected a large work on Descriptive Geometry, and began to turn the pages. "Now observe: here is a problem with five exceptions or special cases; here a theorem, three special cases; another nine, and so on and on, a procession of exceptions and special cases. I suggest you place the book in the waste basket; we shall not need of it here; *for here our demonstrations shall be so broad as to admit of* NO EXCEPTION!"

At these amazing words Louis stood as one whose body had turned to hot stone, while his brain was raging. Instantly the words had flashed, there arose a vision and a fixed resolve: an instantaneous inquiry and an instant answer. The inquiry: If this can be done in Mathematics, why not in Architecture? The instant answer: It can, and it shall be! *no one has—I*

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will! It may mean a long struggle: longer and harder than the tramp through the forest of Brown's Tract. It may be years from now, before I find what I seek, but I shall find it, if otherwhere and otherwise, with or without guide other than my *flair,* my will and my apprehension. It shall be done! I shall live for that!—no one, no thing, no thousand shall deter me. The world of men, of thoughts, of things, shall be mine. Firmly I believe that if I can but interpret it, that world is filled with evidence. I shall explore that world to seek, to find. I shall weigh that world in a balance. I shall question it, I shall examine and cross-examine, I shall finally interpret—I shall not be withheld, I shall prevail! During the immense seconds of this eidolon, Louis found himself shaking hands with Monsieur Clopet in parting, promising to join his class on the morrow. This he did. The class consisted of about twenty young men, mostly French, a few from other lands, no Englanders, no other American. Louis wished an exclusively French atmosphere—he was beginning feebly to think in French and wished no disturbance of the process. He had told his French tutor that he knew the grammar by heart and could conjugate all the irregular verbs; that what he wished, and he wished it done in a hurry, was to acquire the language of the man on the street first of all, to acquire what fluency he might in the short time before him, to increase his vocabulary, a hundred new words memorized every day. It must be talk, talk, talk, and read, read, read, to each other—daily papers, general history in particular, read aloud to each other, read and correct, talk and correct, and hammer away in the sweat of their brows. This tutor could not long stand the pace and begged to be excused. Louis got another, wore him out. The third one stuck. He saw into Louis' plan and it amused him greatly, so much so that he joined in, jovially, and made a play of it. A *petit verre* started him off nicely. He possessed a rare art of conversation, was full of anecdote, personal incident and reminiscence, knew his Paris, had the sense of comedy to a degree, looked upon life as a huge joke, upon all persons as jokes, and upon Louis as such in particular—he would amuse himself with this frantic person. At once he spoke to Louis *en camarade, vieux copain,* as one Frenchman to another. He made running comments on the news of the day, explained all sorts of things Louis was beginning to note in Paris life, put him in the running. He had a gift of mimicry, would imitate the provincial dialects and peasant jargon, with fitting tone and gesture, and, taking a given topic or incident, would relate it in terms and impersonations ranging in series from gamin to Academician. In these moods he was simply "killing." And when Louis told a story, he would mimic it delightfully. But the man knew his French, and spread out the language before Louis in a sort of landscape which awoke imagination. At times he would wax eloquent concerning his mother tongue, as he revealed its resources and its beauty, its clarity, its precision, its fluidity, and he earnestly advised Louis that he must without fail go each Sunday to the Church of St. Roch, there to hear in the sermon the marvelous beauty of the language, as uttered there by one who, through life-long discipline, had attained to its perfection of form and vocal melody.

This tutor man suited Louis: he was wholly human, and well versed. Also well built, well under middle age, seldom sat for long, but paced the floor, or lolled here or there by moments. His voice was suave, his manner frank and free. He had an air, was well bred. He was either an unconscious or a crafty teacher, a *rara avis,* he knew how to get results. The daily lesson lasted one hour, and Louis daily plowed on, at high tension.

At Monsieur Clopet's class he was well received by the young gentlemen there. He returned their salutations, and an atmosphere of *savoir faire* prevailed. All were hard put to it to keep up their notes as a lecture progressed. Monsieur Clopet was gentle, polished, forceful. "One must work; that is what one is here for." As a drill master he was a potent driver, as an expounder he made good his word to Louis in a method and a manner, revealing, inspiriting, as he calmly unfolded, step by step, a well reasoned process in his demonstrations which were so simple, so inclusive, so completely rounded as to preclude exception; and there was not a book in sight; but ever in sight was Monsieur Clopet, making something teachable out of what at first seemed an abstraction in three dimensions. Louis was especially pleased at the novelty of saying *je dis*—"I say"—at the beginning of a demonstration. It humanized matters, brought them home, close up, a sort of challenge. How much more intelligent and lively to begin: "I say the sum of the angles of any triangle equals two right angles" than the formal impersonal statement: "The sum of the angles of any triangle equals two right angles." The latter statement one may take or leave. The former is a personal assertion and implies, "I will show you." In fact it was this "I say" and this "I will show you" that made up the charm of Monsieur Clopet's teaching method. For Louis had but little use for what is called "proof." In his secret heart he did not believe that anything could be *proved,* but believed as firmly that many things might be *shown.* From long practice as listener and observer, he had reached this conclusion, and as time went on, in his studies he became convinced that all abstractions were assumptions—that abstract truth was a mirage. As Monsieur Clopet's course covered mainly descriptive geometry and the science of arithmetic, with plain and solid geometry as incidentals, Louis met his bugbear in this very science of arithmetic. He seemed to bump his head against invisible walls, a blockade which seemed to hold him a prisoner to inner consciousness, instead of the free open of outward con-

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sciousness,—a working of the intellect detached from reality—therefore detached from life; but it was an examination requirement, so Louis stuck to the treadmill and learned how, by "rigorous logic," it might be proved that two and two make four. It was not that he lacked the sense that the study of numbers had its charm, and might exercise a fascination for those who had a mathematical career in view. It was against what he deemed the impertinence of rigid logic that he rebelled, for once we assume an abstraction to be real, he thought, we lose our anchorage which is in the real.

At the end of the first half hour Monsieur Clopet always called a recess. From his pocket he drew forth his pouch and his little book of rice papers; so did the others. There was sauntering, spectacular smoking and conversation. The cigarette finished, work was resumed. Louis thought this gay, immediately procured the findings, and learned to "roll his own." After recess the students were put through their paces at the blackboard for the final half-hour.

For Louis all this was exhilarating. He soon felt he was making sure headway. His fellow pupils were most amiable, and began to remark upon his improving French. Early in the game, however, they had taken him in hand regarding his attire, for Louis had made his first appearance clad in a flannel suit, a white cap and white canvas shoes. They were serious about it. "We would have you know, friend, you are not properly dressed. You are a student now, an aspirant for the Beaux Arts. Only the working classes wear the *casquette*. Gentlemen wear the *chapeau*, and only sporting people wear such clothes and shoes. You shall dress like a student and be one of us." As soon as it could be done, Louis appeared in tall silk hat, an infant beard, long tail coat, and trousers of dark material, polished shoes, kid gloves, and jaunty cane. Louis felt self-conscious, but he was met with so voluble a chorus of approval that he changed his tone, studied carefully the student manner so as to be one of them—they were such good fellows.

Swiftly fled the days; thus moved the work; nightly Louis sat in his room on the seventh, at his small desk a candle at each side, black coffee and wet towel as aids. He codified the Clopet notes, arranged his French vocabulary, read history by the hour, for he knew this latter would be highly important; and so it went day and night—work, work, work. About midway in the game Louis' brain seemed to be overcome by a fog. Everything was blurred as in a mist, his memory lost its grip. His knowledge of athletics told him he had overtrained and run stale. A three days' change of scene and complete diversion put him right; memory returned, the mist lifted; after that, no trouble.

The great day of the Examinations was now near at hand. Louis' French tutor had cautioned him to be careful not to use slang when addressing the professors; and Monsieur Clopet had said in open class, "I don't know as to the rest of you, but there is one among you who will pass brilliantly in his mathematics, and he is an American."

So, several days before the examinations, which were to begin early in October, Louis stopped all work, relaxed completely, and, in a state of confidence amused himself with the sights and sounds of Paris, and enjoyed a few long sleeps. He wandered here and there and everywhere, immensely amused and satisfied. Paris seemed made for him. All was really new to him, but did not seem strange or alien as had England. The people seemed rather like his own people of the Middle West; more cultured, more polite, more refined, to be sure, but withal, a certain temperamental likeness he believed to exist between raw Chicago and finished Paris. He believed he had observed a similar affinity between Boston and London. To Louis' view the barrier of language was most unfortunate: for the two peoples at large appeared to possess the same light-hearted spirit of adventure. Paris, though filled with historic monuments did not seem old; it gave rather an impress of ever self-renewing youth: And its people seemed light hearted. Wherever he went he found the city well ordered and cleanly, with architectural monuments everywhere; and in the parks and gardens he went through the old experience of surprise that the children could speak French so well. In the Luxembourg Gardens he watched them in groups with their nurses and perambulators and toys, and to him the children were like flowers and the nurses stately flowers, and the babble and child laughter and twittering made delicate and merry music. Never had he seen such child-happiness, such utter joy in living; and he felt convinced this must be the child-key to France. Window-shopping also was his keen delight as he traversed the boulevards and the Rue de la Paix. He even ventured to enter, and was not met with scowls—nor did he hear a word equivalent to "the damned Yankees." The crowds upon the boulevards were varied, interesting and cosmopolite. Yes, there was an atmosphere; this atmosphere was Paris; Paris was to be his home; its air of hospitality, of world-welcomer and host, found in him a ready and a heartfelt response.

In French language Louis had by now acquired a very fair degree of ease, and a vocabulary sufficiently covering the colloquial and the literary for his present purposes. His accent was good and on the way to becoming Parisian. Thus, prepared, with all his hard, gruelling work back of him, he felt at ease, but with a due sense of the close call he had had—six weeks! Had he been trained by any teacher other than Moses Woolson, in his high school days, and had he not all his life been in fine physical condition—which means no nerves—it is doubtful if he could have stood the strain of preparation.

The examinations were to be, severally, written, drawn, and oral. They were to cover a period of

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three weeks. The number of candidates for admission was large: covering all departments.

The great trial was now under way. The free hand drawing, the mechanical drawing, and an *esquisse en loge* of a simple architectural project, went smoothly enough for Louis; perhaps with some difficulty for others. The real test for him would lie in the oral examinations, which were conducted in little amphitheaters, a professor presiding, and all aspirants free to come and go, as they did in a steady stream. Louis himself had been one of these wanderers awaiting his turn. The candidate under fire thus was by no means lonely; indeed, he deeply wished to be alone with his inquisitor.

Came Louis' turn for mathematics. For audience he had some twenty strange faces, all rather scared. The examining professor, elderly and of quiet poise, received him most courteously as a stranger in the land, a guest of France, and an aspirant to the Beaux Arts; that it was a pleasure to welcome him, that he need not feel in the least embarrassed, that the inquisition would proceed at a moderate pace, and that Louis was free to solve any problem in any way he liked, the objective being solely to discover the extent of his understanding, not of his memory. Then the examining professor settled to the work. For over an hour—Lord knows how long it was—he put Louis through a steady gruelling—always kindly, however—such as Louis had never known, never dreamed of, never believed could be so. In the midst of it he recalled Monsieur Clopet's "I don't know about the rest of you" and he came of a sudden into his true stride, which he held to the end. For, after a heart-breaking crisis, he suddenly found himself actually *thinking* in terms of mathematics, and, accordingly, lost all fear, relaxed and let his mind go free. From beginning to end he did not make a fluke. At the close, the examining professor, who had become quite interested when he found he could increase the difficulties, pressed Louis' hand and said: "I felicitate you, Monsieur Sullivan: you have the mathematical imagination which is rather rare. I wish you well." Now, of all things Louis might have said he did *not* possess, the mathematical imagination would head the list in a large way. He knew, in a small way, he had been charmed in his high school, by the novelties of the ideas set forth in geometry and algebra. But there they were simply discipline, founded categorically on the books. And in the books was no imagination that he could discern. Perhaps, after all, it was the freedom of Monsieur Clopet's classroom and Louis' enthusiasm at each beautiful demonstration, and the many pointed questions he asked of Monsieur Clopet, that had led the latter to speak as he did concerning "an American." However this may be Louis had found the open world of mathematics; that it was possible to think in such terms as it was possible to think in French—for doing this latter, also, was an act of imagination. And now from the secret places of this new world there came a Siren call which perturbed Louis sadly for many years. Toward this new world Louis turned many a wistful thought thereafter: It was a land of Romance.

Now came the questioning in History, and Louis was equally startled at the method. He was well prepared according to the books, which he had visualized into a moving picture, but he was not prepared for the shock.

Three questions only, were asked—the replies covered one hour and a half of constant talking. Louis had supposed that questions and answers would be categorical, after the manner of procedure he had been taught in America, where, to epitomize, it might be said the chief interest centered around the exact date of the discovery of America. Now Louis felt the earth leave him, as the first question came: "Monsieur, will you be kind enough to tell me the story of the Hebrew People?" Then the earth came back, but the question remained immense. Still the situation was not altogether infelicitous, for Louis had read considerably in the Bible, and had heard far more than he had read—in spite of the fact that John Edelman had cautioned him that no one should read the Bible before the age of mental maturity, which he had placed at forty, and was reserving that treat for himself. So Louis began safely with the desert tribes, the sojourn in Egypt, the wandering in the desert, carrying the story down to the destruction of Jerusalem, and the captivity. He also sketched the patriarchal age, the prophets in captivity, the final triumph of ritual over inspiration and righteousness. The charm of this examination lay in the fact that Louis was encouraged by the examining professor to give a pictorial and rather dramatic recital, and the professor's frequent questioning concerning what Louis had said and as to why he thought thus or so. He, for instance, asked Louis what had impressed him most vividly in the story of the Jews, and Louis said: The emergence and vivid personality of Jehovah, their God.

The next question now followed: "I would like an account of the ten emperors of Rome." Another half-hour of talk as Louis covered the ground, from the bookish point of view, and made a few remarks on his own account, which led the professor to say: "You do not seem to be in sympathy with Roman civilization." "No," said Louis, "I feel out of touch with a civilization whose glory was based on force."

Then came the third question: "Monsieur, I see you have a certain faculty, a bit crude as yet, of making word pictures, of discerning something real beneath the glamour of the surface, which it is the particular business of the true historian to uncover. Now, therefore, as this is to be the last question, do your best and give me an intimate account of the times of Francis First." Louis did this with joy. On account of Leonardo's

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part in it, he had studied the period with especial care and devotion. He had seemed to live in this time, and with its people, its manners, its customs, its thoughts, it stood forth for him as a very present picture of the past.

At the close the examining professor smiled. He said: "The object of these examinations is not to ascertain an array of facts devoid of shaping context, but to discern the degree of intelligence possessed by the candidate; to ascertain his capacity for interpretation, and if he possess, to any perceptible degree, the faculty of constructive imagination—without which the pursuit of history is merely so much wasted time. I am agreeably surprised at times to find this latter quality present, and in you it is vivid, amazing and rash. To be sure you are not expected to be profound in historic knowledge, but you have shown me, in your faithful way, that instinctively, you know how to go about it, so I say: Continue, Continue. After some years you will begin to understand a little, and as you mature, you may perhaps feel inclined to turn the teachings of history upside down. I can now do no less for your gratification and as well my own, than to give you the highest rating, and to wish you happiness. I shall doubtless have been long gone hence before your studies shall have matured into a valuable and personal idea: a contribution to the knowledge of mankind, but courage, courage,—and *Adieu!*

Thus Louis, in Paris, spent an hour and a half answering three history questions. At home he would have been asked perhaps five times as many questions, all categorical in nature, and would have been through with them in a half an hour. It was this immense difference in matter and manner, especially as applied to mathematics and history, that opened Louis' eyes to the quality and reach of French thought: to its richness, its firmness, its solidity, and above all, the severity of its discipline beneath so smooth a surface.

Examinations over, Louis received his card of admission to the school: good until the age of thirty. Then he made his *entrée* into the atelier of Monsieur Emil Vaudremer, practicing architect. He much preferred an atelier *libre*—or free—independent—to the official ateliers of the Ecole. There were a number of such ateliers, under the care of architects of distinction, men who had been winners of the *Grand Prix de Rome:* veritable Polar Star of the Ecole.

As Eugene Letang had come from the *Atelier Vaudremer,* it seemed but natural that Louis should feel at home there.

The Director of the Ecole gave out the program of a three-months *projet:* the twenty-four-hour sketches were made *en loge,* and filed as briefs; whereupon, to Louis' surprise, everybody vanished. So Louis bethought him to vanish.

During his preparatory work he had discovered three small volumes by Hippolyte Taine devoted to the Philosophy of Art in Greece, in Italy, and in the Netherlands. From these works he derived three strong impressions, novel shocks: First, that there *existed* such thing as a Philosophy of Art; second, that according to M. Taine's philosophy the art of a people is a reflex or direct expression of the life of that people; third, that one must become well acquainted with that life in order to see into the art. All this was new and shining. He knew it was true of Boston and Chicago. In the volume on Italy, however, occurred a statement which struck Louis as of most sinister import for him: It alarmed him. It was to this effect: that, concerning the work of Michael Angelo in the Sistine Chapel, the Last Judgment was *obviously* done on *momentum,* as compared with the vigor of the ceiling. Now Louis had never trusted the care of his eyesight to anyone, nor did he now propose to entrust it in M. Taine's keeping. He was averse to taking things on say-so. It was his pride that he could see. But, could his eye detect so subtle a change in the work of a great artist as was implicated in the word *momentum* and which M. Taine had said was *obvious?* He had many sinkings at the heart because of this. He must go to Rome, to verify; for the worth of his whole scheme seemed to rest in this delicate balance. It was vital. There must be no doubt. He *must,* beyond question, be sure of the quality of his eyesight. To Rome he went, quaking but courageous.

The Sistine Chapel! One steady sweep of the eye! It was easy—oh, so easy! So self evident! Thus a cumulating agony ended forever in a supreme moment of relief; and Louis knew, once and for all, that he could see anything that eye could see. He would not have used the word *momentum*—an academic word—he would have called it the work of a man powerful even in old age. Louis spent three days in Rome—two of them in the Sistine—alone there, almost all the time. Here he communed in the silence with a Super-Man. Here he felt and saw a great Free Spirit. Here he was filled with the awe that stills. Here he came face to face with his first great Adventurer. The first mighty man of Courage. The first man with a Great Voice. The first whose speech was Elemental. The first whose will would not be denied. The first to cry YEA! in thunder tones. The first mighty Craftsman. The man, the man of super-power, the glorified man, of whom he had dreamed in his childhood, of whom he prophesied in his childhood, as he watched his big, strong men build stone walls, hew down trees, drive huge horses—his mighty men, his heroes, his demigods; a powerful presentiment which he had seen and felt in the glory of the sunrise; which he had heard in the voice of spring; and which, personified through the haze of most mystical romantic trances, he believed in, he had faith in—that faith which is far removed from fancy, that faith which is near its source and secure.

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Now was he in that veritable dreamed-of Presence. Here was that great and glorious personality. Here was power as he had seen it in the mountains, here was Power as he has seen it in the prairies, in the open sky, in the great lake stretching like a floor toward the horizon, here was the power of the forest primeval. Here was the power of the open—of the free spirit of man striding abroad in the open. Here was the living presence of a man who had *done things in the beneficence of power.* And Louis gazed long and long, as one enthralled. And with his own eyes, with his own responses, he discerned more and more. There seemed to come forth from this great work a mystery; he began to *see into it,* and to discern the workings of a soul within. From beneath the surface significance there emerged that which is timeless, that which is deathless, that which in its immensity of duration, its fecundity, its everpresent urge, we call LIFE. And in this great outpouring which encompassed him, he saw the Dreamer at his work. For no hand, unaided, could do this; no intellect unaided could do this; Imagination alone could do this; and Imagination, *looked into,* revealed itself as uncompromising faith in Life, as faith in man, and especial faith in his wondrous powers. He saw that Imagination passes beyond reason and is a consummated act of Instinct—the primal power of Life at work. Thus Louis pondered as he viewed o'er and o'er the Persian Sibyl. Forty-nine years have come and gone since a youth of eighteen thought these thoughts without words; alone in the Sistine.

"There was a Child went forth every day."

* * *

Louis saw Florence and does not know how he came to break the golden chains that bound him there, a too willing captive. It needed full six weeks to part a net that seemed but of gossamer; or was it the fragrance of Lotus Land?

And the rocky coast of the Riviera, alive with beauty and with color implanted by the hand of man near the water's edge, on the crags which came down from the foot of the mountains to indent the sea—precious spots in memory's hold. And the solid blue sea, with sky as solid blue—ineffable blue—wondrous blue—Mediterranean and Riviera,—sea and mountain range, a revelation and a piercing joy—how could such things be? Then on to Nice, to Paris—and hard work again.

Louis was keyed for every form of anticipated effort; keen and anxious to observe, to analyse, to compare; to start on the second phase of his program, the purport of which was to ascertain what the Great School had to give, what Mons. Vaudremer had to give, and to get close to the glowing heart of French Culture, as nearly as he might. It was his purpose to *live,* in fact; to absorb, to contemplate. He felt he had no time to lose, that he must press on. Insatiable curiosity urged him.

He went back to his old quarters on the seventh, with its northward spreading view. Nightly he sat long at his desk, a candle at each side, and, pondering his books of history slowly he persuaded the peoples of the past to come forward to meet him until they seemed of his own day, and he of theirs, in a dramatic moving present, a spectacle, a processional of the races and the nations, whose separate deeds seemed to flow from their separate thoughts, and whose thoughts and deeds seemed, as he himself progressed, toward them, to coalesce into a mass movement of mankind, carrying the burden of a *single* thought. What was that thought? He did not know. He could not see. But he knew it was there, he could feel it in the atmospheric depths of the centuries, a single ever-present thought, which since the beginning had been the Lodestar of the Man of the Past. Thus became vaguely outlined an image of Man as a vast personality, within which were gathered all the powers, all the thoughts of the races, all vicissitudes of the civilizations—a presence which seemed to move steadily, silently, across the depths, onward into the modern day, indistinct but real, following the turn of each leaf of the Calendar. This strange presence he had evoked Louis could not banish, it seemed to be immense and to stir immediately behind the veil of appearances. He would some day locate this phantasm, he said, and meet it as real; for in it, he said, was that secret men called truth. Thus history became for Louis a moving drama, and he sole spectator. And it was in this sense that he studied the history of architecture—not merely as a fixation here and there in time and place, but as a continuous outpouring never to end, from the infinite fertility of man's imagination, evoked by his changing needs. These were hours of deepest contemplation, the beginning of his self-education.

* * *

The Atelier Vaudremer "gave" on a courtyard, reached by a passageway leading from the Rue du Bac, about a mile west of where Louis lived. It was at the ground level, a rough affair, like a carpenter's shop, large enough to accommodate about twenty young ruffians. Here it was the work was done amid a cross fire of insults, and it was also here that Monsieur Emil Vaudremer came to make his "criticisms." He was one of the dark Frenchmen, of medium size, who carried a fine air of native distinction; a man toward whom one's heart instantly went out in respectful esteem bordering on pride and affection. His personality was calm, deliberate yet magnetic, a sustained, quiet dignity, bespeaking a finished product. His "criticisms" were, therefore, just what one might expect them to be, clear, clean-cut, constructive, and personal to each student, in each case, with that peculiar sympathy with the young which comes from remembrance of one's own youth. Always, however, he was disciplinarian, and one felt the steady pressure. Louis thought the exigent

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condition that one hold to the original sketch in its essentials, to be discipline, of an inspired sort, in that it held one firmly to a thesis.

Monsieur Vaudremer—otherwise *Le Patron,* had to his credit as executed works, the Church of the Sacred Heart, of Mont Rouge, and the Prison Mazzas. He was considered, therefore, a rising and highly promising young member of his profession—he was forty-five. This condition may be better understood when it is made known that winners of the *Grand Prix* are usually close under thirty.

Louis entered heart and soul into the atelier life, with all its tumult and serious work, and its curious exacting etiquette at the times of arrival and departure. Louis now spoke French well enough to be treated *en camarade,* and the package of thieves' slang, which he carried in his sleeve and sprinkled on occasions, raised his standing to one of esteem, to such extent that he no longer was required to carry wood for the stove or clean the drawing boards. The intimate life of the Atelier with its free commingling of the younger and the older students seemed to Louis invaluable in its human aspects, so much so that he became rather more absorbed in the work of others than in his own, for he always felt himself to be in position of observer. The Atelier, the School, came to be for him but part of a larger world called Paris, and Paris but a part of a larger world called France, and France but a part of a larger world called Europe, all in contradistinction to his native land: the continuously finished as against the raw or decadent. The sense of stable motion he noted everywhere. As time went on it became clearer and clearer to him what the power of culture meant. He began to realize that Paris was not of a day, but of busy and sad centuries. He studied carefully all its monuments and each seemed to speak to him of its own time. He attended unforgettable midnight masses at Notre Dame; he spent many hours in the museums; he followed closely the exhibits at the School, especially the exhibits of the second or higher class. He familiarized himself thoroughly with the theory of the School, which, in his mind, settled down to a theory of *plan,* yielding results of extraordinary brilliancy, but which, after all, was not the reality he sought, but an abstraction, a method, a state of mind, that was local and specific; not universal. Intellectual and æsthetic, it beautifully set forth a sense of order, of function, of highly skilled manipulation. Yet there was for him a fatal residuum of artificiality, which gave him a secret sense of misery where he wished but too tenderly to be happy. And there came the hovering conviction that this Great School, in its perfect flower of technique, lacked the profound animus of a primal inspiration. He felt that beneath the law of the School lay a law which it ignored unsuspectingly or with fixed intention—the law he had seen set forth in the stillness of the Sistine, which he saw everywhere in the open of life. Thus crept over him the certitude that the book was about to close; that he was becoming solitary in his thoughts and heart-hungry, that he must go his way alone, that the Paris of his delight must and should remain the dream of his delight, that the pang of inevitable parting was at hand.

(To be continued)

From Our Book Shelf

The Beautiful Necessity

It sometimes seems that the trouble with books, in this busy world, is that no one finds time to read them. Faith, reason, truth, beauty, and joy lie cloistered while we go about our business and the author receives but a distant respect. Of course, it is no reproach to say that men are too busy with real things to consider intangibles, and the very fact that we read little makes that little a considerable factor in our thinking.

And so it is that the architect, reading this trim and sightly volume of seven essays by Mr. Claude Bragdon, will find himself encompassed by glimpses of "fundamental and far-reaching truth," from which, agree or not, he will never quite escape. He will read "that art is an expression of the world order and is, therefore, orderly, organic; subject to mathematical law, and susceptible of mathematical analysis." He will find theosophy and architecture in the crucible of metaphysics, "the attempt . . . to unify science, art and religion, as they were unified in those ancient times. . . ." He will survey the history and technique of architecture in its analogies to every department of human activity and he will scarcely ever forget a symbolism of decoration that is presented, not for the shelf but for daily use.

The theosophic concept of Self as an "immanent unknown reality" guides the reader into a fresh and interesting approach to the study of architecture. "Everything is the expression of self in terms of sense." The "white light of truth . . . broken up into a rainbow-tinted spectrum of Beauty" is the art of living from the broad view, with all the arts presented in an order of which music lies at one end and architecture at the other. These two, inextricably bound together in their manifestations, form the reference groundwork from which much of the volume is drawn. The arts of painting and sculpture also are called upon to furnish analogies and symbolism in this study of design which might well be called a text-book of architectural composition if it were not really so much more than that. Of the ninety-four admirable illustrations there is not one that fails in intrinsic value for the designer.

A survey of history finds that the work of Egypt stands

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for religious mystery in an awakening human soul still close to mother nature. Greece brings youth with joyousness and freedom, sound reason and an impassioned sense of beauty. Rome builds for amusement and temporal needs in characteristic expression of massed masonry. The *"Gottico tedesca,"* from the wisdom of age, expresses kinship with Egypt in its love of mystery and symbolism; "the sphinx," Mr. Bragdon writes, "seeming a blood-brother to the gargoyle." "Everything," he says, "of man's creating is made in his own image." The total development of architecture shows a "gradual growth or unfolding as of a plant." And each style is here resolved into a graph with great care in the firm belief that theosophy is of value to creative work. We find here the conviction that there is a reality beyond our immediate path and that transcendental glimpses are not paradox but truth. It is the "beautiful necessity," and architecture, throughout the ages, has followed transcendental rules "without knowing them."

Now, theosophy is a philosophy based upon a claim of special insight into the divine nature. One of its tenets, Unity and Polarity, forms the subject of the second of these essays. Proof is offered by analogy from nature and from human experience. And again this chapter might well be called a new study of architectural composition if it were not so much more. There is space here only to mention and outline the wealth of suggestive material that Mr. Bragdon has amassed. Once launched, one discovers himself in a wide and not unkindly sea. There is here the principle of "changeless change." It represents trinity with three as the symbolic number; there is consonance as that "each leaf on a tree is itself a tree in miniature." To the designer this constitutes "repetition with variation." There is "one life, many manifestations . . . echoes, resemblances, consonance." The principles expressed in this third essay guide the reader along charted lines throughout the remainder of the book.

Exhaustive study has been condensed here into a digest of valuable and unusual information. The study of the human body is not only useful but also full of a symbolism and analogy that make the findings memorable. The studies of "Latent Geometry" and "The Arithmetic of Beauty" are richly suggestive for design. If you have taken time from your office to read this book through you may find that you have taken back enough to repay you for the time spent. You will certainly never forget the book. If, upon first turning the leaves, you find that you can, read it all.

For it is possible that your mind will deny the book on sight. Mr. Bragdon says: "The individual consciousness is colored by the particular medium through which it receives truth." If this theosophic, immaterial medium is not your medium you will have to come to the truth from some other way. Would that more of us might enter the search for fundamentals, from whatever angle, and come as far as Mr. Bragdon has. D. H. S.

Public Information Page

The Department of the Interior, Bureau of Education, has issued a little circular called Reading Course No. 23, "How to Know Architecture." This publication is intended to develop an appreciation of architecture throughout the community. It would be an excellent thing for Public Information Committees of the Chapters to disseminate information about this course. More specific data may be obtained from the Bureau of Education, Department of the Interior, Washington, D. C.

The Kansas City Chapter has instituted a campaign to inform or reform their clients. This may be called "evangelistic work" and is unquestionably to a large extent personal work. The local newspapers have been brought into line through activities of the Chapter during the past year and have published much material on building topics and architectural subjects.

The New York Chapter's Public Information Committee has turned over a part of its work, namely the holding of a public exhibition, to a special committee called the Committee on Greater New York Anniversary Celebration. The City has agreed to give the Chapter a considerable amount of space. The Russell Sage Foundation is also standing behind the Chapter in its work, and it proposes to hold an exhibition of past and present work and future suggestions for the development of New York in the hope of educating the public and inducing it to demand from future administrations a development of the City that will be worthy of one of the world's most important cities.

The North Carolina Chapter's Public Information Committee has made a start by having some articles published in local newspapers. They have collected about $200.00 to pay what would appear to be inevitable costs. They are also working on some Small House Plans which the Chapter hopes to publish.

The Tennessee Chapter's Public Information Committee has started a state-wide scheme for the publication of professional information to be released on special days. Part of this consists in the publication of a new A. I. A. Document No. 186, entitled "Functions of an Architect." The document is to appear in seven different papers.

The Wisconsin Chapter is to have its first annual exhibition at the Milwaukee Art Institute, opening on June 1st and closing on July 3rd. The Public Information Committee has made arrangements with the Milwaukee Public Library to compile a catalogue of Architectural Books. It is expected that hereafter the committee will suggest the new purchases of books on architectural subjects. The Chapter is planning to publish a bulletin, the first number to appear in May as a page of *The Western Builder.*

Address communications about A. I. A. Public Information work to John V. Van Pelt, chairman, 126 East 59th Street, New York City.

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The Lincoln Memorial

HENRY BACON

Institute Gold Medallist, 1923
Architect

Four Photographs

(Including Frontispiece)

By ROGER MILLEN

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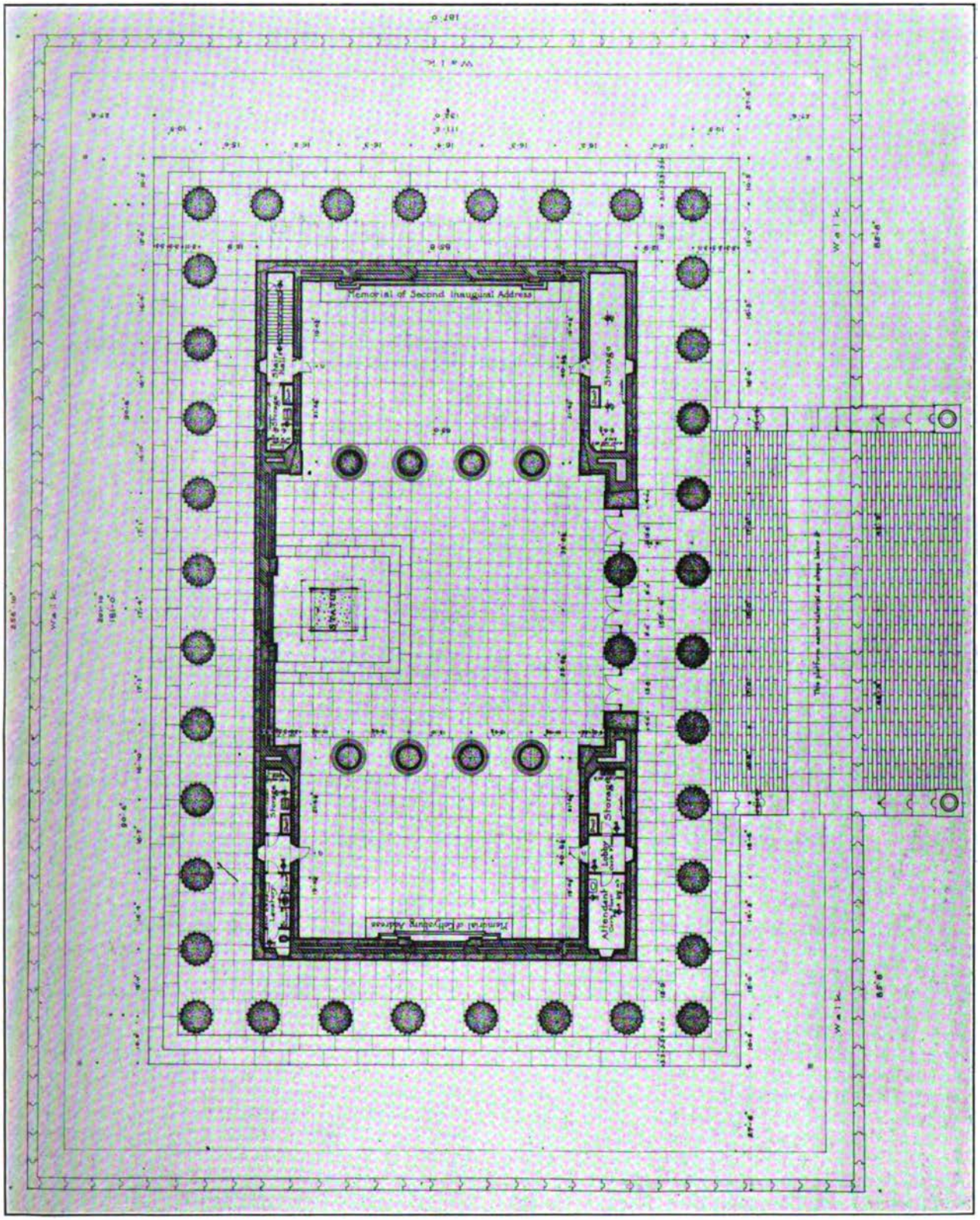
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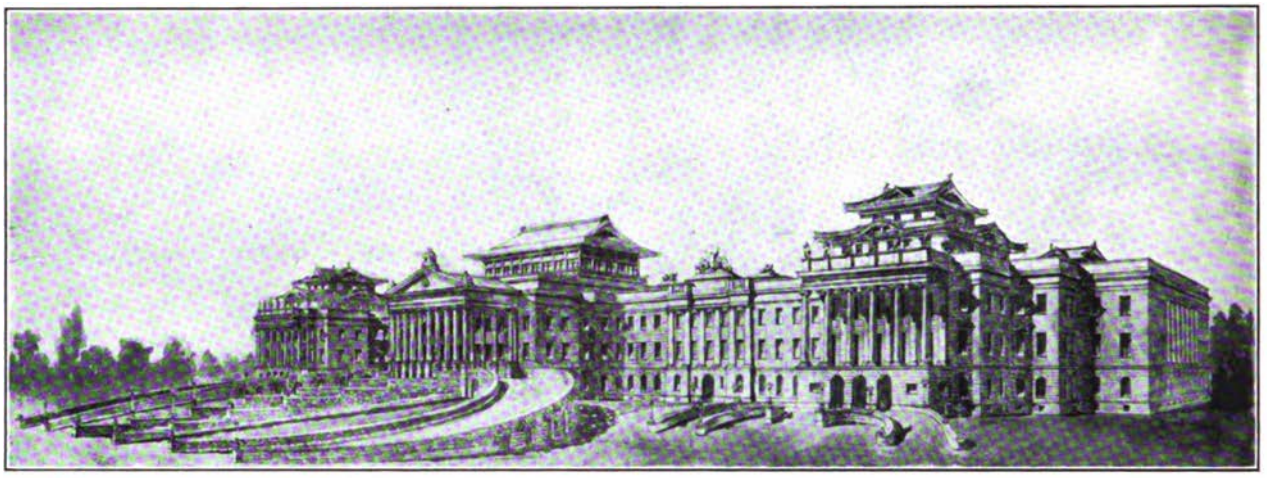


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THE PLAN

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IMPERIAL DIET BUILDING—TOKYO

Design by Mr. K. Shimoda

From Foreign Shores

By IRVING K. POND

A Name and an Aim

Ye Editor has determined to give my cursory and discursive foreign notes a standing title, so that my frail paper boat may have a sort of permanent ballast to help keep it trim. So long as the title does not force me to stay at home and dispose of material which is brought directly to me, but gives me freedom to voyage in fancy and collect cargoes as I will, I am content. I could wish for the sake of my readers that I were a better equipped skipper and that my craft were not so frail, but I shall aim to do my best in collecting and dispensing my wares.

Japanese Dietitians

The Japanese architects who were called upon to minister to, at least to house, the Imperial Diet have fallen foul of one trained in Western ways. It seems that Mr. K. Shimoda, formerly licensed to practice architecture in Illinois, was called in to criticize the designs submitted by the Government architects and he did it so effectively that he was thereupon commissioned (whether by authorized parties I cannot say) to make a design, which he did and which he submitted. All of this sounds strangely like some practices which have gone on in the Western World—not so far outside of Illinois at that. I must say that the cut of Mr. Shimoda's design bears the legend, "Design for Imperial Diet Building by K. Shimoda, Tokyo, formerly Chicago licensed architect, No. 471, 1997." I seem to remember a Mr. Shimoda in Chicago about a century before that date, that is, about twenty-six years ago. I wonder if this is a prophecy that, in spite of canons of ethics, present professional conditions are to obtain in 1997—three long quarters, or two long and one short quarter—of a century from now. But as to the ethics of the matter let the Japanese architects settle that among themselves; I am concerned mostly with the aesthetics of the buildings in the controversy. I cannot forbear to quote from Mr. Shimoda's thesis, which was illuminated by cuts of the two buildings in question. The cuts will also illumine my pages if they can be made to lend themselves to reproduction. If they do not so lend themselves nothing is missed but a good time.

"Although Mr. Shimoda's design had passed general meeting of the petition committee of both houses with a majority, owing to the architects having—with furious zeal—made overtures to the members of the upper house, Mr. Shimoda's design, however, was not accepted by the latter."

"However, the design of Mr. Shimoda having been accepted at (1) sub-petition committee, (2) general petition committee, (3) the whole house of representatives, (4) sub-petition committee of upper house, (5) general petition committee of upper house, these bodies containing expert from all technical branches of the country."

"In a word, the only people who failed to accept were Members of the Upper House and Secretaries of the both houses and, of course," (a quaint touch) "the architects themselves. The Treasury Department are now in the position of suspense between Mr. Shimoda and the Government Architects."

"Mr. Shimoda's idea grip the true spirit of constitutional Japan, *i. e.*, the cream of International Classical Architecture surmounted by the gracefully sweeping roofs and high noble curves of classic Japanese castle and palace, this is the architecturalized psychology of 'L'esprit Japonais.'"

I wish I could describe like that in any language—to say nothing of a foreign; but to quote further:

"Mr. Shimoda went to America at the end of November, 1918, to familiarize himself with the latest develop-

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ment in blended architecture, he also conferred with several leading architects in the United States."

"The gist of Mr. Shimoda's conception is to harbor the spiritification of Japan within an essentially Japanese cadre and not to try and press that same noble spirit within the precinct of a strange imitation."

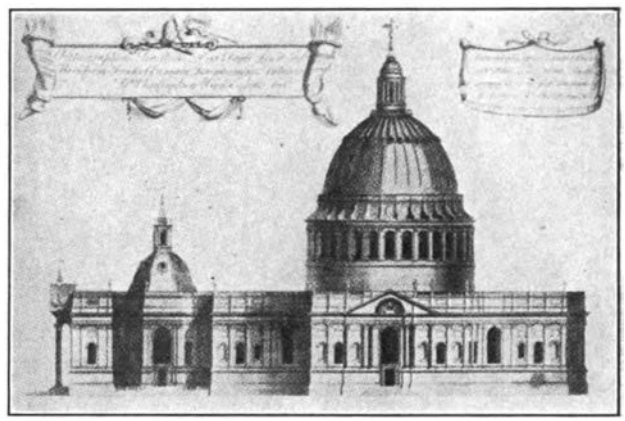
'Mr. Shimoda's plans provided for (as well as the magnificent grandeur of overtow-ering ancient Japanese classicism) a grandoise substructure."

And now just a quoted word giving Mr. Shimoda's estimate of the rival design:

"The Government design has neither style nor dignity, neither has it any refinements of architectural art; it reminds one of a massive rock in the stone age." Mr. Shimoda's mind, you see, existed many centuries back as well as one forward. "There are no outstanding features either to attract the admiration or create a sentiment; looking at it leaves one cold, it has not the power to create an emotion."

"There is no superstructural conception which would lend either dignity or power to the cold dead mass below—it might be mistaken for a factory or works, but would certainly not create the impression of being the super-important edifice of a nation."

Well! there's that; though I will say that, to me, there seem to inhere greater possibilities of "dignity" and 'grandeur" in the inadequately presented design of the Government architects than in the more elaborately presented work of Mr. Shimoda. Now, in spite of the literary quality of the document in hand, as evidenced by the quotations, and in spite of the seeming indirection in ethical procedure, I would not spend three minutes of my time, nor that of my reader's on this particular matter, were not a basic principle of national, not to say racial, aesthetics involved—a principle which should affect us almost as deeply as it should the Japanese. Why did Mr. Shimoda, confronted with the distinctly native problem of housing the Japanese Imperial Diet, deem it necessary, or even advisable, to leave the aesthetic pastures of his homeland and come over to America to drink in the skim milk and water of a "blended" concoction, even though he gives it the high sounding name of "the cream of International Classical Architecture?" What in the name of reason, or of emotionalism, or of aesthetics, has that "cream" to do with the "Japanese Imperial Diet"? My imagination permits me to see a far worthier and more poetic and more appropriate architectural expression evolved right out of the forms of the native art. What a pity that Japan with her wonderful background of art and craftsmanship should find it necessary, in adopting what she evidently considers the virtues of Western civilization, to imitate the processes of a people, which through lack of any cultural background in its immediate environment, seemed compelled to follow a line of least resistance and seek the contemporary forms ruling in the mother country, forms which themselves were not there indiginous nor wholly appropriate. Why does Japan find it necessary or desirable to imitate the processes and the contemporary accomplishments of a people which is wont to clothe the skeleton frames or the meagre bodies of its architecture and its craftsmanship in the purloined and made-over aesthetic garments of an ill-sorted collection of ages, times and places? Of course, we have, through our direct inheritance, a better right than have the Japanese to lap up the "cream of International Classical Architecture" which arose in the pan of milk let down ages ago in a different pasture by the Roman cow, which had trampled the meadow grass and had eaten of the flowers of Greek art. Of course we have, when it comes to that, but why so assiduously exercise the right when we have a divine call to use our own creative faculties? A proper answer to the call on our part will not cut off our vital connections with the past; never fear that.



WREN'S REJECTED DESIGN FOR ST. PAUL'S

In England

Twenty pages of the 24 February issue of the *Journal of the R. I. B. A.* are devoted to "an introduction to the theory of Architecture" by Lionel B. Budden, M.A. (A.), Institute Essay Medalist, 1923. The topic is very thoughtfully and philosophically presented, and weighty and not so weighty authorities are cited; with modern, almost contemporary (which has nothing to do with weight or otherwise), authors in the majority. My space limitation (and perhaps other limitations) prevent as full a discussion of this essay as it deserves. One heading (XVI Empathy), however, I shall touch upon lightly, for the essayist, while admitting that "the idea of empathy in architecture is not wholly fallacious," citing Vernon Lee's "The Beautiful: An Introduction to Psychological Aesthetics," seems not entirely to comprehend its full bearing in Art. Nobody can fully comprehend the bearing of empathy who does not feel deeply—not superficially nor sentimentally, but sentiently and deeply. That means one whose body at the command of the spirit answers, not like a machine, but joyously, spontaneously, fully, freely, as a lover. And this does not involve any metaphysics, any discussion as to the essence of spirit or of matter, but only a realization that in our proper persons spirit and matter are one in that neither can act consciously to us without the presence of the other. There is no way in which we can make another "feel" without the bodily medium itself reacting to the spirit touch or, itself, in reacting to the spirit, acting directly on another spirit, which is called "sympathy"; or in acting on another spirit through the medium of inert matter, which involves

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MONUMENT TO THE DEAD OF THE FRENCH SEMINARY AT ROME — *L'Architecture*

"empathy." When we feel ourselves into matter we are regarding it emphatically. And this is at the base of all but mechanically conceived and machine made architecture, or art of any kind. I have written and talked of this before and I may again; but I hasten now to say that I am glad to note from correspondence in this same number of the *Journal,* that not all members of the R. I. B. A. are convinced of the inherent virtue of Registration or of Unification—and no more of that topic now.

Something to Fill the Eye

"They" tell me that architects are not great readers; that letter press bores them and that what they want after a strenuous day in the office, or before such a day, or during such a day, are pictures. The present offerings, in that regard, are not so fruitful as were some recent ones.

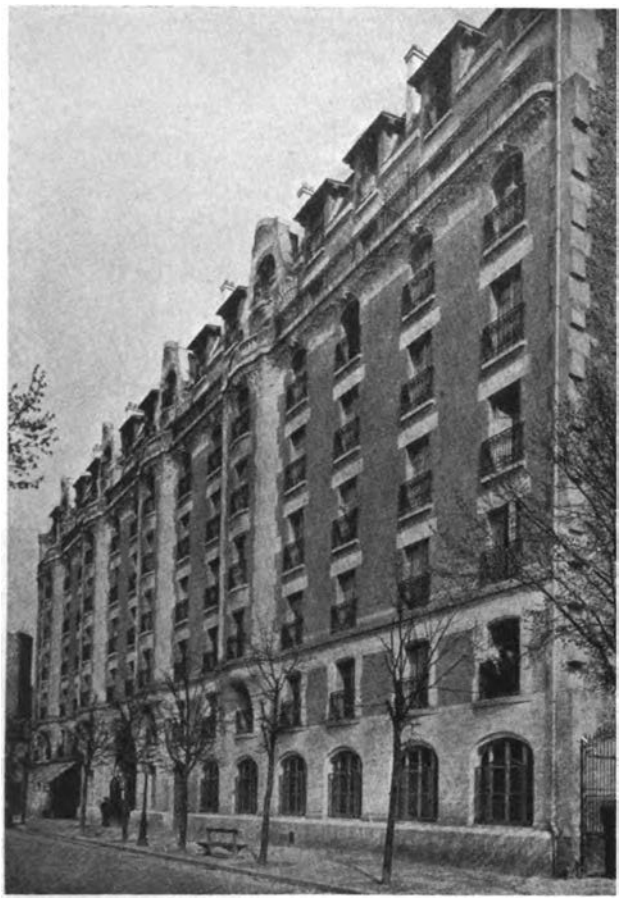
L'Architecture, Paris, gives general views and a "close up" of the monument to the dead of the French Seminary at Rome. In general composition the design seems too high from the "eyebrows up." In detail it exhibits the modern French tendency to touch the soil too intimately. Just as our women were beginning to feel themselves emancipated the French designers ordered them back into trailing skirts; and this same mental attitude on the part of the sculptor has forced even the angels to sweep the earth with their wings. *L'Architecture* presents also plans and views of an eight-story tenement house with three and four-room apartments, boiled down to the lowest terms, with one stairway serving each tier. Evidently there are no lifts and the apartments are heated individually by fireplaces. I wonder if the coal company carries up the fuel, and the grocer the groceries, at no excess cost—up seven flights. The building makes up in exterior carvings what it lacks in interior conveniences.

The Architect, London, 23 February, gives many pages of text and drawings to Christopher Wren. Somehow, in spite of the extremely laudatory phrasing of the words, there seems to me to be an undertone, as of whistling, to keep up one's courage, to keep one's confidence, not to say



DETAIL OF THE FIGURE — *L'Architecture*

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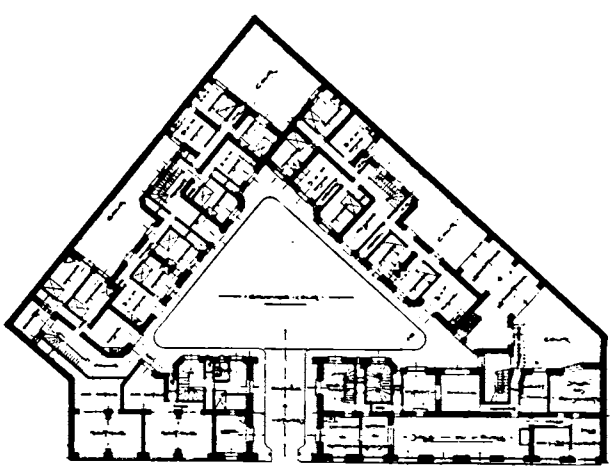
A FRENCH TENEMENT *L'Architecture*

countenance. The first words are: "It is easy to praise the work attributed to a great man, but it is a greater mark of appreciation to analyze it and to form some general conception of the conditions under which it was produced." And then, above the drawings of three towers, stand these words, which because of the juxtaposition, sound like direct apology: "It is absolutely necessary to arrive at some generally accepted principle we can apply when dealing with the buildings which have come down to us from past ages. Neither the purely antiquarian nor the purely utilitarian theories are sound, and it is useless to expect those who rigidly adhere to either theory to deliver sound and reliable judgments. The question of the merit of the buildings themselves should surely be the chief criterion after due and proper allowance has been made for historical association and the urgency of each particular case considered."

Now, for myself, I have never found it easy to praise in great part the work attributed to Sir Christopher. More purely (if the word may be used in this connection) perfunctory designs than most of the churches are, especially as to towers, I would not like to be called upon to imagine. I am not writing this to belittle Wren; the man was greater than his architecture. Were it not so his name would have died long ago in spite of the great quantity production. But in art he was the product of his age, which had lost its finer traditions, and so large a product that his name goes on with the history of that age. Wren had no academic training in architecture. It is ghastly to think what the result might have been had he had at his finger tips the forms which the modern schools could have given him to superimpose on the none too pleasingly proportioned surfaces which his pencil seemed so readily to outline upon his drawing pad. It does not seem possible that he could have visualized the image from the drawing or could have seen his buildings with his mind's eye before they were presented to his eye of flesh in material form. The carpenter architecture of America owes a great deal to Wren.

Battening Down the Hatches

I am quite aware that I may have headed into a tumbling sea of criticism by feeling and writing as above; but I have steered a course not suggested by passing fancy, but laid down at birth when stern fate put the tiller into my hand and pointed my individual port of destination. The making of greatness, that is, of real greatness, out of anything short of ideal achievement has never been one of my tendencies. Ideal achievement is possible only under an intense severity of discipline which very few of us can long or gracefully endure. But there are rare minds, supreme, perhaps, in the fields of science and philosophy, which no amount of discipline can direct into the channels of art; for no amount of discipline can create in a soul the sense of beauty; it can only help a beauty-bearing soul to free itself and to seek expression in terms of ideality. It may never quite succeed in its quest, but in its untiring effort toward the goal the soul displays its greatness. I still feel that Wren was greater than his work, and that his work would have been greater had it been along lines to which his mind was attuned. I am purposely using mind and soul—mind goes with science and philosophy—soul with art. I am truly sorry that Wren did not succeed more fully, to my mind, in his art. His background of education was much what, plus a bit of technical training, I conceive architects in this day and generation to need, and I would have liked to use him to substantiate my theory. But under the circumstances it can't be done.



PLAN OF THE TENEMENT *L'Architecture*

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Back to Earth

Architekten, Copenhagen, 15 February, contains reproductions of the prize winning designs in a recent competition in the United States, in which "transcendent beauty" alone was sought. In addition is published the design of a local Danish architect; quite striking and forceful, but lacking beauty unless one is willing to ascribe that quality to much of our advanced art—which I am not quite inclined to do.

Construction, Toronto, Canada, February, reproduces designs submitted by Canadian architects in this same competition. Our Canadian brothers have crossed the Anglo and American classical types seemingly to the advantage of neither.

The Journal of the R. I. B. A., 13 January, contains an important paper on "The Lighting of Picture Galleries and Museums," by S. Hurst Seager, well diagrammed and illustrated. The English architectural publications are filled with interesting and valuable literary productions and discussions. They seem not to run to an elaboration of plates and reproductions in their pages of illustrations. These illustrations evidently are considered as but ephemeral notes and indications along the line of architectural advance and are treated as such. Perhaps our own papers are wasting too much pains on what after all is ephemeral and not too worthy of the care and labor lavished upon it. The real value of architectural illustrations, anyway, lies in the suggestion conveyed, which may become all the more potent with the slurring of unessential details.

Samuel Yellin and His Work

By GEORGE HOWE

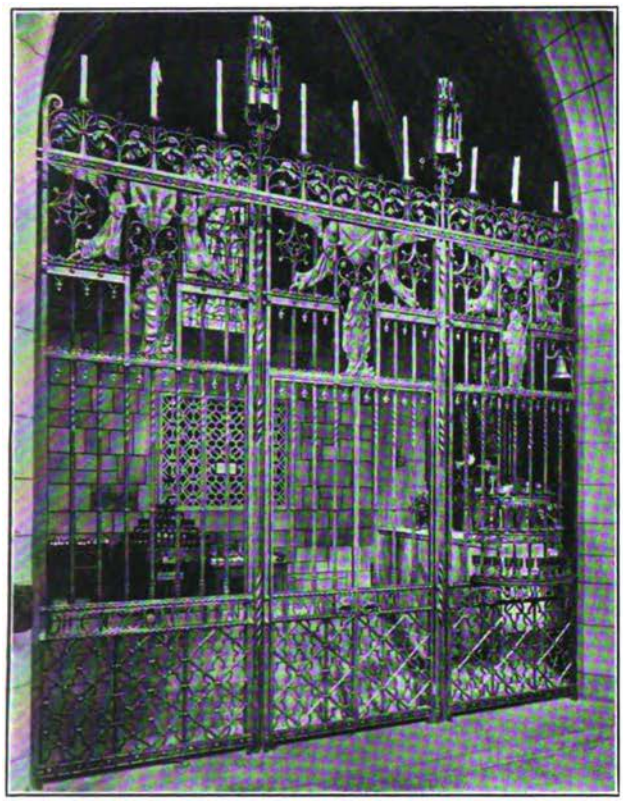
A distinguished Hindu once remarked of his race, "We have never starved a poet—by not listening to him." Our own race, or mixture of races, might boast with equal truth that it had never seen a poet's head raised above the ruck without, to use our vernacular, crowning it with a brick. That we make no such boast and believe ourselves to be the most appreciative of peoples is, contradictorily enough, the poet's greatest danger. For on honest blows he might grow, if not fat, at least strong and sinewy; whereas the subtle nature of the bricks used to crown him in America render useless the weapons which are peculiarly his own. Against the blows of open contempt, persecution and poverty, which have ever been his lot in modern western civilization, he is well armed with conviction and faith. But with us the fundamental contempt for the poetry of life, which we have inherited from our Puritan ancestry, is overlaid with a false and borrowed culture. We aim secret missiles at the poet's unsuspecting head—missiles darted unconsciously, and therefore all the more dangerously, inflicting wounds that corrupt and stultify, even while the victim of the lapidation believes he is being pelted with nosegays. To him that hath ears to hear need I say that I refer to the bricks of commercial advantage and immediate expediency?—those twin missiles which are daily hurled at every head which is raised by an ideal, even momentarily, above the democratic level.

He who can withstand the assault must be a man of no mean fibre, for resistance to it requires not courage of the heat of battle but courage of constancy and endurance, a deep and abiding faith in the eternal values. And so we come to Samuel Yellin.

Samuel Yellin is a poet in his craft, and with all a poet's ardor he has labored not only to fashion his work to his own satisfaction, but to impose on an unwilling public standards of perfection to which it is not accustomed, and which a long course of commercial training has taught it to regard as unnecessary, nay, almost criminally wasteful of human energy and time, which might produce, with the same effort, a bushel of nuts and bolts to a grain of Yellin's wrought iron masterpieces. Of the dual programme he has laid out for himself, the problem of imposing new and higher standards of perfection is necessarily first in order, and by far the more difficult. Whereas a poet in verse may readily acquire a pencil and paper to produce a sonnet which, though he starve in the making of it, he believes posterity will duly treasure and eulogize, the poet in iron, before he can begin to produce his work, must procure, from an unsympathetic community the complicated physical means necessary to his end. And he must procure them without sacrificing to the false gods who stand ever ready to compass his downfall—for if once he makes sacrifice to them his art is lost forever. Samuel Yellin has accomplished his purpose without derogating from his self-imposed standards, has produced masterpieces and, strangest of all, has made himself audible and visible to an unhearing and unseeing world.

At the outset of his independent career he had no advantages at his command save a thorough knowledge of his art. Born in Poland in 1885, he was apprenticed at twelve years of age to an ornamental iron-worker, and at seventeen was already a master craftsman, versed in every branch of his trade, from making a nail to forging an elaborate piece of armor—and that his training was of the most thorough, anyone who has seen him at his anvil can testify. With his tools and his trade, he came to America eighteen years ago and took up teaching at the Pennsylvania Museum and School of Industrial Art, in Philadelphia. There he remained until 1909, when he established a shop of his own. From the simplest beginnings, and by no more astute means than producing honest and craftsmanlike work, he has built up his establishment until today it is the largest of its kind, producing examples of ironwork which are an inspiration to our whole country, and are well known abroad. To him who visits the forge, now that success has been achieved, there appears little evidence of the struggles which attended

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A Chapel Screen — Bertram G. Goodhue, *Architect*

the inception of the work. Yet they were many and heart-rending, and the fact that they were overcome without any sacrifice of standards redounds perhaps more to the credit of the man than the most perfect work to the credit of the artist.

Unhappily, discouragements and difficulties have not disappeared with success. It is an unfortunate fact that the real nature of craftsmanship, the use of materials in a way appropriate to their nature, for ends to which they are well adapted, is little understood today. Not because there is any dearth of information on the subject, but because the perfection of mechanical means of production at our disposal has blinded us to the simplicity of the means which produced great works of the past, and has led us to admire tricks of legerdemain, by which one thing is made to look like another, and materials are loosed from their proper sphere to be discovered again in another, a foreign one. To add to his difficulties, the craftsman is constantly asked to slur over that which is deemed unimportant, or which will not show, and is urged to make his work as cheap yet as showy as possible.

Against this tendency Samuel Yellin has steadfastly set his face. In his shop all work is honestly and simply done, whether it be visible in the finished product or not, and the nature of the material is truthfully expressed both in handling and finish. There is no "antiquing" or "torturing," no rusting or coloring, no cotorted hammering or exaggerated rusticity about his work. It is frankly modern in its treatment, though inspired by traditional

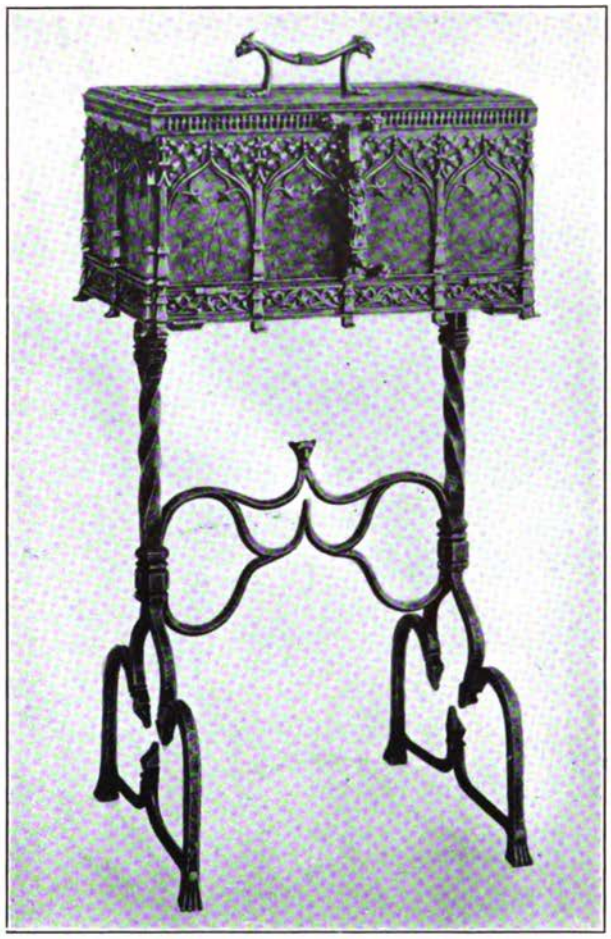


A Door in Mr. Yellin's Room

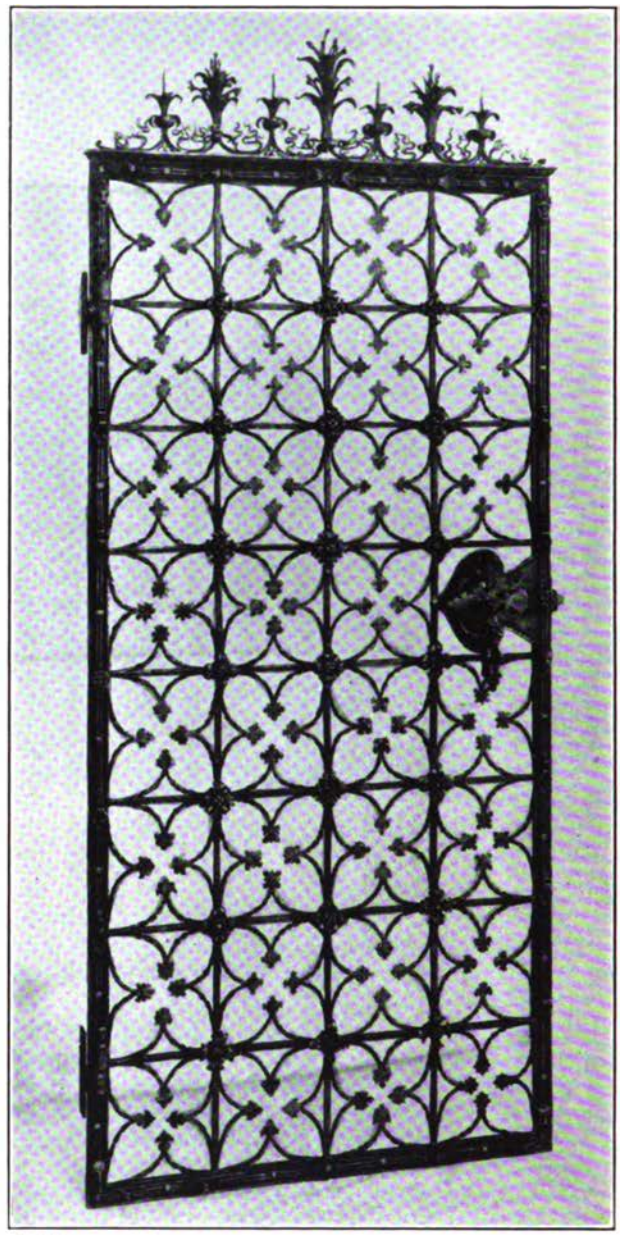
precedent, and for that reason has about it a stamp of reality which the most elaborate counterfeit cannot achieve. Yellin brings up all his men in this tradition of honesty and progressive conservatism. Any piece of work from his shop, though it be the assembled product of many hands, bears the stamp of unity, and from the point of view of craftsmanship (leaving aside questions of taste, about which it is notoriously impossible to argue) no portion of any of his compositions can be selected as well or ill executed—all parts are up to the high standard he has set himself.

In close connection with his forge he has trained up a corps of designers, versed not only in draftsmanship, but

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A Wrought Iron Chest



A Museum Grill

also in the actual processes of forging. These men make the shop-drawings, and their services are especially valuable in preparing designs for architects, whose own draftsmen are seldom familiar with the real nature of design in iron which is one of the simplest and most direct, and therefore the most difficult of mediums. It is an interesting fact that the more intricate parts of the work, and even the sections of bars, are actually studied on the anvil. And as a result few pieces leave the shop in the same form in which they come designed from the drafting room. It is this actual study in the material which gives Yellin's pieces their unexpectedness and charm that can come only from deep knowledge and love of the stubborn yet ductile substance he has made peculiarly his own.

All this work is carried on in surroundings which are an inspiration to the workers. Infinite study has been expended on the building which houses them, which stands like an oasis in the desert waste of West Philadelphia. Those who visited the Architectural League Exhibition in New York in 1922, where Yellin was awarded the Gold Medal, cannot fail to remember the unusual quality and charm of the plaster walls, adorned within and without by beautiful examples of iron work, which clothe his offices and forge. There everything speaks to the men of their calling; from the drinking fountain, which refreshes their bodies, to the museum of antique fragments and the bookroom which refreshes their minds.

Samuel Yellin has built up this complete group (it cannot be called, and most fortunately is not, an organization) and through it successfully established a standard of craftsmanship in his trade undreamed of in this day and country before his time. He has done this against the most blinding odds and in the face of the blankest ignorance of the ideals for which he stands. More than that, he has done it unaided. His achievement should be a lesson to those who seek always the easy road to success in art, the road mapped out by public opinion, the blindest of blind alleys. He has imposed his standards, and continues to impose them, against the will and the better com-

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mercial judgment of the public which has accepted them grudgingly and to a very limited extent. The task of instilling artistic aspirations in the people has only been begun; but better than all the schools in the world is one piece of good executed work—and Samuel Yellin has produced many.

We talk and write loosely and much in America, and the name of art has been bandied about on uncomprehending lips until it has become a mockery in our ears. With it all we have failed to grasp the one vital fact about it which is the essential unity of art and life. We have attempted to apply to art the principle of specialization, which we have found so successful in producing vast wealth in other spheres of human activity,—and so unsuccessful in producing human happiness. We place on one hand the musician, the author, the painter and sculptor, whom we regard with a certain indifference and scorn because their products are non-essential from a material standpoint; and on the other the more practical artists, such as the architect and the craftsman, whom we aim to make efficient and productive by organization, which we have raised to the glory of an immortal god, and placed in authority over the heart and soul of the individual, demanding of him so many unit hours of productivity at so much per unit, and establishing as our only standard of value for the product its saleability. "And art made tongue-tied by authority"—such was the lament of the greatest of English poets in a day before the unit standard had been heard of. Yet we now propose to galvanize the practical arts into a semblance of renewed life by the authority of organization, as we would increase the production of corset strings by so many millions a year—forgetting that in the process we have seen corset strings deteriorating steadily to a point where no woman old-fashioned enough to use one can be considered safe.

Samuel Yellin represents the antithesis of our national philosophy of organization. His is the triumph of the individual, and the work he has done is the triumph of the group of free men he has gathered about him—not the success of an organization or its system of thinly-veiled slavery. By their works shall we still know men, and judge of their ultimate effect in the community, and in the effort and faith of such individuals and groups lies the hope of our national salvation.

News Notes

The National Sculpture Society of New York will hold an indoor and outdoor Exhibition of American Sculpture, 14 April to 1 August, in the galleries and on the terraces of the Museums, at 156th Street and Broadway. The Exhibition will include works of the most distinguished contemporary American sculptors. About two hundred artists have had their works accepted by the jury. They range from large monuments to small sculpture and medals. Elaborate landscape decorations are planned to give a most artistic setting for the sculpture shown out of doors.

The thirty-sixth annual Chicago Architectural Exhibition will be held in the fireproof galleries of the Art Institute, from 1 May to 31 May, 1923. In scope, the exhibition will be illustrative of Architecture and the Allied Arts. There will be shown drawings, models, paintings, sculpture, photographs, and other features specially arranged with the committee.

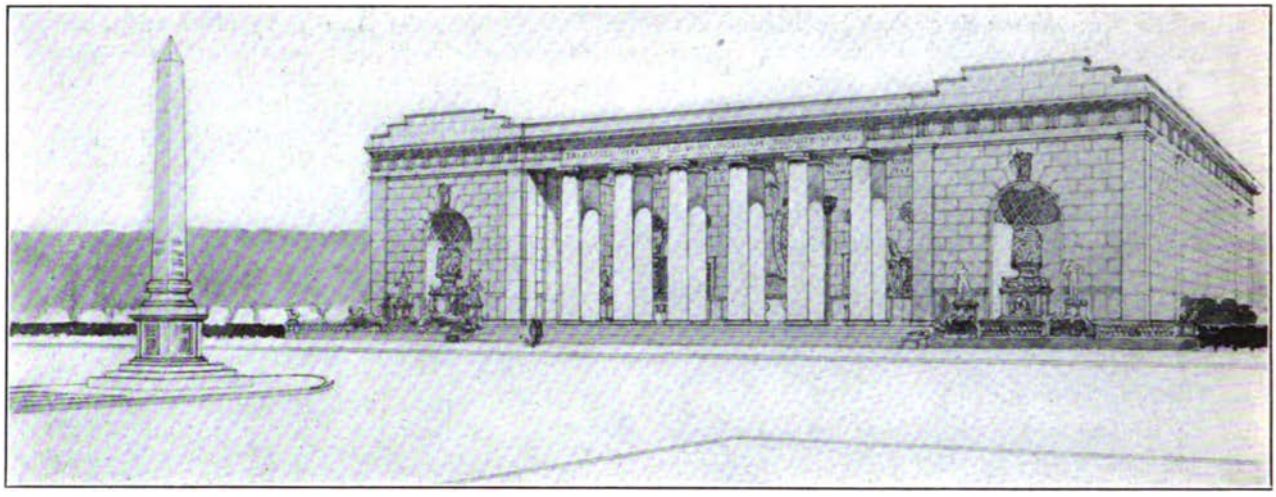
The Scranton-Wilkes-Barre Chapter is sponsoring one section of the House Beautiful Exhibition and is establishing a Beaux Arts Atelier for the help of young draftsmen.

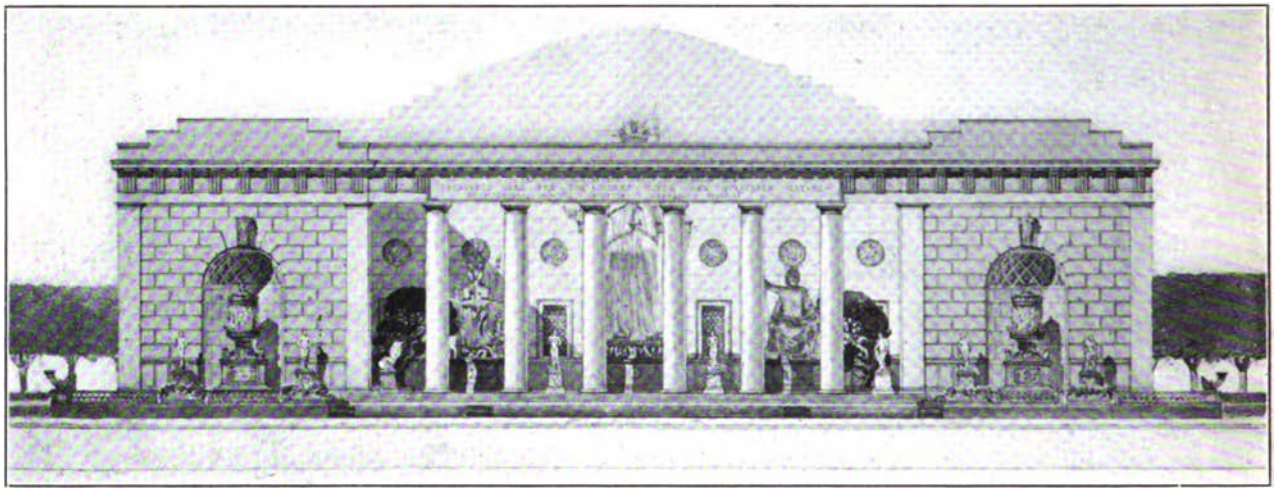
The Society of Architects Scholarship to America

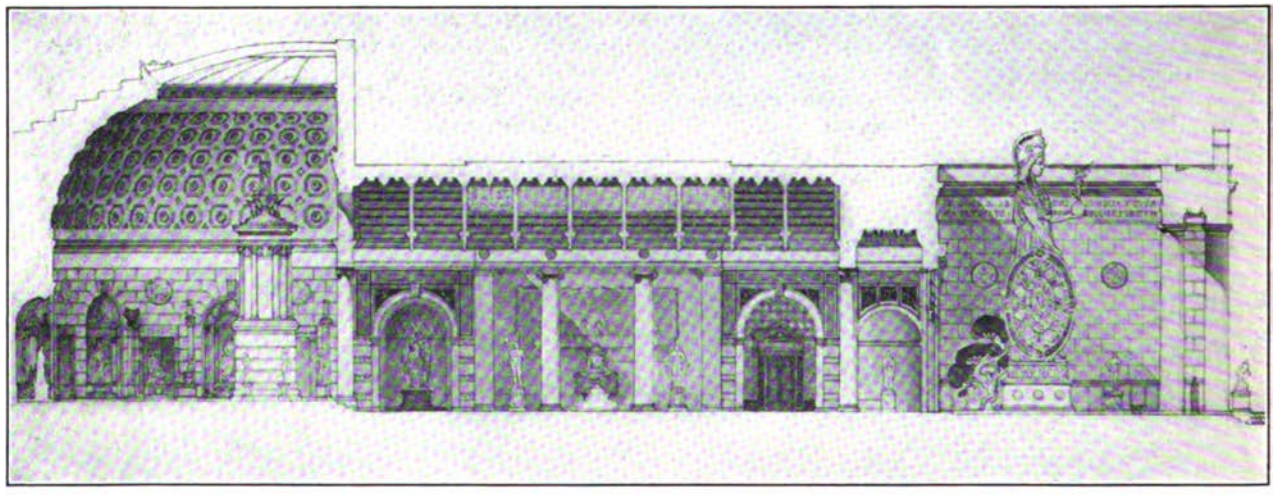
The Society of Architects (London) has instituted a scholarship of the value of three hundred pounds (£300), to be offered annually for three years in succession and afterwards at such periods as may be decided upon, for the encouragement of travel for the purpose of studying modern architecture abroad. The holder of the first (1923) scholarship will be required to visit America for a period of not less than six months or more than twelve months in order to prepare and afterwards to submit to the Society a report bearing upon some aspect of the development of modern architecture, such as will form a valuable addition to the information and original thought at present available on the subject.

Candidates must be British subjects under the age of forty years, and the scholarship will be awarded by the Society on the recommendation of a jury of well-known British architects who will have the advice of a prominent American architect. One essential qualification will be the production by the candidate of evidence of a very high standard of architectural attainment.

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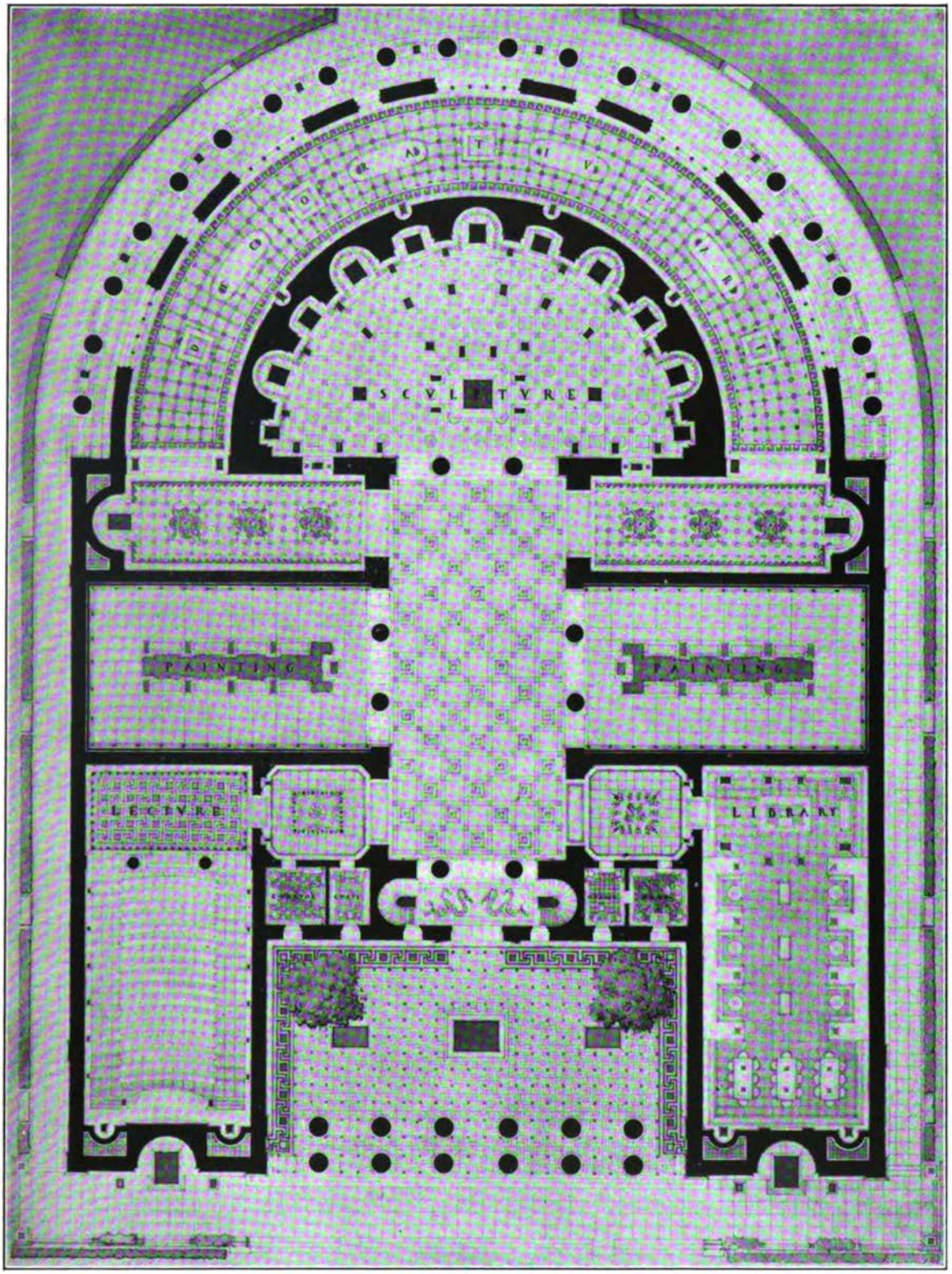


THE LEBRUN TRAVELING SCHOLARSHIP—1923

AN ART GALLERY

The winning design by Paul F. Simpson, Pittsburgh

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THE LEBRUN TRAVELING SCHOLARSHIP—1923

AN ART GALLERY

The winning design by Paul F. Simpson, Pittsburgh

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The Grant Memorial

By WALTER D. BLAIR

At the eastern end of what is some day to be the Mall, that monumental avenue between the Washington Monument and the Capitol, stands the Grant Memorial, at present shaded and obscured by trees, and lacking for proper observation, the necessary space and freedom from encroaching obstructions. One sees it with difficulty, this marvelous gem of American sculpture. An official greenhouse aggressively obtrudes on one side, and on the other there is no far flung sky, no flood of light, against which the sculpture may be seen in silhouette, judged, or even perceived at all—so confused is the background of trunks and limbs that closely hem it in. Some day the monument will gain its freedom and be set in the ample space provided for it in the "Burnham-McKim" plan of Washington. Then its amazing variety and intensity of beauty will be seen by the multitude, wondered at, and some will perceive that genius has dreamed a vision of loveliness and been able to achieve it. Out of matter has the sculptor, Henry Merwin Shrady, created spirit; out of bronze the emotions of wonder and the thrill of beauty. Life runs fiery through these charging groups of artillery and cavalry. No weaklings here—no tepidity, no timidity. With bold strokes the sculptor works. He dares and achieves. The tumult of the storm—the lightning flash—are passing before us. Horses and men, cannon and flags, real and yet not real, true because more beautiful than nature. Who before Shrady has endowed the horse with such beauty, with such wonder of movement as are seen in these groups, where masses are balanced, combined; details perfected to the n'th degree, and yet simplicity and unity are never impaired? Multiplicity and unity, variety and simplicity, these four are here, with all other qualities which make up the complexity of beauty. Subtleties of line and proportion, composition, intellect, historic accuracy of costume and harness and wheel, Shrady has used them all and played with them, so that his work is as joyous and spontaneous as the Elgin marbles. Veroccio, Donatello, Angelo, these three must have welcomed Shrady as an equal in the land beyond wither he passed a year ago.

Pre-Convention Notes

The Convention will present the Institute Gold Medal to Mr. Henry Bacon as a tribute for his design of the Lincoln Memorial. As noted in these pages last month the occasion furnishes inspiration and motive for a ceremonial of presentation staged within the great architectural setting of the monument and its approaches.

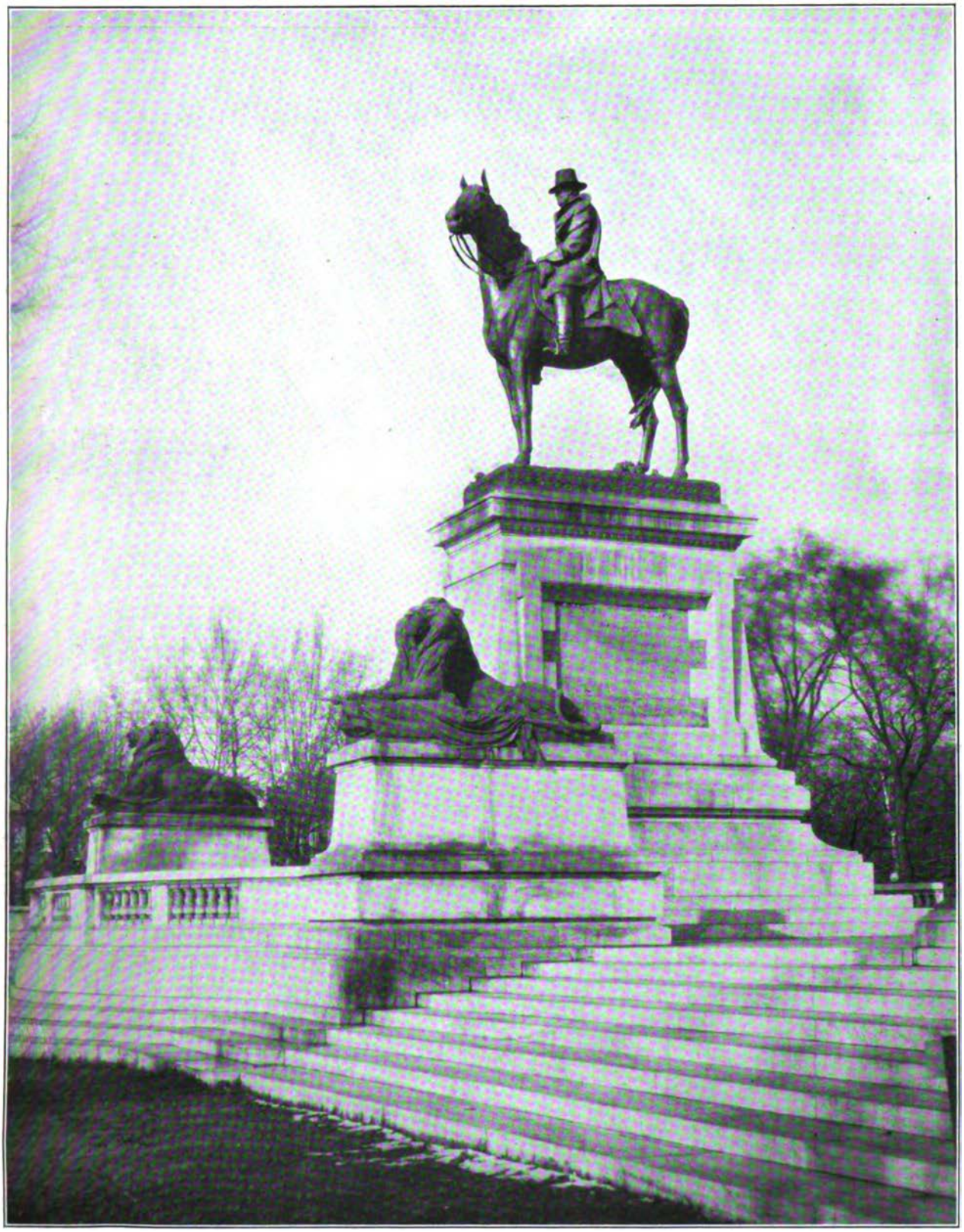
The plans of Mr. Howard Greenley and Mr. James Monroe Hewlett are well under way. Mr. Irwin S. Porter has charge of all administrative arrangements for the Pageant in Washington.

The general scheme of the Pageant as proposed provides for an imposing procession composed of the officers and members of the Chapters present at the Convention, together with representatives of the groups composing the Fine Arts, and the Craft and Building organizations that participated in the work of executing the building. It is anticipated that the participants in the procession, marshalled under groups, will assemble at the conclusion of the Convention dinner, to be held in a great pavilion or marquee at the east end of the Lagoon, and proceed in columns on each side toward the Memorial to positions assigned on the approaches and steps. Each Chapter has been asked to provide a special banner and pennon, significant of the State from which they come and embodying such traditions as may be effectively symbolized. To add to the note of color furnished by the banners suitable robes of design and color to differentiate the various groups of participants will be provided by the Pageant Committee. Slow burning torches to be used as decorative illumination during the progress of the processions on each side of the Lagoon will contribute a fantastic note by their reflection in the water. Coincidently with the movement of the processional groups from the point of departure, the recipient of the medal attended by the high officials of the Institute will be embarked upon a barge of honor which will be decorated in a manner reminiscent of barges used on historic State occasions abroad. This barge will carry the musicians and will be propelled by oars or towed by properly designated individuals in the processional groups to the west end of the Lagoon where the guest of honor and officials will disembark, the music remaining on board. From this point the entire procession will proceed to the designated stations on the steps leading to the Memorial, led by Mr. Bacon and the group of high officials. The presentation ceremony and addresses will then follow. The arrangements for a dramatic electric illumination of the spectacle are under way and it is anticipated that a high note of beauty will be struck, to be ineffaceably impressed upon the memory of the occasion.

The following names will be placed in nomination before the fifty-sixth convention:

For President.....WILLIAM B. FAVILLE
For First Vice-President...N. MAX DUNNING
For First Vice-President....ROBERT D. KOHN
For Second Vice-President....WM. S. PARKES
For Second Vice-President....ABRAM GARFIELD
For Director.....C. C. ZANTZINGER
For Director.....C. HERRICK HAMMOND
For Director.....WILLIAM E. FISHER
For Secretary.....EDWIN H. BROWN

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The Grant Memorial

Three photographs by ROGER MILLEN

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Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*



DRANCY—(Seine) Bassompierre & De Rutte, *Architects*

Two French Garden Suburbs

In the January number, the JOURNAL published an article on the "Housing Crisis in Paris," in which the projects of the Office Public d'Habitations á bon Marché, Department of the Seine, were described. Additional information has since been received from M. Bruggeman of that office, concerning the Garden Suburbs of Les Lilas and Drancy.

The accompanying views of the two suburbs will give some idea of the types of houses erected and general lay-out. It is interesting to note the variety of effect obtained with a limited number of units and the simplest architectural motives.

Drancy

In Drancy the houses are all of similar construction. They are built in groups of from two to six. All have brick walls, plaster block partitions, and tile roofs. Oak flooring is used throughout. One hundred and thirty-four dwellings have been built of an average superficial of 446 square feet at an average cost of $2,062.00 (exchange $.066 per Franc).

Les Lilas

Whereas the architects adopted a single type of construction, the designers of the suburb of Les Lilas experimented with a number of different methods in wall construction. The greater number of houses have exterior walls, consisting of a double shell, the outer which is 4 1-3 inches thick, is of lime and cement on wire mesh; the inner one is 2 1-3 inches thick, of plaster blocks. Other construction used are: 1, brick walls 6 1-4 inches thick, with cement stucco on the outside; 2, hollow cast concrete, 7 inches thick; 3, reinforced concrete frame with 1 1-6 inches of reinforced concrete outside and 2 1-3 inches plaster block inside; 4, wood frame, lathed with wood both sides, stuccoed outside and plastered inside. One hundred and ninety-seven dwellings have been built at an average cost of $1,800. E. H. K.

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LES LILAS—(Seine)
Pelletier & Teisseire, ***Architects***

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DRANCY—(Seine)



DRANCY—(Seine)

The Battle of Chicago Heights

The report[1] of the Zoning Committee of the Chicago Real Estate Board marks another shift in the battle of building heights in Chicago, a long contest, which started in 1892, when a height limit of 150 feet for buildings was vetoed. A graph of the fluctuations of the maximum allowable height resembles a record of the beat of an irregular pulse. In 1893 the maximum height was established at 130 feet; in 1902 it was raised to 260 feet; 1910 saw it reduced to 200 feet, and in 1920 it was again raised to 260 feet.

The contending forces in this fight are the Barons and the Guildsmen. The Barons are those real estate owners who look upon their property as an inverted pyramid, having its apex at the center of the earth, its dihedral angles determined by the corners of their lot, and its sides extending through the air to infinity. Within this pyramid they are lords; the neighboring pyramid is foreign territory, necessarily hostile and to be opposed at all costs. The Guildsmen have seen the mutually destructive tendency of feudal states, and seek an order of things in which limited concessions by each will promote the good of all the Guild. Their geometric conception of real estate is baronial as far as the earth's surface. There the inverted pyramid stops, and on it are superposed a prism of limited height and a pyramid of setbacks.

To help effect a truce in the battle, the Chicago Real Estate Board undertook to aid the city Zoning Commission in its labors by an investigation of building heights by its own Zoning Committee. The Chairman of this committee appointed a "Citizens' Committee" of nineteen to do the actual investigation. Baron and Guildsman alike appeared before them, and the report is the record of their views and the Committee's conclusions. Reporting to the Zoning Committee, they say: "Such a wide divergence of opinion was shown that the Commission does not feel that it can make any definite recommendation. Accordingly, it submits herewith a full transcript of the proceedings before the Committee for your information and record."

On the basis of this report the Zoning Committee of the Board made the following recommendations:

"First: That the height of buildings in the congested business district should bear some relation to the width of streets.

"Second: That the allowable height for buildings on the street line on streets 66 feet or less in width should be 180 feet. Buildings erected on streets 80 feet wide should be allowed a height of 200 feet on the street line, and those on streets 100 feet wide, or wider, a height of 220 feet.

"Third: If it is desired to build to a greater height, then, and in that case, additional heights of buildings should be allowed, provided proper set-backs are required for such additional stories. A set-back of 1 foot for each 4 in height above the limitation above described is recommended.

"In connection with these limitations, it has been suggested in the sub-committee that a building located on a corner may for a distance of 150 feet from the corner be erected to the height permitted by the wider street. However, your Committee wishes to make no recommendation as to how far a building may be erected on the narrower side street to the limit permitted by the wider street. Neither does it wish to make any recommendation as to the effect of these limitations on the alley set-backs, proposed in the zoning ordinance." E. H. K.

[1] Studies on Building Height Limitations in Large Cities, with special reference to conditions in Chicago; Proceedings of an Investigation of Building Height Limitations, conducted under the auspices of the Zoning Committee of the Chicago Real Estate Board. Compiled by Charles M. Nichols. Edited by Jacob L. Crane, Jr. Published by the Chicago Real Estate Board Library, 1923.

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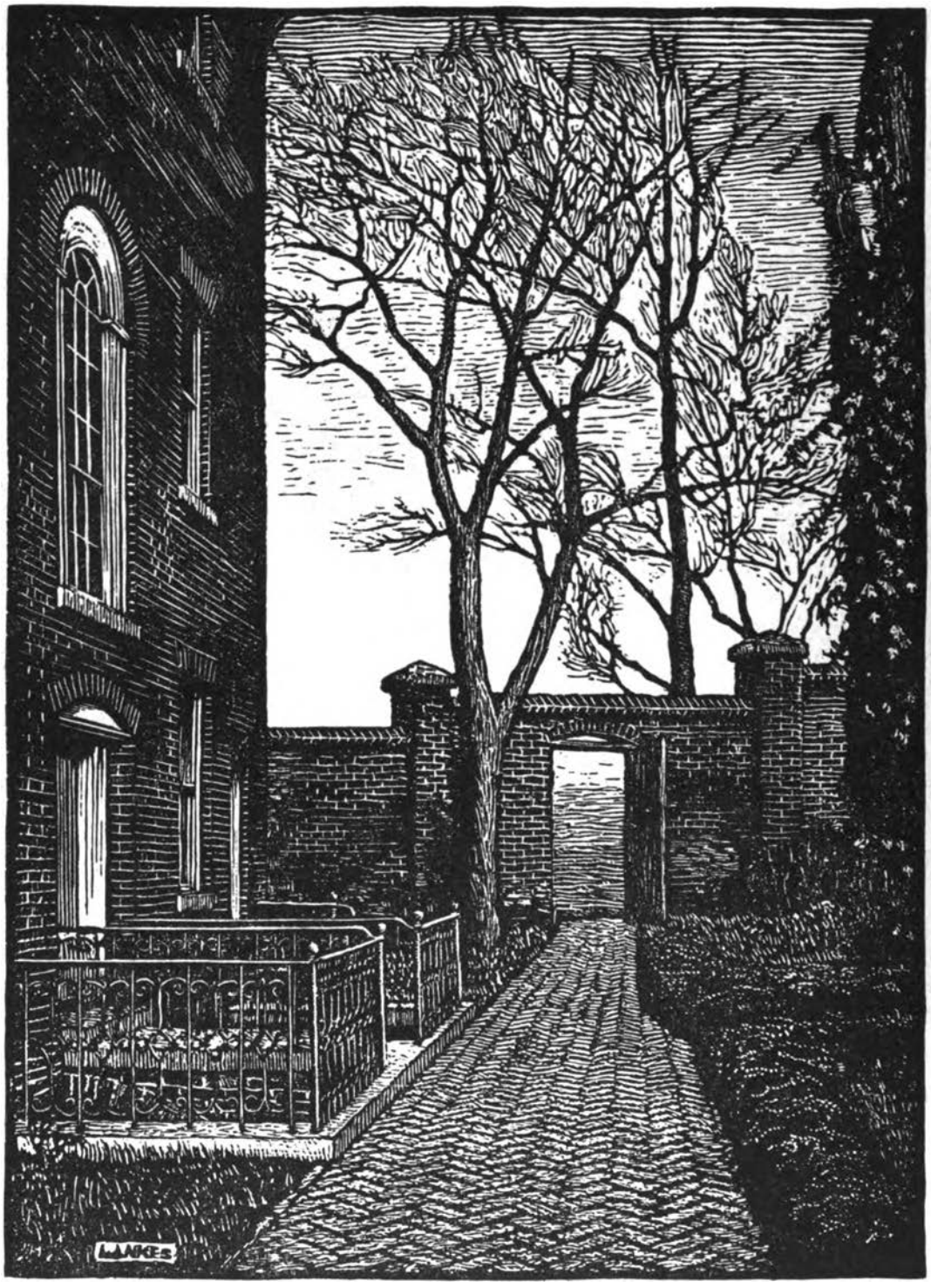


Some Old Washington Houses

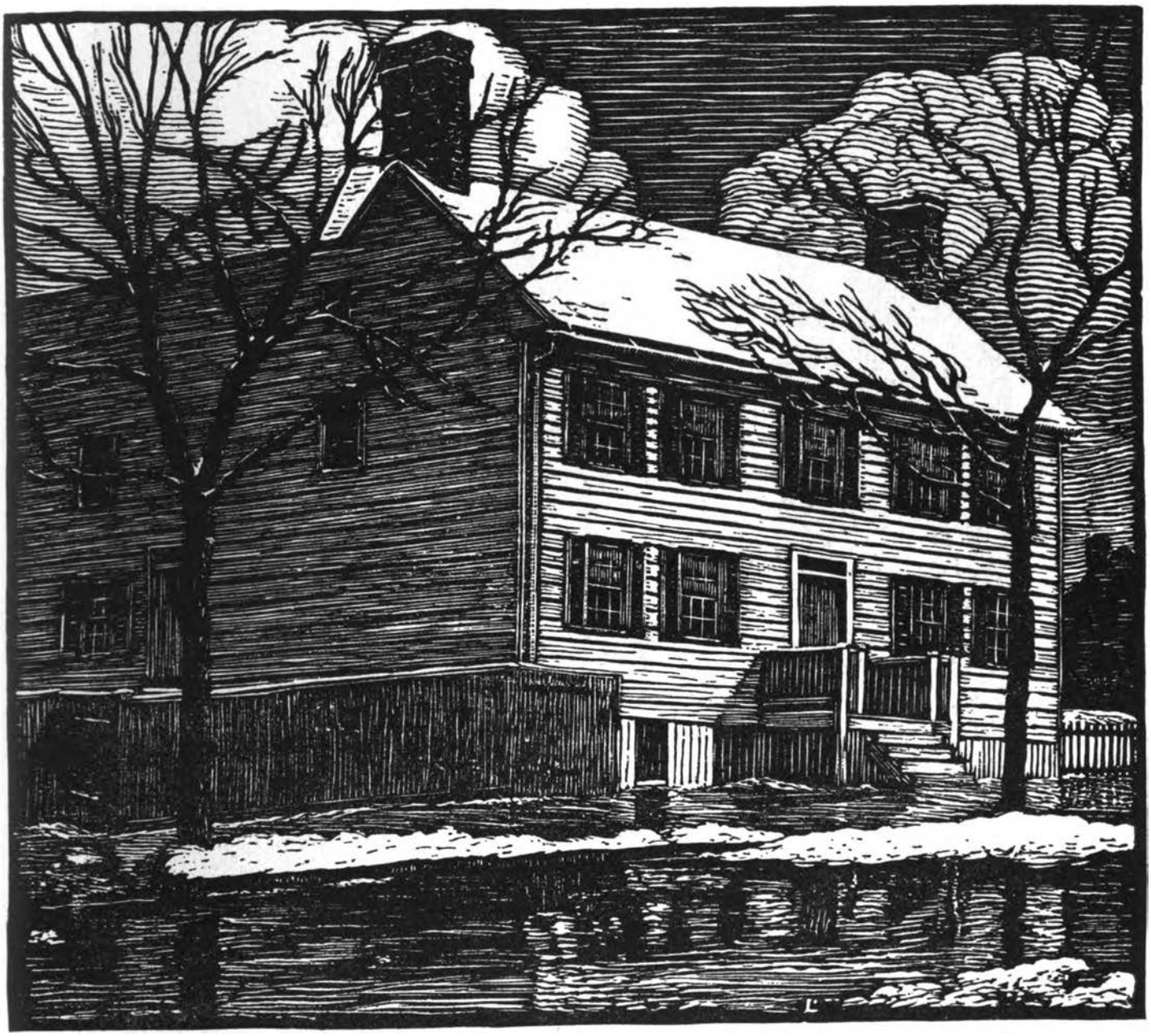
Four Woodcuts

By J. J. LANKES

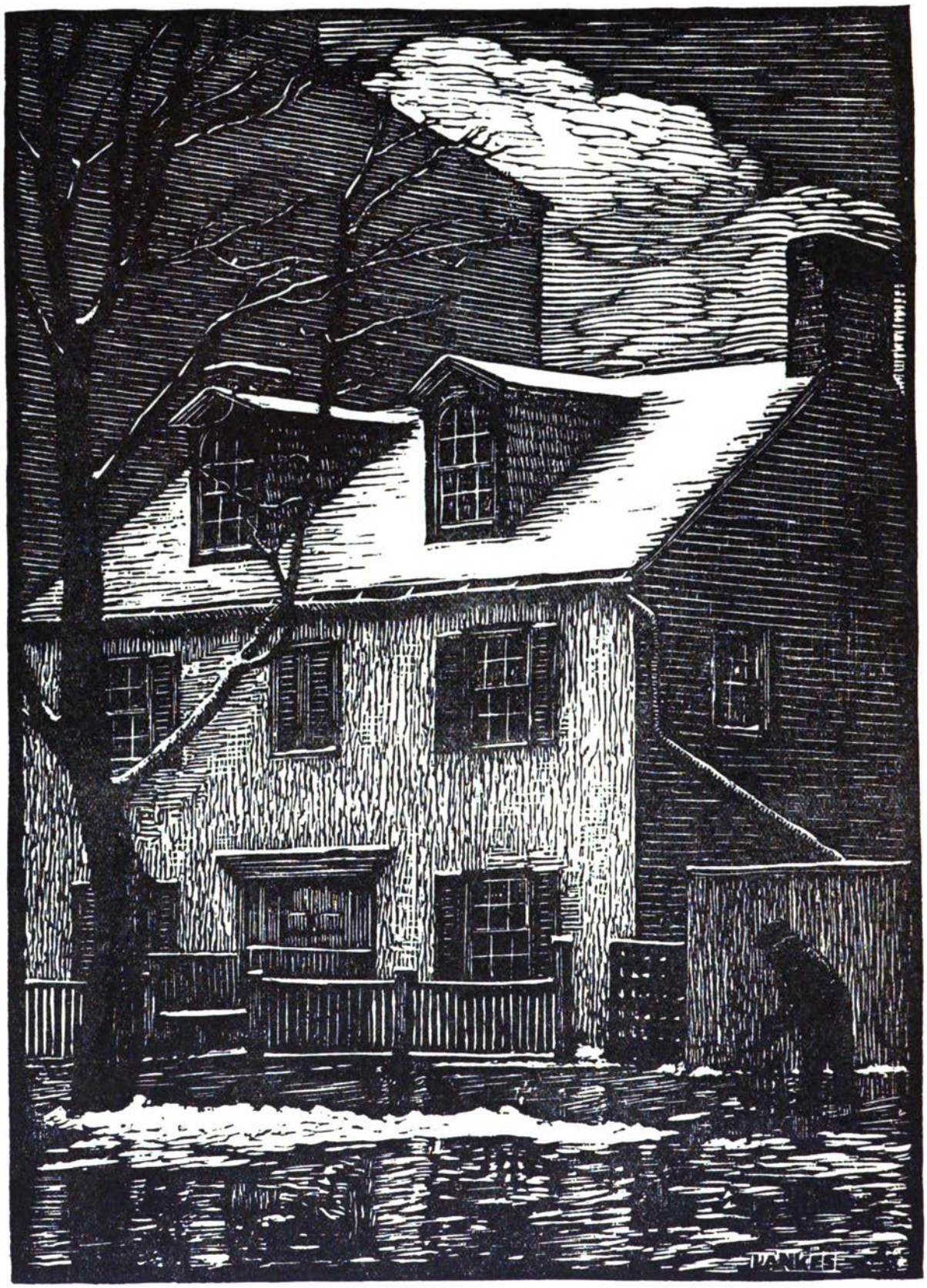
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The Architect and City Planning

By THOMAS ADAMS

Chapter IV

The course of instruction in city planning to be given in the Massachusetts Institute of Technology may be taken as an example of the kind of course that can be given to architectural students wherever the value of city planning instruction is sufficiently appreciated to permit some limitation being made in other branches of study.

The object aimed at by Professor Emerson, head of the Department of Architecture of the Massachusetts Institute of Technology, is not to make expert city planners but primarily to give those who are training as architects sufficient knowledge and appreciation of city and town planning to make them better equipped as architects.

Interest of the Architect in Social and Economic Development

It is considered of importance to establish in the mind of the student the relation between the structural development and the social and economic development of towns, and hence to give him some conception of the opportunities and responsibilities of the architect to promote a better social outlook.

One has, of course, to approach the architect with some caution in appealing to him to take a bigger view of his responsibilities and a wider conception of the social aims of his profession. Just as a building he designs may be the victim of a bad physical environment and of financial limitations, so may he be the victim of a social environment and the material outlook of others that injuriously affects his art. But on the whole, is not the power of the architect greater than he conceives and may there not be scope for applying his art to phases of civic growth that have up till now seemed outside his sphere? At any rate, whatever restrictions the matured architect may feel called upon to place on his enthusiasm, there is good reason for maintaining the idealism and developing the social viewpoint of the men who are to be confronted with the problems of city building and city reconstruction in the future.

The characteristics, social conditions and structural development of ancient, medieval, renaissance and modern towns provide an intensely interesting field of comparative study, none the less so because the sociological and economic aspects are considered as well as the æsthetic and general structural aspects. It is only by this comprehensive study of cities over long periods that the full extent of the reciprocal relations between buildings and the social conditions and outlook of the people can be appreciated.

The study of the historic examples of city development in Egypt, Greece, Rome, China, England, Germany and other countries in Europe reveal to us the powerful place occupied by the architect up to the early part of the nineteenth century in the layout of towns and control of building development. Perhaps no place illustrates this more than Edinburgh, with its influential coterie of professional men who competed with each other to plan its streets and provide designs for complete façades along the frontages of squares and streets. Craig, Playfair, Crichton, the Brothers Adam and many others shared in the work and seem to have possessed the confidence of the citizens. In London the success of Christopher Wren in designing individual buildings did not overcome the opposition of the real estate interests to his city plan, but most of the best town planning features in London, such as its fine series of open squares, were planned by the architects employed by the leading landowners. It was one of the redeeming features of feudal landlordism that it created a class of educated nobility who appreciated art and paid for architectural advice. The small owner of land has a more limited viewpoint corresponding to the more restricted area which he owns.

The shopkeeper and the speculative owner of small building plots in Fleet Street would not have Wren's plan. Only kings or their political nominees have succeeded in restoring or remodelling big cities in Europe. The architect in facing the problems of the city under a democracy has to wield a power of persuasion, instruction and example rather than the power of the dictator. His interest in the historic examples of planning and re-planning of cities in the past must be to a large extent of academic rather than of practical utility. The real interest of the American student, in approaching the problems of city planning, must be in the opportunities available in the average American city and his education must be along lines that will enable him to express himself in accordance with American conceptions, methods and traditions.

The Cities of the Old World and the New

In Leckie's *Democracy and Liberty* a passage is quoted from Renan's essay on Channing expressing in exaggerated language the glory that adorns the old as compared with the new, and concluding "Before New York and Boston reach, in the scale of human greatness, a rank that is comparable to these towns (Florence, Pisa, Sienna and Perugia) how many steps they will have to take." Leckie comments on this passage to the effect that there are forms of very genuine human greatness that it fails to recognize. Renan wrote nearly seventy years ago and Leckie twenty-seven years ago. They were comparing the intellectual and æsthetic conditions of Italy and America. Renan thought the world was richer with the Italian past than it was with the prospect of the American future. The comparison is thought-provoking even if it is faulty. In the intervening years America has made progress that these writers failed to visualize and is beginning to conquer in fields where European civilization has hitherto led. It can never have the distant historic background of European civilization, but in the domain of intellect and art, it looks like reaching a standard of achievement

Note—The last of a series dealing with the problem of organizing courses in the teaching of town planning.

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that will more than make up for its lack of ancient traditions when the relative greatness of eastern and western civilizations are compared.

Be that as it may, there is not much to be gained by reflecting on the relative values of Europe's past and America's future. They are in the nature of things complements of each other and not competitive with each other.

Much of the education and inspiration of the student of architecture in any part of the world is derived from the study and contemplation of early European examples, and the artistic genius of Greece and Rome will have their influence on art through all the ages. Similarly in city planning some examples of ancient times will always afford a useful field of study and guidance—but in a lesser degree than in architecture, for here we are dealing not with individual elevations or groups of elevations of buildings as separate parts of the city, but with the composition, constituent elements and functions of the whole dynamic organism we call a city. Being so much a thing of growth a city can never be dealt with in accordance with any fixed principles of design—although it may comprise many units that conform to such principles. In the laying out of a street system, and in the arrangement of ways of communication and public places in relation to buildings we may be influenced by certain general principles—as that the system or arrangement of streets and buildings shall have regard to the configuration of the land, or that there shall be proper proportion between all the parts, but the application of these general principles requires original treatment to suit continually changing circumstances.

The designing of the framework of a city and the extent to which it can be planned or left to develop without a plan, are much influenced by the form and character of the government of the country in which it is growing. Differences in government have their concomitant differences in forms of land tenure, in social habits and conditions, in uses of monumental buildings (palaces for kings or palatial public structures for the multitude), and in the extent to which the highway is used for manufacture or the trade of war, or for pleasure by the few or the many. The art of designing buildings may be dominated by styles that have prevailed for a thousand years, but the art of planning the city framework, in which the buildings are to fit, is dominated by the governmental, social, economic and industrial conditions and tendencies of the place and the moment. The city planner has to express himself in accord with the spirit and conditions of the age and country in which he lives.

Forms of City Planning in Europe and America

After all, the technical forms in which cities have been laid out may be grouped in a very limited category. Broadly speaking they come within three headings: (1) the rectangular, (2) the radial and rectangular combined, or, (3) the irregular. There are, of course, cases in which all three forms occur in combination and in most cases there are variations in detail.

(1) *Rectangular.* The street system laid out in straight lines with right angled connections, perhaps with a public square as a market place in the center, or a series of public squares as the Penn's plan of Philadelphia, is both the oldest of plans as in Kahum (2600 B.C.), and the most modern of plans as in some of the latest developments in America. This form of plan follows the same pattern under the democratic conditions of America as it did in the Roman "Colonia," which were designed under military dictatorship.

(2) *Radial.* The best example of radial planning which has been carried out is at Washington, D. C. The reconstruction of Paris by Haussmann was on radial lines, but Washington is the finest practical illustration of the almost complete use of the radial and rectangular patterns in a city which was planned *ab initio.* Wren's plan of London was based on the same forms and was perhaps sounder in principle and showed a better blending of the radial and rectangular street system, but as it was never carried out we cannot compare it with the plans that have been put to the test of development. There are few examples of radial or fan-shaped planning in ancient times, but Rhodes, laid out in 408 B.C., was said to be built in this fashion, and was described as having its building blocks arranged like the seats of an ancient theatre around an orchestra. The architect Vitruvius is recorded as having opposed the chessboard plan and pleaded for the laying out of towns on an octagonal plan radiating from a center.

(3) *Irregular.* Cities which grew up on irregular lines in olden times are regarded by some as being the examples of unplanned cities. But in more recent times irregularity of plan in a city might be the result of more intelligent planning than would be shown by adherence to a geometrical pattern, for it may have arisen from a conscious and successful effort to make the plan fit the topography. Irregular planning has been deliberately followed as a cult in recent years by some German city planners in order to produce the artistic effects of the medieval city with the charm of winding streets, closed-in vistas, and sudden surprises.

Boston has its irregular streets corresponding in narrowness and tortuous windings with those of the medieval towns. This irregular framework of streets with its narrow slits of opening through gaunt cliffs of buildings is unsuited for the conditions of the modern city, and retains none of the repose and beauty of those towns which have stood for centuries, while congestion and overbuilding are continually adding to its inconveniences.

In the matter of technical forms of planning there is not much to be seen in Europe that is not already conspicuously present in America, and present under physical and social conditions that are new in the world. There is no precedent for the modern American city—either in height and density of building, in size and rapidity of growth, or in the complexity of its problems. Europe has much to show the American student in connection with the arrangement of buildings, in civic decoration, in street furnishing, and in the control of sky-lines and street façades. It may be also that the average European city has been better fitted in its layout to the natural features of the land than the American city. But after all, however much we may be tempted to give an historic background to city planning, it is new, both as

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a science and an art, in the form in which it is now practiced and preached. When we speak of modern city planning we mean something entirely different from the city planning even of the eighteenth and nineteenth centuries. Opportunities to plan new cities or entirely remodel old cities occur very seldom, but if such an opportunity occurred today we should want to include much more in our city plans than did Craig or Haussmann or L'Enfant. We should have to do much more than plan a street and park system. We should have to study the conditions and trends in regard to all forms of building development; restrict use, height, and density of buildings; make exhaustive studies of the existing conditions and tendencies in regard to transportation by rail and road; and generally deal with all the problems of growth in cities of greater size, and more complex in their constitution and functioning, than those of any previous age.

We should have, above all, to make our plans for one definite purpose of achieving a better social environment for the common people than has hitherto existed in the cities of the world—a task which, with all its progress, America has not yet seriously faced.

Subsidized Housing

By FREDERICK L. ACKERMAN

Ordinarily a subsidy in respect to housing is set down without further discussion as a paternalistic move on the part of the Government and is consequently a matter greatly to be deplored by those who view such a move as one headed in the direction of Socialism or something of that sort. As a paternalistic move, a subsidy in respect of housing is viewed as made in the interests of those who ultimately occupy the houses. While the object of the subsidy is to house those who have difficulty by reasons of economic conditions in securing homes for themselves, yet in popular apprehension it is a move on the part of the Government to aid those who do not see fit to help themselves.

Viewed as it is with disfavor, the fact that subsidized housing is being resorted to more and more here and elsewhere would indicate that the need for houses must be increasingly pressing. For the enactment of legislation which provides for subsidized housing is ordinarily the work of legislators who stand opposed to the blighting effect of paternalistic legislation upon those who are benefited by it. But to assume that paternalistic legislation in the case of housing arises out of a desire to provide houses for those in need of them is to ignore certain other factors in the case.

Within recent years much has been said of the wartime program of the British Government in providing housing for munition workers during the war and for charging for those houses a rate which would not show even a modest return upon the cost of producing them. This policy is referred to as an act of coddling the working classes, the beneficiaries of the action. It is viewed as one of those ill-advised moves of the British Government in its policy of dealing with labor.

Whether this policy was ill-advised or well-advised is not in question here. What is of immediate interest is the point of view which actually led the British officials to build houses during the war for munitions workers and to rent them to the workers at a loss. Light has been shed on this phase of the question by the remarks of a British official who had intimately to do with the housing policy of the British Government during the war and in the period which followed. His account of the transaction is somewhat at variance with the popular version of how it was that the Ministry slipped so easily in the way of paternalism in this respect. He illustrated the point of his remarks by reference to the 200 houses which were built at Chester during the war. More houses were necessary at Chester in order that the munitions plant might be run at something like capacity. The erection of the 200 houses was carried through at a cost of approximately double the pre-war standard. Since wages had not risen materially at the time of the completion of these houses it was perfectly obvious to the British officials that rents in relation to the cost of the houses could not be charged without materially increasing the wages of those who were to occupy them. Only 200 families could live in them; and there were something over 3,000 workmen in the munitions plants at Chester. So that to immediately increase the wages of 200 workmen in order that they might occupy war built houses would lead to an increase in the wages of some 3,000 workmen in Chester; and to increase the wages of the workmen in Chester would likely lead to an increase in wages elsewhere; that is to say an increase in the wages of some millions of workers. So the decision was made to continue the normal rents in these war built houses, charging the difference due to excess cost to the war.

Such is the simple explanation offered by this British official of the genesis of the paternalistic policy of the British Government of housing workmen at less than cost. But a question follows upon the heels of this admission. One asks: Paternalistic with respect to what? Certainly in this case it was hardly paternalistic with respect to workmen. The houses were built by reason of the war necessity and they were rented to the workmen at the old rates not by reasons of necessity—wages might have been increased—but for the simple reason that to charge more would involve the raising of wages in the munitions industries generally. To increase wages generally would be to diminish profits or to increase the cost of munitions and the war. It was likely to do both.

This is not to insinuate that it would have been better to avoid the subsidy and increase wages all around. Nor is it to argue for a subsidy with respect to housing in general. It is merely to observe that a subsidy with respect to housing may not be a paternalistic move with re-

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spect to those who live in them. It may be that it is merely one of those moves to keep the wages of labor down. Which is to say that it is, after all, paternalistic, but paternalistic with respect to profit taking and not with respect to working for wages.

Subsidized housing, as was remarked at the outset, is no longer confined to England and to upset Europe. Recently the New York State Legislature passed an Enabling Act permitting municipalities to exempt from taxation for a period of ten years certain types of buildings under certain conditions. In the case of the least expensive habitations, this exemption might amount to as much as one-half of the value of the houses erected.

This act was passed under the pressure of a seeming necessity for it; and its paternalistic color was excused for once on that ground. But this is not to say that all of those who advocated it and backed the measure saw no more in it than the prospect of additional houses for those in dire need of them. Something in the nature of what has actually taken place since the enactment of the legislation might possibly have been foreseen by those who would ordinarily have stood strongly against the act on the ground of general principles.

For what happened is this: The price of land, of loans, of materials, of wages in the building trades, went up upon the first signs of renewed activity. All these went up so far that the houses which were built under the auspices of this paternalistic legislation cost, in the case of cheap houses nearly as much more and in the case of better houses more than the amount which the State remits in taxation. That is to say, proximately the entire subsidy has already been used up by the various agents engaged in the erection of these buildings. So that the occupants of these subsidized houses are in the same position as they were before with respect to the matter of paying a rent somewhat higher than they can afford to pay.

Of course, it is not to be denied, we have some additional habitations and it may well be argued that that is net gain. But we also have houses provided by paternalism and that is not ordinarily referred to in the category of gain. For it is argued that it is a sign of decay when workmen have to be provided with houses under the auspices of paternalistic legislation.

But again, as in the case of the British situation, a question follows: The decay of what? Surely the moral fibre of the workmen is not being seriously weakened by this paternalistic legislative move, for in truth, the ordinary worker cannot afford to live in the newly erected tax-exempt houses. In this case it would seem that the action was no more paternalistic so far as it affects the workmen than it was in the war and post-war housing operations in England. But in the same manner that the action in England was paternalistic with respect to a profit system, so the action here is paternalistic. What has taken place is this: The State has already paid to the owners of vacant land, to the producers of material and the lenders of second mortgage money and to the building trades workmen a bonus for erecting some buildings for which the owner may charge all that the traffic will bear. So that tax exemption in New York State may be treated as paternalistic but not paternalistic with respect to those who live in the houses, a paternalism which does not touch the masses.

"The Significance of the Fine Arts" [1]

A Review by CHARLES W. ELIOT

An admirable book has just been published under the direction of the Committee of the American Institute of Architects on Education, which all education reformers will desire to commend to the immediate attention of the headmasters of high schools and academies, to the Faculties of colleges and universities, and to the thinking American public.

Since the book has been prepared under the direction of a Committee of the American Institute of Architects, it is altogether natural that rather more than half of its 507 pages, not counting the 128 pages of well-chosen illustrations, is devoted to architecture; whereas not more than one-thirtieth is given to landscape architecture proper, about one-tenth to the industrial arts, about one-twenty-fifth to sculpture, about one-fifteenth to painting, and to music only one-sixteenth. It is to be said for the great preponderance of space given to architecture that architecture is the fine art which first emerges from a barbarous race or community, and that it is the art which earliest expresses and develops the religious sentiments of a race, sculpture being a close second. Moreover, architecture has a much longer history in its monuments and in literature than any other fine art.

Four chapters in this book of ten chapters are devoted to architecture, the first to classical architecture, the second to the architecture of the Middle Ages, the third to that of the Renaissance, and the fourth to modern architecture. The third and fourth chapters are somewhat longer than the first and second, probably because they deal with matters of strong contemporary interest. For the author of the chapter on the Renaissance, Dante is the last of the men of the Middle Ages and the first of the moderns; and the Renaissance was the rebirth of the soul and mind of man. Hence with the Renaissance came a vivification of all the fine arts already in existence, including architecture, sculpture, painting, landscape design, and the industrial arts. Even music, which had been cultivated for religious uses by both the Greek Church and the Roman took on new forms, and made a wider appeal to all the European nations.

The chapter on modern architecture is remarkable for the frankness of its statement that American architecture has not been and cannot be maintained at the level of

[1] The Marshall Jones Co., Boston, 1923.

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Classical, Middle Age, or Renaissance architecture; because of the numerous changes since 1850 in the uses of ecclesiastical, legal, municipal, educational, and commercial structures. This statement in the text is corroborated by the illustrations included in this chapter. They do not compare in beauty with the illustrations used in the three preceding chapters. On the contrary, they reveal the frequent lack of dignity, proportion, grace, and beauty in American architecture since 1850, that is, since American architects have been called upon not only to design but to take part in building structures adapted to the new habits of a democracy. The conditions under which architectural works have been produced in the United States since the middle of the nineteenth century have been changing with great rapidity. The new demands of private owners and public authorities are the result of their desire for better protection from disagreeable or dangerous weather conditions, for better adaptation of structures to new social practices, and for new facilities for the use of the innumerable instruments and machines now available in both work and play, not only in houses and shops but in all sorts of public buildings, including churches. It is the leading doctrine of this chapter that every civilization and every epoch finds itself reflected as in a mirror in its architecture. Therefore, the architecture of today is necessarily different from that of yesterday; and that of tomorrow will again be different from that of today,—whether better or worse it is impossible to foresee. That house architecture will be worse seems now quite certain; because the American people—rich and poor alike—are being forced into apartment houses, tenements, three-family houses and minimum lodgings generally, by the high cost of building and maintaining separate houses.

The author of the chapter on sculpture says, near the beginning of his chapter, "Let me show you my museum . . . my desire is merely to point out a few things which I happen to enjoy. As to the basis of my selection I am, myself, a little hazy; like one's friends they present an astonishing variety." The reader soon learns, however, that the author's standards are all derived from the sculpture of Greece at her climax two thousand years ago. Speaking of the "Aphrodite of Melos" and the "Nike of Samothrace" the writer remarks, "There is not a man living who can even conceive such beauty as is revealed in these triumphs of the past—much less bring it to visible realization." His criterion for all works of art—sculpture, painting, or architecture—is revealed in the following sentence, "Despite all the clamor of modern insurgents the final test of a work of art is Beauty." His museum includes, he tells us, "A spacious annex filled with American works," and, indeed, he presents two good illustrations of recent American sculpture. But when he has been speaking of a coin issued in the reign of Demetrius, King of Macedonia, which showed a triumphant figure, upon the prow of a vessel, he remarks, "Compare it with the ordinary American 'soldier monument' to see where we stand in the story of fine arts." The illustrations of this chapter begin with the Parthenon and come down through the Renaissance to modern times. They exhibit perfectly the author's view of the story of sculpture.

The author of the chapter on painting believes that the history of art is the record of the changing tastes and ideals of humanity so that "a style mirrors its epoch and its race." The same opinion appears eighteen pages later when he is speaking of Raphael "the divine painter" whose gracious and springlike art "seems at times almost to solve the haunting problem of the Renaissance—the harmonizing of the contrary ideals of paganism and Christianity." How quickly the art of painting follows political and social changes in the opinion of the author is well illustrated in what he says about eighteenth century changes in French art. "After the exaggeration and flippancy of the time of Louis XV came the more restrained and reasonable art of the reign of Louis XVI. It was then, in reaction to the licentiousness of the previous style, that pictures of a moral purpose were first painted, such as those by Greuze, in which only the good are happy. Greuze marks the transition between the aristocratic and the new democratic development." The last paragraph of the chapter contains the strongest expression of the author's creed. "Our age is tired of robust and accustomed forms, and craves a new expression in their distortion; the fact is seen in painting, sculpture, literature, music,—in all our activities. The cause of this phase—the nature of the necessities of the time which it responds to—may be uncertain to us now that we are in the midst of the transformation, but it will be clear enough to our successors. No matter how capricious it may appear, art, like language, is a living, growing thing, and is at every stage just as it has to be."

The short chapter on landscape design is written by a lover of that out-of-door art who believes in its educational and inspirational function. It appears from his historical sketch and from the illustrations with which the chapter is adorned, that among the fine arts it is a comparatively new art, and that it contrasts with the other arts in that it consists in "altering, adapting, or perfecting real landscape existing in advance as such." These pre-existing landscapes are full of elements which are quite beyond the control of the landscape designer, such as the geological skeleton of the land, the clear or cloudy sky, and the climate. Every landscape design is intended to be seen by living people who move about out-of-doors and see as they go. Moreover the enjoyment of landscape beauty depends not only on the inherent qualities of the landscape and the universal human traits, but also on the associations which the individual beholder may happen to have attached to certain landscape qualities. Both the recognized styles in landscape architecture—the humanistic and the naturalistic—rely on this common delight in the aesthetic qualities of landscape, and also on the human associations with landscape. In the decoration of small areas such as the grounds about buildings, humanistic or formal designing predominates. In the treatment of large areas, like public parks or scenic reservations, the naturalistic style prevails and is likely to prevail. All the time and everywhere the landscape designer is trying to develop Beauty for the enjoyment of men, women and children, and to spread and increase that enjoyment and the capacity for it. The beauty of landscape is more complex than that developed in any other art; for it depends on texture, form, color, light and

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shade, detail and mass, outline and perspective. It is the latest of the fine arts; but it is likely to contribute to human health and happiness more than any other except music. Hence it is very interesting to teachers, and to all persons interested in the education of children and young people.

City planning is the work of an engineer rather than of a landscape architect; although the open spaces and avenues within a city may need such decoration as is lent by trees, shrubs, and flowers. The first object of good city planning in the United States today is to relieve the sufferings caused by the congestion of an ever increasing proportion of the population in cities and large towns. Narrow streets and high buildings with the resulting exclusion of sun and air make urban populations both unhealthy and unhappy. Competent city planning affords some relief from these bad conditions through broadening and straightening highways, zoning, and increasing the number of small open areas well distributed. If high buildings are generally permitted, however, no skill in city planning can make a closely built city a proper place for human habitation. The United States has never suffered the mediæval evil of walled cities; so that its cities have no walls to be relieved of, as many cities had in Europe. The chapter on city planning does not mention the measures of relief from unwholesome congestion which many American cities and large towns have been adopting during the past twenty years, and especially during the last ten years. Around several of the most congested American cities suburbs have been built in a comparatively open manner with wider streets, setbacks for the houses, and gardens behind the houses. The new methods of quick transportation tend strongly to the placing in suburbs of the families of thousands of persons who have their daily work in the cities. Again, few owners of factories or machine shops will nowadays place new plants in a city or large town. On the contrary, they will carefully place them in villages or small towns which possess good means of transportation for both freight and passengers, or they will plant the new factory or shop in the country, and lay out a well-planned new town for their operatives or workmen. The expert city planner in these days does some of his best work in planning new residence districts to accompany new manufacturing plants. City planning, however, remains an effort to express the aspirations of humanity for beauty and order, or as the author of this chapter puts it, "the finest purpose of city planning is to create a beautiful setting for human life and activities, to plan the setting of every-day life as well as those suited to great public events."

Nearly two-fifths of the chapter on industrial arts is devoted to an exposition of the low state of the American public as regards understanding of art and love of beauty. Americans have long "regarded buildings and their furnishings as necessities in which beauty has no part." "In the 1880s articles of daily use reached a level of ugliness never before known in the history of mankind." And again, "He (the American) is so used to unbeautiful streets, unbeautiful buildings, and unbeautiful furnishings that the idea that city planning, architecture, or designing and making of clothing, furniture, and utensils might come under the head of artistic activities has never occurred to him." And yet there is hope. "Although we have but made a beginning, taste is improving, beauty is creeping into our daily life." The author, therefore, devotes three-fifths of his chapter to a detailed survey of the various industrial arts, pottery and china, glass in windows and vessels, textiles, lace, embroidery, jewelry, metal work, furniture, the book and magazine, and illustration. In this survey he supplies the most available material the book contains for developing art instruction in American schools and colleges. This material can be used to cultivate in American children and young people knowledge and skill in a variety of industrial arts. This portion of the chapter is illustrated with instructive photographs. The author describes in his last few sentences the objects of the entire book, which are to persuade the man, woman, or child who habitually pays no attention to the objects which surround him that the fine arts are capable of contributing greatly to his enjoyment of life, that not only great architectural objects, beautiful scenery, statues, and paintings, but also the objects which he daily uses indoors, such as furniture, china, silverplate, jewelry, and dress, when well designed, can add much to his pleasure, and that in interest in all these things "he may find a new source of unalloyed enjoyment."

The final chapter, that on music, is the best of all for the promotion of American health and happiness. It is written by one who is not only a skilful musician but a professional teacher of music and a musical composer. These qualifications combined make his contribution to the volume on "The Significance of the Fine Arts" the most immediately available portion of the book for the advancement of the American public, and especially of the rising generations in appreciation and enjoyment of a fine art. The object of the chapter is to stimulate the interest of the reader in taking part himself in the production of music and in listening to music with intelligence and keen enjoyment. It lays emphasis "on the necessity for actual contact with music itself. The first and best way to accomplish this is through singing." The chapter gives explicit instructions in the steps of learning to sing and in the selection of things to be sung; hence it will serve as a guide for teachers who are charged with teaching music in public and private schools and for families in which enjoyment of music and skill in music are hereditary, and hence one of the great delights of family life.

The chapter contains a concise but very interesting history of the development of music as a fine art in the modern sense, showing how comparatively recent the art is and who the leaders in the development have been. The seventeenth century was the great century in this development, although the eighteenth and nineteenth produced some masters of the first order, and brought about great improvements in the variety of musical instruments and the structure or composition of an orchestra. The author of the chapter repeatedly specifies musical compositions in which the student may follow the progress of the art of musical composition from century to century down to the most recent times. The last paragraph of the chapter states strongly the low condition of music in the United States; but in its last sentence holds out hope of improvement. "American composers, during the last twenty-five

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years, have been struggling against a lack of real understanding on the part of the public. Our opportunities for hearing great music remain small. Only in our largest cities is good orchestral music heard. . . . In New York and a few other large cities there is a small and highly intelligent public, but the great body of our people hear little fine music. We suffer, also, from not having folk music of our own as other countries have. Nor do we make music at home. . . . We need a good school of popular music before we can have one of a higher kind, and we seem to be gradually approaching the former, for signs of native wit are not lacking in some of the best popular tunes."

Considering that music contributes more to joy in life than any other art, this chapter should be brought home to every teacher, superintendent of schools, and college faculty in the United States.

For educational reformers the interesting question concerning "The Significance of the Fine Arts" is how it can be got into the hands of the teaching force, of the leading business men, and of the thinking public in the United States. The book is replete with suggestions for improvements in American schools, families, and callings, improvements which rest on the more complete satisfaction of some of the best human desires and needs. It is too large to be used as a textbook in schools, and could only be used in colleges as supplementary reading to be recommended to students. It should exercise a strong and lasting influence, however, on American popular education in the future.

A Recent Theory of the Natural Lighting of Art Galleries

By PAUL P. CRET

There is a theorem in algebra which reads: "A problem containing more unknown quantities than there are equations is indeterminate."

This is a principle that holds good in many other cases than pure mathematics. Through its neglect, one courts absurdity in solving, for instance, architectural problems. It is of little use to leave aside, purposely or not, some of these unknown quantities and work on those left to achieve, willy-nilly, a solution. Such a solution would be disappointing.

The planning of art galleries is one of those architectural problems which have to satisfy so many requirements that they can be compared to problems with too many unknown quantities. It can easily be foreseen that they do not admit of a thoroughly satisfactory solution. There are some good museum rooms; none can be said to be perfect. It is a case of indetermination.

We have often been urged to curtail this problem of planning to that of devising adequate natural lighting for the exhibits and to accept any consequences such a method might have on the architectural arrangement of the rooms. This would amount to solving only a portion of the problem, an important one without question, but inadequate alone to give us even a merely serviceable building. Should we discover some day the ideal natural lighting, we shall have, before incorporating it in a new museum, to submit it to these tests: How does it react on the construction of the building? On the general planning of the rooms, corridors, stairs, etc.? On the grouping of exhibits within the rooms? On the circulation of the public, the architectural aspect of the outside and inside of the building? And, finally, on this important factor—the impression received by the visitor, his comfort and pleasure while he goes from room to room? Should it interfere seriously with any or several of these requirements, it will then be again a case of balancing its advantages and its inconveniences, an old dilemma in the profession.

Can there be, anyway, an ideal system of natural lighting that can be applied to the display of the endless variety of objects in our public collections? Speaking of paintings alone, do they not require a different kind of lighting according to their size, their technique and the high or dark key in which they were painted? We may from the start realize that museum lighting is not solved by a simple calculation of angle of incidence of the rays of light, admitting that even this is a simple question. A room illuminated by any one system, be it the direct and vivid daylight of Mr. Seager, the reflected and diffused light of Mr. Gilman, the light diffused through skylights and diffusing sash of the majority of museums, or the simple lighting by windows of a residence, will be perfectly satisfactory for some paintings and bad for some others. Even if we leave aside other considerations of importance, we may well think that the ideal museum shall not be one where one of the above systems, or any other, shall be uniformly applied, and in which exhibits are made to conform to this new Procrustes bed. Better results can be expected from the museum where several types of rooms will give a chance to place certain schools in their most favorable lighting, and in which even a single room will allow the placing of a certain painting in a more brilliant or more subdued light. The Commission of the Boston Museum of Fine Arts notes in its report on European museums how such a variety can give interesting results when it is taken advantage of by an intelligent curator; how also the simplest methods are the most effective in a display of works of art, because they prevent the museum from becoming "a machine to exhibit paintings." An efficiency too assertive is entirely out of place in artistic surroundings. In another report—that one by an Englishman on American museums, we find this criticism, that they usually have an excess of daylight. The problem, then, is not so simple as some people would like to believe.

It must not prevent us from studying solutions proposed by men who have gone into this subject. If they are not the cure-all that they pretend to be, they may in

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some cases have their use. The one of Mr. S. Hurst Seager, which we have in mind today, was published some years ago in the *Journal of the Royal Institute of British Architects* (401403), applied by its author to the museum of Wanganui, New Zealand, and recently expounded in a public lecture at the Ecole du Louvre in Paris in May, 1922. A translation of this lecture is published in *L'Architecture* (Paris, November, 1922). There is, finally, an article on the improvement of a room in the Louvre under the supervision of Mr. Seager in *L'Illustration* of December, 1922. All this has given a new actuality to the claims of Mr. Seager, and we may well try to see on what basis they rest.

Anyone at all familiar with the complexity of this subject cannot help being somewhat on guard in reading Mr. Leonard's appreciation of Mr. Seager: "In the course of extensive travels, he noted everything which could help the solution of the problem, which was considered as insoluble, and which finally he found to be quite simple." Further on, we find in Mr. Seager's lecture: "Let us recognize all the difficulties for an architect to solve a problem of acoustics; whatever care he uses, he must expect surprises in a field where the conditions to be determined are many and minute. It is not the same, however, for the laws of light, *which are simple and unalterable.* If they are kept in mind, one can be assured of a satisfactory result." Here is a fine confidence.

What are the factors of the problem of lighting museum rooms by daylight? To light adequately a single painting is a simple matter. There is no room where a canvas cannot be hung at a satisfactory angle to receive a good light without disturbing reflections, provided the spectator remains at one fixed point. When an art dealer exhibits a painting on a carefully selected velvet background, the light falling in the proper direction, and far from any other object distracting our attention, it is certain that he has secured for the canvas the best possible conditions of display—and of sale.

Has he solved the problem of the museum room? Not at all. A museum that would in this way place each work in a secluded location would require a first cost of construction absolutely prohibitive, and, besides, could admit only a small number of exhibits under penalty of becoming extremely tiresome. Can one think of placing the thousands and thousands of paintings, statues, works of art of all kinds of the Louvre, the National Gallery or the Metropolitan Museum in these so-called ideal conditions? These museums, already too large, would then cover acres and acres, and would become a labyrinth for the visitor. It is, then, a necessity to group several works in one room, and give up ideals of individual placing for an honest average. We are then confronted by the problem of lighting the walls adequately, if not evenly, and of minimizing reflections on the paintings caused either by the source of light or by the spectator himself. Further, one discovers soon the necessity of varying the shape and size of these rooms and their architectural settings. It is quite possible to secure good lighting conditions for paintings in a textile mill; does such a building fulfill our ideal of an art museum? All those who appreciate beautiful things know that, created for living rooms, palaces or churches, they do not improve by being displayed in a laboratory. A museum is not merely a workroom for archæologists and historians of art, but also a temple where the public is initiated in the worship of the beautiful. If real progress has been made recently in the interior arrangement of museums, it is when an attempt has been made to place works in surroundings similar to those for which they were created, and to strive by the grouping of furniture, hangings and paintings, and even by the architecture of the room, to substitute a living atmosphere for the dullness of the storage room.

The usual museum, with its walls of an approved shade, its rows of paintings quite straight on the hanging line, under the cold light falling from a diffusing sash, is, we grant, easily tiresome. The advances extolled by Mr. Seager are, however, much worse. He cites two examples: The Glasspalatz in Munich: A large opaque screen is hung below the diffusing sash, placing the spectators in a realm of shadows, with the impression that this dark ceiling without visible supports is going at any minute to crush them, while a harsh light falls on the canvases around the walls from a mysterious source. There is nothing more unpleasant than the hiding of structural elements in architecture. The system used at the Gallery Dore in London, with its "dark carpet, dark curtain, no windows or glass apparent," is possibly (we have not seen it) satisfactory for a room of small dimensions such as that one, but would become dreadful if repeated fifty times in a museum of average size. All this reminds us painfully of the definition: A museum is a cemetery for works of art.

With these schemes, we must mention the rearrangement of the rooms for the pastels of La Tour in the Louvre made under the direction of Mr. Seager and reproduced in *L'Illustration.* Judging from the photographs accompanying the article, the lighting of this room, which was bad, has undoubtedly been improved. The main changes (see figure 1) have been to screen the lower part of the windows up to a height of six feet; to replace the glass of the windows with prismatic glass, deflecting the light at thirty-six degrees more strongly on the wall and less on the floor than with ordinary glass; finally, to paint the floor and the walls in a very dark color, the ceiling in a dull tone. By this method, the reflections in the glass protecting the pastels, at least those coming from other sources than the windows, the spectators and the exhibits in the middle of the room, are minimized. At what cost? Here is the opinion of the collaborator of Mr. Seager, the curator of the collection of pastels: "The first impression is somewhat disconcerting. The former visitor of our old rooms will possibly regret the loss of their elegance, brightness and harmonious order. They were reception rooms—we have now a study room. The second impression is very good, and is even a surprise, as it amounts to a rediscovery of the pastels."

The editor of *L'Illustration* adds the following comments: "Does it mean that we ought to wish this method of lighting to be applied in all our museums with the same unswerving policy as in Wanganui? Nothing is more depressing, one could say more funereal, than a room arranged according to the scientific method of Mr. Seager. A museum is not a necropole. It ought to keep a touch of elegance and a gracious welcome for its visitors."

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All this is not very enthusiastic. It would be unfair, **however, to judge Mr. Seager's methods on this. He had to conform to existing conditions. Here is, however, his complete system: His gallery (see figure 2) is composed of a central corridor twelve feet wide by twelve feet high, bordered on both sides by booths, the three sides of which** extend to the ceiling, and which receive light through an inclined window placed opposite the back wall. These booths are about sixteen feet deep and somewhat narrower. Floors and walls are, of course, painted in a dark tone. On the back wall, one line of paintings. On the two side walls, Mr. Seager advises to place only one canvas. Nothing, of course, in the center of the room, for the whole system, or, at least, all that is original in the system is to eliminate reflected light coming from illuminated objects or visitors, and to compel those visitors to keep out of the area where they might see the windows reflected in paintings. To that end, they are supposed to stay in the shadow of the corridor, or just at the entrance of the room, looking at the paintings sixteen feet away from them, probably with opera glasses, if they are unfortunate enough to be shortsighted or

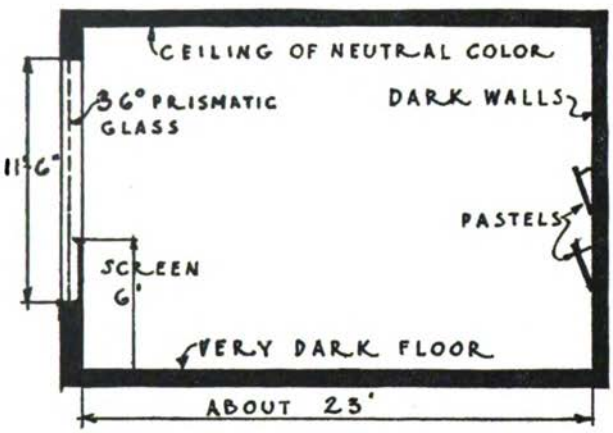


FIGURE 1

simply anxious to see the technique of a part of the painting. As for the paintings on the side walls, well, you are supposed to look at them at forty-five degrees from the corner of your eye.

It was quite right to tell us that this system is quite simple. Spectators are the cause of reflections? We do away with the spectators, or at least we keep them at a safe distance from the paintings. We venture to suggest to Mr. Seager two other methods of our own, equally scientific. The first is to invite visitors to the museum to blacken their faces and whatever is light colored in their clothing before they are admitted to the exhibition rooms. This would satisfy law No. 2 of Mr. Seager. The second method is to have each painting viewed from one point carefully selected, which might even be provided with a special glass like the objective of a telescope, and thus do away with the reflection of the windows or anything else. We do not, however, claim absolute first right to this last discovery, which has been used in some county fairs, where for a moderate fee one can watch through a peephole the Johnstown Flood or the Last Days of Pompeii.

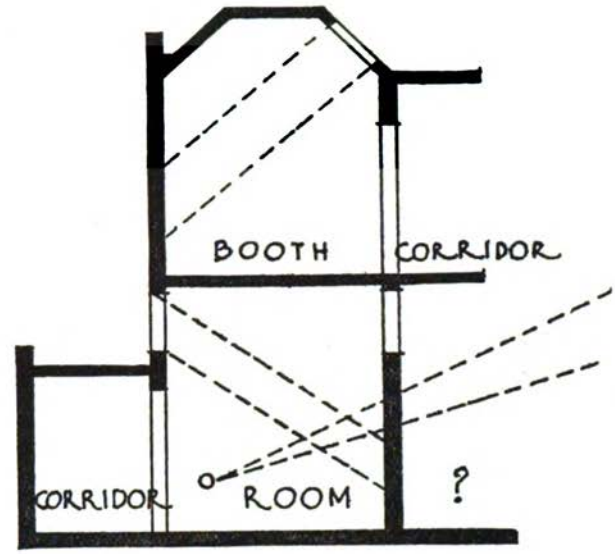


FIGURE 2

The booths of Mr. Seager hold from six to eight canvases each. For a medium size museum of about one thousand paintings, it means some one hundred and fifty booths and at least as many again for the sculpture, furniture, tapestry, medals, iron work and enamels. And, by the way, we would like to know if Mr. Seager intends to have us examine this last named class of objects at his usual safe distance. Strolling through such a jolly museum along the twelve-foot corridor of Mr. Seager does not appeal strongly to our fancy at first. There is, we know, this second impression mentioned above, which might amount to a pleasant surprise. Mr. Seager gives us a ray of hope when he suggests that the whole thing could be got through quickly. In our fear of being unfair in our presentation of Mr. Seager's scheme we quote him: "The best way would be to place a single canvas on side walls. For, if other canvases are placed near the end walls, visitors, in order to see them, cross the highly illuminated zone, which can give reflections, and which, besides, hides the view for the persons seated. Seats can be placed, indeed, at the *entrance* of the booths at the right distance from the paintings, allowing visitors to look at the paintings while seated, without being disturbed by the visitors who *from the corridor are satisfied with a rapid survey.*" Mr. Leonard finds all this very simple. If a museum is made for the hurried passer-by of the corridor, or for those people who are satisfied with looking tamely at paintings from a proper distance, or for

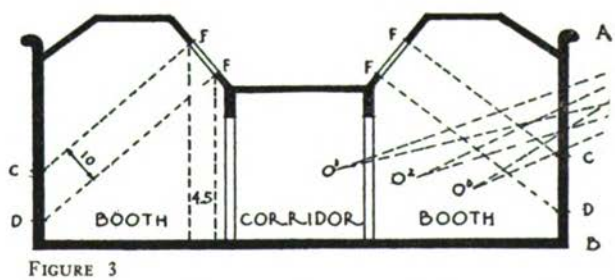


FIGURE 3

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those satisfied with looking at paintings at an angle of forty-five degrees, under this ever-present crude light and the dark walls—so far, so good. We think, however, that, if in some exceptional cases it could be of use, provided the aspect of the rooms can be improved and the possibility of sound construction made easier, it will never be susceptible of extensive application.

Mr. Seager's system is presented with a pseudo-scientific preamble, which, we are afraid, is not much better than what we have already seen. The six laws of light and their deductions are stated with a lack of precision which is not very convincing. Here is a sample: "If we cut a hole of any kind of shape in the ceiling or the wall of a room, the limit of the rays of light passing through it shall be determined by lines drawn from the extreme point on each side." Drawn where? we would like to know. In the left half of figure 2 of Mr. Seager, the rays of maximum intensity of light start very accommodatingly from the glass area F-F to reach exactly to the upper and lower limit of the painting C-D. We have our doubts of this good behavior, and are inclined to think that the point of maximum lighting of the room would be found somewhere on the ground in front of the vertical wall.

In figure 3, which explains the utilization of the system in a two-story building, one will note that the rays of light, perpendicular to the windows of the second floor, make an angle of about thirty-five degrees with the plans of the first floor windows. We would have been much more grateful if Mr. Seager had given us the scientific basis which governed him in these two cases, instead of, for instance, stating his law No. 6, which reads: "Dark colors absorb the light, while light colors and polished surfaces reflect it," which is not a startling revelation for most of us.

In figure 2, right half, Mr. Seager in a note tells us that, whatever be the position of the spectator, the reflection of the window is always above the painting. We must note, however, that his painting, measured at the scale of his drawing, has its upper border seven feet, six inches from the floor, and that an ordinary full-length portrait, without speaking of larger canvases, is usually hung so as to have its upper part more than nine feet from the ground, in which case the spectator placed in O-3 would see beautifully the reflection of window F-F in the upper part of the canvas. We know, of course, that the window and the room can be raised. However, Mr. Seager has warned us that "the higher they are (the rooms), the gloomier and worse lighted they become."

All through the article of Mr. Seager, this same fancy, which tries to assume the aspect of a scientific demonstration, is found. We were quite ready to "forget routine methods and to confine ourselves to the strict application of scientific principles concerning the problem, principles so simple and in such small number that it is inconceivable that they have always been neglected." What we found can be summed up as follows: In a room lighted by a single window placed high up, the spectator in the zone of shadow immediately under the window will see the paintings on the opposite wall and on the side walls in a bright light and without reflections, provided he does not enter the illuminated area.

Obituary

Thorsten E. Billquist

Elected to the Institute in 1905
Died at Pittsburgh, Pennsylvania, 17 February, 1923

Western Pennsylvania thirty years ago had just awakened to what architecture meant, through the building of H. H. Richardson's Court House, and the artistic spark thus kindled was nursed into the flame of architectural expression by the young men who came to Pittsburgh at this time, enthusiastic, well-grounded by scholastic training and broadened by foreign travel and study. Among these was Thorsten E. Billquist.

After graduating at the University of Gothenburg, he came to New York in 1892, being associated with the office of McKim, Mead and White during the progress of the Boston Public Library. After being associated with the Pittsburgh office of Longfellow, Alden and Harlow, and with William Ross Proctor, he entered into practice in 1896, when he won the competition for the Allegheny Observatory. His extensive practice since that time in Hospitals, Schools and Residences, was but a reflex of his own character, quiet and unobtrusive, refined and dignified. His influence was always exerted for the advancement of the highest professional standards in ethics, as well as in design. One of his latest endeavors was to influence the Diocese of Pittsburgh at its last convention to place on its canons one providing for a commission on Church Architecture. His personality was of such a sincere type that it endeared him to all with whom he came in contact.

At the regular meeting of the Pittsburgh Chapter held on 20 February, 1923, it was *Resolved:* That it is the sense of this body of his fellow architects that we, as well as the entire community, have suffered an irreparable loss in the untimely death of Thorsten E. Billquist.

And further, that we owe to the memory of his example a debt of gratitude too heavy to be discharged by merely making a record of our respect. We feel that only by our efforts to uphold the highest principles of our profession may we repay in some measure our obligation to one who helped raise the standards of the art of architecture, and we trust that an ever-broadening devotion to all that is enduringly best, both in art and in life, will most fittingly indicate our community's appreciation of the legacy he has left behind.

William H. Goodyear

Elected to Honorary Membership in 1907
Died at Brooklyn, New York, 1923

Curator of Fine Arts, Brooklyn Museum; Honorary Member, Royal Academies, Venice and Milan; Architectural Associations, Rome and Edinburgh; (British) Society of Architects. Honorary Member, American Institute of Architects. Author of "Ancient and Modern History," "A History of Art," "The Grammar of the Lotus," "Roman and Medieval Art," "Renaissance and Modern Art," "Greek Refinement," and a large number of published essays and articles, especially on the subject

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of Refinements in Cathedral architecture. The curator of a real revolution in modern architecture.

Born April 21, 1846, New Haven, Connecticut, son of Charles and Clarissa (Beecher) Goodyear. Graduate of Yale University, Class of 1867; post graduate study at University of Berlin and Heidelberg, followed by travel in Europe, the Near East and Egypt. Lectured on history and history of art from 1871—. Curator, Metropolitan Museum, 1882-8. Titular Curator Brooklyn Museum, 1890-99. Curator of Fine Arts, Brooklyn Museum, 1899—. In charge of many research expeditions sent out by the Brooklyn Museum to get her survey proofs of Refinements in Egyptian, Greek, Roman, Byzantine, Romanesque, Gothic and Renaissance buildings. Died, February 19, 1923, Brooklyn, New York.

The name of Professor William Henry Goodyear, Curator of Fine Arts of the Brooklyn Museum, bids fair to rank high among those of other really notable men who are gratefully remembered because their achievements and their contributions to knowledge conferred fame on their country and their age. William Henry Goodyear made original contributions to knowledge through discovery and research, some of which seem to possess epoch-making importance in their ultimate application and probable effect on everything in the way of our arts which appeal through the eye.

Three potent influences seem to have combined to develop in Professor Goodyear, and to a supreme degree, those qualities which made him so authoritative a figure in the fine arts—his father, Darwin and Goethe.

Charles Goodyear, the discoverer of the vulcanization of India rubber and the inventor of its applications to the many industries created by him, may be classed with Bernard Palissy as an epic example of courageous independence of mind and of patient endeavor continued long after lesser men would have been daunted by discouragements to the ultimate success of important discovery and its application to the creation of great industries. By their side must be placed William Henry Goodyear who persisted after his discovery of architectural Refinements in the Cathedral of Pisa in 1870, through whole decades in which further research was made impossible because of insufficient means and through the almost universal skepticism that greeted his early pronouncements in 1874 and after 1891. He had the privilege of living to see Refinements almost universally accepted as established facts, and incorporated into the construction of a considerable number of important buildings.

The writings of Darwin disclosed to Professor Goodyear, while still but a boy, the importance of the theory of evolution, and it became thenceforth a dominant note in his intellectual life. This was the golden thread which led him successfully through hitherto unexplored mazes. This can be noted in his "Grammar of the Lotus" in which most of the conventional decorative patterns of classical times, many of which have survived and are found in modern decorative arts, are traced back to symbols of the ancient cult of sun worship in Egypt. It is significantly disclosed to the student of his Refinements researches, in which his attitude was that Refinements as first discovered must be a survival of older practice and not an original creation.

Something of the broad vision of Professor Goodyear and his quickened perceptions must have been due to his study of Goethe. Certainly Goethe's approach to the problems of natural science furnished Professor Goodyear with an assurance that principles learned in one field of research can be applied by analogy to investigation in another. Goethe also must have been an inspiration in the development of Professor Goodyear's marvellously broad, interrelated and proportioned knowledge of the entire scope of history and the history of art. He was an art critic, courageous, above prejudice or association with cliques; of good art judgment uninfluenced by lack of public repute; of a rare and wonderful knowledge of historic painting, Greek and Modern sculpture, ceramics, jades, ancient glass, Egyptian, Greek, Roman and American archæology, of anthropology and ethnology, and was our most eminent American authority on Cypriote art.

As a man, Professor Goodyear possessed unusual charm and distinction of manner and innate refinement. His elasticity of mind and spirit made him capable of intense concentration and of accomplishing an amazing amount of work under pressure. The manuscript of the three books planned to follow "Greek Refinements" was all but ready for the publisher at the time of his death, and it is to be hoped that a way will be found to give to the world this permanent and definite record of his greatest contribution to architectural knowledge. Only so can the full value of his researches be placed in the hands of the architects of this and succeeding generations.

WILFORD S. CONROW.

IT IS reported from the Cleveland Chapter that a bill for an architects' registration law in Ohio has been drawn in general accordance with the A. I. A. model, and that the chances seem good for the passage of such a bill this year.

EXHIBITION.—The Arts Club of Washington has offered its rooms, May 16 to 31, for an exhibition of residential work by members of the Washington Chapter, A. I. A., and by resident members of the Club. The exhibition will open on the opening day of the Institute Convention. At the request of the Arts Club, this exhibition will be limited to detached residences of not over nine principal rooms, and, at the exhibitor's option, their grounds, gardens and outbuildings. Plans are under way for the award of mentions in two or more classes, in regard to which further details will be announced later.

Essays and Memorials

"M. Colbert treats me like a child," said Bernini, "with his talk of privies and underground drains." This is only a footnote to the ninth page of the first essay (or is it a memorial?), but it succinctly raises the doubt, always present on opening a new book by an architect, whether the subject is in fact architecture or archæology. Bernini, it seems, would not have been in whole-hearted agreement with Mr. Simpson's view that to settle the conditions of a given architectural problem is the function of the employer; "for alone of the fine arts architecture sub-

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serves utility, and the first and chief duty of the artist who practises it is to ascertain and provide what his client wants."[1] Next, to the production of a fine work of architecture go three essentials—plan, scale and construction—and of these the greatest is plan. This, as Mr. Simpson told the school of military engineering at Chatham, in an address which forms the second section of the volume, involves an architectural solution of all the conditions of the problem presented; now plan, as apprehended by the architect, is the comprehensive scheme and ideal of the whole composition, conceived in cubic form. While realizing the essential truth and far-reaching importance of the doctrine thus sketched out, we question whether Mr. Simpson's categories are quite in logical order; for surely plan, taken in this extended sense, is not merely *primus inter pares,* but all-inclusive and nearly synonymous with form in its abstract signification. In any case we are prepared to agree that "the essential condition for understanding all works of art, buildings, pictures, and what not, is observation": thus "with architecture you must look at buildings." So far so good; nor can we imagine a better standpoint from which to address the engineers; unless, indeed, we ask whether it is strictly true that architecture is alone among the arts in serving a useful purpose; for is not this also a function of literature? And here, too, is there not a pre-eminent need of plan?

What sort of plan and form should be looked for in a volume of essays and memorials? A preface by Mr. Barnes, read between the lines, hints at a new literary type of architectural *belles-lettres,* likening the volume to a pleasant house with a not unfamiliar interior, except for the unusual advantage that some of its windows afford views of France and some of England. For ourselves, we should rather liken it to a museum where things which, though worthy of preservation, have lost their local habitation are collected rather at haphazard than designedly. True, that one implicit purpose, the advancement of architecture, raises a strong presumption that any writings by Mr. Simpson or those others who have recently filled the office of president of the Institute of British Architects are worthy of permanence. For they are in fact a group of men who, growing up with the movement that brought the Institute, which fifty years ago "existed only as a small and exclusive body of dilettanti," to its present position of influence, fanned the flame kindled by such artists as Norman Shaw and Philip Webb and their fellows, "who showed that buildings may breathe the spirit of the past without being stylistic copies," and initiated "that revival of architecture in Great Britain of which we ought today to be more proud than we are." In the nature of things the expression of faith by the men of the new school cannot well be other than fragmentary in form: tentative, and on pamphlet scale—an address here, a lecture there, an article in a magazine—but in any case sibylline leaves, like to be scattered by the wind. The problem, which is perhaps a task for publishers, is how best to make them subserve a wide, enduring purpose by fit literary scale and structure according to plan.

So far we have dwelt upon the second section; or should we, suspecting a symphonic scheme, say movement? This is English in outlook, while the first and third open windows over France; memorials of town-planning in Paris; historic, yet with ever an eye to facts of building and mindful of substructure and roof. Two more chapters, memorial in form and subject, and likely to awaken many an echo of sympathy in this day of memorials, precede the finale; a pleasant, familiar talk to students, yet carrying much weighty thought; a good instance of the value of such sibylline leaves. Remembering that the author has been among the prime movers in the change by which architectural education from being wholly dependent on the chances of apprenticeship has been systematized till it is in danger of becoming professorial rather than professional, it is of great interest to have his views on the limits of the school and the necessity of completing the course by apprenticeship in some shape. Here again his touch is sure, his vision penetrating, whether the practice of architecture is the main theme of an essay or an intimate incident in a memorial.

The common-sense view of an architect's function is a thread which runs through all six sections, otherwise scarcely obedient to his canons of form and scale—for instance "Stonehenge cannot fitly be combined with Amiens Cathedral." The danger is that, even on the museum hypothesis, the very fitness of individual sections, addressed to a diversity of moods and minds, militates against a collected appeal to each and all. And this would be a pity; for the glimpse of the life of Colbert and the light thrown on the tangle of town planning in Paris before Haussmann, a matter which, with the ingrained custom of "dejecting our own countrymen," we assume was always among things done better in France—these, and the little episode of the king's monument in the Place des Victoires, are excellent reading, with the scholarship and the wit the preface promised we should find.—*From the London Times.*

[1] Essays and Memorials. By John W. Simpson. (The Architectural Press. $2.00 net.)

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Structural Service Department

SULLIVAN W. JONES, *Associate Editor*
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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

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Lime Cement Brick Mortar. (3.1.3)—(*National Lime Association. Bulletin* 300. *Report Based on Tests Conducted by Professor James S. MacGregor, Columbia University. Size* 6″ x 9″. *Pages* 12. *Illustrated.*) The purpose of the tests was to determine the strength and elastic properties of brick masonry construction when laid up in various mixtures of lime-cement mortar.

The test specimens were 8″ x 8″ piers, 7 feet high, 63 of which were built of face brick and 7 of common brick, laid up with ⅜″ joints.

Seven mortar mixes varying from 1 part cement and 3 parts Cow Bay sand, to 1 part lime and 3 parts Cow Bay sand were used. The intermediate mixes were composed of various proportions of cement and replacements of hydrated lime to the same quantity of sand. Nine piers were constructed using face brick and each mortar mix. Seven piers were built using common brick, one laid up in each mortar.

The face brick were selected for high compressive strength with a view to causing deformations and weakness to predominate in the mortar rather than the brick. The average compressive resistance of the face brick was 10,550, and the modulus of rupture 2,345 which is comparatively high. The average compressive resistance of the common brick was 3,231 and the modulus of rupture 538, and passed the strength requirements of the New York City Building Department.

A sample of mortar of each mix was cast in 2″ x 4″ cylinders and allowed to age in air in the room in which the piers were made and stored. Five specimens of each mix were tested at respective ages of 7 and 28 days and the average compressive resistance of the mortar found. These indicated a gradual reduction in their compressive resistance with increasing percentages of lime replacement. In actual value the reduction is slight until percentages of replacements higher than 25 are reached. Subsequent additions cause marked reductions in values.

Three piers built of face brick and each mortar mix were tested after aging respectively 7 days, 28 days and 3 months. The results showed no reduction, in fact an increase of strength and elastic properties until a mix of equal parts of cement and lime to 3 parts of sand was passed. The report states the following:

First, the replacement of Portland cement by hydrated lime renders a more plastic mortar which spreads easily on brickwork and in consequence insures more uniform bedding, and this with less care.

Secondly, the so-called "suction" of the brick which steals a great deal of moisture from Portland cement mortars has been noted to effect lime-cement mortars to a much less degree. The addition or replacement by hydrated lime aids in the retention of moisture.

Thirdly, moisture which is lost due to causes cited probably leaves the mortar with an insufficient amount to completely hydrate or properly hydrate the Portland cement, a condition which is largely overcome by the use of hydrated lime.

The seven common brick piers were tested after aging 28 days. This test was used to discover whether or not the same general relations maintain when common rather than face brick were used. The resulting values indicate a marked similarity.

Paint and Varnish—Decorative or Preservative? (25c1)—(*News Note—U. S. Forest Products Laboratory.*) But a few years ago the average man believed that paint and varnish were used solely for decoration. It is being increasingly recognized that these materials in most of their applications are to be looked upon in large part as preservative coatings whose function it is to prolong the service of the article or structure covered.

Formerly paints and varnishes were studied only for their own composition. But the composition of a paint is not the only factor influencing its service; the character of the surface to which it is applied and the methods of application are also important.

Since finishing materials are used to protect and decorate wood, and since the different species of wood exhibit such a wide variety of characteristics and are used for so many different purposes, it was decided that more attention should be paid to studying finishing problems from the standpoint of wood technology.

For this purpose an executive committee on wood finishing research has been organized, representing many of the wood-using industries and the Engineering Foundation, whose purpose is to stimulate study along these lines. In co-operation with this committee the Forest Service, through the Forest Products Laboratory, Madison, Wis., is taking up the study of the finishing of wood in its regular program of work.

The assistance of the United States Bureau of Standards is also being procured, and it is expected that practically all the other research organizations in the country interested in paints and varnishes will ultimately be enlisted in this cooperative effort.

Long Leaf Pine. (19a)—(*U. S. Dept. of Agriculture. Bulletin No.* 1061 *by Wilbur R. Mattoon, Forest Examiner. Pages* 50. *Size* 6″ x 9″. *Illustrated.*)

Synopsis.—Range and importance. Rate of growths. Production of timber. Production of turpentine and rosin. Cutting. Reforestation. Protection. Timber and live stock.

Specifications for Numbered Cotton Duck. (28f)—(*Department of Commerce, Bureau of Standards. Circular No.* 136.) This specification was drawn up by the

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Cotton Duck Association and several of the large Government departments. The results of tests made by the Bureau of Standards were used to establish most of the tolerances and figures.

Material.—The duck shall be made of cotton thoroughly cleaned and free from waste. It shall be evenly woven without sizing, and shall be free from an excessive number of avoidable imperfections of manufacture.

Weave.—The weave shall be plain.

Width.—The average width shall be as specified with the following tolerances:

	Inch
Widths up to and including 36 inches..	−¼ to +¼
37 to 60 inches.....	−¼ to +⅜
61 to 80 inches.....	−⅜ to +⅝
81 to 120 inches.....	−⅜ to +¾

Weight.—The requirements for weight shall be as given in the table below with a tolerance of 2½ per cent, plus or minus.

Construction and Count.—The number of ply, and the count (or number of threads per inch, warp and filling) shall not be uniformly less than shown in the table below. They may be exceeded in the discretion of the manufacturer. The allowable variation from the manufacturers' standard shall not exceed, within a bolt or roll, for the Warp:

±1½ threads in fabrics counting not over 40 threads per inch;

±2 threads in fabrics counting over 40 threads per inch, and for the Filling:

±1 thread in fabrics counting not over 25 threads per inch;

±1½ threads in fabrics counting from 25½ to 32 threads per inch;

±2 threads in fabrics counting over 32 threads per inch.

The count shall be determined by ascertaining the number of threads in 3 inches, taken consecutively, and reducing to terms of 1 inch. The warp count shall not be taken at less than 8 inches from either selvage for goods 26 inches or more in width; for goods under 26 inches, it shall not be taken nearer the selvage than one-fourth of the entire width of the fabric.

U. S. Govt. Specifications for Red Lead, Dry and Paste. (25a23)—(*Circular of the Bureau of Standards No. 90. Federal Specification Board, Standard Specification No. 11. Size 7" x 10". Pages 8.*) Red lead may be ordered in the form of dry pigment or of paste ground in pure raw linseed oil. Two grades of pigment, known as 85 and 95 per cent, may be ordered, and each contract shall state which grade is desired.

Material shall be bought by net weight.

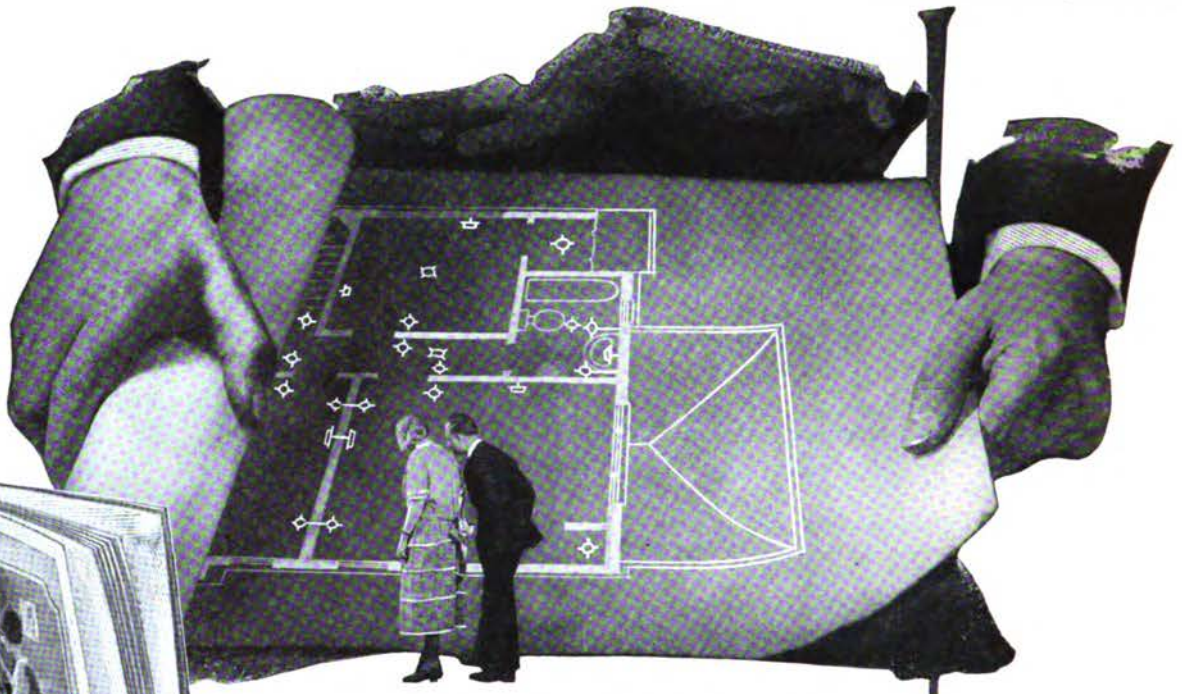
(*a*) *Dry Pigment.*—The pigment shall consist entirely of oxides of lead free from all adulterants and shall meet the following requirements:

Construction, Weight and Strength

No. of Duck	Weight		Width	Distance of Selvage Stripe from Edge	Minimum Ply		Minimum Thread Count Per Linear Inch		Breaking Strength 1 by 1 by 3 Inches Grab	
	Per Linear Yard, 22 Inches Wide	Per Square Yard			Warp	Filling	Warp	Filling	Warp	Filling
Hard Texture	Ounces	Ounces	Inches	Inches					Pounds	Pounds
2/0	20	32.72	As specified	2	5	7	26	18	465	435
1/0	19	31.09	"	2	5	6	26	18	450	405
1	18	29.45	"	1¾	5	5	26	19	440	370
2	17	27.82	"	1¾	5	5	27	21	420	345
3	16	26.18	"	1½	4	5	29	21	390	330
4	15	24.54	"	1½	4	4	29	22	375	300
5	14	22.90	"	1½	3	4	34	24	345	285
6	13	21.27	"	1¼	3	3	34	26	335	250
7	12	19.63	"	1¼	3	3	35	22	300	240
8	11	18.00	"	1⅛	3	3	33	23	285	210
9	10	16.36	"	1	3	3	38	25	255	195
10	9	14.72	"	1	3	3	44	26	245	160
11	8	13.08	"	1	3	2	44	32	235	125
12	7	11.45	"	1	2 3	2 2	48 40	34 34	195	120
Medium Texture										
2/0	20	32.72	"	2	5	8	26	16	450	405
1/0	19	31.09	"	2	5	6	26	16	435	380
1	18	29.45	"	1¾	5	5	26	17	425	345
2	17	27.82	"	1¾	5	5	26	16	410	320
3	16	26.18	"	1½	4	5	26	17	370	315
4	15	24.54	"	1½	4	4	28	19	350	290
5	14	22.90	"	1½	3	4	28	20	315	285
6	13	21.27	"	1¼	3	3	34	20	305	250

This circular also contains specifications for method of testing and causes for rejection.

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The more extensive use of electricity in the modern home emphasizes the need for dependability in the wiring devices.

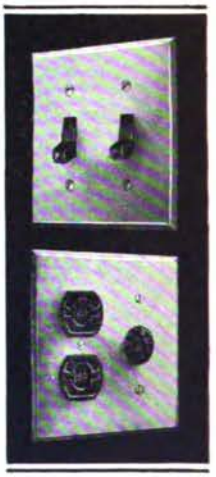
G-E Reliable Wiring Devices, nationally known as the standard of excellence, are the assurance of dependable electrical service.

G-E Wiring Devices can be furnished for every requirement in every class of building.

Merchandise Department
General Electric Company
Bridgeport, Connecticut

G-E TWO-GANG TUMBLER SWITCH

G-E TWIN CONVENIENCE OUTLET AND BULLSEYE



G-E Wiring Devices

A GENERAL ELECTRIC PRODUCT

41-218

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	85 Per Cent Grade	95 Per Cent Grade
True red lead (Pb_3O_4), not less than.....	85	95
Total impurities including moisture, soluble matter, water—and matter insoluble in a mixture of nitric acid and hydrogen peroxide, not more than.....	1	1
Remainder shall be lead monoxide (Pb 0).		
Coarse particles: Retained on standard No. 200[a] screen, not more than.....	0.3	0.3

a. The No. 200 screen is the same as the screen formerly known as 200 mesh.

When mixed with raw linseed oil, turpentine, and liquid drier in the proportion

Dry red lead	pounds	20
Raw linseed oil	pints	5
Turpentine	gills	2
Liquid drier	gills	2

the resulting paint when brushed on a smooth vertical iron surface shall dry hard and elastic without running, streaking, or sagging.

(*b*) *Paste.*—The paste shall be made by thoroughly grinding the specified grade of dry pigment with pure raw or refined linseed oil.

The paste, as shipped by the contractor, and for three months thereafter, shall not be caked in the container and shall readily break up in oil to form a smooth paint of brushing consistency. The paste shall have the following composition:

	Maximum Per Cent	Minimum Per Cent
Pigment	94	92
Linseed oil	8	6
Moisture and other volatile matter	0.5	
Coarse particles and skins (total residue left on No. 200 screen)	0.5	..

When mixed with raw linseed oil, turpentine, and liquid drier in the proportion

Red lead paste	pounds	20
Raw linseed oil	pints	4½
Turpentine	gills	2
Liquid drier	gills	2

the resulting paint when brushed on a smooth vertical iron surface shall dry hard and elastic without running, streaking, or sagging.

This circular also contains specifications for Sampling, Laboratory Examination, Dry Pigment; Laboratory Examination, Paste; Reagents.

U. S. Govt. Specification for Zinc Oxide, Dry and Paste. (25a22)—(*Circular of the Bureau of Standards. No.* 87. *Federal Specification Board. Standard Specification No.* 8. *Size* 7″ x 10″. *Pages* 7.) Zinc oxide may be ordered in the form of dry pigment or paste ground in linseed oil. Purchases shall be made on the basis of net weight.

The pigment may be American process zinc oxide, made direct from the ore, or French process zinc oxide, made from spelter. The contract shall state which kind is desired.

The color and color strength when specified shall be equal to samples mutually agreed upon by buyer and seller.

The pigment shall meet the following requirements:

	American Process Maximum Per Cent	American Process Minimum Per Cent	French Process Maximum Per Cent	French Process Minimum Per Cent
Coarse particles retained on Standard No. 325 screen.....	1.0	....		
Zinc oxide.....	..	98	..	99
Total sulphur.....	0.2	..	0.1	..
Total impurities, including moisture	2.0	..	1.0	..

The paste shall be made by thoroughly grinding the above pigment with pure raw or refined linseed oil. The paste shall not cake in the container and shall break up readily in oil to form a smooth paint of brushing consistency.

The paste shall consist of:

	Maximum Per Cent	Minimum Per Cent
Pigment	86	82
Linseed oil	18	14
Coarse particles and "skins" (total residue left on No. 325 screen based on pigment)..	1.5	..
Moisture and other volatile matter.....	0.5	..

This circular also contains specifications for Sampling, Laboratory Examination of Dry Pigment, Laboratory Examination of Paste, Reagents.

Action of Water on Zinc Chloride in Wood. (19a31)—(*Forest Products Laboratory. Technical Note No.* 185.) Although zinc chloride is one of the most effective of wood preservatives, it will not give permanent protection. Under the action of water this preservative loses its strength in two ways. In time a considerable amount of the solution is leached out of the wood, and that remaining is not of sufficient strength to be effective. It has also been brought out in a study of preservatives at the Forest Products Laboratory, that water eventually causes a chemical decomposition of zinc chloride by the removal of excess amounts of chlorine.

Samples of ties analyzed after service had a zinc content equivalent to 0.4 pound of zinc chloride, with scarcely enough chlorine present for 0.08 pound of zinc chloride per cubic foot. Treated blocks leached for a month at the laboratory lost about 90 per cent of their chlorine content and only 70 per cent of their zinc.

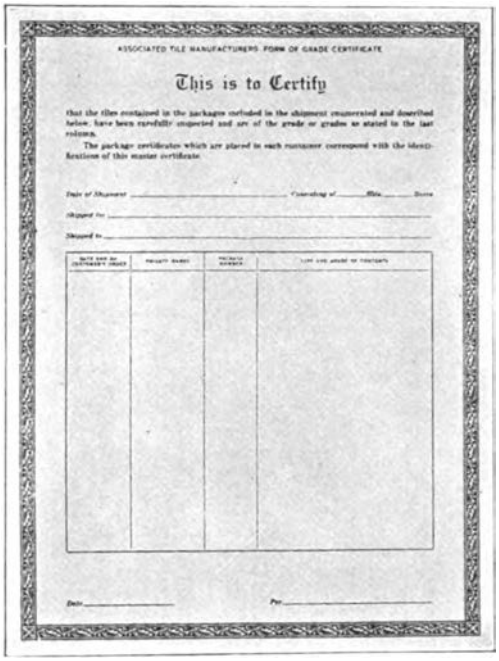
The disappearance of the chlorine from zinc chloride explains decay which has been found in treated ties and timbers which still have high zinc content. Although the zinc is the toxic or poisonous part of zinc chloride, it is not effective against the fungi which cause decay unless it is combined with some acid radical which makes it soluble. In analyzing zinc-chloride-treated wood after service, it is necessary to determine both the chlorine and zinc content in order to calculate the amount of preservative solution present in the wood. Even then only a rough estimate can be formed, for some of the chlorine which would be obtained in the analysis is in the wood in the form of an insoluble basic chloride of unknown composition.

Septic Tanks. (29c21)—(*Agricultural and Mechanical College of Texas, Bulletin* 10, *Texas Engineering Experiment Station, Sewage Disposal for Country Homes by Dan C. Miller. Size* 6″ x 9″. *Pages* 25. *Illustrated.*) The designs of tanks shown in this bulletin are all of the two-chamber type; one chamber being for the septic action proper, the other being for the siphon.

The amount of sewage may be roughly estimated as equal to the amount of water which is used for household purposes. The average country home may be considered to use from 50 to 70 gallons of water per day for each person.

The dimensions of the tank are determined by the number of persons contributing, or number of gallons being contributed, and assuming that it must take about twenty-four

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Grades and Grade Certificate

THE grades in tiles are the natural consequence of relative productivity, which varies with the different kinds of tiles according to materials and processes involved.

White Glazed Tiles are graded under three classifications—Selected, Standard, Commercial; the first representing the highest and the third the lowest grade.

Vitreous, Flint, Dull Glazed and Matt Glazed Tiles, Enamels, Faience and White Ceramic Mosaic are marketed in two grades—Selected and Commercial.

Semi-vitreous, Hydraulic and Inlaid Tiles and Ceramic Mosaic in colors are marketed in one grade only—Selected.

Such terms as "first quality" or "best quality" are susceptible to misinterpretation and invite substitution.

To insure delivery of specified grades of tiles the members of this association recommend that the furnishing of a grade certificate on the standard form of grade certificate of the Associated Tile Manufacturers be stipulated in all specifications for tilework.

See Publication K-300, Basic Specification for Tilework, Par. 7; also Publication K-200, Basic Information, Page 8.

THE ASSOCIATED TILE MANUFACTURERS
Beaver Falls, Pennsylvania

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hours to pass from inlet to outlet. For instance, suppose each person contributed sixty gallons of sewage. Seven and one-half gallons equals one cubic foot. Then eight cubic feet of tank space should be constructed for each person in the house. To insure a good flow from end to end the width of the chamber should be only about one-half of its length, although this may very well be allowed to vary for reasons of convenience.

Some authorities state that the tank should not be located closer than fifty feet to the house, preferably seventy-five or one hundred feet. Others claim that this matter of distance is of no importance at all.

The walls of the tank should be six or eight inches thick, depending somewhat upon the size of the tank. The floor should be from four to six inches thick, depending upon the hardness of the supporting earth underneath. The roof should be about six inches thick, and reinforced. Cast-iron, covers, concrete slabs or wooden covers may be used for the manholes.

The size of the siphon chamber is determined by the frequency with which it is desired to dose the soil. Good practice allows this to range from six to twenty-four hours depending very largely upon the absorptive capacity of the soil. The siphon itself may be installed to operate or discharge as often as may seem desirable. The siphon starts and continues to flow until the water level falls so that air is drawn in under the bell or through a sniff hole that is sometimes provided. That stops the action of the siphon until the tank has again filled.

The line of sewer connecting the house with the septic tank should be of the regulation, bell-and-spigot, vitrified pipe, of a size from four to six inches; five inches is recommended for the ordinary case. Six inches should be used if the number of persons using the sewer be eighteen or twenty. The grade should be not less than 1 foot in 100, but should attain this minimum near the septic tank. It is recommended that if the sewer passes close to trees the joints should be surrounded by a layer of concrete. When the trees are of the willow family it is advisable to use cast-iron pipe with lead-caulked joints. It is also advisable to use cast-iron pipe, when the line from the house to the tank must pass near a well or when it must go through quicksand. Provide for a suitable grease trap, to be placed outside the kitchen, on the line from the kitchen sink to the sewer or to the tank. The entrance of grease, into the septic chambers, hinders the beneficial bacterial action, and quantities of grease may prevent the action altogether and make of the tank a nuisance.

For sub-surface irrigation select a location in the most porous soil possible and of such relative elevation as to enable the siphon chamber of the tank to be completely emptied and drained by the system. Preferably there should be no trees upon the site selected. The most suitable soil is a sandy loam, while clay and peat are the least suitable. In sandy, loose soil an area of 20x15 feet will easily care for and drain off from fifty to seventy-five gallons of water per day. A better method is to allow, in loose, sandy soils, about forty feet of 4-inch tile for each person in the household; and, if several rows are placed in parallel, let them be from six to ten feet apart. This length per person should be increased to about eighty feet for the more compact soils, and, if desired, the rows may be placed only four or five feet apart. Some designers adopt the method of allowing, for the average soil, one foot of drain-tiling for each estimated gallon of the effluent; thus stating that three or four hundred feet would safely care for a family of six or eight people.

It is considered better to have two or more branches to the system, with an arrangement for cutting off the supply to one branch and allowing it to "rest" while the other "works." With such an arrangement as this the amount of piping in each branch need not be so much as above prescribed. The total amount should perhaps be a little more than would be used if only one branch were prepared. Much depends in this matter upon the character of the soil. If made into two or more branches, so that each may be given periods of rest, some sort of diverting chamber must be arranged. This may be constructed of wood, brick or concrete, made small and of very simple design.

The drain tile should be laid with open joints, allowing a space of about one-fourth inch between the joints. There should be placed over each joint, only at the top, a piece of tar paper, or a half collar of larger diameter pipe.

The sub-surface irrigation system should be laid on a very flat slope, one inch to every fifty feet. The piping should not be placed very far beneath the surface of the soil. Twelve inches from the bottom of the pipe to the surface is sufficient depth. At this depth it will not freeze, even in cold climates.

With regard to the patented features of septic tanks which have resulted in much litigation, the bulletin states that court decisions have been favorable for and against these claims. No claims for royalty are at all likely to arise over the personal and private use of the septic process. It is believed that any patented article, or process, may be constructed for personal use without infringement upon the patent. Only when made for the market, or for financial gain, do contentions arise.

Synopsis.—Size of tank and details of construction; the automatic syphon; sub-surface irrigation; the house line; estimates of cost, operation, care of plant.

Moisture-Resistant Coatings for Wood. (25b)—(*Forest Products Laboratory. Technical Note. No.* 181.) Shrinking and swelling and internal stresses causing warping and checking are brought about in wood by changes in the moisture content. Such changes are occurring continually when wood is exposed to changing atmospheric conditions, and the only way to prevent or retard them is to protect the wood from the air with some moisture-resistant finish or coating.

In order to determine the protection against moisture afforded by various coatings, a series of tests is being conducted by the United States Forest Service at the Forest Products Laboratory, Madison, Wisconsin. No coating or finish which is entirely moisture-proof has yet been discovered, but several have been found which are very effective.

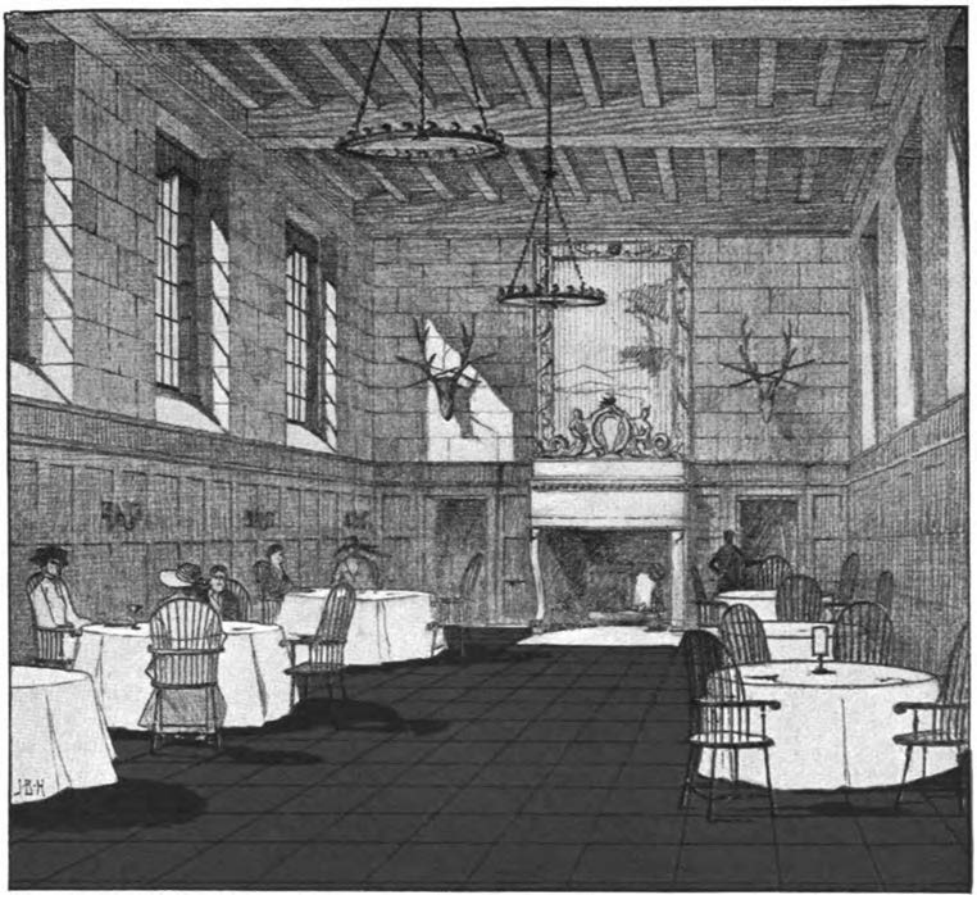
Linseed oil, although it is probably recommended more frequently than most of the other materials for moisture-proofing wood, was found in the absorption tests to be quite ineffective. Five coats of hot oil followed by two coats of floor wax failed to give any great protection.

Oil paints form a film over wood which is very durable even in exterior locations. Laboratory tests show, however, that such a film, although it may be continuous, does not prevent moisture changes in wood. Graphite paints and spar varnish are about as effective as the ordinary oil paints with the heavier pigments.

Cellulose lacquers rank somewhat higher than the foregoing in moisture-resistance. Considerable improvement can probably be effected in them by the addition of solids. They have the advantages that they are fast drying and that the films they form over the wood are very elastic.

Rubbing varnishes afford considerably more protection against moisture than do spar or long oil varnishes. The larger amounts of gum solids present in rubbing varnish probably account for their greater moisture resistance.

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Enduring Colors in Concrete Floors

WHY sacrifice beauty to get a lower cost? Why increase investment to secure attractive floors? Colormix floors are available at a price to accord with the careful buyer's purse.

Colormix Floors are Masterbuilt Floors, with all their wearproof, dustproof and waterproof qualities, produced in enduring colors: Tile Red, Linoleum Brown, Nile Green, Battleship Gray, Buff and White.

Colormix employs a new principle in coloring concrete. Dissolved in the gauging water of the floor topping, it dyes every particle of sand and cement a deep rich color. At the same time Colormix greatly increases the tensile and compressive strength, producing in one operation and at a comparatively low cost a hardened, non-fading concrete floor. Colormix Floors are the practical equivalent of floors built of far more expensive materials.

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Dimensions of Septic Tanks

Number Persons	Settling Chamber			Siphon Chamber								Siphon Diameter
				Sand Filter or Heavy Loam Distribution				Sandy or Porous Soil Distribution				
	Width Inside	Length Inside	Depth	Width Inside	Length Inside	Minimum Depth		Width Inside	Length Inside	Minimum Depth		
	Feet	Feet	Feet	Feet	Feet	Ft.	In.	Feet	Feet	Ft.	In.	Inches
6	4	6	3½	4	3	2	4	3	2	2	4	3
8	4	6½	4	4	4	2	4	3	2½	2	4	3
12	4	7	5	4	5	2	5	3	4	2	5	4
15	4	8	5	4	6	2	5	3	4	2	5	4
25	4	10	5	4	6½	3	2	3½	4	3	2	5
35	4½	12	5	4	6½	3	2	3½	4½	3	2	5

Enamel coatings made by the addition of pigments, such as barytes, to ordinary varnish are about as effective as rubbing varnish.

A bronze coating composed of a cheap gloss oil and aluminum powder proved in tests to be superior in moisture-resistance to any of the coatings mentioned above. This mixture is very fast drying; three coats can be applied in the course of half an hour.

The aluminum-leaf coating developed at the Forest Products Laboratory particularly for the protection of airplane propellers, is highly efficient in preventing moisture changes in wood. Such a coating can best be applied to large, unbroken surfaces. The laying of the leaf on small intricate parts or assemblies is less practical.

Some asphalt and pitch paints are highly moisture-resistant. They are rather cheap and may be applied almost any place where their color is not objectionable. Attempts to discover a means of covering asphalt and pitch paints with lighter-colored materials have thus far met with little success.

For temporary protection against moisture changes, vaseline smeared over varnish is one of the most moisture-resistant coatings yet tested. Another temporary protection, a heavy coat of paraffine, is about as effective as rubbing varnish. Neither of these temporary coatings could be used on surfaces subjected to wear.

The following table gives the results of moisture absorption tests on panels coated with the different preparations. The percentages are based on average amounts of moisture absorbed per unit surface area by coated and uncoated panels subjected to a humidity of 95 to 100 per cent for fourteen days.

Treatment	Percentage Efficiency
Aluminum-leaf process—asphalt paint base	98
Three coats spar varnish coated with vaseline	98
Three coats of asphalt paint	96
Aluminum-leaf process—spar varnish base	95
Aluminum-leaf process—cellulose lacquer base	94
Aluminum-leaf process—oil paint base	93
Three coats of aluminum bronze (quick drying)	92
A heavy coating of paraffine	91
Three coats of rubbing varnish	89
Three coats of enamel	88
Three coats of orange shellac	87
Three coats of cellulose lacquer	73
Sheet pyralin 5/1000 inch thick glued to wood	68
Three coats of graphite paint	61
Three coats of spar varnish	60
Three coats of white lead oil	54
Five coats of linseed oil applied hot and two coats of wax	38
No coating	00

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Long-Bell trade-marked timbers come from our own virgin forests.

Milled in our own mills, all operating under a uniform process.

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Timbers come either rough or surfaced four sides.

Unusual care in trimming.

Full length—size uniform in width and thickness.

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Minimum of labor necessary to put into construction.

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THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

The Fifty-sixth Annual Convention

The Pageant at the Lincoln Memorial

The Convention---As One Architect Saw It
HARRY F. CUNNINGHAM

The Present Situation in the Building Industry

Craftsmen---Machines---Credit---Speed
FREDERICK L. ACKERMAN

Arousing Public Interest in Architecture

Convention Notes

JUNE

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THE PAGEANT AT THE LINCOLN MEMORIAL

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JOURNAL OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Vol. XI JUNE, 1923 Number 6

The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER XIII.

The Garden City

THERE was a time a city some three hundred thousand strong stood beside the shore of a great and very wonderful lake with a wonderful horizon and wonderful daily moods. Above the rim of its horizon rose sun and moon in their times, the one spreading o'er its surface a glory of rubies; its companion, at the full, an entrancing sheen of mottled silver. At other times far to the west in the after-glow of sunset the delicate bright crescent poised in farewell slowly dimmed and passed from sight. Around this city, in ever-extending areas, in fancied semi-circles, lay a beauteous prairie, born companion of the lake; while within this prairie, at distances of some seven to twelve miles from the center of the Garden City, were dotted villages, forming also an open-spaced semi-circle, for each village nestled in the spacious prairie, and within its own companionable tree growth. To the north and west of the city there grew in abundance lofty elms and oaks; to the south the section-line dirt roads were double rowed with huge willows all swayed toward the northeast as the summer winds year by year had set them when sap was flowing strong; while scattered through this tract were ancient cottonwoods rising singly or in groups, in their immense and venerable strength. Further to the south, where the soil becomes sandy, there appeared fantastic dwarf pines and scrub oaks, while at the Lake Shore, neighboring them, stretched a mile or more of heavy oak groves that might be called a forest. Within it were winding trails; within it one seemed lost to the world.

The city itself was more than a large village—it was a village grown robust with an impelling purpose. In and near its central business district, residences held their own, and churches sent up their spires on Court House Square. There were few tramways. Horse-and-buggy was the unit; and on the Grand Boulevard fine victorias, blooded high-steppers noisily caparisoned in shining brass, liveried driver and footman, were daily on view to the populace—wealth was growing breathlessly. The business section passed insensibly into the residential, then began tree growth and gardens—the city bloomed in its season. In winter was the old time animation which came with heavy, lasting snows, with cutters, jangling bells, and horses of all shades and grades, and the added confusion of racing; for everybody who was anybody owned at least one horse.

And then again came equinoxial spring; crocuses appeared; trees, each after its kind, put forth furtive leaves; for "April Showers" all too often were but chilling northeast rains. Indeed there was no Spring—rather a wave-motion of subsiding winter and protesting summer. But in June the Garden City had come again into its own. From a distance one saw many a steeple, rising from the green, as landmarks, and in the distances the gray bulk of grain elevators.

The Garden City was triparted by a river with two branches; thus it had its three back yards of urgent commerce, where no gardens grew;—and as well its three shanty-towns.

On occasion, when a spell of hard weather had held the lumber fleet in port, one on watch might see the schooners pour in a stream from the river mouth, spread their wings, and in a great and beautiful flock, gleam in the sunlight as they moved with favoring wind, fan-like towards Muskegon and the northern ports.

The summer was dry. During September the land winds blew hot and steadily.

The legend has it that a small flame, in shanty town, destroyed the Garden City in two awful nights and days. The high winds did their carrier's work. The Garden City vanished. With it vanished the living story, it had told in pride, of how it came to be. Another story now began—the story of a proud people

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and their power to create—a people whose motto was "I will"—whose dream was commercial empire. They undertook to do what they willed and what they dreamed. In the midst of the epic of their striving, they were benumbed by the blow of a great financial panic, and when Louis returned from Paris the effect of this blow had not wholly passed—though the time was nearing. The building industry was flat. Finding thus no immediate use for his new-fangled imported education, and irking at the prospect of idleness, he bethought him to see what others might be doing in their lines, and at the same time get the lay of the land, something he had not found time to do during his first visit. Daily he made his twenty miles or more in the course of a systematic reconnaisance on foot. When this adventure had come to its end, he knew every nook and corner of the city and its environs, and had discovered undisturbed all that had formed the prairie setting of the living Garden City, and all that had remained undestroyed.

Curiosity seemed to be Louis's ruling passion; always he was seeking, finding something new, always looking for surprise sensations, always welcoming that which was fresh and gave joy to the sight. He had a skill in deriving joyful thoughts from close observation of what is often called the Commonplace. To him there was nothing commonplace—everything had something to say. Everything suggested it be listened to and interpreted. He had followed the branches of the Chicago River, had located the lovely forest-bordered River DesPlaines, and the old-time historic portage. Had read Parkman's vivid narrative of La Salle and the great Northwest, and his wonder stories of Marquette and Joliet, and he shared in mind the hardships of these great pioneers. Thus he came to know the why and wherefore of the City; and again he said: *This is the Place for me!* This remnant scene of ruin is a prophecy!

In a while the pulse of industry began the slow feeble beat of revival, and the interrupted story of imagination and will, again renewed its deep refrain in arousing energy. The Garden City had vanished with its living story. That tale could not be twice told; that presence could not be recalled. It had gone forever with the flames. Hence a new story must be told. Naught else than a new story could be told. Not again would the city be the same. It could not be the same—men could not now be what they were. It was the approach of this new story that excited Louis; he would bide his time. He worked briefly now, at intervals, in the office of this or that architect, until he had nearly covered the field. These men were mostly of the elder generation, whose venerable clients clung to them for Auld Lang Syne. They were men of homely make-up, homely ways. Louis found them very human, and enjoyed their shop-talk, which was that of the graduate carpenter. He did not demur because they were not *diplomés* of the Beaux Arts. He preferred them as they were; much of their curious wisdom stuck to him. They were men of their lingering day. To them Louis was a marvel of speed. Indeed one of the younger of them, who laughed like a goat, remarked to his partner: "That Irish-*man* has ideas!" He was a caustic joker and a man of brains, this same Frederick Baumann. Educated in Germany to the point of cynicism, he was master of one idea which he embodied in a pamphlet entitled "A Theory of Isolated Pier Foundations," published in 1873. The logic of this essay was so coherent, its common sense so sound, that its simple idea has served as the basis of standard practice continuously since its day. All honor therefore to Frederick Baumann, man of brains, exploiter of a new idea, which he made up out of his head. His vigorous years reached on to ninety-five, and as each one of them passed him by in defile, the world and its people seemed to his sharp, mirthful eye, to grow more and more ridiculous—a conviction that gave him much comfort as his vertebrae began to curve. Louis met him frequently of evenings, at the gymnasium, and liked to talk to him to get his point of view, which he found to be not bitter, but Mephistophelian. He was most illuminating, bare of delusion, and as time went on Louis came to regard him as a goat-laughing teller of truths out of school—but he, Louis, did not forget.

Reliable text books were few in those days. Due to this fact Louis made Trautwine's "Engineers' Pocket Book" his Bible, and spent long hours with it. The engineering journals kept close track of actual current doings, and thus Louis found himself drifting toward the engineering point of view, or state of mind, as he began to discern that the engineers were the only men who could face a problem squarely; who knew a problem when they saw it. Their minds were trained to deal with real things, as far as they knew them, as far as they could ascertain them, while the architectural mind lacked this directness, this simplicity, this singleness of purpose—it had no standard of reference, no bench-mark one might say. For he discerned that in truth the science of engineering is a science of *reaction,* while the science of architectural design—were such a science to be presupposed—must be a science of *action.* Thus Louis arranged in his mind the reciprocal values of the primary engineering and the primary architectural thought, and noted the curious antagonism existing between those who professed them. The trouble as he saw it was this: that the architect could not or would not understand the real working of the engineering mind because it was hidden in deadly literal attitude and results, because of the horrors it had brought forth as misbegotten stigmata; while the engineer regarded the architect as a frivolous person of small rule-of-thumb consequence. And both were largely right: both professions contained small and large minds—mostly small or medium. Nevertheless they were all

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human beings, and therefore all ridiculous in the Mephistophelian sense of Frederick Baumann.

About this time two great engineering works were under way. One, the triple arch bridge to cross the Mississippi at St. Louis, Capt. Eades, chief engineer; the other, the great cantilever bridge which was to cross the Chasm of the Kentucky River, C. Shaler Smith, chief engineer, destined for the use of the Cincinnati Southern Railroad. In these two growing structures Louis's soul became immersed. In them he lived. Were they not his bridges? Surely they were his bridges. In the pages of the Railway Gazette he saw them born, he watched them grow. Week by week he grew with them. Here was Romance, here again was man, the great adventurer, daring to think, daring to have faith, daring to do. Here again was to be set forth to view man in his power to create beneficently. Here were two ideas widely differing in kind. Each was emerging from a brain, each was to find realization. One bridge was to cross a great river, to form the portal of a great city, to be sensational and architectonic. The other was to take form in the wilderness, and abide there: a work of science without concession. Louis followed every detail of design, every measurement; every operation as the two works progressed from the sinking of the caissons in the bed of the Mississippi, and the start in the wild of the initial cantilevers from the face of the cliff. He followed each, with the intensity of personal identification, to the finale of each. Every difficulty encountered he felt to be his own; every expedient, every device, he shared in. The chief engineers became his heroes; they loomed above other men. The positive quality of their minds agreed with the aggressive quality of his own. In childhood his idols had been the big strong men who *did* things. Later on he had begun to feel the greater power of men who could *think* things; later the expansive power of men who could *imagine* things; and at last he began to recognize as dominant, the will of the Creative Dreamer: he who possessed the power of vision needed to harness Imagination, to harness the intellect, to make science do his will, to make the emotions serve him—for without emotion nothing.

This steadfast belief in the power of man was an unalloyed childhood instinct, an intuition and a childhood faith which never for a day forsook him, but grew stronger, like an indwelling dæmon. As day by day passed on, he saw power grow before his eyes, as each unsuspected and new world arose and opened to his wonder eyes; he saw power intensify and expand; and ever grew his wonder at what men could do. He came in a manner to worship man as a being, a presence containing wondrous powers, mysterious hidden powers, powers so varied as to surprise and bewilder him. So that Man, the mysterious, became for him a sort of symbol of that which was deepest, most active in his heart. As months passed and the years went by, as world after world unfolded before him and merged within the larger world, and veil after veil lifted, and illusion after illusion vanished, and the light grew ever steadier, Louis saw power everywhere; and as he grew on through his boyhood, and through the passage to manhood, and to manhood itself, he began to see the powers of nature and the powers of man coalesce in his vision into an IDEA *of power*. Then and only then he became aware that this idea was a *new idea,*—a complete reversal and inversion of the commonly accepted intellectual and theological concept of the Nature of man.

That IDEA which had its mystical beginning in so small a thing as a child's heart, grew and nurtured itself upon that child's varied consistently continuing and metamorphosing experiences in time and place, as has been most solicitously laid bare to view in detail, in the course of this recital. For it needs a long long time, and a rich soil of life-experience, to enable a simple, single idea to grow to maturity and solid strength. A French proverb has it that "Time will not consecrate that in which it has been ignored," while the deep insight of Whitman is set forth in the line, "Nature neither hastens nor delays."

Louis's interest in engineering as such, and in the two bridges in particular, so captivated his imagination, that he briefly dreamed to be a great bridge engineer. The idea of spanning a void appealed to him as masterful in thought and deed. For he had begun to discern that among men of the past and of his day, there were those who were masters of ideas, and of courage, and that they stood forth solitary, each in a world of his own. But the practical effect of the bridges was to turn Louis's mind from the immediate science of engineering toward science in general, and he set forth, with a new relish, upon a course of reading covering Spencer, Darwin, Huxley, Tyndall, and the Germans, and found a new, an enormous world opening before him, a world whose boundaries seemed destined to be limitless in scope, in content, in diversity. This course of reading was not completed in a month, or a year, or in many years; it still remains on the move.

What Louis noted as uppermost in the scientific mind, was its honest search for stability in truth. Hitherto Louis had regarded his mathematics as an art; he had not followed far enough to see it as a science. Indeed he had hitherto regarded every constructive human effort as an art, and to this view he had been held through the consistent unfolding of the Idea. Inevitably this view was to return in time; through the channels of science itself. For that which at once impressed Louis as new to him and vital, was what was known as *"The Scientific Method."* He saw in it a power of solution he long had fruitlessly been seeking. His key to an outlook took shape in

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the scientific method of approach to that which lay behind appearances; a relentless method whereby to arrive at the truth by tireless pursuit. He now had in his hands the instrument he wanted. He must learn to use it with a craftsman's skill. For the scientific method was based on exact observation from which, by the inductive system of reasoning, an inference was drawn, an hypothesis framed, to be held tentatively in "suspended judgment" until the gathering of further data might raise it to the dignity of a theory, which theory, if it could stand up under further rigorous testing, would slowly pass into that domain of ordered and accepted knowledge we fondly believe to be Truth. Yet science, he foresaw, could not go either fast or far were it not for Imagination's glowing light and warmth. By nature it is rigid and prosaic—and Louis early noted that the free spirits within its field were men of vision—masters of imagination, men of courage, great adventurers—men of one big, dominant idea.

* * *

In the course of Louis's daily working life, conditions were steadily improving. His engagements in offices grew longer, he began to prosper. The quality of work was improving. He had passed the day of his majority, and was now looking out for himself. His success in this regard made him proud. He was a man now, and he knew it. He knew he was equipped to hold his own in the world. He had made a reputation as a worker, and consorted now with a small aristocratic group of the highest paid draftsmen. They met at lunch in a certain favored restaurant. They talked shop; but Louis kept his major thoughts to himself. His plan was, in due time to select a middle-aged architect of standing and established practice, with the right sort of clientele; to enter such an office, and through his speed, alertness and quick ambitious wit, make himself so indispensable that a partnership would naturally follow. But this was merely a broad plan. He had no direct selection in mind, but was looking the field over from the corner of his eye. He was in no hurry. He believed in the motto: "Be bold but prudent." He wished events to shape themselves.

Now John Edelmann returned. During the dull spell he had been away in Iowa trying to play the game of farming. The game played him instead. He showed up at lunch one winter day, clad *à l'outrance* as a farmer, for his usual theatrical effect. Instantly the room was filled with sound as he lustily proclaimed the joys of farming in Iowa, twenty miles from nowhere.

He entered the architectural office of a firm named Burling & Adler. The single, very large square office room he flooded with language: he literally "ate up" the work, as he spouted. Naturally he joined the aristocratic lunch-club, and made things lively. As usual he monopolized the conversation, unless rudely interrupted. One need not surmise to whom the sound of his voice was music from the spheres. He cut loose on his latest fad—single tax—and lauded Henry George in superlatives. He drew the long bow, he colored all things rosy, told Irish stories well in the broad brogue, and on the whole was a nuisance —entertaining and agreeable.

One day, after lunch, John asked Louis to come over to the office to meet Adler, of whom he had spoken at times. Louis went along to please John. They entered the large bare room, drawing tables scattered about; in the center were two plain desks. Those who had business came and went unceremoniously. Both partners were present and busy. Louis thus had time to size them up. Burling was slouched in a swivel chair, his long legs covering the desk top; he wiggled a chewed cigar as he talked to a caller, and spat into a square box. He was an incredible, long and bulky nosed Yankee, perceptibly aging fast, and of manifestly weakening will—one of the passing generation who had done a huge business after the fire, but whom the panic had hit hard.

Further away stood Adler at a draftsman's table, full front view, well lighted. He was a heavy-set short-nosed Jew, well bearded, with a magnificent domed forehead which stopped suddenly at a solid mass of black hair. He was a picture of sturdy strength, physical and mental.

Louis was presented first to Burling who reached out a hand and said: "Howdy," in the distrait manner age so frequently bears toward strangely sprouting incomprehensible youth, separated by the gulf of years. Next, John led Louis to Adler whose broad serious face, and kindly brown efficient eyes, joined in a rich smile of open welcome. It did not take many ticks of the clock to note that Adler's brain was intensely active and ambitious, his mind open, broad, receptive, and of an unusually high order. He was twelve years Louis's senior, and in the pink of condition. Louis was of the exuberant age. Adler thought highly of John. The talk was brief and lively; Adler said nice things, questioned Louis as to his stay at the Beaux Arts. The little talk ended, Louis left, John remained in his preserve. This was the last that Louis saw of Adler for many moons. He was pleased to have met him and to have reason heartily to respect his vigorous personality. But he was no part of Louis's program, hence he soon faded from view, and became almost completely forgotten. Louis was satisfied with things as they were going. He was ambitious but cautious; he was waiting for the right man to show up. He did not remain too long in any one place, and each time increased his salary.

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Meanwhile his days were for work; his nights for study, for reflection, and gradual formulation of ideas subsidiary to the main Idea he was consciously now working out alone. This form of solitude did not disturb him. He saw that a *Clopet demonstration* meant a matter of years of work and growth. He was disturbed, however, by the elusive quality of the main thought he was pursuing, which seemed to recede and grow larger even as he grew abler to deal with it.

On a recent Christmas his father had given him a copy of John Draper's work on "The Intellectual Development of Europe," in two volumes; still a notable work of the day. This he read and reread with absorbing interest: passing over its controversial trend; for the "war between science and religion" as it was called, was still raging. The broad division of the work into an "Age of faith," and an "Age of reason" held his interest, as he saw set forth the emergence and the growth of science as the spirit of man sought and found freedom in the open. This coincided with his own belief, that man's *spirit* must be free that his *powers* may be free to accomplish in beneficence. He had discovered, to his annoyance, that in the architectural art of his day, the spirit of man was not free, nor were his powers so liberated and so trained that he might create in beneficence. Not only this, but that for centuries it had been the case that the art had been belittled in superstitions called traditions—and lived on by virtue of a thin and baseless faith—and John Edelmann's theory of *suppressed functions,* recurred to him as broadly set forth, in confirmation, in Draper's heavy work. Further than this, Louis felt as a result of reading Draper, that his thoughts concerning architecture must broaden into a perfected sympathy with mankind. That Man, past and present, must and would become more and more significant, would be found to have filled a greater rôle than any art, than any science. That man, perhaps and probably was the only real background that gave distinction to works appearing in the foreground as separated things. Or perhaps was it the invisible spirit of mankind that pervaded all things, all works, all civilizations, and informed them with the sense of actuality? That his, Louis's true work, was now and henceforth to lie in the study of what man now thought, and had thought through the centuries. Thus the task for him grew larger, and the time required, longer—for he was still in the plastic formative groping stage.

In Darwin he found much food for thought. The Theory of Evolution seemed stupendous. Spencer's definition implying a progression from an unorganized simple, through stages of growth and differentiation to a highly organized complex, seemed to fit his own case, for he had begun with a simple unorganized idea of *beneficent power,* and was beginning to see the enormous complexity growing out of it, and enriching its meaning, while insistently demanding room and nurture for further growth, until it should reach that stage of clarity through the depths of which the original idea might again be clearly seen, and its primal power more fully understood. Thus, Louis, while still in a haze, felt the courage to go on. He had been reading the works of men of matured and powerful thought, 'way beyond his years: but what he could grasp he hung on to. He felt the enthusiasm of one who is on the way, and who senses that his goal is real.

* * *

One day John Edelmann, who meanwhile had entered into a partnership with a man named Johnson, who did school work, sent for Louis to come over that evening—said he had something to say. And this was his story: That Adler had cut loose from Burling, set up independently, and, in collaboration with George A. Carpenter, a resourceful promoter, had put through the New Central Music Hall, now nearing completion, and had other work on hand. The time was early in 1879. John urged that this was Louis's opportunity. That Adler had all the strong points, but was feeble in design and knew it. That he had talked the matter over several times with Adler, that Adler was cautiously and eagerly interested, but timid in making advances. Louis saw the point at once. So they made a second call on Adler. There ensued a mutual sizing up at close range, very friendly indeed. And it was then and there agreed that Louis was to take charge of Adler's office, was to have a free hand, and, if all went well for a period, and they should get along together, there was something tangible in the background. Louis took hold and made things hum. Soon there came into the office three large orders; a six-story high grade office building—the Borden Block; an up-to-date theatre, and a large substantial residence. Louis put through this work with the efficiency of combined Moses Woolson and Beaux Arts training. It was his first fine opportunity. He used it. He found in Adler a most congenial co-worker, open-minded, generous-minded, quick to perceive, thorough-going, warm in his enthusiasms, opening to Louis every opportunity to go ahead on his own responsibility, posting him on matters of building technique of which he had a complete grasp, and all in all treating Louis as a prize pet—a treasure trove. Thus they became warm friends. Adler's witticisms were elephantine. He said one day to Louis: "How would you like to take me into partnership?" Louis laughed. All right, said Adler, draw up a contract for five years, beginning first of May. First year you one third, after that, even. Louis drew up a brief memorandum on a sheet of office stationery, which Adler read over once and signed.

On the first day of May, 1880, D. Adler & Co.

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moved into a fine suite of offices on the top floor of the Borden Block aforesaid. On the first day of May, 1881, the firm of Adler and Sullivan, Architects, had its name on the entrance door. All of which signifies, after long years of ambitious dreaming and unremitting work, that at the age of 25, Louis H. Sullivan became a full-fledged architect before the world, with a reputation starting on its way, and in partnership with a man he had least expected as such; a man whose reputation was solidly secured in utter honesty, fine intelligence and a fund of that sort of wisdom which attracts and holds. Between the two there existed a fine confidence and the handling of the work was divided and adjusted on a temperamental basis—each to have initiative and final authority in his own field, without a sharp arbitrary line being drawn that might lead to dissension. What was particularly fine, as we consider human nature, was Adler's open frank way of pushing his young partner to the front.

Now Louis felt he had arrived at a point where he had a foothold, where he could make a *beginning* in the open world. Having come into its responsibilities, he would face it boldly. He could now, undisturbed, start on the course of practical experimentation he long had in mind, which was to make an architecture that fitted its functions—a realistic architecture based on well defined utilitarian needs—that all practical demands of utility should be paramout as basis of planning and design; that no architectural dictum, or tradition, or superstition, or habit, should stand in the way. He would brush them all aside, regardless of commentators. For his view, his conviction was this: that the architectural art to be of contemporary immediate value must be *plastic;* all senseless conventional rigidity must be taken out of it; it must intelligently serve—it must not suppress. In this wise the forms under his hand would grow naturally out of the needs and express them frankly, and freshly. This meant in his courageous mind that he would put to the test a formula he had evolved, through long contemplation of living things, namely that *form follows function,* which would mean, in practice, that architecture might again become a living art, if this formula were but adhered to.

The building business was again under full swing, and a series of important mercantile structures came into the office, each one of which he treated experimentally, feeling his way toward a basic process: a grammar of his own. The immediate problem was increased daylight, the maximum of daylight. This led him to use slender piers, tending toward a masonry and iron combination, the beginnings of a vertical system. This method upset all precedent, and led Louis's contemporaries to regard him as an iconoclast, a revolutionary, which was true enough—yet into the work was slowly infiltrated a corresponding system of artistic expression, which appeared in these structures as novel, and to some repellent, in its total disregard of accepted notions. But to all objections Louis turned a deaf ear. If a thousand proclaimed him wrong, the thousand could not change his course. As buildings varying in character came under his hand, he extended to them his system of form and function, and as he did so his conviction increased that architectural manipulation, as a homely art or a fine art must be rendered completely plastic to the mind and the hand of the designer: that materials and forms must yield to the mastery of his imagination and his will; through this alone could modern conditions be met and faithfully expressed. This meant the casting aside of all pedantry, of all the artificial teachings of the schools, of the thoughtless acceptance of inane traditions, of puerile habits of uninquiring minds; that all this mess, devoid of a center of gravity of thought, and vacant of sympathy and understanding, must be superseded by a sane philosophy of a living architecture, good for all time, founded on the only possible foundation—Man and his powers. Such philosophy Louis had already developed in broad outline in the course of his many dissatisfactions and contemplations. He wished now to test it out in the broad daylight of action, and to perfect its form and content. This philosophy developed will be set forth in these closing chapters.

It is not to be supposed that Louis arrived directly at results as though by magic. Quite the contrary, he arrived slowly though boldly through the years, by means of incessant thought, self correction, hard work and dogged perseverance. For it was his fascinating task to build up a system of technique, a mastery of technique. And such system could scarcely be expected to reach its fullness of development, short of maturity, assuming it would reach its fullness then, or could ever reach it; for the world of expression is limitless: the theory so deep in idea, so rich in content, as to preclude any ending of its beneficent, all inclusive power. And we may here recall Monsieur Clopet, the book of descriptive geometry that went into the waste basket, and the thunderclap admonition: "Our demonstrations shall be such as to admit of no exception."

(*To be continued*)

Photographs of the Pageant

The frontispiece of this issue gives a very fine picture of the arrangement of the pageant held at the Lincoln Memorial, 18 May last, on the occasion of the presentation of the Institute Gold Medal to Mr. Henry Bacon.

Enlargements are being prepared and by the time this notice appears will be ready for sale. The price is $5.00 each and orders should be sent to the office of the JOURNAL.

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The Convention---As One Architect Saw It

There are two ways in which the Fifty-sixth Annual Convention of the American Institute of Architects may be reported—both of them correct and complete. I am going to give you both, and I would suggest that you use them both.

Firstly, it can be done briefly, clearly and without too much uninteresting detail. Thus: *"C'est fini."*

Secondly, it can be done in detail, not so clearly, not so briefly, and quite uninterestingly. Here goes:

At about 10 a.m. on the morning of the 16th of May in this nineteen hundred and twenty-third year of our Lord, there gathered together, in the Hemicycle of the Corcoran Gallery of Art in our good City of Washington, the following distinguished persons:

The President of the Institute,
The Secretary, the Treasurer,
The New York Chapter,
Mr. Holsman of Chicago,
Eddie Kemper,
Mr. Granger's Straw Hat from Panama,
Whitaker's neckties from Heaven knows where,
the Howling mob and Mr. Knickerbacker Boyd.

Among the Howling Mob one noticed a sprinkling of Decorated Hospital Builders, and a number of undecorated ex-Soldiers. Some Ladies were present also, so the Mob took off its hat.

The Usual Gangs were there, and a few—a very few—new ones who will be very glad to leave it to the Usual Gangs entirely, in the future.

The party opened in very impressive style with three raps on the table of a mallet 150,000 years old (don't miss a zero). It made one think of the story in the Bible about the bird that "beaned" a Lion or something with the Jaw-bone of a very old Dinosaurus. Thus impressively rapped, the curtain went up and the War was on. The President made a speech and was applauded so that the welkin would have "rang" had it been there. He appointed a Resolutions committee consisting of Mr. Maher of Chicago, Mr. Hunt of California (no relation to Helen) and Mr. Levi's Sociable Smile.

The Treasurer waded through a lengthy report on FINANCE but did it so gracefully that not even the soles of his feet were wetted. This matter, frequently so sad, was so delicately handled by the master that all eyes stayed as dry as the throats that went with them. His only *faux pas* was his courteous objection (which had no weight) to smoking.

The Secretary presented the voluminous report of the Board of Directors so beautifully that no one went to sleep, and very few went out. Several times later in the Convention, the Secretary proved that "they can come back" by dragging this same report out piecemeal and moving Mr. Holsman to speech.

After several hours of daylight spending in the accomplishment of nothing, the Convention adjourned to the Hotel Washington where a fair Dollar Luncheon was served for Two Dollars.

At 2:00 p.m. the War was resumed, but in a more peaceful and enlightening fashion—Mr. Sturgis in the Chair.

Professor Edgell, Dean of the Architectural School at Old John Harvard's Wayside Tavern, spoke about the value of collaboration by and between artists themselves, as well as between Artist and the Philistine Flock. He was good.

Professor Baldwin of Columbia University said he was embarrassed, but he wasn't, and he spoke very well and was much applauded. He was followed by Professor Langfeld, of Harvard. This gave Harvard the "edge" on the Afternoon's entertainment. (Ex-Harvard Rah-Rah's please note). He handed us some "Deep Stuff" but its very depth made it good. For a moment he got real good and modern and transposed some literature into Greenwich Village Verse.

All three of these Speakers quoted St. Paul (not the one across from Minneapolis—the other one). I'll bet that you will agree with me that he was a smart old bird, and were he living in the flesh today, he would not be an Architect, nor a Professor, nor even an Editor. He'd be a Banker, or a short story writer, or a Movie Director.

And then Mr. Jenkins of the *Atlantic Monthly* really said something. He Spoke about PEOPLE—regular people—and it was darn good.

The entire text of the afternoon's addresses should be published in the Journal. If you have to wash out some advertisements to make room for them, chloroform the Treasurer and do it.

In the evening, dear old Doctor Walker proved that America, in spite of herself—in spite of Americans, is producing the world's best Architecture. And fearing that mere words were not enough, he proved it further with pictures.

On the second day, everybody got up late and the ball started rolling (to gather more moss) at 10:30. Not everyone was there even at that very late hour, but the New York Chapter was there, so things were started. A venerable member, Mr. Bruce of the Class of '73, who said he was eighty-eight years young, was received with much applause. I noticed frequently that any diversion from routine bunkum received *much applause*. Mr. Glenn Brown was also presented to the Convention and received with much applause. Dear Mr. Brown was "routine" for a good many years and really did more than anyone else toward starting the routine routining properly—but he is just a *chèr confrère* now, like anybody else.

The nominations were then read out, and each one was promptly closed by the New York Boys before anyone else knew what it was all about. Mr. Holsman beat the New Yorkers to it for *one time* and objected to the omission of Mr. Garfield's name from the ballot. Mr. Garfield rose to the occasion and over-ruled Mr. Holsman's objection.

Colonel Wood, of the Army—and the Washington, D. C., Chapter, reported for the Committee on Cre-

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dentials in strict accordance with Major Moss' book on Army Paper-work.

Mr. Knickerbacker Boyd got one in edgewise along about here, but the eighteen New Yorkers picked up the floor and walked off with it, so Mr. Boyd's edge was soon dulled.

Mr. Lubschez gave the Delegates a Drawing Board Method for getting a Perspective on the operations of the Press, at this point—and it worked out so the Press has $200 and Charlie Whitaker. Almost, but not quite, a One Point Perspective.

Mr. Whitaker was then looked for, called for, and waited for, and after a proper delay, to give the thing atmosphere, in he comes—Hat, Stick, Niftie Necktie and all.

After this flight into the realms of fiction and fancy, Mr. Zantzinger reported on the activities of the Education Committee. His accent was beautiful—it is delightful to learn that the "Land of Nod" can produce such an accent. He had so many interruptions, however, that his report looks better in the OFFICIAL MINUTES than it sounded.

One of the interruptions took the form of Mr. Greenley, who deprecated Straw Hats at the Pageant.

Mr. Van Pelt stole a few minutes to report on the Committee of Public Information—and then Mr. Brown, Minneapolis Brown, reminded the Delegates of the Small House Bureau and gave everybody a book to copy Small Houses out of. NOTE: Don't let your Clients—or prospective Clients—see this book. It is too good.

And at 12:45 the Convention was adjourned until the afternoon. No objections were raised to this.

Some members may have gone to the Washington Hotel for Luncheon—your correspondent did not—he could not see the Two Berries necessary. So if anything of moment happened there—which is altogether unlikely—it will have to go unrecorded.

The afternoon session commenced at 2:45. An argument was almost started regarding some proposed action on the Report of Mr. Brown's report—but it died in its youth—Mr. Holsman was not back from Luncheon.

There was some discussion of something relative to the Board of Jurisdictional Awards. There may be readers who are familiar with this apparently important affair. It is known to have occupied a great deal of the time and thought of a very distinguished member. Those practitioners who are in this "neck of the woods" know little about it, and doubtless transgress unknowingly, many of its decisions. Therefore, it is obviously a good thing—

Mr. Brown (Small House Brown) spoke, or rather reported about a "Basic Building Code." The name is good—all Building Codes are base affairs but provide little base to build on.

Mr. Hewitt reported on Competitions, which the Institute has been conscientiously, for years, endeavoring so to arrange as to keep out the Young Architect full of Enthusiasm and Ideas—in order that he may not "show up" the Old Architect full of Experience and Habit.

At this point the distinguished Secretary made a Bright Remark—as follows: "Mr. President: if we cannot find some contentious subject, I fear that we will be through with our business this afternoon." That was Mr. Holsman's cue—and he arose to the occasion most nobly—your correspondent is despondent over the fact that he cannot remember the particular thing Mr. Holsman was up in arms about at that time.

And finally the afternoon wore itself down to the point where a nap was possible, desirable, and enjoyable.

There were reams and reams, and encore, of Structural Service and Serviceable Structures and all the other things you can buy books about.

Mr. Voorhees laid the Foundation—Mr. Sullivan Jones dragged Old Terra Cotta on to the field—Mr. Brown (not of Minneapolis, but of the Bureau of Standards) poured some concrete slabs—Mr. Whitney, Chairman American Engineering Standards Committee did some more of the same—and the Structure being thus nearly achieved, Mr. Sullivan Jones wrote some specifications—and a real electric thrill was added by Mr. Lyman Clark of the General Electric Company.

After an afternoon of such Passionate Practicality every one—most every one—wanted to go home and take a bath. But the fates willed otherwise and the afternoon was extended into the evening with discussions concerning whether or not there was anything further to discuss. It was finally concluded at five-thirty.

The evening session was called to order at 9:00 p.m. by Mr. Russell. The President of the Institute was presented and our distinguished leader presented Medals to Mr. Arthur Matthews of San Francisco for excellent work in Painting—and to Mr. Frederick W. Goudy of New York for his beautiful work in the design and execution of Printing Types. Mr. Faville's remarks were particularly beautiful and Mr. Goudy's response—in which he laid a large proportion of his success to the collaboration of Mrs. Goudy—was very lovely.

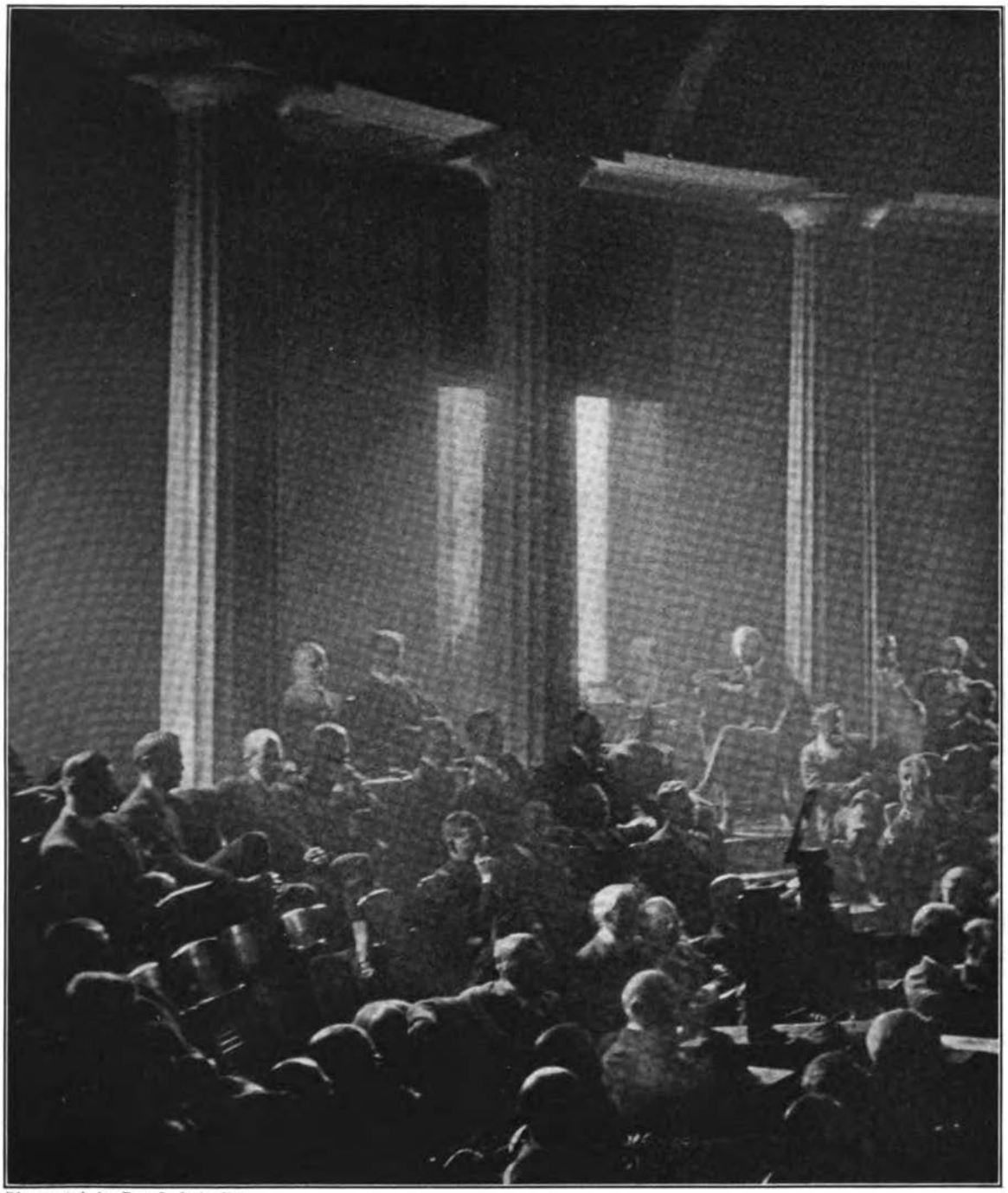
Mr. Hewlett made an address on the "Architect's Responsibility in the Development of Industrial Art," and proved, to the delight of his audience, that he is just as skillful with words—and thoughts—as he is with Color, Texture, Light, Proportion and all the other components of Beauty whose apt Apostle he is. Your correspondent has hoped for many things in his day—but he hopes more than he has ever hoped anything else, that Mr. Hewlett's address be given the widest possible circulation among Architects and Craftsmen and Manufacturers.

In Commemoration of the 200th Anniversary of Sir Christopher Wren's death, Dr. Walker made a masterly address which did equal honor both to the Subject and the Speaker. The audience stood with bowed heads at the request of the Chairman, when Dr. Walker's tribute was concluded, in testimony of its respect for the Great Architect and Greater Man whom Dr. Walker had portrayed, and the session was adjourned at 10:45 p.m.

The *third and last day* opened auspiciously, both as regards the weather, which augured well for the evening (if one did not know Washington), and as regards the President's announcement that there was very little business still to do—or undo.

Mr. Parker and Mr. Boyd occupied the morning with

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Photograph by Ben J. Lubschez

THE FIFTY-SIXTH ANNUAL CONVENTION IN THE HEMICYCLE, CORCORAN GALLERY, WASHINGTON

the very important question of Industrial Relations. There is, however, very little for your correspondent to relate in this connection. Brigadier General R. C. Marshall reported to the Convention the meeting of the American Construction Council recently held in New York.

Mr. Totten, of Washington, made a very interesting report on the last International Conference of Architects, held last year in Brussels—to which Conference Mr. Totten was the Institute's Delegate. It was voted at this conference that its next reunion would take place somewhere in America, in May, 1925.

Mr. Van Pelt made an announcement and a vote was called for relative to the placing of a loan on the Octagon Property.

This proposition called forth so much discussion that

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your correspondent is unable to find, either in his memory, or in the Official Record of the Convention, just exactly what was voted on. Anyway, the Ayes had it.

The Treasurer made a few remarks in the effort to insure that the Convention fully appreciated the generous gift of $5,000 to furnish the Board Room at the Octagon House, made by the Allied Architects Association of Los Angeles. Although there seemed to be some reluctance on the part of the Delegates to accept this Noble Gift, there was no question about their thoroughly appreciating it.

There was some discussion about the fact that some Architects seem to be inclined to advertise. There is such a narrow margin of profit in this Pleasant Pastime which is such Bum Business, that it is difficult to understand that any Practitioner would endeavor, through advertising at any rate, to increase his tendency toward Bankruptcy. It seems they do it though—especially in the South.

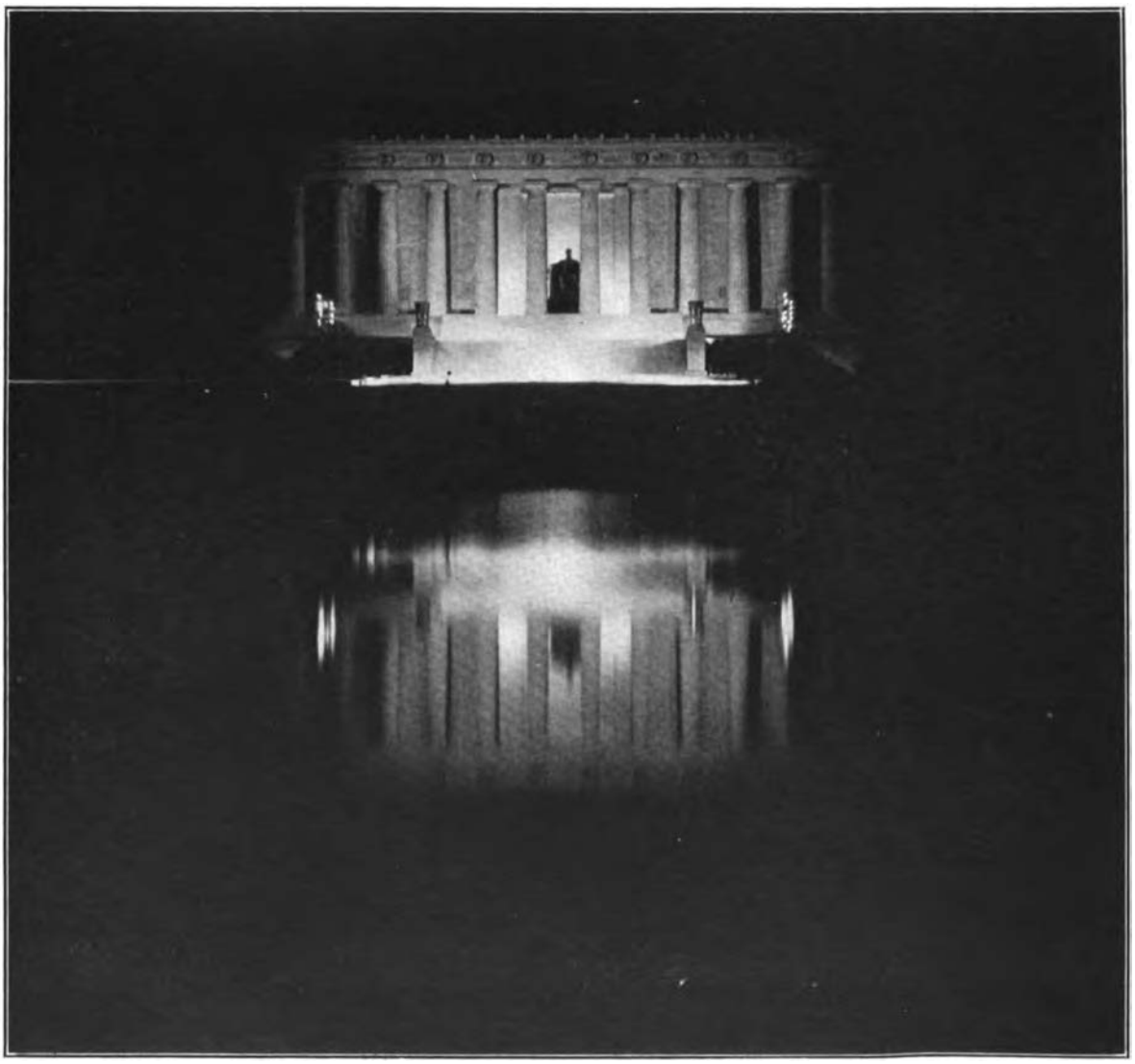
Mr. Barber of New York, wanted to get all the Architects in the Country into the fold—meaning the Institute. He did not specifically state whether or not he wants those in the City, too. If this latter is true, and all those in the BIG CITY are dragged in—New York will own the future Conventions Lock, Stock and Barrel. Ye Gods ! ! ! ! ! !

Mr. Goldsmith of Kansas said there are still some people in Kansas who eat peas with a knife. Do they have knives with raised edges, or do they mash the peas first?

Hereupon the President expressed the fear that Mr. Boyd might return and start something, and the session was adjourned at 1:30.

In the Evening—Without Moonlight

In a Marquee, at the end of the Reflecting Pool—with Mr. Bacon's beautiful Masterpiece at the other end—the Convention came together again. The Marquee was



THE ILLUMINATION OF THE LINCOLN MEMORIAL JUST BEFORE THE ARRIVAL OF THE PAGEANT

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built by the hand of man (the George A. Fuller Co., directed by Irving Porter of the Washington, D. C., Chapter)—and the whole picture and what was to follow was born in the Brains of two men (Monroe Hewlett and Howard Greenley)—but Beauty had sent her Spirit to sit with us, and she had cast her Mantle over and round about us—and it did not seem to be a Man-made or Man-thought thing at all. Little shivers still run up and down my spine every time I think of it.

The Dinner, of course, was only incidental. A number of *imported* Washingtonians had felt called to come in on the open side of the Marquee and sit at table, so that many who had paid for tickets—meal tickets—had to stand in the sand and see, smell and hear, but never taste. Your correspondent was one of these—and did not miss the dinner, as such, at all. The remarks made by various distinguished Officers and Guests of the Institute were doubtless very inspiring—you will have to turn to the Official Record for those. Before they came to pass, I was called to the Memorial by Mr. Greenley to take care of the Public and certain Very Distinguished Persons who were to arrive.

It had started to rain—and the old habits of thought made one wish it otherwise. Later developments proved, at least to me, that Beauty had not left us—but had rather sent her Twin Sister in the shape of rain, to increase the effectiveness of the Spectacle.

From the steps of the Memorial, where your correspondent had to take his post, the Marquee at the other end of the Pool looked like one of Hiroshige's prints—except that one could distinguish no detail. The Marquee was faintly visible as a long low line of soft light—with three triangular accents where the big Lanterns were hanging. The lovely music of the Marine Band came softly across the smooth water. Everything was smooth and still and fairylike. People came and had to be seated—but one was not conscious that they were people. The soft kindly rain seemed to *flutter* down, hesitate, and then lay itself softly on the paving. All who were there unconsciously spoke in whispers—and that is a significant thing.

At one stage in the dream, a portly gentleman appeared from nowhere in particular, and the chief usher directed him in a whisper, to a seat on the right. The portly gentleman came out of the dream and was discovered to be Mr. Taft, Chief Justice of the Supreme Court of the United States. He smiled—he can do it so beautifully. The usher apologized for the informality of his reception and informed the Chief Justice that he was expected to come "in a burst of Glory"—"No," said Mr. Taft, "I came in a Dodge."

A little later a fine big car, brilliantly lighted and very real, came up to the foot of the steps and the Dream having been suspended for the moment in the usher's mind, the President of the United States was properly received. He was escorted up the steps of the Memorial and between the two central columns he awaited the arrival of the Pageant—or should one say, he awaited the climax of the Picture. There appeared away off, at the far end of the Pool, a little speck of light that separated itself from the luminous line of the Marquee. Slowly—oh, so slowly, it seemed—it grew bigger and perhaps brighter. There was music—beautiful music—soft and slippery like the rain. Presently one could distinguish a colored form behind the speck of light that was coming toward us. It seemed to me that the Universe had somehow grown tremendous and there were only two or three things in it. I *felt* the quiet, kindly man behind me—I *saw* two persons standing near—I *sensed* rather than felt or saw, a glowing, burning something that came quietly and surely on, and on, and seemed ready to burst—but without noise, without any noise whatever.

The burning, glowing something grew bigger, and brighter, and stopped ! ! ! One had not yet *seen* or *felt* that anything had been, or could be, added to the tremendous, silent Completeness that was over all. Suddenly—and it was very sudden and unexpected—the Something did burst, and there at one's feet—from nowhere—was Color, and yet no Noise. Then People began to speak and the Spell was broken. And so the Fifty-sixth Annual Convention of the American Institute of Architects was brought to a close. Opened with a mallet 150,000 years old, it was concluded with a glimpse of that Beauty that was born with the Worlds and will die with Time.

HARRY F. CUNNINGHAM.

The Journal Book Shop

In connection with the Convention the JOURNAL had a small book shop where the delegates spent a good many hours in looking over both old and new books. They also bought out our entire stock, before the convention was over, so we are happy to record an auspicious beginning.

The JOURNAL's Book Shop has started in a very modest way, and really as a part of its general publishing business, the extent of which is not generally realized. The venture began with "City Planning Progress," now long out of print and scarce. It was followed by "What is a House" (out of print); "The Housing Problem in War and Peace" (out of print); the "Structural Service Book" (a few copies remaining); "The Handbook of Professional Practice," now in its second edition, and by numbers of pamphlets. The Press of the A. I. A. also published Mr. Lubschez's "Over the Drawing Board," of which a second edition is now in preparation.

Very soon we shall bring out in book form "The Autobiography of an Idea," by Louis H. Sullivan, together with a portfolio of twenty drawings recently executed by him for the Burnham Library in Chicago as a record of his theories of the evolution of ornament. In connection with foreign publishers several American editions of important architectural books are under negotiations, and within a year, it is expected to bring out other works by American authors. (See the Advertisement on page XXI.)

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The Beguinage at Bruges

Six Photographs by F. R. YERBURY

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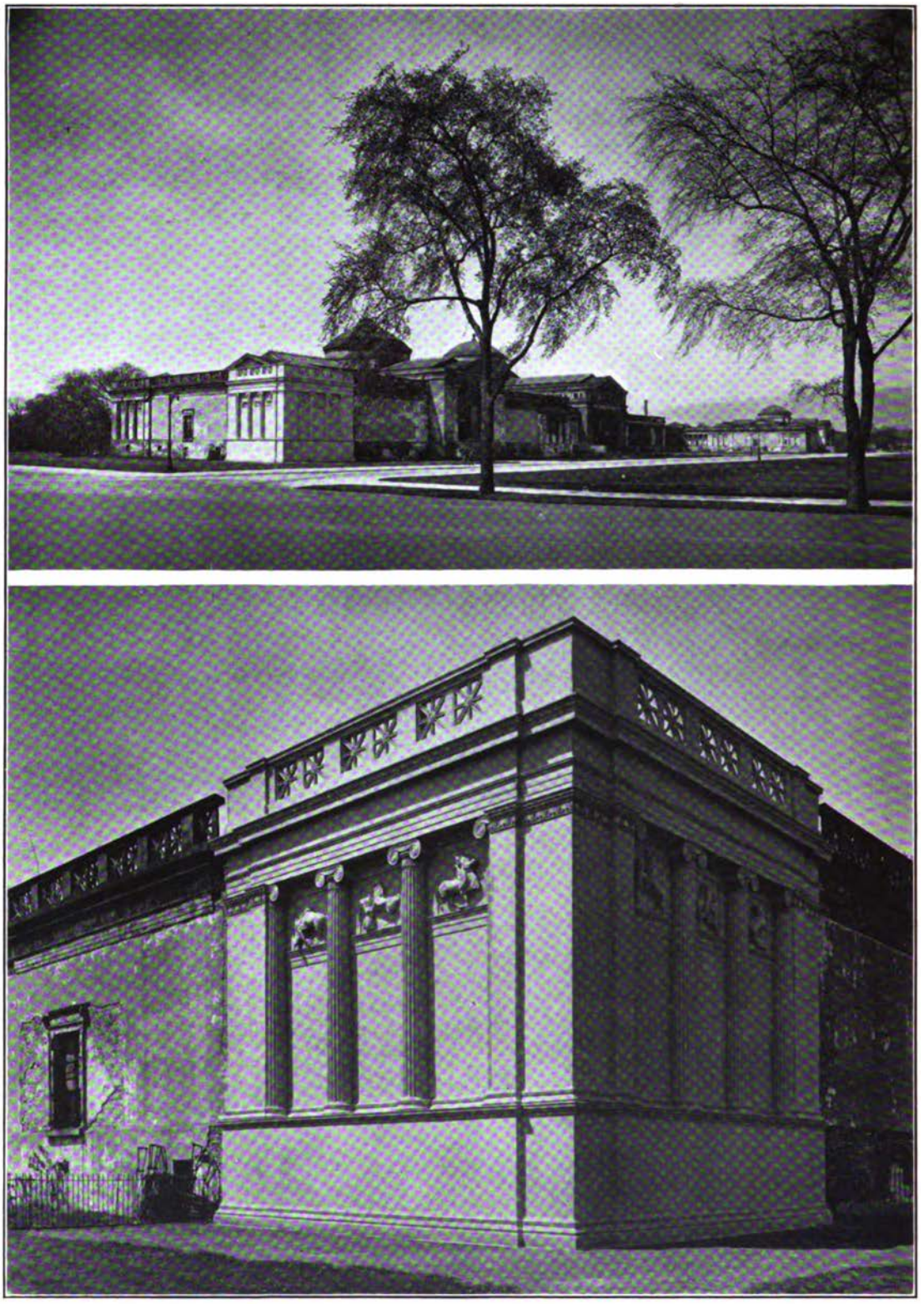
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THE FINE ARTS BUILDING, JACKSON PARK, CHICAGO

Showing the Restoration of the Northeast Corner. See page 254; also the JOURNAL for April and May, 1922, showing the Unrestored Corner.

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The Present Situation in the Building Industry

At the recent Convention of the American Institute of Architects in Washington, a paper was presented by General Marshall of the Association of General Contractors. It is of such interest that we print it at once, although it will appear in the Proceedings of the Convention. To a great many people it will appear that the contractors are beginning very slowly to grasp some of the fundamentals underlying what we call our problems. In that connection we print, immediately following General Marshall's paper, a contribution from Mr. Ackerman. It seems to the editor of the JOURNAL that the two papers supplement each other admirably, for although Mr. Ackerman probes much deeper and gives us the benefit of long years of patient study and reflection, the outstanding phenomena revealed by General Marshall are necessary factors in trying to appraise the situation as it exists.

Outline of Present Construction Situation for Discussion by the American Construction Council, 16 May, 1923[1]

The fear voiced some months ago by representatives of the construction industry, that the country's building activity was progressing at an over-rapid pace, and that soon this condition must precipitate a depression, is being borne out by developments within the industry today. Not only contractors, manufacturers and producers of the basic materials, but also leaders of labor have apparently come to realize that if the demand for new structures continues throughout the year at its present rate, production facilities, both in the basic industries and in the field operations of construction, will be inadequate, and that as a result of this condition the cost of construction will shortly mount to a prohibitive level.

The opinion here expressed is based upon a number of factors, each pointing to the same conclusion, which may be outlined as follows:

First—The volume of construction projected so far this year exceeds the volume of the same period of last year by more than 40 per cent, and the experience of 1922 has demonstrated that during that year the facilities for producing materials and conducting field operations were taxed about to the limit. Production in the basic materials is not only limited by the available supply of labor, but like other industries, by inadequate transportation. Construction likewise is limited by these factors and, in addition, the restricted supply of manufactured products, and materials from the basic industries.

Second—Stocks of materials on hand in practically all of the materials entering construction are lower than last year, while the unfilled orders are greater. Recent figures showed that orders on hand for common and face brick were about 60 per cent higher, and the stocks on hand, about 16 per cent lower than in 1922. Orders on hand for bathtubs, lavatories, and other sanitary ware ran 78 per cent higher and stocks on hand 40 per cent lower than last year. From the construction field reports indicate that material salesmen are slackening their solicitation of orders to a great extent and that manufacturers are, in many instances, unwilling to accept additional orders for any reasonable period of delivery.

Third—Material prices are rapidly rising. Contractors in different parts of the country report that jobbers and manufacturers are unable to maintain their quotations for more than a day or two at a time on certain manufactured products; and it appears that the current demand has reached that stage where competition has passed from the seller to the buyer. The latter are bidding for materials and sending the prices upward. Furthermore, to aggravate the situation, deliveries are becoming uncertain, and recourse is being taken to the practice of over-ordering for the job.

Fourth—Labor rates like the prices of materials, are rapidly increasing. In the building trades especially employers are placed in the position of bidding for services and paying bonuses to an extent in many instances even greater than in 1920. Regardless of what the different opinions may be as to the reasonableness of a wage of $15 or $18 per day, for skilled mechanics, we know that under present conditions these scales will soon stop building operations and leave the laborer in a more unfavorable position than he will occupy under steady employment at a lower wage.

Fifth—The production capacity of various industries is limited and appears unable to meet a continuation of the present demand. Even where plant facilities are adequate, the output may be limited by labor and transportation, and in most of the basic industries sufficient expansion cannot possibly be made to care for the demand. Under these circumstances the manufacturer's influence on prices is very limited and a wide variation or spread takes place between his prices and the ultimate price to the consumer. This spread is already under way. It should be noted, to the credit of many manufacturers, that they have not only shown a desire to hold their prices within bounds, but have actually succeeded in doing it to a great extent. Cement and steel are notable examples of materials in which factory prices have been relatively stable. But after materials leave the hands of the manufacturer, and by the time they have reached the hands of the final consumer in a boom period, a spread of price occurs that bears little relation to cost of production and distribution. Whether this is the result of speculation, local material corners, or merely the unbridled bidding of buyers, is a matter that should be ascertained and made known to the public.

No prolonged discussion of economics is necessary to point out the inevitable result of such a condition. A continuation of the present demand with its effect in raising prices will inevitably result before long in a curtailment of orders, decreased production, higher unit production costs and the entire gamut of the reactions

[1] A paper presented to the Fifty-sixth Annual Convention of the American Institute of Architects by Brig.-Gen. Marshall. 16 May, 1923.

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of a depression. Downward price reaction, the liquidation and financial loss are consequences that must follow the lack of conscious action to stabilize the industry. In construction stabilization is probably more feasible than in any other industry as its demand is not transient but is cumulative; and in general, what is not built this season will serve as an outlet to production a year from now.

On the side of labor a similar condition exists. The unduly high wages of the present period must inevitably be followed by a reaction downward and a period of unemployment which will leave the laborer an annual useful wage considerably less than that which he could obtain if adequate efforts were made to moderate the demand for construction.

Considerable discussion has been devoted to the question of whether it is either possible or advisable to exert an effort to curb this demand and restrain inflation. The conclusion reached depends considerably upon special interests of the individual. It resolves itself finally into whether a large certain profit this season with its following depression is less to be desired than steady production with a continuing profit of moderate amount. At any rate there are several ways in which it is possible to exert an influence upon the situation.

The various influences that can be set in motion may be segregated into two classes: first, those that intend to increase production, and expedite materials to their source of consumption, and second, those that influence the demand for building projects. The first group may be outlined as follows:

(a) By speeding up the production of materials and expediting field operations it is possible to a certain degree to off-set the effect of excessive consumption. In some industries the possibilities from this source are limited, but in others requiring a plant outlay of moderate cost, some relief can doubtless be afforded. Construction companies can to some extent increase the efficiency of their management but it is possible that this will be necessitated anyway to off-set the decreasing output of labor, which is again noticeable.

(b) The speeding up of transportation is another factor that may furnish a certain amount of relief. Delays in transit, under-loading and holding of cars have practically the same effect as the curtailment of production. Experience of the past has demonstrated that both the mileage per car per day and the average loading of cars can be greatly increased by the exercise of care on the part of shippers. Therefore co-operation of shippers with the railroads will undoubtedly prove of benefit in relieving local shortages of material.

(c) There is also the question of restrictions to output on the part of local labor unions which has commonly been regarded as a useless practice so far as the welfare of labor is concerned, and a serious factor in the increase of construction cost. Elimination of these restrictions would exert a significant influence in holding cost below that point where building becomes uneconomical.

The second group of actions may be outlined as follows:

(a) Through publicity of construction costs the public will be enabled to follow the trend of prices and restrict its demand at the point where investments at existing costs become economically unsound, thus avoiding the injurious effect of taking precipitous action when costs have risen to the limit. The investment in new structure at an index number approximately 200 will unquestionably prove unsound in many instances when general level of prices has declined. By informing the public of the index number from month to month it can govern its actions accordingly. It may be possible also to delay governmental, municipal and state construction, until the peak of private building has subsided or until some curbing influence has been exercised on speculative building.

(b) An influence on speculative building can be exercised by the banking interests of the country and they may find it decidedly to their interest to take such action. At the present time, daily newspapers are carrying advertisements of the banks which tend to encourage speculative building and aggravate the inflation of the construction industry. They are probably safe in that point of expansion where they consider it advisable to curtail loans. However, for the welfare of the construction industry itself, a restriction of loan for speculative building at the present time or in the very near future, will produce a beneficial effect.

(c) In some states the tax exemption on new homes is in force and this might be repealed until the rate of building slows down. It is very questionable whether the construction of a home at present prices is a sound investment for the average citizen. Moreover, in some cities the urgent needs are believed to have been filled, and a great part of the present activity is what might be designated as luxury construction.

There are also certain other remedies of a miscellaneous character among which are following:

(a) Speculation and over-ordering of materials on the part of dealers and construction companies can be curtailed to a certain extent by the establishment of bona fide materials sale contracts obligating the buyer and seller to mutually advantageous provisions. At present the buyer purchases with great apprehension that his shipments will be delayed by transportation or that they may be diverted to fill orders at a higher price and, as a result, he orders more than his work actually requires. The effect of this practice is to build up a false demand that has an inflating influence on prices.

(b) There is, of course, a vague possibility of controlling the situation to some extent through the steadying of prices by dealers and the steadying of wages by labor. If any relief is to be derived from this source, it will probably have to come as the result of mutual agreements between contractors, the building trades and those concerned with the handling of materials. Just as it has been the custom and the right of venders to accept as much for their products as the buyer is willing to pay, so we may expect mechanics and laborers to be guided by the same policy. It is possible, however, that in local communities agreements may be made between these elements to lend their efforts in preventing runaway costs in construction.

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Some of the actions here mentioned are sound enough in economic theory, and if they were attempted in earnest by all the parties involved in construction would doubtless produce the desired result, but it is questionable how far the necessary co-operation can be made to extend. There is, however, one influence that can be brought to bear effectively upon the situation—namely, the co-operation of the country's editors. If these men will publish the index number of construction for the country or for any particular locality and call the attention of their readers to the rising trend of construction costs, it is highly probable that they can effectively influence the demand. They may in this manner bring about a conscious steadying of the market that will avoid too much inflation.

In other words the choice lies open as to whether through some such action as is here mentioned the public chooses to control its demand while the price is at its present level or whether it prefers to exercise no influence on the course of events, and thus allow the industry to culminate in another period of stagnation, deflation and unemployment.

In view of the facts that have been brought to light in the present building situation it is recommended:

First—That banking interests curtail the financing of speculative building until after the close of Summer.

Second—That wide publicity be given to the increasing trend of construction costs, both of labor and material.

Third—That governmental, municipal and state construction departments be urged to delay their work as much as possible until September or October.

Fourth—That the co-operation of newspapers and trade publications be sought to keep the public informed of the monthly increases in construction costs, and that they be requested to exercise their influence in curbing the demand for construction until the early months of Fall.

Craftsmen -- Machines -- Credit -- Speed[1]

By FREDERICK L. ACKERMAN

Plans were on the boards for a vast amount of construction—the tallest office building, the largest hotel, the largest apartment house, the largest factory, and in Greater New York, a flood of tax exemption dwellings. Subways were in prospect, greater in length than the systems already bursting with traffic. The largest tunnel was under construction; more were in prospect. Across the Hudson was to be thrown a colossal bridge requiring twice as much steel as went into the making of the five great spans across the East River. So ran the year end (1922) summaries of events and forecasts of events to come in the world of building.

But shot through these summaries of events and forecasts were qualifying references to probable "labor troubles." Without exception writers referred to a seemingly new factor in the case; a "shortage" of skilled handicraft workmen hung like a cloud obscuring all but the bare forecasts of events to come. So some space was devoted to the prospect of developing the "open shop" and to what was being said and done toward the training of apprentices sufficiently skilled to carry on this work. The training of apprentices was a hopeful sign. But it would take time; and the number that could be so trained appeared pitifully small when set in relation to the number required to do the work in prospect. Altogether the shortage of handicraft workmen, upon whose knowledge and skill hung the erection of all these great projects, loomed as large among the events to come as did the projects themselves.

But what, precisely, had the writers in mind when they used the current term "shortage"? Has there been a falling away in the number of building trades handicraft workmen in relation to the population? Have potential handicraft building trades workmen, by reason of the long period of training required and the seasonal nature of employment in the building trades, gone into factories; have they become clerks, salesmen and chauffeurs? Has Europe ceased to pour in upon us a fresh supply of craftsmen already trained, as has been the case during the last half century? If such was the meaning which the writers attached to the term "shortage," it would have but partially covered the case.

For "shortage" has come to cover more than an actual falling away of numbers in the handicraft trades—more than a relative falling away of numbers in relation to population. Building operations, for example, which but a short time ago would have been viewed as creditable industrial performances within a span of eighteen months are now as a matter of course scheduled for completion within twelve, ten, eight or even six months' time. That is to say, the increasing demand for an ever more rapid turnover of funds involved in building, as expressed in the diminishing length of time assigned to the work of erection, is alone sufficient to turn a "normal" supply of building trades workmen into a "shortage."

The erection of buildings in the field goes on by the handicraft process, the pace of which is set by the workman and his tools. Some gains in productivity have taken effect here and there in the processes of erection since the introduction of the machine and mechanical power. But the methods and processes involved in the erection of small structures, which as yet, constitute the bulk of building, have hardly been touched by science, modern mechanical invention, the use of mechanical power or the process of quantity production. The work of the mason, the carpenter, the lather, the plasterer, the roofer, the tile setter, the painter and much of the work performed by "common labor" is carrid on in the same (industrial) manner as was the case before the introduction of the machine. It is not to be denied that many of the materials used in building arrive at the job in a more nearly

[1] This note took form in January; it was written with particular reference to the Landis Awards and the organized effort which was made in Chicago to enforce them. The point of view from which the note issues is that the economic and technological factors which bore upon the situation with which the Landis arbitration was concerned were overlooked in making the award and in the enforcement of it. It also was conceived as something of a forecast.

The publication of the note was delayed in checking and verifying some of the statements in it, so that the rapidly changing events outran the forecasts and it now issues as a statement after the facts.

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finished state than formerly. But in the case of such materials and forms much of the work of assembling is done by handicraft workmen at the plant. Many new devices—largely the product of machine industry—are now deemed necessary in the finished building. But the use of these devices adds to the handicraft work involved in erection. So that, after due allowance has been made for the use of machines, mechanical power and the process of quantity production now involved in building erection, it remains approximately true that the erection of buildings is carried on at the pace of handicraft industry. The erection of buildings in the field is, after all, hand work.

But production as a whole is now carried on by the machine process, the pace of which is given by the machine driven by mechanical power. The machine process is inordinately productive and its productivity is an ever expanding function of scientific research, mechanical invention and the matter of fact engineering point of view with respect to the use of material resources and knowledge. So that the quota of handicraft workmen capable of keeping pace with the machine and the process of quantity production, or the number capable of using the products of the mechanical industries producing the materials which handicraft workmen turn into buildings should be a varying and an ever expanding number.[2]

Contrast, for example, the fabrication of cotton goods with the erection of buildings. Mechanical industry has increased the rate of producing materials and forms preparatory to the erection of buildings. But it has not materially increased the per-man speed of erection, whereas the introduction of the machine revolutionized the fabrication of cotton and increased the speed of production many fold. Again, contrast agricultural production as it is carried on throughout the West. At no point has the erection of buildings been touched by such a revolutionary change as took place when the machine process, through the production of harvesting machinery, sent to the discard the hoe, the scythe, the cradle and the flail. In contrast with the fabrication of cotton and the production of the basic agricultural products the erection of buildings belongs to an older—a slower order of industry.

The same factors which have operated to reduce the space of time consumed in the erection of buildings—that is to say, increase the speed of erection—have operated also to increase the speed of their obsolescence. A very large percentage of the structures erected within our rapidly expanding cities serve in the first instance as a medium for the turnover of funds. This turnover of funds takes place through sale of the property following close upon the erection of the structure or it takes place after the building has served its purpose for some time as an investment, or for paying taxes upon the land, while the land appreciates in value sufficiently to warrant the destruction of the building. In the typical case several structures of ascending value in turn occupy a plot of land before the cost of the structure reaches a point where it no longer appears likely that further appreciation of the land will exceed the cost of the last structure to be erected upon it.[3]

So that as it works out in the typical case, a premium is placed upon the erection of low cost structures, which is the same as saying under the current interpretation, non-durable structures. From the production of non-durable structures it follows as an unavoidable consequence that repairing, renewing and demolishing, and the replacement of old structures by new must be carried on at such an increased rate as to volume and speed as durability diminishes, or as the speed of obsolescence increases from the above or from other well known causes which need not be discussed here.

This bears directly upon the point in question in that repairing, renewing, demolition and the erection of replacements is done by handicraftsmen; and increased speed in the field of handicraft production is to be had only through the use of additional handicraft workmen.

If for good and sufficient business reasons we elect to use non-durable elements in our buildings in place of elements whose life span is a century or more, then it follows that the quota of handicraft workmen involved in the use of such materials must be increased by a multiple which corresponds to the relatively shorter life of the non-durable element. The significance of this may be readily seen when we note that the relative life of two materials which may be used for a given purpose in building may be expressed by the ratio of one to ten. Or

[2] No doubt objection will be offered to this broad statement; it will be pointed out that there is now a shortage of machine-made building materials and supplies. But there is slight ground for assuming that the shortage of materials is due to any lack of industrial capacity. It would seem to be a function of pecuniary management and control.

[3] In less than five years following completion, the hot water supply lines in the office building where I do my work had been renewed. In the apartment house where I live the work of replacing hot and cold water lines began eight years following completion. I am told by plumbing contractors that the latter case is fairly typical of structures in New York built within the last quarter century.

Now, it take a larger number of plumbers to reinstall than it does to do the work in the first instance. Some say twice as much labor is involved. So that it follows that we shall require in New York, for some time to come, a multiple of that number which would now be required had a policy of durable building been in force when all of these up-to-date, modern structures were erected.

It is stated that the home owners of the country spend well over half a billion dollars annually in the repair and renewal of rusted metal work, and that the greater volume of this work could be avoided through the use in the first instance of more durable material. After making due allowance for the volume of repairs and renewals which would attend the use of the most durable materials and for the cost of the materials used in such work, there still remains a large percentage of this half billion which represents nothing but waste—waste of money, materials and waste of handicraft labor.

Some idea of the magnitude and velocity already reached in the process of demolition and replacement in Manhattan may be gained from a tabulation by W. S. Straus & Co., appearing in the New York *Times* of May 17, from which the following is quoted: "Every year the equivalent of a city of 500 buildings is demolished on Manhattan Island, and every year a similar city of most imposing types of construction rises to replace the city that has disappeared."

An extract from the tabulation discloses the following figures:

Year	Buildings Completed				Buildings Demolished			
	Total	Dwellings	Tenements	Hotels, etc.	Total	Dwellings	Tenements	Hotels, etc.
1913	581	26	160	8	750	341	194	4
1914	432	35	119	13	657	304	255	40
1915	348	26	133	9	584	325	98	132
1916	316	17	145	8	654	307	90	1
1917	345	8	85	7	261	39	37	0
1918	195	7	20	3	373	110	44	4
1919	166	4	5	6	687	154	81	5
1920	253	4	26	8	679	284	111	4
1921	433	63	31	7	457	129	128	2
1922	540	45	102	9	634	249	220	3
Total ten years..	3,609	235	926	78	5,736	2,242	1,258	165

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if for what may be gained from a rapid appreciation of land values we elect to diminish the life of the structures we build, it again follows that the quota of handicraft workmen must be augmented in the proportion that we shorten the life of our structures generally. So that, strange as it may seem, out of the increasing speed of decay, the speed of obsolescence, and the extent to which demolition is carried on for purposes of profit, there arises in this era of credit economy and machine production the need for a quota of handicraft workmen not merely actually larger, but relatively larger than was needed during the days of slow moving, handicraft industry when men built with their hands and a few tools all that was built.

A "shortage" of handicraft workmen in the building trades, it would therefore seem, is not to be passed over lightly as a mal-adjustment which may be readily overcome by open shop methods of employment or by more adequate provision for their training. For it is not likely that the potential productivity of the machine process will remain stationary. Viewed from the standpoint of technology the productivity of the machine process is due to increase many fold. And one may safely predict not only a demand for single building operations of ever increasing magnitude, but a demand for even greater speed of erection. Evidently we have now reached a phase, in the development of our industrial system, where we must take account of the fact that it is composed of a great number of closely related and interdependent industrial units and that these units group themselves in two widely differing categories with respect to method and productivity. The modern industrial system is part handicraft and part mechanical.

This observation is highly significant when viewed solely as an industrial fact. But it takes on added significance when account is taken of the condition that modern industry is carried on by the rule of credit economy—investment for a profit. Industrial activity is now organized around the prospect of remunerative turnover of funds. Hence the rate of productivity—the speed—of the mechanical industries sets the pace at which it appears desirable—nay, necessary to carry on the erection of buildings.

But the erection of buildings does not as yet lend itself to the machine process nor to the methods of quantity production as that term has come to be understood. For the most part, it is a handicraft process. From which it follows that, in so far as the handicraft industries of building are essential to the operation of the industrial system as a whole, to that extent the productivity of handicraft industry limits the pace.

Certainly, far reaching consequences should be due to follow in train upon the development of such a condition —an industrial system, two great and vital parts of which run at two widely differing rates of productivity.[4] One would expect, for example, to find a differential accorded that element which of a necessity produces at the lower rate of speed in order to induce a greater number to enter that field. Thus might one interpret the many forms of housing subsidies which were resorted to so generally throughout the Western World in the decade or so before the war; or even our more recent tax exemption of dwellings in the State of New York. Not that such an interpretation is to be taken as a complete genetic account of the rise of the housing problem: it recognizes, rather, a causal factor of first magnitude in the action of so generally subsidizing the building industry as against other industries which produce necessities. It was a way of speeding up—of increasing the rate of productivity of that element of the industrial system which had fallen behind.

Under such an industrial system the employers of handicraft workmen should go to the greatest pains to develop and maintain a condition of impotence among those whom they employ. For only under a thoroughly coercive system of employment would it seem possible to maintain control over workmen who had fallen heir to a condition wherein their numbers automatically constituted a "shortage" whenever the industrial system began to pick up speed or to produce at the rate demanded by the use of credit and as set by the potential productivity of the basic mechanical industries. In the same way the industries which stand over as handicraft should constitute the weakest point in the line that offers resistance against the demands which workmen now and again see fit to make in their own behalf. By and large, the center of labor disturbances and the maximum gains secured by labor lie within the frontiers of handicraft industry.

It is true, the common stock of knowledge and the skill upon which turn the productivity of the modern industrial system is no longer borne by the handicraft workmen as was approximately the case during the early stages of the era of handicraft. But this is also true with respect to all the other groups that likewise constitute the productive units of the modern industrial system.

The position, but not the importance, of the handicraft workman has undergone a change. He no longer serves as the central figure in the industrial system as a whole. But he retains his position as the central figure in many great sectors of the system where his knowledge and his skill are quite as indispensable as is the technological knowledge of the scientist and the engineer.

The length of time required of the handicraft workman in order that he may learn to do his work competently differs but slightly from that required of the scientist and the engineer. This is not to say that the periods of training in the case of the handicraft workman, the scientist and the engineer, all come to a close within the same space of time. It is to remark that in so far as touches the run of handicraft workmen and the run of engineers and scientists, a period of from four to six years is ordinarily deemed necessary to fit them to function in their respective fields in the industrial system.

This similarity with respect to the length of time required in preparation and with respect to the importance of training has evidently been overlooked in the case of the handicraft workman. For ever greater stress

[4] The productivity of the various industries is here conceived in relation to the productivity of the untrained human unit involved, which is used as the base of reference.

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has been laid upon the training of the engineer and the scientist, while the training of the handicraft workman has been left to chance where real obstacles have not been set in the way. These two contrasting attitudes toward the training of those who make up the productive factors serve but to increase the already widening discrepancy as between the productivity of handicraft and machine industry in that the abilities of the scientist and the engineer are very largely drawn upon to increase the speed or the productivity of the latter.

The handicraft workman in essential industries—particularly in the building industry—now occupies a peculiar position in that any technological advance in machine design or any attempt to launch building operations of still greater magnitude, or any attempt to bring such operations to completion within a still shorter space of time or the more general use of non-durable materials or the more rapid obsolescence of buildings brought about by whatever cause, automatically pushes the handicraft workmen over into a position where their numbers appear insufficient to do the work.

What is apparently in store, barring more effective retardation of the productive processes of industry through the operation of the price system, is the granting of price differentials to the handicraft industries or to such mechanical industries as depend largely upon handicraft work to complete the process. Such price differentials, in the case of labor, must be sufficient to overcome the handicap of the years of training required of the handicraft workman as against the days, weeks or at most months required of those who perform the run of operations in mechanical industry. They also must cover the handicap of seasonal work and work subject to weather, as against continuous employment in an industrial plant. There is the further handicap of the relatively lower status; handicraft work is rated as more or less degrading.

Beyond these factors are those which touch the handicraft industries as a whole and point to the granting of further differentials. Any increase in productivity of mechanical industry, due to the application of scientific knowledge, which would indicate the possibility of a more rapid turnover of funds in the processes of production or in the use of the product—any greater gains to be had from investment—any more general use of non-durable materials, any increase in the speed at which the process of obsolescence takes place in buildings by reason of the materials out of which they are built or by reason of appreciation of land values due to congestion—any of these make for the need of more handicraft workmen which again points to the necessity of granting a further price differential.[6]

It is to run counter to a well established opinion to suggest that the handicraft workman of the machine era still holds a position similar in point of strategic value, to that which he held during the era when production was a matter of handicraft only. But to the extent that business ends are served, to the extent that the modern community needs what he produces out of his knowledge and skill, to that extent the modern handicraft workman stands secure in that position which he gained during the era of handicraft.

It has been assumed that the handicraft workman, carrying an indispensable body of knowledge and skill without which buildings could not be erected and many of the processes of machine industry carried on, might be dealt with according to the latest businesslike formula of "handling labor"—that his labor might be classified as a commodity. But by treating labor as a commodity it becomes subject to the rules of purchase and sale as formulated by business traffic. In a business situation, such as constitutes our own time, such a classification, under the circumstances referred to, has its distinct advantages from the standpoint of the handicraft workman. For it follows under such a classification of his abilities that he is thrown into a position of possessing something which may be readily advanced in price under conditions of shortage; and the economic factors involved make directly for such a condition in the ordinary run of events.

To deal with such constantly recurring conditions of shortage of skilled handicraft workmen as are due to arise out of the businesslike management of production, plans will be laid to prevent an undue increase in wages. Recourse will be had to whatever gives promise of weakening the force of organization. Facilities will be developed for training apprentices and some attempts will be made to smooth out the employment curse. The use of loan credit with respect to building will be curtailed whenever a check upon building promises a reduction in wages. And a general curtailment of building all 'round will no doubt be suggested. The cost to the community at large of these various measures will not be rated as too high a price to pay for the power which such measures will give the business community over organized labor. A general curtailment of building operations will then be organized and the partial curtailment of building activities will be hailed as a "solution."

But it will be a "solution" only in the sense that it will reduce the item of wages in the cost of building. It will be the reverse of a solution in that it will operate to increase the discrepancy as between the supply of buildings and the number of buildings needed. But even in the face of so obvious a fact, such a move will appeal to "enlightened common sense" as the only satisfactory way of dealing with the problem. Which all goes to show how far the price system has run in shaping our point of view and in controlling our action. Tangible performance need no longer appear among the items of evidence which go to make up the account of work well done.

London Letter

The recent Exhibition of the Architecture Club which closed last month has been the most tangible sign in England of the revival of a public interest in architecture. The photographs and models exhibited in the fine salons of Grosvenor House attracted at first but a moderate attendance of the public. Soon, however,

[6] See "Building for Profit"—Reginald P. Bolton. Also "The Passing of the Skyscraper," by Geo. C. Nimmons, in A. I. A. JOURNAL, November, 1922.

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the numbers of visitors increased to such an extent that it was decided to postpone the closing date for another week, and the satisfactory result has been that the guarantors of the naturally heavy exhibition expenses have not been called upon to make good an expected deficit, which augurs well.

The work exhibited revealed the unflagging skill and delight in small domestic work which is the strong point of English designers. Aided by the use of the sympathetic materials for wall and roof available, and with an unlimited tradition as a source of inspiration, the English small house designer still reigns supreme. The more limited number of essays in a larger domestic manner are almost equally successful, but the weakness displayed in the handling of large problems in commercial architecture is very apparent.

Particularly disappointing are some of the recent big West End stores. Criticism here is not based on the question of individual taste, but on sheer weakness of composition of the kind which has long ago been eliminated in American work of a similar category.

Recognition of this failure is shown by the lavish praise meted out to the new Bush Building by Messrs. Helmle & Corbett in Kingsway, which is quoted in comparison as a splendid achievement. And yet this building constitutes not only an offence in scale to its surroundings, but displays as its main Kingsway façade an architectural motive which has some of the worst qualities of modern wholesale pilfering from the antique. As the front to a fine office building the design is utterly inexpressive—as monumental architecture in the abstract its main merit lies in its simplicity and great size, which, however, creates a new and utterly impossible unit of scale for London streets.

* * * *

In connection with Kingsway, it is interesting to note an article by Mr. Trystan Edwards in the March number of "Architecture," the Journal of the Society of Architects.

The author amplifies a theme already enunciated in his interesting and thoughtful book of theory, "The Things Which Are Seen," namely the danger in street architecture of allotting to the height of buildings the same dimension as that governing the width of the thoroughfare.

The resultant equality is extremely unfortunate in practice and Bye-Laws, which perpetuate the angle of 45° as a basis for building heights will have a very deleterious artistic effect. Kingsway is an example of fine possibilities marred through this cause, and no doubt there exist important streets in New York, where failure to obtain beauty may be attributed to a like defect.

* * * *

The American Architectural Press has recently been unsparing in its criticism of recent English work. In a certain magazine in particular, the London County Hall and the new Port of London Authority building have been treated with a curt contempt which almost smacks of preconceived notions of what the design of such buildings should be. The withering comments on some of the Modern Dutch architecture are equally unsatisfactory. Logical explanation of the criticisms is not given, and there is here an obvious failure to understand periods of transition and the necessarily imperfect first attempts to evolve architecture which is not clothed in the old familiar European garb. The very imperfections of much of this work are an earnest for future success, for the architects have striven to design instead of being content with reproduction and selection, however eclectic, from well tried examples.

* * * *

The Chicago Tribune competition has aroused a certain amount of interest in England, and there are many English architects who will share with Mr. Louis Sullivan the opinion that the Second Premiated Design is the finer scheme. It is a curious coincidence that in the last two big international competitions, for the Tribune Building and the Cairo Hospital, the First Prize has been won by a citizen native of the competitions' country of origin. If it were possible to provide a representative international Jury, such competitions would gain in interest.

* * * *

Nothing finer in the way of architectural cinematographic stage setting has been seen in England than that provided for the Fairbanks' film of "Robin Hood." The average architect called upon to design a setting for this film would have provided as a background, a faithful reproduction of early English work of the period. But here we have the imaginative exaggerations which are the hallmark of original interpretative art as opposed to the mechanical process of conscientious reproduction. There is something inspiring in the colossal scale of the interior settings which awakened the appreciative faculties of the least initiated amongst the lay spectators. Some of the scenes have the grandeur and qualities of composition of a fine painting.

* * * *

Definite proposals appear to be on the tapis for the foundation in England of a School for Builders to provide for future builders, equal facilities to those enjoyed by intending architects.

The School would be financed by the Federation of Builders, and would provide the equivalent of a University Education with a sort of Master Builder's degree instead of the usual Pass or Honors degree in Law, History, etc.

The advantages of such a scheme are patent. The organization of a Contractor's business is a very complex one and there is no reason why the sons of Master Builders should not receive a full scientific school training both in theory and the elements of practice. This training would be completed by fuller practical work in the same way as is the case with the architectural student.

From the architect's point of view the scheme offers the promise of a better standard of education in the Building Trade and consequently enhanced understanding between the Trade and the Profession. Limited col-

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laboration with the big architectural schools would increase the advantages of education on both sides, and would incidentally make possible the conservation of many of the finer traditions of building which are being gradually lost with the spread of commercial building. A revival of the spirit of the craftsman in the operative would not be beyond the range of possibilities, and might counteract the tendency towards mechanical repetition in design. The site for the proposed School is still undetermined, but it is to be hoped that it will not be too far removed from the large architectural schools of the Metropolis.

* * * *

There is at present being held in the Institute Galleries an exhibition of amazing drawings by William Walcot. His work is familiar to the architects of two continents, chiefly, perhaps, through his "Roman Compositions."

The present drawings are of ancient temples. Ephesus, Selinus, Baalbec, Luxor, all these places appeal to the beholder through Mr. Walcot's talent, which pictures them gay and sparkling in their original form and color surrounded with glowing life. If one has a reproach, it is that the cleverness of the drawings almost competes with the beauty of the subjects, but there remains the fact that Mr. Walcot's imagination like his talent is unique in this particular field.

* * * *

The latest scheme to gratify the desires of those interested in improving their knowledge of "the general principles of architecture and their proper application to present day building" is a series of six lectures now taking place under distinguished patronage. The lectures are given by well known architects, including H. S. Goodhart Rendel, Robert Atkinson, Professor Richardson, and Stanley Ramsey, and cover such subjects as "First Principles," "The Architecture of Religion," "Commerce," and the "Habitation," "Civic Architecture," and "The Architecture of the Future."

Held in large private houses, with an audience of persons really interested in the subject, the Lectures are proving to be yet another valuable link between the architect and the public. The idea is very similar to that of the causeries on music and other subjects which used frequently to be held in New York under the ægis of certain social "leaders." Proposals for the lectures did not emanate from any official body, a fact which lends to them an additional significance. "X."

May, 1923.

Restoration of the Fine Arts Building at Chicago, Illinois

By GEORGE W. MAHER[1]

The complete restoration of the Fine Arts Building in Jackson Park, Chicago, will become a reality. This undertaking so notably inaugurated by the Chicago Chapter, 20 June, 1920, has resulted in the agreement of the South Park Commissioners, custodians of this building, to reinstate it architecturally as it was during the World's Fair. The intrinsic value of this building, its historic background and the many purposes of service and of education for which it can be used make of the Chapter's achievement an accomplishment of national importance.

It seems difficult, indeed, to understand why there should have been continued opposition to such an enterprise, when a majority of the public favored its restoration. This is perhaps one of the phases of a democracy which is significant and which indicates the need of eternal vigilance on the part of those interested in the cultural growth of this country and in the orderly beautification of our cities; such progress is too often retarded by those in authority due to the lack of appreciation of art and of architecture.

The World's Fair was without parallel in history; it was International in scope and brought vividly to the senses and the mind the history and progress of the nations of the world, particularly in art and in industry. The Fine Arts building was the very heart of this great Exposition. It accommodated temporarily one of the greatest art exhibitions ever assembled. Thus the building was not erected as a temporary structure, since with the exception of the outside plaster covering and the peristyles, the building structurally was erected as semi-fireproof. The foundations are of brick and concrete; the exterior walls of sufficient thickness of brick and well bonded; the roof is supported by steel trusses. The governments of the world would not have permitted their priceless art treasures to have been exhibited in a building subject to conflagration and irreparable loss.

There was, therefore, a responsibility on the builders of the World's Fair, and in written record in the *Century Magazine* of October, 1892, Henry Van Brunt, one of the group of architects, says: "There is no building on the grounds which we should more regret to see destroyed at the conclusion of the exposition than this beautiful monument. Its essential structure is, as we have seen, fireproof; only its porticos, its peristyles and its exterior decoration details are temporary. They could be so readily replaced by permanent construction in the same form that the architects of all the buildings hope it may be permitted to remain as the most appropriate and worthy memorial of the Exposition of 1893."[2]

There appeared in the Chicago Press in June, 1920, a statement that the old Fine Arts Palace was to be destroyed; this notice came as a distinct surprise since there was a general understanding that the building would ultimately be restored. There had been discussions in the Chapter, led by Lorado Taft, the sculptor, who is

[1] Chairman of the Restoration Committee.

[2] The Fine Arts Building has several times been illustrated in the JOURNAL.

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an honorary member of the American Institute of Architects, regarding the classic beauty of this building and expressing the hope that it might be spared. The press notice, therefore, was at once taken cognizance of by the Municipal Art and Town Planning Committee of the Chapter, which immediately assumed leadership in the effort to save the historic building. The members of the committee fully realized their responsibility as architects acquainted with the value and importance of this structure, and their duties as public spirited citizens. Likewise, they knew the opposition they would be obliged to meet. They, therefore, inaugurated a campaign of education and wide publicity and obtained the support of the entire press of Chicago, and the aid of civic organizations and prominent clubs. They were particularly fortunate in receiving assistance from the Second Congressional District of Women's Clubs, located on the south side of Chicago, who not only enthusiastically supported the plan of publicity and education outlined, but generously tendered the sum of $7,000 to the Chicago Chapter, which money was used to restore the northeast corner of the building in order to show the public that the full restoration work could be carried out, and to demonstrate the great architectural beauty of the building whereby to obtain the necessary support. In resurfacing the walls the mixture used was a combination of concrete and crushed quartz cast in monolithic form. The effect, in color, is that of a rich old Roman marble cut from solid blocks. The spirit is Grecian and the craftmanship well in keeping with the traditions of the past.

Through continuous effort and publicity since June, 1920, against strongly entrenched opposition, the public custodians of the building finally responded to public pressure and have agreed to restore the entire building; the following thought naturally arises in contemplation of this long drawn-out experience: Should it be assumed that a democracy has no standards or ideals respecting art and the beautiful, and in this respect is our form of government equal to an autocracy or some centralized form of authority? The answer can only be that in a democracy ideals and true progress can only be obtained by the education of the masses, and that whereas our form of government is without question the greatest in history, yet it also compels the greatest attention and personal sacrifice.

The restoration of the Fine Arts Building should, therefore, not only be viewed as an art asset,—an architectural masterpiece without peer,—a worthy monument to a great achievement,—but perhaps also as a symbol of that potentiality,—the public which seeks—demands—enlightenment before arriving at a decision, and which will support any worthy undertaking when fostered by intelligent and disinterested leadership.

At its Fifty-sixth Annual Convention in Washington, 16 May, 1923, the American Institute of Architects adopted the following:

Whereas, by Resolution in National Convention in the years 1921 and 1922, the American Institute of Architects endorsed the action of the Chicago Chapter, A. I. A., in its efforts to restore the Fine Arts Building in Jackson Park, Chicago, and

Whereas, through continuous action and publicity on the part of the Chicago Chapter since 1920, and with the generous financial assistance of the Second Congressional District Illinois Federation of Women's Clubs one corner of the building has been restored, and

Whereas, in consequence thereof, and with the assistance of Civic organizations, prominent clubs and the public press, the South Park Commissioners, public custodians of the building, have agreed to restore the entire structure,

Therefore, be it resolved, as evidence of continued interest, that the Institute in National convention assembled, reaffirms its original resolution favoring the complete restoration and subsequent use of this building as a National Art Memorial and further recommends the establishment in this building of a University of Industrial Arts.

Arousing Public Interest in Architecture

The Work of the Southern California Chapter

The many kind words of appreciation and commendation received by the Southern California Chapter, because of its last Year Book, have been very gratifying and have made the time and energy spent well worth while. The financing was very simple; before starting upon the Year Book, exhibition and Honor Awards, an account of which appeared in the JOURNAL for March, 1923, last, the probable cost of these undertakings was estimated and it was determined that this entire expense could be met from sales of the Year Book. Estimates of the cost of the publication, based upon a dummy prepared by us, gave us approximate costs for an edition of 500 copies. The membership of the Chapter and the Architectural Club was then gone over and a quota prepared of the number of copies that we thought each member should be able to buy at the cost price. To this quota was added a sufficient number of copies to send one to each of the officers of the Institute, to each Chapter of the Institute, to each of the Honoraries of our Chapter and to each of the newspapers and magazines of Southern California. This quota accounted for 300 copies, leaving a balance of 200 copies which it was estimated could be sold to the general public at $5.00 per copy.

This showed our assumed possible income from the sale of the book. To raise the necessary balance we determined to charge each man whose work was illustrated in the Year Book with the approximate cost of the cuts, which would become his property after publication.

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We then prepared subscription blanks, put fifteen solicitors in the field and made a two-day campaign to sell the quota allotted to the members, with instructions to the solicitors to accept no subscriptions unless accompanied by money. The campaign sold the quota; the members signed the agreement to pay for the cuts if the book was published, and the Allied Architects Association agreed to underwrite the sale of the books to the public. We were then ready to go ahead and authorize all three undertakings.

The exhibition story can be made very brief: We asked for submission of photographs and drawings in the usual way, the exhibitor signing an agreement to pay for any framing that the Hanging Committee should see fit to order for the work selected from his submissions. Just a few less than one thousand submissions were made to the Hanging Committee and six hundred and sixty exhibits were finally hung; seventy-five frames were ordered and this framing bill of $200.00 was met as per agreement by the individual architects whose work was framed by the Committee.

Two thousand copies of the catalogue of the exhibition were printed, and as the exhibit was hung without titles and by number only, it was quite essential for the public to buy these catalogues in order to understand the exhibit. These were sold at the Exhibit at 15c each and receipts from their sale more than covered the cost of printing.

The exhibition was very successful and was held in our one public Art Gallery, over 50,000 people viewing the exhibit in the twenty-eight days in which it was hung.

The Honor Awards story is just about as short: It was determined that Architects had been feeding themselves medals for so long that the public was no longer interested in that kind of mutual hand-outs; therefore it was determined that the Owner of the property who permitted the Architect to create the design, and the Contractors who executed the design, should receive the recognition that was due them, and this should be evidenced by a Certificate of the Chapter. The program of the Awards was fixed to limit the awards to buildings completed since the making of prior awards, thereby leaving the way open to make these Awards an annual or bi-annual affair as might be found advisable; the Awards to the Contractors were limited to those contractors whose work had contributed to the decorative or artistic elements of the design, thereby eliminating considerable embarrassment as to number of Awards on any one building.

A Jury from San Francisco made the Awards in the various classes and the Certificates were given at the annual dinner of the Chapter where all the recipients of the Awards were the guests of the Chapter. A splendid meeting resulted inasmuch as there were fifty-seven of these Awards made this year.

It has been very interesting to note the public appreciation of these Awards; they are being used very considerably in public advertisements, the Certificates being reproduced in most cases.

The material for the Year Book was selected before the Exhibition was hung by a sub-committee of the Hanging Committee and a total of one hundred and ten cuts of all sizes was finally determined upon. The printers rushed the book so that copies were placed on sale to the public the last two weeks of the exhibition. Those allotted to the public have practically all been taken up; indeed, we were able to make the sales direct to the public rather than through the book-sellers who were anxious to have them. Except for a few copies which we are holding for future distribution, the entire edition is sold; all bills were paid within two weeks of the issuance of the book and the Allied Architects Association was not called upon for its underwriting.

EDWIN BERGSTROM.

NOTE: In publishing the list of Honor Awards of the Southern California Chapter in the JOURNAL for March, 1923, the award of "Distinguished Merit in Architecture," to Robert D. Farquhar, for the Mausoleum for W. A. Clark, Jr., in Hollywood Cemetery, was inadvertently omitted from the list. The omission is greatly regretted and we hasten to make due amends.—EDITOR.

Letters to the Editor

The Lighting of Art Museums

SIR:

Mr. Cret's discussion of Seager's Paper on the lighting of art museums in your May issue misses one fundamental error in Seager's method. The diagrams given by Seager convey no correct idea as to the actual distribution of light through the skylight apertures. In fact, they are very misleading.

The amount of light received from a luminous surface, such as the sky, at any point depends on two factors; first, on the *solid angle* subtended at the point by the luminous surface, and second, on the quantity of light emitted by, or diffusely reflected from the surface per element of area—in other words, upon the *brightness* of the luminous surface.

To put this in simpler language, let us say, that the amount of light received at any point in a room depends on the amount of luminous surface and the brightness of the surface that can be seen from the point.

Take the case shown in Figure 1. Obviously the largest amount of sky surface can be seen from a point P_1, at the center of the floor. Therefore more light will be received here than at any other place in the room. The walls as at

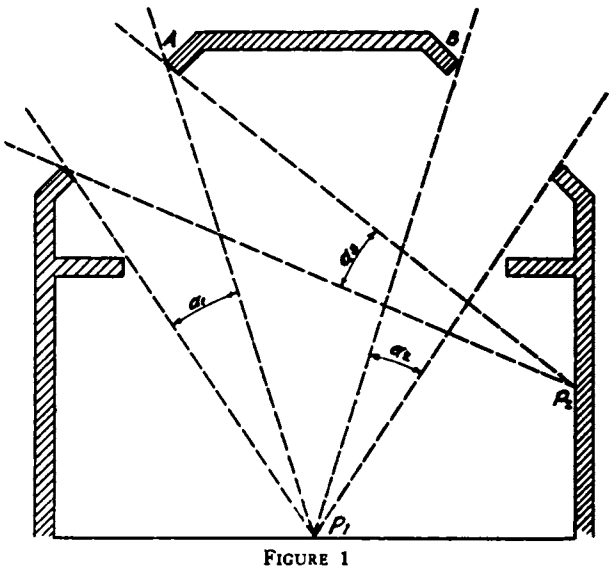


FIGURE 1

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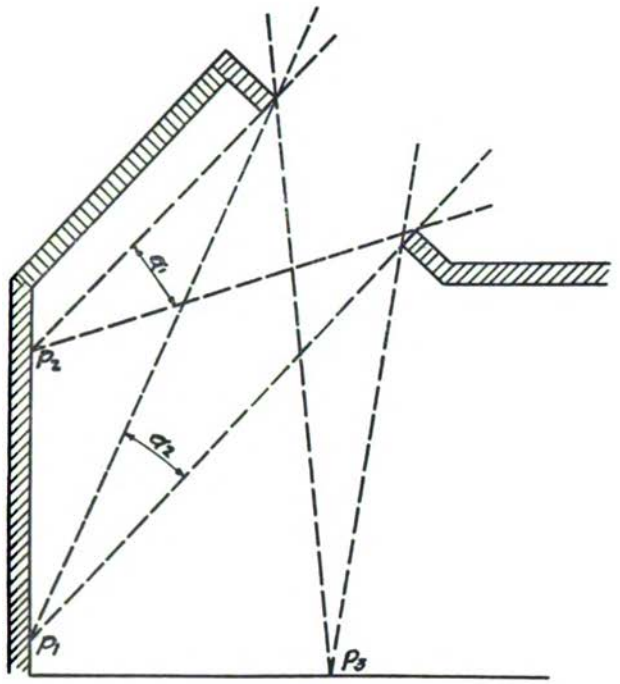


FIGURE 2

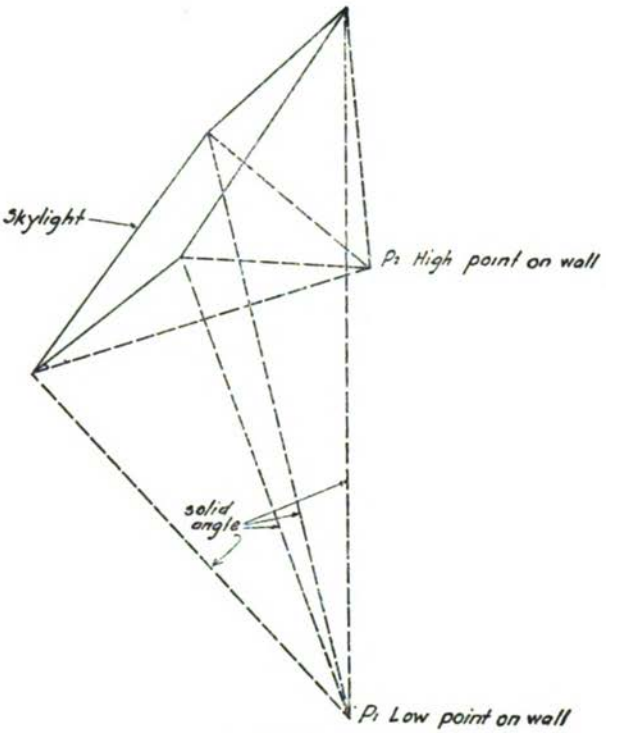


FIGURE 3

P_3, will receive considerably less light than the floor. Note that the solid roof area A-B has the effect of darkening the walls.

With the skylight arrangement shown in Figure 2, the floor, at P_3, will receive some direct light, but the walls will be unevenly illuminated, the amount received near the ceiling, at P_2, being in excess of that received near the floor at P_1. To approach equality of light distribution on the walls, the plane of the skylight must be nearer the horizontal, but this will increase the light on the floor.

In Figure 3, corresponding to Figure 2, the solid angles are shown in isometric projection. Note that the solid angle subtended by the skylight at the Point P_2 on the wall near the ceiling is much larger than the solid angle subtended at the point, P_2 near the floor. The magnitude of the difference between the light received at P_1 and P_2 is not given by Figure 2, which shows only sections of the solid angles. It is easy to draw out the solid angles for any case by the use of a planispherical diagram tracing applied directly to the plans and elevations or sections.

The sort of glass used to glaze the skylights or inner ceiling sashes has an important bearing on the results. The sky may be considered as a luminous surface showing diffuse brightness. Therefore any treatment of the glass that results in light diffusion will have little or no effect on the result. Direct sunlight is a different matter.

In general, clear plate glass in the skylights will give the best results, as a maximum amount of light will be transmitted. The ordinary fire polished plate is quite satisfactory. Temporary diffusers such as shades or adjustable louvres will then be used to break up direct sunlight. Great care must be exercised in the selection and glazing of ribbed or regularly figured glass if used. Such a glass, having prism shaped ribs frequently has been glazed with the ribs in or down. Used in this way this glass acts as an excellent reflector, keeping the light out of the building. A sample of ribbed glass having 90 deg. prisms transmitted twice as much light in one direction as in the other.

If a figured glass is necessary, for use in inner ceiling sashes, the so-called "granite" is the best, outside of an Austrian glass in which the figuring consists of small regular projections whose section is that of a sine wave. The probable appearance of the glass when installed should always be judged from the distance it will actually be seen, and not from a sample held in the hand. A figured glass that may seem eminently desirable from the viewpoint of looks, may prove to have low transmission or to produce a bad light distribution or both. Ground or etched glass, or opal glass of any kind should never be used.

One more remark: The first cost of skylights is high. It is necessary to heat them in winter and to cool them in summer. Both radiation and ventilation are required; the one to melt snow, counteract down draughts, and compensate for air leakage and heat losses; the other to keep the gallery from becoming a hot-house and to eliminate condensation.

The annual charges and operating costs of the skylights and the necessary added equipment are so high, that false skylights with suitable artificial lighting through such false skylights will be less expensive. In most cases the alternate is much less expensive. Furthermore, artificial light can be obtained of fixed distribution, intensity and color at all times, both by day and by night. None of these attributes of daylight are even approximately fixed, and are daily as well as seasonable variants.

The first cost of adjustable louvres sometimes used in an attempt to correct the variable intensity and distribution of daylight, if the louvres are of suitable character, is equal to, if not higher than, the first cost of a suitable artificial lighting equipment. Furthermore an artificial lighting equipment has to be installed in any case. Usually it is both inadequate and of bad design.

BASSETT JONES.

New York City.

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"Reverence for labour is the basis of art, for art is the labour which is fully worthy of reverence."

"Art in the life of the worker can only spring from hope and joy."

BEAUTY

"The idea of beauty, daily-bread beauty, not style pretense, must be brought back into our life."

"Beauty is the evidence of Vitality—the smile of health."

"Beauty, like breathing, is solved by doing it, not by this everlasting argument."

"Beauty is a necessary function of fitness; beauty is the smile of health, and it is one of the few great things which sustain the spirit of communities."

"Beauty is the substance of things done, as faith is the substance of things hoped for."

"We have heaps of teachers, philosophers, politicians and economists, but none that I hear of seems to understand that no nation can last without beauty."

"Beauty in art is the evidence of high humanity in work."

These are just samples and I submit them in the hope that the reader will want more. It is a hopeful sign that in our literature, which today seems so deeply colored with pessimism, there are men like Lethaby, whose high hope and optimism may not be doubted, who are not afraid to tell the truth about our petty vanities, though it may be offensive to our pride. We should welcome philosophical excursions of this sort in the hope that they may lead us still deeper into the heart of things. It may be that original sin and its companions and followers in evil have seduced humanity, in general, away from the simple and natural expression which we recognize as the various art-forms, and then again it may be something else. The economic basis of human affairs is not all material. It has its spiritual significance and its effect on minds and hearts. A friend of mine, who read this book, said: "He does not see deep enough. Men and women, if they are economically free, will turn to beauty as naturally as the little child does to candy."

The criticism is probably just, but let us be thankful if this book will do no more than help in the difficult matter of "clear thinking and plain speaking." W. L. S.

Henry Bacon

Institute Gold Medalist—1923

Henry Bacon was born at Watseka, Illinois, 28 November, 1866. He matriculated at the University of Illinois in 1884, but left before graduation to enter the office of Chamberlin & Whidden in Boston. In 1886 Mr. Bacon came to New York and entered the office of McKim, Mead & White. In 1889 Mr. Bacon won the Rotch Traveling Scholarship and went abroad for two years, studying in France, Italy and Greece, returning to the office of McKim, Mead & White in 1891.

In 1892 Mr. Bacon went to Chicago and worked for nine months on the World's Fair.

Leaving McKim, Mead & White in 1897, a partnership was formed with J. Brite. Five years later it was dissolved, since when Mr. Bacon has practised alone, serving as consulting architect to the Public Service Commission, as a member of the Municipal Art Commission and the Commission of Fine Arts, Washington, D. C.

Some of the buildings designed by Henry Bacon are:

Public Library, Paterson, N. J.; Memorial Day Nursery, Paterson, N. J.; Halle Bros.' Department Store, Cleveland, Ohio; Railroad Station, Naugatuck, Conn.; Waterbury General Hospital, Waterbury, Conn.; Memorial Bridge, Naugatuck, Conn.; Union Square Savings Bank, New York, N. Y.; Chelsea Savings Bank, Chelsea, Mass.; National City Bank, New Rochelle, N. Y.; Citizens & Manufacturers National Bank, Waterbury, Conn.; Court of the Four Seasons, Panama-Pacific Exposition, San Francisco; Electric Society Building, Middletown, Conn.; Astronomical Observatory, Wesleyan University, Middletown, Conn.; Dormitory, Wesleyan University, Middletown, Conn.; General layout of future extension, Wesleyan University, Middletown, Conn.; University of Virginia Gates, Charlottesville, Va.; First Congregational Church alterations, Providence, R. I.; Woodmere High School, Woodmere, New York; Public Bath, Brooklyn, New York.

Mr. Bacon has collaborated with Daniel C. French in the design and erection of over fifty monuments, of which the principal ones are: Parkman Monument, Jamaica Plain, Mass.; Melvin Monument, Concord, Mass.; Oglethorpe Monument, Savannah, Ga.; Marshall Field Monument, Chicago, Illinois; Spencer Monument, Atlanta, Ga.; Lincoln Monument Lincoln, Nebraska; Draper Monument, Milford, Mass.; Longfellow Monument, Cambridge, Mass.; Spencer Trask Memorial, Saratoga Springs, N. Y.; Lafayette Monument, Brooklyn, N. Y.; Republic Monument, Chicago, Illinois; DuPont Fountain, Washington, D. C.

He is now engaged with Mr. French in the design of a War Memorial to be erected by the State of Massachusetts at St. Mihiel, France.

Mr. Bacon collaborated with Augustus Saint-Gaudens in the Parnell Monument, Dublin, Ireland; Hanna Monument, Cleveland, Ohio; Whistler Monument, West Point, New York; Magee Memorial, Pittsburgh, Penn.; Governor Flower Memorial, Watertown, New York.

The Mark A. Hanna and Garret Hobart Mausoleums were designed by Mr. Bacon.

Mr. Bacon has received the Award of Merit on design at World's Fair, Chicago; a gold medal for design of the Lincoln Memorial by the Panama-Pacific Exposition, San Francisco, 1915; and in 1918 the New York Chapter's Medal of Honor "in recognition of his distinguished contributions to Monumental Architecture and of his high professional standing."

Found

Will the delegate who reported the loss of a gold Eversharp pencil at the Convention in Washington be kind enough to communicate with the Executive Secretary at the Octagon House, as the pencil has been found?

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Convention Notes

The Fifty-sixth Convention was one more step in the right direction. The tedium and monotony of perfunctoriness and palaver was reduced,—not to the hoped-for irreducible minimum, but in a large measure nevertheless,—and the culminating ceremony was so beautiful as to wring forgiveness from the stoniest-hearted delegate who sat through the complained of hours of talk in the Hemicycle.

Mr. Cunningham has elected to treat the affair in his own manner and no editorial blue pencil has intruded upon his manuscript. Let us hope that his observations will record another step also in the progress of the JOURNAL, which exists to support nobody's opinions but as a free vehicle for whatever any member of the Institute has to say.

The officers and directors elected for the ensuing year are as follows:

WILLIAM B. FAVILLE, San Francisco, *President;* N. MAX DUNNING, Chicago, *First Vice-President;* WILLIAM STANLEY PARKER, Boston, *Second Vice-President;* EDWIN H. BROWN, Minneapolis, *Secretary;* D. EVERETT WAID, New York City, *Treasurer;* C. C. ZANTZINGER, Philadelphia, *Director, Third District;* C. HERRICK HAMMOND, Chicago, *Director, Fifth District;* WILLIAM E. FISHER, Denver, *Director, Eighth District.*

GORHAM PHILLIPS STEVENS, Director of the Academy of Rome, was elected to *Honorary Corresponding Membership.*

Several notable addresses were delivered at the afternoon and evening sessions of the Convention. Mr. Cunningham alludes to them in his story and certainly the proceedings this year will be of some interest. The addresses were freely given out to the press and all of them will no doubt appear in other architectural periodicals.

What the convention has not yet succeeded in lies in the domain of discussion. There are present at every one of these annual gatherings men who have lived through years of American architectural practice, who have accumulated a rich fund of experience, who have ideas and opinions and facts to offer, and who could, if properly induced, contribute a running debate on informal lines such as would be rich in interest and value. What little genuine expression now finds an outlet is generally confined to the dry-as-dust topics of Institute routine and business. On the art of architecture, we get lectures, but we do not ourselves discuss it. An occasional wit makes itself apparent and lightens the heavy gloom of reports and this Convention was remarkable as showing how greatly the Business End of things can be compressed. Why cannot the Board's report cover the entire gamut and thus make another great gain of precious time, and why cannot the delegates continue to give a greater confidence to the Board's management of affairs and to trust it and hold it responsible in all matters which do not require constitutional action? Then we shall be getting somewhere indeed.

Plans for the alteration of the Octagon Property were again before the Convention. We hope to publish them in our next issue. They call for a new building on the upper end of the plot, along the alley between New York Avenue and G Street, and seem to indicate a very admirable disposition of the space. The Convention passed the resolution which brings the subject of a mortgage on the property, the proceeds to be used in financing the new building, before the next Convention for action, as required under the Constitution.

Previous to the Convention the Board of Directors authorized the acceptance of the proposal that the Institute become, through its Press, the distributing agent in the United States for the Memorial Volume on Sir Christopher Wren, issued in coincidence with the recent bi-centenary observance of his death. The proceeds of the volume are to be devoted to the preservation of St. Paul's Cathedral in London.

A resolution felicitating the Society of Architects, London, on the foundation of its American Traveling Scholarship in Architecture, was unanimously passed, as was the resolution which so heartily indorses and supports the Chicago Chapter in its work of restoring the Fine Arts Building in Chicago. The text of the latter appears elsewhere in this issue in an article by Mr. George W. Maher.

The Executive Committee of the Board of Directors for the ensuing year is as follows: Messrs. Faville, Brown, Waid, Dunning, and Steele. Announcements of other committees will very soon be made. The Executive Secretary is at work on the new Annuary and Proceedings and those Delegates who receive records of their addresses for correction are urged immediately to return them to the Octagon, while members receiving appointments to Committees are likewise asked to give them instant attention. A few delinquents can hold up the issuance of both the Proceedings and the Annuary to the great inconvenience of all concerned.

We repeat: The Proceedings of the Fifty-sixth Annual Convention will contain a number of notable addresses. These, read in their continuity, will be well worth while. They are not only of intrinsic value, but they mark an important stage in that turning-point which will eventually make a Convention of the American Institute of Architects something that no architect will wish to miss. The Fifty-sixth was the best one yet, but better can be done, so far as the sessions are concerned. As for the concluding ceremonial, one is not so sure. That set a mark which is likely to stand for some time,—and yet, who knows the resources of architects when they are put on their mettle and are free to let their imagination take form?

C. H. W.

The Editor's Note Book

In Washington, during the days immediately preceding the Convention, there were two topics of conversation that seldom failed to thrust themselves into the speech of those members of the Institute who were there to deal with the preparations for the annual gathering. One topic was the pageant—the other was the weather. As to the first, it was surprising to run across the pessimism and the doubtings of those who might generally be thought to possess the gift of imagination to an acute degree.

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Yet to some few the pageant seemed to loom as only a large and dreadful shadow across the horizon of the Convention, the profession, and the whole field of architecture generally, and to be such a source of misgiving that one began to wonder. Might it be possible that all architects are not the imaginative people they are thought to be? How could any architect be frightened at the thought of a pageant? Or was the fear no more than an expression of the inevitable pessimism that besets any really great undertaking? Fortunately the answer lay ready to hand, for one only had to come in contact with the tireless effort of Howard Greenley and Jimmy Hewlett and Irwin Porter, to become aware of the fact that there are differences even among architects. Some have imagination and some are as dull and dreary as an old-fashioned prayer meeting. But Greenley and Hewlett and Porter had the imagination and the energy and the ability to organize and direct and assemble and group and plan,—in other words to conceive and put through a really great architectural achievement.

As for the weather, it is true that we were all afraid of the rain. It seemed to be the one element upon which we could not reckon and which we could not organize and direct and control. During the days of feverish preparation it did rain, and the sky was lowering and gloomy. Yet we accepted these conditions not as portents but as harbingers. If it rained every day preceding the pageant, then the chances were that it would not rain on the one evening of all. As a matter of fact, our calculations were wrong, and yet perhaps we all learned something that was really worth while, and to which I am presently coming.

Under ordinary circumstances, one would have been satisfied to close the Convention with the dinner in the huge marquee at the end of the reflecting pool. We remembered the beauty of the dinner at Chicago last year—under the dome of the Fine Arts Building at Jackson Park, with the light playing wonderful games of hide and seek in the shadows above and dancing on the lagoon outside,—and yet here again, we sat beside another stretch of water and were once more transported to fairy isles and other games of light and shadow, and listened to music and the fine words of Mr. Cortissoz. It seemed natural and in tune, as though the Institute had at last begun to take the measure of things and thus come to a certain sense of dignity and repose.

No doubt the procession from the marquee to the Memorial seemed a little long and solemn to some, yet I thought it inspiring, and as it should have been. A pageant cannot be hurried. It does not burst like a rocket to the huzzahs of the mob. It has to proceed its own measured pace, unruffled and in the slow movement of a growing grandeur. The great barge gave the key, as it was drawn the length of the pool, and the slow lighting up of the Memorial was the silent antiphonal chant that gave the response. Further than that, no words of mine will carry. When the groups were finally assembled and the lights were at full, the spectacle passed beyond my descriptive powers. It was a Venetian carnival,—it was a Roman Emperor holding court and receiving his vassal subjects,—it was a Grecian play,—it was a medieval pageant before the king after the tourney,—it was a ceremonial of the old Indian guildsmen, they who as architects were the keepers of the records which they built into temples, and before one of which they had drawn together all the splendors of that East which passeth Western understanding, all the panoply of purple and gold and fine handiwork of that East which will still live when the West has gone,—it was everything that the consummate artistry of Howard Greenley and Jimmy Hewlett could produce, and it will remain an unforgettable spot of color and design in the minds of all who saw it.

Surely none could have gone unmoved as the strains of Walter's Prize Song heralded the event of the night,—the bestowal of the Gold Medal on Henry Bacon, and surely there were none who ever saw an architectural honor so beautified by the resources of architecture. I wondered, as I stood transfixed, what were the feelings of the gentleman from Boston who had said to me, on the edge of the evening, that he had "stayed over for the pageant through a sense of duty,"— by which it is not to be inferred that all the unimaginative architects came from Boston.

And in spite of all our hopes and fears the sky was shrouded in dark clouds and the rain fell. Yet what a marvellous touch was thereby added. No light in the sky competed with the lighting of the Memorial and the groups of costumed figures and the gay banners of the Chapters,—the wonderful gay banners without which the thing could not have been done. The silence was magnificently impressive. The splendid note set by the barge and the procession grew ever more splendid up to the very culmination. The inner lighting of the Memorial itself, as well as the soft luminosity in which its outer walls were clothed, gave that exquisite pleasure that borders so closely on the realm of pain. The picture was too perfect to remain—except as a shrine in the memory of those who were fortunate enough to see it.

Then, after the Presidential party had departed there was a final waving movement of the banners on the steps. Again the colors took new lights and sent forth their kaleidoscopic fanfare to announce the close of the ceremony. As for the rain, it fell gently and like a benediction. And everyone knew it to be one, for even the doubters and the killjoys had come under the inspiring influence of the art they profess to practice,—they had known the spell, in spite of their very unknowing selves, of the art of architectural pageantry when practised by architects who are great artists.

Hats off, gentlemen, and a deep obeisance; and for me, at least, a great and fervent gratitude.

C. H. W.

Structural Service Department appears on the second right hand page following

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Structural Service Department

LEROY E. KERN, *Technical Secretary*

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

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

The Technology of Slate. (22b)—(*Bulletin* 218, *by Oliver Bowles, Bureau of Mines, Aug.,* 1922. *Size* 6″ x 9″. *Pages* 127. *Illustrated.*) The purpose of this bulletin is to point out the most efficient methods and equipment now in use in slate quarries, to describe methods of utilizing the quarried material to best advantage, and to outline means of reducing the proportion of waste.

Slates have originated from sedimentary deposits consisting largely of clay. The process of alteration of the original minerals may be only partial, resulting in a slate having as its chief constituents clay, mica, and chlorite. Such a slate is termed "clay slate." The process may, however, be carried further, until little or no clay remains, the chief constituents being mica, quartz, and chlorite. Such a rock is termed "mica slate." Mica slates are more resistant to absorption, and, therefore, more enduring than clay slates. They constitute the chief supply of commercial slate in the United States.

The more common colors in slates are gray, bluish gray, and black. The reds, various shades of green, and variegated slates are less common, and purple is rare. Yellow, brown and buff colors are occasionally found in deposits, but usually they have resulted from weathering, and slates of such colors are not marketable. Chemical and mineralogical composition determine the color of a slate, the colors other than gray and bluish gray being due chiefly to the presence of iron compounds and carbonaceous material. Color is of great economic importance. Slates of certain colors are in demand and command high prices, whereas those of other colors are difficult to sell. Permanence of color is probably of most economic importance, for although some slates maintain their original colors for many years, others fade rapidly. According to Dale and Hillebrand, the fading of slate is due to the presence of small quantities of iron-lime-magnesia carbonates, which decompose readily with the formation of the yellow, hydrous iron oxide, limonite. The black and gray slates are nearly permanent in color. Bluish slates commonly turn grayish and red slates may turn brown. The green slates are the most uncertain, some are practically permanent in color, but others fade and discolor badly.

A truer classification of the established grades would render slate more popular. For example, the professional roofer knows the changing effect of "sea-green" slate, but the purchaser commonly does not know that the original color alters to various shades. The term "variegated," when used alone also leads to confusion. It commonly relates to an unfading, but it may be applied to a fading slate. The experienced dealer knows that "variegated" is a mottled green and purple, but there is nothing in the term to convey this impression to the public.

Slates consist essentially of stable silicate minerals that are very resistant to weathering, and consequently high-grade mica slate is one of the most durable of building materials. Reference may be made to a slate-roofed Saxon chapel which stands in Bradford-on-Avon, Wiltshire, England. It was built in the eighth century, and after 1,299 years of constant exposure to climatic changes, it is moss covered but still in good condition.

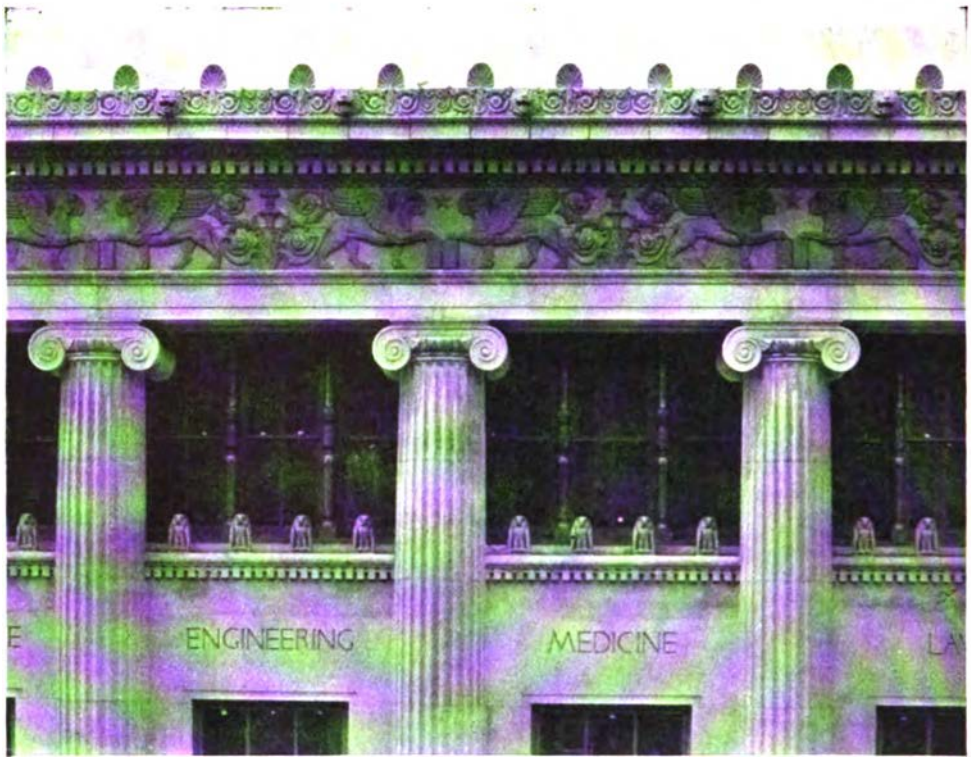
The shales from which slates originated were primarily deposited as clay beds. Bands representing beds of darker colored slate are known among quarrymen as ribbons. Slate in any one bed tends to be uniform for considerable areas, but one bed may differ greatly from another.

Slaty cleavage is the structure which above all others differentiates slate from other rocks and gives it economic value. By virtue of it the rock splits much more easily in one direction than in others. A true slate may be split into thin sheets having comparatively smooth and even surfaces. Some of the Pennsylvania slates can be split as thin as one-thirty-second of an inch, but such sheets are too thin for practical use. In the manufacture of blackboard slates, uniform, smooth slabs 4 by 6 feet or larger may be readily split to a thickness of three-eighths inch. The slaty cleavage rarely coincides with bedding, and commonly crosses it nearly at right angles. Where slaty cleavage and bedding coincide, the split surface is usually more uneven than where they intersect, and such slates are, therefore, more suitable for mill stock than for roofing. Best splitting can be obtained from freshly quarried rock, for slates can not be split readily after they have dried out. Repeated freezing and thawing also destroys the splitting quality.

Although slates split with greatest ease in the direction of slaty cleavage, many slates have a second direction of splitting that although less pronounced than the slaty cleave is of economic significance. This second direction of splitting is termed the "grain." It is approximately at right angles to the slaty cleavage, usually follows a direction nearly parallel to the cleavage dip, and may commonly be recognized by lines or striations on the cleavage surface. In some slate deposits the grain is distinct, whereas in others there is practically no grain. In the manufacture of roofing slates, the grain should always be parallel with the long sides so that breakage will be in the direction of the dip of the roof. Curvature of cleavage has been noted in various slate deposits. Curved slates resulting from such cleavage have been used to some extent for roofing round towers.

"Ribbons" is a term applied to comparatively narrow bands crossing slates at various angles. They represent minor beds having somewhat different composition from the main body of the slate. Some ribbons are not objectionable for they may contain no injurious constituents and may not have undesirable colors. In some of the Pennsylvania deposits, however, the ribbons are rich in carbonates that weather more readily than the siliceous constituents. Such ribbons in roofing slates can be permitted only on those

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T.C.



To Brighten a Façade

One of the best uses of Atlantic Terra Cotta colors is to brighten a façade of stone.

The frieze illustrated is unglazed dark buff-gray Terra Cotta against matt glazed buff-yellow; rosettes in matt blue.

The Terra Cotta Birds of Wisdom on the second story sills are gray, slightly darker than the stone sill.

The Terra Cotta Cornice repeats the color of the stone façade. The modeling in another material would be more than three times the cost of modeling in Atlantic Terra Cotta. The colors would be impossible in another material.

Wilmington Public Library, Wilmington, Del.
E. J. Tilton & A. M. Githens, Architects.
Du Pont Engineering Co., Builders.

Atlantic Terra Cotta Company

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Southern Factory:
Atlanta Terra Cotta Company
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parts of the slates that are not directly exposed to the weather. When exposed to the weather the ribbons in the "soft-vein" slate of Pennsylvania decompose more readily than the clear stock. In sidewalks, made of ribboned slate, deep grooves have commonly resulted from the weathering of the ribbons. The ribbons in the "hard-vein" slate of Pennsylvania resist weathering.

Most of the minerals composing slates are stable silicates that withstand weathering remarkably well. A slate free from impurities is, therefore, a very durable rock.

Clay slates are not as durable as mica slates; they are more porous and disintegrate more readily. If a high-grade mica slate is placed on edge in water, the moisture will not rise perceptibly above the water line even in 24 hours; whereas if a poor grade of clay slate is used, the moisture may rise as much as 2 inches in 10 minutes because of the capillarity of the porous clay. If a good-sized fragment of slate is suspended and struck with a hard object, the nature of the sound given forth is a fair indication of the quality of the slate. A high-grade mica slate will yield a semivitreous ring, whereas clay slates or mica slates containing considerable chlorite or talc are much less sonorous.

Slate to be used where low conductivity is required, as for electric switchboards, must contain a very small percentage of magnetite. The percentage of magnetite can best be determined by pulverizing a given quantity of slate, separating the magnetite with a powerful magnet, and weighing it.

The essentials of slate for roofing are straight, uniform, and smooth cleavage, a uniform and attractive color, unfading or fading uniformly, and absence of mineral constituents that dissolve with relative ease. In the United States slates are sold by the "square"—enough slate to cover 100 square feet with a 3-inch lap. Slates range in size from 7 by 9 to 16 by 24 inches, and the number of slates required for a square ranges from 85 to 686, according to the size. Ordinary slates are from one-eighth to one-fourth inch thick, and although the cost of transportation and the weight on the roof supports is less for the thinner slates, the liability to breakage is greater. The weight of a square of average roofing slates is about 650 pounds.

Slate suitable for blackboards must be soft and fine-grained. A tendency exists among users of slate blackboards to specify clear stock only. A high quality in finished product is, of course, desirable, but in demanding clear stock the consumer is hedging the producer about with conditions that he is often powerless to meet. Clear stock, by estimate, constitutes only about 10 per cent of what is commonly regarded as the commercial slate of the soft-vein belt, or approximately 1 per cent of the gross tonnage mined. Blackboard users will help the industry by endeavoring to appreciate the manufacturer's contentions, and frame specifications in a way that will permit a wider use of stock that is not clear.

In speaking of slate, the term "structural slate" is employed for slate products used chiefly for interior structural and sanitary purposes. The chief structural slate products are mantels, floor tiles, steps, risers, flagging, skirting boards, window sills, lavatory slabs, billiard and other table tops, wainscoting, hearths, well caps, vats, sinks, laundry tubs, grave vaults, sanitary ware, refrigerator shelves, flour bins, and dough troughs. A soft, even-grained slate, preferably not highly fissile, is required for such purposes.

Slate is used widely for purposes where low electric conductivity and mechanical strength are required. As a rule it has a lower dielectric strength than marble, but from its toughness easy workability, low cost, and ease of matching when switchboards are enlarged, it is more generally employed. Electrical slate should be strong, and of such quality that it can be cut and drilled without scaling; it must be free of magnetite and of veins of low-resistance minerals.

Slates from some localities are much weaker than from others. Weakness in the material results in excessive waste from breakage in punching, and in the frequent appearance of broken slates in the finished roof. As a protection to the public, and to maintain a high reputation for slate, to conduct frequent tests of transverse strength seems advisable; also the rejection of all slates that fall below a certain standard. Some slate-selling organizations now classify slates according to strength, and adjust prices in conformity with their relative qualities.

As slate is sold on the basis of surface area, a slate maker obviously can obtain greater returns from a block split into thin slabs than he can obtain from the same block split into thick ones. Moreover, the weight of a square is less, which lowers charges for haulage. Consequently there is a tendency to make thin slates from free-splitting rock. If slates fall below three-sixteenths inch in thickness they are likely to be so weakened that undue losses occur from breakage during punching and laying. Breakages involve replacement of broken slates on the finished roof, and replaced slates are never as satisfactory as the original ones. The annoyance and expense involved in the use of weak slates has been detrimental to the use of slate, and it is believed that if slate producers would maintain a thickness a little greater than three-sixteenths inch rather than less, the advantage gained from this better service to the consumer would be ample to offset the slight saving in material or in the freight charges gained in making the thinner slates.

That any carpenter can lay slate is a common statement, and many roofs are laid by inexperienced workmen. Slate roofs give much better service when placed by men who specialize in such work. For example, most carpenters in placing slates drive the nails "home," just as they would in securing wooden shingles, with the result that when the sheeting dries and shrinks the slates are cracked. A skilled slate roofer does not drive the nail to its full depth, but allows the slate to hang loosely. Another common error is due to mistaken economy of giving a head lap less than the regulation requirement of 3 inches. As a result the roof may leak, not through any fault of the material, but through improper workmanship. The practical roofer usually punches the slates at the place where they are to be used, and during the punching process he sorts them into three grades—thin, medium, and thick. The heaviest slates are then placed near the eaves, those of medium thickness midway, and the lightest at the ridge, which gives a very uniform roof.

Blackboards and switchboards are included with structural slate, as the processes of manufacture are similar. The blocks are measured and marked according to the size for which they are best adapted. The marked block is then placed on a saw bed. The saws vary from 24 to 48 inches in diameter and are about three-eighths inch thick. The saw makes a cut about three-fourths inch wide. When the sawing process is completed the blocks are conveyed to a planer where the surfaces are finished. Special care must be taken to obtain the desired thickness for the finished product. The block is not reduced to its final thickness in the planer, for some allowance must be made for removal of slate during subsequent processes, such as rubbing or honing. If a smoother surface is desired, they are placed on the rubbing bed. The rubbing bed is not only used to obtain a smooth surface but also to grind rectangular blocks to size. The operator uses a gage and square and thus is able to turn out blocks true to size and having right angles. The rubbing bed is also used for making beveled edges on switchboards and other products, though the bevel is often cut with a coarse file, a pneumatic tool, or a carborundum wheel. For certain thin products,

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such as blackboards, the blocks as they come from the saw table must be split into thin sheets. In a good splitting slate the surface is so smooth that no planing is required. The thin slabs are placed on the rubbing bed without any preliminary smoothing process.

Certain products, such as blackboards and switchboards, require a much smoother finish than can be obtained on a rubbing bed. This fine polish may be obtained with a carborundum cloth belt, a buffer, some other form of polishing machine, or by hand.

The process of finishing slate to resemble verde antique, bloodstone, or well-known marbles is known as marbleizing. The process consists of repeated painting and baking. The following is a typical marbleizing process. The slabs are first painted black, then baked several hours in a chamber heated to a temperature of 175° Fahr. They are then dipped in a trough of water having red, white, and green paint floating on the surface. A skilled operator can stir the water in such a manner as to obtain the various patterns with the floating paint. When the slab of slate is brought into contact with the surface the paint adheres and reproduces the pattern. It is then baked a second time, varnished, baked a third time, polished with pumice, and finally baked a fourth time. This gives a "bloodstone" finish. If no green paint is used a "Venetian" finish results. Checker boards, flags, and various other designs may be made in the same manner.

Inlaid slate is a name given to a roofing material made of small rectangles of slate set in a mastic on a backing of prepared roofing. Waste fragments from the splitting shanties are cut with a special machine to rectangles of 3 by 6 inches. Five of these small slates are cemented under heat and pressure to a strip of roofing felt, 6 by 15 inches. Such groups of slates are termed units. The projection of the backing laps beneath the adjoining units. The units may be cemented over any standard prepared roofing.

Inlaid slate has been used on flat roofs of a number of important structures. It is well adapted for use where a promenade is desired. It has also been used successfully as a substitute for copper in making large gutters. They are easily applied, provide solid and waterproof roofs, and owing to the small size of the slates and flexibility of the units, they may be fitted over uneven surfaces without cutting the slate.

The Inlaid Slate Co., of Pen Argyl, Pa., ran successfully from 1905 until 1917, when work was suspended owing to war conditions. There is some prospect of establishing a plant for manufacturing inlaid slate in connection with the manufacture of structural and roofing slate.

The most recent development in the use of slate veneer is in the manufacture of slate-surfaced roofing-shingles. At the time of writing such shingles are surfaced with granules, but the proposed methods, which is yet in the experimental stage, is to substitute a thin slab of slate for the granules. Any ordinary composition tar roofing may be used as a backing, to which a slab of slate one-sixteenth inch thick is cemented. The shingles are laid in the same way as wooden shingles; they have the advantage of being much lighter in weight than slates, and may be nailed like wooden shingles without previous punching. Also broken slates are held in place by the backing. Plans are now being made to manufacture such slates on a large scale. Waste fragments may be utilized to some extent for sidewalk stone, building stone, and fence posts.

Synopsis.—Properties of slate and features of deposits, Imperfection in slate, Testing of slate, Uses of slate, History, Distribution of slate, Quarry operations, Quarry methods, Operations outside the quarry, The problem of waste, Crushing and pulverizing, Accident prevention, Bibliography, Publications on quarrying.

Residence Lighting. (31f12)—(*Lighting Data, Edison Lamp Works, Bulletin L. D.* 137. *Pages* 36. *Size* 6" x 9". *Illustrated.*) There are three general ways of lighting a room, *i.e.,* by direct, totally indirect or semi-indirect illumination. With luminaires of the first class, shades are used that send the dominating light directly down where it is to be used. The dining room dome, the shower fixtures, the pendant wall brackets and the ordinary table lamp, all are examples of this type of lighting.

Just the opposite effect is obtained by using the indirect system because, in that, all the light is directed to the ceiling which in turn acts as a large reflector and distributes the light throughout the room. No dense shadows are created because the light, being reflected from such a large surface, is well diffused. This type of lighting can be obtained from special portable lamps, with inverted reflectors on the tops of bookcases or in wall urns, as well as from ceiling luminaires.

Now, if the inverted bowl instead of being opaque allows some of the light to be transmitted through it, still reflecting a greater portion to the ceiling, we have an example of semi-indirect lighting, another form of this being a translucent reflector on an upright wall bracket.

As the last two types of lighting depend on the ceiling to reflect the light, it is at once evident that the finish of the room is of great importance. The lighter colors are more efficient as reflectors of light than are the darker ones. The cream colored ceilings most commonly seen are about 65 per cent efficient. That is, 65 per cent of the light that falls on them is reflected back to the room. As a general rule, any loss of light by the indirect system is offset by improved quality of illumination and better conditions for seeing.

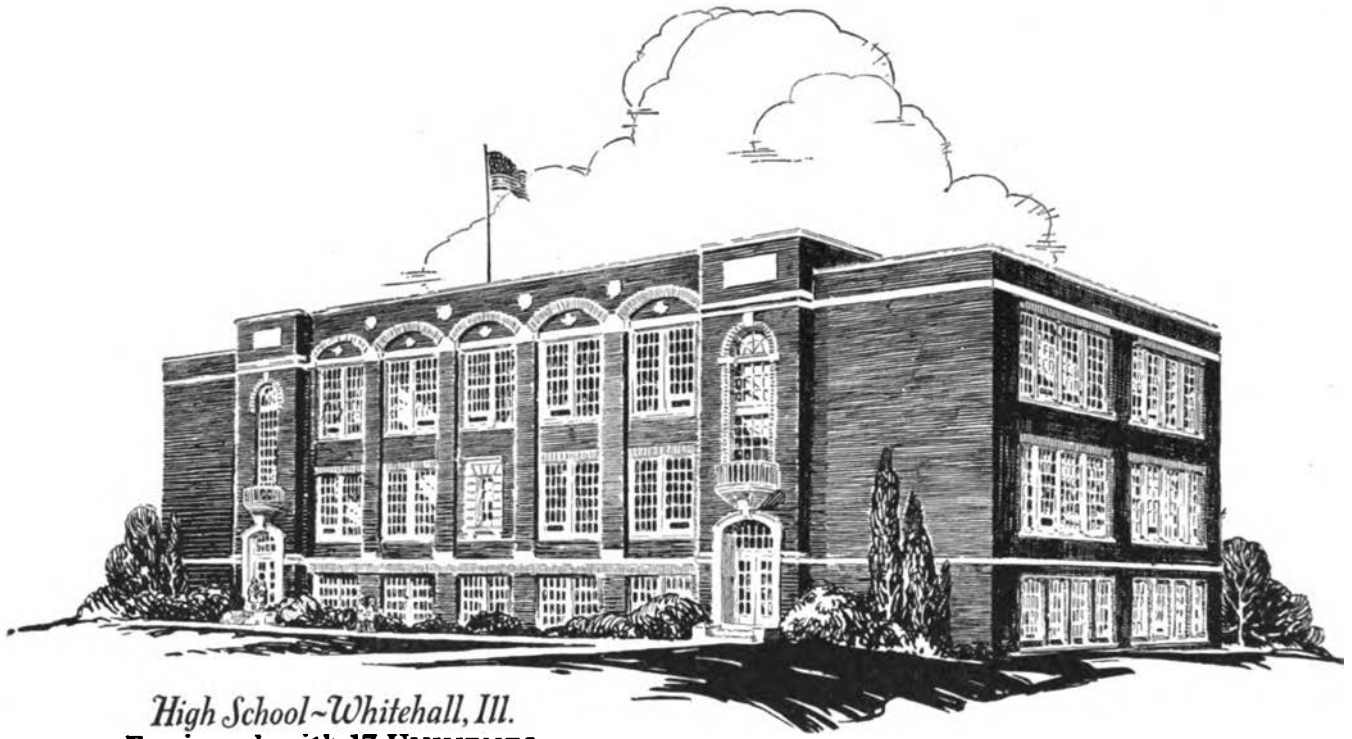
Not only is the color of the ceiling important, but also light colored walls are most desirable. A room finished in dark tones can never be made bright and cheerful. An irritating contrast in brightness is likely to prevail in such an interior. For further data, see Bulletin Index 15, "Effect of Color of Walls and Ceiling on Resultant Illumination."

As walls and ceilings become dirty, more light is absorbed by the dust and there is correspondingly less available for use. Just as important as keeping the ceiling clean is the maintenance of the luminaire itself. A thin layer of dust readily settles in an inverted bowl and, while it may act as a diffuser of a light source, it acts more as an absorber.

Synopsis.—Scope. Introduction. Systems of Lighting. The Home's Workshop, Kitchen, Butler's Pantry, Laundry and Work Bench, Den or Sewing Room. Living Room—Dining Room — Hall or Reception Room Bedroom — Bathroom— Porch — Grounds — Garage — Wiring—Chart. The Right Lamp to Use.

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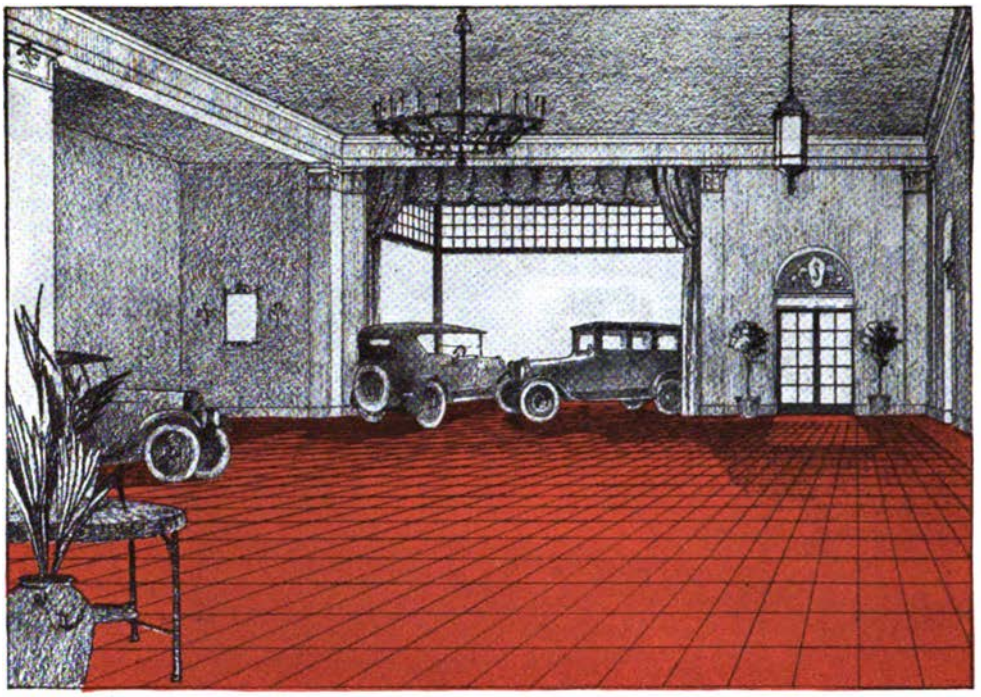
Portland Cement Concrete Roads. (11a)—(*U. S. Dept. of Agriculture. Bureau of Public Roads, Bulletin No.* 1,077 *by James Voshell, District Engineer and R. E. Toms, Service Highway Engineer. Pages* 67. *Size* 6" x 9". *Illustrated.*)

Synopsis.—Materials used in concrete roads, Cement, Fine Aggregate, Coarse Aggregate, Water, Reinforcement. Proportioning. Quantities of Materials required. Design, Width of pavement, Thickness of pavement, Crown of pavement, Superelevation of curves, Joints, Steel reinforcement, Shoulders and ditches, Curbs and gutters, Bituminous surface treatment, The cross section. Construction, Grading, Drainage, Preparation of subgrade, Forms, Handling and hauling materials, mixing and placing, Finishing the surface, Protecting and curing the concrete, Placing concrete in freezing weather. Organization and equipment. Capital required. Cost of concrete pavements. Maintenance, Resurfacing old concrete pavements.

Sewage Disposal for Residences and Small Institutions. (29c2)—(*Engineering Experiment Station, Purdue University. Bulletin No.* 6 *by R. B. Wiley. Pages* 35. *Size* 6" x 9". *Illustrated.*) This bulletin has been prepared with two objects in view: first, to furnish enough information for the average rural resident to provide for proper disposal of the sewage from his home, and second, to inform school and institutional trustees on the general subject of sewage treatment that they may know in a general way what type of disposal may be installed.

Contents: Methods of Disposal, Dilution, Methods of Treatment, Cess-Pools, Septic Tank, Imhoff Tank, Tank Covering, Disposal of Septic and Imhoff Tank Effluent, Absorption, Irrigation, Contact Beds, Sprinkling Filters, Sand Filters, Siphons, Sludge Beds, Grease Traps, Location, Piping, Concrete.

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Volume XI JULY, 1923 Number 7

The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER XIV.

Face to Face

IF with open mind one reads and observes industriously and long; if in so doing one covers a wide field and so covering reflects in terms of realism, he is likely, soon or late, to be brought to a sudden consciousness that Man is an unknown quantity and his existence unsuspected.

One will be equally amazed to note that the philosophers, the theologians, of all times turned their backs upon Man: that, from the depths of introspection, fixing their gaze in all directions save the real one, they have uniformly evolved a phantasm, or a series of phantoms, and have declared such to be man in his reality—and such reality to be depraved. A small feature, however, was overlooked by them in the neglect to observe that their man, in his depravity, had created the gods. Their insistent view of man—a further product of their phantasy—lay in the dogma, protean in form, that man is creature.

Meanwhile the real man was always at their elbow, or moving in groups or multitudes about them, or even looking them in the eyes and holding converse with them. But they did not see him: he was too near, too commonplace—too transparent. The gods were far away and could be understood.

The mighty man of war also turned his back. Yet the wise man, the warrior and the priest differed in no valid sense from the multitudes enfolding them as in a genesis; for man in his state of depravity as creature, created these also, as his demigods.

Thus man, not knowing himself, and none else knowing him, lived as a mirage, within a world of mirage which he fancied real. It was real for him: for such is the habit of man's imagination in playing tricks with him in his credulity.

The careful reader and observer again may be astonished to note that to the multitudes imagination, as such, is unknown—that the multitudes are unconscious of this power within themselves. Hence the reader, the observer, who is not so completely unconscious of himself, becomes aware of the imposing phenomenon that the huge and varied superstructures of the civilizations of all times have rested for support on so tenuous a foundation as the fabric of the radiant dream of the multitudes. That in such dream he will clearly see Imagination playing its clandestine rôle. The mass imagination of the multitudes is thus seen to be the prime impelling and sustaining power in the origins and growth of the civilizations. Let the mass-imagination withdraw its consent, withhold its nourishing acquiescence and faith, then the civilization founded thereon begins to wither at the top, emaciates, atrophies and dies. One will further note that such changes in the mass imagination, in the mass dream, are of highly varied origins; but once under way, are beyond recall.

One also minutely notes that the tricks of imagination are universal and beyond numbering in variety, permeating all phases of the social fabric. Hence man's vagaries and follies and cruelties are beyond computation: yet all these betrayals and cajolings and trickeries flow from the same single source, namely the individual, unconscious that his imagination is incessantly at work. Because he is not acquainted with its nature, and unaware that he is its puppet, his waking hours are a continuing dream of inverted Self.

It is the mass-dream of inverted self, populous with fears overt and secret, that forms the continuous but gossamer thread upon which are strung as phantom beads all civilizations from the remotest past of record to that of the present day and hour. As we follow back upon this thread—one end of which is delicately attached to our own inverted secret thoughts, we find it unchanging from end to end, regardless of environ-

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ment; the civilizations it passes through and upholds on its way are but local manifestations and exhibits.

This intense and continuing preoccupation with inverted self makes it clear why man has turned his back on man, and why man is still unknown to himself—and unsuspected.

So long as imagination slyly tricked him into self deprecation, self debasement and the slavery of the creature conviction, or into the opposite, megalomania, with its unquenchable thirst for blood, for plunder, and dominion; or with siren song beguiled him through the portals of a closed world of abstraction,—he could not know himself, and the neighbor must remain a stranger to be feared, despised, or placated.

Indeed, until we come as pioneers, to seek out and know imagination as such, to view it clearly defined as an erratic and dangerous power, to be controlled; until we have observed with realistic clarity its multifarious doings from black magic upward to mighty deeds of hand and head and heart, we shall remain remote from man's reality, and from the splendor of his native powers.

* * *

One who has made the rough pilgrimage through the jungled infirmities of philosophy, of theology, and through the wilderness of turbid dream-words uttered by the practical man who deals in cold, hard facts; one who as pioneer worked his troubled way through the undergrowth of culture with its acceptances, its preconceptions and precious finalities; one who, led on by a faith unfaltering, at last arrives at the rendezvous with Life, here testifies the natural man as sound to the core and kindly, yet innocent of himself as the seat of genius, as container of limitless creative powers of beneficence.

Solely on the strength of this faith was begun the story of a child-dream of power.

* * *

Wherefore we may now inquire: What are these powers, and what is the reality we affirm to be man?

He is none other than ourselves divested of our wrappings. If we in imagination divest ourselves of our wrappings we may see that he is ourselves. If we remove our blinders we shall see more clearly. If we look out between the bars of our self-imprisonment, we may note him nearby, walking familiarly in the garden of Life. Undoubtedly he is ourselves, he is our youth, he is our spirit, he is that within us which has yearned for frank utterance, how long, and still yearns.

It is appalling to think he is ourselves; to wake from our dream and see him. Yet will it not be inspiriting to find him at our elbow—no longer a stranger—no longer to be feared? To know that he is like us all? To feel the widening sense, as we regard him, that he stands not only as our explanation, but as our self-revelation. True, he is not at all what we had supposed and what we have affirmed. Yet will he be grimly recognized as he comes into view—to our amaze, for he is precisely that which we have denied.

We may be shocked at first, retreat, and disclaim; for denial of the power of life is our habit of old. We have other habits of old woven into weird grotesqueries. These are among our wrappings.

* * *

Inasmuch as man has been affirmed herein as sound and kindly, let us examine him. Rest assured we shall find naught in him that is not truly in ourselves and was not there in latency at birth.

To begin: He is a *Worker* and a *Wanderer* in varied ways. With his bodily powers he may go here and there, he may move objects about, he may change the order of things. Here at the onset we find a portentous power—the power to change situations: he can make *new situations.* With his ten fingers he can do wonderful things, make things he needs, make accessory things to extend his muscular powers. Thus he *manipulates*—he further changes situations: He changes his own situations, he creates an environment of his own. One sees here the Adventurer, the Craftsman, the Doer,—ever growing in power. Thus man's first collective power within himself is the power to aspire, to work—to wander—to go from place to place near and far—to return to his home.

Now comes into view that power we call *Curiosity*—and coupled with it the power to *inquire.* Man's power to inquire we call a mental power, to distinguish it from his somatic power. It may have had a beginning, it can have no end. The results of inquiry we call knowledge; its high objective we call science. The objective of science is more knowledge, more power; more inquiry, more power.

Now, if to the power to do we added the power to inquire, Man, the worker, grows visibly more compact in power, more potent to change situations and to make new situations for himself. The situation may be a deep gorge in a wilderness; the new situation shows a bridge spanning the chasm in one great leap. Thus it is that man himself, as it were, leaps the chasm, through the adventurous coördination of his power to inquire and his power to do. And thus the natural man ever enlarges his range of beneficence. His life experiences are real. He reverses the dictum "I think: therefore I am." It becomes in him, *I am: therefore I inquire and do!*

It is this affirmative "I AM" that is man's reality.

Wherefore warrior, philosopher and priest turned their backs. This "I am" they could not see, could not suspect, even as it stood at their elbow regarding them with ordinary human eyes. For it had been settled long ago on abundant evidence that man is creature and depraved.

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THE AUTOBIOGRAPHY OF AN IDEA

In the history of mankind there are recorded two great INVERSIONS. The first, set forth by the Nazarene to the effect that love is a greater power and more real than vengeance. The second, proclaimed the earth to be a sphere revolving in its course around the sun. These affirmations were made in the face of all evidence sacred to the contrary. Who could feel the earth revolving? Who could fail to see the sun rise and set? What but blood could satisfy, or an eye for an eye?

Hence man's powers were not seen as himself, nor himself as his powers. Such recognition would involve a reversal and inversion both of sacred lore and common sense.

In reactive consequence of age-long self-repression and self-beguilement the world of mankind is now preparing its way for a Third Inversion. The world of heart and head is becoming dimly sentient that man in his power is Free Spirit—Creator. The long dream of inverted self is nearing its end. Emerging from the heritage of mystical unconsciousness and phantasy, the world of mankind is stirring. Man's deeds are about to become conscious deeds in the open. The beauty, the passion, the glory of the past shall merge into a new beauty, a new passion, a new glory as man approaches man and, recognizing him, rejoices in him and with him, as born in power.

* * *

Never in man's time has there been such sound warrant for an attitude of Optimism as in our own, the very present day. Yet to him who in myopic fear looks but at the troubled surface, there appears equal warrant in the phantasy of Pessimism. What a price man shall have paid for freedom! For freedom from the thrall of his parlous imagination! For freedom from the strangle hold of his own phantasmal self!

* * *

He who has lived, alive, during the past fifty years has viewed an extraordinary drama. He who starting young, shall live through the coming fifty years will move within the action and scene shifting of a greater drama.

The gravitation of world thought and dream is shifting. Out of the serial collapses of age-long feudalism is arising a new view of man. For man's powers, in certitude, approach the infinite. They are bewildering—amazing in diversity. They unfold their intimate complexity to our view as an equally amazing solidarity, as we hold, steadfast, to the realistic concept of man as free spirit—as creator—even as the vast complexity in the outworking of the feudal thought simplifies into a basic concept of self-delusion and self-fear.

* * *

Our portrayal is not yet wholly clear. Let us go on. There lies another power in man. That power is MORAL: Its name is CHOICE! Within this one word, Choice, lies the story of man's world. It stands for the secret poise within him. It reveals as a flashlight all his imagings, his phantasies, his wilful thoughts, his deeds, from the greatest to the least, even in this gliding hour we call today. *This one word, Choice, stands for the sole and single power; it is the name of the mystery that lies behind the veil of all human appearances.* A word that dissolves the enigma of men's deeds. A word, a light that not only illuminates all his obvious works, all the inner springs and motives of his civilizations, but a light whose rays reach within the sanctuary of the secret thought of each and all, thus revealing the man of the past and the man of today, starkly in personal status as a social factor of beneficence or woe. Need we know man's thoughts? View his works, his deeds; they tell his choice.

Implicit in true freedom of spirit lies a proud and virile will. Such glorious power of free will to choose, envisages beneficent social responsibility as manifest and welcome. Here now stands in full light Man erect and conscious as a moral power. The will to choose aright lifts him to the peak of social vision whence he may forecast new and true situations.

* * *

The Free Spirit is the spirit of Joy. It delights to create in beauty. It is unafraid, it knows not fear. It declares the Earth to be its home, and the fragrance of Earth to be its inspiration. It is strong, it is mighty in beneficence. It views its powers with emotions of adventure. Humility it knows not. It dreams a civilization like unto itself. It would create such a world for mankind. It has the strength. It sees the strength of the fertile earth, the strength of the mountains, the valleys, the far spreading plains, the vast seas, the rivers and the rivulets, the great sky as a wondrous dome, the sun in its rising, its zenith, and its setting, and the night. It glories in these powers of earth and sky as in its own. It affirms itself integral with them all. It sees Life at work everywhere—Life, the mysterious, the companionable, the ineffable, the immensest and gentlest of powers, clothing the earth in a pattern of radiant sublimity, of tenderness, of fairy delicacy—ceaselessly at work. Thus the free spirit feels itself to be likewise clothed as with a flowing shoulder-garment, symbol of power akin to the fluent mystery and fecundity of Life. Thus it moves in the open with vision clear. Thus is man the wonder-worker bound up in friendship with the wonder-worker—Life.

* * *

Now the real man begins to shape within our vision.

Consider his primary powers: He, the *worker,* the *inquirer,* the *chooser.* Add to these the wealth of his emotions—also powers. Think how manifold they are, how colorful: how with them he may dramatize his

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works, his thoughts, his choosings: how he may beautify his choice. Think of his power to *receive:* to receive through the channels of his senses, to receive through his mystic power of sympathy which brings understanding to illumine Knowledge. Think of what eyesight means as a power, the sense of touch, the power to hear, to listen: and the power of contemplation. Add these to his cumulating interblending power: then think again of his enlarging power to act. Deep down within him lies that power we call Imagination, the power instantly or slowly to picture forth, the power to act in advance of action; the power that knows no limitations, no boundaries, that renders vivid both giving and receiving; the inscrutable dynamic power that energizes all other powers. Think of man as Imagination! Then think of him as Will! Now enrich the story of his prior-mentioned powers with the flow of imagination and the steadiness of will. Think anew of his power to act; of the quantity and quality of this power.

Now think of the freedom such power brings!

Think of the power we call Vision: that inner sight which encompasses the larger meanings of its outer world, which sees humanity in the broad, which beholds the powers without itself, which unifies its inner and its outer world, which sees far beyond where the eye leaves off seeing, and as sympathetic insight finds its goal in the real.

Now see Man go forth to work, inspired by his vision of the outer world, himself made eager by the passion to live and worthily to do!

See him go forth in certitude as seer, as prophet, as evangelist, proclaiming his faith—in certitude as worker, to build a new home.

See him, as poet, as troubadour, as he goes forth, singing the new song, the refreshing song—calling in carols: Awake! ye dreamers all, Lift up your heads, and be your hearts lifted up that Life in splendor may come in: Ye who dream in the shadows and are sore perplexed.

Thus the multitudes vibrate, as they dream—at the sound of a song in their dream.

It is the richness of the soul-life of the multitudes that inspires and at times appalls the observer. For the multitudes are compact of human beings—a vast ceaseless flow of individuals, each a dreamer, each latent in power, the mass moving noiselessly through time—slowly changing in its constancy of renewal.

* * *

Thus though Man now appears before us in glamor as a maze of powers, we have not yet made his image clear in full, and in diversity.

While it is plain, when all wrappings are removed, we shall find all men to be alike in native possession of essential powers, we are at once confronted by this paradox: that all men obviously are different; that no two are alike. In plain words we find each human being unique. When we say unique, we mean *the only one.* Thus each one is the only one. If we have mused long upon the immense fecundity and industry of Life, the paradox vanishes: The only one and the all coalesce. The individual and the mass become *one,* in a new phase of power whose stupendous potency of creative art in civilization stuns the sense of possibility.

Now opens to our view the Democratic Vista!

Now see unfold the power of the *only one* in multiple, and the *One* become a vast complex of unique powers inspired of its free spirit and its power of beneficence—its works now solidly founded on the full emergence of courage—the evanishment of fear!

* * *

Alas, the world has never known a sound social fabric, a fabric sound and clean to the core and kindly. For it has ever turned its back on Man. Through time immemorial it has, in overt and secret fear of self, been impotent to recognize the only one, the unique. Hence wars and more wars, pestilence, famine and desolation: the rise and crumbling of immense fabrics.

The feudal concept of self-preservation is poisoned at the core by the virulent assumption of master and man, of potentate and slave, of external and internal suppression of the life urge of the only one—of its faith in human sacrifice as a means of salvation.

The *only one* is Ego—the "I am"—the unique—the most precious of man's powers, their source and summation in diversity. Without Ego, which is Life, man vanishes. Ego signifies Identity. It is the free spirit. It is not a tenant, it is the all in all. It is present everywhere throughout man's wondrous being. It is what we call the spiritual, a term now becoming interchangeable with the physical. It is the sign and symbol of man's immense Integrity—the "I am that I am." To it the Earth, the world of humanity, the multitudes, the universe—become an Egocosm.

Thus to the eye of the earnest watcher, the dual man of legend and of present mythical belief fades, incorporeal as a ghost. Departing it leads the ghostly feudal scapegoat with its burden of sin.

It is man's manifest integrity that reveals him valid—sound to the core. It is this spiritual integrity that defines him human, that points true to his high moral power—the power of valid choice.

This new vision of man is the true vision of man.

Toward this new truth, this inversion, the world of mankind slowly turning, vaguely conscious, strives to articulate that which is as yet too deep, too remote, too new for its words. But it is not too deep, too remote or too new for its aspirations.

* * *

Thus in portrayal stands *Man the Reality:* Container of self-powers: a moving center of radiant energy:

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awaiting his time to create anew in his proper image.

Are then the multitudes infertile? Is genius rare? Has our traditional education and culture left us wholly blind? Have we forgotten the children—Egos at our elbow? The springtide of genius there! Shall we continue to destroy? What is our *Choice?* How have we exercised it? How shall we exercise it? Is our moral power asleep? Are we without faith in our own?

Whence then this story of a child's dream of power? What shall *our* dream be?

* * *

Our dream shall be of a civilization founded upon ideas thrillingly sane, a civilization, a social fabric squarely resting on man's quality of virtue as a human being; created by man, the real, in the image of his fruitful powers of beneficence; created in the likeness of his aspirant emotions, in response to the power and glory of his true imagination, the power of his intelligence, his ability to inquire, to do, to make new situations befitting his needs. A civilization that shall reflect man sound to the core and kindly in the exercise of his will to choose aright. A civilization that shall be the living voice, the spring song, the saga of the power of his Ego to banish fear and fate, and in the courage of adventure and of mastership to shape his destiny.

Such dream is the vigorous daylight dream of man's abounding power, that he may establish in beauty and in joy, on the earth, a dwelling place devoid of fear. That in the so doing he shall establish an anchorage within his universe, in courage, in the mighty spirit of adventure, of masterful craftsmanship, as he rises to the heights of the new art of all arts,—the art of upbuilding for the race a new, a stable home.

* * *

Plainly the outworking of so sublime a conception as that of rearing the fabric of a worthwhile civilization upon the basic truth of man's reality as a sure foundation, implies the inversion of a host of fixed ideas "consecrated by the wisdom of the ages." The time has come to place the wisdom of the ages in the balance of inquiry; to ascertain, when weighed, wherein it may be found wanting in the human sense. One sure test is sanity, for to be unkind is to be dangerously unbalanced.

It is also time to test out the folly of the ages, the multifarious corruption involved in abstract and concrete irresponsibility, the abuse of power, the abuse of the useful, the successive collapses and ruin, the ever present sense of instability, the all-pervading fear, the lack of anchorage.

So testing, we shall find that alike the wisdom and folly of the ages rest in utter insecurity upon a false concept of the nature of man. For both "wisdom" and folly have committed and still commit the double folly of turning away from man in contempt.

Glancing at our modern civilization we find on the surface crust essentially the same idea at work that has prevailed throughout the past. Yet if we search beneath the surface we discern a new power of the multitudes everywhere at work. It is the power of a changing dream, of a changing choice; of Life urging upward to the open the free spirit of man—so long self suppressed under the dead weight of the "consecrated wisdom of the ages" and its follies.

* * *

The fabricating of a virile, a proud and kindly civilization, rich in its faith in man, is surely to constitute the absorbing interest of the coming generations. It will begin to take on its functional form out of the resolve of choice, and the liberation of those instincts within us which are akin to the dreams of childhood, and which, continuing on through the children and the children of the children, shall be a guide evermore. For who shall say the child is not the unsullied wellspring of power!

The chief business now is to pave the way for the child, that it may grow wholesome, proud and stalwart in its native powers.

So doing we shall uncover to our view the amazing world of instinct in the child whence arises genius with its swift grasp of the real.

The great creative art of upbuilding a chosen and stable civilization with its unique culture, implies orderly concentration and organization of man's powers toward this sole end, consciously applied in each and every one of his socially constructive activities in the clear light of his understanding that the actualities of good and evil are resident in man's choice—and not elsewhere. Thus will arise a new *Morale* in its might!

And let it be well understood that such creative energy cannot arise from a welter of pallid abstractions as a soil, nor can it thrive within the tyranny of any cut and dried system of economics or politics. It must and will arise out of the heart, to be nurtured in common honesty by the intelligence, and by that sense of artistry which does not interfere with the growth of a living thing but encourages it to seek and find its own befitting form. Thus the living idea of man, the free spirit, master of his powers, shall find its form-image in a civilization which shall set forth the highest craftsmanship, the artistry of living joyously in stable equilibrium.

Thus widens the Democratic Vista!

* * *

The historic Feudal thought, sought and found its form in a series of civilizations resting upon a denial of man by the multitudes themselves, who sought cohesion in mutual fear of life, and out of the culture

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of fear they created their tyrants. Their unsafe anchorage lay in the idea of force, in its convincing outward show of domination, splendor and glory.

In terror of the unknown, in appeal for mediation, the multitudes passed their immense unconscious power to those they raised aloft—gods or men, and as value received they created and accepted the status of servitude. Those thus raised aloft became enormously parasitic, capping and sapping the strength of the multitudes. As the latter grew in self-sacrifice and poverty, they became luxurious in that they gave their all in the name of glory that their children, the great, might flourish. They staggered 'neath the weight of the mighty they upheld aloft and who came to know them not—other than as beasts to toil or fight. Thus has the feudal super-power ever undermined its own foundation, ever, in recurring cycle, collapsing and renewing—renewing and collapsing. Times, places, names, local colors, mechanisms, countenances, change. The idea, the thought, the fear, persists through the ages.

* * *

For us the chief impress of the self-revealing story of mankind lies in the perception that all sanctioning power comes from below. From the vast human plenum we have called the multitudes, it arises gently, massively, step by step, stage by stage, height upon height; all of which but signifies the peoples' dreams of glory taking shape vicariously in their times and places. The spectacular and imposing groups and summits of the feudal superstructure have no other base, no other sanction. Like towering cumulus clouds they float upon thin air.

As there are truths that lie within truths, so are there dreams that lie within dreams. The most ancient of dreams lies indeed within the feudal dream. This dream is none other than the dream of the reality of man.

As truths one by one appear above the surface, ever more powerful, farther reaching as they come from greater depths of life, so the great deep dream of man's free spirit has been moving upward through the feudal dream. The flair of his powers is now sensing in the thought of the man of today.

* * *

With the great inversion of the Earth and the Sun, brought definitely about by so small an object as a telescope which man in his curiosity invented—created—to extend his power of eyesight and the daring thought—the dream—it stood for; with this shock of inversion definitely began the greatest of man's adventures upon his Earth.

We in present sense and in retrospect call it the MODERN.

The feudal flow poured on, the germ of the modern growing in embryo apace and inexterminable. Inquiry upon inquiry followed; invention upon invention, discovery upon discovery; and wars and more wars, tremors, and the downfall of mighty superstitions; cunning and betrayal raged in abuses of delegated power, institutions rocked, dogma came forth in the open, knife and torch in hand the feudal flow went on in stealth, the modern power grew and ramified; there was calm and there was turbulence; onward flowed the feudal stream with its new arrangements, its new collapses, its new horrors, its new deaths, its new resurrections, as the power of man's self-determination, the assertion of his free spirit, none too articulate as yet, none too sane, clarified in growing strength, its inventions seized upon, its uses turned to abuse, yet goading the feudal power into titanic writhings, fears and dreads, desperations, ruses and stratagems, wars and more wars—the dread phantom of awakening multitudes—the resolve to foster hate.

Yet man the worker, the inquirer, ever pushed onward in hope. Came the printing press, the mariner's compass, the power of steam, railroads, great ships, the discovery and development of new vast hidden riches of earth, the harnessing of the mystical power of electricity, the land telegraph, the ocean cable, the telephone, the growth of libraries, the daily papers, the public schools, the technical schools, the automobile, vast systems of transportation of all kinds, the radio, the aeroplane, the mastery of the air, the mastery of the seas, the mastery of the earth, the increasing mastery of ideas. The immense growth in power of constructive imagination and of the will to do. And all to what end? What may tomorrow and tomorrow bring forth out of blood-stained yesterday and the flowing yesterdays since History's dawn.

The great drama we herein have called the Modern, unique in the story of mankind, beginning with a small telescope, advancing to the radio, to the measurement of the stars, to the searching out of the utterly minute in Life's infinitude of variety, to enormous strides in developments of utility, we may say is in character so eye-opening as to constitute the first act in the drama of the universal education of mankind through a series of imposing object lessons, changing situations, shifting scenes. Also, in that act begins the lifting of veils revealing object lessons coming closer up, and closer, from beneath the surface of feudal repression, and of the savage inertia of superstitions born of the habit of fear, and of unawareness, of dread of the reality of man: object lessons—ever object lessons—crowding upon us.

Among the most startling of these object lessons we are coming to apperceive the significance of choice—its dire or its joyous man-made results. Slowly in consequence comes forth from the hitherto invisible, and shapes before us, a presence no gesture can debar, no

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noise of words deter:—the sublime, the warning, the prophetic image of man as Moral Power.

Thus clarifies in the dawning light of our modern day the fuller meaning, the effulgence of the Democratic Vista: the super-power of Democratic Man.

Moral Power, in the intensity of its choice, in the full exercise of its purpose to create a world of sanity, of beauty and of joy, alone can cause to dissolve and fade into thin air as though it had never been, the baleful feudal superstition of dominion and blood-sacrifice.

This moral power residing in the multitudes and awakening to voice, is what Democracy means.

To envisage Democracy as a mechanical, political system merely, to place faith in it as such,—or in any abstraction, is to foster an hallucination, to join in the Dance of Death: to confuse the hand of Esau with the voice of Jacob. The lifting of the eyelids of the World is what Democracy means.

* * *

The implications of the Democratic Idea branch into endless ramification of science, of art, of all industrial and social activities of human well-being, through which shall flow the wholesome sap of its urge of self-preservation through beneficence, drawn up from roots running ever deeper and spreading ever finer within the rich soil of human kindness and intelligence. For kindness is the sanest of powers, and by its fruits shall Democracy be known. It is of the antitheses that Feudalism has prepared the way for kindness. Kindness, seemingly so weak, is in fact the name of a great adventure which mankind thus far has lacked the courage, the intelligence, the grit to undertake. Its manly, its heroic aspect has been unknown, by reasons of inverted notions of reality. This form of myopia is of the feudal view.

In place of myopic ideas, democratic modern thought uses clear vision. Clear vision leads to straight thinking, sound thinking to sane action, sane action to beneficent results that shall endure.

In this sense of sound thinking and clean action all sciences, all arts, all activities, become sentimentally, emotionally, dramatically and constructively imbued with the stirring, the self-propelling impulse of the democratic idea. Therefore they will all hold in common a thought whose inexhaustible power will shape a common end which shall signify in the solidity of its logic fruitful peace and joy on earth, as equally the romance of good-will toward men.

* * *

Now that we have a clarifying idea of the nature of man and his powers: now that we behold in him that which lies deepest and surest in ourselves, we may suggest the nature of a democratic education.

These things it shall do:

It shall regard the child body, the child mind, the child heart, as a trust.

It shall watch for the first symptom of surviving feudal fear and dissolve it with gentle ridicule while it teaches prudence and the obvious consequences of acts. No child that can toddle bravely is too young to know what choice means, when presented objectively and humanly. Thus it shall teach the nature of choice at the beginning.

It shall allow the child to dream, to give vent to its wondrous imagination, its deep creative instinct, its romance.

It shall recognize that every child is the seat of genius; for genius is the highest form of play with Life's forces.

It shall allow the precious being to grow in its wholesome atmosphere of activities, giving only that cultivation which a careful gardener gives—the children shall be the garden.

It shall utilize the fact that the child mind, in its own way, can grasp an understanding of things and ideas, supposed now in our pride of feudal thought to be beyond its reach.

It shall recognize that the child, undisturbed, feels in its own way the sense of power within it, and about it. That by intuition the child is mystic—close to nature's heart, close to the strength of Earth.

The child thus warded will be a wholesome, happy child. It will forecast the pathway to its maturity.

As from tender age the child grows into robust demonstrative vigor, and ebullition of wanton spirits, the technic of warding will pass by degrees into the technic of training or discipline—bodily, mentally, emotionally; the imagination, the intellect, organized to work together; the process of coördination stressed. The idea of the child's natural powers will be suggested a little at a time and shown objectively.

The child by this time is passing out of its reveries; life is glowing, very real, very tangible. So shall its awakening powers be trained in the glowing real, the tangible, the three R's, made glowing and real to it as a part of its world. It is here the difference between welcome work and a task comes into play: the difference between a manikin and a teacher.

Now arrives the stage of pre-adolescence—unromantic urge of hastening vegetative growth; the period of the literal, the bovine, disturbed at times by prophetic reverie. This is the time for literal instruction.

Now comes the stage of adolescence, when the whole being tends to deliquesce into instability, vague idealisms, emotions hitherto unknown or despised, bashfulness, false pride, false courage, introspection, impulsiveness, inhibitions, awkward consciousness of self, yet with an eye clairvoyant to that beauty which it seeks, a stirring in the soul of glory, of adventure, of romance. The plastic age of impressionability, of enthusiasms. Also the Danger Age: the age of extreme susceptibility under cover of indifference in self-protection: The age

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when thoughts and musings are most secret. The age that makes or breaks.

This is the crisis where democratic education, recognizing it as such, shall attain to its first main objective in fixing sound character, in alert intensive training of the native power to feel straight, to think straight, to act straight, to encourage pride in well-doing, to make so clear the moral nature of choice that the individual may visualize the responsibilities involved in the consequences of choice. To train the imagination in constructive foresight, in the feeling for real things, in the uses of sentiment, of emotion, in the physical and the spiritual joy of living; to stabilize the gregarious into the social sense; to set forth the dignity of the ego and all egos.

This is the time to put on the heavy work, to utilize to the full this suddenly evolving power, the recrudescent power of instinct, to direct this power into worth-while channels, to prepare adolescents to become worth-while adults, free in spirit, clean in pride, with footing on the solid earth, with social vision clear and true.

The later technical trainings shall be imbued of the same spirit. The varied kinds shall all be set forth as Specialized yet Unified social activities. Science shall be thus understood and utilized, the fine arts shall be thus understood and utilized, the industrial arts, the arts of applied science, and most urgently the science and the art of education, all shall thus be understood and utilized as social functions, ministering to the all-inclusive art of creating out of the cruel feudal chaos of cross purposes, a civilization, in equilibrium, for free-men conscious of their powers, and with these powers under moral control.

Such civilization shall endure, and ever grow in culture, for it shall have a valid moral foundation, understandable to all. It will possess a vigor hitherto undreamed of, a versatility, a virtuosity, a plasticity as yet unknown, for all work will be done with a living purpose, and the powers of mankind shall be utilized to the full, hence there shall be no waste.

No dream, no aspiration, no prophecy can be saner.

Man shall find his anchorage in self-recognition.

Thus broadens and deepens to our comprehension the power and the glory of the Democratic Vista!

(To be concluded)

At the Lincoln Memorial

18 JUNE, 1923

Music and stately company,
The marble symbol shining through the mist,
The bannered barge, the flaunting, joyous flags,
The lights, the solemn meaning of it all
Were caught and carried in a young girl's face.
She seemed a sweet presiding genius, by
Whose side the years fled and were vanquished.
I was young again, and walked with boyhood's
Sweetheart through the rain.

W. L. S.

The Federal Public Building Situation

By CHARLES HARRIS WHITAKER

It takes time to achieve things, and much patience. Nearly ten years have passed since the JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS began to publish the results of its studies of the public building situation in Washington and its narrative of the old "pork-barrel" method of providing for public buildings outside the capitol city.

The facts placed before the American people by the JOURNAL,—for its articles were copied and reprinted throughout the United States,—began to bear fruit without delay. A Public Buildings Commission was appointed to study the needs of the capitol city, and its reports have laid the basis for a wise future development. As for the "pork-barrel" public buildings bills, not one has passed since that day. Now, thanks to the intelligent efforts being made by the present administration, and directed toward a sane and comprehensive method of providing all classes of federal public buildings, there is a great hope that this question may be dealt with properly.

If there is one reproach that the people of the United States have to suffer it is that they snatch at remedies without any clear understanding of the malady they seek to cure. The Federal Public Building Question ought to begin by a statement of the problem. Therefore, let us see if we can agree upon a definition of the Federal Public Building Problem to be solved:

First, in broad terms, the problem is to provide

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shelter for Government activities. No one will disagree with that, but everyone will wish to qualify it by adding the word "suitable," to which we agree. But what is suitable shelter?

Well, a simple answer would be,—buildings of good design, soundly built of the best materials for the purpose, and yielding a smooth, comfortable and efficient usefulness to their occupants and to the public at large. Will anyone disagree with that definition?

It is at this point that the difficulty begins, however, for "good design" is not determinable by mathematical or philosophical equations. There are personal tastes and preferences and predilections involved, and what is good design for some is not acceptable to others. Some latitude has here to be provided for, and the usual method of making such a provision is to arrange for a competent man or group of men who shall determine the question of whether the design for a proposed building is a good one or not. In the old days, some federal public buildings were built from designs obtained through competitions. That is a method of establishing a design, but there is no evidence to prove that it invariably produces a good design. In fact, it is not easy to find a federal public building that is very satisfying, from the point of view of design, wherever one turns, and it is very easy to find plenty of very ordinary or very banal structures without looking far.

The question of design is a rock upon which the architectural profession has split, and is likely to continue splitting itself for some time. But that does not help the Federal Government in its search for good design, so what is the answer?

Let us make up our minds at once that there is no complete answer, and that perhaps we are more likely to solve the question of good design by approaching the problem over a different path,—over the one path by which any architectural problem can properly be approached.

A Federal Building is to shelter the Government for some purpose. For what purpose? The problem begins at that point. Let us say it is a Post Office. Very well,—what are the functions to be discharged in that building and how fast are they likely to grow? Until those questions are answered competently, the question of good design has no significance. When they are answered, the question of location arises. Land will be needed. Enough land ought to be acquired to provide for present needs and future growth. Then the building can be designed.

It will be pointed out that the actual quantity of land needed cannot be determined until some studying of the plan has been undertaken, but the probable answer to that is that the proper department of the Government would be able to supply the space requirements when the service requirements were known, and that factor ought therefore to be determinable easily in advance. In a post office there are many similarities as between one building and another. Arrangements may vary with respect to access and egress and local characteristics, but the general disposition of the parts must remain nearly the same, and space requirements are affected principally by the volume of the different kinds of mail handled. Heavy parcel post business, for example, requires large space and the best possible facilities for outside trucking.

Having determined the size of the building necessary and the amount of land needed, the problem begins to take shape. Yet in both of these determinations there will very likely be adjustments. Land cannot always be picked up in the right place, or of the right size, or within a price that is reasonable, for it is well known that our citizens do not sell to their government at the lowest prices. Thus compromises as between land available and the size and shape of the building are likely to be involved. It is the function of architecture to furnish the knowledge for making these compromises or adjustments.

It is supposable that when the problem had reached this point, money would be asked for, and this brings us to the second stage of the problem,—a very important one, for it is involved with political aspects. Hitherto, Congress has, in most cases, selected the public buildings to be built and determined the amount to be spent upon them. The right to appropriate money cannot be taken away from it, but, for the common good, that right should be exercised only on the budget principle. Congress should vote money for public buildings in one of two ways. First, by an outright sum for federal public buildings to be spent under the guidance of a Government bureau having jurisdiction, or, second, it should vote such monies for public buildings as were included in a budget presented to it by the bureau in question.

This method would have certain clear advantages. The amount determined would be gauged entirely by the financial situation of the government with respect to income and outgo and would involve the least possible political interference. It would place squarely on the bureau the task of providing the right buildings in the right places, and if the plan has the demerit of leaving the bureau at the mercy of Senators and Congressmen who would put pressure on it in order to secure a building for their constituents, that is the irreducible minimum of political interference we can provide under our system of party politics.

Is there hope that Congress would accept such a method? None whatever; and it is the second manner of appropriating money which will no doubt obtain in the end. A budget will be prepared by the proper bureau, setting forth the buildings necessary. Congress will then appropriate what it pleases and we shall have to be content with the hope that public opinion will

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slowly correct the tendency to apply political pressure. Although let us remember that as the public will be selfishly interested in securing a building for some section of itself, too much reliance should not be placed upon the corrective power of its opinion. These unpleasant facts might as well be faced. They are a part of the problem of securing good federal public buildings.

But there is here a factor that has never been computed. The whole tendency of things in American life has been a drift towards paternalism and the legislative Pharmacopœia. The function of our government is not being built upon the principle of example and the declaration of "Thou shalt," but is coming more and more to rest upon the basis of a police system, which is eternally saying: "Thou shalt not." The present clamor for restrictive legislation bears out the assertion, but the point is raised because it here seems pertinent to inquire what the Federal Government can do in providing public buildings, to make them a good example,—not only a good example of architecture, but a good example of the principle of government, which is far more important.

It is idle to expect that our communities will care very much about a building which is handed out to them by an official bureau in Washington, and of which their only knowledge will be gained through the blatant boasting of the press as to its cost, or its bigness, or the fact that it was won through the talents of Congressman Snoop. And yet if we expect our citizens and our communities to be interested in their government why not begin by arranging to have them take and hold an interest in the building which represents the government, which is always with them and ever before them, and which, if rightly designed and built, might serve as the most valuable of lessons in teaching both citizens and communities how to build? Why not, indeed? And to me it is at this point the question of good design begins to assume some importance. I have not the slightest faith in the much blubbered over good to be achieved by handing people beautiful buildings. If you wish people to be interested and influenced by beauty then you must teach them to take an interest in its creation!

How, then, is the question of good design, sound building, useful arrangement, to be brought home to our communities when the Federal Government wishes to erect a public building?

It might begin with the question of the land. The citizens should be thoroughly awakened to the factors involved,—size and location. The whole operation of acquiring land should be conducted in the open and not in secret, and, if possible, the town itself ought to participate in the cost of the land. That perhaps is the only way by which sufficient interest can be aroused. In any event the old method of secret negotiation should be abandoned and the undertaking made a public matter from the start.

At this point we come again to the question of design, for here will enter in the kind of materials to be employed. I believe they should be those which are in keeping with the traditions of the town, except where those traditions are based upon the use of wood. We do not need to cart materials from one end of the continent to the other in order to get a beautiful public building. Fire-resistance is essential and that in some degree prescribes certain materials. The selection from these should then follow tradition,—be it brick, stone, or marble. Where there are no determined traditions, then the question of suitability should determine, and suitability would again be determined by availability.

In all of these things there remains the opportunity for arousing such a public interest that the question of design would, in quite an unconscious manner, assume an importance in the eyes of the citizens such as would tend to exert an incomparable influence. There is no reason why the erection of a federal public building should not be made a topic of study in the schools. Indeed, what better thing could be studied?

From all of these premises it follows that the architect of the building should be locally selected, or, where no competent architect is available, then from the nearby territory. It is here that the American Institute of Architects, acting for the profession, could help the government tremendously. It ought to evolve a plan for the selection of an architect which would avoid the expense and delay of a competition, and it ought to help in working out a plan whereby architects could be selected, and even guided if necessary, by regional groups of architects, either under the auspices of the Chapters or those of the regional directors of the Institute.

The whole plan proposed herein is one of decentralization of function to the point where, as far as is consistently practicable, the question of securing a good federal public building is thrown back upon the community which that building is to serve. The risk, architecturally, is that we may get some buildings not quite as good as though the architect were selected under a formidable competitive system (which isn't such a terrible risk, after all, when you look over our present public buildings), but in the end, if the plan can be carried through, the opportunity for making government an intelligent constructive force is immeasurable.

The problem is not one to be solved solely in the interests of architects but in the interests of architecture, which is quite another thing. And in seeking such a solution the government and the people of the United States ought not to be chided if they look to the American Institute of Architects to show them the way out. What could be more natural, if the Institute is what it purports to be?

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THE SIENA ROAD—Toward Evening

Vingt Ans Aprés--III[1]

By H. VAN BUREN MAGONIGLE

Photographs by the Author

Bills and Banking.

We pay a bill. After long toil the elderly clerk figures out the amount of the tax. Then he must fish out from some inconvenient and inaccessible place the old exercise book in which he keeps the tax-stamps he has to use a score of times a day, all denominations jumbled up together. Ensues a long and leisurely search for the right kinds, each, when at last found, scrupulously licked and stuck on with meticulous accuracy. Then they must each be painfully cancelled. This all takes the better part of an hour. A bright girl cashier in an American hotel could have handled all the delegates of an Institute Convention with their attendant bevies while he kept one foreigner fuming to get out for one last evening stroll in Venice. One of the salient impressions of travel in Italy and France is that everything is done as though it were the very first time; if you pay a bill it is as though that were the first bill invented by man; the handling of a piece of baggage is conducted as though Adam and Eve were leaving Eden in the dewy dawn of the first recorded moving day. Happy the man or nation for whom experience has no lessons.

The excitement caused in a foreign bank by the presentation of a cheque for some modest sum is like that one might expect in the elementary class in banking of a secretarial school for young girls. There are no tellers' cages with the money on tap, and where the teller picks up your cheque, turns it over, gives you one keen look through the wicket, counts out the money with the speed of light, slaps the bills gently on the glass shelf and wiggles his fingers at the next in line. In Italy and in France—and England is not far behind—they must keep the money at the bottom of a barrel in the cellar. You go up to an open counter or a desk in a bank where you have established your identity and are perfectly well known, with your cheque written, and hand it to a polite young man who at once begins to fill out papers. When they are good and full, he takes them away and is gone a long, long, time. You shift your weight to the other foot. You crane the neck. Finally, having lots of exercise behind you and before you, you sit down.

Presently he reappears. Rigorously concealing the im-

[1] Concluded from the January issue.

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patient American temperament behind a smile that would make a crocodile blush, you rise, wagging an affable tail. But he has no money about him. He bows to some newcomer, fills out the usual sheaf of blanks and forms and again disappears. The morning is going fast. When he comes back he may have your money with him and the other poor waiting wretch sits down; an Italian bank resembles the waiting room of a busy physician in the number of patient sitters. After signing receipts and releases in quantity, he grudgingly permits you to lay hands on your own hard-earned money, and you rush out into Europe, gnashing the teeth politely and foaming gently at the mouth.

Capelli Milanese.

Of hair I sing. Not the entangling tresses of the sirens of the Capri shore, luring Ulysses' men to their cool green caverns, but the frizzed, crimped and tortured growth that obscures the cranial shapes of the males of Milan. Do I say males? One hardly knows. They wear trousers—and the splendor of the coiffure is in inverse ratio to their bagginess and dilapidation. Let the head, visible above the marble surface of a *caffé* table, but be impressive and we may almost dispense with trousers. The eye once caught and held by the amazing productions of the art of the *perruchiere* it will hardly stray to such netherments as neglected continuations and abandoned shoes. Hair we see in abundance in other towns, notably in Florence; but nowhere can it be compared in fantastic efflorescence with the hair of Milan. The season, summer, favors its display. Having paid our *lire* for a certain result it were folly to hide it under a hat, cruel to deprive our fellow men of the sight of so much beauty, such abundance, especially since only by a miracle could so much hair be gotten under the shelter of one hat.

Let us select the most populous thoroughfares for our promenade; let us pass through the *Galleria Vittorio Emmanuele* where the *forestiere* gather at the restaurants for tea or dinner to see us pass. In the matter of hair we despise conformity to type. "Individuality! *Ecco!* As to clothes, yes, we conform; we conform to the style *Inglese*. The coat with a belt, yes. The belt just too high, under the shoulderblade, yes. The skirts just too long and flaring just too much, yes. The style *vero Inglese.*" If an English tailor could be anything but the most serious of artisans; if he could but permit himself a waggish humor, in the mood of such an hour, such garments he might—he might—design.

"Oh, the little more, and how much it is!
And the little less, and what worlds away!"



OLIVE YARD—Twilight at Midday

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But we digress from hair. The hair's the thing. Arrayed or not in these garments of fashionable conformity, let our head be *distinto*. Shall it be clipped on the back and sides to the level of the ear? We deprecate the too free use of the razor. Shall it, then, gradually increasing in length, bell out, intricately frizzed, into that symbol of abundance, the sheaf of wheat, a roundish plateau on top? Or shall we, taking full advantage of the hirsutitude of our race and nature, abjure the clipper and gather the luxuriant herbage into a conical bunch, towering high above the skull in the mode of the Congo, each separate hair so waved, so shining with oils and unguents and pomades breathing sweet odors on the air of this, our Milan, that it seems flamelike to aspire? Which of these or other fantasies will best express our personality, accord best with our profile, most impress our fellow beings, as we languidly gesture, vivaciously gesticulate, or, walking in the Italian manner, from the knees down only, patter past the *caffé* tables, hat in hand, trousers and shoes forgotten?

What the plumage of the male bird is to the bird, such is hair to the youth of Italy's lower middle class. One shudders to think of the spread of such fashions to these shores. The sudden recent prevalence here of shorn necks, overhung by the eaves of a frowsy thatch, faintly adumbrates the horrors from which a mere ocean divides us.

"Ah, *Signore,*" said an elderly barber to me in Florence, "you do well to choose me from among these younger men; it is we older ones who are the conservatives"—and proceeded to give me a hair-cut of such vivacious originality that it took the subsequent ministrations of an American expert during two months to make me recognizable by my family and friends.

So much for the irresistible appeal to the senses of humor and taste—but, among the army of black-shirted *Fascisti,* who gathered at the gates of Rome and saved Italy from the menace of the Reds and the terrors of Communism, were thousands of boys who wore their hair in these absurd ways. If the apparel oft proclaims the man, it just as often doesn't; and the same seems to be true of hair.

The Misericordia.

In nearly every town of Tuscany, large or small, are to be seen, now at noonday, again at evening, or in the watches of the night, by the light of their own torches tossed up on the house fronts, little groups of the *Arciconfraternitá della Misericordia* moving swiftly on their errands of mercy, shrouded from head to heel in the black robe and the mask through whose eye-holes gleam the eyes of prince or porter, tradesman or duke, count or artisan, gentleman or commoner, serving side by side as brothers in this fraternity of pity. Founded centuries ago by a public porter, who suggested to his fellows that they utilize their waiting time in good works, the society has grown until its branches are everywhere in Tuscany, burying the dead, nursing the sick, providing the poor and ailing with linen and like necessities and in some communities maintaining large hospitals.



OLIVES—West of Porto Maurizio

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ON THE BEACH AT ALASSIO

Following the work of Beccafumi, that master draughtsman of the late Sienese school whose designs in black and white may be seen in the inlaid floor of the Cathedral, it leads us one Sunday afternoon to a certain address, which proves to be the home of the *Misericordia*. A courteous young man very obligingly leads us to an upper room, where two blackened panels of unusual shape hang upon the whitewashed wall. These are believed to be by Beccafumi, he says, designed for the end panels of an ambulance; and conducts us downstairs to the place where several of these curious vehicles are held in readiness for service; a sort of enclosed stretcher, with poles for bearers, and fringed lambrequins in black and white, and red and gold. The tops, sides, and ends are hinged to fold back, and on the inside of the ends are just such painted panels as those we had seen in the chamber above. They were not then for outward display, but for the spiritual solace of him who takes his last journey in this narrow house.

On the way out we pass through a large apartment, containing scores of lockers to hold such outer garments as the members discard when they don their sable livery. Some of them are preparing for duty, their black robes buttoned to the chin; and we are privileged to see the varied types of heads, aristocratic, intellectual, or plebeian that, upon the streets, are hidden under the black hood in a touching humility.

We ask our host if we may offer a trifle for the work of the Order in recognition of his courteous ciceronage; he insists upon taking our name and address; and several weeks later we receive in America, from the Secretary, the official thanks of the Confraternity, accompanied by a medal from the hand of the sculptor Branconi, with the hope that we, as lovers of art, may care to possess it—an acknowledgment quite beyond the deserts of an extremely modest donation, but quite in character with the true courtesy of Italy.

Tuscan Roadsides.

The traveller, by the prosaic train, misses the inner charm of the country he traverses, the vignettes of the wayside that the pedestrian, the cyclist, and the motorist, in their more intimate contacts are able to enjoy. Although one is not precisely hurled through the landscape by rail in Europe, neither speed nor stops may be controlled—and one may modify the speed and dictate the stops of a motor car, an important consideration. Your traveller by rail is in the country, to be sure, but he cannot feel it all about him as the others may; ahead of him and behind him are the partitions of the compartment; on the other side of the carriage, some fat person who fears a draft blocks the view and God's good air at the same time.

One of us, twenty years ago or more, had both walked and cycled in Italy and France. A walking trip is out of the question when time is limited; and even had the other of us ever ridden a wheel, the passage of time has modified the enthusiasm of the former athlete for exercise sure to be heating at least. We unanimously choose the cushioned ease of the automobile and a golden afternoon of early September to thread the streets of Florence and take the road to Siena through the heart of Tuscany; past the threshing floors of brick at every farmhouse, spread with orange corn for the *polenta* of the coming winter; through the long narrow single streets of villages where, in every doorway, sit the women and girls deftly weaving the straw coverings for *fiaschi* in this land of good red wine, the very home of generous *Chianti;* through a queer public square, lined all one side with stables for the great red and white Tuscan oxen instead of the usual *podestá* or *Santa Maria della Cosa;* past groups of dark-browed girls, who make the Italian gesture for "addio" as we go by and respond to that for "Come hither" by falling on each other's necks with shy but delightful giggles. Through Poggibonsi "where the fork begins," where *Farinata degli Uberti* meets

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THE RHONE AT AVIGNON

Buondelmonte in that marvellous immortal tale of Hewlett's. By little farmsteads in lost hollows of the hills, bright streams sparkling through beech woods or groves of oak where the brown pigs are rooting. Climbing to uplands where we command vast undulating reaches of pine forest and olive orchard pricked through with the black spires of the cypress and punctuated by little walled towns or solitary *castelli* perched each on its crag or hilltop. Past vineyards, heavy with the promise of the approaching vintage.

Twilight filling the valleys like a blue sea, studded with the golden islands of the sunlit hills as we draw near to Siena and, entering her gates, drive through the long street where the soft dusk has gathered, to the *albergo*—all this records and recalls sights and sounds and odors, the brush of the air on the cheek, indescribable, unforgetable, incommunicable, and precious beyond this telling.

Olive Yards.

In retrospect, even the violet headlands that jut out into a misty sea, flushed with the rose of a dying sunset, pale before the strange magic of these olive yards that flank the road for so many miles along the Riviera. On the landward side they mount the hillsides, stone terrace beyond terrace, where Pan surely pipes at nightfall, diffusing a mystical silvery twilight even at midday; on the other side, between the gnarled immemorial grey trunks and the delicate tracery of twig and leafage the Mediterranean shows like an exquisite enamel that varies from amethyst to azure. Perfect silence; perfect peace.

The Frontier.

A sharp turn in the road, a stone building of dry official aspect; on the bench before the door, lounging men in the uniform of the Italian customs service. We are politely invited to exhibit our passport, which is gravely examined and returned to us with smiles slightly, and just then inexplicably, ironical. We see no French uniforms until, a hundred yards down hill and around another bend, we are again signaled to stop—and suddenly one of us feels as though an icy hand had been laid upon his scalp! He had forgotten to have the passport viséd in Genoa! The ironical smile of the Italian guard was explained; little cared they if we left Italy, but the French down the road would have something to say about our entering France!

A pleasant looking official approaches and into his hands we give the imperfect document with an air of perfect ease—entirely impromptu—no time for rehearsal—a masterpiece, we think, of histrionic art. He examines it very carefully, the visas of all the consuls of all the nations except the one we now so direly need. "The passport of *M'sieu'* does not seem to be quite *en règle.*" *"Tiens! Comment ç'a!* We make the voyage circular, *M. le brigadier"* (he is no brigadier as well we know) "we make the voyage circular from France through Switzerland and Italy to France again. How can it not be *en règle?"* He retires to the office with the honest, considering, responsible air of his type. We—in the sense editorial—swither in silence. It is getting dark and it is many miles back to Genoa, even though

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the ironical Italians would let us through. Visions of spending our declining years, suspended in a motor car like Mahomet's coffin, in the hundred yards of neutral ground between these frontier outposts, pass before our eyes.

Our French friend comes slowly out to the car. "It is very irregular, but *M'sieu'* may pass." The icy hand withdraws itself from the scalp and is succeeded by a warm and friendly glow for the guard and for the whole French nation. *"Merci bien, M. le brigadier. Veuillez bien fumer?"* He hesitates—is lost—accepts the proffered cigarette. *"Merci, Madame!" "Adieu, M. le brigadier. Meccanista, avanti!"*

We re-enter France.



ON THE SIENA ROAD

Architectural Sculpture

Some Impressions of the Present Exhibition of American Sculpture in New York

The attempt to define in words such distinctions as those between the fine arts and the industrial arts, between the artist and the artistic craftsman, between decorative painting and easel painting, or between architectural sculpture and other kinds of sculpture, leads to much controversy, some wisdom, many half truths and no authoritative verdict, but none the less it is, I think, a profitable attempt, particularly for the architect, because in these days of increasing specialization his is the only influence especially directed towards unity in various unrelated things.

Sculpture, like mural painting, in order to impress upon the beholder its true and full significance should be viewed in its intended setting, but to see in this way the many notable works that during the past few years have been produced by American sculptors would mean months

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of travel over the length and breadth of the land and even then much would be missed and the opportunity for comparison would be lacking.

The present exhibition of the National Sculpture Society at the Numismatic Building with its seven hundred and twenty-five exhibits, some out-of-doors, some indoors, some heroic in scale and setting, some intimate and requiring a certain aloofness for their contemplation, some rugged in conception and execution and some of great refinement of finish and material, unquestionably offers the best opportunity that has yet been presented in America to comprehend the scope of this branch of art and to gain a broad vision of its progress. For the first time a great and varied collection of sculpture is displayed in such a way as not merely to invite comparison and criticism, but to impart knowledge of the many different kinds of sculpture adapted to differing materials, uses, and settings, and to inspire conviction and pride in the varying gifts of imaginative vision, structural knowledge, characterization and decorative instinct that this craft has called into play.

For the general public, for the sculptors themselves and, particularly, for the architects such an exhibition presented in such a way is most timely. Intelligent enthusiasm for the products of modern architecture, sculpture or painting is directed for the most part to individual examples of one of these arts rather than to unified accomplishment in all. Between architecture and sculpture there has been throughout the ages an even closer relationship than between architecture and painting and whether we look to Egypt or Assyria, China or India, Greece or Rome, Byzantium, the Middle Ages or the Renaissance, we find the essentials of what we call style indelibly and unmistakably expressed in sculpture as in architecture and that without any labored effect towards conformity on the part of the sculptors. Even were such conformity possible under modern conditions, it would not be desirable, for such a similarity of taste, such a unanimity of aim as has characterized any one of the great epochs of the past would indicate either an unprogressive adherence to out-worn things or a general agreement as to the direction of one further development entirely at variance with the freedom of modern thought. Our search for an essential unity of sculptural and architectural form in modern work must therefore be directed toward principles of broader application than those which unified and stylized the work of the past. Take, for example, the expression of material. This exhibition as a whole indicates that there are probably twenty able sculptors who think in terms of bronze to every five who think in terms of marble, and for those five only one who thinks in terms of softer stone and moreover, the vast majority seem to do most of their thinking in terms of clay or plastolina without much reference to the material eventually to be used. This is the most serious indictment that can be brought against our national sculpture and this is the natural result, which we have not yet outgrown, of a period of development during which sculpture has been regarded as something to be used for the furnishing of gardens, halls, galleries and mantel shelves, and not as an integral and essential part of architecture.

Thus in spite of the large number of works of real distinction which demonstrate abundantly the skill and imagination of their authors, the exhibition is disappointing in the small number of works of architectural significance and we must look to tendencies rather than to accomplished results in the effort to appraise our present standing in this regard.

No desire seems nearer to the modern sculptor's heart than the expression of motion and the evidence of that desire and the many different ways in which this problem is approached form one of the most interesting subjects



THE BULL FIGHT—HUNT DIEDERICH

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WIND FIGURE *Alice Morgan Wright*



WATER SPRITE *Leo Lentelli*

for study. It seems strange that so many able artists still adhere to the idea that motion can be expressed by literal representation of form seized at an opportune moment. There are many examples of this theory—dancers, runners, and flying figures in which trailing draperies, forward rushing waves or dolphins, bending branches or other distorted auxiliary forms are relied upon to overcome the appearance of suddenly arrested motion inevitable in a completely and faithfully modeled figure posed at some instant of movement.

Four widely differing departures from this theory are of particular interest in this regard. Alice Wright's "Wind Figure," Leo Lentelli's "Water Sprite," Paul Manship's "Diana" and Hunt Diederich's "Polo Players" and "Bull Fighters."

The first of these seems to me the only expression of motion which is at the same time thoroughly stony. Its vagueness of form makes possible an emphasis of subtle line beautifully significant of rushing winds. The "Water Sprite" is a distinctly plastic expression in which textures of certain carefully modeled surfaces merge into vaguer indications of form in such a way as to create an impression of bubbling, dancing, spouting water, sculpture enveloped in a decorative atmosphere of sparkling movement. The "Diana" is essentially metallic, as full of life and forward movement as Diederich's grotesque and delightful caricatures, but redolent of classic knowledge, a thoroughly modern expression of the joyous spirit of Corinthian vase decorations.

I am omitting particular comment upon the many distinguished works of a more traditional type because my idea in writing this is, if possible, to suggest some helpful lines of thought which may result in collaboration between sculptors and architects and be based upon greater compatibility of taste and temperament than has sometimes marked such associations. As a basis for successful collaboration there should be a searching out of these subtle characteristics of the sculptor's work which indicate a correspondence in point of view between him and the architect.

Granting the sculptor is proficient in the practice of his craft, this is of far greater importance than any critic's views as to the relative merits of one sculptor's work as compared with that of others who might be under consideration. This exhibition offers a splendid opportunity to the architectural profession, practically the first we have had, to make individual acquaintance with the entire sculptural profession and to know them not as they happen to be known to the multitude, but as their work arouses in us an answering thrill.

An architect should bring to the contemplation of sculpture a kind of discrimination not often found in the reviews of professional critics or in the comments of sculptors. He is properly concerned with matters of design, composition, mass, silhouette, pattern and arrangement of light and shade in a way quite different from that of other appreciators of sculptors. If any architect will recall his sensations in the presence, let us say, of the

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DIANA
Paul Manship

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sculptured figures of the porch of Chartres Cathedral, he will find I think, that his enthusiasm was first aroused by the relation of these figures to the architecture, by their columnar grouping, by the direction, area and massing of their lights and darks, and then, as if in corroboration of a first impression of perfect art, there appeared one by one the beauties and individualities of the separate figures. It is by some such sequence of thought as this that sculpture in its relation to architecture should reveal itself and obviously such an approach to the consideration of it must profoundly influence our judgment of merits and defects.

So, together with a deep gratitude to all those whose interest and effort have made this exhibition possible, there comes to me a great hope that it may help us all to realize as never before our great need of sculptors who think architecturally and of architects who think sculpturally; that from it architects may gain an enlarged view of the functions of the sculptor and sculptors may be inspired to deeper study of simple mass, a greater respect for the material in which their work is to be rendered and a fuller appreciation of the significance of abstract form. It may be that the sculptors' training is limited too exclusively to the human figure, that the student is not encouraged to discover the sculpturesque significance of towers and domes, of piers and columns, of great gnarled tree trunks, of mountains and icebergs, of masses of rolling clouds and breaking waves. How seldom we see sculpture in which the draperies are anything more than a softening medium used for the accentuation of compositional movement or as a contribution to realism. Cheese cloth rather than camel blankets is the fashionable material for sculptural clothing to-day, and yet what a superb transition between carved form and stony structure the rigid folds of massive drapery have furnished in the past.

As I think back over the varying impressions created by this great array of sculptured form there comes vividly to my mind Trygve Hammer's little "Hawk" cut in blue-stone. This it seems to me is sculpture. It is portraiture, and it is architecture.

J. MONROE HEWLETT.



THE HAWK — *Trygve Hammer*

A New Statue of Christ in the Terme Museum at Rome

By S. CASSON [1]

(See Frontispiece)

The statue illustrated by this month's frontispiece was acquired by the Terme Museum (better known as the Museum of the Baths of Diocletian) at Rome in 1914. It was bought in the shop of an antiquary in Rome where it had been exhibited for some time as a statue of Apollo. It is of marble and is about a third the size of a natural figure.[2]

In many ways it can be considered as one of the most remarkable monuments of the early centuries of the Christian era. It represents a beardless man of youthful appearance, clothed in a thin under-garment and an over-garment of thicker material which passes over his knees and behind his back. He is seated on a chair and holds in his left hand a roll of papyrus. His right arm is outstretched but broken off just below the elbow. He appears to be in the attitude of a man speaking or teaching.

The general appearance of the statue recalls figures of Apollo of the Hellenistic period of Greek art and the treatment of the hair, particularly the curls over the forehead, suggests comparison with portraits of Alexander the Great. The vendor of the statue was thus not unjustified in calling it a figure of Apollo.

Authorities on early Christian art, however, at once detected the very close resemblance of the statue both in its garb and in its attitude to the central figure of Christ usually represented on sculptural sarcophagi of

[1] Fellow of New College and Lecturer in Classical Archæology in the University of Oxford.

[2] See Paribeni, Le Terme di Diocleziano. 1920. No. 394, p. 129.

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the third and fourth centuries A. D., which were used for Christian burials and which represent sacred subjects with a central figure of Christ. In other respects also the statue, both in the treatment of the drapery and in the features of the face, could be dated in the development of Roman sculpture to the third or fourth century. There seems little doubt, then, that the authorities of the museum are correct in considering the figure to be a seated statue of Christ, who is represented as teaching or expounding the gospel. The exact correspondence of the figure to the Christ figures of the sarcophagi suggests that it is either the prototype of those figures or else very closely related to them both in style and date.

No other representation of Christ *in the round* belonging to so early a date is known, except in one instance—the figure of Christ as a Good Shepherd in the Lateran Museum, which is indisputably a work of early Christian art and belongs to the third century A. D. The most striking feature of this figure in the Terme Museum is that the face is beardless, which is a strong contrast to the more familiar representation of Christ as bearded and, as a rule, older and more sombre. There are, in fact, two clear traditions in the representation—perhaps it is too much to call it portraiture—of Christ. The one which shows Him bearded seems to be of eastern origin; that represented by the Terme statue seems more probably to be of western origin. The division of tradition thus corresponds closely to the political division of the Roman Empire in 395 A. D. under Arcadius and Honorius. Christianity seems to have followed the general tendency of the day. Byzantine, Coptic and Syrian art nearly always represent Christ as bearded, even at early dates; in Italy and in the Roman provinces which came under the influence of Hellenic art and tradition, He is represented as beardless. The Oriental type seems to have been based on a tradition which is first referred to in literature by John of Damascus, who died in 754 A. D. Christ is by him described as having heavy eyebrows and a long nose. The hair was curly, the complexion fresh and the beard black. A second literary source is the famous letter of Publius Lentulus to the Roman Senate in which there is a similar description. This letter, however, is by many thought to be a monastic forgery of the thirteenth or fourteenth century. There are many early representations of this Oriental type in mosaics and frescos and it appears first in coinage in the time of Justinian. It was later adopted, to the exclusion of the other type, in Byzantine art of the tenth, eleventh and twelfth centuries and thence is taken over by the trecento and quattrocento Italian schools of painting.

The western alternative, on the other hand, is popular in the third and fourth centuries, but becomes rarer in the fifth and sixth. It is finally superseded completely. This western type is derived directly from Greek and Hellenistic traditions. Christ is represented in forms that do not hide and do not pretend to hide their pagan origins. The "Good Shepherd" of which the Lateran statue is so notable an example, appears frequently on sarcophagi. There is one such in the Louvre.[1] This type is at least as old as the sixth century B. C., when it is known as the "Kriophoros" or "Carrier of a ram." In the Acropolis Museum at Athens there is a statue of the early Attic school, dating to about 550 B. C., which differs only in style from the "Good Shepherd." It shows a man bearing a small calf round his shoulders. Bronze figures and statues of the same period abound showing similar figures bearing rams and sheep. In the same way Christ in frescos is often shown as Orpheus taming the wild beasts. There is one such in the catacombs of Callixtus.[1] The strong and imaginative tradition of Hellenistic art lasted long. Above all it survived in Alexandria, one of its original homes. Here artists in ivory carving produced works of almost pure Hellenistic art down to as late as the sixth century. Christian workers in the same material derived their inspiration from here and we find in the fourth, fifth and sixth centuries many fine examples of ivory caskets and plaques in which Christ is represented in the pagan way. There is a fine casket at Brescia[2] on which is an ivory medallion representing the beardless Christ with the same delicacy and serenity that is seen on this statue in the Terme Museum. The famous Trivulci ivory plaque,[3] which belongs to the fourth century and is almost certainly Alexandrine, differs little from the Brescia medallion. Italy in these early centuries was filled with workers and artists who drew their inspiration from Alexandria, and possibly obtained their ivory from the same source. The Alexandrine influence is perceptible even as late as the tenth century and can be traced in the fine series of ivory book covers usually known as Consular Diptychs, because they were the covers of the annual records preserved by the Roman consuls. This series extends over a period of almost eight centuries, starting in the third. They serve as a most useful guide to the styles and fashions of the art of these periods.

In the British Museum is an ivory casket of the fourth century, on one side of which is depicted the Crucifixion. It is one of the earliest representations of this scene. The Christ is serene and simple. There is no straining after effect, no realism and no undue elaboration. The face is young and beardless. It shows the Christian artist working in the light of the Hellenistic traditions of Alexandria.

Perhaps the most striking example of the Hellenistic tradition appearing in a monument of Christian art is seen in a marble relief from Asia Minor now in Berlin. It belongs to the end of the fourth century, according to Strzygowski, and shows Christ beardless and with a halo. The garments are, as in the case of the Terme statue, those of a Greek or Roman, and closely resemble those of the well-known figure of Sophocles in the Lateran Museum. There is no trace of the Oriental tradition here. It is essentially paganism adapted to Christianity.

Finally, in the tenth century, the pagan tradition and style was finally supplanted and replaced by the sterner Oriental conception. From this time onward Christianity was supreme and there was no need to continue the artistic compromise with paganism.

[1] See Marucchi, "Manuale di archeologia cristiana," p. 351.

[1] Marucchi, p. 295.
[2] Diehl, Manuel d'art Byzantin, p. 276.
[3] Diehl, p. 74.

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That the western tradition represented in any way an authentic portrait of Christ is in the highest degree improbable. The old ideal types of pagan deities were used—Apollo, Orpheus and others. No realism was intended, and certainly none was achieved. Alexandria, although near the Orient and, in fact, almost Oriental, kept alive the older influences of Athens and the mainland towns of Greece. It was Syria, Byzantium and the less "western" centres that finally conquered. Thenceforward the Christ face described by John of Damascus became the accepted portrait. Whether it had any claim to authenticity can never be established. The type so fixed is still separated by several centuries from the life of Christ. Perhaps it is with Christ as with Homer. A type was evolved by artists which agreed in general with the idea men had formed of the face of the original. Judged by this standard the pagan statues were doomed to be superseded by something which reflected, at least, the outlines of the character so familiar to the world. But the Terme statue will remain, with the "Good Shepherd" of the Lateran, as records of pagan art used to interpret Christian themes.

From Foreign Shores

By IRVING K. POND

A Readjustment

One maps out a course, and then up pops some seemingly trivial matter and lo! the course is changed. I had not expected to write so soon again upon a topic touched upon in my recent paper, but an inadvertence remarked therein causes me to alter my design. That particular matter is merely the fact that my stenographer, whose inadvertence was caught and corrected, and the compositor or proofreader or both, conspired to make me say what *emphatically* I did not wish to say. What I did wish to say in that first line on page 198 in the May number was that "when we feel ourselves into matter we are regarding it empathetically." And that is why I am now writing again, and much sooner than anticipated, on the subject of Empathy. Because I love form, and movement, and rhythm, and grace, and try to exemplify them in the art of acrobatics, it was quite natural, not to say inevitable, that soon after its publication in 1917, a copy of an essay by George H. Browne, of Cambridge, Mass., entitled "The Esthetics of Motion with special reference to the Psychology of Grace" should be put into my hand. In this essay Mr. Browne includes a translation of parts of Souriau's *"L'Esthétique du Mouvement,"* published some thirty-five or forty years ago. (Souriau was a French psychologist and his vol-



New Offices for the Anglo-Persian Oil Co., London
Sir Edwin L. Lutyens, R.A., *Architect*

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ume may be found in the library of Harvard University.) Mr. Browne quotes Vernon Lee who, herself in her book "Beauty and Ugliness" (1912), quotes M. Souriau.

"To imagine things as they are for themselves," writes M. Souriau, "is tantamount to imagining what they would be if they had an obscure consciousness of their own existence. Now, we have only one way of thus imagining things from the outside, and that is, to put ourselves inside them."

"We say, for instance," she continues in a suggestive passage which is worth quoting in full, "that hills *roll,* and mountains *rise,* although we know as a geological fact that what they really do is to suffer denudation above and thickening below. Also that arches *spring,* cupolas *soar,* belfries *point,* although the material buildings merely obey the laws of gravitation. Nay, we attribute movement to motionless lines and surfaces; they *move, spread out, flow, bend, twist,* etc. They do, to quote M. Souriau's ingenious formula, what we should feel ourselves doing if we were inside them. For we *are* inside them; we have 'felt ourselves,' projected our own experience into them . . . This phenomenon of esthetic *Einfuehling,* or *Empathy,* is, therefore, analogous to that of moral sympathy. Just as when we 'put ourselves in the place' of a fellow creature, we are, in fact, attributing to him the feeling we should have in similar circumstances; so, in looking at a Doric column, for instance, and its entablature, we are attributing to the lines and surfaces, to the spatial forms, those dynamic experiences which we should have were we to put our bodies into similar conditions. When we attribute to the Doric column a condition akin to our own in keeping erect and defying the force of gravitation, there is the revival in our mind of the little drama which we have experienced many millions of times, and which has become registered in our memory, even like the less common drama of hope, disappointment, and anguish which has been revived in the case of our neighbor's grief and attributed to him. When we project into the soul of our bereaved neighbor such feelings as we have ourselves experienced on similar occasions; when we interpret the forms of architecture in terms of our own muscular pressures and strains, we are in both cases, however seemingly indifferent, producing in ourselves that particular dynamical experience which we attribute to the persons we have sympathized with, to the form into which we have felt ourselves."

All this as set forth by Browne, Vernon Lee, and Souriau. I introduce it, in a way, to substantiate my own deeply held and oft pronounced conviction that one who does not so feel, innately, inherently, has no place in creative architecture, and can have no real vital appreciation or apprehension of the dynamic arts—no, nor of any art. A comprehension of the vertical line and its meaning; the horizontal line and its meaning; the arch and its meaning, requires an understanding and application of the psychology of Empathy. I had deeply known the *thing* through rich experience when I wrote the "Meaning of Architecture," but I did not then know the *word.*

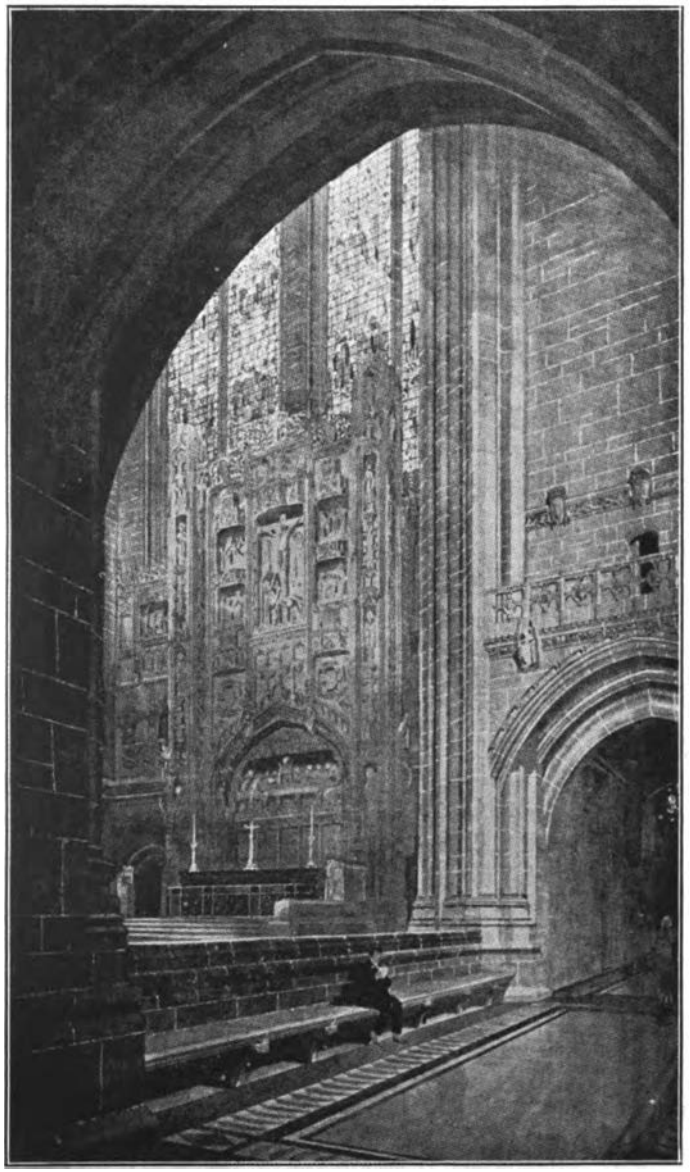
The Literature of Architecture

One who is plowing the architectural main, even with the lookout keen for the pictorial, cannot escape the banks of philosophy and psychology and æsthetics heaped up in the British architectural journals. There is, for instance, a very attractive essay on "the Psychology of Buildings" by Alec Waugh, in the March number of the *Journal of the Society of Architects.* It is pictur-

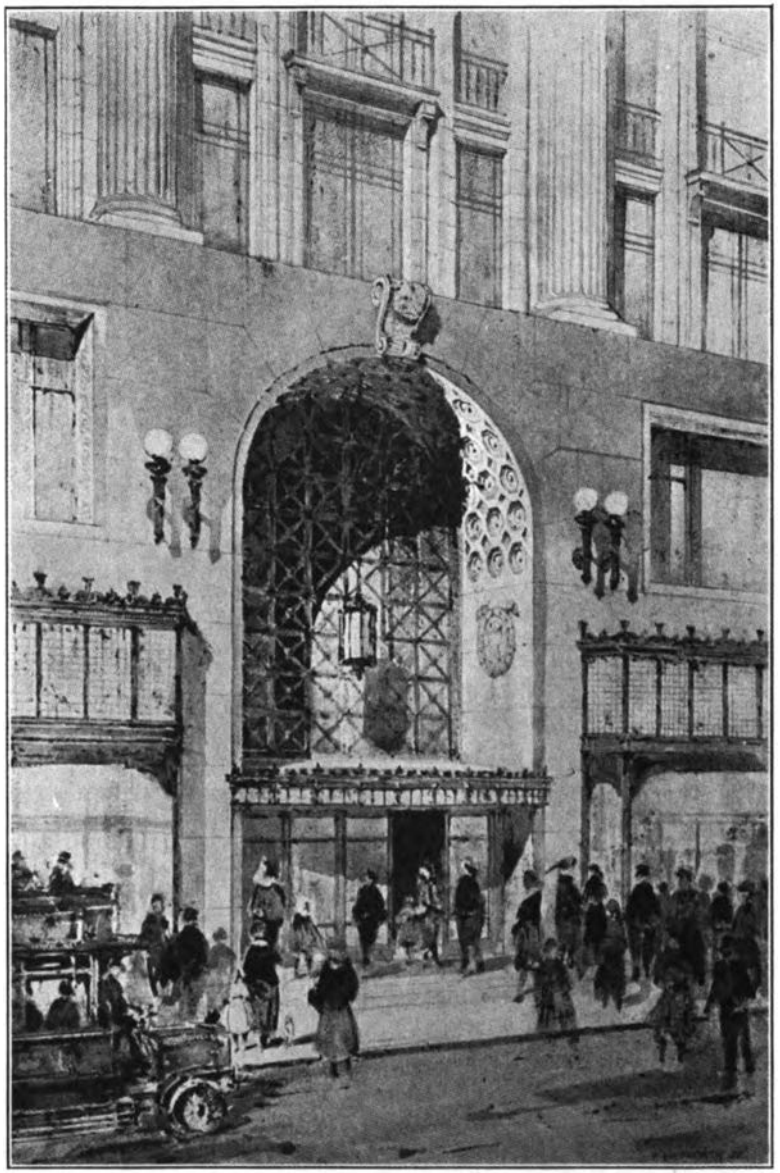


Fulford Home for Aged Women—Brockville, Ont.
Hugh G. Jones, F.R.I.B.A Architect. Construction

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LIVERPOOL CATHEDRAL.—East End from South Choir Aisle.
G. Gilbert Scott, R.A., Architect. *Architects' Journal*



NEW PREMISES IN OXFORD CIRCUS—T. P. & E. S. Clarkson and
H. Austen Hall, Joint Architects. *Architects' Journal*

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esque and engaging—not at all heavy—and that same may be said for the publication, *Architecture,* of which the *Journal of the Society of Architects* is merely subtitle. Here is a bit from the article noted, and I wish every school board and every college president and every, or most every, chairman of the building committee, in our State Universities especially, could read it in its context and let it sink in:

"British administration, whatever may have been said against it, has been credited always with a genial tolerance, an admirable refusal to be perturbed by trifles, a policy of 'let it pass.' An admirable social lubricant, this characteristic. And I wonder whether it would be too fanciful to attribute a part, at any rate, of this placidity in the class from which the majority of officers and civil servants are drawn, to the mellowing influence of the school buildings among which are spent their most impressionable years. Some such effect there must be, I am very sure."

Some effect for good or evil there must be in an earlier and even later architectural environment; but designers who work mechanically or only according to formulæ, and committeemen who employ them, never would believe this nor comprehend it if it were told them. *Architecture* in its new form is attractive and is filled with "meat." Its critical reviews are generally just; its correspondence is entertaining. The "Architects Anthology," quoted bits of verse introductory to each number, stimulate the imagination while "the student's end paper" with which the text is rounded shows now and again a gleam of wisdom. In the April number we are treated to a translation of a chapter on the "Nature of Architecture" from the critical works of Benedetto Croce. Croce is being read in America and will be more and more so as time goes on. He is a bit abstruse but he should prove an intellectual stimulant to the Architect, who generally is too inclined to let himself glide gently and without mental or spiritual exhilaration down the placid stream of design. In the May number A. Trystan Edwards deals with "the Unsociable Skyscraper"; when treating of the "unsociable" phase he is on known ground; but when he touches upon the "skyscraper" element, experience and sympathetic insight do not direct his fancy. There may be great beauty and great use in "skyscrapers" as they exist and have existed in the field of architecture; as they exist and have existed in the fields of poetry, philosophy, ethics, science, and the arts.

As Others See Us

I am interested in the appreciative references to things architectural in America which appear from time to time and somewhat unexpectedly in the pages of *"Architecture," "The Architects' Journal"* and, too, in the pages of the *Journal of the R. I. B. A.* For instance, in *The Architects' Journal,* under a clever full page illustration of a Royal Academy exhibit one sees: "This building shows the familiarity of the architects with the best American business architecture of today." The same number carries an extract from a lecture on "the Legal Side of Architecture in America," delivered at "Boston Tech," with introductory words appreciative of the height to which the business side of architecture has been developed on this side. It is perhaps our business architecture rather than the other branches which impresses our British brothers, but they do seem to sense certain valuable characteristics in our work. Yet it is not entirely our achievement in the commercial branches that appeals to our British friends; as witness a kindly, if somewhat apologetically offered, reference to the Architectural League of America in an article in the *Architectural Association Journal* of London, bearing upon the exhibition of the Architectural Club, an organization of which I may speak more fully at a later date. But, now, to quote:

"Before coming to cognate digressions upon the actual works shown, it may not be amiss to throw out one or two suggestions for possible improvements in the matter of *presenting* the substance in hand. Now, in the U. S. A. (it does seem tiresome to refer so often to the U. S. A. in architectural matters, but there is no use denying that in many vast respects the lead does come from there) they bring off these things more satisfactorily. For instance, etc., etc."

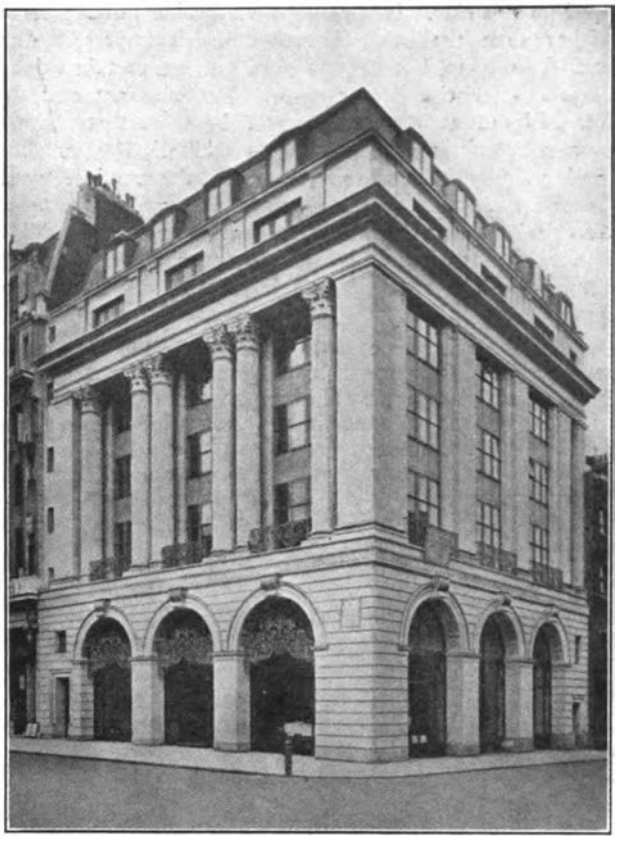
However, I am not voyaging abroad to learn of matters at home; and so I do not discuss papers by Louis Mullgardt and Charles Harris Whitaker appearing in the May number of *"Architecture"* though I do read what our neighbors say about us to gain a side light on *their* characters. I know almost enough about *us* already.

Medals and Records

Probably unbreakable records having been established in many fields of athletic endeavor, one has to break new sod in order for a time to lead a procession. The hundred yards dash, for instance, having already been run in about the shortest time possible, we set a new record in the one hundred and one and one-half yards dash—or in a hundred yards dash with one complete turn of the body in it. So almost any one now can establish, at least temporarily, a new record and win a medal. I am not saying this to belittle in any way Mr. W. Curtis Green's achievement but only to say that the R. I. B. A. medal he received for his meritorious performance was awarded to him because in the estimation of a competent jury he had "designed the best street frontage completed during 1922 within a radius of four miles from Charing Cross." If the example from the Royal Academy showed American influence, I should say this work of Mr. Green's doubly did so; only I could wish that in studying us our neighbors would not confine themselves closely to our conventional types, but would seek to advance upon that of our real artistic selves which we are able to express. May be they don't want *us* after all; only our clever manipulation of conventional and standardized forms. That is the sort of thing which gets a medal in any locality. Mr. Green, by the way, has just been made an Associate of the Royal Academy and is receiving congratulations generally.

"Joking Apart," a monthly causerie, is being conducted in the *Architects' Journal* by one who signs himself "Karsish," and friend "Karsish" is having fun for himself and with the architects in a readable page. Now, whether he is joking apart, or whether, joking apart, he is considering seriously certain present conditions and

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"Wolseley House"—London *Architects' Journal*
W. Curtis Green, F.R.I.B.A., Architect

tendencies depends on the reader's sense of humor. I imagine some over-serious will wish that he would keep his joking apart—I like him as he is—and I should like to have every one who believes in examinations for registration of architects read his article on Sir Christopher Wren, F.R.I.B.A.

Academic Dress

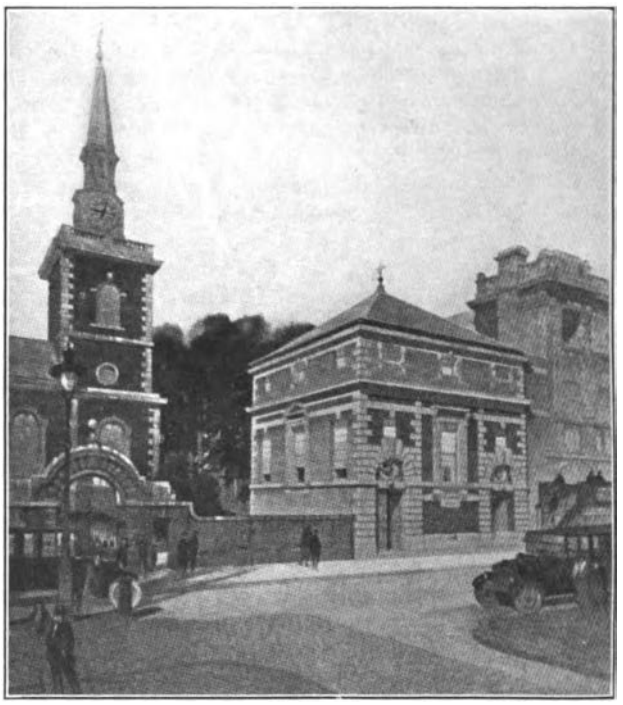
The R. I. B. A. is considering giving the profession a disguise in the form of an Academic Dress; one sort for Fellows, another for Associates, and a third for Licentiates. This step, as most of you know, is taken seriously and otherwise by those for whom it is proposed. I missed, unfortunately, the sight of the mediæval procession climbing the difficult steps to a Classic Temple at the recent A. I. A. affair in Washington, so I have to draw on my imagination to visualize that mediæval tail to a Classical Kite, and how a bunch of architects looks all academically gowned. We are used to that sort of thing in Academic circles, and there it is all well enough; for it is about the only way the College man, as such, has of letting the world know that he is cultured, or, rather, that he has a cultural background. But architects don't need that. They have their works to point to—and which can, alas, point to them. I am willing to see it tried out (on others) but when I want to demonstrate to others that my soul is overflowing and swimming and swaying in pure rhythm—give me a suit of form fitting tights.

But there are other things than gowns to vex the spirits of our British brethren in the Institute these days, and I miss the pages of the London *Architect* from which I used to glean the "otherside" though the *Architects' Journal* does pretty well in giving both sides. The R. I. B. A. elections are coming soon and then we shall see what we shall see in regard to Registration and unification in Great Britain.

On Far Shores

The March 1st issue of the *Architect Builder and Engineer* of Cape Town exhales decidedly an architectural atmosphere, and I should like to quote from one or two of its readable articles, but space forbids. A study of conditions, social, racial, geographic and atmospheric, as affecting the local house designing especially I found interesting. The *Journal of the Institute of Japanese Architects,* to take a long skip, furnishes, in the two numbers before me, nothing of particular interest. The designs offered are more or less perfunctory and smack too much of foreign influence; while the endless formulæ and diagrams for reinforced concrete with which the pages are adorned do not touch to any great extent the æsthetic imagination.

Three numbers of *The Beacon* got caught in my rigging and fell upon the deck. Why *The Beacon* was attracted to me, should be attracted by me while I am on these voyages, I cannot say. It is a mystical sort of publication, emanating from London, dealing with East Indian art, as well as politics, and coming down through the occult to Art Education in Manchester. On the theory that architects should be grounded on broad culture, the pages may well be read in the studio. I sighted



New Bank Premises—London *Architects' Journal*
Sir Edwin L. Lutyens, R.A., Architect.

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a paper entitled "Drawing in the Curriculum" with much of which I agree, though that would not go far, in some quarters, toward proving its value. I liked this sentence: "For you cannot by faithfully copying the outsides of objects arrive one day at the inside, and you cannot by storing the memory stimulate the imagination." That does not seem much taken from its context but it is a good line to cogitate upon.

For the Eye

The cargoes have favored this time in the way of illustrations. We have a hold full to draw from. *Construction,* Toronto, brings us, in the April number, The Fulford Home for Aged Women at Brockville, Ontario, with a finely functioning plan, and a nice Anglo-American domestic quality in design. Of Curtis Green's medalized building I have spoken. A Cape Town example is pleasing. Sir Edwin L. Lutyens, and G. Gilbert Scott send us something via the Royal Academy Exhibition.

There is much more in the various papers and their accompanying discussion which I must leave for another day. I should like to see more of the art of Central Europe than I seem to be able to glimpse, that is, in their own journals. Two of the British Journals before me treat very sympathetically of Finnish, Danish and French Architecture but furnish little that we are able to reproduce for our readers.



Residence at Pinelands, Cape Town, S. A.
Architect and Engineer

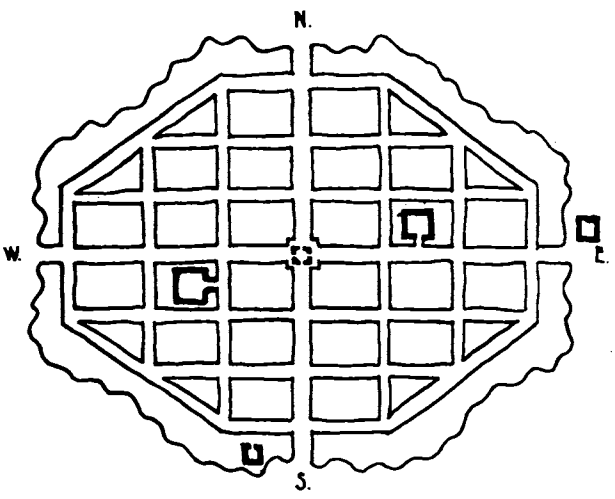
Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

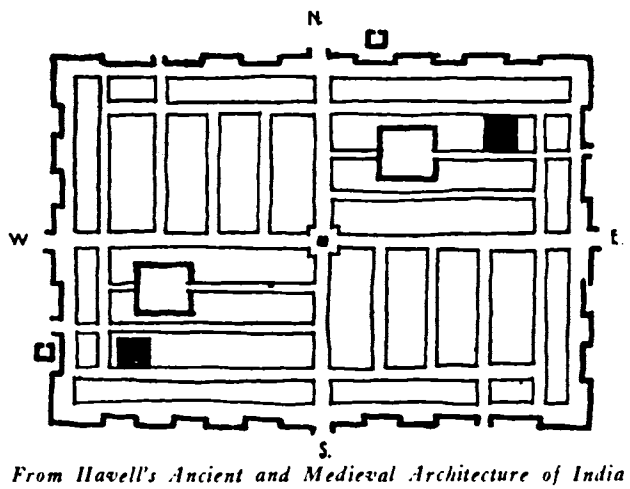
Historical Notes on Regional Planning

I—*Ancient India*

Wherever systematic city planning has been widely utilized efforts were also made, in all probability, to apply planning principles to whole regions. Thus, if we seek evidence of regional planning in the past, we must primarily direct our attention to those countries and those periods in which instances of methodical city planning have been particularly frequent. There was ancient India, for example, with its highly developed planning for villages as well as for cities, as indicated in the old treatises on Indian handicrafts, the Silpa-Sâstra. There was ancient Greece, furnishing abundant examples of city founding, whether on the soil of the motherland or, more often, on distant shores. There was the Roman Empire, expanding into the greatest federation of municipalities the world has ever seen, founding cities, constructing "world-wide" road systems, planning everything in a big way. And is it not more likely than unlikely that Egypt, and Assyria also, pioneers

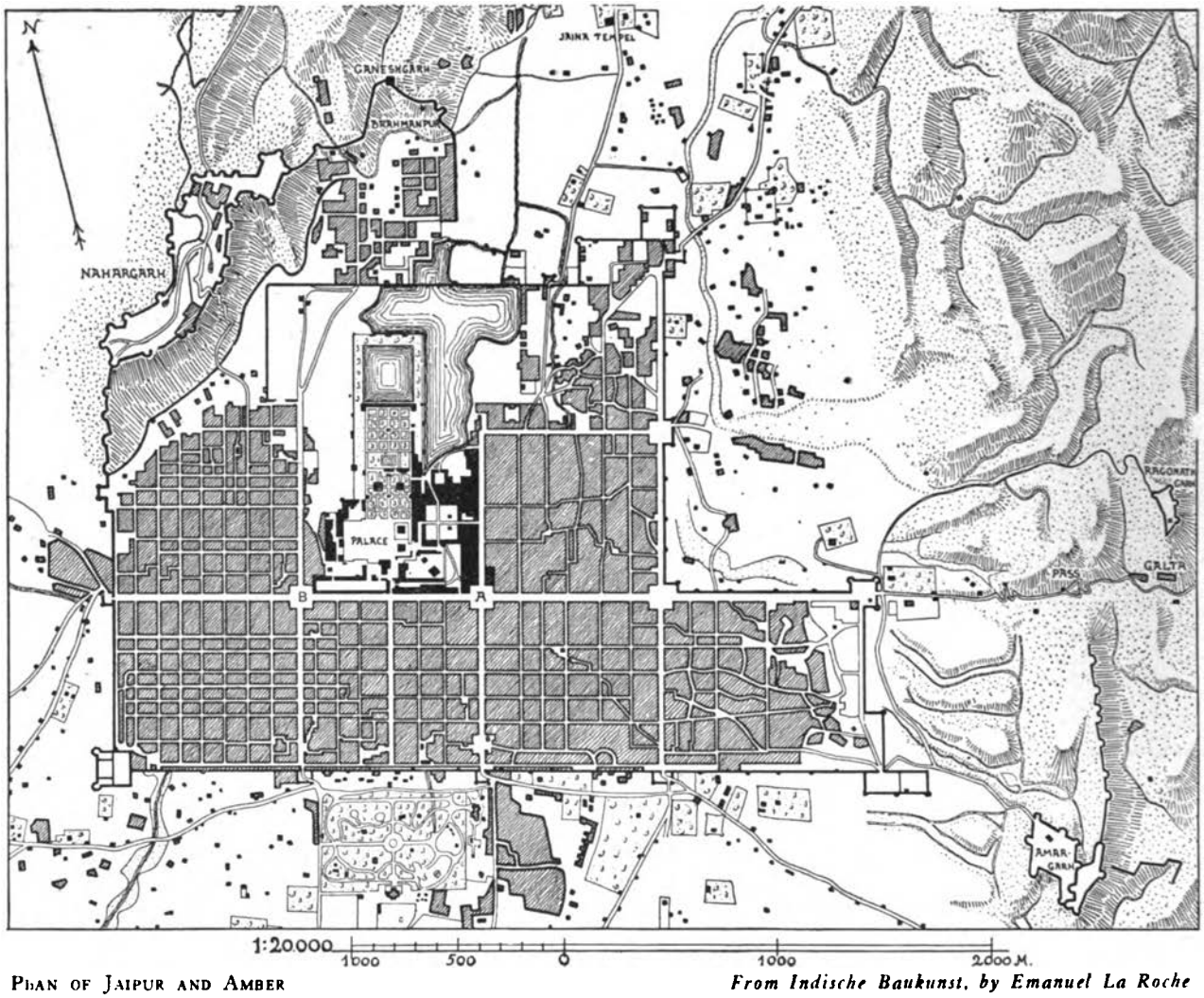


Types of Indian Village Units



From Havell's Ancient and Medieval Architecture of India

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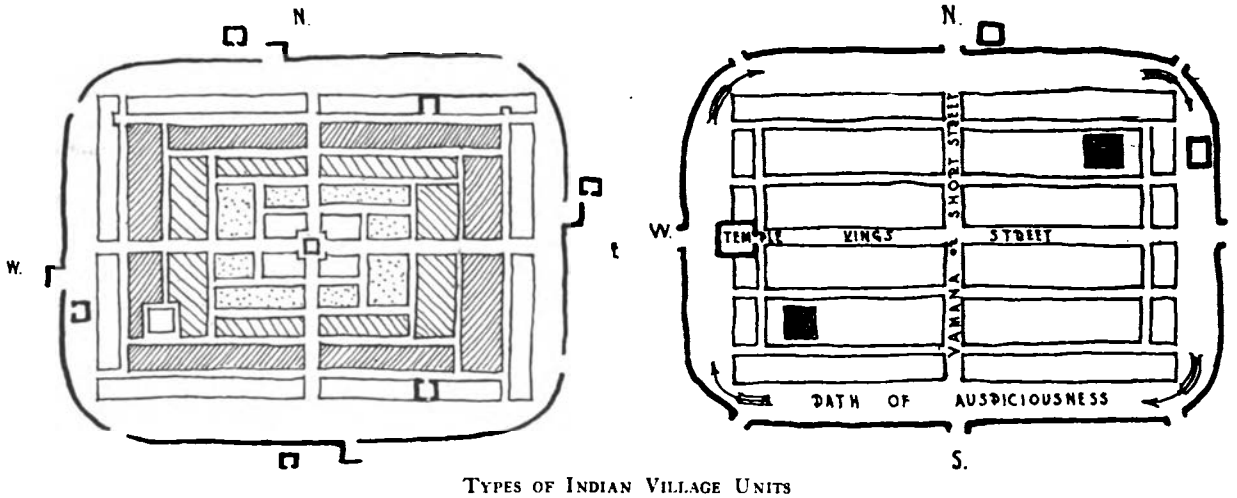


PLAN OF JAIPUR AND AMBER

From Indische Baukunst, by Emanuel La Roche

in advanced civilization, witnessed similar efforts equalling their other achievements in planning?

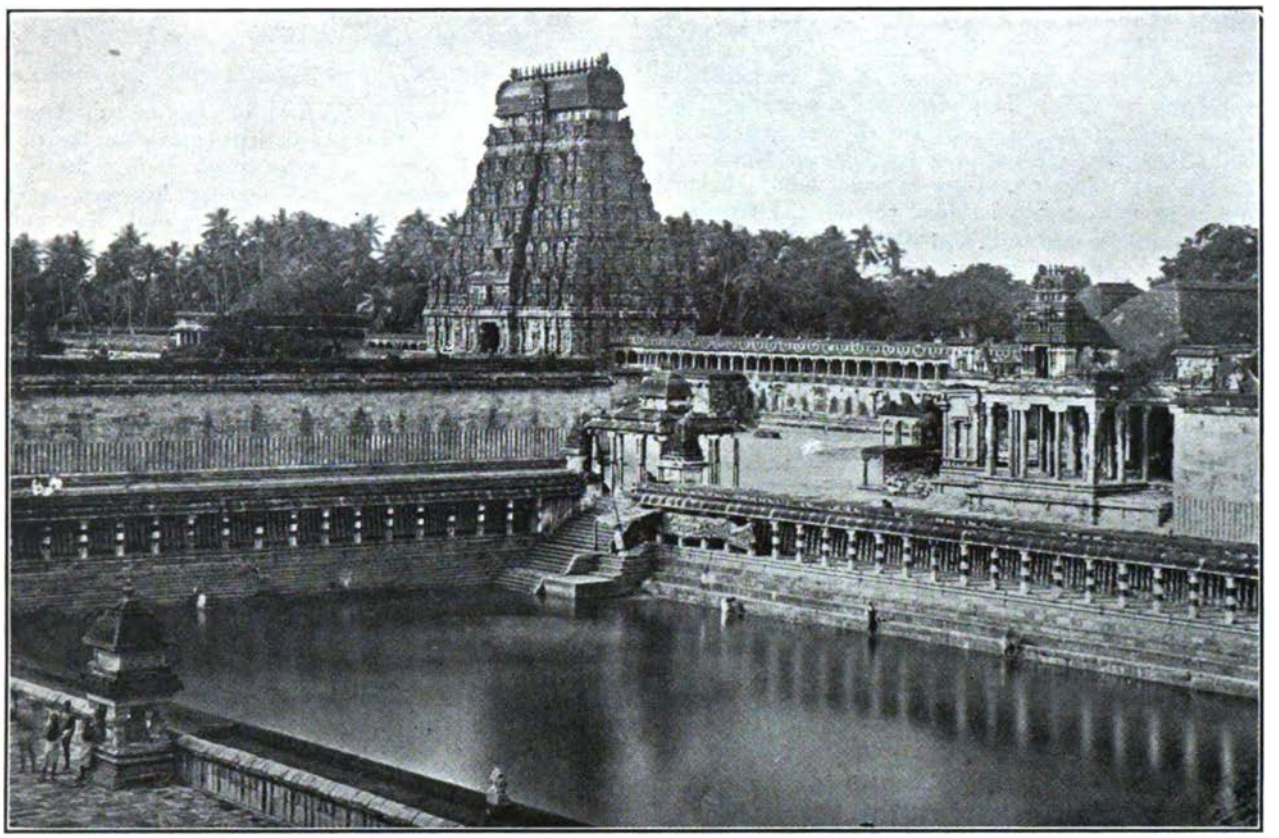
Future discoveries may yield convincing proof of what now appears merely an attractive hypothesis, and such



TYPES OF INDIAN VILLAGE UNITS

From Havell's Ancient and Medieval Architecture of India

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CHIDAMBARAM—SCHIVA TEMPLE—X-XVII CENTURY *From Indische Baukunst, by Emanuel La Roche*

revelations with respect to Egypt and Assyria would be even less surprising than was the rather recent discovery of the evidence of community planning in ancient India. Since 1834, when Ram Raz published his "Essay on the Architecture of the Hindus," the western world has known that the planning of cities and villages was customary among the Indo-Aryans long before the time of Christ. The Indian treatises on architecture and the manual arts, the Silpa-Sâstra, which Ram Raz brought to light in his essay, were in all likelihood written at a comparatively late date, but they are generally accepted as embodying principles and traditions of long standing. They are all the more precious, as few architectural vestiges of these ancient periods remain. For the student of the history of city planning they are not less important than for the student of the history of architecture. In fact, they tell us even more regarding city planning in ancient India than does Vitruvius about city planning in Classical Antiquity. Moreover, they confirm what we know also from other sources as to the high level of social life and organization in Hindu India, on the conditions of which they shed additional light.

It seems in reality doubtful whether in Europe or in the sphere of European civilization there have ever been any planning endeavors excelling, or even equalling, those of Hindu India. So eminent an authority on Indo-Aryan architecture and civilization in general as E. B. Havell does not hesitate to state that "The most advanced science of Europe has not yet improved upon the principles of the planning of the garden cities of India based upon the Indian village plan as a unit."[1] Havell's statement indicates the character of these garden cities, to which Strabo evidently refers, when he quotes, in his "Geography": "The Macedonians conquered nine nations situated between the Hydaspes and the Hypanis, and obtained possession of five hundred cities, not one of which was less than Cos Meropis."[2] Cos Meropis is identical with the island of Cos among the Sporades. It is about twenty-five miles long and, on an average, about five miles wide. Thus, the five hundred cities mentioned by Strabo were obviously territories, including villages and small towns, and occasionally, perhaps larger agglomerations as well.

The city of Palibothra, the capital of Chandragupta's empire, was nine miles long and a mile and a half wide, extending along the river Ganges and surrounded by wooden palisades. Here again we have certainly to do with a territory which was only partly urbanized and for the greater part rural, but possibly of so great an average density of population that it rather constituted what we mean by an urban region.

In the seventh century of our era Hiuen Tsang, a Chinese pilgrim, wrote his description of India, a work which has earned for him the distinction of being

[1] E. B. Havell. The Ancient and Medieval Architecture of India, p. 7.

[2] The Geography of Strabo, Book XV, Chapter 1.

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called "The Indian Pausanias." At that time the glory of Palibothra had long passed. "Although it has long been deserted," wrote Hiuen Tsang, "its foundation walls still survive." Nowadays not a trace is visible of the great capital, of which Havell says that "it was an agglomeration of Indian villages joined together by spacious parks (the sacred groves) and stately avenues." We know that it also included palaces and temples.

Lakhnauti, which succeeded Palibothra as the principal city of the Magadha country, was laid out in similar fashion, combining architectural order and stateliness with the picturesque variety of rural scenery, including villages, sacred groves, bathing pools, temples, palaces, and splendid avenues. Such was also Kanjakubja which Hiuen Tsang saw and admired.

As little definite as it may seem, our knowledge of these scenic urban regions would be still vaguer, were it not for the general information regarding Indian planning contained in the Silpa-Sâstra. The village or small town laid out along the lines of a definite plan, has been the time-honored, fundamental form of settlement among the Indo-Aryans. The plans varied according to several standard types which were followed more or less closely. There were by-laws regarding the height of houses, their plans and general arrangement and construction. They were from one to nine stories high, according to the rank of the occupants. Buildings of an equal number of stories were required, as far as possible, to be of equal height. The various castes were located in especially designated areas.

Thus, districting was practiced and buildings for public use, such as schools and temples, were preferably situated in quiet places, not too near the main streets which crossed each other in the center. The Silpa-Sâstra laid down rules also in regard to many other technical particulars. Furthermore, they make us acquainted with the classification of villages and towns, of which there were forty types, according to the extent of the lands owned by them. About two-thirds of the area of each community was devoted to agriculture, and the public ownership of land was at the very basis of their organization. We have to imagine them as united into groups which formed those greater garden cities of which Havell speaks, the essential characteristic of which was the happy balance of urban and rural lands, brought about under a system of regional planning based on the village or small town as an urban unit, on public land ownership, and on co-operation between the various communities. The villages and towns combined, of their own accord, "to build assembly halls, pilgrim's rest-houses, and irrigation works, to lay out and plant public parks and to keep in order the main roads of the district."

Evidently, the enviable spirit of voluntary solidarity counted for much in this system, while the written law counted for very little. Every community was self-governing, but recognized the common interest, thus making possible the status of public land-ownership and the planning of whole regions on this basis. This, no doubt, insured to the Indian planning and public works commissions a measure of success which seems more difficult in the present hyper-individualistic age. NILS HAMMARSTRAND.

Notes

THE REGIONAL PLANNING ASSOCIATION OF AMERICA

At the last convention the Institute approved the Community Planning Recommendations proposed by this Committee. To carry out these proposals in a tangible form certain members of this Committee have associated themselves with representatives of other professions and activities in forming the Regional Planning Association of America. This organization proposes to assist as far as it can in contracting the present haphazard growth of cities in America. This it believes can only be done by deliberately planning whole regions. The association believes that "A regional plan calls for new population centers, where natural resources will be preserved for the community, where industry may be conducted efficiently, and where an adequate equipment of houses, gardens and recreation grounds will ensure a healthy and stimulating environment," "and the foundation of these communities will not only benefit the immediate population, but will also relieve the depressions and congestion of the present centers." It proposes to further its objects not only by the study of housing, industrial decentralization, city planning and regional planning, but also by aiding in the formation of associations and corporations, designed to plan and build garden cities.

THE APPALACHIAN PROJECT

Perhaps the most far-seeing project in regional planning yet conceived in America is being developed under the leadership of its originator, Benton MacKaye, assisted by the Committee on Community Planning of the Institute. Since it was first proposed in the JOURNAL of the Institute of October, 1921, as the "Appalachian Trail," Mr. MacKaye has devoted himself, with the co-operation of this committee, to the carrying out of his project for the deliberate planning and development of the vast mountain area that parallels the Eastern Coast.

So far the chief attention has been given to the recreational features of this regional plan. These features have been emphasized in advance of the industrial features partially because this has been found to be the easiest way to obtain popular comprehension and support for the idea of regional planning. The strong appeal to the popular imagination of the walking trail through an extensive region (such as the Appalachian) is proved by the co-operation that we have received from the New England Trail Conference, in which is federated all the New England hiking organizations, trail committees in the southern states, and the United States Forest Service as well as by the formation of the New York, New Jersey Trail Conference for the express purpose of developing the Appalachian Trail.

The second and more fundamental reason for emphasizing at the start the recreational features of this regional plan is that we believe that these are basic and that industry and business should be subservient to life and not form the object of life. Because of the neglect of this principle in the past we have the grotesque and inhuman squalor and congestion of our cities brightened only by the cosmetic of architecture—and the mighty

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resources of the countryside undeveloped or wasted through lack of broad planning. This is the result of the usual and seemingly fallacious practice in America of first developing "the working plant," that which has to do with the extractive and manufacturing industries and the sale of their products—and is the means of living—with an almost disregard for the "recreational plant," which represents more nearly the object of life. The primary idea in the Appalachian project is to reverse this emphasis. The industrial side of the regional plan is, however, at the same time being studied through surveys of small sections of the region.

It may be asked why we as architects have taken the lead in this newer type of regional planning in America. The reason, it has seemed to us, needs no explanation, for it is apparent that we cannot have good buildings unless we have good cities—that is, unless we have well planned cities. It is quite as true that we cannot have functioning well planned cities unless we relate them to the surrounding country—the farms and forests and great recreation grounds. And so in self-defense to protect his own works the architect must turn first to City Planning and then to Regional Planning. He does so also for more important reasons. The society of which he forms a part can only be saved from the crushing degradation and congestion of our overgrown cities and the waste that comes from badly developed natural resources, through the comprehensive planning both of city and of countryside. The technician is needed to plan, and the architect of all our professional men is best equipped to undertake this work, if he will only understand the problem and his opportunity and his ability thus to serve the community.

(*From the Annual Report of the Committee on Community Planning.*)

The Housing Shortage in New York

In his address to the last Convention, Brig. Gen. Marshall, speaking of the general housing shortage, said (Journal for June, p. 248): "In some cities urgent needs are believed to have been filled, and a great part of the present activity (in house building) is what might be designated as luxury construction."

It is interesting here to quote from Governor Smith's message to the Legislature of the State of New York, recommending the creation of a bureau of housing and regional planning (Legislative Document No. 97, 1923):

"I am prepared to say, from figures presented to me, that the scarcity in low-priced homes is as great—or greater—than ever. Just recently some of the blocks in New York City, consisting of old-law tenements, surveyed by the Reconstruction Commission were re-examined by the same social agencies which gathered the information in 1919 to make a comparison of rentals. It is astonishing to find that with almost no exception rents have been increased sometimes as much as fifty per cent to old tenants, and wherever there is a change in tenancy the increase is almost unbelievable and ranges as high as 100 per cent. The figures are available as proof.

"Argument is frequently made that it does not matter if building is all of high class and expensive housing. This will eventually affect the cheaper grades since, as the supply of expensive housing comes to exceed the demand, its price will drop and pressure will be relieved all along the line. This might be true if we faced an ordinary situation; but we are suffering from the effects of many years of inactivity and it will be five or ten years more before we could possibly catch up and have any left-overs or vacancies. It startled us to have the census returns show that the island of Manhattan had actually decreased in population from 1910-1920, but these same returns show a tremendous increase from 1915-1920 which included the war period when no building was done. As very few new homes were constructed during this period the increased population was forced to live in the dilapidated unsanitary old-law houses that were considered unfit for human habitation.

"Examination of the houses built under tax exemption—whole blocks of them in some boroughs—will show that they have been constructed without the least consideration as to the city's growth and without guidance as to type or plan. They abound in the old-fashioned dark room construction because so many of them avoided conformity to the tenement house law by building for two families. Buildings for three families or more would have been subject to the Tenement House Law.

"If, it will be asked, I find the results of tax exemption afforded so little relief, why did I favor its continuance for another year? In the answer to that question is the heart of my whole proposal to your honorable body.

"It becomes more and more apparent that housing is related to questions of transportation, industry, road and street planning, the layout of lots, the distribution of population and the relation of the cities to the country and the farms. Some of our counties are appointing regional planning commissions and some of our cities will soon follow, in an attempt to relate their growth to the less developed surroundings."

"Conditions have not changed since 1920," adds the Governor, "except for the worse. Rents are higher, low-priced houses scarcer, and costs immensely increased."

The bill creating the recommended bureau was passed.

Communications

Some Reminiscences of the 56th Convention

At the opening session of the Convention President Faville, in his address gave the note of clearness, dignity and order which was carried out in all sessions. The hemicycle of the Corcoran gallery is admirably adapted for the uses of an architectural convention, and until our own Hall in the proposed addition to the Octagon is completed, it is to be hoped that all our Washington Conventions may be held in this place.

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Remembering the unfortunate and confusing three-ringed circus of 1921, the Board of Directors adopted a program for this year's convention which, in its main idea, could not be improved upon. The morning sessions were devoted to convention business and the structural and strictly business side of architectural practice; the afternoons and evenings to the cultural side of the profession.

The program of Wednesday afternoon was particularly interesting, the speakers being men interested in literature, psychology and art. Mr. MacGregor Jenkins, of the Atlantic, gave an impromptu talk which was inspiring to all who heard him. The big idea which seemed to dominate all others at this convention can be best summed up in the thesis of Mr. Cortissoz's address of Friday evening,—"the Man behind the work."

By this I mean the necessity of recognizing the vital part played by each workman on a job in carrying out the architect's idea. Mr. Jenkins made much of this in his talk. Mr. Sullivan Jones dwelt on it, and in all of the speeches on Friday morning this thought was touched upon. Mr. Boyd, of Philadelphia, dwelt upon the impossibility of carrying out any architectural conception unless the man with the tools was taught to feel that he was an essential part of the architect's idea and that upon his individual performance of his allotted task depended the success or failure of the architect's dream.

Today, the greatest obstacle the architect faces in his effort to have his dream come true, is the indifference of the workman on the job. No one will dispute the fact that unionism has done much to make life brighter and better for the union workman, but it has not made him happier or more contented; its demand for better working conditions seems to have considered the workman's body to the complete neglect of his soul. Consequently, we have strikes, lockouts and ever increasing demands for higher wages and shorter hours, each following the other in a vicious circle, and discontent grows. In the building line we architects are fully as much to blame for present conditions as are the rulers of Union Labor.

We have been prone to stand apart from the working crowd, to consider ourselves creators, forgetting that beautiful plans, sections, and elevations are valueless until executed in steel and masonry. We are on good terms with the general contractors who bind themselves by contract to make real the creations of our brains, but we forget that it is not the general contractor who will build our building. He is, at best, an administrator, a buyer of labor and material, an organizer whose ambition is to put through as many jobs as his organization can handle with the greatest profit to the owner and to himself.

We need his services and could not build without him, but he is not a builder.

"In the elder days of Art
Builders wrought with nicest care
Each remote and hidden part,
For the gods see everywhere."

That is the condition in the building world which we must restore as far as is physically possible under modern conditions. We architects can restore it if we, personally, and not through highly specialized paid superintendents, get on our jobs, talk not only to the foreman but to the men themselves, tell them why we have indicated this thing and that in our plans and specifications, make them visualize the building we have in mind and then, and this is most important, make each man realize that he is a vital part in the realization of our dream and that we cannot do anything without him, John Smith, bricklayer. That is the democratic, the human way in which to advance our art and create a living architecture for our land.

We read daily in papers and reviews, and in many, many books, that the ideals which took us into the war are dead and that now every man and every nation must get what he can for himself, but this is not wholly true. Every man has a soul as well as a body and both must be kept alive. The unions have devoted themselves to the care of the body, but ideals are not dead, and we architects can do much towards bringing real peace to this storm-tossed world, by feeding our workmen's souls with ideals of real beauty and showing them their part in realizing these ideals.

But to return to our professional ambition, to create beautiful buildings—if we put into execution this *leit-motif* of our last convention and make John Smith realize that he is not just a bricklayer, member of Local 39, but is, potentially, a master bricklayer, he will instill the same idea into his buddy who works beside him, and so, by slow degrees, this thought will permeate the building trades, and our executed buildings will have the charm of their creators' sketches and cease to be the cold machine-made structures that crowd our streets today.

Many topics of vital import to the practice of our profession were discussed at the 56th Convention, but the vital reaction which I carried away was this thought which I have tried to express, of the need of getting in closer touch with the man upon whose active interest and co-operation our work depends. That this idea should have been touched upon by men from every part of this vast country shows that the idea is in the stage of germination, and when it bears fruit the results will be tremendous.

ALFRED GRANGER.

From Our Book Shelf

Skeletons!

Mr. Heywood's attractively published volume is presumably a truthful account of one of those mediæval Italian cities that retained its power as long as its sister cities could not prevent it.[1] As a bald revision of dates, battles and names, scholarly though the work may be, one is annoyed at the total neglect of those very qualities that will make Pisa live for us when our interest in its brawls will die. Mr. Heywood makes no mention of the development of its art, either in sculpture or architecture, and it is only in the curiously unrelated illustrations that we

[1] *A History of Pisa, Eleventh and Twelfth Centuries.* William Heywood. Cambridge, 1921.

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gather that the author or publisher suspected their importance.

Mr. Heywood stops his analysis in 1328 and concludes his work with a few remarks concerning the period from 1406 to 1505. He writes that he will take up this field again if time and his years permit. One has no personal grievance against him but one wishes him ample leisure to browse in his dates and names with the earnest wish that he will leave poor Pisa at rest until he may find it possible to give us more of an insight into her soul and less viewing of her skeleton. E. J. K.

New Books for the Draughtsman

The material which gave the initial impetus to the magazine, *Pencil Points*, is now being collected in book form as *The Pencil Points Library*. Mr. Harbeson's series on *The Study of Architectural Design*, Mr. Van Pelt's on *The Æsthetics of Building Materials*, and others are promised. The first to appear is Mr. Arthur Guptill's *Sketching and Rendering in Pencil*. Hitherto it has generally been assumed that the budding draughtsman could learn what he needed about pencil drawing by adaptation from the books on pen drawing such as those of Messrs. Maginnis and Hays. The brief discussion by D. A. Greg:, expounding his familiar formulæ, in the Encyclopædia of the American Correspondence Schools, was almost the only available discussion. Mr. Guptill has now assembled a wealth of illustrated material, and formulated the whole matter systematically, primarily for the benefit of the architectural draughtsman. His own favorite technique, to be sure, is one less familiar in the architectural world than in that of the schools and art schools, being the sort of "pencil painting" with a flat point familiar in Mr. Woodbury's drawings. He has a mastery of other technique, however, and the general illustrations are chosen with admirable catholicity. It is a pleasure to see the work of such relatively newcomers as Kenneth Conant and Otto Langmann in place beside that of the veterans. One would like to see some of Harold Shurtleff's among them also. But there is already enough to be thankful for in this very interesting and useful book.

F. K.

English Architecture at a Glance

"English Architecture at a Glance"[1] starts out nobly —published by the Architectural Press and with a foreword by a F. R. I. B. A., it purports to be an altruistic and semiofficial effort to explain the course of English Architecture so that it will run smooth for the subnormal mind of that much set upon individual, "the man in the street." As you proceed, however, the curiously and decidedly un-English inferences as to how much better the mediæval architects could have built had they known the use of constructional steel, and how Sir Christopher Wren would have jumped at an opportunity to use a few plate girders and steel trusses in his dome, make you a little suspicious—till your search for the "nigger in the stone pile" is amply rewarded in the last chapter. This last chapter is a neat (not at all gaudy) advertisement of a certain firm of English constructional engineers and contractors.

If you now turn back to the "foreword," you will discover this same firm must be thanked for a very liberal donation which has made it possible to publish the book for a shilling. Apparently, as a sop to the profession for lending itself to such a scheme, every other chapter is a plea for the better recognition of the architect and a reprimand for the "poor man in the street" for not recognizing what a humdinger the architect is.

The letter press does not rise as high as in the usual American advertising story, and is rife with such profound conclusions as "a fine building means something to everyone,"—or, "the virility of a nation is known by its architecture." The little pen-and-ink drawings illustrating the progress and development of the styles are attractive and accurate enough, though surely Queen's House, Greenwich, is not an example of Jacobean architecture.

So anxious is the Editor to get the dénouement, "the modern constructional methods as practised by A. D. Downay and Sons, Ltd., Constructional Engineers, and "an invitation" (which is the heading of the last chapter) to visit their buildings in course of construction, that he, said Editor, entirely omits any reference to English architecture between 1720 and the present day. Between this period occur such negligible phenomena as the visit of Stuart and Revett to Athens, and the publications of their researches on the Acropolis by the Dilettanti Society. Then the Greek Revival had its birth without which we would have had no St. George's Hall or Bank of England, nor our own pillared and pedimented Parthenons of the thirties, forties, and fifties. John Ruskin, lighting the way back through dim mediæval paths with his "Seven Lamps,"—Eastlake with his disastrous attempt to turn the British craftsman away from precedent,—William Morris and his paladins who finally slew the dragons of bad taste evoked (with such good intentions) by Eastlake,—are all equally ignored, as are also Street and Bently and Lutyens,—all, all in fact except save one, our generous friends, Messrs. Archibald D. Downay and Sons, Ltd., Constructional Engineers, Steelworks, Battersea Road, S. W. II.

THOMAS E. TALLMADGE.

[1] Published by the Architectural Press, London. May be ordered through the Journal Book Shop.

Hospital Floor Research

The American Hospital Association Committee on Floors is continuing its study on the subject of floors this year, and solicits the submission of samples for tests as the basis of a further report to the annual meeting of the Association. Particulars may be obtained by writing the Chairman, Frank E. Chapman, 1800 E. 105th Street, Cleveland, Ohio. The Committee consists of Doctor Thomas Howell, New York Hospital, New York City; Doctor Charles E. Young, Hospital of the Good Shepherd, Syracuse, New York; Mr. Charles F. Owsley, Architect, Cleveland and Youngstown; Mr. J. W. McBurney, Engineer of Tests, Board of Education, Cleveland, Ohio, and the Chairman.

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The Editor's Note Book

We have more than once touched on the writings of Charles Marriott, wherein he treats of the personality of the craftsman, of his attitude toward his work, and of the economic encumbrances which too often lie in the way of the fullest expression of his genius. With precisely the same thought in mind, we pluck the following from one of H. L. Mencken's *Meditations* in *Smart Set:*

"As I grow older, old tastes and enthusiasms fade miserably into memories—yellowed leaves fluttering from the dying tree. An observation mellow with platitude, and yet every man, as he makes it for himself, must be filled with a Gothean melancholy, a kind of dismayed wonder. Am I actually the same mammal who, in the year 1894, was a baseball fan, and knew all the players without a score-card? It seems incredible—some outrageous fable out of history, like that about Washington and the cherry tree. I can imagine nothing more dismal today than a baseball game, or, for that matter, any sort of sport. The taste for it, the capacity for rising to its challenge, is as extinct in me as, say, the desire for immortality. I have absolutely no yearning to exist as a wraith for all eternity, and by the same token I have absolutely no yearning to play golf. Not long ago, when too much work at the desk—chained to a stool and a spittoon like a bookkeeper!—brought me to a professor of internal medicine, and he prescribed more exercise, I turned to laying bricks to avoid the unbearable boredom of golf, tennis and all the rest of it. In laying bricks there is at least some obvious intelligibility. One *makes* something, and it is there to look at and mull over after it is done. What is there after one has played a round of golf? In these later days there is not even a decent drink.

"When I was a boy, bricklayers always fascinated me. No other mechanics wore such a lordly and distinguished air. Even in those days they got a great deal more money than other workingmen, and showed it in their manner. At noon, when the carpenters and tinners sat down in their stops to devour stale sandwiches out of tin cans, the bricklayers took off their white overalls, went to the Dutchman's at the corner, and there dined decently on *Linsensuppe* and *Sauerbraten,* with large horns of lager to flush their esophagi. Bricklayers were the only workmen who had recognized gangs of slaves to serve them, to wit, the hod-carriers. In those far-off times, in the city where I lived, all hod-carriers were colored men —usually great, shiny fellows with immense knots of muscles in their legs and arms. The Irish had already become lawyers, city detectives, saloon-keepers, gang bosses, and *Todsaufer* for breweries. These colored men, in summer, liked to work with their chests bare. Swarming up the ladders in long files, each with his heavy hod on his shoulder, they made an exotic, Egyptian picture. One could fancy them descended in a direct line from the Nubians who carried the hod when Cheops built his pyramid. The bricklayers, forever cursing them fluently, but all the same palpably friendly to them, fitted into the fancy perfectly. The mason is the one workman who has resisted all change. He does his work today as he did it in Babylon, with deft hand and sharp eye. Compared with him, all the other mechanics of our time are upstarts: put him alongside the plumber, the structural iron worker, or the electrician! Moreover, what he does endures. The carpenter? A blower of soap bubbles, a maker of millinery! But the brick walls of Babylon stand to this day.

"Laying bricks in my garden wall (to the great disquiet of my neighbor's dog) I learned a number of things worth knowing. One (discovered almost instantly) was this: that there is much more to a handicraft than the simple exercise of muscle. To lay bricks decently one must be careful, calculating, far-seeing, alert, a bit shrewd. Distances must be figured out very accurately, else there will presently appear a gap that no conceivable brick will fit. One deals in hard and immovable lines, precise distances, mathematical levels. A wall that leans, save when age has pushed it over, is a wall that must come down. There can be no easy compromises with the plumb-bob, no rough and ready evasions of the plan. A week or two of hard effort left me with a respect for bricklayers vastly transcending my old admiration. I knocked off a day and went out to watch a gang of them laying the front wall of a somewhat elaborate moving-picture theatre—a complex maze of arches, cornices and pilasters. I had, even by this time, some professional comprehension of their problems. I stood gaping in the hot sun as they solved them—quickly, ingeniously, perfectly. But that, after all, was an easy job. The hardest of all, I have been told, is to lay the wall of a sewer manhole. It is all curves—and they do not all run the same way. The men who tackle it do it wholly by the eye! It is as difficult, in its way, as playing Bach.

"Another thing I learned was that it was quite as easy, and a good deal more pleasant, to lay bricks in a good design as it was to lay them in a bad design. Do bricklayers know it? Do they take any actual delight in their craft? I believe fully that the better ones do. An architect once told me that every effort he made to use bricks beautifully, no matter how vexatious the technical problems it involved, met a hearty response from them, and eager co-operation—that they delighted in matching the colors of the new tapestry bricks, and worked joyfully on a fine chimney. Unluckily, they seldom get the chance. Nine-tenths of the work they do for a living is shoddy—the uninspiring laying of bad bricks in inept and feeble designs. What could be more tiresome than running up a high blank wall? Or than encasing a skyscraper in its thin and puerile skin of clay? The only brickwork that can imaginably satisfy an honest bricklayer is honest brickwork—brickwork that stands upon its own bottom, and is precisely what it pretends to be. The main arch of that movie parlor occupied four or five bricklayers for several days. It was a genuine arch, not a fake concealing concrete, and their delight in it was obvious. All day long their foreman hovered over them, watching every brick as it went into place, and buzzing all over the scaffolding with his blue-print and his level. I saw him regarding it from across the street when it was done, and the false work had been taken away. There was no mean satisfaction in his face, and it was no mean feat that satisfied him." C. H. W.

Structural Service Department appears on the second right hand page following

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Structural Service Department

LEROY E. KERN, *Technical Secretary*

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.

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Metal Plating. (15-e)—(*Protective metallic coatings for the rustproofing of iron and steel, Circular No.* 80, *Bureau of Standards. Size* 7″ x 10″. *Pages* 34. *Illustrated.*) Various theories have been advanced concerning the nature of the process of the corrosion of iron and a vast amount of experimental work has been done to support these theories. The process is electrolytic in its nature and the various hypotheses differ mainly as to the factors by which the electrolytic action is brought about. Iron and steel will not corrode in dry air. The presence of moisture is an essential condition, and, according to one of the theories, carbon dioxide must also be present. Protection from atmospheric corrosion may be afforded in two ways, first, by mechanically excluding all moisture and other corroding agents from the iron and steel; and second, by using coatings of such a chemical nature that the covering itself is corroded in preference to the iron or steel beneath. It must be remembered that all rustproofing processes are temporary only in character; some, however, are far superior to others.

The protective materials fall in general into three classes, (a) the metallic coatings, (b) the coatings in which the iron to be protected is itself converted at the surface into some less corrodible compound, and (c) the organic coatings, including paints, varnishes, enamels, etc. The metallic coatings include all the common metals and alloys that can be applied at all readily to steel, namely, zinc and aluminum, which are electronegative to iron; and tin, lead, terne and other lead alloys, copper, nickel, cobalt, brass, bronze, and silver, all of which are electropositive to iron. In the case of the iron compounds, the iron at the surface is converted to oxide, or to some other compound, and the piece is then usually given an oil finish.

The organic coatings are not discussed in this circular.

Of the metallic coatings, by far the best for general rustproofing is zinc. The principal reason for this lies in the chemical nature of zinc. It is the only one of the commonly used metals that has a greater tendency to be oxidized than has iron.

When any steel article with a metallic coating is scratched or abraded so that a small area of the steel is exposed, the two dissimilar metals, together with a small amount of moisture derived from the atmosphere, will form a tiny galvanic cell, set up a current, and start corrosion.

Zinc will be oxidized, while the iron remains bright and uncorroded until the bare spot becomes so large that the central portion is beyond the protective zone of the surrounding zinc. Should the coating happen to be tin it would be the steel that would suffer. The tin coating is actually injurious, because without it the steel would oxidize at the normal rate with no galvanic action to hasten the corrosion. The value of tin for coatings depends upon other factors than its electrochemical nature.

Aluminum does not share the advantages of zinc, such as relatively low cost, the ease with which it can be applied to steel and the fact that with a little care it will solder readily.

Metallic Coatings. (a) *Zinc*:—The oldest process for zincing or galvanizing, and the one most widely used, is the hot-dipping process, in which the steel after a preliminary cleaning of the surface is immersed in molten zinc, left in the bath long enough for the steel to reach the temperature of the zinc, and then withdrawn with the coating of zinc adhering to it.

Hot dipping is excellent for even surfaces, as it gives a heavy coating in a very short time. This method can not be used on accurately machined parts or on a highly hardened steel where the heating to 450 degrees C. (the approximate temperature of the zinc bath) would soften the steel too much for its intended use.

Another method of zincing, called "sherardizing," consists in heating the steel in a so-called zinc-vapor atmosphere. The steel parts are packed in a revolving drum with zinc dust containing a small amount of zinc oxide, and heated at 350 degrees to 375 degrees C. The cylinder is made to rotate slowly on its axis, to tumble the parts and insure evenness of coating. Usually three and one-half to four hours' heating are required to produce a satisfactory coating.

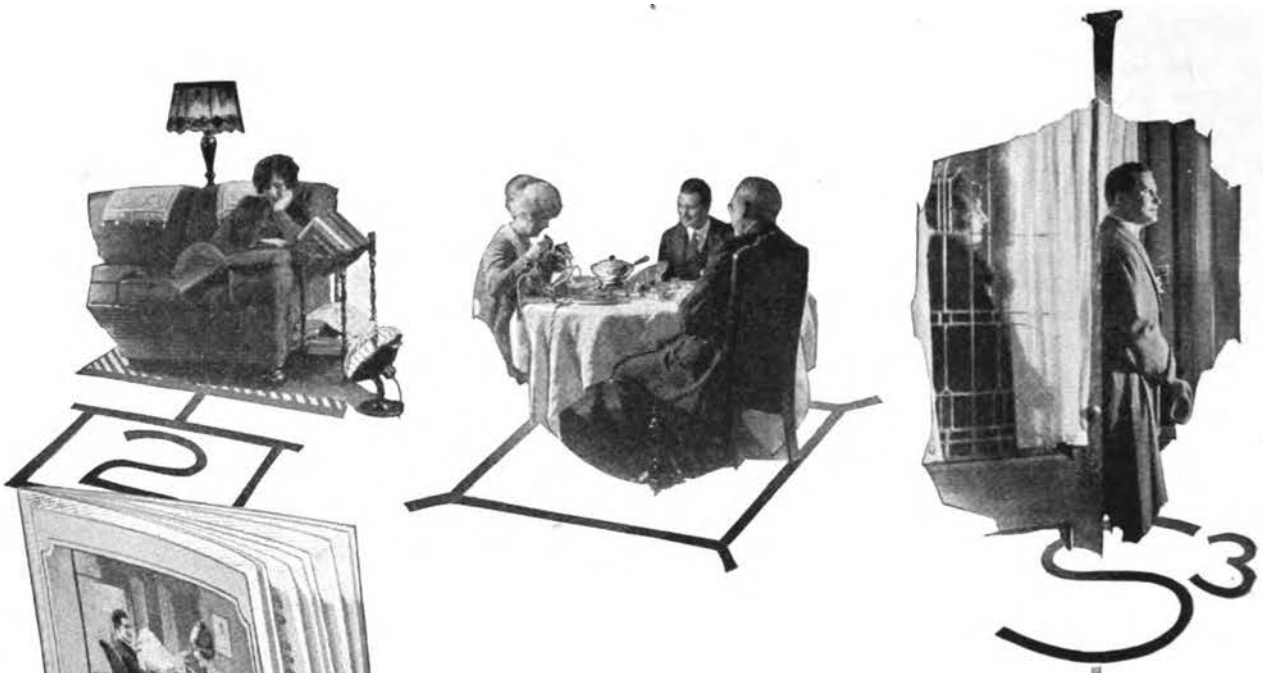
Sherardizing has the advantage of giving very even coatings. Sherardizing is a slower process, and it can not be used on such hardened steels as would be softened too much by heating at 375 degrees C. for three or four hours. Neither is the method suited to handling large sheets, etc.

Zinc is also applied to steel by plating from an aqueous solution. Those commonly used are either a solution of zinc sulphate containing a small amount of free acid or a solution of zinc cyanide or one of zinc oxide in a mixture of sodium cyanide and sodium hydroxide. The plating usually takes from a half hour to an hour but may be continued longer to produce very heavy deposits.

Electroplating has the advantage of being readily applied to small and delicate articles that are not easily handled in other ways, and has the obvious advantage that it can be applied to steel without modifying any previous heat treatment. It has been found that the cyanide plating solutions possess much better "throwing power" than the sulphate solutions and therefore lead to the production of more uniformly distributed deposits.

(b) *Aluminum*:—Aluminum has never been used commercially on a large scale for rustproofing, on account of the difficulty of applying it to steel.

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(c) *Soft Fusible Metals* (Tin, lead, and their alloys):— Almost all of the metallic coatings other than zinc and aluminum divide naturally into two classes, the soft low-melting-point ones, and the hard metals with relatively high fusion points. Those in the easily fusible class, such as tin, lead, and their alloys, are applied almost altogether by hot dipping.

One of the most widely used of the coating metals is tin. A tin coating must be free from pinholes and must not be abraded or injured, or accelerated corrosion will set in where the steel base is exposed. Tin itself corrodes very slowly, is applied very easily by hot dippings, is soldered more readily than any other coating and has no toxic effect, so that it can be used in food containers.

Lead alloys are applied by the same processes as tin. Lead does not solder so readily because it oxidizes quickly when heated, but it is much cheaper than tin, and has been used especially in terne, which is an alloy of about three-fourths lead and one-fourth tin. The electrodeposition of lead for the production of protective coatings has recently come into commercial use.

(d) *Hard Metals* (Copper, nickel, cobalt and brass):— Copper has been used a great deal for rustproofing Metallic copper itself corrodes very slowly. It is applied very readily by electroplating. The coating must be well applied and be free from bare spots and pinholes to protect completely against corrosion. Buffing renders the coating more uniform in thickness and covers up such imperfections as pinholes, etc. If the coating is very thin, however, severe buffing will remove it almost entirely in places and so accelerate corrosion.

Copper is also applied with the Schoop spray gun, and by the so-called "copper-clad" process. Copper applied by the latter method is less likely to be porous than is the case with electroplated or sprayed metal.

Nickel is used for articles that are to have a light color, especially if a bright polish is desired. Most nickel is applied by electroplating, but it can also be applied by a process similar to the copper-clad process.

Cobalt is quite similar to nickel in its properties, and is used in much the same way.

The electrodeposition of brass upon steel can be carried out with success, and is used extensively on small articles, such as builders' hardware, lighting fixtures, etc. It is plated from a solution containing both copper and zinc. It has no peculiar advantages as regards rustproofing, but the brass color is sometimes desired. Brass has also been applied as in copper-clad and nickel-clad products, as has also bronze.

Oxides and Salts of Iron (a) *Oxides.* The oxide coatings on iron and steel are in general prepared by heating the metal in a suitable atmosphere or by oxidizing in the presence of certain aqueous or fused chemical reagents.

Bower-Barff type. The original Bower-Barff method consisted in heating the steel at 350 degrees C. and above, in air or sometimes in the presence of superheated steam. This process and the variations of it give a coating which offers a very fair degree of resistance to corrosion. The modifications of the Bower-Barff process are known under quite a number of names, e.g., the Swann, the Bontempi, the Gesner, the Weigelin, etc.

Heating with oil, etc. In this type of procees the steel is heated in volatilized oil or in a thick, smoky atmosphere, whereby a deep black oxide coating is produced. The process of blacking in a forge is similar. The steel is cleaned of loosely adherent scale and then held while quite hot in the thick, smoky flame from the forge.

Etching (*"browning," "bluing," etc.*) Solutions of chemical reagents are applied to the steel with a cloth or sponge; the steel is allowed to oxidize for some hours while drying; the rust is then scraped off, leaving a thin adherent coat of oxide. The surface is then oiled.

Other protective coatings of a similar nature are obtained by the Niter bath, temper colors, hot oxidizing solutions, etc.

(b) *Salts.* In a coating of this type of rather wide commercial application, the iron at the surface is converted into a salt by immersing the steel in hot dilute phosphoric acid, sometimes containing manganese dioxide, soluble chromates, or other metallic salts. After the proper length of immersion, the steel is withdrawn and dried. The color is then grayish-white, but becomes black when oiled. This is called the Parker or the Coslett process. Its resistance to corrosion is of the order of the light oxide coatings.

Various conflicting statements have appeared concerning the relative electrolytic solution potentials of the different zinc-iron alloys, particularly those which occur in galvanized coatings. The behavior of the alloy layers upon etching indicates that they are electropositive toward the zinc; that is, they bear the same general relation to zinc in this respect that iron does. The claim has been made that zinc coatings containing as large a percentage of the alloy layer as consistent with the mechanical properties desired (freedom from flaking on bending, etc.) are very desirable. Such coatings, however, will not be able to exert protective influence over as large bare spots as will those of much purer zinc. The resistance to corrosion of articles covered with such coatings depends entirely upon the thickness of such coatings and to the uniformity of the coating.

The successful application of coatings to steel requires that the surface of the specimen shall be clean. The general methods of cleaning are: The chemical, in which the scale is removed by a direct chemical process of solution; the electroyltic, in which the material is made anode or cathode in an electrolytic bath; and the mechanical, in which the scale is removed by abrasion, such as sand blast, tumbling, etc.

The most widely used cleaning process is a chemical one; it is the process of "pickling" in sulphuric acid. It has the advantages of being rapid and inexpensive, of reaching all parts of irregular specimens.

The chief disadvantages of pickling processes are (1) that when the thickness of the scale is not uniform over a specimen, the steel at cleaned portions remains exposed to the action of the acid until the last of the scale is removed from other portions and (2) that there is a skin effect causing brittleness, which becomes quite pronounced on thin specimens.

Of the mechanical methods of cleaning, the sand blast is the one most widely used. The method gives a smooth, bright surface, but takes more time than pickling and does not satisfactorily reach crevices.

Another process of mechanical cleaning consists in tumbling the specimens in a rotating barrel with emery and water. It is an abrasion process, and the mildest process of mechanical cleaning.

Considerable difference of opinion has been expressed concerning the relative merits of the different types of protective coatings, and various tests have been suggested to show the virtues of a particular coating. There is no universal test that can be applied to the different kinds of protective coatings; each type must be considered alone, and the limitations of each must be taken into account.

The usual methods for testing zinc coatings are the Preece test, the hydrochloric acid-antimony chloride method, the basic lead-acetate method, and the salt-spray test.

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Recommendations Concerning Coatings. Zinc coatings should be given preference over all others when the object of the coating is protection against corrosion only.

For general use on large, smooth surfaces, sheets, rods, wires, pipes, etc., the hot-dipped zinc coatings are entirely satisfactory, although some of the other processes are more economical in the amount of zinc used. On articles which must be sharply bent or shaped too heavy coatings of this hot-dipped type should not be used on account of the tendency of the coating to flake off at such points.

Of the different types of zinc coatings the hot-dipped and sherardized are not to be recommended for hardened and tempered steels.

For indoor and to a limited extent outdoor use, for parts which can be easily inspected and which are kept well oiled, other coatings than zinc (e.g. the oxide and other black finishes) may be used. For severe service zinc only should be depended upon.

In general, nothing is gained, from the standpoint of resistance to corrosion, by first coating an article with copper, or a similar metal, and then finishing with zinc. If a zinc coating is to have a black finish, black nickel may be used as a finish.

The use of oil, and like substances, on any type of coating is to be strongly recommended. The life of zinc coatings, particularly those of a porous character, may be prolonged almost indefinitely by periodically oiling them.

Copper (12a34)—*(Circular No. 73, Bureau of Standards. Size 7" x 10". Pages* 108. *Illustrated*). Copper is exposed to corrosion by water, air, steam, etc., in a variety of commercial forms, pipe, steam fittings, roofing, etc. The question therefore of the corrosion of copper under such conditions is an important one. Practically no systematic investigation has been made, however, of the rate of corrosion of different samples of copper under these various conditions.

Carpenter exposed sheets of aluminum, copper, iron, and other metals to corrosion on the roof of an office building, in a railway tunnel, and in a smokestack, and observed the rate of corrosion expressed in the decrease of thickness per year. His results follow:

Metal	Corrosion loss		
	On office bldg. Inch	In ry. tunnel Inch	In smokestack Inch
Copper (plain) ...	0.0000	0.004	0.014
Aluminum	.0011	.013	....
Iron	0.001-0.004	.15	.018
Steel	....	.12	.020

The copper samples tested were from 99.53 to 99.76 per cent pure. The corrosion was quite uniform in the case of the copper and is seen to be less than that of the other materials.

Corrosion of copper may be quite uniform, a covering and protecting layer of oxide or green basic carbonate or, in marine atmospheres, of oxychloride being formed. Often, however, the attack is quite local, with formation of pits and furrows. Such pits are mentioned by Corner, Mercia, and others; they are to be attributed to local electrolytic action caused by the presence near the pit of a substance electropositive to the copper. It is probable that copper oxide and even some of the basic oxidation products of copper may serve as such electropositive "poles."

It has been shown also by Rhead that hard copper is more readily corrodible than soft copper, the rate of corrosion of the former having been from 0 to 500 per cent greater than of the latter in his experiments. Eastick also holds that the presence of hard and soft areas in copper are often responsible for local corrosion.

Synopsis:—Commercial copper, metallography of copper, chemical properties, physical properties, physical properties at higher and lower temperatures, technology, heat treatment of copper, impurities in copper, "Diseases" of copper, definitions of physical terms, typical specifications for copper, bibliography.

Lime Plaster, Interior (21a1.) *Lime in Construction, by T. B. Shertzer, Bulletin* 306, *National Lime Association, Size* 6 x 9, *pages* 80.) Lime has a most remarkable sand-carrying capacity, and, covers particles with which it comes in contact with a very smooth, slippery, and sticky coating. As a result of these properties, a much larger proportion of sand may be mixed with lime than with any other plastic binding material. When a mixture of sand and lime, in the form of plaster, is applied, the slipperiness of the lime allows the particles with which it is coated to move over and around one another very readily; this makes the plaster easy working. The stickiness holds the particles together, thus preventing the sand grains being rolled out, as is the case with many other materials. The smoothness and extremely small size of the slaked lime particles produces a thin, even coating of paste which completely envelopes each sand grain. When these lime-coated grains come into contact there is a collection of the lime paste at and about the points of contact, which holds and securely binds the grains in their final position. As a result of this collection of lime paste at the points of contact of the sand grains, there are left innumerable small cavities of air spaces throughout the mass of the plaster. These air spaces act as most efficient sound-deadeners by asborbing and breaking up the sound waves which impinge upon the surface of the plaster.

Provided the floors are broom clean, the droppings from lime plaster can be gathered up, retempered, and put into the structure.

There is a rather widespread impression to the effect that lime plaster dries out much more slowly than do plasters made of the substitutes. Lime plaster hardens more slowly than the substitute materials because the action is entirely different. All materials, including lime, require an excess amount of water in mixing in order to make them workable, and this excess water can only pass off through evaporation; it takes just as long for the excess water to evaporate from the substitutes as it does from lime plaster.

Suggested specifications for lime plaster follow:

Materials.—Lime shall conform with the requirements of the A. S. T. M.

Sand shall be clean and well graded from coarse to fine. It shall be free from loam, and clay in excess of 10 per cent (10%), and shall be entirely free from vegetable matter or animal matter. It shall all pass through a number eight (8) sieve.

Hair shall be well washed long cattle hair. Suitable vegetable fibre may be substituted for cattle hair.

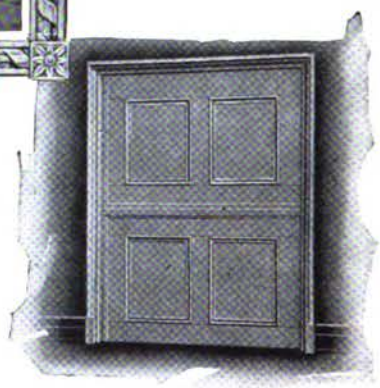
Key Space with Wood Lath.—When the plastering is to be done on wood lath there shall be a space of three-eighths (⅜) of an inch between the lath on all ceilings, framed partitions and furred walls.

Wood Lathing for Lime Plaster.—They shall be at least one and one-fourth (1¼) inches wide, from one quarter (¼) to three-eighths (⅜) of an inch in thickness and long enough to reach over three studs or beams or furring strips. They shall be well nailed at every stud, beam or furring strip with a three-penny (3d) nail driven flush with the lath. Joints in lathing shall be broken at every eighth course. If the laths are dry, they shall be well wetted with water before applying the plaster.

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Other Lathing for Lime Plaster.—Metal lath, wire cloth, or other material when used as lathing for lime plaster shall be applied in accordance with the instruction of the manufacturer. Suitable laps shall be made at all sheet joints, and the material shall be securely nailed or stapled to the foundations in such a manner as to provide as rigid a base for the plaster as possible.

The laps on both ends and sides of the sheets shall be at least one (1) inch. Metal laths without ribs shall be securely tied with suitable annealed wire at least every eight (8) inches between supports along longitudinal joints. All vertical or horizontal joints shall be made on supports.

The minimum weights of metal lathing shall conform to the following table:

	Without ribs	With ribs
On walls	2.2 lbs. per sq. yd.	2.50 lbs. per sq. yd.
On ceilings	2.75 lbs. per sq. yd.	3.00 lbs. per sq. yd.

Three-coat Work on Lath.—All lime plaster applied to lath shall be three-coat work, that is, it shall be applied in three coats, namely, scratch, brown, and finish.

Grounds. All lime plaster on lath shall have seven-eighths (⅞) grounds, that is, the total thickness of the finished plaster measuring from the back of the lath shall be seven-eighths (⅞) of an inch.

First or Scratch Coat. The first or scratch coat shall be fairly rich in lime and shall be well haired. It shall be applied with sufficient pressure to force part of it through the openings in such a way that it will fall over and form a key. This coat should barely cover the lathing and shall be well scratched or scored so as to form a key or bond for the next coat. The scratch coat should be hard before the application of the next coat, excepting when doubling-up or laid-on work is permitted.

Second or Brown Coat. This coat may be leaner in lime than the first coat and need not contain as much hair or fibre. This coat shall be brought nearly out to grounds and shall be finished straight and true, free from all waves and unevenness. It shall be finished fairly smooth for the reception of the finish coat.

Finish Coat. When the finish coat is to be white, it shall be composed of lime paste tempered with plaster of paris. It shall be laid on evenly and troweled smooth and hard. The finished surface shall be free from all brush marks or other deficiencies.

When the finished coat is to be other than that specified in the preceding paragraph, a suitable mixture shall be applied in a thin even coat and troweled and rubbed to the desired finish, which shall be true and free from waves or other imperfections.

Plastering on Solid Bases, on Brick or Tile.—Grounds shall be three-quarters (¾) of an inch.

Coats. Plastering on brick or tile may be done with two coats, namely brown and finish, if the plastering is applied directly to the wall. When the backing is waterproofed, the walls shall be furred and the plastering done in three coats in accordance with the preceding section.

NOTE: It is highly desirable to fur all exterior brick or tile walls for the reception of plaster.

Preparation of Wall. The walls to be plastered shall be free from all dirt, loose mortar or similar material. They shall be well washed and shall be well wetted with water just prior to the application of the plaster, in order to reduce the suction of the bricks.

Application of Brown Coat. This coat shall be applied with enough pressure to assure a good bonding of the plaster to the wall. It shall be brought nearly out to grounds and shall be finished straight and true, free from all waves or other imperfections. It shall be finished fairly smooth for the reception of the finish coat.

Finish Coat. Shall be applied in accordance with the preceding section.

On Concrete, Concrete Blocks, etc.—Grounds shall be three-quarters (¾) of an inch.

Coats. Plastering on concrete or concrete blocks may be done in two coats, brown and finish.

Preparation. The surface of the concrete shall be rough in order to provide a bond for the plaster. It shall be either cast with rough form boards or shall be chipped or hammered to provide a bond. All dust, dirt, grease, or other matter shall be removed.

Application. The brown coat shall be applied with sufficient pressure to assure a good bonding of the plaster with the concrete. It shall be brought nearly out to grounds and shall be finished fairly smooth without waves or other imperfections.

Finish Coat. The finish coat shall be applied in accordance with the preceding section.

Note on Interior Plastering.—In cases where a hard and quick-setting interior plaster is desired, the material for both the scratch and brown coats may be mixed as usual and just before application they may be tempered with not over twenty (20) per cent, in terms of volume of the lime content, of Portland cement. The tempering should be done with small batches of mortar and the mortar should be used immediately after tempering. A proportional amount of sand may be added to the mixture at the same time the Portland cement is added. This additional sand should not exceed three times the volume of the cement added.

The bulletin also contains tables of material quantities and costs.

Synopsis.—Uses of lime in concrete, mortar, plaster, stucco; Clauses suggested for inclusion in Building Codes and specifications; Data derived from tests; Tentative specifications of Committee C-7 on lime of the A. S. T. M.; Resolution passed by Labor Union regarding the use of lime.

Hollow Tile and Concrete Floor Slabs. (10b11)—(*Test of a hollow tile and concrete floor slab reinforced in two directions. By W. A. Slater, Arthur Hagener, G. Panthes, Technologic paper No.* 220, *Bureau of Standards. Size* 7" x 9". *Pages* 67. *Illustrated.*) This paper describes the test of a large slab built of hollow clay tiles with reinforced concrete ribs between the rows of tiles and parallel to both panel sides. The purpose of the test was to obtain empirical data to form a basis for the design of such slabs.

Synopsis: Materials, construction and testing, Deformations in tiles and slabs, Deflections for panels and girders, Moment coefficients, Anchorage required for negative reinforcement, Shearing stresses, cracks, factor of safety, General comments, Summary, Tables of results.

Automobile, Garage and Display Room Lighting. (31f14)—(*Edison Lamp Works. Bulletin L.D.* 141. *Size* 6" x 9". *Pages* 32. *Illustrated.*)

Synopsis.—Automobiles, Private Garage. Public Garage. Accessory Store. Display Room. Building Exterior.

Bibliography.—"Lighting of Automobile Factories," C. E. Clewell, *Electrical World,* June 30, 1917; "Improved Lighting of Automobile Manufacturing Plants," F. H. Bernhard. *Electrical Review,* August 10, 1918; "Lighting in Modern Automobile Factory," *Electrical World,* October 16, 1920; "Illumination of a Modern Motor Truck Plant," W. A. Scott, *Electrical Review,* June 11, 1921.

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Illinois State Memorial Building, Springfield, Ill. Byers pipe used for plumbing and heating systems.

Municipal Court Building, Des Moines, Iowa, Byers pipe used for plumbing. Architects: Keffer and Jones, Des Moines, Iowa. Plumbing Contractors: Van Dyke Heating & Plumbing Company.

A Sixty-Year Record

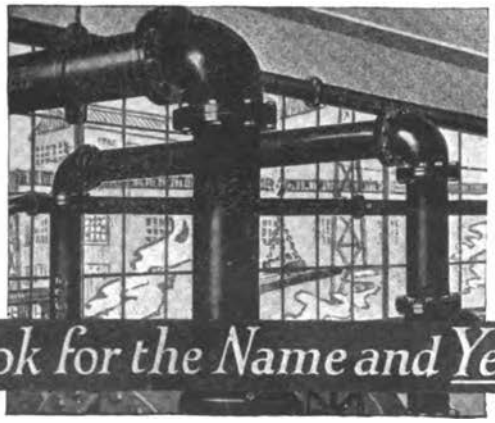
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JOURNAL OF THE
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Vol. XI AUGUST, 1923 Number 8

The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER XV.

Retrospect

WHEN Louis Sullivan was in his eighteenth year, his mind a whorl of ambitious ideas, and at a time somewhat prior to his departure for Paris, he had occasion one day to pass in the neighborhood of Prairie Avenue and Twenty-first Street. There, on the southwest corner of the intersection, his eye was attracted by a residence, nearing completion, which seemed far better than the average run of such structures inasmuch as it exhibited a certain allure or style indicating personality. It was the best-designed residence he had seen in Chicago. He crossed over to examine it in detail, and in passing around the corner of the building to analyze the other frontage he noticed a fine looking young man, perhaps ten years his senior, standing in the roadway absorbed in contemplation of the growing work. Louis, without ceremony, introduced himself, and the young man said: "Yes; it seems to me I've heard of you. Glad to meet you. My name's Burnham: Daniel H. Burnham; my partner, John Root, is a wonder, a great artist; I want you to meet him some day; you'll like him. The firm is Burnham and Root. We only started a few years ago. So far we've done mostly residences; we're doing this one for my prospective father-in-law, John Sherman; you know him—he's a big stockyards man—its the most expensive one yet. But I'm not going to stay satisfied with houses; my idea is to work up a big business, to handle big things, deal with big business men, and to build up a big organization, for you can't handle big things unless you have an organization." And so the chat went on for an hour. They exchanged enthusiasms, prophecies, ambitions, and even confidences. Louis found Burnham a sentimentalist, a dreamer, a man of fixed determination and strong will—no doubt about that—of large, wholesome, effective presence, a shade pompous, a mystic—a Swedenborgian—a man who readily opened his heart if one were sympathetic. Soon they were calling each other Louis and Dan, for Dan said he did not feel at ease when formal; he liked to be man to man. He liked men of heart as well as brains. That there was so much loveliness in nature, so much hidden beauty in the human soul, so much of joy and uplifting in the arts that he who shut himself away from these influences and immured himself in sordid things forfeited the better half of life. It was too high a price to pay, he said. He averred that romance need not die out; that there must still be joy to the soul in doing big things in a big personal way, devoid of the sordid. In parting he said spaciously: "Come around and see John. You two men must have much in common; he'll welcome you as a kindred spirit. I'm proud of John as one man can be of another."

Years later, probably in the early eighties, Louis met John and grew to know him well. At once he was attracted by Root's magnetic personality. He, Root, was not of Burnham's type, but red-headed, large bullet-headed, close-cropped, effervescent, witty, small-nosed, alert, debonair, a mind that sparkled, a keen sense of humor—which Burnham lacked—solidly put together, bull-necked, freckled, arms of iron, light blue sensuous eyes; a facile draftsman, quick to grasp ideas, and quicker to appropriate them; an excellent musician; well read on almost any subject; speaking English with easy exactitude of habit, ready and fluent on his feet, a man of quick witted all-round culture which he carried easily and jauntily; and vain to the limit of the skies. This vanity, however, he tactfully took pains should not be too obtrusive. He was a man of the world, of the flesh, and considerably of the devil. His temperament was that

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of the well groomed free-lance, never taking anything too seriously, wherein he differed from his ponderous partner, much as dragon fly and mastiff. Nor had he one tenth of his partner's settled will, nor of said partner's capacity to go through hell to reach an end. John Root's immediate ambition was to shine; to be the center of admiration, pitifully susceptible to flattery; hence, a cluster of expensive sycophants and hangers on, in whose laps it was his pleasure to place his feet by way of reminder, as he allowed himself to be called "John" by the little ones. Nevertheless, beneath all this superficial nonsense Louis saw the man of power, recognized him, had faith in him and took joy in him as a prospective and real stimulant in rivalry, as a mind with which it would be well worth while to clash wits in the promotion of an essentially common cause. Louis, true to his form of appropriating to himself and considering as a part of himself the things and personalities he valued—as he had done with Moses Woolson, Michael Angelo, Richard Wagner, *et al.*—immediately annexed John Root to his collection of assets; or, if one so wills to put it—to his menagerie of personalities great and small.

Architecturally, John Root's mania was to be the first to do this or that or the other. He grasped at novelties like a child with new toys. He thought them efficacious and lovely—then one by one he threw them away. And the while, Burnham's megalomania concerning the largest, the tallest, the most costly and sensational, moved on in its sure orbit, as he painfully learned to use the jargon of big business. He was elephantine, tactless, and blurting. He got many a humiliating knock on the nose in his quest of the big, but he faltered not—his purpose was fixed. Himself not especially susceptible to flattery except in a sentimental way, he soon learned its efficacy when plastered thick on big business men. Louis saw it done repeatedly, and at first was amazed at Burnham's effrontery, only to be more amazingly amazed at the drooling of the recipient. The method was crude but it worked.

Thus, there came into prominence in the architectural world of Chicago two firms, Burnham and Root, and Adler and Sullivan. In each firm was a man with a fixed irrevocable purpose in life, for the sake of which he would bend or sacrifice all else. Daniel Burnham was obsessed by the feudal idea of power. Louis Sullivan was equally obsessed by the beneficent idea of Democratic power. Daniel chose the easier way, Louis the harder. Each brooded incessantly. John Root was so self-indulgent that there was risk he might never draw upon his underlying power; Adler was essentially a technician, an engineer, a conscientious administrator, a large progressive judicial and judicious mind securing alike the confidence of conservative and radical, plenty of courage but lacking the dream-quality of Burnham; and such he must remain—the sturdy wheel-horse of a tandem team of which Louis did the prancing. Unquestionably, Adler lacked sufficient imagination; so in a way did John Root—that is to say, the imagination of the dreamer. In the dream-imagination lay Burnham's strength and Louis's passion.

So matters stood in the early eighties and onward. The practice of both firms grew steadily.

Meanwhile, throughout all the activities of professional life, Louis never ceased in steady contemplation of the nature of man and his powers, of the mystery of that great life which enfolds and permeates us all; the marvel of nature's processes which the scientists call laws; and the imperturbable enigma of good and evil. He was too young to grasp the truth that the fair-appearing civilization within which he lived was but a huge invisible man-trap, man-made. Of politics he knew nothing and suspected nothing, all seemed fair on the surface. Of man's betrayal by man on a colossal scale he knew nothing and suspected nothing. He had heard of the State and had read something about the State, but had not a glimmering of the meaning of the State. He had dutifully read some books on political economy because he thought he had to, and had accepted their statements as fact. He had also heard vaguely something about finance and what a mystery it was. In other words, Louis was absurdly, grotesquely credulous. How could it be otherwise with him? He believed that most people were honest and intelligent. How could he suspect the eminent? So Louis saw the real world upside down. He was grossly ignorant. He prospered, so the world was fair. Later he sent forth his soul into the world and by and by his soul returned to him with an appalling message.

For long Louis had lived in a fool's paradise: it was well he so lived in illusion. For had the hideous truth come to him of a sudden, it would have "dashed him to pieces like a potter's vessel." So he kept on with his innocent studies, becoming more and more enamoured of the sciences, particularly those dealing with forms of life and the aspects of life's urging, called functions. And amid the immense number and variety of living forms, he noted that invariably the form expressed the function, as, for instance, the oak tree expressed the function oak, the pine tree the function pine, and so on through the amazing series. And, inquiring more deeply, he discovered that in truth it was not simply a matter of form expressing function, but the vital idea was this: that the function *created* or organized its form. Discernment of this idea threw a vast light upon all things within the universe, and condensed with astounding impressiveness upon mankind, upon all civilizations, all institutions, every form and aspect of society,

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every mass-thought and mass-result, every individual thought and individual result. Hence, Louis began function of a building must predetermine and organize its form. But it was the application to man's power came into direct relationship with all other powers. The application of the idea to the Architectural art was manifest enough, namely, that the function of a building must predetermine and organize its form. But it was the application to man's thought and deeds; to his inherent powers and the results of the application of these powers, mental, moral, physical, that thrilled Louis to the depths as he realized that, as one stumbling upon a treasure, he had found that of which he had dreamed in Paris, and had promised himself to discover,—a universal law admitting of no exception in any phase or application whatsoever. Thus Louis believed he had found the open sesame, and that his industry would do the rest. But this innocent and credulous young person was not yet cynical in inquiry; he was too much of an enthusiastic boy to suspect that within the social organism were mask-forms, counterfeit forms, forms with protective coloration, forms invisible except to those in the know. Surely, he was an innocent with his heart wrapped up in the arts, in the philosophies, in the religious, in the beatitudes of nature's loveliness, in his search for the reality of man, in his profound faith in the beneficence of power. So he lived in his world, which, to be sure, was a very active world indeed. And yet, withal, he had a marked ability to interpret the physiognomy of things, to read character, to enter into personalities. He knew a dishonest man as readily as he knew a snake if he came in contact with him. *Per contra* he knew an honest man—and there were many. What delighted him was to observe the ins and outs of personality—wherein he was especially sensitive and keen to the slightest rhythms.

One day Louis dropped in to see John Root in his office in the "Montauk," a large office building recently completed by his firm. John was in his private room at work designing an interesting detail of some building. He drew with a rather heavy, rapid stroke, and chatted as he worked. Burnham came in. "John," he said, "you ought to delegate that sort of thing. The only way to handle a big business is to *delegate, delegate, delegate.*" John sneered. Dan went out, in something of a huff. Louis saw the friction of ideas between the artist and the merchant; a significent mismating which made him ponder. And he watched through the years the growing of Daniel Hudson Burnham into a colossal merchandiser. Louis at that time had not grasped the significance of choice, much less its social and anti-social phases, the ramification of its effects as a cause, its complete explanation of things that seemed veiled. Dan Burnham had chosen.

John Root also had chosen, and he had a temper. He knew at least the value of social prestige. To be the recognized great artist, the center of acclaim and *réclame* was his goal. But John did not live to carry out his program to the full, though he had a full grown moral courage that in Burnham was rudimentary. He departed this vale of tears, and this best of all possible worlds, 15 January, 1891, at the age of 41, leaving in Louis's heart and mind a deep sense of vacancy and loss. For John Root had it in him to be great, as Burnham had it in him to be big. John Wellborn Root in passing left a void in his wake.

For several years there had been talk to the effect that Chicago needed a grand opera house; but the several schemes advanced were too aristocratic and exclusive to meet with general approval. In 1885 there appeared the man of the hour, Ferdinand W. Peck, who declared himself a citizen, with firm belief in democracy—whatever he meant by that; seemingly he meant the "peepul." At any rate, he wished to give birth to a great hall within which the multitude might gather for all sorts of purposes, including grand opera; and there were to be a few boxes for the *haut monde.* He had a disturbing fear, however, concerning acoustics, for he understood success in that regard was more or less of a gamble. So he sought out Dankmar Adler and confided.

The only man living, at the time, who had had the intelligence to discern that the matter of acoustics is not a science but an art—as in fact all science is sterile until it rises to the level of art—was Dankmar Adler, Louis's partner. His scheme was simplicity itself. With his usual generosity he taught this very simple art to his partner, and together they had built a number of successful theatres. Hence Peck, the dreamer for the populace, sought Adler, the man of common sense. Between them they concocted a scheme, a daring experiment, which was this: To install in the old Exposition Building on the Lake Front, a vast temporary audience room, with a huge scenic stage, and to give therein a two-weeks season of grand opera, engaging artists of world fame.

This was done. The effect was thrilling. An audience of 6,200 persons saw and heard; saw in clear line of vision; heard, even to the faintest pianissimo. No reverberation, no echo,—the clear untarnished tone, of voice and instrument, reached all. The inference was obvious: a great permanent hall housed within a monumental structure must follow. This feeling marked the spirit of the Chicago of those days.

Ferdinand W. Peck, or Ferd. Peck as he was generally known—now "Commodore" at 75, took, on his slim shoulders, the burden of an immense undertaking and "saw it through." To him, therefore, all praise due a bold pioneer; an emotionally exalted

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advocate of that which he, a rich man, believed in his soul to be democracy. The theatre seating 4,250 he called the Auditorium, and the entire structure comprising theatre, hotel, office building, and tower he named the Auditorium Building—nobody knows just why. Anyway it sounded better than "Grand Opera House."

For four long years Dankmar Adler and his partner labored on this enormous, unprecedented work. Adler was Peck's man. As to Louis he was rather dubious, but gradually came around—conceding a superior æsthetic judgment,—which for him was in the nature of a miracle. Besides, Louis was young, only thirty when the task began, his partner forty-two, and Peck about forty; Burnham forty—Root thirty-six.

Burnham was not pleased; nor was John Root precisely entranced. It is said the ancient Egyptians held a belief that man's shadow is a fifth or residual element of his soul. About this time—the earlier days,—Burnham's shadow seemed to precede or follow him on all fours with its nose to the ground, as if perturbed. Mr. Peck had an able board of directors; among them was a man named Hale, William E. Hale. Mr. Hale's shadow seemed also perturbed and quadruped. Then came our old friend of "Tech" and Columbia, Prof. William R. Ware, whose shadow seemed serene. Then all shadows disappeared from the scene.

The unremitting strain of this work doubtless shortened Adler's life. He did not collapse at the end as Louis did; rather the effect was deadly and constitutional. Louis's case was one of utter weariness. He went to central California. The climate irritated him. Then he moved to Southern California—the climate irritated him. This was during January and February, 1890. He had friends in San Diego and stayed there awhile. There he learned, at four o'clock one morning, what a "slight" earthquake shock is like. Then on to New Orleans. That filthy town, as it then was, disillusioned him. Here he met Chicago friends. They persuaded him to go with them to Ocean Springs, Mississippi, eighty odd miles to the eastward on the eastern shore of Biloxi Bay. He was delighted and soothed by the novel journey through cypress swamp, wide placid marsh with the sails of ships mysteriously moving through the green, and the piney woods; Bay St. Louis, so brilliant; more piney woods, then Biloxi Bay's wide crossing; then, as dusk neared, the little frame depot with its motley platform crowd; the crippled hacks, the drive to the old hotel, pigs and cows wandering familiarly in the streets, all passing into silhouette, for night comes fast. Ah, what delight, what luxury of peace within the velvety caressing air, the odor of the waters and the pines.

With daylight there revealed itself an undulating village all in bloom in softest sunshine, the gentle sparkle of the waters of a bay land-locked by Deer Island; a village sleeping as it had slept for generations with untroubled surface; a people soft-voiced, unconcerned, easy going, indolent; the general store, the post office, the barber shop, the meat market, on Main Street, sheltered by ancient live oaks; the saloon near the depot, the one-man jail in the middle of the street back of the depot; shell roads in the village, wagon trails leading away into the hummock land; no "enterprise," no "progress," no booming for a "Greater Ocean Springs," no factories, no anxious faces, no glare of the dollar hunter, no land agents, no hustlers, no drummers, no white-staked lonely subdivisions. Peace, peace, and the joy of comrades, the lovely nights of sea breeze, black pool of the sky oversprinkled with stars brilliant and uncountable. Here in this haven, this peaceful quiescence, Louis's nerves, long taut with insomnia, yielded and renewed their life. In two weeks he was well and sound. By day interesting rambles, little journeys of discovery in nook and byway a growing desire to buy, which speedily floated as gossip concerning these Chicago millionaires, to the sharp ears of a Michigan Yankee who had settled there a while before, some miles to the eastward. He called. He said his name was Newcomb Clark, that he had been Speaker of the House in his State, and a volunteer Colonel in the Civil War. "I came here for my health. I've cleared part of my land and built a house, but my wife is lonely, so far from town; we need neighbors more than trees. I've a fine piece of woodland. It's pretty wild, now. But if you clear it of pines and undergrowth the live oaks will show. You can set your houses close to the road that runs along the shore. I'll make the price right. Would you folks like to see it?" Us folks certainly would like to see it right away. The trail wound up and down, crossed a bayou, then followed the shore, ascended a low bluff, following its edge, passing by some second growth at the left which gradually changed character, increased in height and density. Louis was becoming excited. At last the Colonel stopped, rose in his light wagon, and with a broad gesture as though addressing the House, he said: "This is my land." Louis clasped his hand to his heart in an ecstasy of pain. What he saw was not merely woodland, but a stately forest, of amazing beauty, utterly wild. Non-commercial, it had remained for years untouched by the hand of man. Louis, breathless, worked his way as best he could through the dense undergrowth. He nearly lost his wits at what he discovered: immense rugged short-leaved pines, sheer eighty feet to their stiff gnarled crowns, graceful swamp pines, very tall, delicately plumed; slender vertical Loblolly pines in dense

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masses; patriarchal sweet gums and black gums with their younger broods; maples, hickories, myrtles; in the undergrowth, dogwoods, Halesias, sloe plums, buckeyes and azaleas, all in a riot of bloom; a giant magnolia grandiflora near the front—all grouped and arranged as though by the hand of an unseen poet. Louis saw the strategy. He knew what he could do. He planned for two shacks or bungalows, 300 feet apart, with stables far back; also a system of development requiring years for fulfillment.

The Colonel made the price right, not over ten times what he paid. The deed ran thus: Beginning at a cross on a hickory tree at the beach, thence north, so many chains, (a quarter mile) then east, etc., and south to the beach, with riparian rights, etc. The building work was let to a local carpenter. On March 12th, 1890, the comrades light-heartedly looking toward the future, made their way toward Chicago.

This reverie is written in memoriam. After eighteen years of tender care, the paradise, the poem of spring, Louis's other self, was wrecked by a wayward West Indian hurricane. Views and plan had previously appeared in the *Architectural Record*.

'Twas here Louis did his finest, purest thinking. 'Twas here he saw the flow of life, that all life became a flowing for him, and so the thoughts the works of man. 'Twas here he saw the witchery of nature's fleeting moods—those dramas gaged in seconds. 'Twas here he gazed into the depths of that flowing, as the mystery of countless living functions moved silently into the mystery of palpable or imponderable form. 'Twas here Louis underwent that morphosis which is all there is of him, that spiritual illumination which knows no why and no wherefor, no hither and no hence, that peace which is life's sublimation, timeless and spaceless. Yet he never lost his footing on the earth; never came the sense of immortality: One life surely is enough if lived and fulfilled: That we have yet to learn the true significance of man; to realize the destruction we have wrought; to come to a consciousness of our moral instability: For man is god-like enough did he but know it—did he but choose, did he but remove his wrappings and his blinders, and say good-bye to his superstitions and his fear.

Arrived in Chicago, Louis at once went to work with his old-time vim. Important work was at hand in other cities as well as in Chicago. The steel-frame form of construction had come into use. It was first applied by Holabird & Roche in the Tacoma Office Building, Chicago; and in St. Louis, it was given its first authentic recognition and expression in the exterior treatment of the Wainwright Building, a nine-story office structure, by Louis Sullivan's own hand. He felt at once that the new form of engineering was revolutionary, demanding an equally revolutionary architectural mode. That masonry construction, in so far as tall buildings were concerned, was a thing of the past, to be forgotten, that the mind might be free to face and solve new problems in new functional forms. That the old ideas of superimposition must give way before the sense of vertical continuity. Louis welcomed new problems as challenges and tests. He had worked out a theory that every problem contains and suggests its own solution. That a postulate which does not contain and suggest its solution is not in any sense a problem, but a misstatement of fact or an incomplete one. He had reached a conviction that this formula is universal in its nature and in application. In this spirit he continued his aggressive research in creative architecture, and, simultaneously—it may seem a far cry—his studies in the reality of man. For he had reached the advanced position that if one wished to solve the problem of man's nature, he must seek the solution within man himself, that he would surely find the suggestion within man's powers; but, that to arrive at a clear perception of the problem, he must first remove the accumulated mythical, legendary overlay, and then dissolve the cocoon which man had spun about himself with the thread of his imaginings. This, in considerable measure, he had succeeded in doing.

The work of the firm had taken Louis over a large part of the country, as Adler did not care much for travel. Louis, on the contrary, retained his boyhood delight in it, and took pains to do as much of it as possible by daylight. For there was fascination in the changing scene, in the novel aspects of locality. Thus in time, and on his own account, he had acquired a bird's-eye view of the broad aspects of his native land: having been in all the States except Delaware, Oklahoma, and the northern parts of New England. And he came to wonder how many people could visualize their country as a whole, in all its superb length and breadth, in its varied topography, its changing flora, its mountain ranges, its hilly sections, its immense prairies and plains, vast rivers and lakes, deserts and rich soils, immense wealth within the soil and above and below it. He visualized its main rhythms as south to north, and north to south; that in crossing the continent at various parallels from east to west, or west to east, one obtained superb cross-sections. And he dramatized the land and the seasons. He saw, as a vast moving picture, Spring, coming from the Gulf, moving gently northward, its Vanguard awakening that which sleeps: with its joyous trumpets sounding the call of rejuvenescence, luring forth the multicolored blossoming of tree and shrub, and herb, the filigree of verdure growing into opulence; setting the plow in motion, and the sow-

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ing of crops: its vast frontage, sweeping northward, ever northward toward the arctic. In its wake follows sober Summer, ripening the procreative ecstasy of Spring—soon the waving grain, the laden bough, the hour of maturity of Nature's lavish gifts to Man. Then the menopause. Then the reversal, as Winter begins its vast migration from the polar spaces. It, too, heralds its coming with trumpets, sonorous in major chords, as the woods burst into painted flames as the Vanguard moves on, creeping toward the south with its fires. And then the modulation into melancholy: grey skies, leafless trees, brown faded stubble; a modulation into the minor mode, as winter trombones and violins sigh and moan with the winds over hill and dale, mountain and plain, and the frost glimmers in the moonlight, all sap sinks into the ground, a *miserere* chants, shrill fifes announce sharp winds, snow flurries, as nature passes into somber resignation. Winter, in mass, moving south, ever southward, its Vanguard now lost in the blue waters; its serried ranks sifting snow flakes in the air till the sleeping earth lies still under beauteous coverlet of white within the vast brooding power that came from the north. Again the menopause. Again the call of Spring. Again a menopause: again the flaming banners and the field of white. Northward and southward, southward and northward, moving in superb rhythms of alternate urging, o'er the expanse of what was once a virgin sleeping continent, now peopled by millions with one language in common, but no soul, a people unaware, their shadows rummaging like swine in the muck of cupidity. A people of enormous power—and devil take the hindmost. A time of *laissez faire* and unto him that hath, if he can grab it, shall be given: with here and there a soul pleading for kindness and peace, and sanity.

Louis, through the years, had become powerfully impressed by two great rhythms discernible alike in nature and in human affairs, as of the same essence. These two rhythms he called Growth and Decadence: and in 1886 he wished to say something about them. He wished, for the first time, to put his thoughts in writing; and a convention of The Western Association of Architects furnished the pretext and occasion. He called his essay "INSPIRATION." The thesis fell into three parts: "GROWTH: a Spring Song"; "DECADENCE: an Autumn Reverie"; "The INFINITE: a Song of the Sea"; the transition from part to part effected by two interludes; the thought sustained to the point of rhapsody, in utterance, lyric and dramatic, of flowing prose: The POET in solitude, alone with nature's moods: first ecstasy, then sorrow and bewilderment, then tragic appeal that the sea might give answer:

> Deny me not, Oh sea! for indeed I am come to thee as one aweary with long journeying returns expectant to his native land.
>
> Deny me not that I should garner now among the drifted jetsam on this storm-wash shore, a fragmentary token of serenity divine. For I have been, long wistful, here beside thee, my one desire floating afar on meditation deep, as the helpless driftwood floats, and is borne by thee to the land.

With the exception of John Root, Paul Lautrup, Robert Craik McLean, then editor of *The Inland Architect,* now the *Western Architect,* and perchance a few others, the effusion did not take. The consensus of opinion was to the effect that "they" did not know what Louis was talking about and did not believe "he" did: that he was plainly crazy: for what had all this flowery stuff to do with architecture anyhow? Louis fully agrees with "them," considering their point of view. As to McLean, the essay stuck in his red wild Canadian hair like a burr, through the years. Indeed, in a pious orgy as late as 1919, he, in his magazine, wrote this: "Some thirty-five years ago, at Chicago, a young man read a poetical essay before a group of architects, representative of the profession in the Middle West. Few understood the metaphor, but all recognized the fervor of aspiring and inspired genius that produced Louis H. Sullivan's 'Inspiration.' He called this most remarkable blank versification a 'Spring Song,' and, though unconsciously perhaps, it was his architectural thesis. His executions since that far-away time, with a remarkable measure of success, have been expressive of those fundamentals held by his hearers to be but abstract symbolisms."

What delicious and inspired euphemisms!

Louis regards the work as a bit sophomoric, and over-exalted, but the thought is sound. Excepting specifications he did not write again for a number of years. He was too busy thinking, working; he preferred the world of action. Still, later on, among the murals of the Auditorium Theatre, were two in reminiscence, one bearing the legend "O, soft, melodious Springtime! First-born of life and love!" and its pendant, inscribed: "A great life has passed into the tomb, and there, awaits the requiem of Winter's snows."

The drawings of the Auditorium Building were now well under way. Louis's heart went into this structure. It is old-time now, but its tower holds its head in the air, as a tower should. It was the culmination of Louis's masonry "period."

Referring again to the essay: Louis thought he would try it on the higher culture. So he sent a copy to his aged friend, Professor of Latin in the University of Michigan, who wrote in return: "The

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language is beautiful, but what on earth you are talking about I have not the faintest idea."

Alas, an arm chair and a class room have been known to shut out the world.

(*To be concluded*)

The Fifty-seventh Annual Convention

Mr. Cunningham's report of the last Convention in Washington seems to have aroused some comment, as did Mr. La Beaume's report of the previous Convention. Both of these reports were heartily applauded by many and were deprecated by others. This is undoubtedly due to the fact that critical comment is always bound to arouse its like, but it is also true that only by freely uttered criticism and comment do institutions progress and improve.

In offering the pages of the JOURNAL as a vehicle for comment the situation presents difficulties. The JOURNAL belongs to the members of the Institute. There is no person, be he official or editor, who has the right to deny the pages of the JOURNAL to a member who wishes to use them, whether his comment be warmly approved or as warmly deplored. For years the Board of Directors have been aware of a growing dissatisfaction with the tedium of the usual Convention. Each succeeding year of late has shown a marked tendency to cut down tedium and increase interest. But tedium and interest are not so easily definable as one might think. What is tedium for one man is often of great interest to another. On the whole, as a result of the free criticism through the JOURNAL, as well as at Conventions, the Board has sensed a pretty general desire for less business routine and more attention to the art of architecture. But even the latter phrase is not definable to universal satisfaction, and yet it does seem certain that the Institute is well on the way to a type of Convention which will hold the attention of the delegates to a point where none will wish to cut a single session.

In bringing about this result, as well as in bringing about other important results which now have evolved into Institute activities of the highest importance, the JOURNAL has played a conspicuous part. That it could do this by winning the unanimous applause of the Institute membership was never possible. That it has done so is a matter for which, I, as one member, am profoundly thankful and deeply grateful. But it must never be forgotten that the suppression of free criticism in the pages of the JOURNAL would mean the end of its usefulness, for a JOURNAL perverted to hard and fast propaganda in support of any single point of view would mean an end of criticism and the usefulness which flows from it. Criticism of Institute Conventions is always a challenge to do better and it is so that I personally accept it.

The Fifty-seventh Annual Convention of the Institute is to be held in New York City at some time in the early spring of 1924. The date will be announced as soon as the Committee now at work can agree upon the time best suited to all. Let me assure the members of the Institute that in preparing to make it the best one ever held we shall be helped and guided by the free criticisms that have come to us all through the JOURNAL. In the particular instance of Mr. Cunningham's report I know that there are many who approved what he said, who wrote to tell him so, and who have complimented the editor of the JOURNAL for his courage in using no blue pencil when it was very obvious that many members would not agree with Mr. Cunningham's estimate. But to deny the right of a minority to be heard, be it a minority of one only, would be a denial of the fundamentally democratic basis on which the Institute rests.

We look forward to the next Convention with high hopes. But let us form the habit of so looking ever forward until we have made the Convention of the American Institute of Architects an event of national significance,—an event that will rank as a great annual event in the history of American art,—until architecture shall finally assume the commanding position which is its right, not only as an art but as a beneficent instrument whereby beauty and harmony and order are permitted freely to render their immeasurable service to the needs of mankind.

WILLIAM B. FAVILLE.

Apprenticeships

Some months ago there appeared in these columns an article by Burt L. Fenner, dealing with the movement then being set on foot in New York City toward bringing the number of building trades apprentices up to a point where they would fill the sadly depleted ranks of skilled workmen. On 19 July last Mr. Fenner, at a luncheon meeting of the leaders of the building industry in New York City, under the auspices of the Building Congress, gave an account of the accomplishments of the Apprenticeship Committee of the Congress. Last year 750 boys were placed in training; 250 more, it is hoped, are soon to be placed.

At the luncheon Mr. Fenner declared that the work of the Apprenticeship Committee had been greatly helped by the workers' organizations, while, to his regret, he could not say the same for the employers and their organizations. Mr. Horowitz, replying for the latter, gave an assurance that henceforth this weakness would be remedied so that a full measure of co-operation would be given to the Apprenticeship Committee by the employers.

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Architectural Piety

Piety is perhaps an over-rated virtue in China, where it conserves the defects of men's ancestors as well as their virtues; but in America we have never had enough of it; for our main sin has been a callous irreverence to the achievements of our ancestors, an itching desire to consider their works—and do something else. If we had any household gods to begin with, they would be left behind, with the cat, when we started to move. The result is that our architecture has never, except in one or two small regions, taken root; and instead of branching off, in each age, from the main stem, our buildings are a series of fresh starts which often enough turn out to be false ones. Fifty years ago, in the midst of the execrable mid-President Grant period, one finds the jigsaw architecture of contemporary Newport characterized as a fresh and promising departure in the art of building. Piety, in short, is not for us.

Tradition, literally speaking, is the art of surrendering to one's ancestors; and it is not to be confused with a practice which masquerades under its name—that is, the habit of using designs and "styles" taken over from communities to which one is related by nothing but the historian's extraneous interest. In the best sense of the word, tradition is an attempt to live in the spirit of people with whom one is naturally affiliated by blood or experience. In America, for instance, there is still something of the pioneer in all of us, if it goes no further than a desire to picnic in the woods on a Sunday afternoon, and the deepest chords in our being respond to the faintest echo of Whitman or Thoreau. What is generally called tradition in our architecture is no more related to such deep affinities in mood and experience than the "Egyptian" prints our flappers wear are related to the religion of Tut-ankh-amen; which accounts, possibly, for the fact that our architectural styles are wont to change almost as quickly as our fashions in dress.

Suppose there had been a little more piety in Colonial times; a little more effort to catch the spirit of the American woods. It is conceivable, then, that the great beams and naked plaster walls in the farm houses of the very earliest period would not have been covered up so vainly by the eighteenth century plasterer and carpenter, with classic moldings and cornices; and instead of going back nowadays to Tudor and Elizabethan models in a desperate effort to bring to light a "usable past" we might have preserved a little of the flair of Elizabethan workmanship in direct succession. Similarly, once the Colonial mode was established, piety would have kept us in line with a modest and decorous classicism, bursting out occasionally into such fine groups as Corinthian Row in New York; whereas the lack of it let us in for the whole gamut of vagaries in structure and design which overwhelmed us in the nineteenth century. It was only when we fell in love with the Renaissance in Europe that we recovered our wits sufficiently to admire the models it had planted in America.

Our impiety is equally plain in our contempt for the land; for a blankness to the facts of geography is the other side of the common man's notion that "history is bunk." Had we had a little love for the soil in which our ancestors slept we might have used our native rocks more intelligently in our building—instead of stripping so ruthlessly "our woods and templed hills." The schist and gneiss of New York, and the granite of Connecticut, have largely gone to waste, and have scarcely ever entered into the buildings of those regions except in the foundations; whereas, like the proverbial dunderheads who carry coals to Newcastle, we continue to reach out to Vermont for marble and Indiana for limestone, if indeed we do not go to Italy for travertine. It is not that our native stone architecture is bad; considering our lack of tradition, it is really remarkably good: Mr. Bertram Goodhue's Chapel of the Intercession is a witness to what can be done with our scaly Manhattan schist when an understanding hand employs that medium. Indeed, anyone who has examined the red sandstone houses of New Jersey knows how successful the ordinary mason was in putting together his native material; in contrast to the sullen failure of the New York jerrybuilder who used Connecticut sandstone as a facing for his chocolate-colored Brownstone Front.

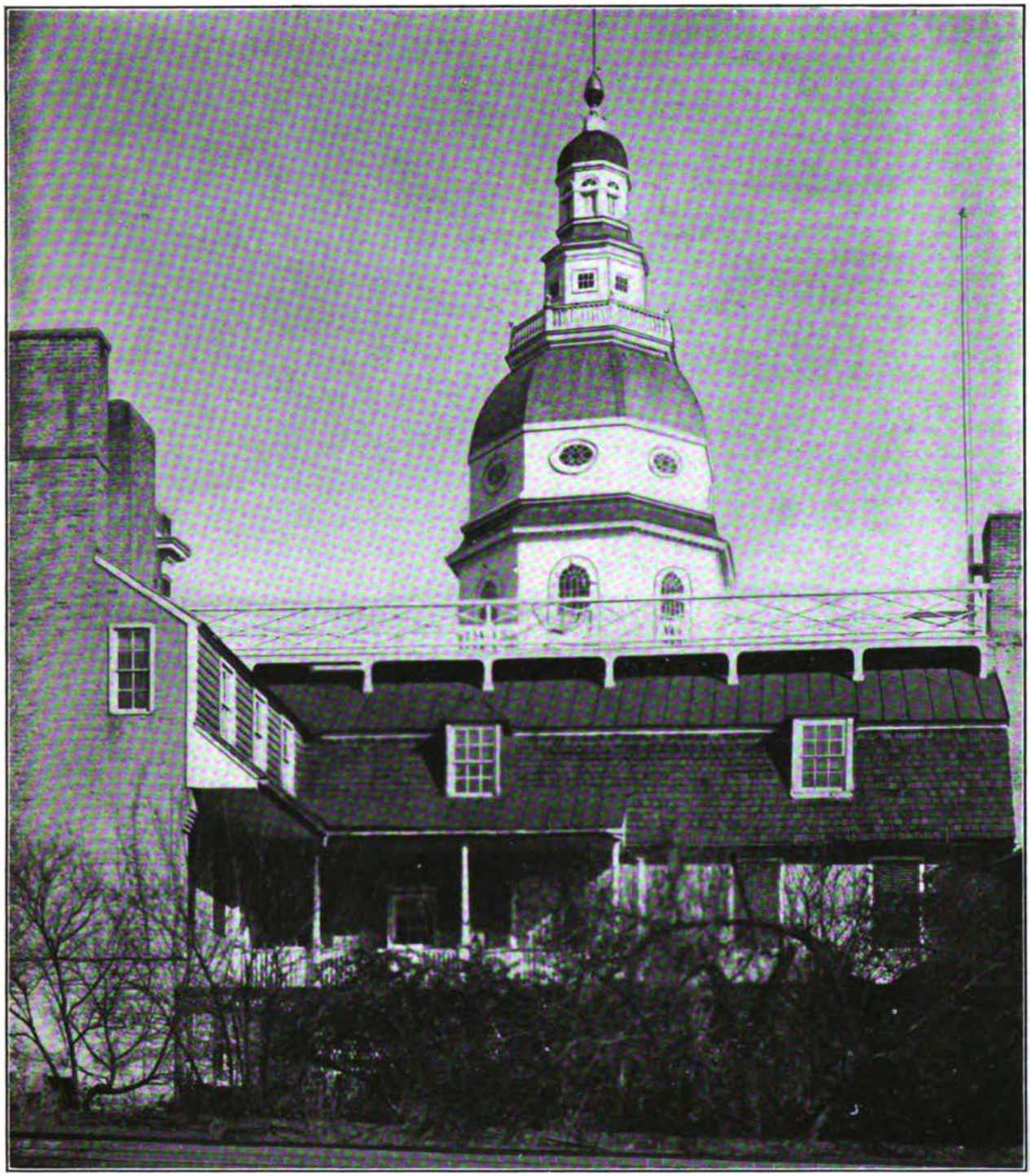
If the architect has caught the spirit of his locality, and utilized all its resources, he does not have to pillage European ruins for inspiration; and who can doubt that a great many buildings, particularly country buildings, would fare better if the innate traditions of the place and the people had entered into the work? Is not, in fact, a good deal of the paper tradition of the schools, from the doctrine of the Five Orders onwards, merely an effort to make up for insensitiveness to a real tradition, or for its complete absence in a raw, restless, roving pioneer community?

What holds in rural architecture, holds with changes in the city. There are, in some of our older cities, little areas like the Washington Square district in New York where a good many remnants of late Colonial or early Republican architecture still are standing. However futile it may be to revive the Colonial mode by itself, it seems altogether fitting and proper that the additions and replacements in such districts should be carried out in the same spirit, as far as possible, as the earlier work—if for no other reason than that our historic past in America is so poor that almost any living remnant of it is precious. If the meaning of this plea for architectural piety seems obscure or far-fetched, let me bring forward a concrete illustration, the new apartment house which has recently been erected on the northwest corner of Washington Square.

Most everyone will agree, I suppose, that the north end of Washington Square, particularly the segment that flanks the arch presents a very satisfactory street composition: the proportions of the arch and the buildings are good, and on a sunny day the dazzling yellow of the marble, contrasted with the red brick on each side, forms a vivid frame to the blue avenue beyond. The materials are relatively simple and crude, and one can hardly speak of them in the same breath as the Place Vendôme or the Place de l'Etoile; and yet within these limits the esthetic result is marvelously fine.

Well, a little while ago it seemed that all this beauty was doomed to disappear; for the building wreckers began to disembowel three old houses that stood on the west

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SHAW-FRANKLIN HOUSE AND STATE HOUSE TOWER, ANNAPOLIS, MARYLAND
Photograph by Delos Smith

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side of the avenue, and a large sign announced that a modern apartment house would occupy the site. Remembering Gramercy Park, remembering Mr. Stanford White's treatment of the Judson Memorial Church on the opposite side of the Square, who could help thinking that some elegant monstrosity would shoulder itself, asymmetrically, above the arch? The actual result, however, confounds one's natural expectations. The new apartment house is more definitely part of the landscape than many of its neighbors: in height it is scaled down to the level of the old buildings, in tone it is exactly in keeping with the older houses; and in ornamental detail it is, if anything, a little more refined and interesting than the somewhat severe and uninspired original houses. In short, the old dwellings have not been destroyed: they have rather been renewed. The spirit of late colonial architecture got into the very bones of the designer, and he has given the old shell a new lease on life. If Latrobe or Bullfinch had built apartment houses this, I don't doubt, is what they would have liked to have done.

Now piety in this sense is not the copying of a form but an understanding and a sympathizing with a mode of life; and as an example of Civic Virtue, to say nothing of architectural good sense, it is worth a dozen stone dummies in City Hall Park. Thus a building in the Colonial mode, which might seem insincere and theatrical in Cleveland, becomes in its place thoroughly good and honest: as the means of deliberately maintaining an historic connection the style has something of the same inevitability that it had in its original setting. Our architecture would be all the freer to face new problems in an original way, if its "revivals" were confined to regions where there had once been life. We are indeed all the more ready to welcome buildings like Mr. Calvin Kiessling's Playhouse Group for New Canaan, Connecticut, or like the new town hall in Peterborough, N. H., which also boasts a Bullfinch Church, because such a treatment would seem to us laughable in regions where the colonial builder had never struck roots. Piety and originality, tradition and innovation, are each good in their place; and they are altogether pathetic and ludicrous when they are out of it. It is equally vain to deny the past where it exists, or to attempt to live by it where it does not exist.

LEWIS MUMFORD.

Competition for the Municipal Building of Montevideo, Uruguay

Notice is given by the Uruguayan Legation that the designs for this competition will be received at the offices of the Consul General of Uruguay, Room 243, 17 Battery place, New York City, until 8 September, 1923, at 3 P. M. All charge for packing and forwarding to Montevideo, Uruguay, will be at the expense of the competitors.

About Books

Architects are reminded that the WREN MEMORIAL VOLUME is being distributed by the JOURNAL. Those who have not seen a prospectus of this superb volume are invited to send us their names. A first consignment has been received from London, and is being distributed to those who have already ordered.

Attention is called to the List of Books Recommended to Architects and printed on pages VI and VII of the advertising section in the front of this issue. The items there mentioned are selected as covering the widest possible range of reading. Special lists on particular subjects will be sent on request.

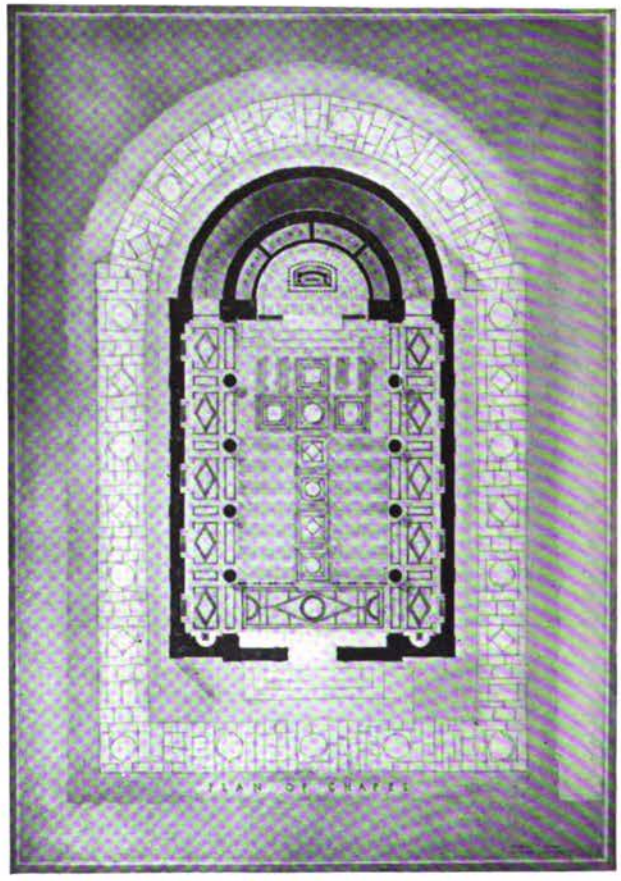
Jurisdictional Awards

The Institute is under agreement with the National Board to publish the List of Awards to date. They will appear in our September issue.

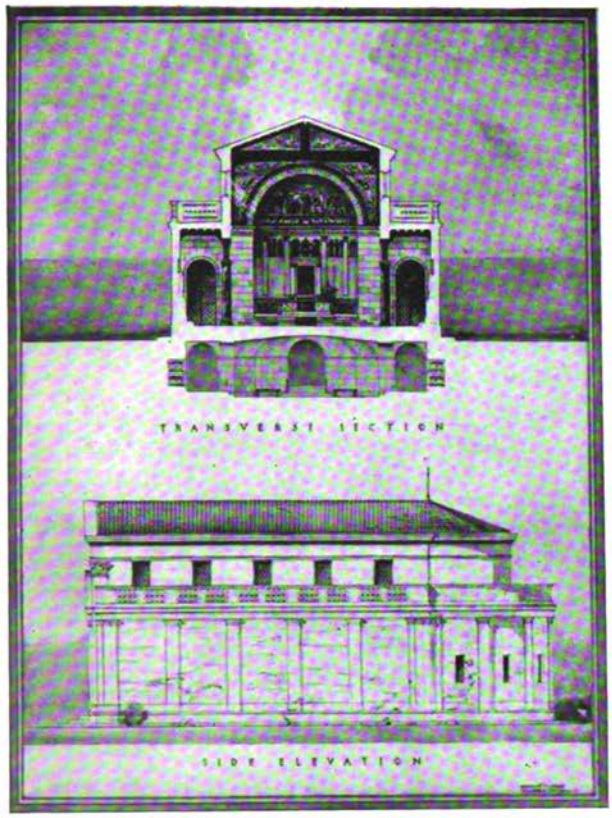
Rome Fellowship in Architecture

American Academy in Rome

The *Prix de Rome* in architecture has been awarded to Arthur F. Deam, of Springfield, Ohio, who entered the competition at Columbia University. Mr. Deam is a



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graduate of Ohio State University and Columbia, with the degree of Bachelor of Architecture. He worked his way through both institutions. He will enter the Academy in Rome October 1, 1923.

Honorable Mention was granted to Fritz Steffens, of New York; William Douglas, of New London, and Paul F. Simpson, of Pittsburgh. The members of the jury were Breck Trowbridge, chairman; Wm. Mitchell Kendall, Charles A. Platt, Henry Bacon, and Wm. Adams Delano.

Drawings rendered in the final competition will be on public exhibition until the middle of August in Avery Hall, Columbia University.

The problem was a chapel to be built upon a large country estate, the existing buildings of which follow classic precedents. The building, particularly the interior, to be designed as a composition of architecture, painting and sculpture. The situation a slight eminence, the highest point being about 500 feet to the east of the main axis of the garden development of the estate. The main axis to run approximately north and south, and the rise of ground from the main axis to the top of the eminence to average four feet to the hundred. The general slope of the grounds of the estate is toward the south and west, and the chapel building proper not to exceed 75 feet in its largest exterior dimension.

It should be possible to reach the chapel by motor road as well as by foot paths.

The requirements for the competition were:

1. A sketch within a period of fourteen consecutive hours, including the following parts:

(a) Plan of chapel and surroundings, with treatment of grounds lying between chapel and main axis, at scale of 64 feet equal 1 inch.

(b) Main elevation of chapel at scale of 16 feet equal 1 inch.

(c) Section of chapel (longitudinal or transverse), same scale.

NOTE—This sketch to be filed with the Supervisor for the use of the Jury, and a copy to be preserved by the competitor. No documents, criticism or assistance of any kind to be permitted.

2. Within the four weeks following an executed set of drawings rendered in monotone, which included:

(a) Block plan of chapel and plan of grounds covering area shown in requirement (a) of 14-hour sketch, at scale of 32 feet equal 1 inch.

(b) Main elevation of chapel, at scale of 4 feet equal 1 inch.

(c) Side elevation of chapel, at scale of 4 feet equal 1 inch.

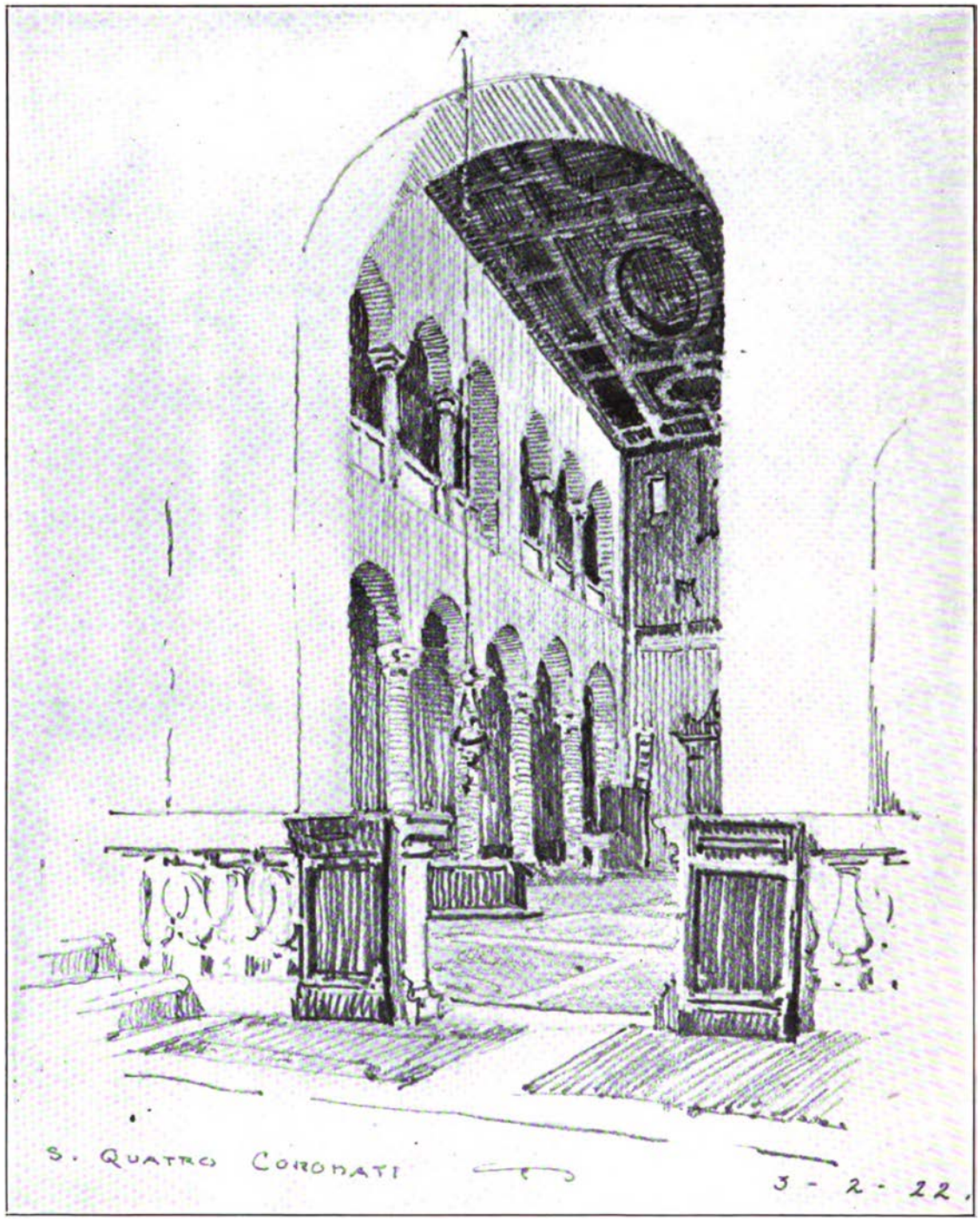
(d) Section of chapel, at scale of 4 feet equal 1 inch. (Place (c) and (d) on *one sheet*).

(e) Plan of chapel, at scale of 4 feet equal 1 inch.



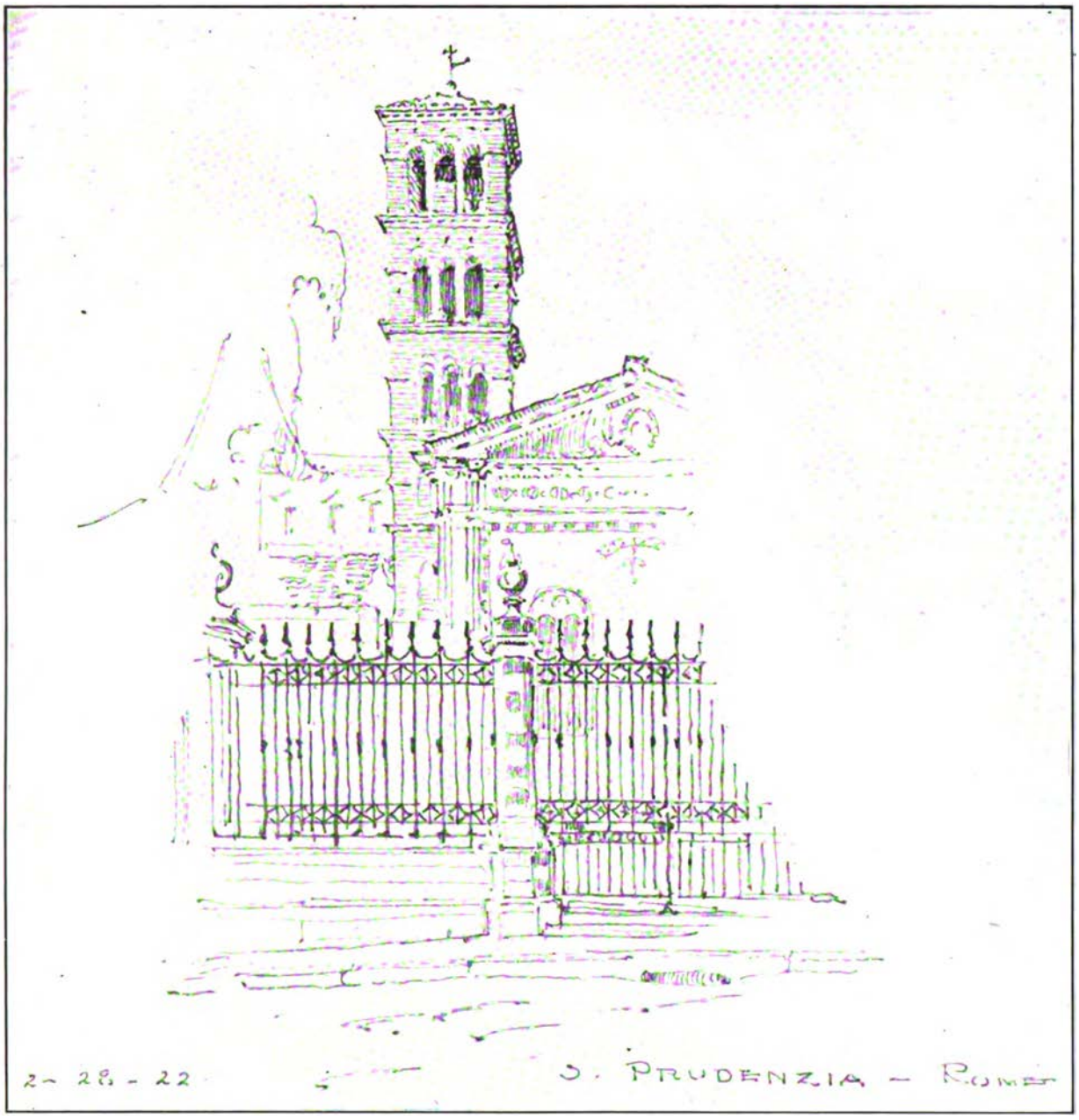
SECTION AND ELEVATION—*Prix de Rome* COMPETITION—1923. ARTHUR F. DEAM, WINNER

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AFTER THE DRAWING
By Donald B. Parkinson

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After the Drawing
By Donald B. Parkinson

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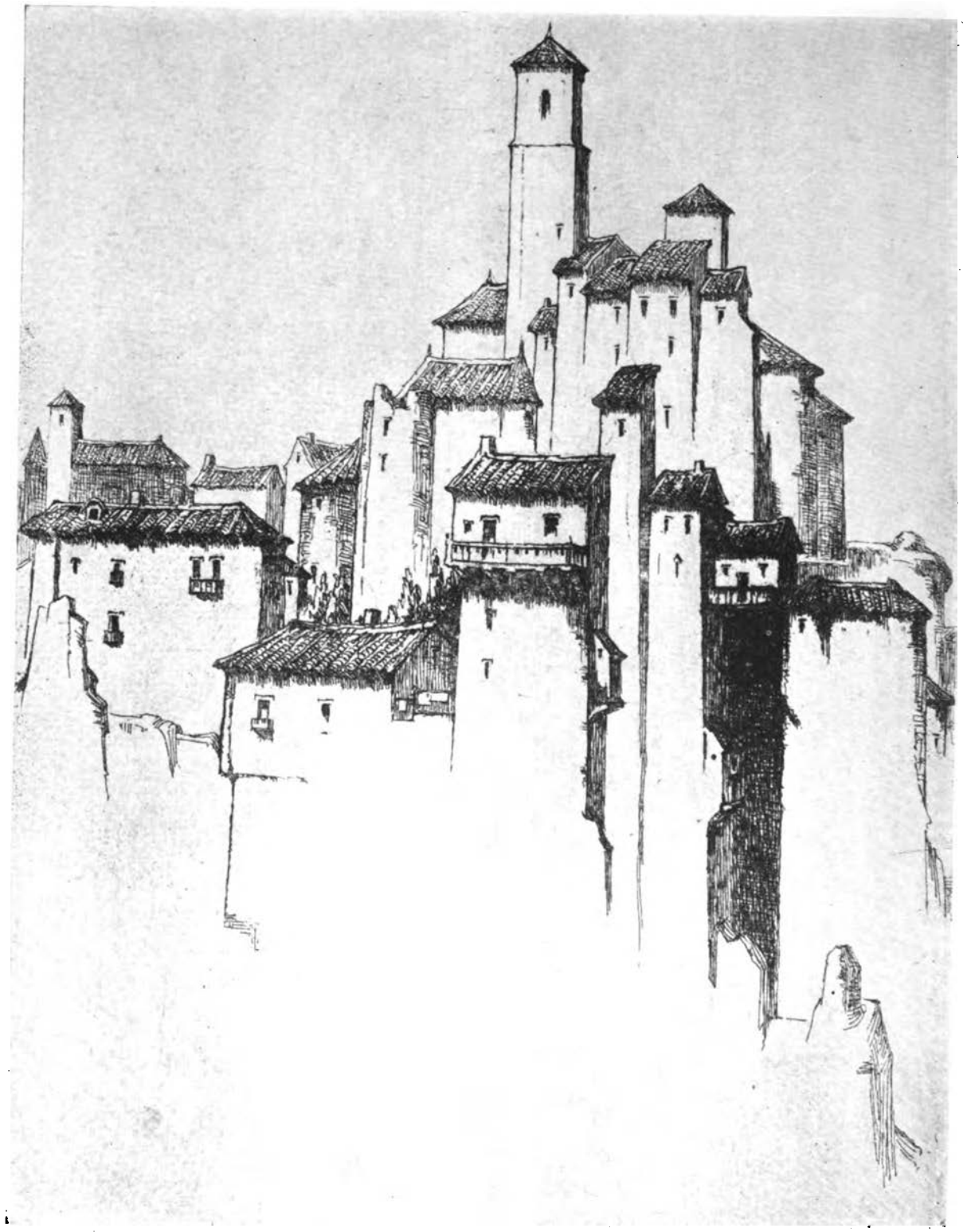
CLIFF DWELLERS—CUENCA, SPAIN
After the Etching by S. Chatwood Burton

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THE ENTRANCE TO THE VALLEY OF THE HUÈCAR
After the Etching by S. Chatwood Burton

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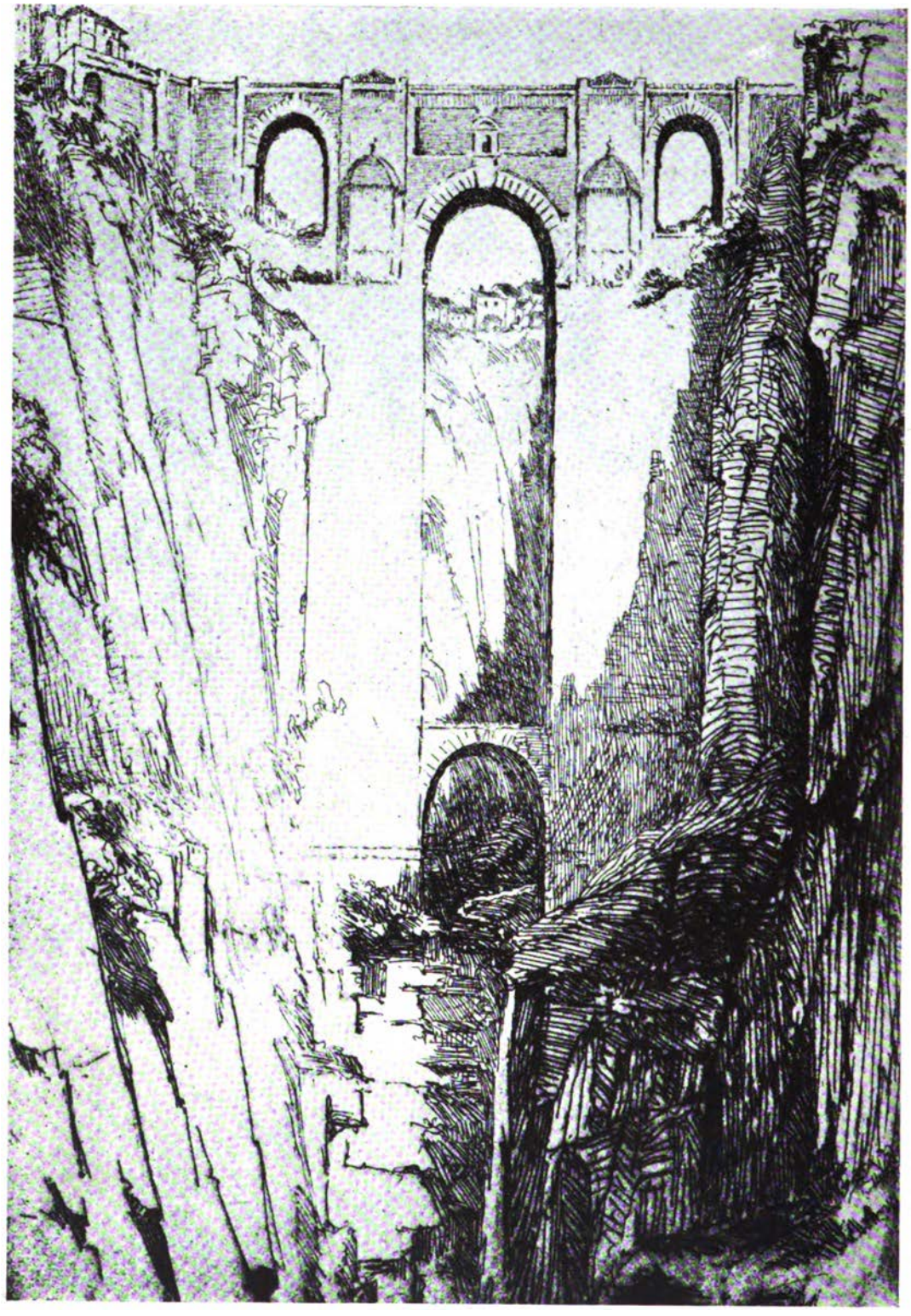
THE SKYLINE—CUENCA, SPAIN
After the Etching by S. Chatwood Burton

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HOUSES—CUENCA, SPAIN
After the Etching by S. Chatwood Burton

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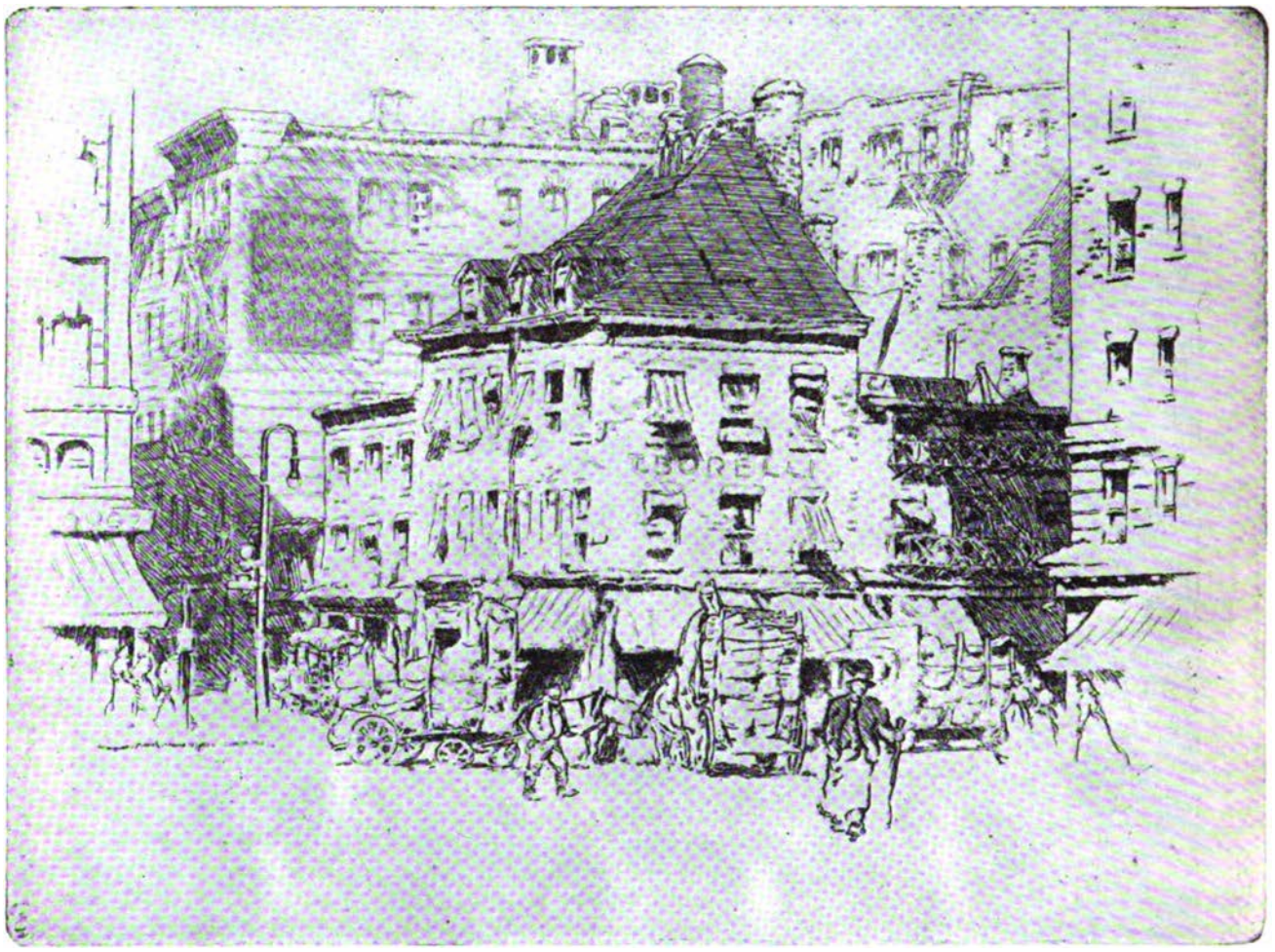
RHONDA
After the Etching by S. Chatwood Burton

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A Church in Veere
After the Etching by J. Paul Verrees

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An Old Time Tavern
After the Etching by William Heyer

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Regional and Vocational Influences in Architecture[1]

By STANLEY C. RAMSEY

"The sure and certain hope for the fruition of the New State is in the coming of a generation endowed with a steady outlook towards the future, yet accustomed to turn to the past critically though affectionately. For the future can never be disconnected from the past, but must ever be continuous with it. By deliberate selection from past tendencies surviving into the present, and by judiciously planned recombination of them, we may shape the future."

—THE COMING POLITY.

Preferably, perhaps, the title of this article should be "Regional and Vocational Influences in Building," but our modern methods of confusing words and meanings, leave me no alternative, if I am to express myself with any exactitude, but the one I have chosen.

As I have said, I should have preferred to use the word "Building," because this is both more homely and more general—but we are accustomed nowadays to mean by "Building" merely the practical and contracting part of building work, and to regard the builder as a man who is an expert on accounts and drains—as one who builds, but as one who cannot build beautifully, I will not say intelligently, without expert direction. The expert director we call the "Architect." Professor Lethaby tells us that we lost the art of building with the close of the Middle Ages, though some survival of it may have continued to the end of the 17th century—after this, all was "Big-wiggery and Puffery," though I believe that even Professor Lethaby has a sneaking regard for Wren. But I hope to convince you that though that is partially true, it is not the whole truth, and that even the "Illuminati" were a necessary part of the evolution of building.

We must remember that this arbitrary division into "Architects and Builders" is of comparatively recent date—that down to the end of the 18th century men were both Architects and Builders. Sir William Chambers and Robert Adam both contracted for buildings in addition to designing them. Another very general word to describe the architect that was used during Renaissance days, and one with which The Institute is very familiar, is the word "Surveyor." But to survey, though very necessary before and during the progress of building is not the same as building, and I feel that the general acceptance of the word "Architect" is sound, for it is, as you know, derived from the Greek, and means the "Arch Constructor" or "Master Mason" and though your master-mason may, in a clay country be your master-bricklayer, or even in a timber country your master-carpenter, the meaning is the same in each case—the man who shapes and determines the character of your building. It is interesting to note that whereas the term bricklayer (except in a few stone districts) is the general term for the carcaser throughout England, an operative who does corresponding work in Scotland is known as a mason—a very real and significant distinction.

In a paper which I had the honor of writing for the *Sociological Review,* I attempted to describe the regional and vocational influences that produced the ancient architecture of Mesopotamia, Egypt, Greece, Rome and mediæval Europe—the place, work and folk, and the resultant habitations. The river and the clay buildings of Mesopotamia, the river and the clay transmuted into granite for the buildings of Egypt, the mountain stone and marble buildings of Greece and Rome and the forest and timber buildings, afterwards translated into stone of Northern Europe. Now it is my hope to show (however inadequately) that the same fundamental conditions of place, work and folk, when cleared of all modern complexities and complications, together with those fundamental differences in occupation arising out of the valley section, still determine and control our architecture.

To return to our Valley section, we first have the miner, and it is to the miner (if I may use the word miner to include quarrymen) that we owe our best and our worst buildings. Professor Fleure in his *Human Geography in Western Europe,* has drawn a very clear distinction between the miner in regions of increment, such as the quarryman-miner of Greece and Rome, and the miner in regions of difficulty, such as the coal miner in the bleak districts far from the cultural settlements, such as we find in this country. Professor Fleure points out that the better industrial conditions of Germany are in some part due to the development of her coal fields near the cultural centers—though it must not be forgotten that Germany did not develop her industries until much later than this country, and so had opportunity to profit by our mistakes.

Personally, I think the finest and most consistent architecture the world has ever seen was that of the ancient Greek quarryman. The history of Greece and of Grecian architecture is so well known that I only propose to dwell very briefly on it here. So much learning has been applied to its study that we are in danger of being crushed by the sheer dead weight of knowledge and to forget the essentially simple elements from which Greek building was evolved.

In the past our Professors of Architecture loved to deafen us with long Greek names—the longer the better—the "architrave," was never called an "Architrave," but the "Epistylium"; and such a simple affair as a "guest-house" was described by a name that suggested a prehistoric monster, etc., etc.,—but, what they missed was the spirit of Greek Architecture—"The purest sensuous beauty, the perfect medium, never overstepping the limit of charming propriety and grace," and, particularly, the sociological understanding of the ancient Greek people, without which no one, be he ever so erudite, will be able to understand, or appreciate Greek architecture. Place, work, folk—sailors, agriculturists, shepherds and quarrymen, a mountainous country with fertile valleys, and we have the Greek people and Greek architecture. One

[1] A paper read to the Sociological Society.

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book such as Professor Ernest Gardner's *Ancient Athens* is worth whole libraries of learned folios.

Before considering the modern miner and his works we will again return to our valley section, and consider some of the other vocations, and their influence on building. In all countries throughout the ages, the great building people have always been the agriculturalists, the peasants. Their settled place of abode—the regular routine of their seasonal duties gave a permanence to their works that the other vocations missed.

Since the time when Adam forsook a life of leisured contemplation for one of agricultural energy, down to the present time, the main work for the mass of mankind has been agriculture. It is on the rich agricultural plains and in the fertile valleys that wealth accumulates and cities rise. If you would search out the most beautiful towns and villages in England, you will find them in the old agricultural centers. Probably the most beautiful of all in the regions where the plains meet the foothills or extend to the Ports. Peasants by themselves, although they can build—have in fact, the constructive faculty—if left entirely to their own devices tend to become dull and require the inspiration of the shepherd with his mystical imagination, or the sailor with his mind stirred by foreign travel and strange adventure, in order to fire them to produce imaginative architecture.

Beautiful towns of course exist on plains (and a beautiful town is a collection of beautiful buildings harmoniously grouped together), but as a general rule I think you will find the towns in the middle of the plains (I am speaking of conditions as they existed up to the end of the 18th century) a little dull unless they happen to be on a great river, a main high road, or some other avenue along which flows the imagination and adventure of life. In England the distances are so short that the clearest examples of such contrasts are not quite so obvious as elsewhere, but even here I think we can trace out the regional influences.

The great middle plain of England contains many beautiful towns and villages, but where that plain extends to the foothills, where shepherds and peasants meet, as for instance in the Cotswolds, where there are some of the most beautiful villages in England, there shepherds, peasant and quarryman have given us of their best. Or again, take those portions of Kent and Sussex, where plain and fertile valley extend to meet the pastures of the North and South Downs, and you will be richly rewarded by a series of wonderful villages and small towns. Or again, take that remarkable series of towns that run along the Welsh border—Chester, Shrewsbury, Ludlow, Hereford, Ross and others—Here you have perhaps the clearest example of the peasants of the plain inspired by the shepherds of the hills—the music of Wales echoing through English walls. I believe it was Mr. Branford who in one of his books pointed out how it was the masons of the Cotswolds who, working under shepherd inspiration, descended on to the plain and built Oxford.

If the agriculturist is an uninspired builder without the aid of shepherd contact and incitement—the shepherd without peasant aid and effort can, if he essays to build, rarely achieve anything beyond the simplest elements of shelter—the architecture of the sheepfold. Shepherds though remarkable for qualities of imagination, for artistic and musical expression, for the care and conservation of life, and for spiritual leadership can achieve very little that requires peasant-like qualities of hard and continuous effort. The Hebrew and Arab tent are amongst the earliest forms of shepherd shelter—but the Hebrews have left us no permanent architecture, and the Arab and Saracenic buildings embody the evanescent and fugitive quality of the tent—it is not structural and enduring like peasant and quarryman's architecture. Our own shepherds in the regions of difficulty of Wales and Scotland, with the aid of not very imaginative quarrymen, have left us a series of the simplest cottages and houses, very small and bleak on the hills and uplands, a little more interesting, where shepherd meets poor upland farmer and together, with the help of the quarryman or mason, build the simplest farmhouses and churches. In this country we find in the districts of the chalk downs the flint and chalk cottages of the shepherd communities.

It is when shepherds and peasants meet the sailor at our ports that we get what is sometimes the finest architecture—the architecture of capital cities, of Edinburgh, London, Paris and recently New York or the architecture of great seaport towns, such as Venice, Genoa, Bordeaux and Liverpool.

If the sailor has not the high spiritual imagination of the shepherd, he has many other valuable qualities, and an imaginative range that even exceeds the shepherd's. His vocation brings him into contact with foreign countries and men of all nations; he is a trained observer and has ample time during his long voyages to meditate and digest what he has seen. He is imaginative, practical, a purveyor of ideas, able to rise very quickly to an emergency and capable of doing a great deal with very limited materials—his limitations are the limitations of his ship—he is capable of great effort for short periods, but unable to stand continuous effort requiring patient endeavour. Without peasant persistency of effort and the spiritual outlook of the shepherd, the sailor's buildings will tend to be ephemeral—he will be content with second or third rate material, and if he always strikes an interesting note, he will be inclined to be satisfied with makeshift construction. All these qualities and defects can be seen in the architecture of any seaport town or fishing village.

Venice built upon piles—beautiful as a dream—with fitful visions of Moorish domes, thin columns almost vanishing into mist—powdery stucco and facings of marble. Not that Venice has not many enduring buildings, the Italian peasant as well as the Italian sailor built it, but it has not the stability of Rome or Florence.

The sailor is a disturber and irritant, he comes and goes, sets men's imaginations on fire, always wants to be trying something new—he shakes us out of our rut and sets us travelling along new routes. It would be interesting if I had the time and knowledge to trace out the action and re-action of the design of ships on the design of land buildings and vice-versa. Comparing the many-storied poops of the old sailing vessel with the timber and galleried fronts of the old wooden houses of London, Edinburgh and Bristol, to mention a few sailor-

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influenced towns. Though here another factor comes in—that of the woodman and woodman-ship-builder, and as far as the architecture of this country, and of the architecture of Northern Europe generally is concerned, the influence of the woodman is of paramount importance.

But to finish with our sailors, I have attempted to indicate how much we owe them as energisers and inspirers of our builders—those sailors, who from the days when Roman Galleys and afterwards Viking raiders visited these shores, have throughout the subsequent ages awakened us from our Island sleep and urged us on to new, and ever new endeavour. If at times the urgings have been followed too rapidly and consequent results have not been altogether successful, we must not altogether blame the sailors.

The Victorian age and the Elizabethan have often been compared and similarities discovered in each. From the architects' point of view they were both experimental, restless, unsatisfactory, and if a large part of Victorian building might truthfully be described as "Jerry built" a large part of Elizabethan and Jacobean might I think with almost equal truth be described as "Jerry-designed."

The Victorian civilization was essentially a miner's civilization, the improvisation of the mining camp, and Victorian building was mainly of the camp, or settlement variety, temporary and muddled, without real tradition, permanence or ordered beauty, and, if I am not stretching parallels too far, I should describe the Elizabethan civilization as a sailors' civilization—the improvisation of the ship (a more traditional and permanent affair than the camp), and Elizabethan buildings as sailors' buildings. In many ways the comparison is unfair, for much of Elizabethan work is extremely beautiful. The Elizabethans were essentially great adventurers, great sailors and great expansionists, and their buildings had not the permanent qualities of preceding or subsequent ages.

The modest Tudor mansion expanded with the fortunes of the builders into the great family mansions of Hatfield, Wollaton, Longleat, etc., etc., and this expansion was too sudden for good building. Though these and other Elizabethan buildings are extremely interesting they are not well ordered and although, as I have said, much of the craftsmanship was extremely beautiful, yet the general effect is restless and unsatisfactory. These Elizabethan houses have, to my eyes, an experimental and transitory appearance, as of woodwork (and ship's woodwork at that) suddenly turned into stone. We can trace all the ship's details, the carved figurehead at the front of the house decorates the upper part of a bracket or consol—the long, thin vertical lines of carved stonework bear the influence of masts and rigging, and even certain of the strapwork ornament suggests the folded sails. Elizabethan architecture has not the homeliness and agricultural character of the earlier Tudor, or the later Georgian, the most satisfying phases of all our domestic architecture.

As the great primeval forest which covered the whole of Northern Europe was slowly cleared and the Mediterranean culture passed up the Rhone Valley, a permanent, stable and all pervading land influence gradually determined the new buildings and towns in the forest clearings, whilst the sailors taking the shorter and easier sea routes qualified, quickened, and gave new direction to these land influences, the warp and woof of which it is not always easy to disentangle.

Running through all the architecture of Northern Europe and in particular of this country, is the influence of the woodman. Gothic buildings were a logical and artistic development of forest forms and ideas, but with the passing of the Gothic, although the forest influences were still at work (indeed are still at work with us) their expression in building became more and more confused throughout Tudor and Elizabethan times, until with the advent of Inigo Jones and Wren, we obtained the masonry forms of the classic builders from Italy by way of France, though tempered with the brick influences of Holland and the Low Countries. I do not feel that we in England have ever quite assimilated the scale of classic work. The Scots have, perhaps, been rather more successful—Stone to them is a more familiar material, and it is interesting to compare the scale of the masonry as we find it in Aberdeen, for instance, with that of London. In the Scotch town there is a note of breadth and simplicity—the influence of the squared stone—whilst in London our masonry is for the most part small and timid and seems to pertain more to the scale of brickwork—and in fact London is a brick city.

These influences of timber, brick and stone, qualified by the local conditions in the different parts of this country, were all important until the beginning of the 19th century, when, with the coming of the Industrial Age, we plunged back into our worse than forest confusion, and the pit-prop architecture (if it can be dignified with so fine a word) of the modern coal-miner inflicted us for close on one hundred years.

It has frequently occurred to me that the Englishman's independence of character and mental obscurity as compared with the social homogeneity and logical clearness of the French is largely due to the fact that as an island people we retained our forest traditions much longer than the French, who were the first to clear the forest, and the first of the northern nations to feel the influences from the classic lands. The woodman's influence passed much more quickly in France. From a nation of woodlanders they became a nation of masons, and the miner-quarryman's influence became dominant. But in spite of our 150 odd years of classic architecture, when we, too, were assimilating Mediterranean culture, we to this day thrill, as I believe the people of no other nation can do, at the sight of a Gothic Cathedral, or an old half-timbered manor house. We feel that these are buildings that really belong to us. Even if we cannot as a nation profess to the clearness of French logic and our artistic expression is in consequence frequently weak and chaotic, we can at least claim one good gift from our forest tradition, and that is the love of the countryside and the open air life. The old tradition of the small isolated communities of the forest clearings, interpreted into modern terms of "individual house" and "Garden City" in contrast to the flat dwellers of other countries. I have said many hard things about our

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Garden Cities in the past, and I shall probably say worse things in the future—but that is not because I do not believe in them, but because I believe in them so wholeheartedly. Out of our forest obscurity, and our industrial coal-miners' muddle, we have evolved this original and precious gift to the other nations of the world—this modern idea of a Garden City.

I said at the beginning of this article that I hoped to convince you of the value of our classic inheritance, that is of the building work that was carried out from about 1650 to 1800. It has to-day many admirers, and many detractors—and of the two I am not sure but that it is the admirers who have done it the greater dis-service. If you have aristocratic and selective tastes and tendencies you will admire it (or pretend to), whilst if you have democratic and eclectic tastes, you will hate it (or pretend to), but if you are really concerned with the art of England, you will neither unduly love or hate it, you will try to understand it!

We all know how the highly centralized agricultural life of France led to the concentration of political power in the hands of the King—how he expressed this power by the building of Versailles—and how the French nation tiring of the kingly domination decapitated the unfortunate inheritor of that great palace, and appropriated it for the use of the nation. But when the French people appropriated Versailles, they appropriated far more than a mere King's Palace, they also appropriated the ideas that went to the building of that Palace. They appropriated the great training school of the Beaux Arts and carried on the tradition which had built up a mighty School of Artists and craftsmen who ministered (or thought they were ministering) to the private pleasures of a few great princes and their mistresses, and used this talent and this tradition for the benefit and glory of the whole nation. They took the great aristocratic traditions and put them on a democratic basis, and that is one of the strongest reasons why France has been the leading artistic nation in the world for the last hundred years or so.

It would appear when glancing down the records of the ages, that the French nation had patiently waited and watched until the exact moment when the favoured governing few had acquired all they could of social and artistic culture, and then stepping in had said—"Enough! Now the result of your governing shall be taken and handed over to the patient (though by this time not too patient) multitude."

In England we had no sudden and abrupt revolution. Our political revolution was earlier than the French, and our social revolution resolved itself into an industrial evolution—whilst our French neighbours were cutting off the heads of their King and Queen, we were discovering coal! Here we had no Louis XIV and no Versailles, but we had the great governing nobles and the great country house.

But if socially the industrial revolution made no great and violent changes, artistically it was far more revolutionary than the French. Almost before the industrial revolution was fairly under way, we had started with our Gothic revival, or if you prefer it, Gothic Renewal. The liberated energies evoked by industrialism expressed themselves spiritually in a renewed contact with the forest traditions. That is why for the last fifty years or so, though we have had a fine school of ecclesiastical architecture under the inspiration of our spiritual chiefs, and of domestic architecture devoted to the services of our hunter chiefs and their dependents, we could not build great cities or great communal buildings.

As architects, the one outstanding problem that demanded and demands our solution, is that of what may be termed "Crowd Architecture." The architecture of the big hotels, the big store, the theatre and cinema, capable of seating huge audiences—these, whether you like it or not, have all to be expressed in our modern cities, and it is better to express them well than badly. I do not think that we shall ever achieve the full masonic development of either the French or the ancient Greeks and Romans—the forest tradition is too strongly with us, but we can learn much from them in the way of logical statement and breadth of expression. In some way, I shall not be rash enough to suggest how, it appears to me that our problem is to make a marriage of Gothic energy with Classic culture.

Before we can hope with any comfort to wend our way through the mazy intricacies of the Industrial Period, I think it might be helpful to get some simple idea of exactly what the earlier vocational types stood for in architecture. We have heard a great deal lately of the necessity of understanding materials and the need of expressing materials in our buildings, but when the matter is sifted down it seems to imply little more than the careful consideration of texture in our bricks and tiles, and the great moral value of displaying our steel work. But the correct use of materials implies a far greater knowledge than this; we must know how certain types used certain materials in the past, and why they used them.

The miner-quarryman employed the squared block of stone or granite and gave us classic architecture, and if we are to use stone successfully, there must always be the feeling of the squared block hewn out of the heart of the mountain, running through every detail of our masonry. Our stone buildings must express the static repose of the mountain and the patience and excellence of the quarryman-mason. The forest woodlander gave us daring construction and dynamic energy, and if we wish to express these qualities in our buildings we must employ either wood or steel to do so—for the modern steelworker and steelbuilder is the modern equivalent of the ancient woodworker. The peasant clay-worker on his fertile plains and on the banks of his pleasant rivers gave us simple, homely buildings of brick, expressing ease and comfort; and if we use bricks, let us use them in the traditional way—in broad, simple masses—not cut up into all manner of irritating shapes—into thin piers and inadequate walls.

And above all let us have a clear logical view of the possibilities and limitations of our materials, and not muddle up steel and stone, bricks and timber, as did our unfortunate coal-miner. Here if I may, I should like to quote a short passage from Emerson's "Essay on History":

"By simply throwing ourselves into new circumstances

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we do continually invent anew the orders and the ornaments of architecture, as we see how each people merely decorated its primitive abodes. The Doric temple still presents the semblance of the wooden cabin in which the Dorian dwelt. The Chinese pagoda is plainly a Tartar tent. The Indian and Egyptian temples still betray the mounds and subterranean houses of their forefathers. 'The custom of making houses and tombs in the living rock' (says Heeren, in his Researches on the Ethiopians) 'determined very naturally the principal character of the Nubian Egyptian architecture to the colossal form which it assumed.' In these caverns already prepared by nature, the eye was accustomed to dwell on huge shapes and masses, so that when art came to the assistance of nature, it could not move on a small scale without degrading itself. What would statues of the usual size, or neat porches and wings have been, associated with those gigantic halls before which only Colossi could sit as watchmen, or lean on the pillars of the interior?

"The Gothic Church plainly originated in a rude adaptation of the forest trees with all their boughs to a festal or solemn arcade, as the bands about the cleft pillars still indicate the green withes that tied them. No one can walk in a road cut through pine woods without being struck with the architectural appearance of the grove, especially in winter, when the bareness of all other trees shows the low arch of the Saxons. In the woods in a winter afternoon one will see as readily the origin of the stained glass window with which the Gothic cathedrals are adorned in the colours of the western sky seen through the bare and crossing branches of the forests. Nor can any lover of nature enter the old piles of Oxford and the English cathedrals without feeling that the forest overpowered the mind of the builder, and that his chisel, his saw, and plane still reproduced its ferns, its spikes of flowers, its locust, its pine, its oak, its fir, its spruce."

But to return once more to our valley section, we have now to consider the last and most formidable of our regional types—that of the coal-miner, and the Industrial Age which he inaugurated.

As I have said, and a glance at the map will verify it, our coalfields have for the most part developed in what Professor Fleure calls regions of difficulty, on blank moor and barren hill-side, remote from the old cultural centres. If the coalfields had originally developed in the agricultural South, say Kent, for instance, instead of the barren North, the architectural history of this country for the last hundred years might have been entirely different. But, in addition to the isolation of the coal fields, coal mining was a new occupation. I believe that when the South Wales coal fields were first opened up, tin miners from Cornwall were imported to work them, and did so until a new generation of Welsh miners grew up and worked the mines themselves. But if the occupation of coal mining in this country was a new one, it quickly became of paramount importance, for until the discovery of electricity and the more recent application of oil to industry, coal was the greatest factor in our modern civilization.

The whole of the industrial prosperity of the 19th century was based on the use of cheap coal, and the coal miner became the dominant vocational type in our civilization. The emergence of the coal miner was followed by a rapid growth in the population—I believe that the population of Great Britain more than quadrupled itself between 1800 and 1900. This was only possible by the great and rapid accumulation of riches, and by greatly increased facilities of communication, all due to coal. Coal, iron and steel—railways—steamboats—industries—cheap food—cheap clothes—cheap buildings—an age of cheapness expressed by cheap architecture. If the Elizabethan age were an age of expansion by sea-wealth, the Victorian age was a period of expansion by coal-wealth. The architecture of the 19th century might scientifically be termed the architecture of the coal-mining period.

In comparing the two building periods of the Elizabethan and the Victorian, and the rapid expansion of society reflected in those buildings, it is interesting to note that when some 30 years or more ago the architectural and artistic conscience of England began to be disturbed, and to feel that all was not well with our coal-mining architecture, we did not turn at once to the agricultural models of mediæval or Georgian days for our renewal but to the sailor-expansionist models of Elizabethan times. Since then we have gone for architectural renewal to Tudor, Queen Anne and Georgian models in succession, with an occasional glance at French and Italian, and recently to Greek and Roman. It would appear that to-day everyone, architect and layman alike, is struggling to recapture both in our buildings and our furniture, some of the agricultural beauty of pre-Victorian days.

If the architect is anxiously searching for the traditional motive, the layman has become an anxious collector of old furniture. There have always been collectors of the antique, but to-day everyone seems to be a collector. The shop of the antique dealer is to be found in almost every town of any size throughout the country—but we no longer collect, or to a very limited extent, and then chiefly confined to easel pictures, the works of contemporaries. Disgusted with the artistic fatuities of the 19th century we are, as it were, seeking frantically to establish a better standard of taste, to gather round us a collection of beautiful objects that the next generation will possibly accept them as a matter of course, and will then with eyes trained by the work of the old masters give rein to the joy of creative effort.

In a perfectly healthy state of design one would not think overmuch as to tradition and precedent, but would rather execute one's various commissions in the vernacular of the day. But, we have not been living in a perfectly healthy time, and it appears to me that before there can be any generally accepted tradition, either in our architecture or in our furniture, we must have accustomed our eyes, and possibly the eyes of our descendants to the lines and features of good design, and this desire to collect old pieces of furniture for the interiors of our houses, and architectural motives for the exteriors is based on a very sound and vital principle. It is in effect a desire to obtain the best the past can give; to recapture some of the beauty and charm that we have lost in an age of industrialism and even at times though it results in a somewhat abjectly slavish copying, I do not think we need greatly distress ourselves. It is difficult to

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believe that any style can be formed as a result of mere volition. We must have our eyes accustomed to good lines and sound traditions of craftsmanship, not for one generation but for several generations, before we can hope to express ourselves in a vital and living style.

If, socially, the problem that always confronts us is the conversion of the hunter, artistically the problem is the conversion of the coal-miner, and I believe that this conversion is rapidly taking place. In the early days of coal-mining, everything, including the housing of the miner, was of a temporary and makeshift character. The whole of the industrial portion of England (not to mention Scotland and Wales) was turned into one vast mining camp and the ideals of the mining camp—the temporary house, and the no less temporary, but rather more gaudily decorated drinking saloon—rapidly became the models of all our buildings.

If you would wish to take a typical development along the lines of the miners' camp, I cannot do better than refer you to the ribbon towns of the Rhondda Valley in South Wales. Here you see it all, rows of brick transfigured shacks, gaudily decorated saloons or gin-palaces, and as a counter attraction the scarcely less terrible efforts of the modern Welsh Chapels. For a long time it puzzled me as to why these Welsh Chapels were so bad architecturally—but I believe the answer is that they had to rival the attractions of the miners' saloon—and so we find them, not only in the industrial parts of Wales but in the agricultural centres as well—for the coal-miner as the dominant vocational type imposes his will on all—and not only in Wales but throughout England and Scotland.

Towards the end of the 19th century, we were rapidly becoming one vast mining camp from Land's End to John O' Groats. In the industrial regions, enormous tracts of what was once beautiful country, were covered with the sprawl and litter of the camp. Around London and the older towns, the ever growing population was housed in row after row of suburban shacks, vainly trying to disguise their miner origin in all kinds of architectural nonsense. One very striking characteristic of the inhabitants of our pre-war suburbs was the itch for change—at the end of every three years a great number of them pushed forward by the desire for change, or possibly the vain hope that the new shack would have more amenities than the old, moved from one suburban residence to another. This constant moving around created an atmosphere of instability in which it was impossible to properly develop either the love of home—meaning dwelling—or love of community—meaning town. In the past the old military camps gave us many a beautiful village and town—but they started with a definite sense of order, and if not permanent themselves they had within them the seeds of permanence—but the most striking feature of our mining camps is that they had no sense of order or organization—they were nothing but muddle.

During the whole of this industrial period we built with feverish energy—the energy of the miner—but with no joy in our building, and consequently no beauty. For the first time in the history of man "to build" was synonymous with "to spoil." Previously all buildings, or nearly all, whether the single cottage, or house, or the collected buildings forming village, small town or great city, were considered as an added amenity and attraction to the country-side. Then, to build was to beautify.

In the North, new towns sprang up with incredible rapidity—mushroom cities as they were called—though they might more aptly have been described as "Mining camp cities." The South did not suffer quite so much in comparison with the North—but only because in the South we build less; but here, also, the coal-miners' was the dominant influence. I should like to think that it was the old cultural centres that exercised a restraining influence on Southern architecture, but I am afraid such influence was very limited in extent. Even our Cathedral cities and cultural centres did not altogether escape the invasion of the miner-builder. The only places that did, were the dead towns and villages, as they were called, of the remote agricultural districts. Such towns as Rye, Sandwich, Winchelsea, and many others, which slumbered, more or less undisturbed through the 19th century, have now become places of pilgrimage for architectural renewal, to which the student goes with notebook and measuring rod, to wrest from them the secret of their serene and triumphant beauty.

One of the saddest results, because of its futility, to my mind, has been the spoliation of so many of our fishing villages and small sea-side towns, in the effort to secure them for retreats from the noise of industrialism. The modern history of one small fishing village, turned modern pleasure-town, is very like another in its tragic absurdity. First a few enlightened individuals discover its charm and go there for a holiday—they perhaps communicate their discovery to their friends, and year by year more people go, until some enterprising person puts up some enormous hotel, which is immediately followed by a rival establishment, and then come your rows and rows of hastily conceived villas (in recent years your more hastily conceived bungalows) until presently the few enlightened begin to rub their eyes, and to discover that their charming little fishing village no longer exists, or if it exists it is only as a small corner of still another mining camp.

Probably the most healthy sign for the future of architecture, or good building, is the ever growing dissatisfaction of the miner with the conditions under which he has to live. The enquiry into the conditions of housing in the mining areas and what it revealed, shortly after the close of the war, profoundly shocked the conscience of this country.

But if the miner is getting dissatisfied with his shack and wants a real house, he is getting no less dissatisfied with his mining towns—his jumbled collection of shacks and gin-palaces. The need for town planning, or town revision, is probably more keenly realized, as it is more urgently needed, in the industrial parts of England than anywhere else, and it must not be forgotten that Liverpool appointed a Professor of Town Planning at its University long before London.

The problem for the architect, and indeed for all of us, is to realize the best of the life that is going on around us, and to do this we must leave our studios

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and offices, and in our civic and regional surveys attempt to understand the interplay of the various vocational types. We want more of the humanitarian and less of the academic about our work. When we, ourselves, become the channels of a throbbing and vital reality then, and then only, will our work live.

It is the great common movements of humanity that produce, or do not produce, great artistic periods, and it remains for the artists to note and give expression to such movements. Sometimes it takes the direction of centralized authority resulting in impressive monarchial institutions with all their traditions of pageant and splendor and the dominating importance of the individual expressed thereby, as, for example, in 18th century France and England. At other times we have the great upward surge of democracy resulting in localized and communal effort, the sinking of the individual interest for the common good, as, for example, in 5th century Athens, and as exemplified in the best mediæval work.

We see the same influence at work in the life of the city states of Italy during the earlier part of the Renaissance, though in a less marked degree; and I believe we are at the present time living on the threshhold of just such another period to-day in England. The individualistic ideals of the last century are rapidly giving way to those of a more communal and civic order.

I can imagine that in another generation we shall regard the person who expresses his individual pride in the building of a costly and luxurious private house, much as we regard the war profiteer of to-day—as one who if not exactly to be shunned, will be looked on a little critically. I can imagine that, as in the best period of Athenian civilization, the houses of the chiefs and leaders will differ very slightly, at any rate in size and in importance, from the houses of the people, and that what is saved both in money and energy will be lavished on public buildings for the enjoyment and benefit of the community as a whole.

In conclusion I should like to refer briefly to the post-war government housing schemes, as in these there seems to me to be the germ of a great hope for the future—that future which shall represent the artistic conversion of the miner, chiefly by the agency of settled housing conditions.

The whole question of housing since the War has become so mixed with bitter political controversy that it is a little difficult for us to take a fair view of it; we cannot see the wood for the trees, and some little time must elapse before we can get the right perspective. Amidst all the clamor and criticism directed at the Minister of Health, for all that has, and has not been done, in the way of providing houses, one aspect of the problem has largely escaped public attention—and that is the effect of what may be called the housing movement on the future art of this country. When the Great War finished, there was a general determination amongst us, that the men who fought and won the War, should have opportunities for fuller and richer lives, and as it was impossible to discriminate between those who had fought in the field and those who had served in the workshops and factories at home, it meant, in effect, that all men were to have these opportunities.

These ideas were current before the War, but the War crystallized them and gave them effect, and the first realization of these changes became apparent when the great problem of housing had to be faced. When the Ministry of Health issued their first Manuals on Housing, in which were laid down certain minimum standards as regards the houses and the disposition of houses, it, at once, became apparent that a great advance had been made on pre-war standards. Now it is not pretended that those who framed these regulations were moved by any great artistic considerations: Their problem was that of providing healthy and economical homes.

As we have seen, the average worker's house before the War was a thing of unmitigated horror. Rows upon rows of cheaply and tawdrily built villas aping in their wasteful excrescences of colored glass and distorted stone dressings the dreary habitations of the more superior suburbs. The contrast between them and even the worst of the houses erected under the Ministry of Health is great and instructive. Mounting prices and the need for rigid economy has lopped off the extraneous and hideous features beloved of the Speculative Builder. Gone are the colored lights to the front doors; gone the sham half-timber work to the unnecessary gables; and gone the stone and terra-cotta ornaments that adorned bay windows and porches in unnecessary reiteration from the end of one dull, long street to the beginning of another.

The Government houses have been described as brick boxes with lids on them, but even the most bald have something of that homely air that belongs to the old time cottage and farmhouse of our agricultural communities. It was a wise decision of the Government to make the various local authorities responsible for the carrying out of the schemes, rather than attempting to direct them from some centralized office. Control and direction there had to be; but the fact that for the first time in their history, the people of these Islands were to have a direct interest in the building of their own homes, is one fraught with a peculiar and far reaching significance.

Architects who are responsible for the execution of these schemes and for the technical work involved in the planning and building of these villages and small towns, for such in many cases they are, know that not the least intelligent or responsive of Local Authorities are those Councils chiefly composed of what, for want of a better word, is called "Labor," and some of the most responsive are those in the mining districts. They and their kinsfolk are to inhabit these houses, and their interests are direct and personal—they are building their own homes.

Now, it is axiomatic that before a man can be an efficient citizen he must, in some degree, be an efficient man, and it can safely be assumed that before anyone can take a general interest in the fine arts, he must take a particular interest in the art of his own home. And that is why the Government houses which are being built hold so much promise for the future. They are expressive of the needs and interests of humanity, and starting from this humble beginning, the awakened

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interest which built them, will, I believe, grow progressively until we have not an academic, but a vital art, expressed in beautiful towns with fine streets and squares, adorned with real sculpture and magnificent buildings, the walls of which shall be rich with the glowing visions of great painters.

I have attempted to outline, however, inadequately, the influences of the various occupational types and of the regions which they inhabited, and to show they reacted the one on the other, and that it was to the interplay of these various types that we owed our finest architecture and our most beautiful towns.

For architects, more probably than for most people, the regional drama is a never-failing source of interest and inspiration. Its discovery and study cannot be much longer avoided.

Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

Zoning—The Opposition Speaks

A wave of zoning is sweeping across the American Continent. City after city is adopting ordinances, regulating heights of buildings, nature and area of occupancy. In a helter-skelter way, they are rushing in and enacting, in many cases, laws which are slight modifications of the Zoning Resolution of the City of New York, which, at best, is but a compromise between conflicting interests in a vast and complicated metropolis. On this score, and for other valid reasons, there is room for opposition to zoning. There are, however, certain hoary sophistries adduced by those to whom zoning is anathema, to which quietus should be given for all time.

[1]A recent speech on zoning by a prominent Philadelphia banker is replete with specious argument. It is impossible to quote the address at length, but perhaps a few of his statements, with the corrolaries implied by their use as arguments against zoning, will suffice to show the type of reasoning referred to:

"It is the assumption of the Ordinance that high buildings are a detriment. No note is taken of the fact that for modern business they have become a necessity, and that for health they are much better than the old-fashioned buildings." Corollary: A high building is healthful, no matter how much of its light is blocked by others; any restriction of height means a low building; a low building is of necessity old-fashioned.

"The Zoning propaganda is symptomatic of a great reaction. Many Americans are growing tired of the moral responsibilities of freedom, of the respect for others' rights and the vindication of their own. Weary, they wish to lean against the State. Their mood is like that of Israel in the days of Samuel. They are turning away from the theocracy of liberty, which brought them out of their tribulations, and are beseeching the prophets of welfare to give them an absolute government like other nations." Corollary: The unrestricted development of real estate for speculative purposes, as practiced in the past, is an example of "the moral responsibility of freedom, of the respect for others' rights." Absolutism is the only alternative to anarchy.

"The next underlying assumption of Zoning is that the value which is taken from property owners goes to the benefit of the general public. This is unproved and in part, is evidently untrue." Corollary: Value is measured solely in terms of money.

"—if one district is degraded by a restricted use, the real estate therein already occupied by dwellings is depressed and part of its value taken away and added to the more favored areas." Corollary: Instead of restricting objectionable industry to districts where it already predominates, it is better to leave all sections open to "degradation" by the invasion of nuisances at the whim of any individual.

"But the middle and poorer classes are excluded from the Least Restricted Zone by the prohibition of the Ordinance and are precluded from the most favored zone by the expense. They are forced, therefore, into the Commercial and Industrial Areas. The only class which is really favored is the wealthy class, which is protected from the incursion of the poor, so that *the Ordinance really tends to stabilize the values of the rich at the expense of the poor.*" Corollaries: 1. A zone restricted to residences is of necessity one of high costs. 2. If no restrictions are imposed, the poor will be able to spread into the districts occupied by the rich. 3. Allowing the poor to live in neighborhoods where their health is endangered is a measure of protection to them.

After condemning zoning because modern zoning is of German origin and therefore autocratic and branded with the mark of the Hun, he quotes from William H. Dawson's "Municipal Life and Government in Germany" as follows: "A well-known German housing reformer, Dr. Stubben, of Berlin, said recently, 'The price we pay in Germany for the possession of the best planned towns in the world is the destruction of the home. High prices of land, high rents and high taxes prevent the building of small houses and lead to the erection of hugh barracks, with the result that the workman, like many others, seeks recreation not in his home, but in the public house. In the Rhineland there are found, owing to perverse building regulations, made to satisfy the requirements of building speculators, narrow courtyards without air or sun, frightful ventilation shafts, the ever dark landings, semi-dark rooms and other defects which are a parody on the simplest requirements of hygiene.'" Corollary: Unplanned towns tend to preserve the home. They result in low prices of land, low rents and taxes, encourage the

[1] The Principles of Zoning; being the substance of an address delivered before the Forum of the Philadelphia Chapter of the American Institute of Banking, March 21, 1923, by William P. Gest, President of the Fidelity Trust Company, Philadelphia.

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building of small houses, prevent the erection of huge barracks, with the result that the workman eschews the public house. In unplanned towns, building speculators are disregarded in the making of building regulations, courtyards are airy and sunny, landings and rooms light, hygiene perfect!

It is not to be inferred from the above that the speech raises no valid questions of the advisability of Zoning. The adoption of a bureaucratic measure is always fraught with a degree of danger. But no cause is aided by making a host of statements based on slovenly logic.

E. H. KLABER.

City Planning Law

In "The Law of City Planning and Zoning,"[1] Mr. Frank B. Williams has undertaken the task of dealing with American and foreign city planning legislation in a systematic and comparative way. He has included the legislation, in whole or in part, of the United States, Canada, England, Germany, France, Italy, Holland, Belgium, and of Sweden, and he has at least touched upon some aspects of planning in Denmark, Austria, and Switzerland, as well as in New Zealand, Australia, India and Japan.

Mr. Williams begins with defining the scope of city planning and its "fundamentals," gives a chapter on "the planning of the city as a whole," dwells upon the acquiring of land and on methods of condemnation and of re-plotting, deals more briefly with "public utilities," streets, traffic regulations, occupies himself at great length with the subject of zoning, discusses the means of city planning finance, devotes a substantial chapter to "planning for the promotion of beauty," and concludes by expounding the laws of city planning administration.

Throughout the book, numerous quotations are scattered, and many statutes and regulations, American and foreign, have been wholly or partly reprinted, notably with regard to excess condemnation, zoning, planning for the promotion of beauty and city planning administration. There is appended an extensive bibliography, tables of statutes, index of "cases" and of statutes, and an excellent general index.

The very commendable care with which the work has been indexed accords well with its general stamp of scientific solidity. Of course, the value of a work like this, covering so complex and vast a subject, fundamentally depends on this quality, and "The Law of City Planning and Zoning" certainly answers the highest conceivable standards.

The particular usefulness of the work will presumably be to constitute a handbook for "laymen" rather than for lawyers. So well does the work answer this purpose that it should be warmly recommended to those who are engaged in the practice of city planning, to city officials and planning commissioners, and to all who wish to widen their knowledge regarding urban development and its problems. The book is no mere analytic treatise or array of "facts"; it is, for a considerable part, interestingly subjective, critical and discussive. For instance, when the author enters upon the matter of the New York Zoning Law, he becomes very frank about it, and one reads with no small satisfaction the following passage: "Under the New York resolution over large areas in Brooklyn, buildings can be constructed to a height equal to one and a half times the width of the street on which they abut; which on a typical sixty-foot street is the equivalent of eight or nine stories. Most of the areas where this rule applies are now developed with three or four-story buildings. Nowhere, in a city with vast areas still undeveloped, is a height limit imposed less than the equivalent of once the street width; with the right to go higher if a setback is made. Restrictions like these, which no one wishes to exceed, are not in fact restrictions at all."

The great importance which zoning has assumed of late in this country is reflected in the fact that more than one-fourth of the book has been devoted to this phase of planning. In the opinion of the reviewer, Mr. Williams might have served a useful purpose by laying special stress on the palliative nature of zoning, as applied to built-up areas. It is mainly in such applications that zoning has so far become extensively utilized in America. And is it not true that in many instances zoning has been applied as if it were an end in itself? If so, it has perhaps some connection with the circumstance that the method of zoning has been widely advertised as constituting, above all, an excellent means of conserving, and even developing, land values.

Is such zoning "real city planning"—as Mr. Williams maintains? One feels inclined to doubt it and wonders whether it is not rather to be classified with the rest of those regulations under the police power which restrict merely for the purpose of making bad conditions more endurable without ever touching upon the fundamentals of city planning.

In truth, real city planning, it seems, is something of which we have seen very little so far. Small wonder when it is considered to what an extent the aims of city planning, as a community interest, are contrary to other ends,—ends regarded by many as more desirable. To enlist the support of those who seek these other ends it has been deemed necessary to make city planning an object of advertising. That might be harmless, if it were true that anything can be commercialized with impunity.

Fortunately, Mr. Williams is not among those who argue for city planning from the viewpoint of its being "good business." To him, as to many, it recommends itself as something that we could not dispense with even if the outlay, which it is bound to involve, were more in the nature of a sacrifice than of an investment. As a matter of fact, city planning, if judicially carried out, can scarcely fail to bring economic profit along with social benefit.

However, what are the prospects of "judicious city planning" in the present age, when cities have been allowed to develop into hotbeds of economic exploitation? As long as such conditions prevail city planning in the social sense seems out of the question. There will be in the future, as in the past, on one hand the planning of the so-called public features, such as the streets, lines of communication, parks, sewers, harbors; and, on the other

[1] "The Law of City Planning and Zoning," Frank Backus Williams. Macmillan, New York City, 1922.

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hand, the multiplying of ordinances, statutes, regulations, and restrictions, designed to make conditions at least in some measure more tolerable by preventing the worst excesses of private enterprise. Such is, in the main, city planning as practised at present, quite particularly in America.

Of this there is ample evidence in "the Law of City Planning and Zoning" which indeed one cannot read without realizing the obstacles that still prevent American city planning in particular, from developing into a veritable agency of service to urban communities. More promising, in a measure, is the outlook in some foreign countries, and therefore it seems fortunate that Mr. Williams has allotted much space to city planning in Europe. Thus, European housing legislation has also, to some extent, received his attention. Altogether too little, however, in the judgment of the reviewer, who, unlike Mr. Williams, is unable to separate housing from city planning. In fact, the author, on page five, defines his position with regard to this matter in formulating the opinion that "for the good of both, housing and city planning as sciences should remain distinct." While respecting the opinion, the reviewer is not convinced that this distinction has benefited Mr. Williams' book.

"The subject of housing," says H. V. Lanchester, "is fundamental in Town Planning—one can conceive a town without almost anything—except houses." If this be true, housing can scarcely be dealt with merely as a secondary matter, in a comprehensive work on city planning law, without detracting, in some degree, from its value.

Yet even those who give to city planning the broader interpretation which includes what to them seems fundamental, will agree that the author of "The Law of City Planning and Zoning" has produced a very remarkable work. In one sense it is a pioneer production, constituting, as far as I am aware, the first systematic, comparative study covering the subject so extensively. It contains a wealth of information, set forth with the accuracy, lucidity and conciseness which we have had reason to admire in Mr. Williams' earlier publications. The text, always readable, is frequently enlivened by argumentative passages, not a few of which are brilliant.

NILS HAMMARSTRAND.

The Cellarless House

Wasteful Areas of the Small House and a Suggested Solution

By J. T. TUBBY

Present housing conditions require no discussion of the need for simplified and more economical construction methods. To meet the situation we have reduced the areas of the rooms to a minimum and ,in many cases, combined the living room and dining room. To further reduce the cost we must resort to cheaper materials, unskilled workmanship and the elimination of all fixtures not absolutely essential. This may mean that while the first cost is kept down, the maintenance cost is increased. Building and fire codes frequently require a type of construction which does not permit of entire economy in the choice of materials and the question returns to one of area and cubage.

A comparison of the total cubage of the conventional small house plan and the net volume of the usable rooms shows the following facts to be the case:

Figure 1 is a typical six-room house, recommended by the United States Shipping Board. The total cubage is 16,470 cubic feet. The cubic contents of the usable rooms taken inside the walls are as follows:

Kitchen	837 cu. ft.
Living room	1,013 cu. ft.
Dining room	1,013 cu. ft.
Bed room No. 1	1,078 cu. ft.
Bed room No. 2	862 cu. ft.
Bed room No. 3	665 cu. ft.
Bath room	292 cu. ft.
Total	5,760 cu. ft.

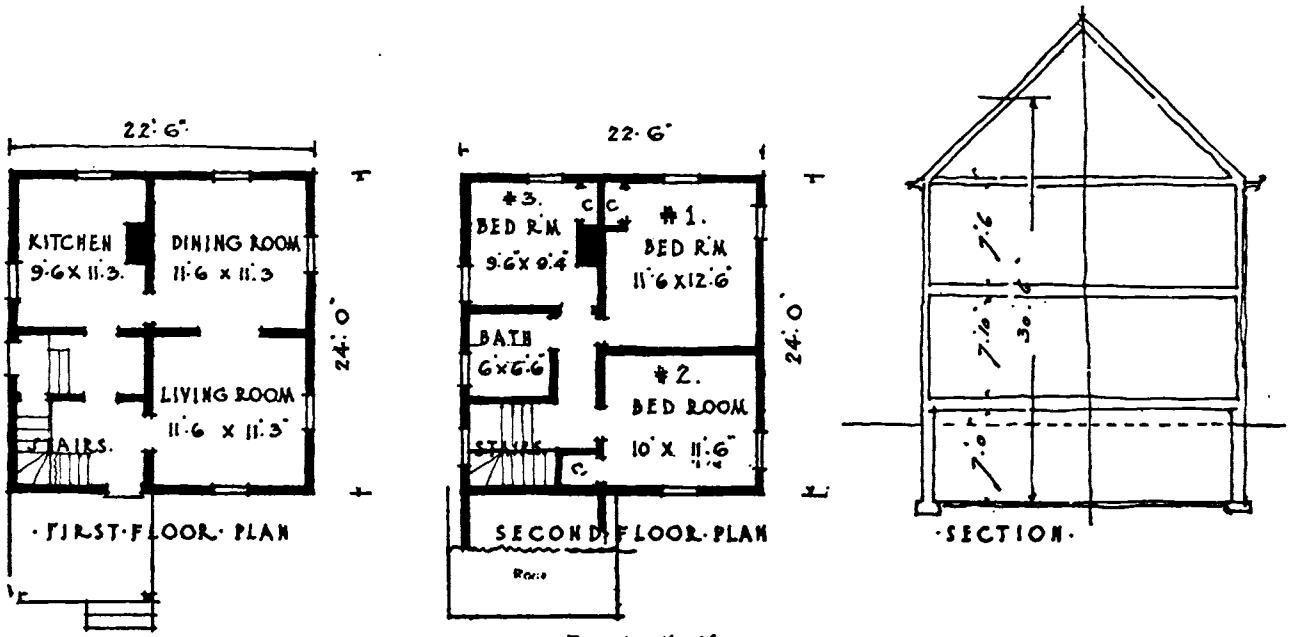
The volume of the usable rooms amounts to only 35 per cent of the total cubage. The remaining 65 per cent is made up of halls, stairs, closets, chimney, walls, partitions, roof, attic and cellar.

This is not an unusual case, for the average percentage of usable volume to total cubage compared as above, of fifteen prize designs for small houses recently published is only 34 per cent. These designs range from bungalows with excavated cellars under one-half the area to two-story houses with full cellars. Some are shown with masonry outside walls; others are of frame construction. The roofs range from flat to steep sloping types. A two-story six-room house with brick walls had but 29.9 per cent usable volume. The highest, 38.8 per cent, was a two-story house with a cellar under one-half the area and a low roof.

While we actually *use* only about one-third of the volume *built*, we must admit that the halls, stairs, closets, walls, chimneys, partitions, floors and an assumed flat roof are necessary parts. These are variable factors, depending in percentage upon the economy of the plan. For the average small house this will be found to make up about 23 per cent of the total cubage. The usable and necessary volume then represents 35 per cent plus 23 per cent or 58 per cent of the cubage and the remaining 42 per cent is given up to cellar and attic space, foundation walls and roof construction.

To keep the small house in scale and to give it domestic character, the first floor is usually placed as near the grade level as possible. As a result it is difficult prop-

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FIGS. 1a, 1b, 1f.

erly to light and ventilate the cellar. The air in a deep cellar tends to become stagnant, since the cool air falls to the floor and no provision is made to move it. Moisture frequently condenses on the walls and floors due to the air being chilled below its dew point. The cellar of the small house may thus be damp, mouldy and decidedly unsanitary, even though the walls and floors are waterproof as regards penetration.

The cubage of several cellars, recently investigated, indicates that if this volume were planned as compactly to meet actual needs as the floors above it, cellars could be reduced about 75 per cent in volume. This space at present is given over to storage purposes. The use of a small inexpensive lean-to above grade would serve more efficiently with the added advantages of light, air, ventilation and partial insulation for house walls.

Since the cellar represents about one-fifth of the total cubage of the house and may be classed as partly unusable for the conventional house, it would form the basis of a substantial saving if it were properly redesigned. The cost of the cellar may be reduced by making the area a minimum to meet the practical requirements and its depth only sufficient to place the foundation below the frost line. In doing the latter, the light, air and ventilation have been immeasurably improved and the depth of trenches for house sewer and surface water drain lines has been decreased.

When the cellar area is eliminated the practical problem of cold first floors is involved. There are two solutions. A space of two or three feet may be left under the first tier of joists or a bed of tile or concrete may be laid on the ground, waterproofed and covered with sleepers and the finished flooring.

The first method requires that ventilation be provided to prevent dry rot attacking the timbers. This cold outside air tends to chill the floor. In the usual house a large opening is frequently left between the excavated cellar and the space under the joists over the unexcavated portion in the attempt to counteract this. This unexcavated space, seldom properly cleaned, becomes more or less of a fire hazard.

It has been the contention that floors laid as in the second method are cold. While this may be true, an investigation of the reason leads to the conclusion that the poorly insulated exposed walls are responsible for this condition and not the floors laid on the earth.

Physicists say that the ground below the cellar floor remains at practically constant temperature throughout

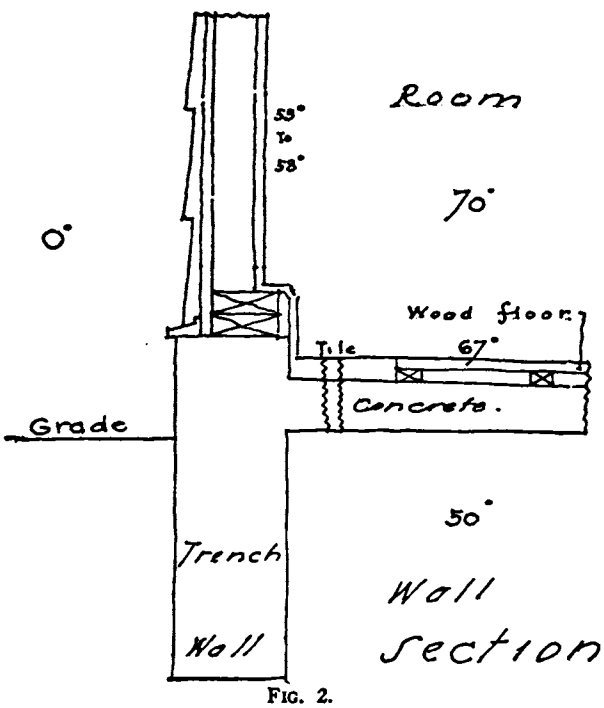
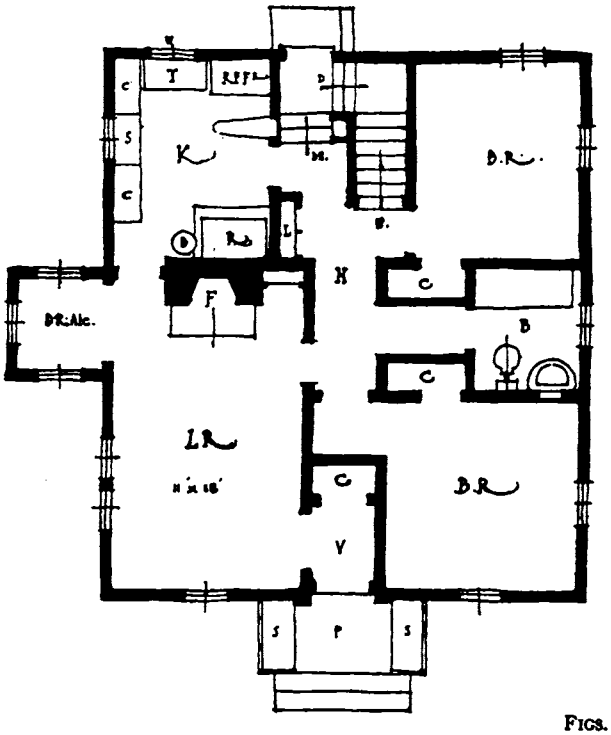
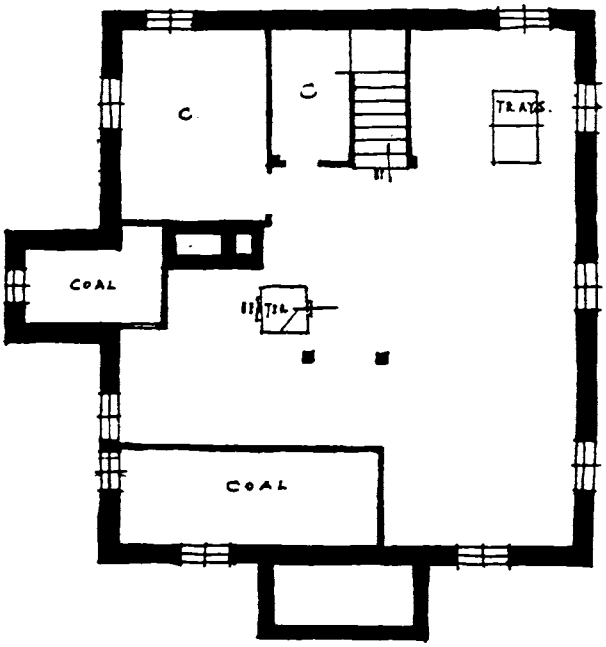


FIG. 2.

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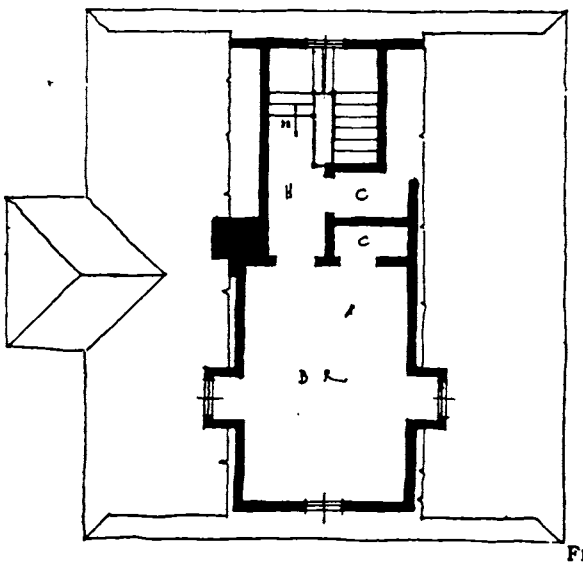


FIGS. 3a, 3b.

the year. This temperature is found to be close to the mean annual temperature of the locality. In the latitude of New York City, this ground is said to vary from 48 degrees in winter to 52 degrees in summer.

A wall section adjacent to a floor laid on the ground is shown in Fig. 2. With temperatures of 70 degrees for the room, 50 degrees average for the earth, and zero outside, there is a difference of 20 degrees in temperature between the room and the earth, and 70 degrees between the room and the outside air. Calculations of the conductivity of various building materials, taken singly or in combination, indicates that an outside wall constructed of studs, wood sheathing, sheathing paper, siding and plaster will have a temperature of about 58 degrees under the above conditions. The inside temperature at a window will be considerably lower and we may predict an average temperature of not over 55 degrees for the exposed wall. The predicted temperature at the floor a few feet from the outside wall is 67 degrees.

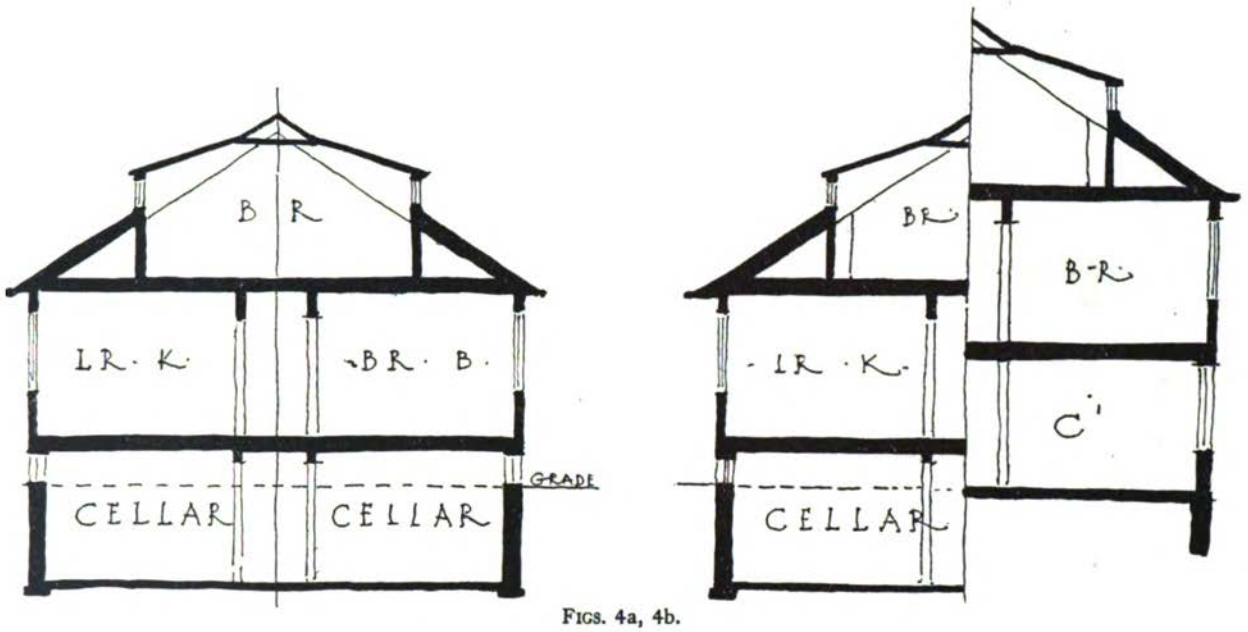
The cold draught passing over the floor, caused by the air falling to the floor after being chilled by the outside wall, is thus seen to be a more satisfactory explanation of the cold floor than the chilling of the





FIGS. 3c, 3d.

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FIGS. 4a, 4b.

floor itself by contact with the earth. Such being the case, must we not direct our attention to the insulation of this exposed wall, and especially the lower portion, which offers a more difficult practical problem in insulation than does the floor?

The fact that cold entering the ground outside the foundation walls may chill the walls and floors adjacent to them would apparently warrant the consideration of some form of protection outside the wall at grade. An outside walk or shrubbery which would retard frost penetration would be a possible solution and might even permit of shallower foundations.

There is room here for much research and possibly the development of a satisfactory method of insulating the walls at reasonable cost. Since the conductivity of materials is less when dry than when wet, it is important that the floors and walls be made damp-proof. It seems probable that wall insulation may reduce our cellar waste.

Reduction in the cellar area and depth also involves the problem of the heating system. Recent tests to determine the practicability of grouping hot water radiators around a central heater instead of placing them under the windows may have some bearing on the problem.

The attic which forms less than half of the unused space is the hottest portion of the house in summer, and cold in winter, if completely cut off from the second story. The temperature of this space changes very rapidly in the winter especially. At night and in the early morning it may be very cold, but later in the day the temperature becomes moderate due to the heat from the sun warming the roof. Insulating the floor of this space should effect a saving of considerable heat loss due to a cold attic. The insulating effect of a blanket of snow on a flat roof is not to be neglected. This probably accounts for the use of comparatively flat roofs in Switzerland. The flat roof would permit a further reduction in cubage by practically eliminating useless space above the usable rooms.

The plan of a typical bungalow with an exceedingly wasteful cellar is shown in Figure 3. Figure 4-A is a section through this house as planned. If this section is divided vertically on the axis and one-half is raised to bring the cellar floor level with the grade, a condition as shown in Figure 4-B will result. There is no necessity for having the floor, of the cellar remaining in the ground, more than three feet below the grade. If this half of the section is then raised until this condition is met and the roof lines are straightened out, the resulting section is seen in Figure 5. This is a compromise between the conventional arrangement and the entire elimination of the cellar and may serve as an intermediate step to the full cellarless house.

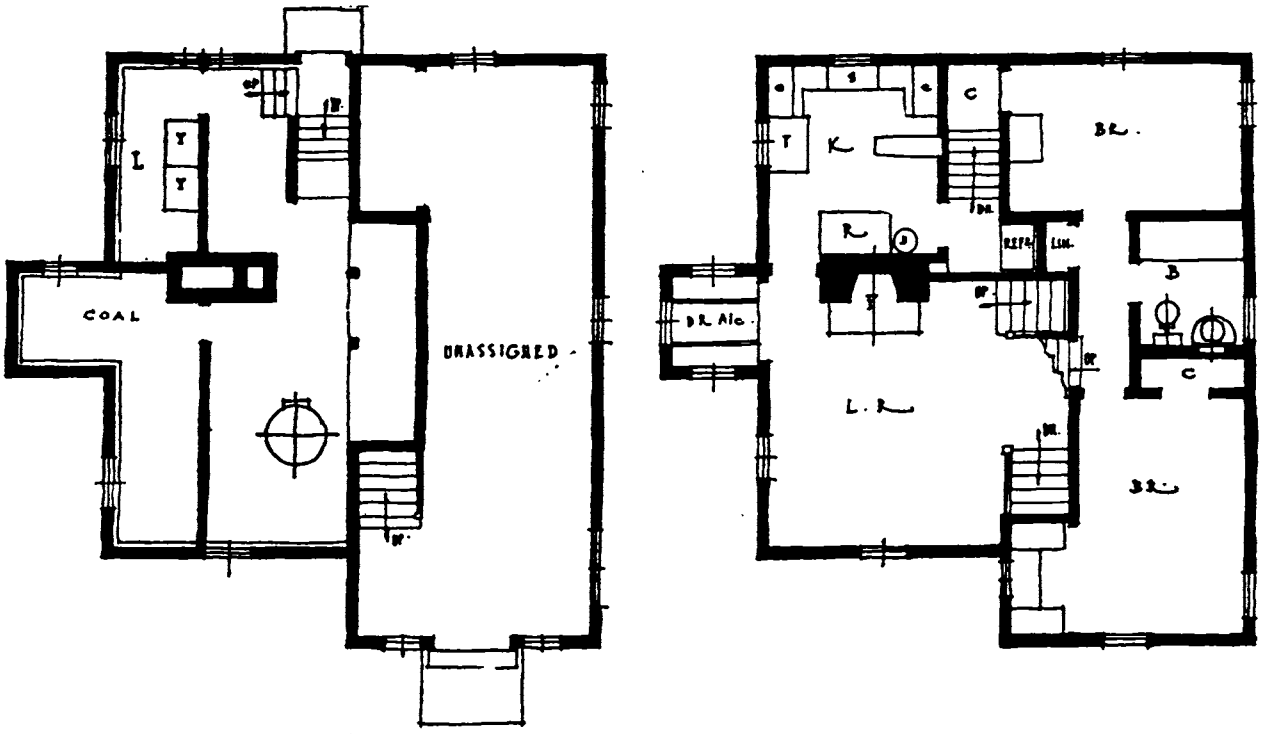
An advantage not possessed by the average bungalow is that the bed rooms are now a full story above the ground. Instead of a full flight of steps from the living rooms to the bed rooms or cellar, there is now a half flight only. The cellar has become a mere sanitary basement with adequate light, air and ventilation.

The additional cross wall required is more than compensated for by the reduced height of the basement walls



FIG. 5d.

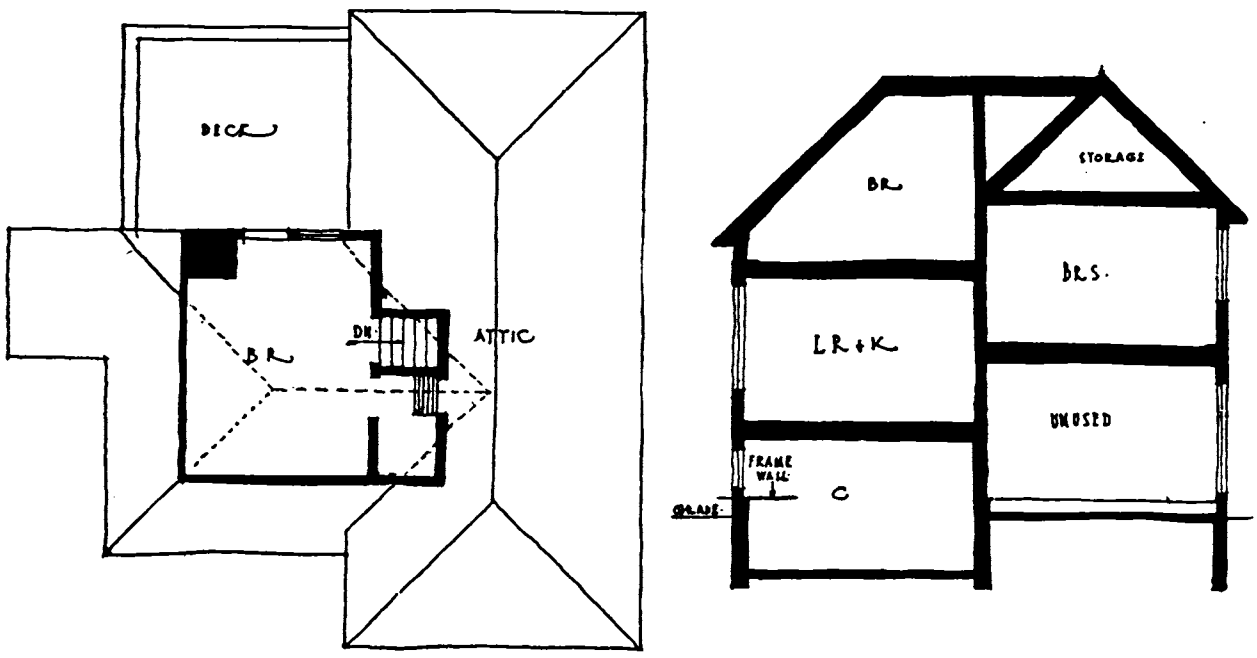
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FIGS. 5a, 5b.

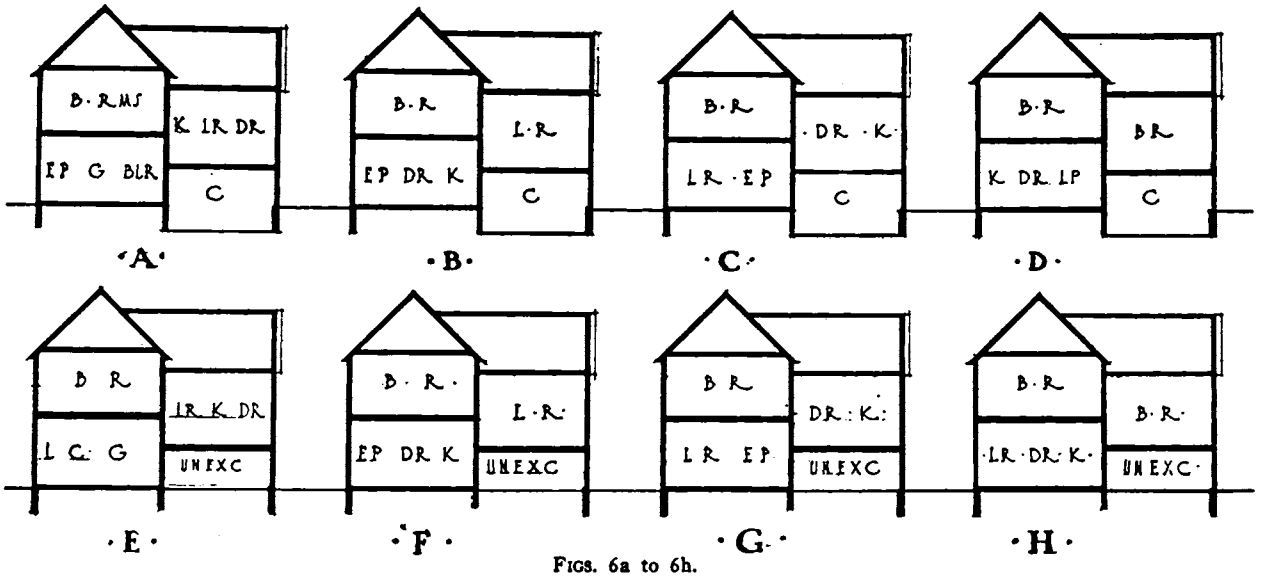
and excavation saved. With suitable soil conditions, the basement walls will require forms on one side only below grade and those around the unexcavated area can be concrete trench walls. The drain lines starting about 3 feet below grade will save the cost of deep trenches.

Necessary differences in areas and accommodations make it difficult to compare the bungalow shown in Fig. 3 with the half-level plan. The plan shown in Figure 5 was developed to provide as nearly as possible the same areas, story heights, and exposures, as the bungalow plan Fig. 3. A careful comparison of quantities indicates that the half-level plan, not including certain incidental economies, effects a saving of about 13 per cent over the conventional bungalow.



FIGS. 5c, 5e.

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FIGS. 6a to 6h.

The space marked "C," originally a dark, ill ventilated cellar and a partial, if not totally wasted area now at grade level can be put to a variety of uses, such as hall, garage, billiard room, play room, workshop, office, plant room, enclosed porch, or laundry.

Many other advantages are apparent upon making a careful study of a house based upon the plan shown in Fig. 5. The roof lines can be broken to obtain an interesting composition without destroying the scale. The design lends itself to narrow widths with resulting economy in framing. No outside frame porches, dormer windows or areas for cellar windows are required. Roughing in for plumbing, heating and electric wiring is simplified. The economy of this plan is immediately recognized for localities where rock excavation is encountered.

The questionable value of the large cellar involves a study of the house in cross-section rather than in plan. Figure 6 serves to indicate a few of the possible room dispositions. By a careful planning of the stairs and halls in houses of this type, the usable volume can be increased to 45 per cent of the total cubage, instead of the conventional 35 per cent. Even if such were not the case there is much to be said in its favor as respects its use on land too wet for the usual deep cellar. It also gives a more sanitary basement.

The cubage can be still further reduced by the use of mill construction floors. The additional cost of this type over joist construction is more than offset by the saving of 8 inches to 10 inches in the height of the walks.

In southern England where the range of temperature is about one-half that of the latitude of New York City, cellars are seldom built, windows are small, thick masonry walls are used and many of the roofs are thatched. These buildings are ideally insulated and the heating requirements are met by the inefficient fireplace. In Russia and other cold countries the walls are insulated with snow or other materials placed around the outside. In Canada the log houses are frequently built without foundations and the floor boards laid on sleepers, placed directly upon the ground. In winter the outside walls are insulated by banking them with branches of trees, manure, straw and dry earth.

Of the cellarless houses built in the United States, those designed by Mr. Flagg and built on Dongan Hills are worthy of special attention. The walls are faced with an excellent insulator in the form of mineral talc, a kind of soapstone, obtained from a nearby quarry. This stone forms a 4-inch to 6-inch ashlar facing backed with concrete. Before starting the outside walls a coat of damp-proofing on a bed of concrete is placed on the ground under the entire house. The houses are heated by small hot-water systems.

The author holds no brief for either the cellarless or the half-level plan and desires only to stimulate research into methods of simplifying present construction. It is an acknowledged fact that ordinary heating systems are not economical in fuel consumption. If, by properly insulating the outside walls and eliminating waste cellar and attic space, we can reduce the size of the heating plant, with a corresponding reduction in fuel used, we will have done much toward reducing both first cost and maintenance charges.

Is not the conclusion forced upon the architect that the limit of study of the small house in two dimensions has probably been reached and that in a study of cross sections may be the possibility of greater economies?

London Letter

The election of the Royal Institute of British Architects for the session 1923-4 is decided, and the covers of the Architectural Press no longer bulge with the heated correspondence emanating from the rival factions of Registrationists and Unificationists. Not for many years have politics so completely dominated the more important interests which it is the duty of the Institute to foster, and the semi-public washing of doubtful architectural

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linen has left the looker-on aghast at the unpleasant possibilities of a permanent party spirit entering into what should be the dignified election of a high professional body. Incidentally there are many who are frankly bored by the whole proceeding, and who begin to wonder if it is for the promotion of internecine strife that they pay their annual dues.

The party which was in favor of the registration of architects without prior unification of the profession has been defeated *en bloc,* by a huge majority, and most of the familiar names of distinguished architects are back again on the Council List. Each unsuccessful candidate of the retiring so-called "Defence" Council received on an average 500 less votes than the "Emergency Committee's" nominees, and the exceptionally large poll showed that the electorate was fully roused.

* * * *

With the retiring Council will be associated a suggestion which has provided abundant matter for caricaturists and lovers of gentle persiflage, namely the proposal for the adoption by members of the Institute of an academic dress.

A resolution approving in principle the wearing of gowns and hoods has actually been passed, and various suggestions, many of a light and fantastic nature, have been made as to the sartorial possibilities which are opened up. Astrachan collars and cigars have been suggested as suitable for successful City architects, while tight-fitting trousers and short Eton jackets are recommended for some of the more venerable Fellows.

The lay press generally points out the fact that the present tendency is to eliminate such distinctions in dress, and that for the real robes of modern life we must look to those who wear them daily, as a Bishop wears his gaiters. Probably the whole question will die a natural death—and there will be no flowers!

* * * *

The Annual Exhibition of the Royal Academy at Burlington House has provided little that offers encouragement for any hope that English architects are throwing off the yoke of precedent and the forms of tradition. The place of honor is given to a fine drawing of a building by Sir Edwin Lutyens, the offices of the Anglo-Persian Oil Company.[1] The design shows what resembles a magnificent and cliff-like structure having the outward expression of an Italian Renaissance Palace which has not been quite completed—with all the charm which rugged surface and small fenestration so often produces. The windows appear to be inadequate for the lighting of offices, and one feels regret that the talent of such an able artist should not be directed towards the solving of the problem which the designing of the modern office building presents.

There are many fine architectural perspectives, the technique of which, in the "slick" and popular manner of the moment has often greater claim to attention than the designs which are represented. As one critic stated, the drawings of Mr. Walcot make Baker look like Lutyens, and Lutyens look like Baker. The smaller work is generally good, and the more ambitious designs merely strive to reach that perfection of the Renaissance manner which has for some time been attained in America. For the much coveted site of Devonshire House there is an able design for an office building which might have stepped out of the pages of an American architectural magazine. In the whole room there is scarcely a design which adds anything to our knowledge of what is possible to a well-trained architectural mind with a definite problem to solve.

* * * *

The American Scholarship, offered by the Society of Architects, and previously alluded to in these pages, has been awarded to an ex-student of Manchester University, Mr. Cordingley, who has the honor of winning, a few days later, the Rome Scholarship in Architecture. It is quite possible that this American Scholarship, awarded for the first time, will prove of greater attraction and utility than that of the Rome Faculty, which appears to frown on any desire of the architectural student to attempt a modern expression in design. The designs successful in the Rome Competition present as a rule a monotonous re-hash of French Grand Prix plates, the earlier examples for choice.

* * * *

There has recently been a noticeable increase in the number of important architectural competitions. The entry for these is astonishingly large, there being frequently from 100 to 150 competitors for a comparatively small building. The assessing is almost invariably carried out by one architect, and the competitors generally flavor their designs to taste, this meritable catering to the assessor being the cause of the almost complete absence of any designs which form an original architectural conception. We understand that the question of a Jury of Assessors presents such difficulties that the Competitions Committee of the R. I. B. A. have declined to express any opinion as to the desirability or otherwise of the Jury system. The real trouble, however, seems at present to lie in the scarcity in the profession of trained men who can regard the competitors' work through other than the individual eye.

* * * *

The Crown Prince of Sweden recently paid an unofficial visit to the Schools of the Architectural Association, with the object of examining English methods in architectural education. The Prince displayed a familiarity with architectural matters which was astounding and his queries revealed an almost professional pertinence. He was greatly impressed with the results of the teaching of Color Decoration, particularly the originality and freedom which is supplanting slavish copyism of the antique. He alluded to the great progress in modern architecture recently evidenced in his own country by such buildings as the new Town Hall in Stockholm, which has been described by a well-known English architect as one of the finest buildings in the world.

* * * *

Two years ago, in November, 1921, there was formed in Paris a group called the Franco-British Union of Architects. Under the Presidency of M. Paul Léon, Directeur des Beaux-Arts, a number of English architects

(1) See the JOURNAL for July, 1923.

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who were attending a conference on architectural education in Paris decided to associate themselves with their French colleagues with the idea of promoting a closer personal relationship between the architects of the two countries, with the object of benefiting education and methods of practice in both countries. At the present moment the Union is holding its third annual meeting in London, and the program shows the importance which the Union is beginning to assume.

The French delegates are visiting Buckingham Palace by special permission of the King, and are being entertained at luncheon by the British Government, the first official recognition of the significance of this international group of architects. Amongst other items for the visitors' entertainment are a tour of the new buildings being erected for the 1924 British Empire Exhibition, and a visit to Lansdowne House, at present the residence of Mr. Gordon Selfridge.

The Union is a remarkable example of post-war solidarity and understanding between professional men at a time when the quality of political relationship is being tested to the limits of severity.

July, 1923. "X."

From Our Book Shelf

The Dynamic Mr. Eberlein

In "Details of the Architecture of Tuscany," photographs and text by Harold Donaldson Eberlein, and measured drawings by Oliver Reagan, the authors have presented a work "replete with suggestive value and exquisite subtilty of detail." Mr. Eberlein is favorably known from a number of works that have been compiled and written by him in rapid succession during the past few years. While some of these books have been intended for general distribution and reading, the present work will appeal almost wholly to architects. The halftone and line plates are about equally divided and supplement each other. Without Mr. Reagan's superb drawings and the invaluable data compiled with sure hand and keen appreciation of the subtle contours of moulding and ornament, the book would merely be one more addition to the long list of plates on Italian Detail. It is fascinating to study the photographs and the measured drawings side by side and see how the genius of Brunelleschi animates the stones of Florence into vital form. "On reeds dropped from the hands of dead Pan the artists of this period, each in his own sphere piped ditties of romance."

These details make one understand with what loving care and scientific accuracy the citizens of Florence made preparation to build their stately houses. Mr. Reumont says that Fillipo Strozzi took very seriously the erection of his most beautiful dwelling, "the foundation stone was laid in the morning of August 16, 1489, at the moment when the sun arose above the summit of the Casentino, the hour prescribed by astrologers as propitious had been settled by the horoscope, masses meanwhile were said in several churches, and alms distributed."

Of the one hundred and six plates in this volume, ninety-two are devoted to Florence, three each to Fiesole, Lucca, and Siena, two to Arezzo, and three to typical details of chimney pots, brick floors, and tile roofs. There is a frontispiece in color of the ceiling in the Villetta Palmieri, and the plates are divided into groups illustrating loggias, mantels, stairs, doors, windows, balustrades, woodwork, ironwork, etc.

Of the loggias, no finer examples could be imagined for grace and sweetness than those of San Lorenzo, Santa Croce, and the picturesquely beautiful Villetta Palmieri. Two of these are by Brunelleschi and the Villetta must also have been by him, or at least one of his pupils, for it is strangely like San Lorenzo. Of interest for their detail are the brick ceilings supported on light wooden beams, the roof tiles resting directly on the bricks. A separate plate shows the roof tiles, their shapes and sizes, and the simplicity of the flashing arrangements. The roof rafters are seldom more than 4" x 6", about 14" x 15" on centres on which the bricks are laid flat and the tiles bedded in cement.

The fireplace in the kitchen of the Villetta Palmieri has a very suave niche with a beautifully wrought shell in its inner jamb, and more remarkable still, its high stone lintel is less than 2" thick. The drawing room mantel has a most intriguing Latin inscription in the frieze, the lintel in this case being slightly thicker. A corner fireplace of the Villa Palmieri illustrates how this feature, often abhorrent through unskilful handling, may be so fashioned as to become a thing of wondrous charm. Mr. Reagan's drawings make these details actualities that may be understood.

A few types of stairs are wisely chosen. A chaste iron balustrade of monastic simplicity, an example or two in stone with softly rounded contours, all forceful, direct, and characteristic of the period of Florentine Renaissance, a time that was marked by the luxuriance of creative power, when all the arts were ablaze with the riotous fancy of exuberant youth. Many details of the Villa Palmieri are shown and it requires but little imagination to picture Boccaccio and Filomena leaning out of a window gazing at the vineclad hills of Fiesole, picking asphodels on the terrace, or weaving a crown of jasmine for the Queen chosen to rule over the doings of their company for the day.

One of the most romantic subjects illustrated is the thirteenth century doorway of the Loggia Dei Lanzi with its superb lintel. Mr. Reagan's drawing of this is particularly fine and inspiring, and worthily supplements the photograph. The marvelous carved wooden doors of the Uffizzi give quite a different impression of the genius of Pere Georgio Vasari than we had previously assigned to him, while the view of the doorway in the Via di Benci is particularly picturesque with its rich shadows and noble air of dignity. Plates illustrating ironwork, rustication and stone jointing (these latter being most valuable and worthy of painstaking study), woodwork, and paneling inlaid with intarsia, a wellhead, gate posts of a severely fantastic acuteness and many other diverse details, all clearly set forth and illustrated by both photographs and measured drawings, make up a book "valuable for its intimate constructional interest."

The early work of the Renaissance architects in Tuscany, while lacking some of the perfection of their successors, is characterized by a freedom in the use of forms

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and a naive adaptation of Roman precedent, which, while restrained and in the manner of its prototypes, is unlike anything that the world had ever seen before. The use of these forms in recent work in the United States seems to indicate that the present tendency of certain distinguished architects is to develop along the lines followed by Brunelleschi, Alberti, Benedetto da Majano, Michellozzo, and Filarete, while Nicola and Giovanni Pisano, Giotto and Orcagna have furnished inspiration to others. The work of these masters is uniformly sincere, original, and vigorous, full of imagination and creative power.

> The best of artists hath no thought to show
> Which the rough stone in its superfluous shell
> Doth not include: to break the marble spell
> Is all the hand that serves the brain can do.

"Details of the Architecture of Tuscany" presents certain material of this period in an attractive and accessible form.

HUBERT G. RIPLEY.

Set going about 1620, by the genius of Inigo Jones and Wren, the Renaissance or Classic has submerged England ever since; ebbing and flowing in quality, but always strong enough to swamp any Gothic or vernacular revival. Carried by this flood, but not of it, were the Adams brothers. It is easy in our day of hankering for change, to see how the British public, tired of ponderous Blenheim and the like, welcomed these refined, "decorator" architects, and for the day, they were very much the vogue. But with their passing, passed their school, and the Classic rolled back; real architecture again, Chambers with Somerset House, Gandon with the beautiful Dublin Customs House and Bank of Ireland, George Dance with Newgate.

[1]Small Houses of the Late Georgian Period and its second volume are concerned chiefly with the Adam influence, and with its best exponent, the small house. The first volume is largely exteriors and the second volume, interiors and measured drawings. Although the influence of these brothers has been most felt in their interior details, perhaps their highest value to the profession is in the repression and refinement of their façades, where the columns, pilasters and ornament are concentrated in the porticos, and the elevation depends, for its charm, mainly on proportion and simple openings.

There was no great skill required to adapt the ornamental plaster of the tombs on the Appian Way to the drawing rooms of London; the old Roman stuff was better modeled and in infinitely greater variety. It was difficult to use this on the exterior, so they left it off, to the great benefit of the streets and squares of London a century ago. The brothers deserve credit for sticking to and refining their motive. It is not often their interiors reached the dignity and elegance of the smoking room of the Brooks Club (Plate 36); more often it is the uninspired effect of the Bedford Square drawing-room (Plate 12), and the overmantel in Plate 11. However, they made great use of plain wall surfaces and for this, may they rest in peace. Much which passes as Adam, hard or effeminate, is doubtless weak repetition by their followers.

New England Colonial owes much to this period; its delicate wood mantels and porticos are often worthy of the Master. Messrs. Ramsey and Harvey have gotten together, in convenient form, much well-selected matter not often seen, nicely balanced between photographs and measured drawings. H. S.

[1] Small Houses of the Late Georgian Period, by Stanley C. Ramsey and J. D. M. Harvey.

The Second Pan-American Congress of Architects

It is announced that the Second Pan-American Congress will meet 10-20 September at Santiago, Chile. It will consider many important questions bearing on the profession of Architecture in its technical, scientific, artistic, legal and social aspects. Subscribers to the Congress will receive its publications. The fee for active membership, entitling visitors to all privileges, including the right to vote, is one pound sterling. The passive membership fee is ten shillings, and, with the exception of voting, includes all privileges along with a printed report of the proceedings. The President of the Congress is Ricardo Larrain Bravo; the General Secretary is Ricardo Gonzáles C., and the address of the Secretary is: Bolsa de Comercio Of. 307, Bandera, 75, Santiago de Chile.

Obituary

William Holabird

Elected to the Institute in 1884; to Fellowship in 1889. Died at Chicago, Illinois, 19 July, 1923

William Holabird was born in New York State, 11 September, 1854. He graduated from the high school in St. Paul, Minnesota. He entered West Point in 1873. Coming to Chicago in 1875, he entered the office of W. L. B. Jenney, and after a number of years he organized the firm of Holabird & Roche. He was a member of the University, Chicago, Union League, Mid-Day, City and Glenview Golf Clubs. He was also a member of the Loyal Legion and a Knight Templar in the Evanston Commandery.

Among the eminent structures to the credit of his firm are the University Club, Cook County Building, and City Hall, McCormick Building, and other office buildings, Hotel LaSalle, Sherman House and other hotels, all of Chicago; Grant Park and University of Illinois Stadia.

Mr. Holabird is survived by his widow, Mrs. Maria Augur Holabird; his son, Colonel John A. Holabird; his daughters, Mrs. William Cruikshank and Mrs. John D. Towne.

Structural Service Department appears on the second right hand page following

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Structural Service Department

LEROY E. KERN, *Technical Secretary*

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.

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Paint and Varnish Application by the Spray System. (25c)—(*Report of Special Committee on Spray System of Paint and Varnish Application, No.* 18, *National Paint, Oil and Varnish Association, Inc. Size* 6" x 9". *Pages* 9. *Illustrated.*) During the past year several developments in the application of paint and varnish products with the spray gun have been of interest. One of the most interesting of these is the use of cylinders of compressed carbon dioxide or nitrogen where compressors are not available. An application of interest has been the use of the spray gun for painting woven wire farm or factory fencing. By spraying against a shield at an angle of 45 degrees the paint rebounds and coats both sides of the wire at the same time. It is understood that twenty sections of fence, 10 by 7 feet, and including the barbed wire above, can be painted in one eight-hour day by two men, including setting up and cleaning the equipment. The entire cost in one instance, including paint and labor, figured three-fourths of a cent per foot of fence. In one practical painting job six men (two operators, two men to strain paint, etc., and two men to move scaffolding) applied in two days sufficient flat interior paint to cover 58,000 square feet of surface. The cost of application (not including the cost of paint) figured about $0.0013 per square foot of surface. The very rough, coarse surface of cement stucco, such as is used for the finishing of certain types of buildings and dwelling houses, is of such a nature that hand brushes often cannot be used satisfactorily. In such instances the spray painting machine has proven most useful. In some cases as high as five gallons of paint can be applied in forty minutes by one operator and one man to take care of the tank. The cost may run as low as $0.001 per square foot.

Basswood. (19a1)—(*Utilization of Basswood, by Warren D. Brush, Bulletin No.* 1007 *Department of Agriculture. Size* 6" x 9". *Pages* 64. *Illustrated.*) Basswood is valued mainly for its white color, light weight, and good working qualities. It is manufactured from several species, but mainly from the species Tilia Americana, which grows over nearly all of the eastern part of the United States. Other common names for this tree are linden, linn, bass, limetree, whitewood, and beetree. The species Tilia Heterophylla, which is most commonly called white basswood and is found mainly in the Allegheny Mountain region, also produces basswood lumber which is similar to that of Tilia Americana. There are several other species of basswood in the United States, all of which have wood similar to the common basswood species, but contribute only small quantities of the timber. As the wood of these different species is very much alike, it is not kept separate in the market and is sold as basswood. In the virgin forest, basswood often reaches a height of 90 to 100 feet and a trunk diameter of 3 or 4 feet.

The heartwood of basswood is creamy brown with occasional darker streaks. The sapwood is wide and not sharply defined from the heartwood. The wood has a very uniform appearance; the sapwood and, particularly rapid-growth timber has a light-colored, clean look. Basswood occasionally shows a curly growth, especially near the butt of the tree. This is unusual, however, and the wood does not normally possess a curly grain nor any figure. Rapid growth timber yields the largest amount of the white sapwood, which is highly valued.

Basswood timber is light in weight, soft in texture, straight grained, and has low strength values and poor shock resisting ability in general comparison with other woods. Compared on the basis of density or weight, basswood has nearly average values for most of its properties, but has slightly greater stiffness and much greater shrinkage for its density than the average. In the classification of woods by the Forest Products Laboratory of the Forest Service into eight groups, according to results of tests for each of six physical and mechanical properties, basswood is described as follows:

Property	Classification
Density or weight	Light
Strength as a beam or post	Weak
Hardness	Soft
Shock-resisting ability	Poor
Stiffness	Moderately limber
Shrinkage	Moderate

Basswood is softer than yellow poplar, cottonwood, and white pine, also lighter in the oven-dry condition. In the green condition basswood is heavier than either yellow poplar or white pine because of the higher moisture content of the basswood. Cottonwood, however, is much heavier than basswood when green. Air-dry material of these four species does not differ greatly in weight. Basswood shrinks more than the other species given and its strength values are, in general, lower. Basswood is rated low in durability. The estimated average life of untreated basswood lumber, under conditions subjecting it to decay but not to mechanical wear, is placed at from 3 to 5 years. Its length of life in any particular case may, of course, vary from this, depending on conditions. If properly treated with coal tar creosote, or some other standard preservative, its durability may be greatly increased.

In appearance basswood resembles somewhat yellow poplar, cottonwood, buckeye, and tupelo. The yellow poplar, however, can be distinguished by its yellowish-brown heartwood, which has a characteristic greenish tinge. In cotton-

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wood the medullary rays are very fine and barely visible even with a hand lens on a smoothly cut transverse surface, in contrast to those in basswood, which are visible to the unaided eye; the pores of cottonwood are conspicuously larger than those of basswood, as seen under a hand lens, and cottonwood generally has a "wooly" texture on sawed surfaces. In buckeye and tupelo the rays are also finer than in basswood. The brownish-black, longitudinal streaks occasionally found in the heartwood, help to distinguish basswood.

Practically all basswood logs have a discolored central portion and lumber manufacturers generally saw as much wide, clear, white stock as possible from two sides of the log down to the discolored wood. Narrower stock is then sawed from the other two sides. Probably the most common thickness of basswood lumber manufactured are 1, 2½ and 3 inches.

The principal defects found in basswood lumber are black and rotten streaks and rotten knots. Basswood timber has few knots, however, in comparison with most other hardwoods. The dark, brown-colored wood near the center of the log is not valued so highly as the light-colored wood, even though it may be perfectly sound and clear of defects. Discoloration also often takes place in the white wood, which reduces its value. It is a common practice not to separate the white basswood from the brown until it has been air-dried for six summer months.

Basswood is well liked for the manufacture of veneer because it cuts easily. The usual thicknesses of veneer are from one-fourth to one-sixteenth of an inch. Veneer is used as plywood where several plies are glued together; it makes a very high-grade, lightweight panel. It is also used for drawer bottoms and mirror backing, because it is not inclined to warp excessively when used in this way. Thick veneer is used for core stock on which cabinet veneers are glued. Basswood has been a favorite wood for many years for planing mill products, sash, doors, blinds, and general millwork, particularly for inside finish, because it machines to a smooth surface when seasoned, keeps its shape well, and takes finishes extremely well. It is one of the best woods for enamel work because of its uniform, clear, light color, smooth finish, and even texture, which absorbs and holds the paint evenly and well. It also finishes well with other paints and varnish. Much basswood is used for ceiling and in the form of wide boards for finishing and panel work. On account of its adaptability to cutting with tools, basswood serves well for moldings and carved work in interior finish of various kinds. Much basswood is also manufactured into bevel siding, but it is not so well adapted to exterior work because of its liability to decay. Rising costs of the upper clear grades have had much to do with discouraging its use, for the dark colored and streaked material of the lower grades is much less valuable for these purposes. Yellow poplar, birch, and the softer grades of pine are now generally used in place of basswood. Basswood is an important furniture wood, because it glues well and takes and holds screws and nails very satisfactorily. It is well liked for such parts as drawer sides and bottoms, and shelves, because it does not warp to any great extent. Basswood is often used for the inside and hidden parts of expensive furniture. It is not generally used for outside work in furniture, because it lacks the strength of other woods, such as oak and red gum, and does not have an attractive grain or figure for finishing in the natural state. It is especially well suited for producing curved surfaces in furniture, because it can be readily bent into various forms by steaming, holds its shape after it is dry, and glues well. It is in demand, therefore, as a core wood for curved and irregular surfaces which are to be covered with figured veneer. Basswood is valuable also as core stock for large panels, because it can be obtained in large, clear pieces. Experiments on panels show that there is less warping when a low-density core wood, such as basswood, is used than with a high-density core wood. The low-density core wood has the additional advantage of making a lightweight panel. Basswood, also, does not split so readily as many other lightweight woods and holds the veneer well.

The National Hardwood Lumber Association grading rules for basswood lumber apply also to soft elm, soft maple, and buckeye. There are six grades: Firsts, seconds, selects, No. 1 common, No. 2 common, and No. 3 common.

Firsts must be 6 inches and over wide, 8 feet and over long. Pieces 4 to 9 square feet in size, surface measure, must be clear; pieces 10 to 15 square feet may have one standard defect or its equivalent; and pieces 16 square feet and over may have two standard defects or their equivalent. Seconds are also 6 inches and over wide, and pieces can have from one to five standard defects or their equivalent for from 5 to 20 square feet, surface measure, as specified. Firsts and seconds are generally combined as one grade, called "firsts and seconds" and designated as F. & S. In this combined grade there must be at least 20 per cent of firsts. Lengths are 8 to 16 feet, and there must be not more than 20 per cent under 12 feet long and not more than 10 per cent 8 and 9 feet long.

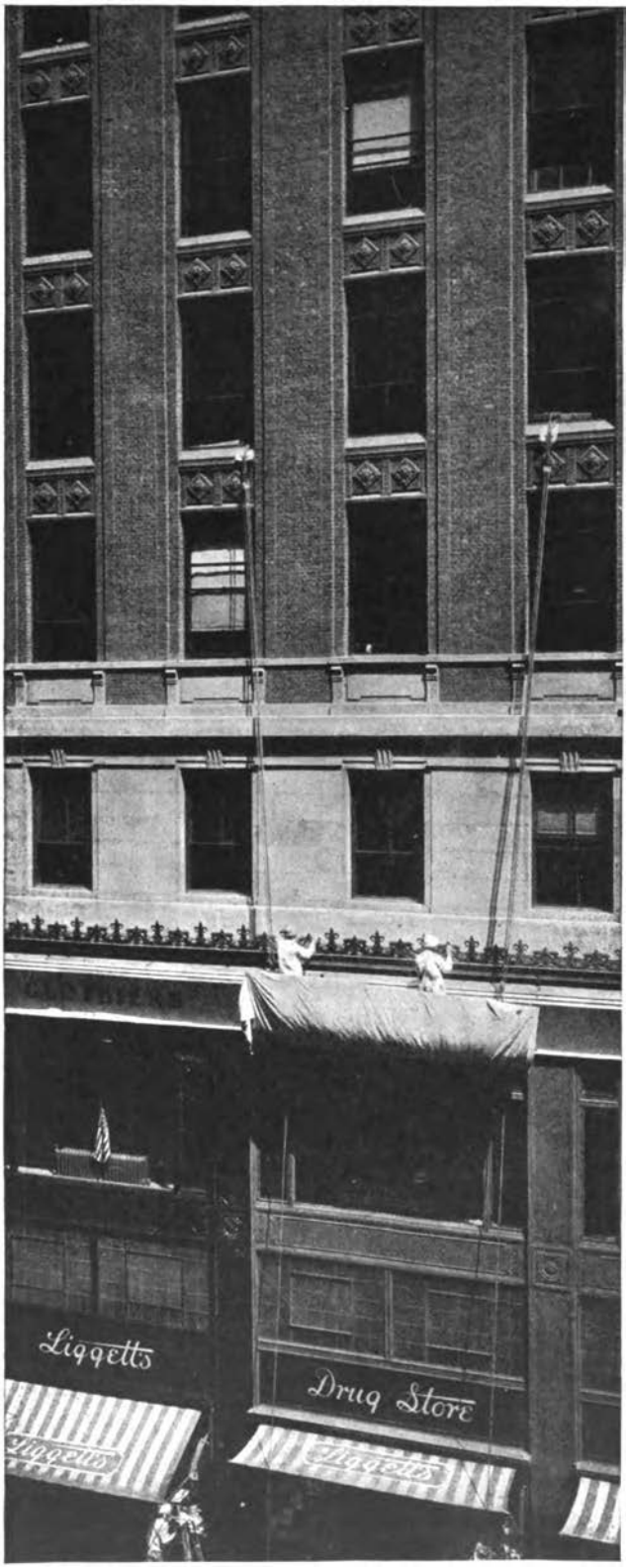
The grade "selects" includes pieces 4 inches and over wide and 6 feet and over long, with not more than 30 per cent under 12 feet long and not over 5 per cent of 6 and 7 foot lengths. In general the best face of pieces in selects must grade not below seconds and the reverse face not below No. 1 common. Admission into this grade also depends on amount of waste caused by defects in each piece.

Nos. 1, 2 and 3 common grades include pieces 3 inches and over wide and 4 feet and over long. No. 1 common must have not to exceed 5 per cent of 3 inch widths, with not over 30 per cent shorter than 10 feet, and not to exceed 10 per cent of 4 and 5 foot lengths. Pieces 4 and 5 feet long, also pieces 3 and 4 inches wide and 6 and 7 feet long, must be clear of defects. Other pieces must work at least 66⅔ per cent clear face in from one to four cuttings of specified minimum sizes, depending on the dimensions of the pieces. No. 2 common must have not more than 10 per cent of 4 and 5 foot lengths. Pieces must work at least 50 per cent sound in not more than three to five cuttings, depending on the size of the piece. Cuttings must be at least 3 inches wide by 2 feet long. Pieces in No. 3 common grade must contain at least 25 per cent of sound cuttings, each of which must have a minimum width of 1½ inches and a minimum surface area of 36 square inches. It is specifically noted in these rules that black spots and black streaks are defects in all grades, and care must be exercised in estimating their damage, for if any piece has an excessive amount its grade will be lowered.

Synopsis.—Properties, supply, annual drain on the supply, the future of basswood timber, utilization by industries, markets, summary, classified uses reported by factories.

The Lighting of Small Stores. (31f14)—(*Lighting Data—Edison Lamp Works—Bulletin L. D.* 139. *Size* 6″ x 9″. *Pages* 20. *Illustrated.*) A lighting unit for the small store must fulfill several requirements: (1) It must have a relatively high output to keep the cost of operation as low as possible; (2) It must not expose the bright filament to view but rather soften or diffuse the light; (3) It must be low in first cost to prevent the investment charge being excessive; (4) It must be neat and simple in appearance. There is little requirement of distinctiveness in this class of service and in general plain, severe lines are in better taste than ornate decorations; (5) It must not concentrate the light in a narrow angle, but emit considerable

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The Spandrels

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flux to the sides to illuminate the wall shelves; (6) It must not tend to accumulate an excessive amount of dirt; (7) It must be easy to clean.

An investigation of the lighting of small stores conducted ten years ago indicated that the Mazda B lamp, clear or bowl frosted, in the deep bowl, open bottom, prismatic or opal glass, direct lighting reflector was, to all intents and purposes, the standard store lighting unit. There were a few flat or shallow reflectors which exposed the lamp to view, and some enclosing globes in use.

The Mazda C lamp appeared on the market and due to its higher efficiency and improved color value, rapidly replaced the Mazda B lamps. It was first installed in such reflectors as were in use, designed for the vacuum lamp. In some instances the reflecting equipment was of such a nature as to be fairly satisfactory; in others, the bright filament was visible or improper distribution of light resulted. As a general proposition it proves desirable to install equipment designed for use with the Mazda C lamp. Another investigation recently completed indicated that now the enclosing unit might well be considered as the standard for small store lighting.

In view of the requirements set forth above, this is a most desirable tendency. A neat, simple, diffusing unit of high output will prove satisfactory in the great majority of installations.

Synopsis.—Choice of a Lighting Unit, Size of Lamp and Spacing of Outlets, Mounting Height, Requirements of Various Classes of Small Stores, Art Goods, Auto Supply, Bakery, Barber Shop, Book, Carpet, Cigar, Clothing, Confectionery, Cut Glass, Dairy Products, Delicatessen, Drug, Dry Goods, Electrical Goods, Florist, Furniture, Grocery, Haberdashery, Hardware, Jewelry, Lunch Room, Meat Market, Millinery, Music, Notions, Paint, Piano, Restaurant, Shoe, Sporting Goods, Stationery, Women's Wear, Present Practice in Small Store Lighting, The Show Window.

Bibliography.—"Observations and Suggestions on Small Store Lighting," C. L. Law and A. L. Powell, *Illuminating Engineer,* Oct., 1912; "The Lighting of Small Stores," C. L. Law and A. L. Powell, Trans., I.E.S., Vol. 7, page 437; "The Lighting of Ordinary Small Stores," A. L. Powell, *Lighting Journal,* May, 1913; "The Selection of a Standard Unit for Commercial Lighting," W. R. Moulton, Trans., I.E.S., Vol. 11, page 669; "Central Station Methods for Securing Higher Standards for Stores," O. R. Hogue, J. J. Kirk and E. D. Tilson, Trans., I.E.S., Vol. 15, page 704.

Lime in Concrete. (3b4)—*(Lime in Construction, by T. B. Shertzer, Bulletin* 306, *National Lime Association. Size 6" x 9". Pages* 80.) Numerous tests have demonstrated that the strength of concrete for all mixes is little affected by the admixture of hydrated lime; the majority of tests show a slight improvement in the compressive strength. Hydrated lime is much finer in texture than any of the other ingredients of concrete so that it acts as a void filler. The paste has a most remarkable covering capacity and tends to envelop the grains or particles with which it comes into contact with a slippery, sticky coating. The stickiness holds the several particles together, thus preventing segregation or unmixing. These properties cause concrete containing an admixture of hydrated lime to work more easily and with less effort and less excess water, and at the same time result in smoother, denser concrete.

It is the recommendation of this Association, that, in all cases where hydrated lime is used in concrete, there be no variation or alteration in the proportions of the other ingredients, the lime being added as an additional ingredient and as an admixture instead of as a replacer of cement.

It is recommended that the maximum amount of hydrated lime shall not exceed the following:

Mix	Lbs. of hydrated lime
1:1-½:3	8
1:2:4	10
1:2-½:5	12
1:3:6	16

Hydrated lime should not be added to concrete which is to be deposited under water.

Synopsis: Uses of lime in concrete, mortar, plaster, stucco; Clauses suggested for inclusion in building codes and specifications; Data derived from tests, Tentative specifications of Committee C-7 on lime of the A. S. T. M.; Resolution passed by Labor Union regarding the use of lime.

Equipment for Graded and High Schools. (35b)—*(Iowa State Department of Public Instruction. Pages* 61. *Size* 6" x 9".)

Synopsis.—Material equipment for grounds, buildings and fixtures, laboratory, manual training and domestic science equipment.

U. S. Govt. Specification for Leaded Zinc Oxide Dry and Paste. (25a22)—*(Circular of the Bureau of Standards. No.* 88. *Federal Specification Board. Standard Specification No.* 8. *Size 7" x* 10." *Pages* 8.) Leaded zinc oxide, frequently known as "Leaded zinc," consists of zinc oxide and varying amounts of lead compounds. It may be ordered in the form of dry pigment or paste ground in linseed oil. Purchases shall be made on the basis of net weight.

The pigment may be high-leaded zinc oxide or low-leaded zinc oxide. The contract shall state which kind is desired. The color and color strength when specified shall be equal to samples mutually agreed upon by buyer and seller.

The pigment shall meet the following requirements:

	Maximum Per cent	Minimum Per cent
Coarse particles retained on Standard No. 200 screen[1]	0.0	....

	High-leaded		Low-leaded	
	Maximum Per cent	Minimum Per cent	Maximum Per cent	Minimum Per cent
Zinc oxide (ZnO)	..	60	..	93
Water soluble salts	1.0	..	1.0	..
Total impurities, including Moisture	1.5	..	1.5	..

The balance to be normal or basic lead sulphate.

The paste shall be made by thoroughly grinding the above pigment with pure raw or refined linseed oil. The paste shall not cake in the container and shall break up readily in oil to form a smooth paint of brushing consistency. The paste shall consist of:

	Maximum Per cent	Minimum Per cent
Pigment	88.0	...
Linseed oil	...	12.0
Moisture and other volatile matter	0.5	...
Coarse particles and "skins" (total residue left on No. 200 screen based on pigment)	0.5	...

This circular also contains specifications for Sampling, Laboratory Examinations, Dry Pigment; Laboratory Examination, Paste; Reagents.

[1] The No. 200 screen is the same as the screen formerly known as 200 mesh.

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The Autobiography of An Idea

By LOUIS H. SULLIVAN

CHAPTER XV. (Concluded)

Retrospect

IN Chicago, the progress of the building art from 1880 onward was phenomenal. The earlier days had been given over to four-inch ashlar fronts, cylinder glass, and galvanized iron cornices, with cast iron columns and lintels below; with interior construction of wood joists, posts and girders; continuous and rule-of-thumb foundations of "dimension stone." Plate glass and mirrors came from Belgium and France; rolled iron beams—rare and precious—came from Belgium; Portland cement from England. The only available American cements were "Rosendale," "Louisville" and "Utica"—called natural or hydraulic cements. Brownstone could be had from Connecticut, marble from Vermont, granite from Maine. Interior equipments such as heating, plumbing, drainage, and elevators or lifts, were to a degree, primitive. Of timber and lumber—soft and hard woods—there was an abundance. This general statement applies mainly to the business district, although there were some solid structures to be seen. And it should be noted that before the great fire, a few attempts had been made to build "fireproof" on the assumption that bare iron would resist fire. As to the residential districts, there were increasing indications of pride and display, for rich men were already being thrust up by the mass. The vast acreage and square mileage, however, consisted of frame dwellings; for, as has been said, Chicago was the greatest lumber market "in the world." Beyond these inflammable districts were the prairies and the villages.

The Middle West at that time was dominantly agricultural: wheat, corn, other grains, hogs; while cattle and sheep roamed the unfenced ranges of the Far Western plains. Lumbering was a great industry with its attendant saw mills and planing mills, and there were immense lumber yards along the south branch of the Chicago River, which on occasion made gallant bonfires. And it so happened that, as Louis heard a banquet orator remark, in the spread eagle fashion of the day, Chicago had become "the center of a vast contiguous territory." Great grain elevators gave accent to the branches of the river. There was huge slaughter at the Stock Yards, as droves of steers, hogs and sheep moved bellowing, squealing, bleating or silently anxious as they crowded the runways to their reward. The agonized look in the eyes of a steer as his nose was pulled silently down tight to the floor ring, in useless protest, the blow on the crown of the skull; an endless procession of oncoming hogs hanging single file by the heel—a pandemonium of terror—one by one reaching the man in the blood-pit; the knife pushed into a soft throat then down, a crimson gush, a turn in the trolley, an object drops into the scalding trough, thence on its way to the coterie of skilled surgeons, who manipulate with amazing celerity. Then comes the next one and the next one and the next, as they have been coming ever since, and will come. Surely the story of the hog is not without human interest. The beginning, a cute bit of activity, tugging in competition with brothers and sisters of the litter, pushing aside the titman, while she who brought these little ones to the light lies stretched full length on her side, twitching a corkscrew tail, flapping the one ear, grunting softly even musically as the little ones push and paw, heaving a sigh now and again, moving and replacing a foot, flies buzzing about thick as the barnyard odors; other hogs of the group moving waywardly in idle curiosity, grunting conversationally, commenting on things as they are; others asleep. The farmer comes at times, leans over the fence and speculates on hog cholera; for these are his precious ones; they are to transmute his corn.

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Mentally he estimates their weights; he regards the sucklings with earnest eyes; he will shave on Sunday next. To him this is routine, not that high comedy of rural tranquillity, in peace and contentment, seen by the poet's eye, as he hangs his harp upon the willow and works the handle of the pump, and converses in city speech with the farmer of fiction and of fact, in the good old days, as the kitchen door opens suddenly and the farm wife throws out slops and disappears as quickly. Such were the home surroundings of the pretty white suckling, such were to form the background of his culture; all one family, crops and farmer, weather fair or untoward, big barn, little house, barnyard and fields, horses, ploughs, harrows, and their kin, cows, chickens, turkeys, ducks, all one family, with the little pig's cousins that romped and played—one perhaps to dream and go to Congress, others to dream and, when the time should come that their country needed them, would answer their country's call, it may be to fill little holes in the ground where poppies grow and bloom. Meanwhile the little white suckling grows to full pig stature, which signifies he has become a hog, with all a hog's background of culture. He, too, answers his country's call, though himself not directly bent on making the world safe for democracy. He is placed by his friends in a palace car with many of his kind, equally idealistic, equally educated. The laden train moves onward. At the sidings our hero is watered to save shrinkage, and through the open spaces between the slats—the train at rest—he gazes at a new sort of human being, men doing this and that; they, too, answering their country's call, at so much per call, and he wonders at a huge black creature passing by grunting most horribly. Again the train moves on, stops, and moves on. In due time what was once the pink and white suckling, meets the man with the knife. But he is not murdered, he is merely slaughtered. Yet his earthly career is not ended; for soon he goes forth again into the world—much subdivided it is true—to seek out the tables of rich and poor alike, there to be welcomed and rejoiced in as benefactor of mankind. Thus may a hog rise to the heights of altruism. It does not pay to assume lowly origins as finalities, for it is shown that good may come out of the sty, as out of the manger. Thus the life story of the hog gains in human interest and glory, as we view his transfiguration into a higher form of life, wherein he is not dead but sleepeth. And yet, upon reflection, what about other pink and whites at the breast today? Are they to grow up within a culture which shall demand of them their immolation? or shall they not?

Inasmuch as all distinguished strangers, upon arrival in the city, at once were taken to the Stock Yards, not to be slaughtered, it is true, but to view with salutary wonder the prodigious goings on, and to be crammed with statistics and oratory concerning how Chicago feeds the world; and inasmuch as the reporter's first query would be: "How do you like Chicago?" Next, invariably: "Have you seen the Stock Yards?" and the third, possibly: "Have you viewed our beautiful system of parks and boulevards?" It may be assumed that in the cultural system prevailing in those days of long ago, the butcher stood at the peak of social eminence, while slightly below him were ranged the overlords of grain, lumber, and merchandising. Of manufacturing, ordinarily so called, there was little, and the units were scattering and small. Then, presto, as it were, came a magic change. The city had become the center of a great radiating system of railways, the lake traffic changed from sail to steam. The population had grown to five hundred thousand by 1880, and reached a million in 1890; and this, from a pitiful 4,000 in 1837, at which time, by charter, the village became a city. Thus Chicago grew and flourished by virtue of pressure from without—the pressure of forest, field and plain, the mines of copper, iron and coal, and the human pressure of those who crowded in upon it from all sides seeking fortune. Thus the year 1880 may be set as the zero hour of an amazing expansion, for by that time the city had recovered from the shock of the panic of 1873. Manufacturing expanded with incredible rapidity, and the building industry took on an organizing definition. With the advance in land values, and a growing sense of financial stability, investors awakened to opportunity, and speculators and promoters were at high feast. The tendency in commercial buildings was toward increasing stability, durability, and height, with ever bettering equipment. The telephone appeared, and electric lighting systems. Iron columns and girders were now encased in fireproofing materials, hydraulic elevators came into established use, superseding those operated by steam or gas. Sanitary appliances kept pace with the rest.

The essential scheme of construction, however, was that of solid masonry enclosing-and-supporting walls. The "Montauk" Block had reached the height of nine stories and was regarded with wonder. Then came the Auditorium Building with its immense mass of ten stories, its tower, weighing thirty million pounds, equivalent to twenty stories—a tower of solid masonry carried on a "floating" foundation: a great raft 67 by 100 feet. Meanwhile Burnham and Root had prepared plans for a 16-story solid masonry office building to be called the "Monadnock." As this was to be a big jump from nine stories, construction was postponed until it should be seen whether or not the Auditorium Tower would go to China of its own free will. The great tower, however, politely declined to go to China, or rudely rack the main building, because it had been trained by its architects concerning the etiquette of the situation, and, like a good and gentle tower, quietly responded to a manipulation of pig iron within its base. Then the "Monadnock" went ahead; an amazing cliff of brickwork, rising sheer and stark, with a subtlety

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of line and surface, a direct singleness of purpose, that gave one the thrill of romance. It was the first and last word of its kind; a great word in its day, but its day vanished almost over night, leaving it to stand as a symbol, as a solitary monument, marking the high tide of masonry construction as applied to commercial structures.

The Bessemer process of making "mild" steel had for some time been in operation in the Pennsylvania mills, but the output had been limited to steel rails; structural shapes were still rolled out of iron. The Bessemer process itself was revolutionary, and the story of its early trials and tribulations, its ultimate success, form a special chapter in the bible of modern industry.

Now in the process of things we have called a flow, and which is frequently spoken of as evolution—a word fast losing its significance—the tall commercial building arose from the pressure of land values, the land values from pressure of population, the pressure of population from external pressure, as has been said. But an office building could not rise above stairway height without a means of vertical transportation. Thus pressure was brought on the brain of the mechanical engineer whose creative imagination and industry brought forth the passenger elevator, which when fairly developed as to safety, speed and control, removed the limit from the number of stories. But it was inherent in the nature of masonry construction, in its turn to fix a new limit of height, as its ever thickening walls ate up ground and floor space of ever increasing value, as the pressure of population rapidly increased. Meanwhile the use of concrete in heavy construction was spreading, and the application of railroad iron to distribute concentrated loads on the foundations, the character of which became thereby radically changed from pyramids to flat affairs, thus liberating basement space; but this added basement space was of comparatively little value owing to deficiency in headroom due to the shallowness of the street sewers. Then joined in the flow an invention of English origin, an automatic pneumatic ejector, which rendered basement depths independent of sewer levels. But to get full value from this appliance, foundations would have to be carried much deeper, in new buildings. With heavy walls and gravity retaining walls, the operation would be hazardous and of doubtful value. It became evident that the very tall masonry office building was in its nature economically unfit as ground values steadily rose. Not only did its thick walls entail loss of space and therefore revenue, but its unavoidably small window openings could not furnish the proper and desirable ratio of glass area to rentable floor area.

Thus arose a crisis, a seeming *impasse*. What was to do? Architects made attempts at solutions by carrying the outer spans of floor loads on cast columns next to the masonry piers, but this method was of small avail, and of limited application as to height. The attempts, moreover, did not rest on any basic principle, therefore the squabblings as to priority are so much piffle. The problem of the tall office building had not been solved, because the solution had not been sought within the problem itself—within its inherent nature. And it may here be remarked after years of observation, that the truth most difficult to grasp, especially by the intellectuals, is this truth: That every problem of whatsoever name or nature, contains and suggests its own solution; and, the solution reached, it is invariably found to be simple in nature, basic, and clearly allied to common sense. This is what Monsieur Clopet really meant when he said to Louis in his Paris student days: "Our demonstrations will be such as to admit of no exception." Monsieur Clopet carried the principle no further than his mathematics, but Louis saw in a flash the immensity and minuteness of its application, and what a world of research lay before him; for with the passing of the flash he saw dimly as through a veil, and it needed long years for the vision to reclarify and find its formula.

As a rule, inventions—which are truly solutions—are not arrived at quickly. They may seem to appear suddenly, but the groundwork has usually been long in preparing. It is of the essence of this philosophy that man's needs are balanced by his powers. That as the needs increase the powers increase—that is one reason why they are herein called powers.

So in this instance, the Chicago activity in erecting high buildings finally attracted the attention of the local sales managers of Eastern rolling mills; and their engineers were set at work. The mills for some time past had been rolling structural shapes, these shapes had long been in use in bridge work. Their own ground work thus was prepared. It was a matter of vision in salesmanship based upon engineering imagination and technique. Thus the idea of a steel frame which should carry *all* the load was tentatively presented to Chicago architects. The passion to *sell* is the impelling power in American life. Manufacturing is subsidiary and adventitious. But selling must be based on a semblance of service—the satisfaction of a need. The need was there, the capacity to satisfy was there, but contact was not there. Then came the flash of imagination which saw the single thing. The trick was turned; and there swiftly came into being something new under the sun. For the true steel-frame structure stands unique in the flowing of man and his works; a brilliant material example of man's capacity to satisfy his needs through the exercise of his natural powers. The tall steel-frame structure may have its aspects of beneficence; but so long as a man may say: "I shall do as I please with my own," it presents opposite aspects of social menace and danger. For such is the complexity, the complication, the intricacy of modern feudal society; such is its neurasthenia, its

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hyperesthesia, its precarious instability, that not a move may be made in any one of its manifold activities, according to its code, without creating risk and danger in its wake; as will be, further on, elaborated.

The architects of Chicago welcomed the steel frame and did something with it. The architects of the East were appalled by it and could make no contribution to it. In fact the tall office buildings fronting the narrow streets and lanes of lower New York were provincialisms, gross departures from the law of common sense. For the tall office building loses its validity when the surroundings are uncongenial to its nature; and when such buildings are crowded together upon narrow streets or lanes they become mutually destructive. The social significance of the tall building is in finality its most important phase. In and by itself, considered *solus* so to speak, the lofty steel frame makes a powerful appeal to the architectural imagination where there is any. Where imagination is absent and its place usurped by timid pedantry the case is hopeless. The appeal and the inspiration lie, of course, in the element of loftiness, in the suggestion of slenderness and aspiration, the soaring quality as of a thing rising from the earth as a unitary utterance, Dionysian in beauty. The failure to perceive this simple truth has resulted in a throng of monstrosities, snobbish and maudlin or brashly insolent and thick lipped in speech; in either case a defamation and denial of man's finest powers.

In Chicago the tall office building would seem to have arisen spontaneously, in response to favoring physical conditions, and the economic pressure as then sanctified, combined with the daring of promoters.

The construction and mechanical equipment soon developed into engineering triumphs. Architects, with a considerable measure of success, undertook to give a commensurate external treatment. The art of design in Chicago had begun to take on a recognizable character of its own. The future looked bright. The flag was in the breeze. Yet a small white cloud no bigger than a man's hand was soon to appear above the horizon. The name of this cloud was eighteen hundred and ninety-three. Following the little white cloud was a dark dim cloud, more like a fog. The name of the second cloud was Baring Brothers.

During this period there was well under way the formation of mergers, combinations and trusts in the industrial world. The only architect in Chicago to catch the significance of this movement was Daniel Burnham, for in its tendency toward bigness, organization, delegation, and intense commercialism, he sensed the reciprocal workings of his own mind.

In the turmoil of this immense movement railroads were scuttled and reorganized, speculation became rampant, credit was leaving terra firma, forests were slaughtered, farmers were steadily pushing westward, and into the Dakotas; immense mineral wealth had been unearthed in Colorado, South Dakota, Northern Wisconsin, Peninsular Michigan, the Mesaba Range in Minnesota. The ambitious trader sought to corner markets. The "corner" had become an ideal, a holy grail. Monopoly was in the air. Wall Street was a seething cauldron. The populace looked on, with open-mouthed amazement and approval, at the mighty men who wrought these wonders; called them Captains of Industry, Kings of this, Barons of that, Merchant Princes, Railroad Magnates, Wizards of Finance, or, as Burnham said one day to Louis: "Think of a man like Morgan, who can take a man like Cassatt in the palm of his hand and set him on the throne of the Pennsylvania!" And thus, in its way, the populace sang hymns to its heroes. The people rejoiced. Each individual rejoiced in envious admiration, and all rejoiced in the thought that these great men, these mighty men, had, with few and negligible exceptions, risen from the ranks of the common people: That this one began as a telegraph operator at a lonely waystation, and this one was boss of a section gang on such and such a railroad; another started in life as a brakeman; that one was clerk in a country store, this one came to our hospitable shores as a penniless immigrant; that one was a farmer boy; and their hymn arose and rang shimmering as a pæan to their mighty ones, and their cry went up to their God, even as a mighty anthem, lifting up its head to proclaim to all the world that this, their Country, was vastly more than the land of the free and the home of the brave; it was the noble land of equal opportunity for all; the true democracy for which mankind has been waiting through the centuries in blood and tears, in hope deferred. This, they cried, as one voice, is the Hospitable Land that welcomes the stranger at its gates. This is the great Democracy where all men are equal and free. All this they sang gladly as they moved up the runways.

Thus the Land was stirring and quivering in impulses, wave upon wave. The stream of immigration was enormous, spreading over vast areas, burrowing in the mines, or clinging to the cities. Chicago had passed St. Louis in population and was proud. Its system of building had become known as the "Chicago Construction." It was pushing its structures higher and higher, until the Masonic Temple by John Root had raised its head far into the air, and the word "skyscraper" came into use. Chicago was booming. It had become a powerful magnet. Its people had one dream in common: That their city should become the world's metropolis. There was great enthusiasm and public spirit. So things stood, in the years 1890, 1891 and 1892. John Root had said to Louis: "You take your art too seriously." Burnham had said to Louis: "It is not good policy to go much above the general level of intelligence." Burnham had also said: "See! Louis, how beautiful the moon is, now, overhead, how tender. Something in her beauty suggests tears to me."

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And Chicago rolled on and roared by day and night except only in its stillest hours toward dawn. There seemed to reside in its dreams before the dawn during these years something not wholly material, something in the underlying thoughts of men that aspired to reach above the general level of intelligence and the raucous hue and cry. At least Louis thought so. Then, as now, was the great Lake with its far horizon, the sweeping curve of its southern shore, its many moods, which every day he viewed from his tower windows. And there was the thought, the seeming presence of the prairies and the far-flung hinterland. In such momentary trance his childhood would return to him with its vivid dream of power, a dream which had now grown to encompass the world; from such reverie he would perchance awaken to some gossip of Adler, standing by, concerning the inside story of some of the city's great men, all of which was grist for Louis' mill, for Adler was quite literal when he told these anecdotes, and Louis listened keenly to them, and learned. The two frequently lunched together. Shop talk was taboo. But they did talk about the coming World's Fair, as authorized by Act of Congress in 1890. It was deemed fitting by all the people that the four hundredth anniversary of the discovery of America by one Christopher Columbus, should be celebrated by a great World Exposition, which should spaciously reveal to the last word the cultural status of the peoples of the Earth; and that the setting for such display should be one of splendor, worthy of its subject.

Chicago was ripe and ready for such an undertaking. It had the required enthusiasm and the will. It won out in a contest between the cities. The prize was now in hand. It was to be the city's crowning glory. A superb site on the lake adjoined the southern section of the city. This site was so to be transformed and embellished by the magic of American prowess, particularly in its architectural aspects, as to set forth the genius of the land in that great creative art. It was to be a dream city, where one might revel in beauty. It was to be called The White City by the Lake.

Now arose above the horizon the small white cloud. It came from eastward. It came borne upon the winds of predestination. Who could fancy that a harmless white cloud might cast a white shadow? Who could forecast the shape of that shadow? It was here that one man's unbalanced mind spread a gauze-like pall of fatality. That one man's unconscious stupor in bigness, and in the droll phantasy of hero-worship, did his best and his worst, according to his lights, which were dim except the one projector by the harsh light of which he saw all things illuminated and grown bombastically big in Chauvinistic outlines. Here was to be the test of American culture, and here it failed. Dreamers may dream; but of what avail the dream if it be but a dream of misinterpretation? If the dream, in such a case, rise not in vision far above the general level of intelligence, and prophesy through the medium of clear thinking, true interpretation—why dream at all? Why not rest content as children of Barnum, easy in the faith that one of "them" is born every minute. Such in effect was the method adopted in practice while the phrase-makers tossed their slogans to and fro.

At the beginning it was tentatively assumed that the firm of Burnham & Root might undertake the work in its entirety. The idea was sound in principle—one hand, one great work—a superb revelation of America's potency—an oration, a portrayal, to arouse that which was hidden, to call it forth into the light. But the work of ten years cannot be done in two. It would require two years to grasp and analyze the problem and effect a synthesis. Less than three years were available for the initiation and completion of the work entire, ready for the installation of exhibits. The idea was in consequence dismissed. As a matter of fact there was not an architect in the land equal to the undertaking. No veteran mind seasoned to the strategy and tactics involved in a wholly successful issue. Otherwise there might have arisen a gorgeous Garden City, reflex of one mind, truly interpreting the aspirations and the heart's desire of the many, every detail carefully considered, every function given its due form, with the sense of humanity at its best, a suffusing atmosphere; and within the Garden City might be built another city to remain and endure as a memorial, within the parkland by the blue waters, oriented toward the rising sun, a token of a covenant of things to be, a symbol of the city's basic significance as offspring of the prairie, the lake and the portage.

But "hustle" was the word. Make it big, make it stunning, knock 'em down! The cry was well meant as things go.

So in the fall of 1890 John Root was officially appointed consulting architect, and Daniel Burnham, Chief of Construction.

Later, with the kindly assistance of Edward T. Jefferey, Chairman of the Committee on Buildings and Grounds, Burnham selected five architects from the East and five from the West, ten in all. Burnham and Jefferey loved each other dearly. The thought of one was the thought of both, as it were—sometimes. Burnham had believed that he might best serve his country by placing all of the work exclusively with Eastern architects; solely, he averred, on account of their surpassing culture. With exquisite delicacy and tact, Jefferey, at a meeting of the Committee, persuaded Daniel, come to Judgment, to add the Western men to the list of his nominations.

A gathering of these architects took place in February, 1891. After an examination of the site, which by this time was dreary enough in its state of raw upheaval, the company retired for active conference.

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John Root was not there. In faith he could not come. He had made his rendezvous the month before. Graceland was now his home. Soon above him would be reared a Celtic cross. Louis missed him sadly. Who now would take up the foils he had dropped on his way, from hands that were once so strong? There was none! The shadow of the white cloud had already fallen.

The meeting came to order. Richard Hunt, acknowledged dean of his profession, in the chair, Louis Sullivan acting as secretary. Burnham arose to make his address of welcome. He was not facile on his feet, but it soon became noticeable that he was progressively and grossly apologizing to the Eastern men for the presence of their benighted brethren of the West.

Dick Hunt interrupted: "Hell, we haven't come out here on a missionary expedition. Let's get to work." Everyone agreed. Burnham came out of his somnambulistic vagary and joined in. He was keen enough to understand that "Uncle Dick" had done him a needed favor. For Burnham learned slowly but surely, within the limits of his understanding.

A layout was submitted to the Board as a basis for discussion. It was rearranged on two axes at right angles. The buildings were disposed accordingly. By an amicable arrangement each architect was given such building as he preferred, after consultation. The meeting then adjourned.

The story of the building of the Fair is foreign to the purpose of this narrative, which is to deal with its more serious aspects, implications and results. Suffice it that Burnham performed in a masterful way, displaying remarkable executive capacity. He became open-minded, just, magnanimous. He did his great share.

The work completed, the gates thrown open 1 May, 1893, the crowds flowed in from every quarter, continued to flow throughout a fair-weather summer and a serenely beautiful October. Then came the end, The gates were closed.

These crowds were astonished. They beheld what was for them an amazing revelation of the architectural art, of which previously they in comparison had known nothing. To them it was a veritable Apocalypse, a message inspired from on high. Upon it their imagination shaped new ideals. They went away, spreading again over the land, returning to their homes, each one of them carrying in the soul the shadow of the white cloud, each of them permeated by the most subtle and slow-acting of poisons; an imperceptible miasm within the white shadow of a higher culture. A vast multitude, exposed, unprepared, they had not had time nor occasion to become immune to forms of sophistication not their own, to a higher and more dexterously insidious plausibility. Thus they departed joyously, carriers of contagion, unaware that what they had beheld and believed to be truth was to prove, in historic fact, an appalling calamity. For what they saw was not at all what they believed they saw, but an imposition of the spurious upon their eyesight, a naked exhibitionism of charlatanry in the higher feudal and domineering culture, conjoined with expert salesmanship of the materials of decay. Adventitiously, to make the stage setting complete, it happened by way of apparent but unreal contrast that the structure representing the United States Government was of an incredible vulgarity, while the building at the peak of the north axis, stationed there as a symbol of "The Great State of Illinois" matched it as a lewd exhibit of drooling imbecility and political debauchery. The distribution at the northern end of the grounds of many state and foreign headquarters relieved the sense of stark immensity. South of them, and placed on the border of a small lake, stood the Palace of the Arts, the most vitriolic of them all—the most impudently thievish. The landscape work, in its genial distribution of lagoons, wooded islands, lawns, shrubbery and plantings, did much to soften an otherwise mechanical display; while far in the southeast corner, floating in a small lagoon or harbor, were replicas of the three caravels of Columbus, and on an adjacent artificial mound a representation of the Convent of La Rabida. Otherwhere there was no evidence of Columbus and his daring deed, his sufferings, and his melancholy end. No keynote, no dramatic setting forth of that deed which, recently, has aroused some discussion as to whether the discovery of America had proven to be a blessing or a curse to the world of mankind.

Following the white cloud, even as a companion in iniquity, came the gray cloud. It overwhelmed the land with a pall of desolation. It dropped its blinding bolt. Its hurricane swept away the pyramided paper structures of speculation. Its downpour washed away fancied gains; its raindrops, loaded with a lethal toxin, fell alike upon the unjust and the just, as in retribution, demanding an atonement in human sacrifice. The thunder ceased to roll, the rain became a mist and cleared, the storm subsided, all was still. Overhead hung the gray cloud of panic from horizon to horizon. Slowly it thinned, in time it became translucent, vanished, revealing the white cloud which, in platoons, unseen, had overrun the blue. Now again shone the sun. "Prosperity" awakened from its torpor, rubbed its eyes and prepared for further follies.

It is said that history repeats itself. This is not so. What is mistaken for repetition is the recurrent feudal rhythm of exaltation and despair. Its progressive wavelike movement in action is implicit in the feudal thought, and inevitable, and so long as the feudal thought holds dominion in the minds of men, just so long and no longer will calamity follow upon the appearance of prosperity. The end is insanity, the crumbling and the passing of the race, for life is ever

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saying to Man: "If you wish to be destroyed I will destroy you." The white cloud is the feudal idea. The gray cloud, the nemesis contained within that idea. The feudal idea is dual, it holds to the concept of good and evil. The democratic idea is single, integral. It holds to the good alone. Its faith lies in the beneficence of its power, in its direct appeal to life. Its vision reveals an inspiring vista of accomplishment. Its common sense recognizes man as by nature sound to the core, and kindly. It as clearly sees, in the feudal scheme, a continuous warfare—as well in so-called times of peace as in sanguinary battle. It views all this as lunacy, for its own word is kindness. It bases its faith upon the heart in preference to the intellect, though knowing well the power of the latter when controlled. It knows that the intellect, alone, runs amuck, and performs unspeakable cruelties; that the heart alone is divine. For it is the heart that welcomes Life and would cherish it, would shield it against the cannibalism of the intellect.

From the height of its Columbian Ecstacy, Chicago drooped and subsided with the rest, in a common sickness, the nausea of overstimulation. This in turn passed, toward the end of the decade, and the old game began again with intensified fury, to come to a sudden halt in 1907. There are those who say this panic was artificial and deliberate, that the battle of the saber-toothed tigers and the mastodons was on.

Meanwhile the virus of the World's Fair, after a period of incubation in the architectural profession and in the population at large, especially the influential, began to show unmistakable signs of the nature of the contagion. There came a violent outbreak of the Classic and the Renaissance in the East, which slowly spread westward, contaminating all that it touched, both at its source and outward. The selling campaign of the bogus antique was remarkably well managed through skillful publicity and propaganda, by those who were first to see its commercial possibilities. The market was ripe, made so through the hebetude of the populace, big business men, and eminent educators alike. By the time the market had been saturated, all sense of reality was gone. In its place had come deep-seated illusions, hallucinations, absence of pupillary reaction to light, absence of knee-reaction—symptoms all of progressive cerebral meningitis: the blanketing of the brain. Thus Architecture died in the land of the free and the home of the brave. In a land declaring its fervid democracy, its inventiveness, its resourcefulness, its unique daring, enterprise and progress. Thus did the virus of a culture, snobbish and alien to the land, perform its work of disintegration; and thus ever works the pallid academic mind, denying the real, exalting the fictitious and the false, incapable of adjusting itself to the flow of living things, to the reality and the pathos of man's follies, to the valiant hope that ever causes him to aspire, and again to aspire; that never lifts a hand in aid because it cannot; that turns its back upon man because that is its tradition; a culture lost in ghostly *mésalliance* with abstractions, when what the world needs is courage, common sense and human sympathy, and a moral standard that is plain, valid and livable.

The damage wrought by the World's Fair will last for half a century from its date, if not longer. It has penetrated deep into the constitution of the American mind, effecting there lesions significant of dementia.

Meanwhile the architectural generation immediately succeeding the Classic and Renaissance merchants, are seeking to secure a special immunity from the inroads of common sense, through a process of vaccination with the lymph of every known European style, period and accident, and to this all-around process, when it breaks out, is to be added the benediction of good taste. Thus we have now the abounding freedom of Eclecticism, the winning smile of taste, but no architecture. For Architecture, be it known, is dead. Let us therefore lightly dance upon its grave, strewing roses as we glide. Indeed let us gather, in procession, in the night, in the rain, and make soulful, fluent, epicene orations to the living dead we neuters eulogize.

Surely the profession has made marvelous improvements in trade methods, over the old-fashioned way. There is now a dazzling display of merchandise, all imported, excepting to be sure our own cherished colonial, which maintains our Anglo-Saxon tradition in its purity. We have Tudor for colleges and residences; Roman for banks; and railway stations and libraries; or Greek if you like—some customers prefer the Ionic to the Doric. We have French, English and Italian Gothic, Classic and Renaissance for churches. In fact we are prepared to satisfy, in any manner of taste. Residences we offer in Italian or Louis Quinze. We make a small charge for alterations and adaptations. Our service we guarantee as exceptional and exclusive. Our importations are direct. We have our own agents abroad. We maintain also a commercial department, in which a selective taste is not so necessary. Its province is to solve engineering problems of all kinds, matters of cost, income, maintenance, taxes, renewals, depreciation, obsolescence; and as well maintenance of contact, sales pressure, sales resistance, flotations, and further matters of the sort. We maintain also an industrial department in which leading critics unite in saying we have made most significant departures in design. These structures however, are apart from our fashionable trade. Our business is founded and maintained on an ideal service, and a part of that service we believe to consist in an elevation of the public taste, a setting forth of the true standards of design, in pure form, a system of education by example, the gradual formation of a background of culture for the masses. In this endeavor we have the generous support of the architectural schools, of the colleges and

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universities, of men of wealth, and of those whose perspicacity has carried them to the pinnacle of eminence in finance, industry, commerce, education and statesmanship. Therefore we feel that we are in thorough accord with the spirit of our times as expressed in its activities, in its broad democratic tolerance, and its ever-youthful enthusiasms. It is this sense of solidity, solidarity and security that makes us bold, inspires us with the high courage to continue in our self-imposed task. We look for our reward solely in the conviction of duty done; our profound belief that we are preparing the way for the coming generation through the power of our example, our counsel and our teachings, to the end that they may express, better than we ourselves have done, the deep, the sincere, the wholesome aspirations of our people and of our land, as yet not fully articulated by the higher culture, in spite of our best efforts toward that end. This task we are quite aware we must eventually leave to the young who are crowding upon us, and we wish them joy in their great adventure when we relinquish our all.

In the better aspects of eclecticism and taste, that is to say, in those aspects which reveal a certain depth of artistic feeling and a physical sense of materials, rather than mere scene-painting or archæology, however clever, there is to be discovered a hope and a forecast. For it is within the range of possibilities, one may even go so far as to say probabilities, that out of the very richness and multiplicity of the architectural phenomena called "styles" there may arise within the architectural mind a perception growing slowly, perhaps suddenly, into clearness, that architecture in its material nature and in its animating essence is a *plastic art*. This truth, so long resisted because of the limited intellectual boundaries and deficient sympathy of academic training, must eventually prevail because founded upon a culture of common sense and human recognition. Its power is as gentle and as irresistible as that of the Springtime—to which it may be likened, or to sunrise following the night and its stars, and herein lies beneath the surface and even on the surface the inspiration of our High Optimism, with its unceasing faith in man as free spirit! as creator, possessed of a physical sense indistinguishable from the spiritual, and of innate plastic powers whose fecundity and beneficence surpass our present scope of imagination. Dogma and rule of the dead are passing. The Great *Modern* Inversion for which the world of mankind has been preparing purblindly through the ages, is now under way in its world-wide awakening. The thought of the multitudes is changing, withdrawing its consent, its acquiescence; the dream of the multitudes is metamorphosing, philosophy is becoming human and immersing itself in the flow of life; science is pushing the spectres back into the invisible whence they came. The world is in travail, smeared with blood, amid the glint of bayonets; the feudal idea has reached the pitch of its insanity, yet by way of compensation the veils are lifting rapidly, all the veils of hypocrisy and sinister intent, all the veils of plausible, insidious speech, of propaganda, of perfidy, of betrayal. It requires courage to remain steadfast in faith in the presence of such pollution. Yet it is precisely such courage that marks man in his power as free spirit. For beneath this corruption the enlightened one perceives the everlasting aspirations of mankind, the ever-yearning heart in its search for kindness, peace and a safe anchorage within its world, and to such, the compassionate one gives out words of encouragement and prophecy, even as the gray clouds hover from horizon to horizon; a prophecy that this cloud shall melt away, and reveal aloft a shining white cloud, in the blue, announcing the new man and the new culture of faith.

It seems fitting, therefore, that this work should close with the same child-dream in which it began. The dream of a beauteous, beneficent power, which came when, winter past, the orchards burst into bloom, and the song of spring was heard in the land.

That dream has never ceased. That faith has never wearied. With the passage of the years, the dream, the faith, ever expanding in power, became all-inclusive; and with the progress of the dream and the faith, there emerged in confirmation a vague outline, growing year after year more luminous and clear. When the golden hour tolled, all mists departed, and there shone forth as in a vision, the reality of MAN, as Free Spirit, as Creator, as Container of illimitable powers, for the joy and the peace of mankind.

It was this unseen nearby presence, messenger of Life in its flowing, that sang its song of spring to the child, and the child heard what no one heard; the child saw what no one saw.

It is questionable how much of social value one who has had access to the treasures of the past, access to the best and the worst in the thought of his day, may leave behind him in his fruitage, as a quantum—an IDEA. It is the belief of this grown child, in such connection, that he has not labored in the vineyard in vain.

(The End)

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Literature and Architecture

By PERCY E. NOBBS

Architectural expression, like literary expression, has a wide field; dancing, sculpture, music, painting are more limited than either, both as to theme and in emotional range. All these arts, however, are richer than either literature or architecture can ever be, in that third element which makes direct assault upon our senses to lead us happy captives in the realms of pure delight.

Now, the subdivision of literature into prose and poetry is misleading. One might, with equal reason, divide building into construction and architecture. The place where prose and poetry meet may be clear enough to the typographer, and the place where construction and architecture meet may be obvious to the stonemason, but to the critic—by which I mean an intelligent representative of the public not unwilling to appreciate—the matter is not so easy. One may be pardoned for taking a leaf from the books of the modern æstheticians and for dealing with these two great modes of expression—architecture and literature—as if art and expression were synonymous terms, even while holding most strongly that they are not, accepting only half the proposition and admitting that all art is expression, while stubbornly insisting that only all rhythmic expression is art. That, however, is not to classify poetry and architecture as against prose and construction. The difference between the expression that is and the expression that is not art is more subtle than that. True, inventories and timetables, and workshops and trainsheds are all by nature either prosy or constructional, while hymns of praise and choragic monuments are by nature at once poetic or architectural. But we must not forget that railway viaducts and histories of Rome, while essentially expressions, may be something more, in virtue of rhythmic disposition of their several elements, and may thereby achieve emotional potency and a claim to a Parnassian environment.

Let us for present purposes think of literature as embracing all arrangements of words, and architecture as embracing all arrangements of bricks, and see how much there is that is common to both activities; and perhaps we shall discover that what is special to each is so fortuitous and accidental that, as the mathematicians would say, "it may be ignored" at least in a philosophical long range view sketched from the slopes of Olympus, where the critics gambol among the brambles and boulders.

In the matter of literature I must confess to a less assured knowledge than I make claim to in the case of architecture and its kindred arts. I do, however, know enough with surety to realize that both these arts have far more in common than they have of difference. It is to the analogies of literature and architecture that I would draw attention. There is set purpose in this, for today literary criticism is perhaps more highly developed and certainly more generally understood than ever before. Strangely enough, architectural criticism, outside the perfunctory but sympathetic columns of our very technical professional press is non-existent. By criticism we should mean just appreciation, with the bias favorable if anything. The common implication that criticism is necessarily destructive rather than constructive, affords evidence in favor of the old doctrine of the total depravity of man.

Now, before the invention of printing by movable types, the builded stone answered for the printed word in the scheme of things. Architecture then held her proud place as the great democratic vernacular art. Today we can tell what manner of men lived in XIIIth Century England or IIIrd Century Italy far more truly and really by looking at their many eloquent buildings than by reading their few stilted books. But nowadays our books reflect the best that is in us more truly than our buildings do.

The other day I came across a sentence by Auguste Rodin, the great French sculptor, aptly translated and set out in graceful script, by way of dedication to a German book on ancient art. It ran: "We moderns are but flimsy shadows of those who went before us, and would die of thirst but for the springs which their spirit and faith have discovered for us." And we remember how Browning speaks of the builders of Notre Dame as building their hearts into the stones of the Cathedral.

Modern literary criticism is, I think, abundantly assured of the fact that men write their hearts into pages, and if criticism does not concern itself intensely with the hearts of writers, and a little as to the manner of the writing of those hearts into the pages, then I do not at all know what criticism is, and must ask forgiveness for presuming to waste a readers time.

But when anything is now written about architecture, whether in a novel—unless it be one by W. J. Locke—or in a poem, or a tale of travel, or a history of building, or a newspaper article, the last thing one will find will be any interpretations in regard to the builders' hearts (and for present purposes architects are builders). What you will find may be a description more or less specific, in the manner of Ezekiel, as to the disposition of accommodation involved in the building in question, or, still more in the manner of Ezekiel, as to the materials employed, with a shrewd hint or two as to the financial aspect of the said

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materials. Then you will find the period label, if it is an old building, and the "stylemonger" label of reference and resemblance to some past mannerism or tradition, if it be a new one.

Modern descriptive writing is full of Nature and her moods, and occasionally architectural objects obtrude; if the writers would only treat their architecture as they do their nature, there would be little to complain of. But the moment the material creations of man are touched on, the writers lose grip and proceed to revel in all the things about architecture which are irrelevant—the limbs, the organs, the flesh, the clothing. But, on the spirit of the building, the soul of its builders, the real fundamental subject matter of the monument, there is silence. The arts are, of course, ultimately untranslatable, and things spiritual can be built that cannot be said or sung, and vice versa. But without asking the writers to attempt the impossible, we might expect them to see that some buildings are instinct with spiritual life, and that some are less so, and others not at all, and to differentiate accordingly. Mountains are allowed to be gloomy, and lakes to smile, and rivulets to sing; even ruins are permitted to frown. Why not let the houses be discreet or smug, the hotels be pompous, hospitable, or vulgar, and the churches chaste or ascetic, and not all be merely physically and materially convenient, plus "style" designation, plus valuation.

But there is more in a building that has architectural qualities than its own particular mood which its designer may, in a happy moment have bestowed upon it. In the mere determination of this mood he reveals something of his personality, but in the elaboration of the idea he can conceal nothing.

Architects themselves, like writers and painters, have hearts—good ones and bad ones, hard ones and soft ones, kind ones and cruel ones, deep bottomed hearts and hearts as shallow as saucers, and whether they like it or not (but often with conscious effort in blood and sweat and tears) they do inevitably build their hearts into their buildings today just as they did before printing was invented, and just as any writer does, and must inevitably do, in his pages. But now that all the world has learnt to read, and forgotten how to see, none but the architects are any the wiser or the better for it all.

Reverting now to the current fallacy of architectural styles as disembodied traditions, independent alike of time and place, it is pertinent to enquire: "How would the literary artists like it if the principal criterion of public appreciation amounted to the citation of arid resemblances with respect to ancient models:—if the first thing to be remarked about the style of a novel was that it was Jacobean or Louis XIII; or about a play that it was XVth Century Italian; or about a song that it was Queen Anne—could literature live under such a blight? I trow not. But architecture is expected to thrive under this handicap, imposed by the superficial information which is the hall mark of our time, and something far more difficult and dangerous than honest ignorance. How can it?

The evil is greatly accentuated by an accident of language. Odd uses of words usually enfold some fundamental truth, but the double meaning of the word "style" is not a case in point. I am not philologist enough to know whether the word has crept into our language from two different sources or not. That would be an explanation. But as things are, this is a fundamental fallacy crystallized by the use of the selfsame word to denote what is individual and what is generic. When applied to a literary effort style connotes all that is differentially characteristic of the author in his power over his technique. When applied to an architectural effort the word nearly always connotes something general, shared, gregariously habitual, imitatively inane, confessedly imbecile, a negation of technical achievement and progress, a denial of evolution.

Yet, architects do achieve style in a precisely similar sense to authors—only, unfortunately, the public is not educated to the perception of it, and accords to achitecture a flabby interest in impersonal traditionalism, whose highest manifestation is associational preference when rival traditions are brought into commercial competition by the rival propagandists of mullions, or lintels, cottage craftsmanship, or the grand manner. Now, all this would soon come to an end if people would write about architecture in precisely the same spirit as they write about poetry.

The musical analogy—"frozen music" as a definition of architecture for instance,—is very slight, but the literary analogy, if not pushed too far, affords some illumination.

Architecture has its words, and even its spellings, its phrases and sequences of arrangement to render them intelligible, its statements of fact, its comment, its rhetoric laden with similes, its historic allusiveness, and above all, whether the architecture be an architecture of prose or an architecture of verse, it has its rhythm or it is as nothing, just as prose and poetry either have rhythm or, wanting it, are altogether inane. And what of the cadences, and echoes, and rhymes and jingles in architecture—the metrical formulæ, the speech in numbers? It is in metrical quality that architecture is pre-eminent among the arts. If the practice of architecture be defined as the "discovery of form" and one school of architecture would stress the "discovery" while another stresses the "form," still all agree that in the search for that form,—a thing itself compact of elements of mass, of scale and of proportion,—abundant

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use is habitually made of certain metrical formulæ. These, in their simplest and most elementary, almost their embryonic form, are the orders of the ancients, Doric, Ionic, and what not, and in their more elaborate developments are often called the "styles" when the "systems" would be a far better word.

Now, if a man writes today in iambic pentameters, no critic in his senses would feel that by calling attention to the fact he had done more than state the obvious. If he is a critic of the head rather than of the heart, and says the metre used is inappropriate or well chosen, that is better. If he leaves the metre alone and can tell how he responds to the verse he has been reading, that is best of all.

So, with architecture—to tell us there is an Ionic order and that the "style" is classic, is to say nothing; to tell us that the scale of the order or the severity of the style is impressive is better; but to tell us of the mood in which contemplation of the building leaves him, is best of all.

McFee, in his very wonderful work of wistful appreciations of men, books and places, "Harbours of Memory," makes these quotations from a long-suppressed preface to "The Nigger of the Narcissus," by Conrad. They constitute, in the first place, an epitome of what a great literary artist thinks about himself, in relation to his work, and in the second place they have the imprimatur of another one—no less eminent—who accepts the words as requiring neither comment nor elucidation.

"The literary art," says Conrad, ". . . must strenuously aspire to the plasticity of sculpture, to the color of painting, and to the magic suggestiveness of music, which is the art of arts. And it is only through complete unswerving devotion to the perfect blending of form and substance; it is only through an unremitting, never-discouraged care for the shape and ring of sentences that an approach can be made to plasticity, to color, and that the light of magic suggestiveness may be brought to play for an evanescent instant over the commonplace surface of words: of the old, old words, worn thin, defaced by ages of careless usage."

"And again, of the writer:

" 'He speaks to our capacity for delight and wonder, to the sense of mystery surrounding our lives; to our sense of pity, and beauty, and pain; to the latent feeling of fellowship with all creation—and to the subtle but invincible conviction of solidarity that knits together the loneliness of innumerable hearts, to be solidarity in dreams, in joy, in sorrow, in aspirations, in illusions, in hope, in fear, which binds men to each other, which binds together all humanity—the dead to the living and the living to the unborn.'

"So he sums it up. Beyond this, in placing the bounds of the author's art, it is impossible to go. One is permitted only to add, for the purpose of supplying a fitting conclusion, the final paragraph. The humble and industrious among us may smile incredulously, yet toil on with a better heart, when they read that our aim should be: '. . . to arrest, for the space of a breath, the hands busy about the work of the earth, and compel men entranced by the sight of distant goals to glance for a moment at the surrounding vision of form and color, of sunshine and shadows; to make them pause for a look, for a sigh, for a smile—such is the aim, difficult and evanescent and reserved only for a very few to achieve. But sometimes, by the deserving and the fortunate even that task is accomplished. And when it is accomplished—behold!—all the truth of life is there: a moment of vision, a sigh, a smile—and the return to an eternal rest.' "

Now, in applying these same sentences, without modification of structure or essential sense with here and there a word altered, but no paraphrasing, one gets as complete a statement as one could wish to find, invent or compass of the position of the architect as to his work. For instance: ARCHITECTURE must strenuously aspire to the plasticity of sculpture, to the color of painting, and to the magic suggestiveness of music, which is the art of arts. And it is only through complete, unswerving devotion to the perfect blending of form and substance; it is only through an unremitting, never-discouraged care for the shape and LOOK of BUILDING FORMS that an approach can be made to plasticity, to color, and that the light of magic suggestiveness may be brought to play for an evanescent instant over the commonplace surface of STONES: of the OLD, OLD STONES, worn thin, defaced by ages of careless usage.

Now, I have changed but four words—for the "literary art" I have written "architecture," for "ring," "look," for "sentences," "building forms," and for "words," "stones"—that is all. And so, with the other quotations.

"Such is the aim, difficult and evanescent, and reserved only for a very few to achieve. But sometimes, by the deserving and the fortunate, even that task is accomplished, and when it is accomplished—behold!—all the truth of life is there; a moment of vision, a sigh, a smile, and the return to an eternal rest."

These words need not even a fortuitous substitution. Apply them to architecture and they stand, and there is little more that can be said.

If people, and particularly writers, would regard buildings as they regard poems, and pictures and plays, and men, women and children, and animals, and flowers, that is to say, as organisms with character, they would obtain and spread much spiritual refreshment in the exercise. If a guide is wanted, one cannot do better than read Mr. Geoffrey Scott's delightful book "The Architecture of Humanism," which sets forth the vital qualities of the buildings of the Baroque period, by a system of thought and analysis just as applicable, I think, to buildings of any and every other period, and therefore (though he would not admit it, being

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obsessed by the Baroque) of quite universal application within the realm of architecture, and probably outside it.

There is at Marlborough College a Chapel designed by Bodley and Garner, who brought to bloom the full flower of the Victorian revived mediævalism, and one of the school masters made it his pleasure and his privilege to show visitors over this part of what Mr. Veblen would call "the Material Equipment" of the institution. One visitor asked this master whether, on entering the chapel the first time, people said "Oh!," and was assured that it was invariably so. "Then," said the visitor, "I know nothing about architecture, but I know that this chapel is all right." That man knew more about architecture than most of us, I think.

Conclusion

Now, no man can arrange ten words for print without revealing something of his nature; so, no man can *design* ten courses of brickwork without a like dissipation of spiritual forces, and if the heart of the writer is what some readers seek, as many assuredly do when they have truck with writers, then I make a plea for the heart of the architect as a no less interesting creation.

Of course, it may be urged that the hearts of writers are intrinsically better worth attention than the hearts of builders; or again, it may be urged that, as the architects in these days speak a variety of languages, apart from the idiosyncrasies of accent, they have lost their traditions in a veritable Tower of Babel of stylemongery. And there is a good deal in the latter argument.

Still, I will state in conclusion, for the benefit of those who infest the precincts we evolve, that all architectural languages are in themselves very easy to understand, though very difficult and subtle to theorize about; so simple that many fail to understand them after trying, chiefly because they allow themselves to be bamboozled with the clap-trap of the style names and the mysteries of non-existent quintessential fantasies with ugly names such as "associationalism."

Industrial Relations

The Chairman of the Committee on Industrial Relations has before him two documents which have been issued during the past month. The first of these is the circular announcing the formation of the New Jersey Building Congress, which is, as may be guessed, the same type of building industry organization that is now functioning in New York City, Boston, Portland, Ore., Seattle and Philadelphia.

The opening words of the document are these: "If he will but think, everyone will realize that he is affected by the building industry in one way or another, even if he is not immediately concerned in its operation. To many, even of those who follow some other business, the building industry and its problems are vital, for, taking it in all its ramifications, it is the second largest industry in the country. All need the shelter it provides. All are affected in its problems."

The second document is the Report of the Public Group of the Building Industry (New York City), and its opening phrases are these:

"No industry so important as the building industry at this time can be considered apart from the interests of the community, and therefore any attempt to deal with the problems arising must give heed not alone to labor and the employer, but to the public as well."

Is it not fair to assume that the problems of the building industry are beginning to be understood in their nature if not in their detail? Both of these documents represent groups of people in two different communities. It is true that the Building Congress is a body compposed of representatives of the labor and employer groups and of the public, while the Public Group of the Building Industry is composed entirely of people representing the public at large. But it is the public, let us agree, that is at last finding its place in the tri-partite whole.

These are auguries from which we may hope for real progress in setting up a clearer understanding of the functional relationship which all of the elements in the building industry bear to each other, and it would be hard to over-emphasize the value of having made it clear to groups of people that the public must bear its share of the burden in bringing about a better condition.

The second point of interest is the fact that an architect is at the head of these central groups. Mr. Harry T. Stephens is President of the New Jersey Building Congress. Mr. R. H. Shreve is Chairman of the Public Group of the Building Industry in New York City. Both are well-known members of the Institute. These things do not happen by chance but because the parties in interest recognize the fact that the architect is a professional man. It thus follows that as his interest is completely divorced from the individual interests of the others, he alone can function judicially. This is a fact which the architects ought to have realized long ago. They were wrong in holding aloof as though they feared to antagonize this, that, or the other group or class. They are right in now coming forward whole-heartedly, as so many of them are doing, as leaders of groups which seek to discover the nature of the problems that beset the building industry. They are the ones who can do the most. It is their opportunity.

Of the New Jersey Building Congress I can but say that we greet it with pleasure and extend to it our hearty assurance of co-operation. The "Congress" idea is now too well known perhaps to require any detailed explanation, but it might be well to recall the fact that it is, from its nature, a body which will concern itself with research and investigation and not with problems of a temporarily contentious nature. Numerous statements of the work done by the various Congresses to which I have alluded have appeared in the JOURNAL, and, as is well known, one of its most promising aspects is the success that already has attended the movement toward

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increasing the number of apprentices in the building trades and securing proper training for them.

It was because the Congress of the Building Industry in New York City could not properly concern itself with the recent difficulties in wage controversies in New York City, and particularly with the withdrawal of the bricklayers from certain building operations, that the Public Group of the Building Industry was formed. The committee consisted of business men, bankers interested in building investments, social workers and technical and professional men. It met with groups of representatives of each trade, employees and employers. The Committee's report is exhaustive and covers the ground in an admirable manner, narrating in detail those phases of the building industry's difficulties which are fairly familiar (but not sufficiently so) to architects. It commends the work of the Congress in New York City, urges its adequate support by the public, and states that: "As a permanent means of improving conditions in the Industry the Congress seems to present for the time the most comprehensive plan."

In conclusion, the report says:

"All who are concerned with the building industry should recognize that conditions this year have not been such as will promote its prosperity. These conditions must be improved by those directly connected with the work, or by a public whose interest is at stake. In the protection of that interest, it may become necessary to adopt measures which may now be thought drastic, but which, under the continued pressure of failure to secure relief otherwise, would be found essential. From the circumstances attending the organization and the work of this Committee, those directly engaged in building work may observe the necessity of bringing about such a measure of stability as will avoid the introduction of what one builder of many years' experience described as 'some body strong enough to tell us what we have to do.' The Committee of the Public Group is of the opinion that such stability has not yet been arrived at, and that without constructive action New York will still have to deal with the difficulties which the building industry encountered this year. The large potential building program for 1924 should not find New York hobbled by a continuance of these conditions." The report is signed by R. H. Shreve, chairman.

Conditions in New York City may differ in degree, and somewhat in detail, from those obtaining in other large metropolitan centers, but the report of the committee from which I have quoted may be taken as fairly representative of the general situation. It might be interesting to add that the Committee began its work with an open mind, without antagonisms, that it saw no reason why working men should not sell their labor at the highest prices the market would bear, just as other people sell commodities; that it listened to cases presented by experts retained by the different trade unions, and that it finally gave its sanction to a wage scale which was approved by the representatives of the various interests concerned. True, the working men overrode their leaders and refused to ratify or be bound by the agreement, knowing that the wage market was one in which they had a chance to ask and get more than the schedule rate fixed. This, of course, involved a new factor in group conferences of this kind, but at present it is easily understood. Price concessions cannot be expected in a market where the supply is far behind the demand, even though the leaders of the workers recognize the fact that too high a wage is good for no one, not even for the worker.

But, the road is opening before us, and so much of accomplishment cannot be cast into shadow by one failure to hold the workers to a schedule fixed by a group of all interests. Incidentally let me invite other cities (and areas where there may be no large cities) to think seriously of the "Congress" idea, an outline of which the Committee is prepared at all times to furnish.

ROBERT D. KOHN, *Chairman,*
Committee on Industrial Relations.

Competitions

The Committee on Competitions received notice of a competition for the First Church of Christ, Scientist, Miami, Florida, Mr. Mellon Greeley, Professional Adviser. The committee was furnished with all the data by the Professional Adviser and with the concurrence of the local Chapter approved the competition.

The program for the new hospital in Mexico was brought to the attention of the committee, but since the Competition Code does not cover competitions outside of the United States it was not thought necessary to take any official action.

Attention was directed to an unauthorized competition going on in the East and the good offices of the committee were extended to the Professional Adviser in the hope that the program might be revised.

WILLIAM L. STEELE, *Chairman.*

Allied Arts

Beginning with the next issue a Department of Allied Arts is to be established in the JOURNAL, for the purpose of setting up a more intimate co-operation between the Committee of that name, the members of the Institute, and the JOURNAL itself. In that department it will be the aim to record, both in text and illustration, such developments in the field of those arts directly allied to architecture, as shall seem significant.

As of interest, the following excerpt from an article on Stained Glass by Mr. Joseph G. Reynolds, Jr., in the *Christian Science Monitor* of 2 July, is thought to be worth reprinting in this issue:

"While it is true that stained glass can be infinitely beautiful, it is equally true that it can be indescribably ugly. Scattered throughout the eastern and southern parts of the United States are many examples of so-called colonial or Georgian churches. Every visitor to New England is familiar with the typical village church, which, painted white and with its characteristic steeple and belfry, is situated on a hill, a landmark for miles around. These buildings, erected by the early settlers of this country, are simple and austere in design, reflecting the religious characteristics of the times in which they were built. The window openings are usually large and round topped and were originally divided into small oblong panels by wood muntins. Wooden shutters were provided to subdue the glare of the sun.

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"When opalescent glass came into vogue, it became a common practice to remove the original clear glass and substitute gaudy opal windows. The result is that today few of these churches can be found which have not been transformed. To anyone with æsthetic taste the effect is startling in the extreme. Tawdry copies of easel pictures, such as Holman Hunt's 'Light of the World,' Millet's 'The Sower' and Plockhörst's 'Christ Blessing Little Children,' may be found repeated again and again. In order to give realistic effects of light and shade, several pieces of glass are often placed one over the other until such an amount of light is excluded that the interior of the building is dark and gloomy (an effect not to be confused with the beautiful mysterious twilight of Chartres, described above)."

J. MONROE HEWLETT, *Chairman.*

Learning a Trade

He was by all odds the brightest of the few who came in response to a call for an office boy; and he took hold with an interest and an amount of energy which, in contrast with those who had passed before him, placed him in a category all by himself. Not much more than a suggestion was needed; a somewhat involved system of filing letters and of recording drawings was as an open book. He relieved at the switchboard, and while at that, picked up, with a little assistance, the touch system of typewriting.

But the day soon came when these sundry tasks of the office, which had been so interesting, turned into routine; he was ready to go on. So another office boy was secured. But the assumption of some added responsibility and the making of drawings which came next in line was quite another matter. Responsibilities of that sort were not for him; and drawing was a bore.

However, if there was something to "make" which required the use of a hammer and a saw,—that was worth while. And so, out of a growing restlessness with the things he was doing, his interest in the use of hammer and saw, and the distractions of the news items, there emerged what seemed to be a very definite aim: he was not for the office; he wanted to become a craftsman.

To learn a handicraft trade—that seemed in these days when the shortage of handicraft workmen takes its place among the first page news items of international importance and local scandal,—to learn a handicraft trade seemed an altogether worthy aim. And having failed to keep the spark of interest in the affairs of the office alive in him, the least we could do was to open up some sort of opportunity along the line of work which most appealed to him.

So we discussed the building trades: There were the bricklayers, the carpenters, the plasterers and others working for pay which equalled that of the men in the office. But for some reason or other, work in these trades did not appeal. Nor could we draw forth the reason beyond what was implied in his attitude toward working upon a building such as was under construction across the street. Clearly he had in mind a different sort of activity. For after all, in the building across the street there was little to stimulate the spirit of workmanship; certainly the invitation was not compelling. It afforded a job—an impersonal arrangement not likely to be of long duration. For the time being, we were baffled.

One day I was inspecting some pieces of furniture in one of the few remaining establishments where an atmosphere of handicraft stands over out of the past. As I passed through the workrooms I noted the number of vacant benches and an absence of young men. And so I asked some questions. Yes, there was also a shortage of handicraft workmen in that line. There were none coming from Europe; no young men would enter the trade. There was not a single apprentice in the entire establishment.

Here, it seemed to me, was an opportunity. I told the head of the firm about Dan. Would he talk to Dan? Would he give him a chance in his establishment? Indeed he would. So it was shortly arranged that Dan might call the following Monday. Dan was pleased with the prospect; he could learn a trade, it seemed, of the sort he really preferred.

But a week later Dan again appeared at the office. He had been initiated as an apprentice. He had begun with sandpapering and had done some odd jobs. But he had also taken stock of the situation: he had quit. For, while the work had appealed to him in a general way, to spend a week at sandpapering and at such work was not as interesting as filing. There were no young men in the establishment, and he had to work all day with some old Italians and Germans. Besides, what was there in store? If he were to develop so as to stand somewhat above the average, there was one dollar per hour in prospect for years and years.

That, however, was not the whole story. Brother was still working in an office drawing more pay than Dan would secure in many a day. No longer was he in the same social class as had been the case when he was with us in the office. He had over night undergone a decided shift of status; by the change he had become a workman—enrolled in the ranks of "labor." At home and with his friends he was a common man in a blue shirt with the evidences of manual labor on his hands.

Of course, the account of what had occurred came to light in fragments—not quite as simple as here stated. But there was no mistaking what had made for the change in his point of view. It was not a lack of energy; he was industrious. And he was a potential handicraft workman, of that I am certain, for I had noted his interest in fashioning things with tools. But Dan was seemingly too late—too late by some two centuries. For achievement in handicraft, the making of skill and dexterity the end of endeavor, the neglect of the aims of business management as an end in itself—these now amount to varying degrees of failure according to the current standards by which achievement is judged.

Dan came to the office again with hair brushed and white collar and he was looking through the want columns for a job in his old line. It was not at all clear as to what he would do next. But there were signs. A week spent in association with the most skillful of the remaining handicraftsmen had served to set before him a vivid picture of the most that he might achieve in that line if he stuck to it. And the most was not sufficient to sustain his interest for a single week. Dan will probably go into business.

R. W. T.

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From Foreign Lands

By IRVING K. POND

Under a Spread of Canvas

Though my motive power heretofore may have appeared to some to be a gas engine, I am starting off on this, the eighth voyage of my "paper boat," in quest of foreign cargoes, under a wide and billowy spread of canvas, and this quite literally. Down below me, in Grant Park, the "Greatest Show on Earth" is conducting its activities under acres upon acres of canvas which bellies in the breezes and, flickering in the sunshine and in the shadows of passing clouds, seems instinct with life and movement. The thing is so mysterious, so phantasmal and unreal, springing into being as it does seemingly in an instant; and then, after a few days, vanishing as suddenly to become less and less vivid as an image in the mind. So different it is in aspect from the neighboring skyscrapers—which cast their long heavy shadows athwart the canvas hills and valleys in the sloping sun of the late afternoon—skyscrapers wanting the charm of mystery and standing painfully permanent in their bald and fixed materialization. These two examples of man's venture into the field of æsthetic endeavor (if the skyscraper element can be so classed), standing for the moment in such close contiguity, challenge my mind to a study and a comparison—induce in me a reflective mood made all the more potent by the reading of the paper by William G. Newton, M.A. Oxon M.C., in the 2 June issue of the *Journal of the R. I. B. A.*, London. Of this paper more anon; but now back to the "Big Top" and the skyscraper.

Not all skyscrapers have in and about them the essence of art. No especial emotion to be expressed or recreated entered into the beginnings or the conclusion of most of them. Yet, stolid and uninspiring as they are, they possess one attribute absolutely necessary to any object which is to be characterized as architectural,—to any work of man's hand which can truly be called architecture,—and this the power to convey the sense of structural, at least of internal, resistance to the force of gravity.

This sense the "Big Top," serenely immobile in the calm of the listless air or tugging at its staylines in the helter-skelter breeze, fails to convey. It were better to say that this sense of structural resistance the "Big Top" does not convey; for where no intention to achieve exists there is no failure in non-achievement. Now, there is more of charm and grace and mystery in the assemblage of tents themselves than in the row of neighboring skyscrapers; and there is more of real artistic endeavor and achievement going on under the "tops" than in the neighboring buildings. There, under the cloud of canvas, the life of art is *lived,* not merely simulated or set down by formula in the hopes that somebody will "fall for it," and be fooled by certain artistic pretensions. And leaving out of count the wonderful acts requiring for their perfect presentation, mental balance, physical strength and endurance, and moral courage, together with the æsthetic elements of mystery, grace, charm, rhythm, synchronized movement, and coordination, the "Tournament," as it is technically known in circus parlance (the "processional" as the ecclesiastic might denominate it; the "pageant" as costumers and "producers" would dub it) holds more of æsthetic and emotional content than all the academic processions of the commencement month combined with a year's clerical "processionals." All that these together would have of advantage would be length, tedious length; the advantage of form, of color, of rhythm, of movement, of variety, of the participation of well and thoroughly trained man and beast, of charm, and mystery lies altogether with the "tournament."

But enough for the present of the life within; let us back to the externals. The "Big Top" is tugging, or is likely at any moment to tug, at its moorings; that is one of its charms; therein one feels its unity with the life it shelters—that shifting of forces, to produce results, that restraint of movement. But that is not architectural resistance, intriguing though it may be. In all the realm of architectural construction there is but one area in which the tensile strain is operative; and that is at the bottom of a beam. In only one ordered system of architecture, the Greek, has the presence of that force been given æsthetic recognition. Elsewhere than in this particular area only the stresses and strains of compression are operative; and only in certain systems are they specifically presented in æsthetic terms. But everywhere they exist. And the architect is not a true architect who does not realize this existence and in some manner recognize its presence as fundamental to or underlying his design. There are self-styled architects—quite a school of them—who would be quite content to paint the "Big Top" over with architectural features or symbols, and call it architecture. These are those who have grown up on, and let their lives center about, the draughting board; and this whether they are school-bred or self-trained. Of these I can only feel that their work is not architecture, no more than is the work of him who constructs and paints a stage setting to be called architecture.

The cables of a suspension bridge, always in tension as they are, cannot be made to appear or to feel architectural. Theirs is an engineering not an architectural function and expression. Even the piers of a suspension bridge can with difficulty be made to appear as architecture, and a true harmony has never or rarely been created between abutment, piers and cables. Back of all architecture there is solid permanent structure which always is to be recognized in the design and which by many, known as purists, it is held must be more than recognized, must be externally presented and beautified for itself. For my part I feel that it never should be belied, even though it may not lend itself in its purity or entirety to a consistent and much to be desired architectural scheme. And this leads me to a consideration of

Theories, Classical and Romantic

This is the title of Mr. Newton's paper already referred to. Mr. Newton's first idea was to entitle his paper "The Literature of Architecture." "But," says

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he, "when I came to consider the matter more closely, and to reflect that there are 20,000 books in the library of this Institute, and that if they were placed end to end they would reach from here to the Bethlehem Hospital (but not back again), this began to seem too vast, and I may add, too dangerous a quest." I imagine the architectural books of this country, judging from the numbers the agents bring for my inspection, would reach if placed end to end, from my office in Chicago to some office in New York City, and if they *should* reach there I should sincerely hope that they would stay, or push on to Boston, and never return. With the present proposals for a return to simple forms in architecture in mind, I agree with Mr. Newton that architectural books should be written in monosyllabic words. The older writers "seem often to lose themselves in a very wilderness of polysyllabic nonsense, of which perhaps Inwood's work on the Erechtheum is as good an example as any." (Aside to the agent—no, thank you, I do not wish to see it.)

A portion of Mr. Newton's paper is devoted to a critical study of Mr. Geoffrey Scott's *Architecture of Humanism* which I have seen sympathetically reviewed. Mr. Newton accompanies the quotations with running comment of his own and shows himself to be of a thoughtful and philosophical turn with a well balanced mind—so much so indeed, that I can well understand why Mr. A. M. Hind, M.A. (Slade Professor of Fine Arts, Oxford), was impelled, in proposing the customary vote of thanks, to say concerning a contemplated course of Architectural Study at Oxford, that "I do not think it is committing any indiscretion to say it—that if the General Board grant the money it is to Mr. Newton we shall look to inaugurate that study. This is the first time I have heard Mr. Newton, and I am certain we could not have a saner guide for men who are studying the Humanities, whether or not they are intending to take up architecture seriously later on." I may say for the benefit of those who produced the A. I. A. book on the *Significance of the Fine Arts,* for use in schools and colleges, that this proposed course at Oxford is not a professional course but one in general culture. Professor Hind says in his discussion: "There are very few people in Oxford who desire a professional School of Architecture, and I also would deprecate it. If a man goes to Oxford or Cambridge, his best opportunity lies in the best education he can get there, and happy are the architects who had the chance before they took up their professional work." That utterance was just incidental in Professor Hind's remarks, but it carries a weight of wisdom.

The Five Architectural Fallacies

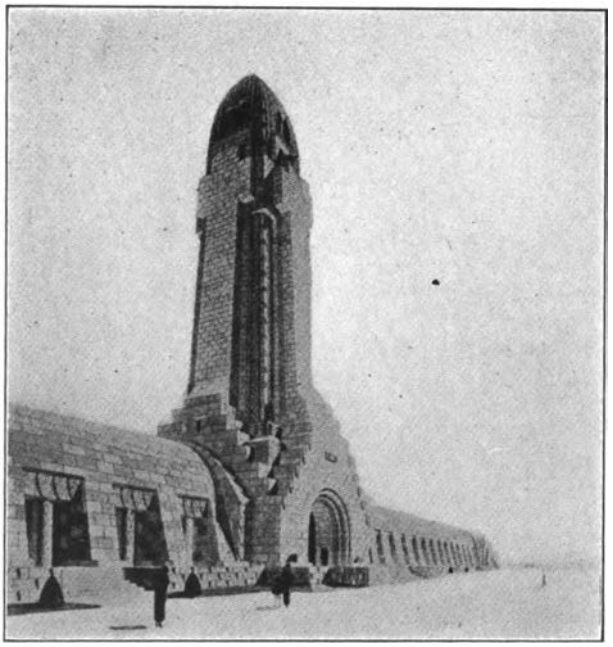
But back to Mr. Newton, who discusses the five great fallacies set forth in Mr. Scott's book. They are: (1) The Romantic Fallacy; (2) the Mechanical Fallacy; (3) the Ethical Fallacy; (4) the Biological Fallacy; (5) the Academic Fallacy. The discussion of the Romantic Fallacy is so closely woven that it will be impossible for me in the limited space at my disposal to extract any threads and weave them for the benefit of my readers into an acceptable pattern; and so I shall proceed to extract a line or two from the discussion of the Mechanical Fallacy which, as Mr. Newton indicates, has a greater hold on us now than has the Romantic. According to the Mechanical Fallacy (I am quoting Mr. Newton), "Architecture is construction. This is its special quality. It is by reference to these structural laws that architectural standards must be fixed. That architecture will be best where the construction is best and most truthfully displayed. In the forefront here we find Professor Lethaby." And Mr. Lethaby is quoted as saying: "Only by being intensely real can we get back wonder into building once more. There is no beauty other than the sum of certain obviously desirable qualities, such as durability, masterly construction, and a score of other factors needful to a fine school of building. It is absurd that I should have been allowed to study cathedrals from Kirkwall to Rome; it would be far better to have an equivalent knowledge of steel and concrete construction." Then, after a word of comment upon the above Mr. Newton wisely remarks: "And perhaps if Mr. Lethaby *had* studied steel and concrete instead of those cathedrals, he would have learnt how to do things, but not what to do. The 'intensely real' ship or machine holds him, and me, in awe; because it is unfamiliar, but the chauffeur and the second mate make nothing of it." Mr. Newton concludes that, at least, there is a case against the mechanical creed, and he examines into the view more in detail, quoting Mr. Scott: "Superficial thinkers have founded their case for a definition of architecture as construction 'truthfully expressed' on the work of the middle ages. Do they mean that the æsthetic impression of 'truthfully expressed construction' should bring home to us the primary constructive facts? But our impression of a spire is as 'soaring' and a vault as 'springing,' and this impression delights us. On the contrary a consciousness of the weight and struggle would probably oppress us." (Note, my readers, how this matter of empathy will to the fore—among those who "feel.") Mr. Scott, after discussing "structural facts" and "structural emphasis," goes on: "As to structural emphasis, the art of architecture studies not structure itself, but the effect of structure on the human spirit. Empirically, by instinct and example, it learns where to discard, where to conceal, where to emphasize, and where to imitate the facts of construction." After a study of Mr. Scott's full presentation (of the mechanical fallacy) Mr. Newton concludes: "I am inclined to think, nevertheless, that structural soundness is of more importance than here indicated: that it has a function and an æsthetic function, other than that of preserving to our notice the specimen we are examining: that it lies in some sense at the heart of things, and is an axiom which must be granted before we can begin to allow our senses to react to the stimulus of the building forms." And with this I am in agreement.

I skip for the present all reference to the Ethical and Biological, and select only this from under the heading of the Academic, the last of the Fallacies: Under this heading "may be grouped the views which reduce architectural beauty to order and to proportion."

"Order makes intelligible, and assists our thought. But the act of clearly and quickly perceiving ugliness does not become more pleasant because it is quick."

"The supporters of the theory of mathematical propor-

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MONUMENT DE DOUAMONT—L. AZÉMA *L'Architecture*

tion are misled by a false analogy between proportion as a form of beauty and proportion as a mode of mathematics. Our æsthetic taste is partly physical, and while mathematical proportion belongs to the abstract intellect, æsthetic proportion is a preference in bodily sensation."

Mr. Newton sums up the Fallacies thus: "We have found, if you have agreed so far, that architecture neither speaks nor can be judged by the language of romanticism; and yet that overtones of association cannot be excluded."

"We have seen that its structural facts are not the all-in-all of its appeal, and yet to ignore the opportunity for emphasis which those facts afford is to deprive ourselves of a very potent weapon."

"We have seen that while architecture cannot be judged by moral standards, because that involves a confusion of thought, yet it must not be emptied of moral content, or walled away from the whole life of man."

"We have seen that while it may be only misleading to classify, it is impossible to appraise, architecture by evolutionary standards."

"And we have seen, lastly, that though we cannot put architecture to the inquisition of an unyielding creed, nevertheless a creed may be valuable as an inspiration."

And, now, having given so much space to the critical portion of Mr. Newton's paper, I can hardly touch upon the constructive portion if that distinction can be drawn between the parts. I want to refer once more to the empathetical bearings of the paper by quoting once more. Mr. Newton says:

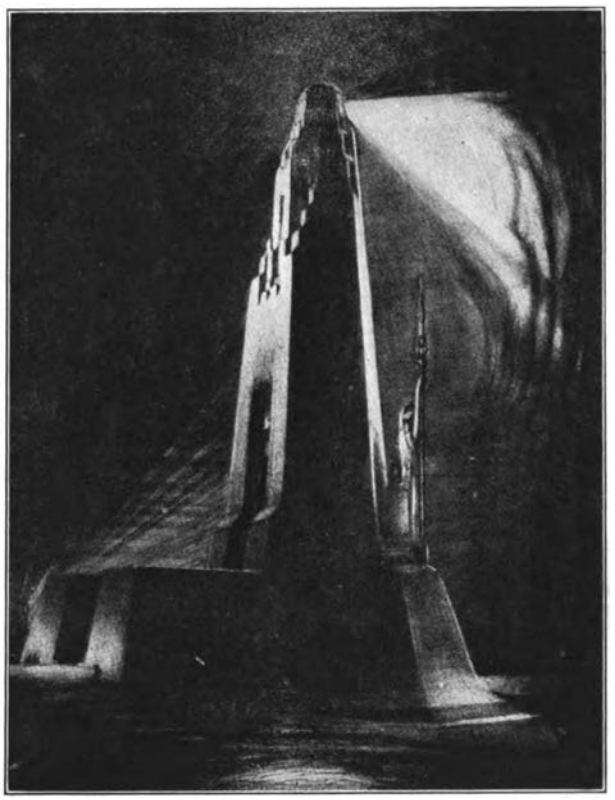
"For Mr. Geoffrey Scott the key to beauty lies in humanism, as follows:

"The spaces, masses, lines of architecture, as perceived are appearances. These appearances are related to human functions. These masses are capable, like ourselves, of pressure and resistance; these lines might be our path and our gesture. Thus the appearance of instability awakens in us a physical memory, the condition of spirit which accompanied some actual experience of our own of thwarted effort, or incipient collapse: Or, on the other hand, we sympathize and identify ourselves with appearances which do not correspond to the structural facts, we soar with the spire, and are brooded over by swelling domes. The whole of architecture is unconsciously invested by us with human movements and human moods."

And just one more quotation and this from Mr. Newton who is discussing the language, to put it rather baldly, of architectural form:

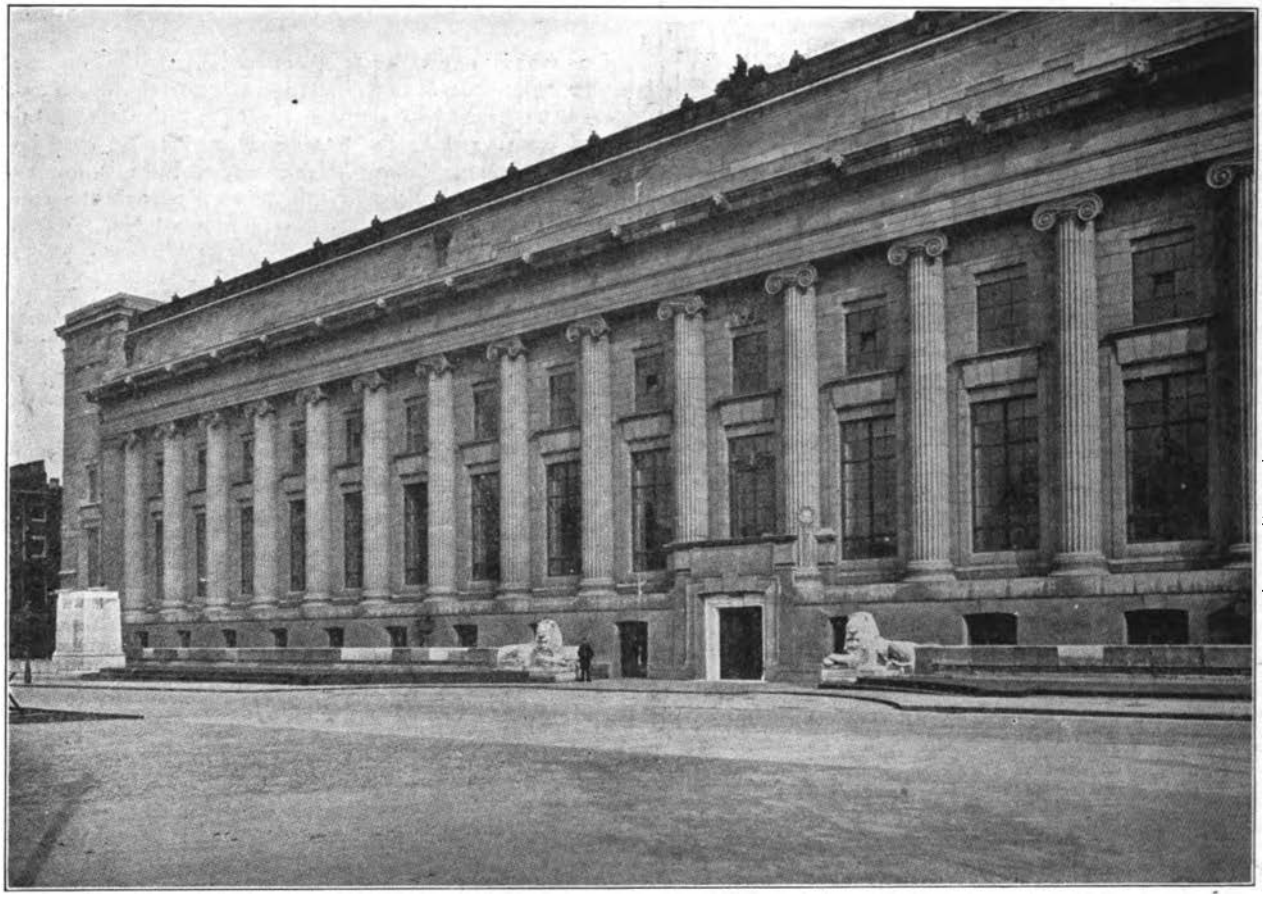
"But though the language is elastic and varying, we mustn't lose sight of this great source of emphasis. To crown the hill with a spire is to speak in one idiom, to invoke a certain complex of emotions in our fellow-countrymen: to crown it with a dome is to speak in another idiom, and arouse a different complex. Thus style is not indifferent. The various forms are an instrument to our hand for the associations, however illogical, they evoke, for the ideas, however fallacious, they currently stand for."

And, now, to make a seemingly, yet not altogether, irrelevant remark of my own; I would caution those who would use a language unfamiliar to them, or familiar not so much by recognized content as by sound,—or in this case, sight,—not to expect too potent a result from their oratorical efforts. To make the direct and inescapable appeal to age-long association use the language or the



MONUMENT DE LA RECONNAISSANCE FRANCAISE ENVERS L'AMERIQUE—A. VENTRE *L'Architecture*

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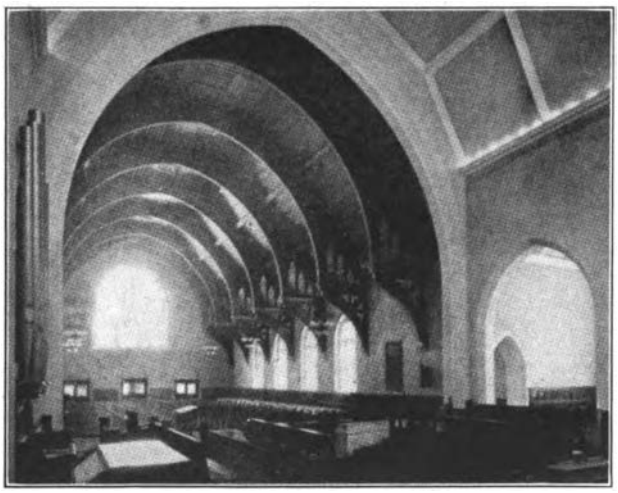


BRITISH MUSEUM EXTENSION—SIR JOHN BURNET, A.R.A. *The Architects Journal*

phrases of the ages; and by ages I mean ages and not measurable periods of time. Dot the plain with the dominant pyramidal motive—crown the hill with the dominant cubical motive, and introduce the spire or the dome in either case as a secondary motive to build up and emphasize the idea presented by the primary.

As to Illustrations

And now I have taken up all my reading space and left no room in which to dilate, pro or con, upon the illustrations which accompany the text. I shall leave it to the reader to judge why this exhibit or that finds place in these pages. I shall not offer a prize to the one whose

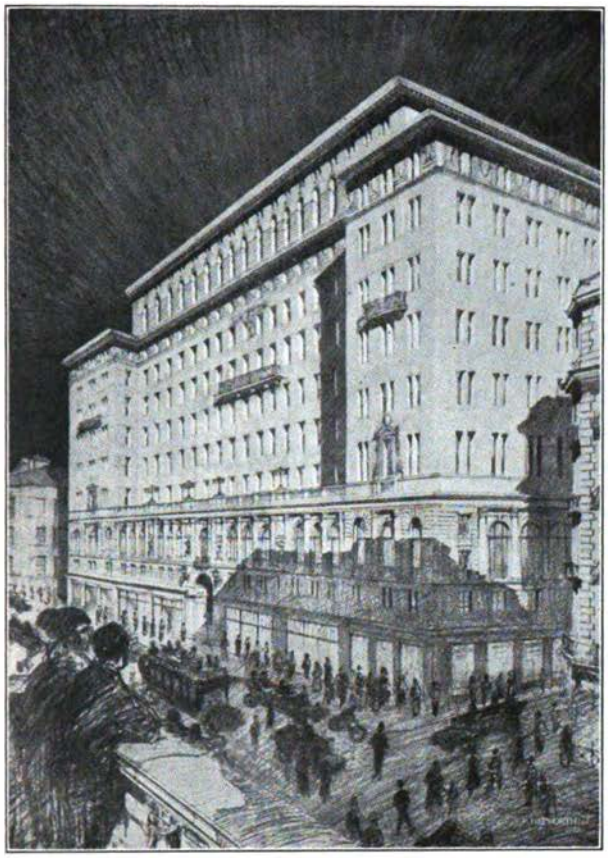


CHRIST CHURCH, TORONTO

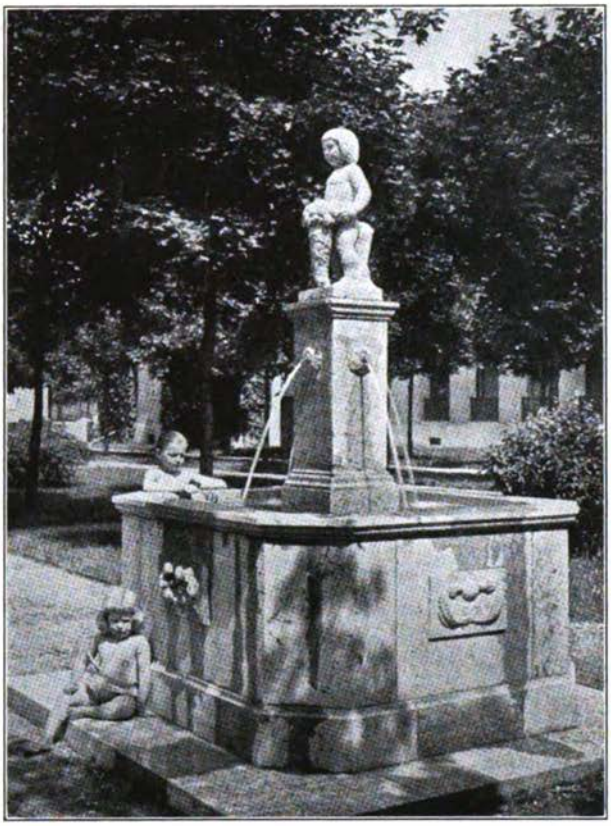


CHRIST CHURCH, TORONTO—GEORGE MOORHOUSE AND KING *Construction*

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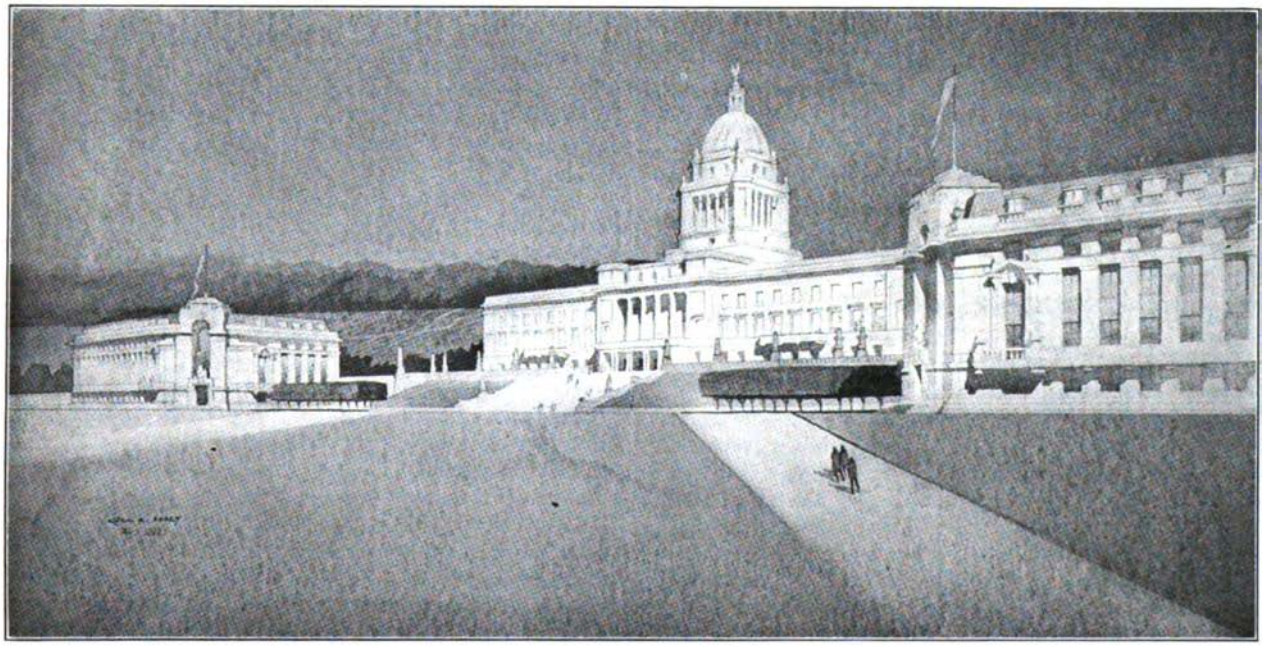


NEW BUILDING IN PICCADILLY—H. AUSTEN HALL, F.R.I.B.A.
Charcoal Drawing by P. Hepworth *Architects Journal*



FOUNTAIN *Monatshefte für Baukunst*

idea of the specific values most closely approximates my own. I shall leave it to the reader to determine for himself the rank which his critical acumen would bestow upon the subjects of the various illustrations.



NEW PARLIAMENT BUILDINGS, NORTHERN IRELAND—RALPH KNOTT, F.R.I.B.A. *The British Builder*

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ST. BARTHOLOMEW'S HOSPITAL—HENRY VIII GATEWAY

The Oldest Hospital

All the world knows "Bart's," the famous London hospital founded in 1123 by Rahere the monk, who, in planning for his church, monastery and hospital, wished as did the Friars of the early cathedrals, to have his building done beautifully. It was St. Bartholomew who, in a vision, instructed Rahere to build the church and hospital in Smithfield, and there the hospital now stands. Its eight hundred years of unbroken service were commemorated in June, and Mr. Edward A. Stevens, of Boston, was the delegate of the Institute to the commemoration ceremonies.

"On Tuesday, 5 June," says Mr. Stevens in his report, "the delegates and officials, after donning academic costume, marched in procession to the old Priory Church of St. Bartholomew-the-Great, where a service was conducted by the Right Reverend, the Lord Bishop of Chester. Many bishops and notable personages were present, and the gloom of an overcast sky was much dispelled by the scarlet, crimson, mauve, yellow, and blue gowns of the participants. The south side of the square was filled with nurses, with their white head-dresses, blue gowns and black cloaks, while the bear-skins and red coats of the Welsh Guards completed the setting.

"At twelve o'clock, following the announcing fanfare of trumpets and drums, there was heard the chanting of a Latin hymn and from the far corner of the quadrangle appeared a little body of men whose like is not often seen in public in England and had not been seen in St. Bartholomew's hospital since the dissolution of the monasteries nearly four centuries ago. They were Augustinian Canons, Regular, from the few houses now established in England, preceded by cross bearer and censer bearer. Down the sides of the square came singing men, all baring our heads as they passed. They were the ecclesiastical descendants of Rahere and his brothers of the Priory and hospital who came to praise God, on the ancient spot, for Rahere. They were thirteen in number, including two abbots, and the silence during their song was solemnly beautiful. Its tension was broken by another fanfare announcing the herald who, attended by a yeoman of the guard, and in a voice that might have been heard through the entire precincts, read the proclamation by which the Prince of Wales, the president of the hospital, the Lord Mayor and Aldermen of London, and the hospital authorities, commanded that the celebration should begin.

"Then was depicted the coming of Rahere to the poor of London. The proud figure of Richard, Bishop of London, appears, to whom Rahere appeals, drawing with chalk upon the ground the outlines of the hospital he would build. His appeals are granted, and there then followed other episodes related to the long life of St. Bartholomew's, after which came luncheon where the delegates were addressed by the Lord Mayor and the Prince of Wales.

"In the afternoon, in the old Guildhall, the addresses of the delegates were received by His Royal Highness. The picture was gay and impressive. The medical and nursing staffs of the hospital were present in the galleries as the delegates, many in their brilliant gowns and hats, advanced to present their addresses to the Prince, by whom they were most cordially received and to whom there was handed a bronze medal commemorative of the ceremony, one of which is now in the possession of the Institute's delegate who presented his address at this time. Congratulations were offered, and the Prince of Wales replied to them in most fitting words.

"While all the officers, the medical fraternity, and those connected with the hospital were most cordial, I cannot fail to mention the name of Mr. W. Girling Ball, the Honorary Secretary of the reception sub-committee, who saw that the delegates and their friends were receiving the utmost attention."

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Eight Old Long Island Houses

Photographed by G. H. VAN ANDA

NEAR JAMAICA

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FLATBUSH

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NEAR GREAT NECK

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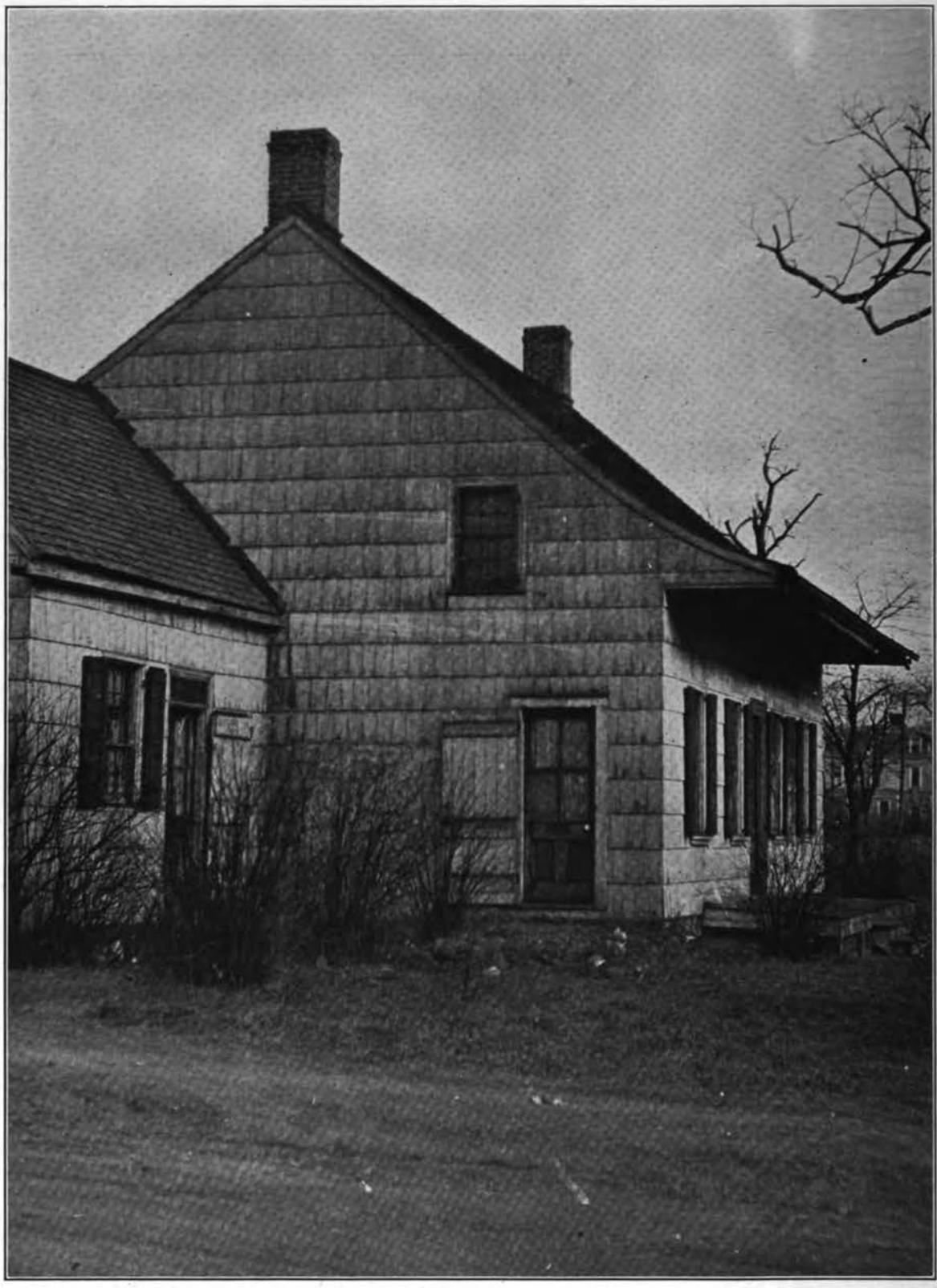
FLATBUSH

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NEAR QUEENS

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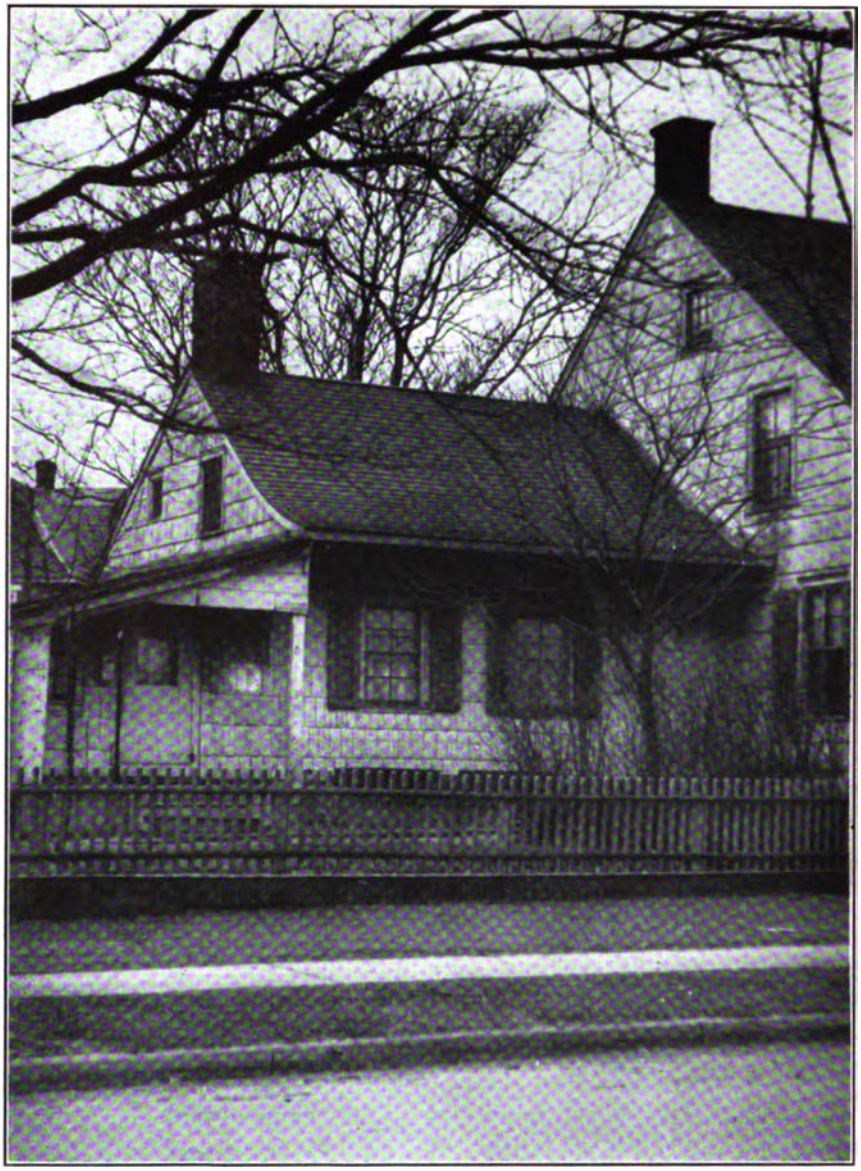
FLATBUSH—NECK ROAD

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NEAR MELBA

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Antiquities of the Architectural Book Shelf

By V. O. REES

To the architect engaged in active practice, immersed in the conception, organization, and execution of a building project, the connection between his work and the bibliography of architecture may not seem apparent. There is a quite natural tendency to regard as of little consequence all except the creative effort that gives form and reality to a building. Provided that the architect achieve this, nothing else will be required of him; yet for many there will be a limit to the extent that they may disregard the written word of theory. To such there will come the need to pause and ponder again the dogmas and canons of the past and to compare them with the prevalent ideas of the day. By some there will be felt the need for a restatement of their own belief, and looking backward, a number of names of men great in achievement will come to mind,—men who have themselves felt compelled, from time to time, to stay and write down plainly and earnestly, summaries of their experience, restating according to their own views the essential factors governing the theory of architecture.

This is scarcely a merely modern habit; from the early days of the Roman Empire, through the Renaissance until now, runs an unbroken chain of famous

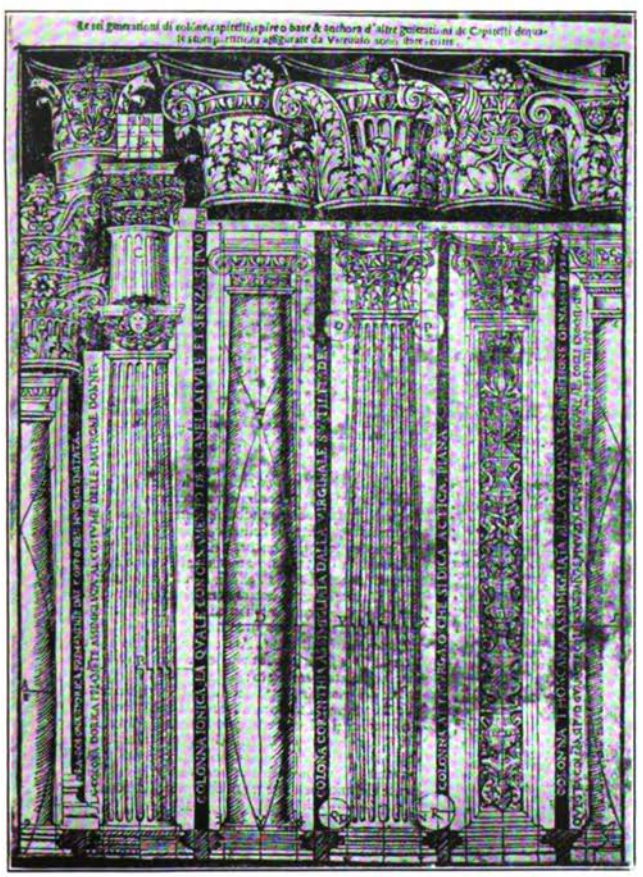


PLATE 1



PLATE 2

names. Gaudet, in the intervals of an active life, crystallizes the teachings of his generation; Semper theorizes and speculates on many subjects bearing on history and modern use, just as did Vitruvius or Philibert de l'Orme or Battista Alberti. This need of formulating canons of judgment has occurred again and again, and it seems to have been most compelling in periods when creative work was most abundant. It may not be without interest, then, to turn to the old books in which are contained all that had been taught on these subjects in their day.

The architectural library begins with the books of Vitruvius, first published in Latin, at Rome, in 1486, about forty years after the invention of printing by movable types. Manuscript copies belonging to the periods before are still in existence and are treasured in different national collections. The British Museum contains six dating from about the ninth century. After the rare first edition, reprints came in fairly rapid succession. The first to contain illustrations is the Gioconda edition (still written in Latin) published in Venice in 1511. Copies appeared outside Italy in Lyons, Stras-

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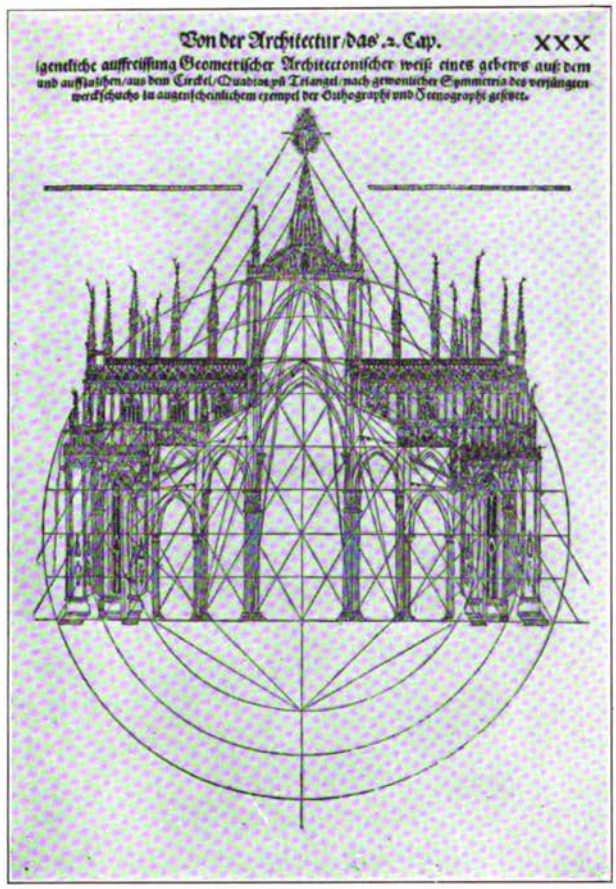


PLATE 3

bourg and Paris before 1550. The earliest translation into a living tongue was the Italian edition of 1521 at Venice, and the first French translation was that of Jan Martin, "*Secretaire de Monsignor le Cardinal de Lenoncourt pour le roy tres chrestien Henry II*" in 1547. This is the period when de l'Orme was carrying out his principal works.

The first German edition was published 16 February, 1548, at Wurzburg, by "GUALTHERUS H. RIVIUS, Medicus et Mathematicus." The English translation was long in coming; it was not until 1771 that there was published a complete text in two parts, of which the second was brought out in 1791. There was, however, an abridged earlier text by J. Moxon, translated from Perrault in 1692, but it was very incomplete. Most of the earlier books were illustrated and the same illustrations occur with little or no variation in the different editions.

Among the earliest illustrated copies, that published by Giambattista Caporali in Perugia in 1536 contains numerous and interesting engravings, one of which is illustrated in Plate 1. The variety of capitals shown is interesting. The later editions were larger in size, more freely illustrated, and contained an amount of editorial comment. Plate 2 is taken from the edition of Monsignor Barbaro published in Venice in 1567.

Gualtherius Rivius filled his book with many engravings characteristic of the German school of Durer and Schongauer in which medieval castles and landscapes appear. Plate 3 gives an idea of the fine black type used, with below the section of a cathedral over which are drawn a system of lines,—an early example, perhaps, of the fascination that geometrical systems of building design has so often exercised over architects.

Very shortly after the first printing of Vitruvius came the original work of Leoni Battista Alberti—"*opus praestantissimum de Re Aedificatoria,*" published in Latin, in Florence, in 1485, and translated into Italian in 1550 and into French in 1553 by Jan Martin, the editor of Vitruvius as "*L'Art de bien bastir.*" The frontispiece of an Italian translation from Alberti is shown in Plate 4.

Those curious of architectural principles or wishing to practise them had to rest content with Vitruvius and Alberti as their authorities until 1537 when there was first published by Sebastiano Serlio an original book on



PLATE 4

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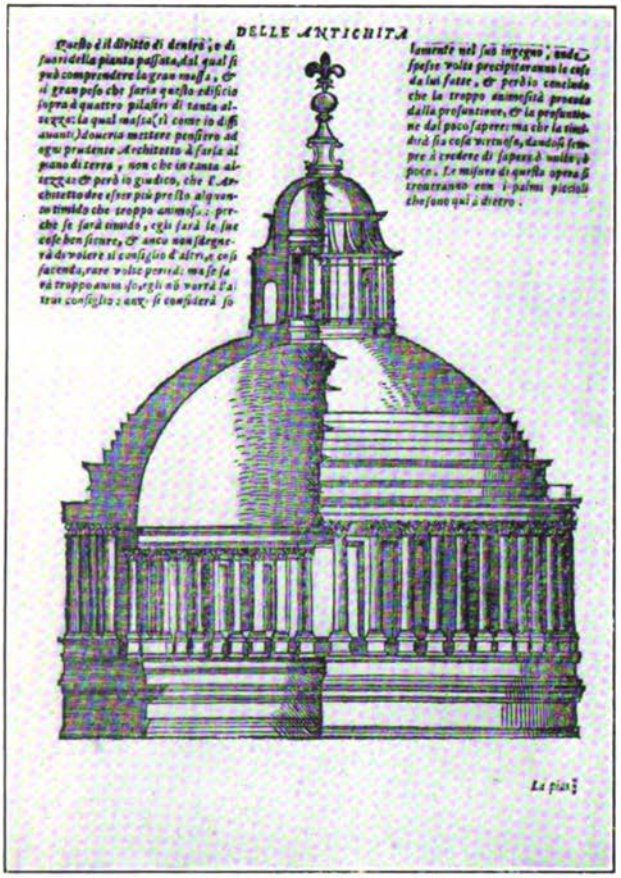


PLATE 5

the orders, to be quickly followed by Vincenzo Scamozzi, Barozza da Vignola and Andrea Palladio. These books have had the most profound influence on architecture from that time, all over Europe, and even today their influence can hardly be said to have been exhausted.

As in the case of Vitruvius, these books were translated into all the principal European languages. English speaking people had to wait until 1610 before the first copy in the vernacular tongue was available, when R. Peake translated Serlio from the Dutch and gave us the first really complete work on architecture in the English language, for the early Vitruvius in English was exceedingly fragmentary.

Inigo Jones possessed a copy of an Italian impression of Serlio, dated 1619, which he evidently studied with great care, for it contains many notes and comments in a handwriting thought to be his, and which is certainly seventeenth century. The book passed to John Webb, his assistant and successor, and then to Sir J. Thornhill (who painted the dome of St. Paul's) and afterwards to J. Nicholson (author of the Dictionary of Architecture). It is now in the library of the R.I.B.A. and Plate 5 gives a specimen page, opposite which is a marginal note to the effect that "the diameter of the lanthorn is about 1/5 part and 1/2 the diameter of the cupola." There is also a copy of Palladio with notes by Inigo Jones preserved at Worcester College, Oxford.

(*To be continued*)

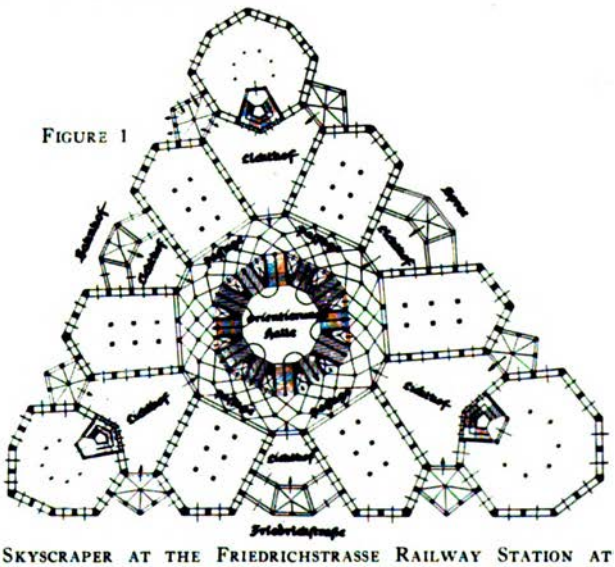
Skyscrapers in Germany

By DR. ING. WALTER CURT BEHRENDT

In Europe, above all in the western industrial states, in England and in Germany, the erection of high buildings on the American model has long been the object of an interest which has increased considerably since the war. This is a consequence of the shortage of housing in the great cities and in the industrial centers, a shortage which has been aggravated by the post-war slump in building; and the erection of skyscrapers, it is thought, might prove most effective in relieving the housing shortage, inasmuch as the creation of new business areas in such giant structures would make it possible to evacuate numerous apartments now being used for business purposes. In England, the idea of erecting skyscrapers on the American model has found adherents mainly among members of the business world, whereas architects generally, have so far raised objections, contending that the construction of skyscrapers would not be consistent with the best interests of city planning and housing.

On the other hand the skyscraper idea has met with general approval in Germany. The majority of German architects, in particular, have pronounced themselves in

FIGURE 1



SKYSCRAPER AT THE FRIEDRICHSTRASSE RAILWAY STATION AT BERLIN *Architect, Dr. Ing. Hans Soeder, Wetzlar*

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FIGURE 2—PROJECT FOR A HIGH BUILDING IN DRESDEN
Architect, Professor Hans Poelzig, Berlin

favor of introducing this type of building, which appeals to them as a new and attractive problem of monumental architecture. The idea has even been so enthusiastically embraced that the erection of skyscrapers for housing purposes has been recommended in some instances. However, the enthusiasm is being tempered by unfavorable economic conditions, and owing to the rising cost of building the construction of skyscrapers has nowhere been started. But the projects are numerous, architectural competitions for obtaining skyscraper plans having been held in almost all the great cities in the course of the last few years. These competitions, in which many leading architects have taken part, have yielded excellent and to some extent quite original results. These, in our opinion, are decided contributions toward the solution of this



FIGURE 4—PROJECT FOR A DEPARTMENT STORE IN COLOGNE
Architect, Professor Hans Poelzig, Berlin

architectural problem, and may, therefore, claim the interest of foreign architects, more especially those of America, the homeland of the skyscraper.

In technical construction the German projects will seem familiar to American architects, because they imitate closely, in this respect, the American model. Imitation, in this case, is fully justified, for it seems hardly possible to devise anything better than the "steel cage construction" invented by American engineers, which

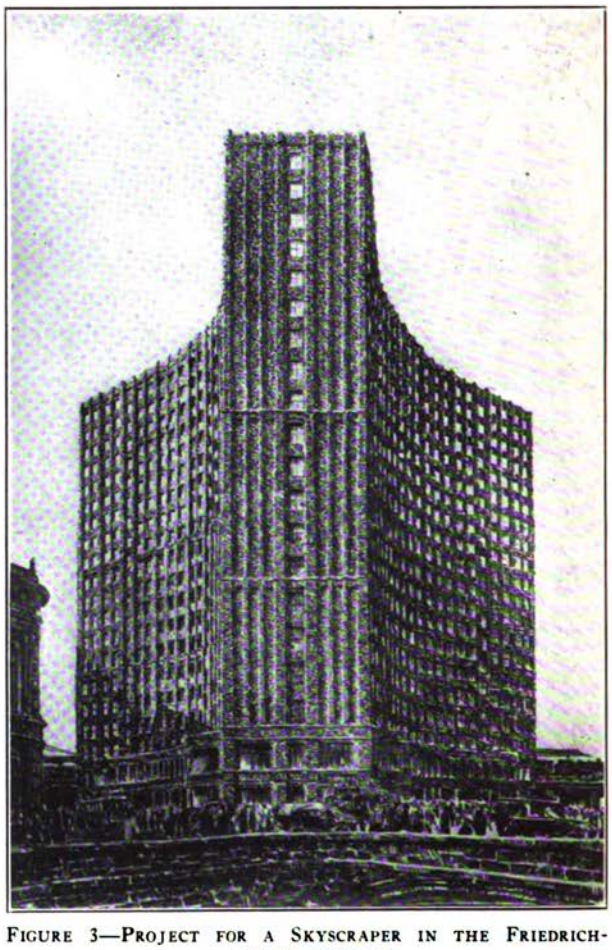


FIGURE 3—PROJECT FOR A SKYSCRAPER IN THE FRIEDRICH-STRASSE, BERLIN
Architect, Professor Hans Poelzig, Berlin

carries all loads independently of the exterior walls, thereby relieving these of all the functions of support. On the other hand, as regards planning and architectural treatment, German architects have evinced rather remarkable creative originality, and have perhaps surpassed the American models by experimenting in various and entirely new directions.

In regard to planning, the American skyscraper, in its development so far, can not be considered as a model of perfection. I believe that many members of the architectural profession in America are ready to concede this. That which is left to be desired is not so much the interior distribution of rooms, communication and circulation within the building, or the arrangement of stairways and

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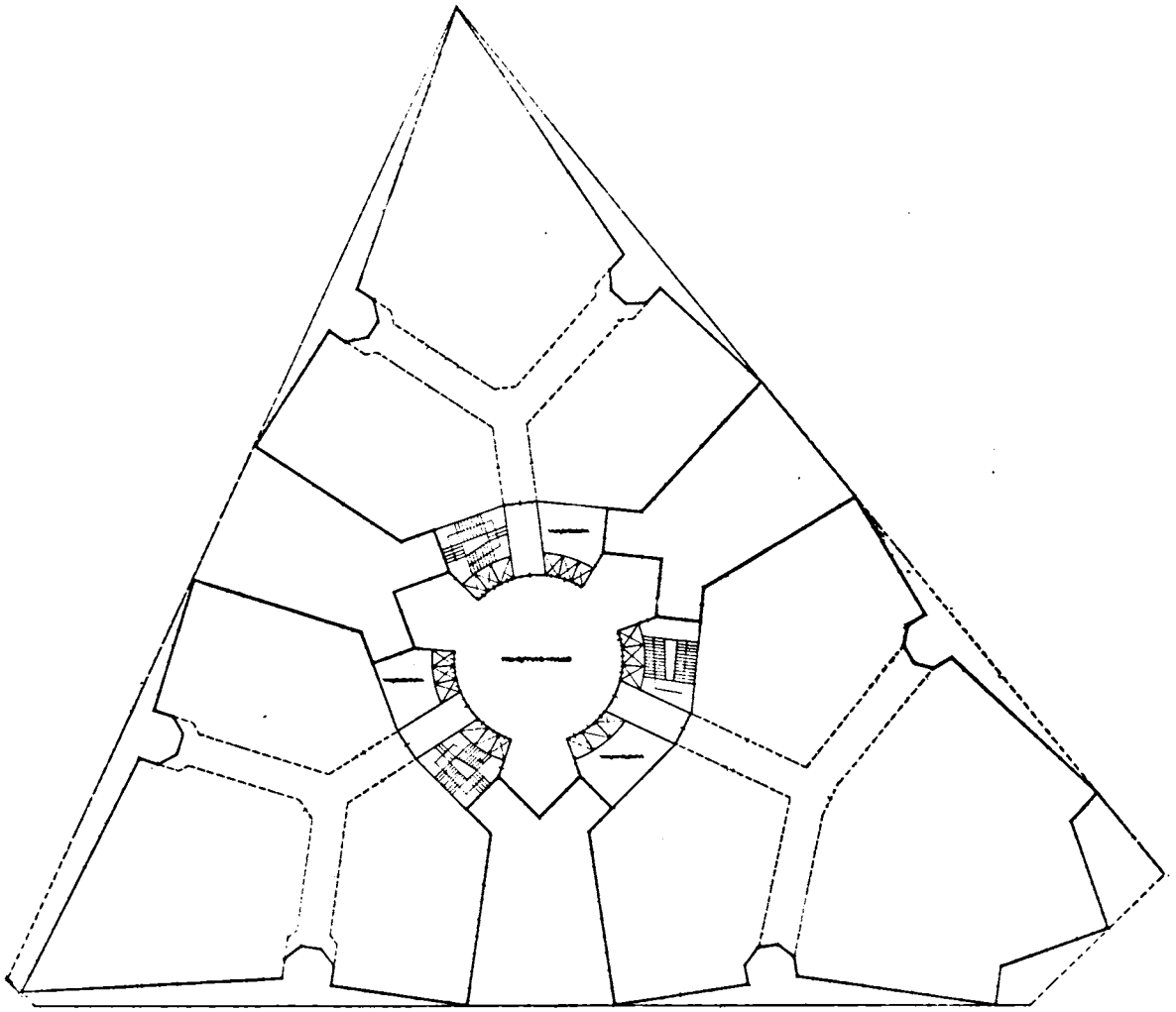


FIGURE 5—SKYSCRAPER OF IRON AND GLASS TO BE ERECTED IN BERLIN—GROUND PLAN
Architect, L. Mies van der Rohe, Berlin

elevators; it is rather the architectural composition of the whole, notably, however, the disposition of the building plot. As a rule, the lot is either covered to its full extent or the building is grouped around one or several central courts, or is in the form of a group of towers. These arrangements, which reproduce the traditional planning of many-storied buildings and to which there is no objection if there are only five, six or seven stories, becomes very objectionable if applied to skyscrapers; it involves increased danger in case of fire—when wells or courts have the effect of smoke stacks, and it shuts out light and air from the lower stories.

German architects have recognized that it is not appropriate to group skyscrapers around central courts, as has been done in America. In order to avoid the inconveniences inherent in such arrangements, they have, therefore, endeavored to solve the problem of planning in a novel and fundamentally different manner. The solution sought has been determined by the natural desire to facilitate as much as possible access of light and air to these giant structures. The arrangement is that of wings projecting outward from the center of the block, permitting plenty of light and air to enter all rooms and therefore being especially advantageous for office buildings. Plans conceived according to this idea will, if highly developed, assume the shape of a star, stairways and elevators being arranged concentrically in the central part from which radiate the rather narrow wings with offices on both sides of an axial corridor.

For the further development of skyscraper construction this idea of planning promises to be important. In building on a star-shaped plan it will be possible to apply a straightforward method of construction. Buttressing rib-walls will give required stiffness to the central structure. Various static solutions are possible, and accordingly various constructive types may be evolved. The walls of the projecting wings may be built as inflexible bodies (producing the type shown in Fig. 1), or a system of interpenetrating trusses may be constructed, resulting in a vertical structure in the center with lateral setbacks. Other systems of construction are also possible, each productive of other forms.

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par with the decorative paraphernalia of academic paper architecture, orders, pilasters, cornices, and the rest. Logical planning and construction, according to purpose and practical requirements, have been capable of originating new architectural forms. Likewise the planning of skyscrapers in a city presents a problem of architectural propriety, the logical, constructive solution of which may result in creating an artistic urban unity.

Skyscrapers in America

By GEORGE C. NIMMONS, F.A.I.A.

The discussion of skyscrapers in Germany by Dr. Ing. Walter Curt Behrendt discloses an interesting solution for the skyscraper problem entirely different from that which the American architect is accustomed to apply to these problems.

The star-shaped plan illustrated has been used in this country for hospitals and for some suburban hotels and apartments, but not for office buildings so far as the writer knows. Skyscrapers, by the way, were not invented by engineers but by architects. The reason that the American skyscraper is lacking in diversified form or plan and that it is nearly always rectangular or square with interior courts, is that the land here upon which these skyscrapers are built is always of such high cost that the owner, in order to be able to earn the interest or the overhead carrying charge of the value of the land, cannot afford to have any part of it not occupied by the building. Thus it is probable that no American architect ever had an opportunity to set the main walls of his building very far off of lot lines and thereby give a more interesting shape or contour to his building.

As far as interior courts acting as flues and increasing the danger materially for destroying the building by fire, the experience has been here that this has not been the case. The structure of the building is fireproof and will not feed the flames, and the amount of destruction done to the building in case of a fire depends entirely upon the nature of its contents and the fixtures or furnishings of the building. If these are highly inflammable, the amount of damage done to the building above the fire has proven to be just as great on the street frontage of a building as in the court;—in fact, some of our most disastrous fires have taken place on street frontages and not in courts. A disastrous fire in a skyscraper develops such intense heat that it creates a hurricane of superheated air currents that seem to act just as violently on the street as they do in a court.

The objection to these star-shaped plans as illustrated by Figs. 1 and 7, where the elevators face out from the center of the circle, is the difficulty in seeing which elevator would respond to the signal to go up or down. The tenant might have to go almost entirely around the circle to find the car he had signaled, and if he were not there when his car stopped, the operator would probably go on without him and his signal would have to be repeated, thereby causing much delay and confusion in elevator service. The elevator starter on the ground floor would also have difficulty in controlling the elevator operators.

In Fig. 5, where the elevators face the center of the circle, the arrangement is ideal. This plan, in which the stairways are also placed at the center, is also ideal in relation to the arrangement of the offices and corridors, but most of the American city building ordinances would not permit the stairways to be grouped in this way in the center. They would have to be distributed over the remote parts of the building, because they are considered by such an arrangement to be more efficient exits in case of fire or panic. Much extra floor space in each story must, therefore, be given over to public corridors on this account.

One very decided objection to most of these plans from the American standpoint would be the irregular shape of the spaces allowed for offices. Irregular shaped offices, or living rooms for that matter, are contrary to the human housing instinct, difficult for the arrangement of furniture, expensive to construct and very wasteful in space by reason of the irregular unusable corners.

The plan shown by Fig. 6 is so fantastic and impractical and so impossible to divide into any kind of usable or desirable offices or apartments that it is not likely that it would ever be executed.

This same tendency to depart radically from all American standards established for the skyscraper is exhibited again in the designs shown for the exterior treatment of these buildings as illustrated by Figs. 2 and 3. The same old ambition to express the steel construction of these buildings in the exterior architectural treatment is emphasized just as it was when Americans first undertook the problem. Volumes have been written about it, and almost every designer has accepted the theory as being very logical and entirely in accord with the theory of all former styles of architecture; but no one seems to have gotten very far with it. The principal difficulty appears to be that structural steel cannot be allowed to appear in the exterior design on account of corrosion and the danger of a building collapse in case of fire; consequently, it must be covered by a material that plays no part in holding up the main structure of the building. Furthermore, the strength of steel is so much greater than the materials which formerly supported buildings that all formerly accepted standards of proper sizes and proportions for the supports of buildings are upset.

If the structure of a skyscraper was honestly and consistently expressed in the exterior design in the manner proposed by some of the advocates of this policy, it would look like a huge birdcage, and there would not be enough surface left on the exterior to display any architecture whatever. The eye would also be frequently offended by columns rising from the center of long spans too weak apparently to carry them, seemingly dangerous loads concentrated on the tops of arches and cantilevers and other constructions that would create the deepest concern and anxiety in the uninitiated observer who was trying to get some joy out of the design of the building. So what is the use of trying to express literally the bones of a skyscraper on its exterior when the nature of the material of those bones is such as leads to forms and proportions that are contrary to all established human standards of

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what is safe, adequate and desirable for the exterior of a building?

In the discussion, in Dr. Behrendt's article, to support the elimination of the use of all forms of conventional architecture on the exterior of skyscrapers, he refers to the monumental structures of medieval cities, which are in many cases so attractive and beautiful, and which have very little architectural adornment, but appeal to us by reason of their frank and sincere expression of plan, of the proportion and outline of their different parts, and of the appropriate grouping and treatment of their well-balanced masses. If we were free to follow these old buildings in our treatment of the skyscraper, they certainly would be lovely and there would be little need for architectural adornment taken from the different styles of architecture; but this is impossible on account of the great difference of the requirements between the two types of buildings.

If the walls of the medieval buildings were punched full of windows and the walls of their lower stories cut away for the vast areas of plate glass store fronts, their charm would be gone. That is the great difficulty in the design of skyscrapers,—their innumerable windows and their great areas of plate glass, leaving little chance for any kind of architectural treatment. It does not seem probable that the exterior designs shown in Figs. 2 and 3 will solve the problem. All conventional architecture and sculpture are carefully avoided in these designs and the desired effect apparently is to be gained by a strong marking of vertical piers, the myriad of window penetrations and the huge mass of the building, all absolutely devoid of what civilization in the past has considered desirable building adornment.

There are plenty of examples in this country in poorly designed warehouses and factories to demonstrate the futility of any such designs. The monotony of these buildings and their extreme and severe plainness are actually repellent and brutal. In fact, the bugs of the earth or the living things of the sea can do better in the design of their habitations. When some abnormal era in art threatens, such as we have just about passed through in painting, it may be to our advantage to pause and contemplate the ways of nature,—which, after all, form for us the basis and principles upon which all great and lasting styles in art have been based. The human soul is so constituted that it loves change and novelty, and in pursuing this tendency it may tolerate for a short time some awful things which are authorized as stylish, the worst of which are the excrescences and deformities given the human body by the manner in which its clothing is sometimes fashioned; but sooner or later these things pass, and we come back to the beautiful and really logical designs of nature,—the flowers and trees, the natural landscape and the wonderful dress and habitations of the animals of both land and sea. Even a poor fish and his mate by the use of their tails, will form in the sand a perfect hemispherical bowl for the hatching of their young.

Nature teaches us that ornament for our buildings need not be exclusively that which grows out of construction, but also that which is appropriately placed and is solely added to please the eye and decorate the structure, thereby often saving it from being hopelessly monotonous, repellent and disagreeably ugly to the human consciousness.

Finally, there remains the question as to whether or not skyscrapers are an acquisition to any city. The experience with them in America has clearly demonstrated some very serious objections. The permission to build high buildings immediately raises the value of the land tremendously. Land available for such purposes has in each case gone up in price many times its former value. It is not uncommon for desirable sites to sell for several million dollars, or perhaps from one hundred to two hundred dollars and more a square foot. The possibility of purchasing such property for the development of a city, therefore, is restricted to a very few extremely rich people. The advance in the price of such land has always followed so closely on the increasing height of buildings that the profits from the higher buildings goes largely to pay the interest on the inflated value of the land. For a period of ten years the records made from the earnings of a large number of office buildings erected in different American cities showed that the net earnings were only about four per cent. Rentals for office space and stores have been constantly raised in an effort to make these buildings pay a better profit. Increased cost of construction and maintenance of recent years have, of course, added to the difficulty. Reasonable increased values for land are certainly desirable, but when they rise to such heights as they do with the building of skyscrapers, they go to amounts which are all out of proportion to fair and reasonable values for other things and place an unfair burden upon the people who, in the last analysis, must pay these excessive charges in the purchase of the things they need for daily life.

The excessive increase of land values in the center of great cities by the erection of skyscrapers when once established, can never be materially lowered because such land forms a part of the basis of credit in that city for the financing of its industries and commerce. The economic fabric of every community is largely built upon its most valuable land values, so that if permission to build high buildings is suddenly given to a community, an unhealthy land boom is likely to set in and destroy the stability of land values for credit.

Aside from the economic evil of skyscrapers, the street congestion occasioned by the intensive building of the centers of cities is one of the most serious problems with which American cities now have to deal. Frantic efforts are being made in the different cities to relieve the pressure in street traffic, but the best of the remedies adopted seem to be only temporary. One automobile company alone is producing 7,000 new cars a day, which, with the increasing intensity with which people are being crowded into the center of cities by intensive building, will cause the streets some day to become so crowded that they will be intolerable.

The providing of spaces right in the heart of high buildings where automobiles may be parked in their courts is the thing Americans are now trying to get away from—that is, the noise, smoke and smell which occur from cars under the windows of rooms which people occupy. Rooms or offices located on interior courts are

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in some cases now considered more desirable than those on street frontages.

There are 200 American cities which already have passed or are in the process of passing zoning laws in connection with which there are provisions to control the erection of buildings. In nearly every one of the larger cities, there has been an effort made to reduce the height of the skyscraper. There seems to be a very general feeling all over this country that the excessively high building was a mistake, and if many of the cities had an opportunity to undo the present building condition, the allowable height of buildings would be materially reduced.

From the experience in the United States, it would seem almost impossible to restrict the building of skyscrapers if the privilege were once granted to a few favored localities. It seems most probable that anyone who has made a study of the skyscraper problem would consider the European cities fortunate in never having let down the bars to the erection of skyscrapers. The die is cast here,—American architects must go on and continue to build and develop them because the land values already established will not permit of low buildings, but all of the advantages of skyscrapers could be secured and many of their disadvantages avoided in buildings of a much lower height.

Skyscrapers Anywhere

By WILLIAM STANLEY PARKER

Dr. Behrendt's article on Skyscrapers in Germany raises in my mind principally some questions regarding the point of view with which he approaches the subject. It would seem as if the German architects viewed a high building as a desirable end in itself, sought an ideal solution of its structural problem in terms of plan and elevation, and then looked about to see where they could build one.

He refers to it as "a new and attractive problem of monumental architecture." He states that the historical character of European cities demands that "skyscrapers should be erected only on carefully chosen plots." He also adds that "the increase of land values which the erection of skyscrapers will cause, necessitates special legislative measures."

Now, to my mind a skyscraper has ceased to be, if, indeed, it ever was, a desirable type of building *per se*. It is a terrible necessity in certain centers of congested population and high land values. Except as a means of meeting these two insistent demands it is a work of sheer idiocy. Large aggregations of people under one roof are unfortunate results, never desirable ends. To seek an excuse to build a high building in the outer zone of a city, creating local congestion of use where none necessarily exists, with the need foreseen of legislation to prevent others doing likewise and to control artificially the surrounding land values, seems to me the height of folly.

One wonders if Dr. Behrendt is familiar with the downward trend of high building construction in America. As many American real estate men seem not to be entirely familiar with the undesirability of high buildings, perhaps his similar lack of perception is not to be wondered at. The lack of zest for high buildings shown by English architects is more a mark of sanity than otherwise.

The problems of traffic, housing, and other manifestations of the H. C. L. are easily traceable back to the congested centers of our large cities in which the high buildings are at once effect and cause. It were wise for architects of all countries to keep their feet on the ground and the dwellers or workers in their buildings as near it as possible.

As for the plans shown in the illustration they are ingenious geometrical patterns, but I wonder if the area devoted to the central group of elevators, stairs and corridors is economical in the proportion of the entire area so used and whether the degree of concentration does not require for safety emergency stairways at the outer ends of the wings, thus adding further to the space devoted to such service. Fig. 6 leaves me with the impression that if I were to write a caption for it I would call it "A picture of a Nude Building falling down stairs."

Architectural Credit

The question of giving architects proper credit for their work when it is illustrated or described in the columns of newspapers has been aired at not infrequent intervals. Very recently there occurred some correspondence between the editor of a large metropolitan daily and a member of the Institute. Perhaps the outcome may encourage architects all the more when they venture to chide other editors for withholding their names as the designers of buildings found to possess news value.

The correspondence follows:

To the Editor,

DEAR SIR:

It was gratifying to read in Saturday's ———— Mr. Cortissoz's admirable speech to the Architects assembled in Washington wherein you advocate giving them credit for their works, as is usually done in the case of painters and sculptors. Therefore, it was equally discouraging to note in the Real Estate section of Sunday's ———— the customary omission of the architect's name from no less than four imposing apartment house projects; the illustrations for which were evidently taken from the author's drawings.

Now it must be admitted that your paper is not the only sinner in this respect. In fact the practice is so nearly universal that there would seem to be a conspiracy among editors to suppress all allusion to the author of a work of architecture. The names of the owners, the builders, even the janitors are given due prominence; but seldom does the architect come in for any free advertising, unless, happily, he is provoked to murder.

Why is this? Can it be possible that this studied omission of any allusion to the architect is in retaliation for his failure to patronize the advertising columns? Let us hope that this hypothesis prove untenable.

Nevertheless, why not do a little missionary work among the members of your own household?

Cordially and hopefully yours,

———— ————

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From the Editor,

DEAR SIR:

Your letter of May 21, about the publication of the names of architects as well as the names of builders and contractors in our real estate columns, has given us food for a good deal of thought.

We all feel that the idea is essentially sound. We agreed with Mr. Cortissoz's sentiments at Washington and arrived definitely at the conclusion that we, of course, ought to do what you suggest. Then came the question of ways and means. Investigation shows that it has been our policy to print the names of architects whenever obtainable. We now wish to go further and make a uniform rule of printing these names. We find ourselves faced, however, with the difficulty of getting the names. Architects who have been asked in the past to give their names have replied that that information must come from the builder or owner of the building project. Oftentimes the builder or owner has not had the names to give us. Therefore, we have been obliged to print the article without mentioning the architect.

We propose to increase our efforts to get these names, but we feel that we are faced with a question of professional etiquette. I should be deeply obliged if you felt free to inform me on this matter, or give me suggestions that might make it possible for us to obtain the architect's name in every case.

To the Editor,

DEAR SIR:

Receipt of your courteous letter of May 31st is acknowledged.

It was encouraging to note that the names of several architects appeared on the designs credited to them in your last Sunday's issue.

I see no reason why architects should refuse to give their names. The cuts published are usually made from their drawings on which their names appear. I have found in my own case that my name had been carefully omitted or covered. Certainly not from any request on my part. I supposed the omission was because of some advertising rule. This, if true, seems unfair.

With your permission I will submit this correspondence to the Secretary of the Institute who can better inform you as to questions of professional etiquette. Meanwhile, I doubt if you will be found fault with for crediting designs to their authors.

Faithfully yours,

From the Editor,

DEAR SIR:

Your letter of June 8th, concerning the publication of architects' names has lain unanswered for almost ten days because our real estate editor has been feeling out the matter. He now reports that he would be delighted to have you take up the matter, as you suggest, with the Secretary of the Institute. If that official could make our path a little easier in any way, we should be delighted to hear from him.

Thank you for your suggestion and your activity in the matter.

Very truly yours,

From Our Book Shelf

Things Oriental

A "series of pictorial postcards" is published by the British Museum. One series of 15 cards is on Chinese Art; an admirable group of typical examples of sculpture and painting, while the second series of 15, which are all on Chinese porcelain of the Ching Dynasty, are reproduced in color, and very well produced at that.

Inasmuch as the JOURNAL has assumed an honorary agency for these cards members who desire will have no difficulty in obtaining them. Of the color cards, there are also series on English porcelains, Indian paintings (Mughal School), Japanese color prints, Persian paintings, etc. Of the others without color there are series on Italian miniatures, early Florentine woodcuts, Japanese drawings (Hokusai), Early maps, German drawings, etc., etc.

R. D. K.

[NOTE—The color sets are $1.00; the plain sets 60 cents, and particulars of other sets may be had on application.]

Forty Years of Landscape Architecture[1]

The present small volume is the first of a series which, when completed, will fully cover Frederick Law Olmsted's career as a landscape architect. Starting with brief biographical notes from his birth, 1822, to his death, 1903, and followed by auto-biographical passages from letters and papers, the book will give not only a story of Frederick Law Olmsted, but the history of landscape architecture in America.

It may safely be said that no such profession was known in this country before 1850. Mr. Olmsted began as a farmer. Being an artist with an intense interest in natural beauty, his keenest interest was in the charm and convenience of his surroundings. Central Park gave him his first professional opportunity. An eminently practical man and a brilliant writer, he was able to demonstrate by his works and his writings the importance of his adopted profession, and he became the father of landscape architecture in America.

Every one of Mr. Olmsted's personal papers is intensely interesting both to the landscape architect and to the general reader. The volumes which are to follow this will be keenly looked forward to. When they have all appeared will be the proper time for a review of this work.

CHARLES A. PLATT.

The Paris Prize

The Committee on Paris Prize announces the results of the Final Competition for the 16th Paris Prize of the Society of Beaux-Arts Architects:

Jury of Awards—James Gamble Rogers, Raymond M. Hood, Joseph Howland Hunt, John M. Howells, J. Otis Post, Whitney Warren, Benjamin W. Morris, Henry Bacon, Charles A. Platt, M. B. Medary, of Philadelphia, Benno Janssen, of Pittsburgh, G. A. Lansburgh, of San Francisco, and H. Oothout Milliken, Chairman.

Awards—Placed First and First Medal: Lee Rom-

[1]Being the Professional Papers of FREDERICK LAW OLMSTED. By F. L. Olmsted and Theodore Kimball.

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botis, University of Pennsylvania, Philadelphia, Pa.; Placed Second and First Medal: Harry K. Bieg, Armour Institute of Technology, Chicago, Ill.; Placed Third and Second Medal: I. Jerry Loebl, Armour Institute of Technology, Chicago, Ill.; Hors Concours: R. Banks Thomas, Sr., Atelier Hirons, New York City, N. Y.; Hors Concours: Rudolph DeGhetto, Atelier Hirons, New York City, N. Y.

The Editor's Note Book

The new setback developments in the architecture of New York City have already afforded an interesting topic for speculation. In a skyline which was growing so monotonously high there have come new vistas and outlines and some very intriguing effects. But architecture is like an army and has its hangers-on, among which there are to be noted the enterprising firm of brokers who announce, in offering space in one of the newest structures, that occupants may have light on six sides!

* * *

We have heard much about billboards on this side of the Atlantic, and, as a rule, the tendency is towards an effort to do away with them. But the Prince of Wales, in a recent speech at the Royal Academy in London had these things to say:

"Not so very long ago those dreary barricades of notices that marred the walls and waste places of our big cities were merely unsightly, and contained no pictorial art whatever. They might now be called, without exaggeration, the art galleries of the great public. Many of the greatest successes on these boardings are reproductions, the originals of which have hung in your Royal Academy, and many a man who has never given pictures a thought has had his interest in them stimulated by a casual study of a poster.

"Advertisements are now recognized as a most necessary adjunct to the business side of life; their refinement has advanced by such leaps and bounds as to justify one in calling them artistic. Their influence, if only because they bring color and decoration to an otherwise gray and monotonous street, is surely not to be despised. May I, with all deference, suggest to you that here is one possible channel for reaching and satisfying the elementary love of pictorial art which is hidden in the hearts of practically everyone?"

The revival of poster advertising in England must have had a good deal to do with the Prince's enthusiasm. The railway and omnibus posters which announce their wares to Englishmen are among the very best examples of the poster art that I have ever seen. Too much cannot be said in praise of them, and it is a matter of great regret that a score or more of them could not be finely reproduced in color for the edification of advertisers everywhere. But the English railway station is still a gruesome sight, and outdoor advertising generally, with all regard to His Royal Highness' defense, is pretty badly done. If there should follow such a general elevation of standards as has taken place with respect to the posters to which I have alluded, and that I think is what the Prince of Wales hopes, then the movement will acquire defenders without any effort whatever.

In the United States as well as in Europe, great artists have not hesitated to accept commissions from advertisers. I remember with what astonishment I came upon Liotard's "Chocolate Girl" in Dresden, many years ago when the firm of Baker had made her dainty figure everywhere a familiar acquaintance, and with what interest I learned, long after childhood's interest in soap-bubbles had vanished, that a certain Millais was the original source of my young delight. If advertising is to be done out-of-doors, or anywhere else for that matter, why not have it really done beautifully?

I noticed an editorial in *The Freeman* not long ago which reviewed the long forgotten colloquy about advertising signs on buildings. Habit brings a sense of oblivion to ugliness, else the sight of a modern city street would drive one to madness instanter. But the writer in *The Freeman* points out what he considers to be the conspicuous failure of architects to reconcile architecture with the purpose to which the building is to be put, failure to accept the frank aim of business enterprise while pretending that architecture can encompass it. I will not debate the purpose, nor whether there can be a partnership between architecture the art, and business the seeker of profits. It was ably debated in these columns by Mr. Creswell last year, but can there be any division of opinion about so plain a question as this? If the façade, the windows, and the roof of a building are to be used galore for advertising, would it not be better for the architect deliberately to accept the challenge and devise some way of reconciling the use of lettering to the façade of his creation? It seems idle to deny what is before us, and although the tendency for a certain class of the better buildings is to suppress the use of signs, the bulk of business building still struggles under such a load of rubbish that more than the architect would be necessary, I fear, if the language were to be protected as well as the building design.

There is pleasant relief from advertising hideousness here and there. Take the case of the Corn Exchange Bank in the Pennsylvania Station in New York City. Here is an obvious need for telling the passer-by that a bank is lodged in a corner of a building where it would be least expected and almost never looked for. Yet the bank in question has made itself known in a manner to win commendation from all. The architecture of the building has been respected, and the manner in which it has been done means that someone thought about the question,—someone who believed that the reconciliation of business with taste in advertising is a possible thing. I speak of the Corn Exchange Bank because I noticed it with great pleasure. It is not the only example, by any means, but it is one peculiarly worthy of the approval of architects.

C. H. W.

Obituary

Terence A. Koen

Elected to the Institute in 1912
Died at New York City, 16 May, 1923

Mr. Koen entered the office of McKim, Mead & White in 1880, and remained there for fourteen years, during

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which time he rose to an important position as a member of the office force. Since 1894 he has been a member of the firm of Hoppin & Koen.

At the meeting of the New York Chapter the following resolution was adopted: "Those who came in contact with Terence Koen learned, not only to respect him for his knowledge, but also to love him for those qualities which, all too rarely, combine to form a single personality. Always considerate, always helpful, always a loyal comrade, Terence Koen endeared himself to his confreres by these and other qualities on which friendship thrives. He was an honor to the profession of architecture, and a man greatly beloved by his friends.

"WHEREAS, The profession of architecture has sustained a distinct loss by reason of the death of Terence Koen, and many of us have lost a dear friend, now, therefore, be it resolved, that the secretary of the New York Chapter of the American Institute of Architects be requested to express the sympathy of the Chapter to his family and that this resolution be spread upon the minutes of the meeting."

James W. McLaughlin

Elected to the Institute as a Fellow in 1870
Died at New York City, 4 March, 1923

James W. McLaughlin was born at Cincinnati, Ohio, 1 November, 1834. He attended the Joseph Herron Academy, a private school in Cincinnati, and later entered the office of Mr. Hamilton, Architect, in about 1853. In 1858 he began to practice architecture in Cincinnati.

On 10 January, 1870, Mr. McLaughlin called a meeting of the architects of Cincinnati to organize the Cincinnati Chapter of the American Institute of Architects. He was chairman of this meeting at which the organization was perfected, and was elected Vice-President of the Chapter, in which capacity he served until 1878, when he was elected President, serving until 1882, when he was again elected Vice-President, serving until 1884. He was elected President in 1889, serving until 1893, and was Vice-President in 1896 and 1897. He also was several times elected a Director of the American Institute of Architects.

Mr. McLaughlin stood very high in his profession, and was highly esteemed by his fellow members for his ability, his congenial spirit and lovable character. He was always ready to give such assistance to his fellow practitioners as was in his power. He practised his profession in Cincinnati, in a most highly ethical manner, until seven years before his death, during which time he lived in New York City with his daughters. His remains were brought to Cincinnati and buried in Spring Grove Cemetery.

Among the principal work done by him are the following buildings:

Cincinnati Art Museum, Cincinnati Art School, Public Library, Court House, Widows' Home, Children's Home, First Unitarian Church, Masonic Hall, Zoological Society Buildings, Spring Grove Cemetery Offices, Cincinnati Gas Company's Building, The John Shillito Company's Store, Johnston Building, Wiggins Building, Rawson Building; Public Library, Northampton, Mass.; Hotel Ruffner, Charleston, W. Va.; and residences for Mrs. John Shillito, W. S. Groesbeck, John Kilgour, John L. Stettinius, L. B. Harrison, Mrs. T. T. Haydock, Chas. Fleischmann, Henry H. Vail, Sol. P. Kineon, Frank C. Tullidge, Col. L. C. Weir, Harry L. Laws, Herman Goepper, I. J. Friedlander, A. Hickenlooper, Cincinnati; W. R. Allen, Pittsfield, Mass.; Thomas C. Gaylord, Louisville, Ky.; J. B. Tytus, Middletown, Ohio; Joseph Weil, Columbus, Ohio; Mrs. Maynard French, Glendale, Ohio.

G. W. D.

Leif Jenssen

Elected to the Institute in 1919
Died at Duluth, Minnesota, 4 August, 1923
(Further notice later)

Institute Business

The Proceedings of the Fifty-fifth Convention

We are asked by the Executive Secretary to announce to all librarians that copies of the Proceedings of the last Convention of the Institute may be had without charge by sending a request to the Executive Secretary of the A. I. A., the Octagon House, Washington, D. C.

Institute Membership

Members are again reminded that at the meeting of the Board of Directors in May it was ordered that in future the signatures of three Institute members will be required on every application for Institute membership, even though unanimous endorsement of the candidate has been given by the Chapter. The ruling was made to meet conditions in Chapters having extensive territory.

Fellowships

At the last convention the following members were elected to Fellowship:

EDWIN BERGSTROM, Los Angeles, California.
PETER BRUST, Milwaukee, Wisconsin.
CHARLES COLLENS, Boston, Massachusetts.
ERNEST COXHEAD, San Francisco, California.
JOHN W. CROSS, New York City, New York.
KIRTLAND CUTTER, Spokane, Washington.
CHARLES A. FAVROT, New Orleans, Louisiana.
EDWIN S. GORDON, Rochester, New York.
HERBERT M. GREENE, Dallas, Texas.
ALBERT L. HARRIS, Washington, D. C.
WALLIS E. HOWE, Providence, Rhode Island.
LOUIS LA BEAUME, St. Louis, Missouri.
ALEXANDER MACKINTOSH, New York City, New York.
WILLIAM C. NOLAND, Richmond, Virginia.
JOSIAS PENNINGTON, Baltimore, Maryland.
JOSEPH EVANS SPERRY, Baltimore, Maryland.
EDWARD F. STEVENS, Boston, Massachusetts.
THOMAS E. TALLMADGE, Chicago, Illinois.
JOHN V. VAN PELT, New York City, New York.
F. R. WALKER, Cleveland, Ohio.

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Jurisdictional Awards

Resolved, That the Secretary be, and hereby is, instructed to print in the JOURNAL and all other communications of the Institute to its members respecting awards of the National Board for Jurisdictional Awards, or any obligations of the Institute thereto or thereunder, the following notice, which shall always be printed in conjunction with said notice:

The Awards of the National Board for Jurisdictional Awards shall apply only to those members of the Institute in those communities where building operations are carried on under definite agreements between organized labor and organized groups of employers, establishing wages and conditions of employment, and shall not apply in localities where such agreements are not in force.

"*Whereas,* The Preamble to the Constitution of the National Board for Jurisdictional Awards states that its provisions are "intended to operate between Union Workmen and the Employers thereof," and

Whereas, The Board of Directors of the American Institute of Architects finds that uncertainty as to the meaning of this clause has caused many difficulties, consequent on the varying conditions in the territories of the 52 Chapters which constitute the Institute, and that it is therefore necessary to define this statement.

Resolved, That the Board of Directors interprets the preamble to the Constitution of the National Board for Jurisdictional Awards to mean that the awards shall apply to Union Workers and the Employers thereof in those communities where building operations are carried on under definite agreements between organized labor and organized groups of employers, establishing wages and conditions of employment, and that the awards are not binding in localities where such agreements are not in force. And be it further

Resolved, That the Secretary notify the members of the Institute that their obligations are to be governed by the above interpretation and send a copy of this action for record to the National Board for Jurisdictional Awards."

Decisions Rendered by the National Board for Jurisdictional Awards in the Building Industry

E. J. RUSSELL, *Chairman*
American Institute of Architects

R. P. MILLER, Federated American Engineering Societies

COL. J. R. WIGGINS, F. J. C. DRESSER } Associated General Contractors of America

E. M. CRAIG, Nat'l Assn. Bldg. Trades Employers

THOS. R. PREECE, JOHN COEFIELD } Building Trades Department, A. F. of L.

WM. J. SPENCER, *Secretary*
501 A. F. of L. Building, Washington, D. C.

Air Coolers, Air Washers and Blowers, Consisting of the Assembling of Sheet Metal and Pipe Fitting

[Subject of dispute between the Amalgamated Sheet Metal Workers' International Alliance and the United Association of Plumbers and Steam Fitters.]

Decision Rendered March 11, 1920

The following agreement between the Amalgamated Sheet Metal Workers' International Alliance and the United Association of Plumbers and Steam Fitters was confirmed:

September 9, 1918.

The undersigned committee, appointed by the general Presidents of their respective International Organizations; namely, the United Association of Plumbers, Steam Fitters and Steam Fitters' Helpers, and the Amalgamated Sheet Metal Workers' International Alliance, held joint conferences in the City of New York, beginning September 5, 1918, in an endeavor to arrive at an agreement concerning air washers, fans, blowers, the housing of same, and the pipe fitting on same.

After lengthy meetings participated by all of the undersigned, representing the Joint Conference Committee of both International Unions, the following has been agreed to:

Section 1. That all sheet metal work of No. 10 gauge, or lighter, when used on air washers, fans, blowers or on the housing of same, shall be recognized as being the work of the members of the Amalgamated Sheet Metal Workers' International Alliance.

Section 2. That all pipe fitting in connection with the above first section shall be recognized as being the work of the steam fitters, members of the United Association of Journeymen Plumbers, Steam Fitters and Steam Fitters' Helpers.

Section 3. It being thoroughly understood by all of the undersigned that all the assembling and erecting of the work as defined in Section One, shall be the work of the members of the Sheet Metal Workers' International Alliance, excepting pipe fitting of all kinds, which shall be the work of the steam fitters and steam fitters' helpers of the United Association.

Section 4. This agreement shall become effective and in full operation for all parties concerned beginning November 1, 1918.

Signed for Sheet Metal Workers this 9th day of September, 1918: JAMES LENNON, Gen. Org., R. PATTISON, Chm., W. M. O'BRIEN, Secy., WM. H. LYONS, THOS. WALSH, EDW. P. O'NEIL.

Signed for United Association: E. W. LEONARD, Gen. Org., CHARLES M. RAU, RICHARD P. WALSH, A. P. JOHNSON, LEO A. MURPHY.

Low Pressure Heat

[Subject of dispute between the United Association of Plumbers and Steam Fitters and the International Union of Steam Engineers in the matter of maintaining temporary heat while structure is in course of construction.]

Decision Rendered March 11, 1920

In the matter of the controversy between the engineer and steam fitter on the question of low pressure heat during completion of the heating system, jurisdiction shall rest with the steam fitters until the initial test is completed, immediately after which time, whenever necessary to maintain heat, a stationary engineer shall be employed either by the contractor or the owner.

Rehearing—Decision Rendered August 2, 1923.

In the matter of the controversy between the Engineers and Steam Fitters on the question of low pressure heat during the completion of the heating system while the building is under construction, jurisdiction shall rest with the Steam Fitters until the general test has been made and the work accepted by the owner or his agent.

Pipe Railing or Guards for Enclosures, Stairways, Hatches, Etc.

[Subject of dispute between the Bridge and Structural Iron Workers' International Association and the United Association of Plumbers and Steam Fitters. Claimed by the Iron Workers entirely except when not used as a conduit for fluids or vapors; claimed by Plumbers and Steam Fitters when of standard-sized cut and threaded pipe.]

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Decision Rendered March 11, 1920

Pipe railing consisting of standard-sized cut and threaded pipe, not used in connection with structural or ornamental iron work, is awarded to the United Association of Plumbers and Steam Fitters.

Interpretation Rendered September 15, 1920

"Iron pipe railing consisting of a preponderance of slip-joints made rigid with or without set-screws, pinions or rivets, supported by a threaded joint and flange at base or wall, is the work of the Iron Workers. Where, however, the preponderance of joints is of standard-sized cut and threaded iron pipe, it belongs to the Plumbers and Steam Fitters."

Re-enforced Concrete, Cement and Floor Construction

[Subject of dispute between the Bridge and Structural Iron Workers' International Association and the Wood, Wire and Metal Lathers' International Union.]

Decision Rendered March 11, 1920

In the matter of the controversey between the Iron Workers and Lathers over re-enforced concrete construction, it is decided that all iron and steel used for re-enforcement in re-enforced concrete, cement and floor construction be awarded to the Iron Workers.

In such cities or localities as are covered by existing agreements with employers awarding Lathers control over re-enforced concrete construction, these agreements are to be maintained inviolate until the date of their expiration, after which this decision shall prevail.

Interpretation Rendered December 4, 1920

In the interpretation of this Board's decision of March 11, 1920, in the matter of the controversy between the Iron Workers and Lathers over re-enforced concrete construction, it is not to be understood as abrogating, setting aside or in any way altering the decision of the Rochester Convention of the Building Trades Department, November 29, 1912, awarding jurisdiction over Hy-rib Lath to the Wood, Wire and Metal Lathers' International Union, and it is to be understood that the placing of Hy-rib Lath or any ribbed metal lath, however it may be used, comes within the jurisdiction of the Wood, Wire and Metal Lathers' International Union.

Vitrolite and Similar Opaque Glass

[Subject of dispute between the Bricklayers, Masons and Plasterers' International Union and the Brotherhood of Painters, Decorators and Paperhangers.]

Decision Rendered March 11, 1920

That in the matter of the controversy between the Painters and Bricklayers on the subject herewith referred to, jurisdiction over the setting of vitrolite and similar opaque glass is awarded to the Bricklayers, Masons and Plasterers' International Union.

Vitrolite and Similar Opaque Glass (Rehearing)

[Subject of dispute between the Bricklayers, Masons and Plasterers' International Union and the Brotherhood of Painters, Decorators and Paperhangers.]

Decision Rendered May 26, 1923

It is the opinion of the Board that the foregoing decision of March 11, 1920, is intended to convey to the Bricklayers, Masons and Plasterers' International Union all counters and lavatories constructed of vitrolite or carrara glass and such glass when used in mural decorations on buildings in place of marble or other stone or used in conjunction with marble or other stone as panels on counters.

It is the further opinion of the Board that the foregoing decision is intended to convey all vitrolite, opalite, white opal and other opaque glass installed on false work, furring strips, walls, ceilings, partitions or columns, secured with screw rosettes, molding, putty, expansion, toggle bolts or screws to the Brotherhood of Painters, Decorators and Paperhangers of America.

The agreement of December 5, 1910, which was concurred in by the Board of Awards on July 12, 1922, remains in effect, and any disputes that may arise in connection with the subject of the agreement with the Board's decisions shall be adjusted in accordance with the provisions contained in Sections 3 and 4 of the agreement.

Cutting Chases or Channels in Brick, Tile, Masonry, Etc.

[Subject of dispute between the Bricklayers, Masons and Plasterers' International Union and the International Brotherhood of Electrical Workers.]

Decision Rendered March 11, 1920

That in the matter of the controversy between the Bricklayers and Electrical Workers concerning the question of cutting grooves, channels, chases, etc., the Bricklayers are awarded jurisdiction over the work, except when channels do not exceed two inches by two inches in size or require labor not to exceed eight hours continuous time in which case the award is in favor of the Electrical Workers.

NOTE: This decision does not contemplate the channelling or cutting of granite or hard stone.

Asbestos Plaster for Boiler Rooms, Etc.

[Subject of dispute between the Operative Plasterers and Cement Finishers' International Association and the International Association of Heat and Frost Insulators and Asbestos Workers.]

Decision Rendered April 28, 1920

In the dispute between the Asbestos Workers and Plasterers on the matter of plastering boiler rooms, etc., it is decided that the insulation and finishing coat on ceilings with asbestos and other insulating material, where the ground work has been prepared and installed by the asbestos worker, shall, including the application of insulating material on boilers, tanks, vats, etc., be awarded to the asbestos workers.

Asbestos Shingles, Prepared Paper Roofing, Asphalt Roll Roofing, Shingles and Strip Shingles

[Subject of dispute between the United Brotherhood of Carpenters and Joiners and the United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association.]

Decision Rendered April 28, 1920

On the question in controversy between the Roofers and Carpenters on the subjects contained in the title, it is decided as follows:

Asbestos Shingles, Prepared Paper Roofing, Asphalt Roll Roofing } awarded to the United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association.

Asphalt Shingles, Strip Shingles } awarded to the United Brotherhood of Carpenters and Joiners.

Bestwall, When Applied as a Substitute for Lath and Plaster

[Subject of dispute between the United Brotherhood of Carpenters and Joiners, Operative Plasterers and Cement Finishers' International Association and International Union of Wood, Wire and Metal Lathers.]

Decision Rendered April 28, 1920

In the matter of material known as Bestwall, forming

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a contention between the Carpenters, Plasterers and Lathers, jurisdiction shall rest with the Carpenters where material is paneled or used as sheathing; when cut, fitted and pointed, the Plasterers are recognized to have jurisdiction.

Erection of Scaffolds as Applied to Building Construction

[Subject of dispute between the International Hod Carriers, Building and Common Laborers' Union, United Brotherhood of Carpenters and Joiners, Operative Plasterers and Cement Finishers' International Association and Bricklayers, Masons and Plasterers' International Union.]

Decision Rendered April 28, 1920

In the matter of the dispute between the Laborers, Bricklayers, Plasterers and Carpenters over the erection of scaffolds as applied to building construction, it is agreed that the erection and removal of all scaffolds including trestles and horses used primarily by Lathers, Plasterers, Bricklayers and Masons shall be done by the Mechanics and Laborers in these trades as directed by the employer.

Self-supporting scaffolds over fourteen feet in height or any special designed scaffold or those built for special purposes shall be built by the Carpenters.

The making of horses and trestles other than temporary is the work of the Carpenter.

Light Iron Furring, Brackets, Clips, Hangers, Corner Guards, Beads and Metallic Lath

[Subject of dispute between the International Union of Wood, Wire and Metal Lathers and the International Association of Bridge and Structural Iron Workers.]

[Award of the Denver Convention, Building Trades Department, A. F. of L., adopted November, 1908. See printed proceedings, pages 69 to 71 inclusive.]

Decision Rendered April 28, 1920

In the matter of dispute between the International Union of Wood, Wire and Metal Lathers and the International Association of Bridge and Structional Iron Workers referred to in the foregoing title the following award is concurred in:

"After going into an extended hearing of the jurisdiction claims of both organizations, your committee recommends that the erection and installation of all light iron work, such as light iron furring, brackets, clips, hangers, steel corner guards or beads,* and metallic lathing of all descriptions, belongs solely to the lather.

"This does not give the right, however, to the lathers to install or erect any other iron work than as herein specified and outlined.

"This decision is based in conformity with the agreement entered into by the national officers of both organizations and endorsed by the Kansas City Convention of Structural Iron Workers and concurred in by the American Federation of Labor."

In supplement of the foregoing decision the Rochester Convention of the Building Trades Department, November 29, 1912, awarded jurisdiction over Hy-rib lath to the Wood, Wire and Metal Lathers' International Union.

Metallic Corner Beads When Set in Plastic Material

[Subject of dispute between the Operative Plasterers and Cement Finishers' International Association and the Wood, Wire and Metal Lathers' International Union.]

Decision Rendered March 11, 1920

In the matter of the controversy between the Plasterers and Lathers on the question of the adherence of corner beads by plastic material, it is the opinion of the Board that deserved consideration was not given the subject when the previous decision was reached. It is, therefore, agreed that the Plasterers are awarded jurisdiction over sticking with plastic material metallic corner beads.

* Note following decision.

Acetylene and Electric Welding

[Subject of dispute between the trades named in the following memorandum.]

Decision Rendered April 28, 1920

In the matter of the dispute referred to in the foregoing title, as approved by the Philadelphia Convention of the Building Trades Department, A. F. of L., November, 1914 (see printed proceedings, page 99), the following agreement is concurred in:

"Representatives of the Electrical Workers, Sheet Metal Workers, Iron Workers, Plumbers and Steam Fitters, and Machinists mutually agreed to the following decision:

"Each trade to have jurisdiction over all acetylene and electric welding when such process is used to perform the work of their respective trades."

Bronzing and Painting of Radiators and Pipe Connections

[Subject of dispute between the Brotherhood of Painters, Decorators and Paperhangers and the United Association of Plumbers and Steam Fitters.]

[Award of Rochester Convention, Building Trades Department, A. F. of L., adopted November 29, 1912. See page 141, printed proceedings.]

Decision Rendered April 28, 1920

In the matter of the subject referred to in the foregoing title, the following award is concurred in:

Resolved, That the United Association of Plumbers and Steam Fitters be and is instructed to require that its affiliated unions desist from further trespass upon the jurisdiction of the Brotherhood of Painters, Decorators and Paperhangers of America, and when and where necessary to notify their employers that neither journeymen nor helpers will be permitted to do this work.

Cork Tiling, Laying or Setting of (to Apply to Finished Floor Surfaces Only)

[Subject of dispute between the United Brotherhood of Carpenters and Joiners and the Bricklayers, Masons and Plasterers' International Union.]

Decision Rendered April 28, 1920

In the matter of the dispute referred to in the foregoing title, the following agreement is concurred in:

Agreement entered into this 14th day of October, 1913, by and between representatives of the United Brotherhood of Carpenters and Joiners, and representatives of Bricklayers, Masons and Plasterers' International Union.

Jurisdiction is hereby conceded the Bricklayers, Masons and Plasterers' International Union to the laying or setting of all cork tiling when laid or set in any composition of sand and Portland cement.

Jurisdiction is hereby conceded the United Brotherhood of Carpenters and Joiners to the laying or setting of all cork tiling when laid or set in any composition of glue or when nails or brads are used in laying above referred to cork tiling.

Application of Damp-Resisting Preparations and Waterproofing

[Subject of dispute between United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association, and the Brotherhood of Painters, Decorators and Paperhangers.]

Decision Rendered April 28, 1920

In the matter of dispute referred to in the foregoing title, the following agreement is concurred in:

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Agreement entered into by and between the Brotherhood of Painters, Decorators and Paperhangers of America and the United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association.

First. That the painters do not claim the right to apply any of the material claimed by the United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association, except such material as is applied by a brush that is ordinarily used by the painters in applying the materials covered in their jurisdiction.

Second. That the United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association does not claim the right to apply any of the material in dispute except when applied by or with a three-knot long-handled brush, mop or swab, and spray system employed therein.

Marble and Slate Partitions, Backs and Floor Slabs for Urinal Stalls, Closets and Showers, Setting of

[Subject of dispute between the Bricklayers, Masons and Plasterers' International Union and the United Associatoin of Plumbers and Steam Fitters.]

[Award of Rochester Convention, Building Trades Department, A. F. of L., adopted November 28, 1912. See page 132, printed proceedings. Award of Buffalo Convention, November 9, 1917. See page 92, printed proceedings.]

Decision Rendered April 28, 1920

In the matter of the subject referred to in the foregoing title, the following award is concurred in:

Resolved, That the setting of floor slabs, backs, partitions of urinal stalls, closets and shower baths properly belong to the Bricklayers, Masons and Plasterers' International Union.

The foregoing decision does not concede to the Bricklayers the right to install marble work that is connected with the water supply or sewer or water-tight work regularly catalogued as plumbing fixtures.

Muslin and Canvas for Decorative Purposes, Tacking of

[Subject of dispute between the Brotherhood of Painters, Decorators and Paperhangers and the I. A. Heat and Frost Insulators and Asbestos Workers.]

[Award of Buffalo Convention, Building Trades Department, A. F. of L., adopted November 10, 1917. See page 108, printed proceedings.]

Decision Rendered April 28, 1920

In the matter of the subject referred to in the foregoing title, the following award is concurred in:

Resolved, That this convention notify and instruct the officers of the Asbestos Workers' International Union that the tacking of all muslin and canvas for decorative purposes is the jurisdiction of the Brotherhood of Painters and that they instruct their members to refrain from doing any of this work.

Pile Driving Machinery and Engines, Operation of

[Award of Buffalo Convention, Building Trades Department, A. F. of L., adopted November, 1917. See pages 59 and 105, printed proceedings.]

Decision Rendered April 28, 1920

In the matter of the subject referred to in the foregoing title, the following award is concurred in:

Such workmen as are employed in the operation of engines or machinery in connection with a pile driver come under the jurisdiction of the International Union of Steam Engineers.

Sheet Metal Glazing for Sash, Frames, Doors, Skylights, Etc.

[Subject of dispute between the Brotherhood of Painters, Decorators and Paperhangers and Amalgamated Sheet Metal Workers' International Alliance.]

Decision Rendered April 28, 1920

In the matter of dispute referred to in the foregoing title the following agreement is concurred in:

Agreement entered into by and between the General Executive Board of the Brotherhood of Painters, Decorators and Paperhangers of America, and the Amalgamated Sheet Metal Workers' International Alliance, shall take effect December 1, 1910, and remain in force until amended, revised or changed, at a meeting between the representatives of both organizations called for this purpose.

Section 1. It is agreed by both parties to this agreement that all glass set in sheet metal sash, frames, doors, or skylights, shall be set by members of the Brotherhood of Painters, Decorators and Paperhangers of America, according to their claim of jurisdiction granted by the convention of the Building Trades Department, A. F. of L., at St. Louis, December, 1910; and that all sheet metal work on sheet metal sash, frames, doors, or skylights shall be done by the members of the Amalgamated Sheet Metal Workers' International Alliance.

Section 2. In localities where differences now exist or may arise in the future, such differences shall be adjusted by a committee appointed by and representing the district councils or local unions of both organizations in that locality. Should this committee be unable to agree, a representative of the General Executive Board of each organization shall be called in to assist in the adjustment.

Section 3. It is also agreed that the national officers of both organizations where local unions fail to agree shall insist that this agreement be carried out by affiliated unions.

Slate Treads When Set on Iron Stair Case

[Subject of dispute between Bricklayers, Masons and Plasterers' International Union, and the International Association of Bridge and Structural Iron Workers.]

Decision Rendered April 28, 1920

In the matter of the subject referred to in the foregoing title, the following award is concurred in:

Slate treads on iron stairs having provoked a dispute in jurisdiction between the organizations above named, was submitted to the Executive Council November 29, 1909. The action taken follows:

The Executive Council of the Building Trades Department on being called upon for a decision awarded the work in question (slate treads) to the Bricklayers, Masons and Plasterers' International Union.

Unskilled Labor, With Special Reference to the Loading and Unloading of Material as Applied to Re-enforced Concrete Construction

[Subject of dispute between the International Hod Carriers, Building and Common Laborers' Union and International Association of Bridge and Structural Iron Workers.]

Decision Rendered August 2, 1920

It is the decision of the Board that the loading, unloading, carrying and handling of all rods and material for use in re-enforced concrete construction shall be done by the laborers under the supervision of such person as the employer may designate. The hoisting of rods, except when a derrick or outrigger is used, shall be done by laborers—this decision to apply only to the character of work stipulated herein. In such localities where existing agreements provide otherwise, this decision is to become effective at the expiration thereof.

Defects in Concrete Caused by Leakage, Bulging, Sagging, Etc., Through Defective or Shifting Forms

[Subject of dispute between the Operative Plasterers and Cement Finishers' International Association and the International Hod Carriers, Building and Common Laborers' Union.]

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Decision Rendered August 2, 1920

Where finishing tools are not used or required the work shall be done by the laborer.

The filling of voids and other work requiring patching, where finishing tools are used and required, shall be done by the cement finisher.

Setting and Alignment of Tile and Porcelain Bathroom Accessories

[Subject of dispute between the Bricklayers, Masons and Plasterers' International Union and the United Association of Plumbers and Steam Fitters.]

Decision Rendered December 4, 1920

In the matter of the controversy between the Tile Layers and Plumbers over Setting and Alignment of Tile and Porcelain Bathroom Accessories, it is decided that all bath and toilet room accessories made of clay products, built in tile-faced walls, shall be the work of the tile setter.

Metal Floor Domes

[Subject of dispute between the Amalgamated Sheet Metal Workers' International Alliance, the International Union of Wood, Wire and Metal Lathers and the United Brotherhood of Carpenters and Joiners.]

Decision Rendered December 4, 1920

In the matter of the controversy between the Sheet Metal Workers, Lathers and Carpenters over metal floor domes, it is decided that the placing of metal floor domes, whether temporary or permanent, whenever supported by wood props or other wood supports and used as forms for concrete construction, come within the jurisdiction of the Carpenters.

Jurisdiction Over Foreman on Interior Concrete Columns, Foundations for Engine and Machinery Beds

[Subject of dispute between the Bricklayers, Masons and Plasterers' International Union, International Hod Carriers, Building and Common Laborers' Union and the Operative Plasterers and Cement Finishers' International Association.]

Decision Rendered December 4, 1920

In the matter of the jurisdiction over Foremen on Interior Concrete Columns, Foundations for Engine and Machinery Beds as contested by the Bricklayers, Hod Carriers and Plasterers, it is the decision of the Board that the work shall be done by the Laborers under the supervision of such skilled workmen as the employers may designate.

Electrical Work on Elevators (Rehearing)

[Subject of dispute between the International Brotherhood of Electrical Workers and the International Union of Elevator Constructors.]

Decision Rendered December 4, 1920

In the matter of the dispute between the Elevator Constructors and the Electrical Workers on the question of all electrical work on elevators, it is agreed that the electrical work involved in the installation of signal systems, fans, telephones, electric light fixtures and illuminated thresholds and electrical interlocking devices except on automatic elevators, and feed wires to the controller, is awarded to the Electrical Workers.

Bishopric Board, When Applied as a Substitute for Lath and Sheathing

[Subject of dispute between the United Brotherhood of Carpenters and Joiners and the International Union of Wood, Wire and Metal Lathers.]

Decision Rendered December 4, 1920

In the matter of the dispute over the installation of Bishopric Board when applied as a substitute for lath, it is the decision of the Board that the work shall be done by the Lathers; where the same is used for sheathing it shall be the work of the Carpenters.

Flaxlinum Keyboard and Insulation

[Subject of dispute between the United Brotherhood of Carpenters and Joiners and the International Union of Wood, Wire and Metal Lathers.]

Decision Rendered December 4, 1920

In the matter of the dispute over the installation of Flaxlinum Keyboard and Insulation, it is the decision of the Board that when the same is used as a substitute for lath or when any plastic material is to be applied, the work shall be done by the Lathers; when Flaxlinum is used as insulation or sheathing it shall be the work of the Carpenters.

Hollow Metal Doors and Trim

[Subject of dispute between the United Brotherhood of Carpenters and Joiners and the Amalgamated Sheet Metal Workers' International Alliance.]

Decision Rendered December 4, 1920

In the matter of the controversy between the Sheet Metal Workers and Carpenters over Hollow Metal Doors and Trim, it is decided that the hanging of such doors, except sliding doors, the installation of the door frames, the placing of the trim around door or other openings and the placing of all other metal trim, is the work of the Sheet Metal Workers whenever the metal is of No. 10 gauge or lighter.

Decision Rendered March 12, 1921

In the matter of the controversy between the International Association of Bridge and Structural Iron Workers and the Amalgamated Sheet Metal Workers' International Alliance relative to Hollow Metal Doors and Trim, it is decided that the erection of hollow metal doors, made entirely of No. 10 gauge metal or lighter, except for local re-enforcement, and the installation of the door frames and trim in direct connection with such doors is the work of the Sheet Metal Workers; except that in the case of sliding doors, street entrance and vestibule doors, elevator, shipping room and freight doors, and doors used exclusively for fire purposes, the work is that of the Iron Workers. Kalamein or other wood-core doors are not covered by this decision.

METAL PARTITIONS

The erection of metal partitions of No. 10 gauge metal or lighter, unless the structural framing of such partitions consists of rolled shapes or drawn tubing, is the work of the Sheet Metal Workers. In other cases it is the work of the Iron Workers.

Hollow Sheet Metal Window Frames and Sash

[Subject of dispute between the United Brotherhood of Carpenters and Joiners and the Amalgamated Sheet Metal Workers' International Alliance.]

Decision Rendered December 4, 1920

In the matter of the controversy between the Sheet Metal Workers and the Carpenters over Hollow Sheet Metal Window Frames and Sash, it is decided that the setting of hollow mteal window frames and the hanging of hollow metal sash, when such frames and sash are made of No. 10 gauge metal or lighter, is the work of the Sheet Metal Workers.

Decision Rendered March 12, 1921

In the matter of the controversy between the Amalgamated Sheet Metal Workers' International Alliance and International Association of Bridge and Structural Iron Workers

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over Hollow Sheet Metal Window Frames and Sash, it is decided that the setting of hollow metal window frames and the hanging of hollow metal sash, when such frames and sash are made of No. 10 gauge metal or lighter, is the work of the Sheet Metal Workers. The Campbell Window and Sash not being of hollow metal, its erection is awarded to the Iron Workers.

Metal Forms for Concrete Columns

[Subject of dispute between the United Brotherhood of Carpenters and Joiners, Amalgamated Sheet Metal Workers' International Alliance and the International Association of Bridge and Structural Iron Workers.]

Decision Rendered December 4, 1920

In the matter of the controversy between the Sheet Metal Workers, Carpenters and Iron Workers over metal forms for concrete columns, it is decided that the setting up of such forms of No. 10 gauge metal or lighter is the work of the Carpenters, and when heavier than No. 10 gauge it is the work of the Iron Workers.

School and Theatre Seats, Setting of

[Subject of dispute between the Amalgamated Sheet Metal Workers' International Alliance, United Brotherhood of Carpenters and Joiners and International Association of Bridge and Structural Iron Workers.]

Decision Rendered March 12, 1921

In the matter of the controversy between the Amalgamated Sheet Metal Workers' International Alliance, United Brotherhood of Carpenters and Joiners and International Association of Bridge and Structural Iron Workers relative to the setting of school and theater seats, it is decided that the work in question be awarded to the Carpenters.

Sheet Metal Hoppers and Spouts in Grain Elevators

[Subject of dispute between the Amalgamated Sheet Metal Workers' International Alliance, International Association of Bridge and Structural Iron Workers and United Brotherhood of Carpenters and Joiners.]

Decision Rendered February 7, 1922

In the matter of the dispute between the Amalgamated Sheet Metal Workers' International Alliance, International Association of Bridge and Structural Iron Workers and United Brotherhood of Carpenters and Joiners referred to in the foregoing title, it is decided that all metal work relating to Hoppers and Spouts in Grain Elevators when made of ten-gauge or lighter metal, including reinforcement of light iron, cold riveted or bolted, be awarded to the Amalgamated Sheet Metal Workers' International Alliance; when heavier than ten-gauge the work is awarded to the International Association of Bridge and Structural Iron Workers.

Hoisting, Lowering and Placing of Elevator Machinery

[Subject of dispute between the Elevator Constructors' International Union and the International Association of Bridge and Structural Iron Workers.]

Decision Rendered February 7, 1922

In the matter of the dispute between the Elevator Constructors' International Union and the International Association of Bridge and Structural Iron Workers referred to in the foregoing title, it is decided that the Elevator Constructors' International Union be awarded the hoisting, lowering and placing of elevator machinery.

Glazing as Hereinafter Described

[Agreement for avoidance of dispute between Brotherhood of Painters, Decorators and Paperhangers and Bricklayers, Masons and Plasterers' International Union as endorsed by Building Trades Department, A. F. of L.]

Decision Rendered July 12, 1922

In the matter of the subject referred to in the foregoing title, it is the decision of the Board that the following agreement be concurred in:

Agreement entered into by and between the General Executive Board of the Brotherhood of Painters, Decorators and Paperhangers of America, and the General Executive Board of the Bricklayers, Masons and Plasterers' International Union shall take effect December 5, 1910, and remain in force until amended, revised or changed at a meeting between the representatives of both organizations called for this purpose.

Section 1. It is agreed by both parties to this agreement that all plate and window glass, mirrors, beveled plate, rough, ribbed, wire, figured, colored or art glass set in sash, frames, doors, or skylights, constructed of wood, sheet metal, iron, stone, or other material and set with putty or moulding, shall be set by the members of the Brotherhood of Painters, Decorators and Paperhangers of America, and that where glass is used as a substitute for ceramic, mosaic, or encaustic tile, and set on floors, walls and ceilings in mortar, cement or other plastic material used to secure such tile in position, shall be set by members of the Bricklayers, Masons and Plasterers' International Union, when cut to size and shape for setting. It is further agreed by the Bricklayers, Masons and Plasterers' International Union that all glass delivered on jobs in stock sheets shall be cut to the required size by a member of the Brotherhood of Painters, Decorators and Paperhangers of America.

Section 2. It is agreed by both parties to this agreement that all plate and window glass, mirrors, beveled plate, rough, ribbed, wire, figured, colored, or art glass set in sash, frames, doors, or skylights, constructed of wood, sheet metal, iron, stone, or other material and set with putty or moulding, shall be set by the members of the Brotherhood of Painters, Decorators and Paperhangers of America, and that where glass is used as a substitute for marble in interior finish or decoration, and is carved, cut, polished or rubbed, shall be set by members of the Bricklayers, Masons and Plasterers' International Union.

Section 3. Should any differences arise regarding the work as covered by this agreement, a committee appointed by and representing the district council or local union of each organization in that locality, shall meet and adjust such differences. Should the committees of the local unions fail to agree, an executive officer of each international union shall be requested to attend and assist in the adjustment.

Section 4. It is further agreed that the national officers of both organizations shall insist that all agreements entered into shall be carried out by affiliated unions.

Agreement for Avoidance of Dispute Between United Slate, Tile and Composition Roofers and Amalgamated Sheet Metal Workers' International Alliance

[Endorsed by Seattle Convention, Building Trades Department, November, 1913.]

Decision Rendered July 12, 1922

In the matter of the subject referred to in the foregoing title, it is the decision of the Board that the following agreement be concurred in:

Upon that portion of the report of the Executive Council under the above caption the committee reported as follows:

"The representatives of the I. A. A. Sheet Metal Workers and the United Slate, Tile and Composition Roofers appeared before your committee and requested that they be given an opportunity to reach an agreement. The request was granted and the following represents the agreement reached by the trades in interest:

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"This agreement made and entered into at Atlantic City, N. J., July 25, 1913, by and between the Amalgamated Sheet Metal Workers' International Alliance, party of the first part, and the United Slate, Tile and Composition Roofers, party of the second part, in pursuance of correspondence and action thereon as found on page 76 of the report of the Proceedings of the Sixth Annual Convention of the Building Trades Department whereby the party of the first part agrees to cause its affiliated local unions and their members to respect and observe the trade jurisdiction of the party of the second part as approved by the Building Trades Department of the American Federation of Labor, and refrain from doing any work granted to the said party of the second part in the aforesaid jurisdiction in all towns and localities where the party of the second part has a duly chartered local union.

"The party of the second part agrees to cause all its local unions and their members to observe and respect the jurisdiction of the party of the first part as established and approved by the Building Trades Department of the American Federation of Labor."

Operation of Elevators for Hoisting Material

[Decision St. Louis Convention, Building Trades Department, A. F. of L., adopted December, 1910. See printed proceedings, page 128.]

Decision Rendered July 12, 1922

In the matter of the subject referred to in the foregoing title, the following decision is concurred in:

The operation of elevators of all kinds when used for hoisting any material used in the construction of buildings is hereby conceded to the hoisting engineers, affiliated with the International Union of Steam Engineers.

Corrugated Sheeting

[Subject of dispute between International Association of Bridge and Structural Iron Workers and Amalgamated Sheet Metal Workers' International Alliance.]

Decision Rendered May 26, 1923

The erection of corrugated metal sheeting on steel frames construction when the sheets are simply end and side lapped is the work of the Iron Workers; the erection of all other corrugated metal sheeting of No. 10 gauge or lighter is the work of the Sheet Metal Workers.

Derricks, Erection and Handling for Setting Stone

[Subject of dispute between Bricklayers, Masons and Plasterers' International Union and International Association of Bridge and Structural Iron Workers.]

Decision Rendered May 26, 1923

The stone setter shall have sole jurisdiction over hand derricks in connection with the setting of stone.

The erection and operation of power derricks for setting stone shall be done by the Iron Workers under the direct supervision of the stone setter, who shall determine the number of men to be employed.

Jurisdiction Over Cork Insulation and Substitutes Therefor

[Subject of dispute between Operative Plasterers and Cement Finishers' International Association, Bricklayers, Masons and Plasterers' International Union, United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association, and International Association Heat and Frost Insulators and Asbestos Workers.]

Decision Rendered May 26, 1923

In the matter of the erection and installation of cork and other insulations used as substitutes the United Brotherhood of Carpenters and Joiners of America shall control all cork and other substitutes when laid dry, such as floors, partitions, and ceiling insulation, including the cutting and fitting thereof; the Operative Plasterers' and Cement Finishers' International Association and the Bricklayers, Masons and Plasterers' International Union shall jointly control all cork and substitutes therefor when cement or other plastic materials are used, including the cutting and fitting thereof; on all jobs of cork work laid in asphalt, it shall be permissible for the Laborer to do the work of smearing the asphalt, under the supervision of the mechanic.

Artificial Stone—Granite, (Dressing, Altering and Finishing.)

[Subject of dispute between Granite Cutters' International Association and Journeymen Stone Cutters' Association.]

Decision Rendered May 26, 1923

In the matter of dispute between the Granite Cutters' International Association and the Journeymen Stone Cutters' Association relative to artificial stone, the dressing, altering and finishing of artificial stone, cast in imitation of natural stone is the work of the Journeymen Stone Cutters' Association except that when any such artificial stone, by reason of hardness or texture, requires the use of granite cutters' tools for the proper dressing, altering or finishing it is the work of the Granite Cutters' International Association.

Flat-faced Tile

[Subject of dispute between Bricklayers, Masons and Plasterers' International Union and United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association.]

Decision Rendered May 26, 1923

In the matter of dispute referred to in the foregoing title the following agreement is concurred in:

BRICKLAYERS, MASONS AND PLASTERERS' INTERNATIONAL UNION

vs.

UNITED SLATE, TILE AND COMPOSITION ROOFERS, DAMP AND WATERPROOF WORKERS' ASSOCIATION

Agreement entered into this 21st day of February, 1911, amended May 26, 1923, by and between duly accredited representatives of the organizations above named, to-wit:

Jurisdiction is hereby conceded the Bricklayers, Masons and Plasterers' International Union over the laying or setting of flat-faced tile of every description when laid in mortars on all flat roofs or promenade roofs.

Jurisdiction is hereby conceded the United Slate, Tile and Composition Roofers, Damp and Waterproof Workers' Association over flat-faced tile of every description, and corrugated tile, when laid in any preparation of asphalt on roofs, flat or otherwise.

Foremanship Over Concrete Work on Walls, Foundations, Footings, etc., Below the First Floor

[Subject of dispute between Bricklayers, Masons and Plasterers' International Union, International Hod Carriers, Building and Common Laborers' Union, and Operative Plasterers and Cement Finishers' International Association.]

Decision Rendered May 26, 1923

In the matter of dispute covered in the foregoing title, it is decided that foremanship over concrete work on walls, foundations, footings, etc., below the first floor shall be done by Laborers under the supervision of such skilled mechanics as the employer may designate.

Conduo Base, Installation of

[Subject of dispute between International Brotherhood of Electrical Workers and Amalgamated Sheet Metal Workers' International Alliance.]

Decision Rendered August 2, 1923.

In the matter of the controversy between the Electrical Workers and the Sheet Metal Workers as to the installation of conduo base, it is decided that the installation of conduo base is the work of the Sheet Metal Workers.

Structural Service Department appears on the second right hand page following

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Structural Service Department

LEROY E. KERN, *Technical Secretary*

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.

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Lime Stucco, Exterior. (21d3)—(*Lime in Construction, by T. B. Shertzer. Bulletin* 306. *National Lime Association. Size* 6" x 9". *Pages* 80.) Exterior plaster or as more commonly termed "stucco," should provide a permanent, pleasing, and water-tight covering for the structure to which it is applied. It should also aid in the exclusion of cold in the winter and heat in the summer. In order to be lasting and provide the most satisfactory covering possible, stucco should be as lean as consistent with integrity and the performance of its proper functions. Stucco should be composed of materials which are least influenced by diurnal and seasonal changes of temperature, climate, and humidity. It should possess as much elasticity as possible so as to accommodate itself to volume changes caused by differences in temperature and humidity without permanent deformation and cracking. It should be strong enough to resist the mechanical disruptive effects of frost, hail, beating rain storms, and other natural forces.

In order to obtain a good job of stucco, consideration must be given to the structural features of the building to which it is applied. Care must be taken to see that no rain or other water can possibly get behind the stucco through cracks around window or door openings; that sufficient overhang must be given the roof to protect the upper edge of the stucco.

All breaks must be provided with suitable water tables and drips and flashings so placed as to prevent any water from running down the surface of the stucco. All vertical breaks should be well flashed and designed so as to prevent any water getting past the edge of the stucco. Stucco should not be placed within eighteen (18) inches or two (2) feet of the ground, and should terminate on a sloping water table of substantial construction.

No matter what materials are used, it will be impossible to obtain satisfactory stucco unless the utmost care is used in its application.

The reason for making stucco mixtures as lean as possible is that the co-efficient of expansion of all the cementing media in use at the present time is greater than that of the average sand, so that if the sand grains are insulated by appreciable thickness of cement, these cement layers are affected more by humidity and temperature changes than the sand, and so tend to form cracks. Another reason is that it is necessary to use an excess volume of water in mixing all cements in order to make the mass workable. This excess of water is held by the particles of cement by the process of absorption; there is also considerable free water present in the form of droplets or globules. As the mortar dries out, this excess of water evaporates and the cementing portion of the mass consequently shrinks. The less cementing medium there is in a mass of plaster, the smaller will be the total volume change due to absorption of moisture and consequently the smaller the internal stresses set up within the mass, and the less liability of the formation of cracks.

Lime hardens in place rather slowly, so that it remains plastic for a longer time than any other material. The hardening is effected by the slaked lime absorbing carbon dioxide from the air in the presence of a small percentage of water.

This process slowly changes the calcium hydroxide into crystalline calcium carbonate.

The slow hardening permits of an internal readjustment of the sand particles, as the excess water evaporates, without the liability of permanent breaking of the bond between the lime and the sand. The change from calcium hydroxide to calcium carbonate results in a slight increase of volume of the individual particles, which compensates the tendency to shrink from loss of excess water. The final product of the lime in the mass is crystallized calcium carbonate, which has about the same humidity co-efficient of expansion as the average sand.

Crystallized calcium carbonate is practically impervious to water, and its co-efficient of absorption is very low, as is also its solubility. It is, therefore, to all intents, unaffected by moisture and so will cause a minimum of internal stress due to the presence of moisture.

Suggested specification for stucco follows:

Materials.—Lime shall conform with the requirements of the A. S. T. M.

Sand shall be clean and well graded from coarse to fine. It shall contain not over ten (10) per cent of loam or clay and shall be entirely free from vegetable or animal matter. It shall all pass a number eight (8) sieve.

Hair shall be well washed long cattle hair. Suitable vegetable fibre may be substituted for cattle hair.

Grounds. When applied to lathing, stucco shall have seven eighths (⅞) of an inch grounds. When applied to brick, tile, concrete, or similar base, it shall have at least three-quarters (¾) of an inch grounds.

Coats. When applied to lathing, the stucco shall be applied in three coats—scratch, brown, and finish. When applied to brick, tile, concrete, or similar base, it may be done in two coats, brown and finish.

Lathing. The lathing shall be done as required for interior plastering, except that metal lath shall weigh 3.4 pounds per square yard.

Application. The several coats shall be applied as required for interior plastering. The brown coat should be leaner than that for interior plastering and should be worked much harder.

Finishing. The finish coat should in all cases be applied with a rough texture, such as pebble or stone-chip dash or spatter work. Smooth finished surfaces are rarely satisfactory, for the reason that hair cracks will develop even in the best of stucco, due to shrinkage of the foundation

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A GENERAL ELECTRIC PRODUCT

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to which it is applied or to settling stresses. When the surface is finished with a rough texture, these minute hair cracks do not show.

The bulletin also contains tables of quantities and cost of material.

Synopsis.—Uses of lime in concrete, mortar, plaster, stucco: Clauses suggested for inclusion in Building codes and specifications; Data derived from tests; Tentative specifications of Committee C-7 on lime of the A. S. T. M.; Resolution passed by Labor Union regarding the use of lime.

Sewage Disposal. (29c21)—(*Sewage Disposal for Rural Homes by H. W. Riley and J. C. McCurdy, Extension Bulletin 48, May, 1922, New York State College of Agriculture, Cornell University. Size 6" x 9". Pages 26. Illustrated.)* The wastes from the sink and the bathroom can be disposed of either by means of a cesspool or by means of a septic tank and disposal tile. A cesspool may be used where the soil is sandy or gravelly and where there is no danger of contaminating any water supply. Very little purification of the sewage takes place in the cesspool, which serves mainly as a vault to retain solids. With use, the soil about a cesspool acts usually in one of three ways: it may be loose enough to absorb the liquids from the sewage for a long period, leaving the solids to break down and eventually disappear, either as gas, liquid, or finely divided solids, or it may be loose and open in only one direction, thus permitting a concentrated flow which may go a long distance unpurified and eventually contaminate some water supply; or the soil may be too dense to carry the flow for any but a brief period, in which case the cesspool soon fills up and overflows, making it necessary to build new cesspools repeatedly or to substitute a well designed septic tank and system of disposal tile.

It is usually desirable to place the septic tank 25 to 50 feet from the house. It is possible that if placed too near the house, the sewage enters with a rush, the contents will be stirred up, and septic action retarded. Over the septic tank, there should be a covering of earth sufficient to maintain vegetation but not so great as to offer serious difficulty in uncovering the tank for inspection or cleaning. A depth of about 12 inches is usually satisfactory. The tank should be large enough to hold one day's flow of sewage, in addition to an accumulation of sludge and scum, and have an extra depth of from 10 to 12 inches in the upper part of the tank. The septic tank is usually made of concrete. Where it is constructed in firm earth, only the inside form will be needed. The concrete for the tank should be made of good Portland cement, clean sand, and broken stone or clean gravel, mixed in proportions of one part, by measure, of cement, two parts of sand, and four parts of gravel or broken stone.

INSIDE DIMENSIONS OF TYPE "Y" SEPTIC TANK

No. of Persons	Dimensions of Tank	
	Inside Width	Inside Length
6 or less	3′	6′
8	3′	7′
10	3′	7′
12	4′	8′

Baffle boards should be made of 2 inch plank, preferably of cypress or chestnut, and should be put in place before the cover slabs are put on the tank. The baffles should always be in place when the septic tank is in operation.

The inlet sewer should be about 2 feet below the surface and should have a grade of not less than ⅛ inch to the foot. A flatter grade will decrease the velocity of the sewage and thus tend to settle out the solids, which, in turn, may fill the sewer pipe; a grade as steep as ¾ inch to the foot is also undesirable. If a steep grade is unavoidable, place the septic tank near the house, if possible, and let the steep slope follow, rather than precede, the tank. The sewage will not freeze in the sewer pipe which has been carefully laid to grade so that there are no sags in which the sewage can collect and if warm waste water is discharged daily into the septic tank.

For the sewer, vitrified clay pipe having an inside diameter of not less than 4 inches is generally used. Lay the pipes with the bell end upgrade. A running trap, properly vented, should be put in the line near the house, or in the cellar floor.

While an easy method of disposal of septic effluent is that of running it into a stream, this should only be done when the stream is sufficiently large and the water from the stream lower down is not used by human beings for drinking purposes. Discharging septic effluent into streams is recognized by law as being a dangerous practice. One of the most satisfactory ways of disposing of the effluent from the septic tank for the private house is by means of absorption tile. This method of treating the septic-tank effluent cannot always be used satisfactorily, for its success depends on location, area, topography, kind of soil, and distance from wells, springs, or other sources of water supply.

The size and topography of the plot available for the absorption area, as well as the nature of the soil, should receive due consideration. In a soil containing much sand or gravel, 10 to 20 feet of absorption tile per person will be required, while in a loam, 30 to 50 feet is necessary. Where more than one row of tile is needed, the rows should preferably be at least 6 feet apart, and better results would be obtained by leaving a space of 10 feet between them; but if only a limited area is available, it would be better to reduce the spacing to 5 feet rather than to limit the total length of tile used. Absorption tile may be placed in a hillside if they are laid in rows nearly parallel with the contours. The site chosen for the absorption tile should be from 75 to 300 feet from the well or spring and in such a direction from it that both the surface wash and the underground seepage are away from the water supply. If the ground is fairly level this may require locating the absorption area at some distance from the septic tank, or placing the tile at a greater depth and in greater number to compensate for this greater depth. The sizes suitable for use with the single-chamber septic tank are those having an inside diameter of 3 to 4 inches. They should be placed 12 to 18 inches below the surface of the ground. If there are not more than five or six people in the household, and if a sandy or gravelly soil is available for the absorption tile, a single line of tile may be used. If the absorption area has a fairly level surface and the soil is less porous two or more lines of tile may be needed; the lines should all be approximately the same length, and, should not be more than 100 feet. It is necessary to distribute the effluent evenly among the several lines of tile. It is also desirable, in order that the aerobic bacteria in the soil may work most efficiently, to apply the sewage to the absorption area intermittently. This intermittency occurs normally in the sewage-disposal system serving a small family; but in the larger households, where there are more bathrooms, kitchen, and laundry fixtures, the flow of sewage is more nearly uniform.

The grade to which the absorption tile is laid will depend on the type of soil encountered. In a porous soil, the septic-tank effluent will be readily absorbed; in the less porous soils, it will be absorbed more slowly. In order to distribute it thoroughout the entire length of each line, the lines of tile in porous soil should have steeper grades than those in less porous soil. In porous soil they should have a fall of ⅛ to ¼ inch to the foot, and in less porous soil ¼ to ½ inch to the foot.

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The ends of the tile should fit rather closely, being not more than ⅛ inch apart. To prevent fine earth from getting into the line of tile through these joints, the upper half of each joint should be covered with strips of tar paper or pieces of broken tile of a larger size. Where a heavy loam is encountered, it is advisable to dig a wider ditch and to place cinders, gravel, or broken stone alongside of the tile to assist in distribution.

The depth at which the tile are laid permits of cultivation of the soil above them; but very satisfactory results are obtained by keeping this area in sod. It should not be shaded, nor should the tile be laid near willows or poplars, as the roots of these trees may soon fill the tile.

When there are twelve or more people in the house, much water is used; there are generally several plumbing fixtures, and as a result, the flow of sewage from the septic tank is fairly steady. In order to give the absorption area a rest at regular intervals, it is necessary to place, between it and the septic tank, some device that will hold back the flow for some time and then discharge it in a relatively short period. The automatic dosing siphon performs this work most satisfactorily. A loss of head amounting to 2 feet or more is unavoidable when such a siphon is used, however. This prevents its use on level ground, for the top of the septic tank would be too near the surface, or the absorption tile too deep for satisfactory oxidation.

A siphon chamber, in which the liquid flowing from the septic tank is stored and the automatic siphon placed, is generally built as a part of the septic tank.

Sometimes the only place available for a disposal system has a very heavy clay soil. In such circumstances, subsurface irrigation would not provide a satisfactory secondary treatment for the sewage, and a sand filter of two or more units should be substituted. The septic tank and siphon chamber will be practically the same but the size of the siphon chamber will be based on the area of a unit of the sand filter, the depth that the sand filter is to be filled with sewage at each dose, and the drawing depth of the siphon.

In designing the filter, provision should be made for 30 to 35 square feet of surface for each person in the household. To serve twelve people, two filter beds, each approximately 16 feet long and 12 feet wide, should be built. The dose applied to the sand filter should cover its surface to a depth of about 1 inch. A filter 16 feet long and 12 feet wide would have a surface area of 192 square feet; if its surface were covered to a depth of 1 inch, the volume of liquid would be 16 cubic feet. Using a siphon with a drawing depth of 13 inches, a siphon chamber having 14.77 square feet is required; the width of the septic tank is 4 feet, and if the siphon chamber is made the same width its length will be 3 feet 8 inches. If a siphon with a drawing depth of 15 inches is used, the siphon chamber should be 3 feet 2½ inches long.

The bottom of each bed should slope from the sides toward the middle, and an underdrain, made of 4 inch drain tile and laid with a grade of ⅛ inch to the foot, should be laid in this depression. Coarse stone of about 2 inch diameter should be put around and over the drain tile; above this layer, the size should be gradually diminished to that of fine stone or gravel. The upper layer should be composed of 3 feet of clean, fairly coarse sand, such as would be suitable for concrete. The surface of the filter will gradually become clogged and may figure raking once in two or three months. In larger filters, it is generally necessary to remove, once a year, about 1 inch of sand from the surface of the filter. This should be replaced with clean sand. In order to clean the filter surface while the sewage-disposal plant is in operation, the filter should be composed of not less than two units, one receiving the septic-tank effluent while the other is being cleaned. If two units are put in, each should have one-half the total area required. It is also desirable to have at least two filters, so that each one may have a regular resting period. The switch in the diverting chamber should be changed at intervals of two or three days.

A cover built over the filter beds, puts them out of sight, prevents a growth of vegetation in summer, and retards freezing in winter.

The sand filter does not occupy very much space, but requires more attention and more fall than subsurface irrigation. The sewage passing through it receives a high degree of purification and will not create a nuisance if allowed to run into a stream.

Synopsis.—The septic tank; Subsurface irrigation; The sand filter; Location and construction of the sewage-disposal system; Laying the sewer pipe; Location and installation of the absorption tile; Septic tank with siphon chamber and automatic dosing siphon followed by subsurface irrigation; Septic tank with siphon chamber and automatic dosing siphon following by a sand filter.

Wood Preservation. (19a3)—(*Wood Preserving News, March,* 1923, *Vol.* 1, *No.* 2.) According to an article by Earl Stimson, Chief Engineer, Maintenance, B. & O. R. R. concerning a test section of the B. & O. R. R. in which both treated and untreated ties were installed in 1911 the following results have been observed:

	Untreated	*Straight Creosote*		*Card Process*		*Timber Asphalt*
Item	*White Oak*	*Red Oak*	*Maple Gum, Elm Beech*	*Red Oak*	*Maple Gum, Elm Beech*	*Red Oak*
Total ties in test....	760	873	252	1,125	1,219	1,101
Removed in 12 years..	556	5	22	66	194	742
	73.0%	0.6%	8.7%	6.0%	15.9%	74.1%
Condition of remainder at end of 12th year:						
(a) Badly split or decayed 10.8%	0.5%	7.9%	5.2%	7.5%	10.7%	
(b) Partly split or decayed 14.6%	8.7%	19.9%	10.9%	22.2%	14.2%	
(c) Without defect.. 1.6%	90.2%	63.5%	77.9%	54.4%	1.0%	
Estimated average additional life, item (c) 3 yrs	7 yrs.	4 yrs.	5 yrs.	3 yrs.	3 yrs.	
Total average life anticipated as a minimum 10.6 ys.	18.7 ys.	14.8 ys.	16.2 ys.	14.0 ys.	11.0 ys.	

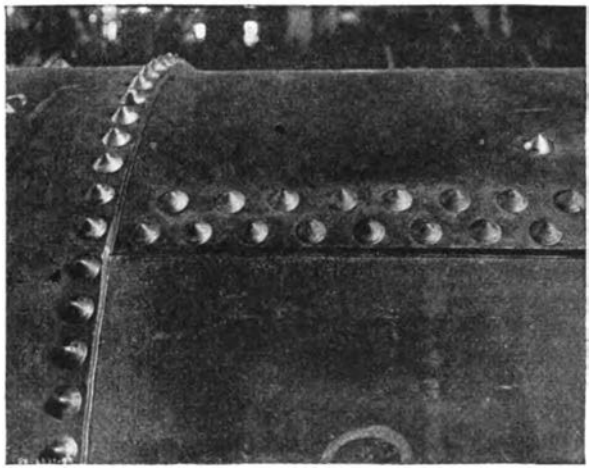
Kind	*Average Life (Minimum)* *Years*	*% Incr.*
Untreated White Oak.....	10.6	
Straight Creosote—Red Oak.....	18.7	76
Straight Creosote—Softwood	14.8	40
Card Process—Red Oak	16.2	53
Card Process—Softwood	14.0	32
Timber Asphalt—Red Oak (Petroleum oil)	11.0	4

By combining the record of removals with the condition of remaining ties, as given in the first table there is derived the average minimum life to be anticipated from each group, and the relative value of the various kinds of treated and untreated ties as shown in the second table.

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KANSAS CITY	2014 Wyandotte St.	DALLAS	809 Southwestern Life Bldg.
INDIANAPOLIS	509-510 Occidental Bldg.	DETROIT	1772 Lafayette Boul.
ST. LOUIS	4200 Forest Park Boul.	TOLEDO	1121-22 Nicholas Bldg.
MINNEAPOLIS	708 Builders Exchange	CLEVELAND	706 Rose Bldg.
COLUMBUS, O.	808 1st Natl. Bank Bldg.	ATLANTA, GA.	1521 Candler Bldg.
SALT LAKE CITY	204 Dooly Bldg.	SAN FRANCISCO	216 Pine St., Rooms 210-11

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THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS

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G. RICKARD
E. H. LOWBER

Four Decorations—Ezra Winter
RALPH FLINT

Seven Drawings—Florence
W. POPE BARNEY

On the Appreciation of Things Made to Be Seen
PERCY E. NOBBS

Regional Planning
LEWIS MUMFORD

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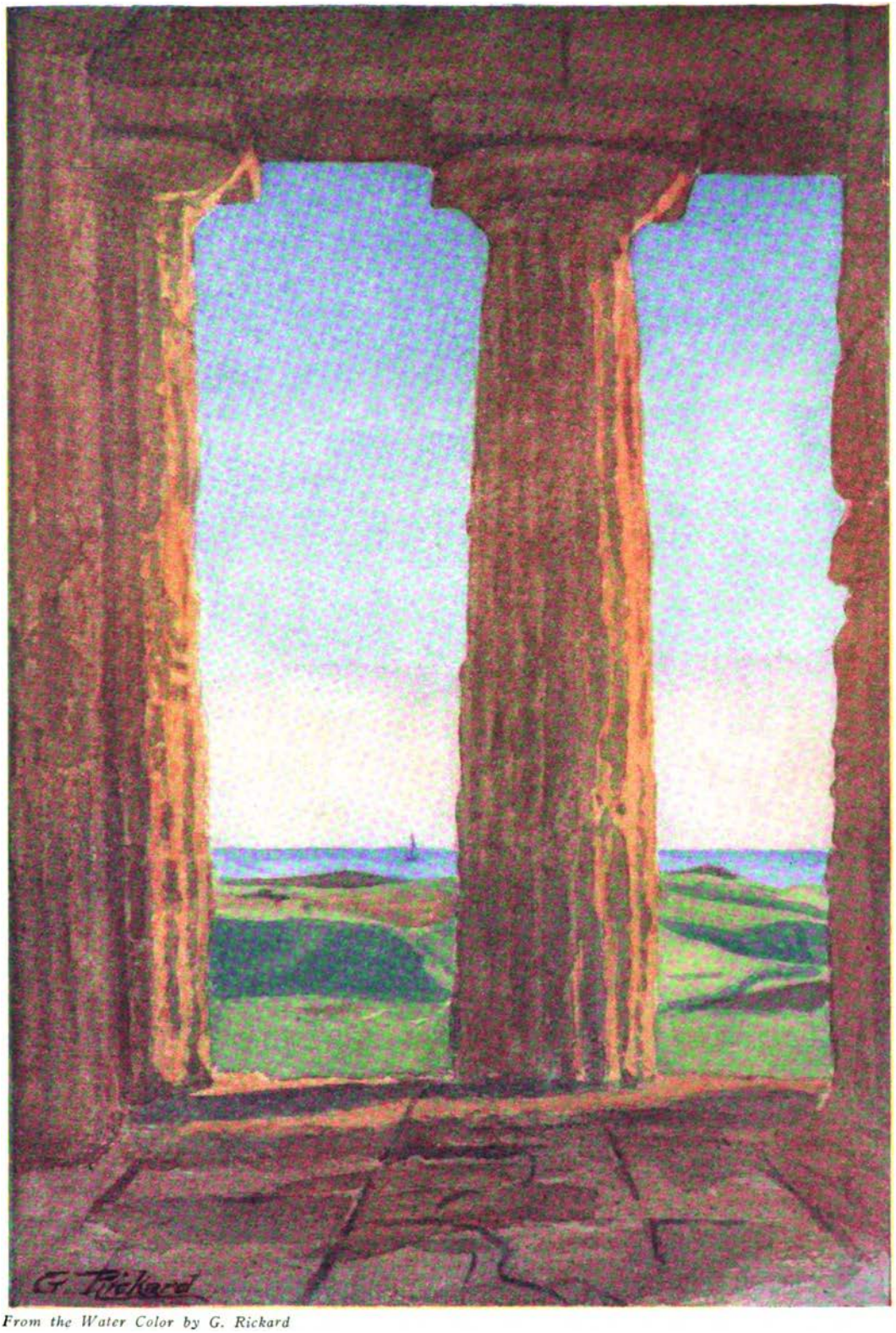
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From the Water Color by G. Rickard

LOOKING FROM THE TEMPLE OF CONCORD—GIRGENTI

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JOURNAL OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Volume XI OCTOBER, 1923 Number 10

The Evening and the Morning: Girgenti

By E. H. LOWBER

Photographs by the Author

EVERY one had told us of the ruins of Girgenti, but no one had ever said that there, through the hotel window, you looked upon three temples more perfect than ever we had seen anywhere. Over a garden of stocks and wall-flowers, of pinks and roses, in the rise and fall of the hills, the temples were lying, some in the hollows and some on top of the hills. Beyond them was the sea. We saw them through the spring smell of the flowers and the yellow light of the softly descending sunshine.

On the way to the temples children offered handfuls of stocks and roses; the whole place was full of sweet-smelling flowers. After the heat of Palermo and the dust of cities, to get there, away from towns,—for the hotel stands a mile out,—to feel two thousand years back, to taste the cool with the flowers, was to make an escape.

The Temple of Concord you climbed to, and from there you saw the town, with the hills lying about. The land falls away. In spite of flowers and luxuriant growth in places, the hill is rocky and sun-scorched, with shrubs and no trees. Antiquity has branded it, that nothing shall grow there.

Three-quarters of a mile further on, past olive orchards and a little farm, we came to another hill, higher and more barren. There are only a few olive trees, that look to have stood since the time of the Greeks, and there are the grey stone columns,—the roofless Temple of Juno.

Coming down from these two, at a division of the road you have the Temple of Hercules, where earthquake has shaken the stones out of all shape into heaps: through more ruins, heaped up, of fallen pillars and big stones, and through gray olive orchards, across a farm, by a gate and along a path in dry grass, you come to Castor and Pollux, the latest built. Thence you may feel the hills, all distant-blue, and the town hanging there.

Where we climbed a wall and sat, the sunset behind, we could not feel magnitude. What we felt, in the sinking light, was the rhythmic beauty; that is all Greek art offers, whether temples or vases or reliefs; just the beauty of rhythm. And the silence is there. No one comes to disturb; the guardian after speaking and finding we did not want him, went away quietly; and there are very few tourists. In the deepening dusk we made our way homeward, among orchards, over piled stones; a gate was locked, and once a dog started up; we made a difficult return through the thick and scented darkness, wet with dew and the smelling of stocks.

The air was of the mountain next morning, sweet and clean, with a rain-washed clearness between the foldings of the hills, between the columns of the temples. Piles and streamers of cloud sailed across, came in from the sea and passed behind the columns; showers of rain glittered and went off over blue water, —the blue of which was like a Rhodian dish; and in between them, flashing sunshine. From the sudden showers we took refuge in farms or huts and came out again into a glittering world.

Greek architecture is all much alike, with the standing pillars and the rhythm; but where the ruins lay about on the ground one felt the mightiness of the enormous slabs of marble, the immense drums heaped in piles, like a great thing with all of its bones broken. Non-Hellenic Greek architecture has always something of this mightiness, this unhuman bulk and power and immensity.

We had gone down in the early morning light, uncertain whether we should arrive before the rain; but within half an hour the sun had come through. A boy brought handfuls of orange blossoms; we gave him a lira, but a lira goes into the family fund and he kept on begging for a penny for himself. The smell of orange blossoms mingled with the stocks and pinks. Perhaps when one is very old, sitting in a chair, the scent of that orange blossom will come back.

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THE TEMPLE OF JUNO



THE TEMPLE OF CONCORD

(*See preceding page*)

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THE TEMPLE OF CASTOR AND POLLUX

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Ezra Winter's Decorations for the New York Cotton Exchange

By RALPH FLINT

The recently completed home of the New York Cotton Exchange is not only a notable addition to the commercial monuments that make Lower Manhattan the architectural wonder of the twentieth century, but is a signal expression of a new simplicity and individuality being manifested in American architecture and decoration. As the period of European tutelage in the arts draws to a close, new building forms are appearing with the greater scope and elasticity of modern structural materials. Creating precedent, Donn Barber, architect of the new Exchange, has reversed the ordinary procedure by elevating the "Pit" to the top of his imposing skyscraper in Hanover Square, where once the old Exchange stood, thereby securing great space without interfering supports and the advantages of light and air.

The trading hall of the Exchange occupies the entire space above the nineteenth floor, having a sixty-foot ceiling and a floorage approximately one hundred feet square. From the start it was designed to be a great workshop for strictly business purposes, but embodying every modern convenience and befitting the magnitude of the commerce which it represents. No glorified and ornate Monte Carlo; rather a splendid room, open, light, dignified, and restful, an almost outdoor setting for the exacting and strenuous work of the members. Through the groups of tall windows that almost fill three sides of the hall, it has a magnificent prospect of the port of New York and it is further open to the heavens through a great skylight in the center of the ceiling. The hall is finished in French travertine, of sufficient porosity to reduce the sound vibrations; a wainscoting of walnut encircles the room and, with the brown cork flooring, absorbs the multiple fixtures and incidentals of business.

The disposition of the lot on Hanover Square makes the Exchange slightly irregular in shape and Mr. Barber has used decorated spaces at the four corners to square up these irregularities. At first these panels were to be treated as pure design, as figure compositions would conflict with the established scale and detract from the Trade Board which is featured across the north wall. It was finally decided to have Ezra Winter, the well-known artist and designer of the great ceiling of the Cunard Building, reproduce the main features of the four other ports most intimately connected with the cotton trade. Eventually New Orleans and Liverpool, Alexandria and Bombay, pictured from an elevation corresponding to the panoramic view of New York harbor so adroitly incorporated into the decorative scheme of the Exchange, became a reality under the brush of Mr. Winter and his assistants. The greatest care was exercised in securing topographical accuracy, and the characteristic features of each locality—the warehouses, wharves, depots, garrisons, waterways, breakwaters, ships, steamers, and the thousand and one incidentals of a trading port—were woven into map-like patterns with scrolls and emblematic devices of each city at the top. The picturesque and pictorial elements were in no way sacrificed to meticulous detail, and the varying tones of sea and sky are broken by the warm tones of sunlit shore and shipping, the sharp accent of white sail and flying gull.

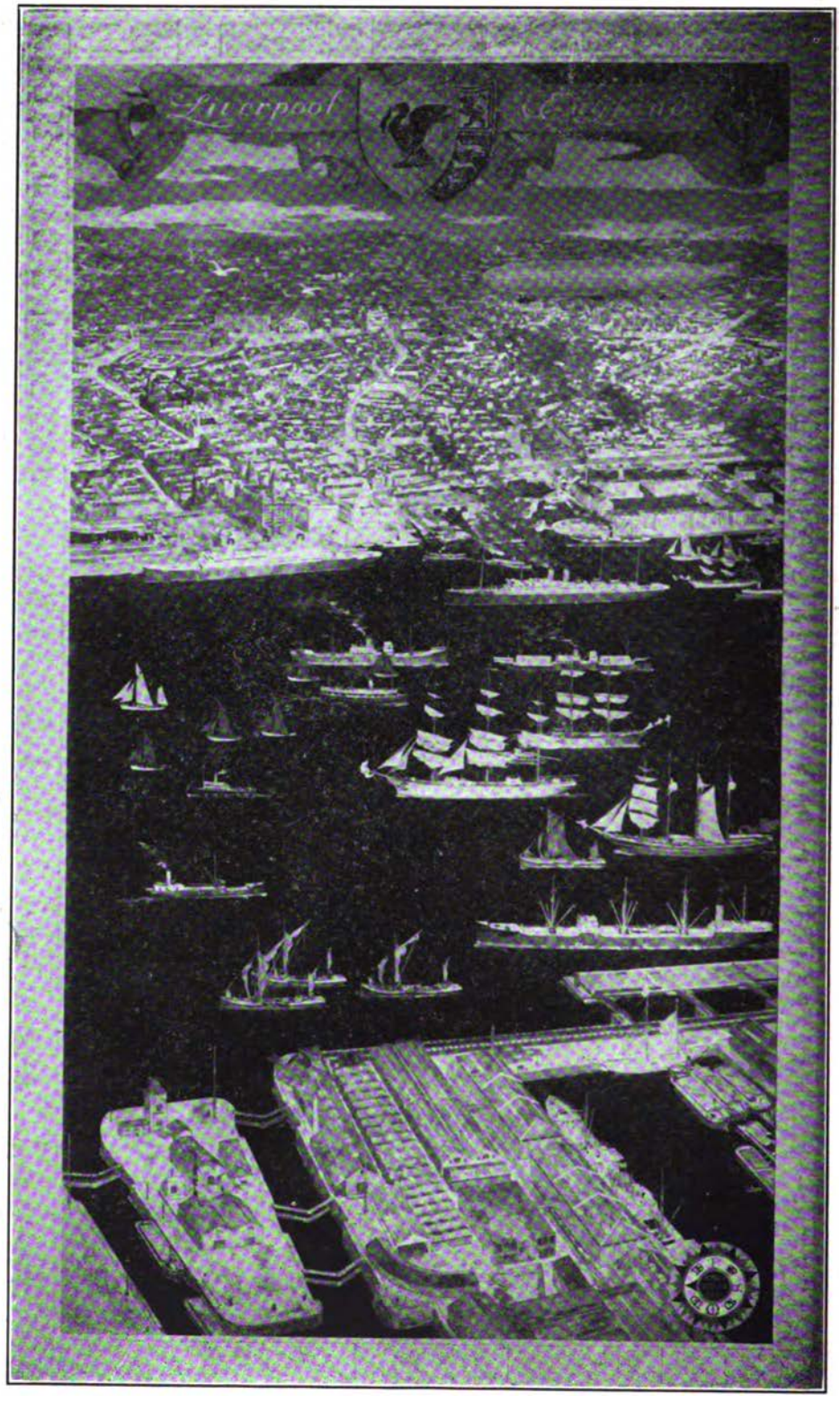
Liverpool, New Orleans, Bombay, and Alexandria, the four ports chosen for the walls of the Exchange, have yielded four colors of water and four colors of sky, and as they are orientated, the two northerly ports, cooler in tone, occupy the north wall and receive the most sun and light. The colors of the panels are echoed in the geometrically decorated panels of the ceiling, flat colors used as background for the flat running ornament which the architect has everywhere stressed in his desire to preserve simplicity and freshness of form. As the color nowhere exceeds forty per cent of the decorated area and is kept in small segments, something of the sparkling brilliance and even vibration of the pointilliste school of painting is secured, something of the effect of sunlight through a colored fabric. Throughout the Exchange the same reticence of form and ornament is felt, the conservation of effect that is the result of abiding within the limits of the problem. It is a happy and harmonious partnering of architect and artist working with a vision of an emancipated twentieth century in art.

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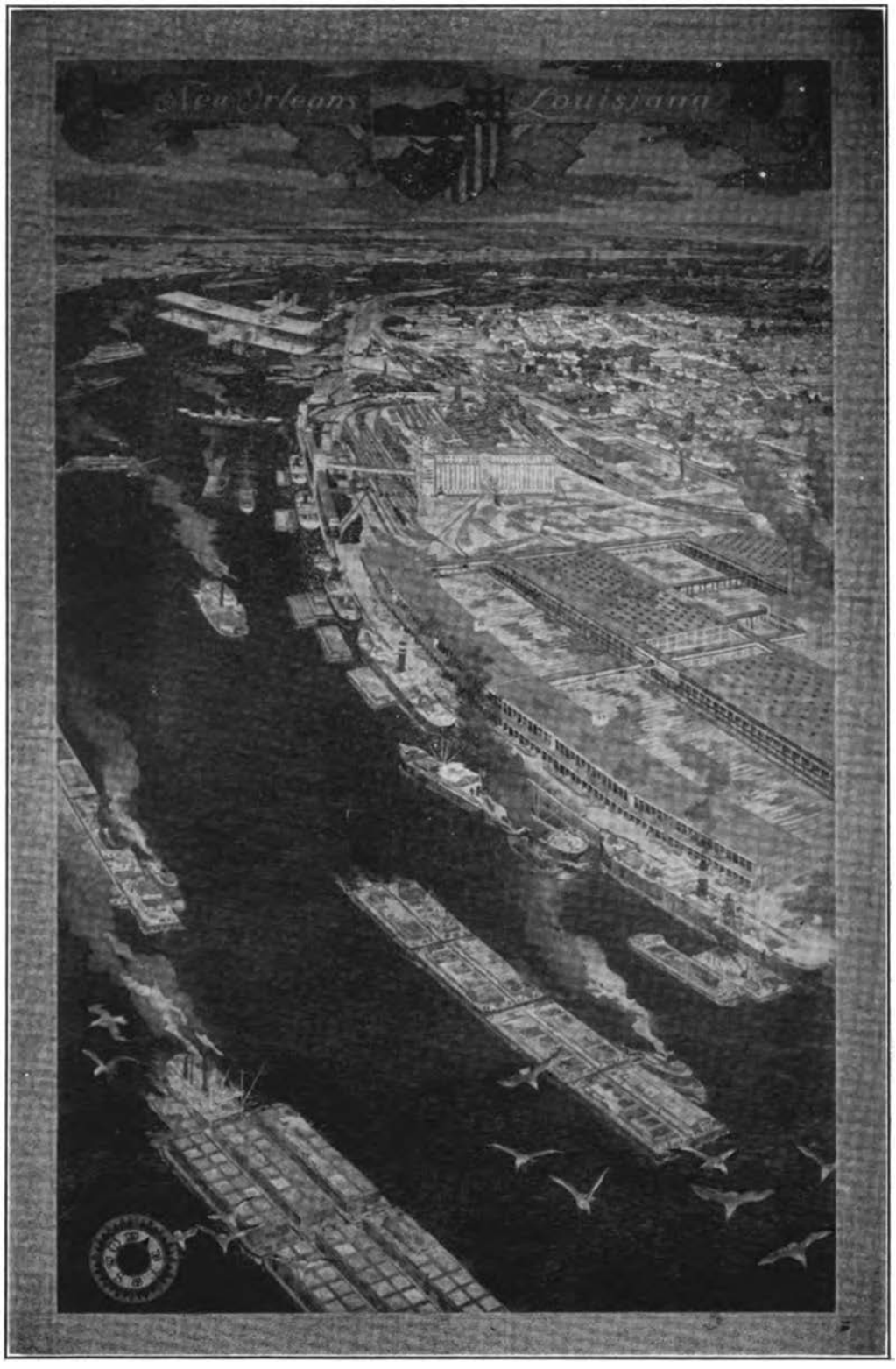
DECORATIVE PAINTINGS—NEW YORK COTTON EXCHANGE
BOMBAY—EZRA WINTER
Showing the Relation of the Decoration to the Architectural Ensemble

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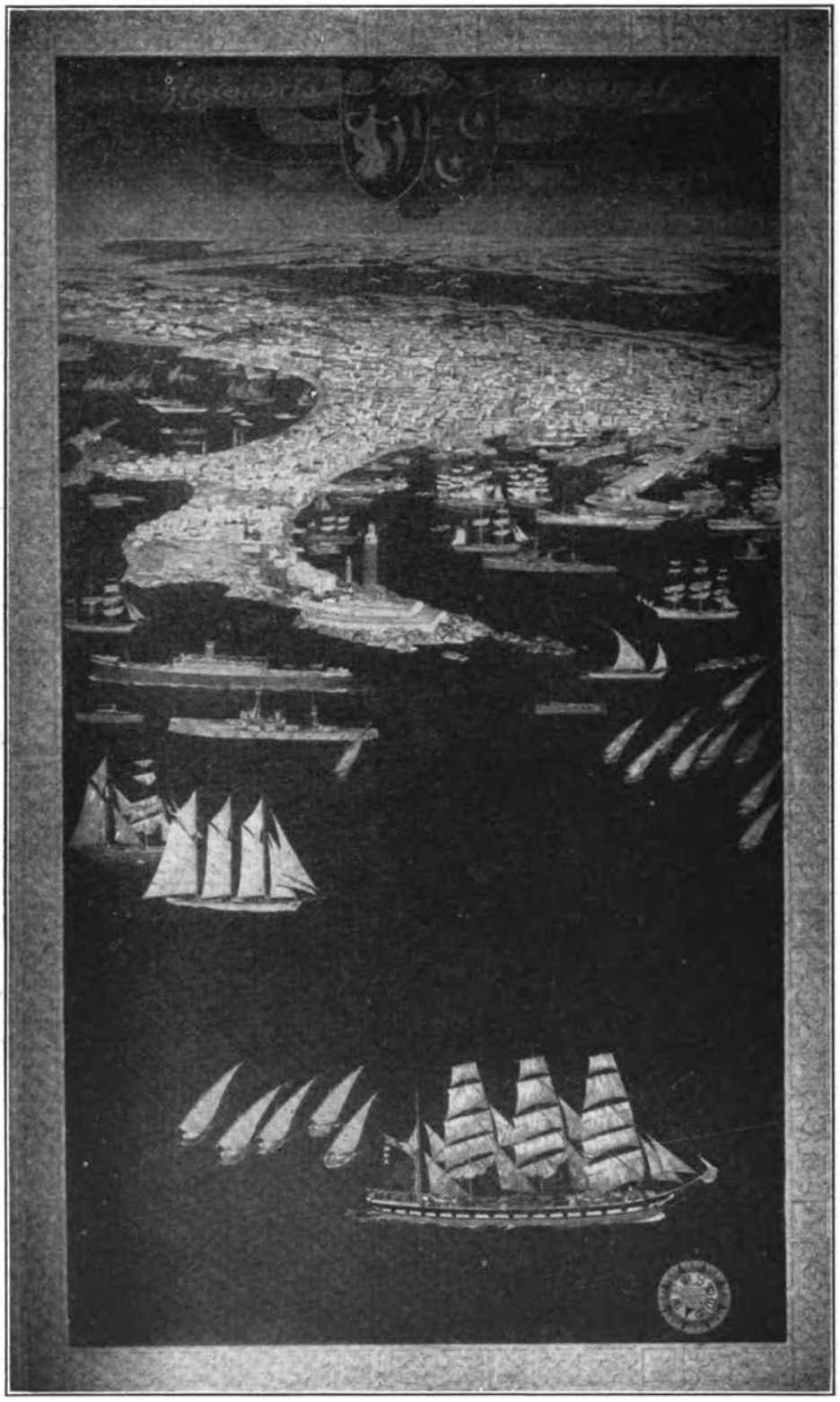
DECORATIVE PAINTINGS—NEW YORK COTTON EXCHANGE
LIVERPOOL—EZRA WINTER
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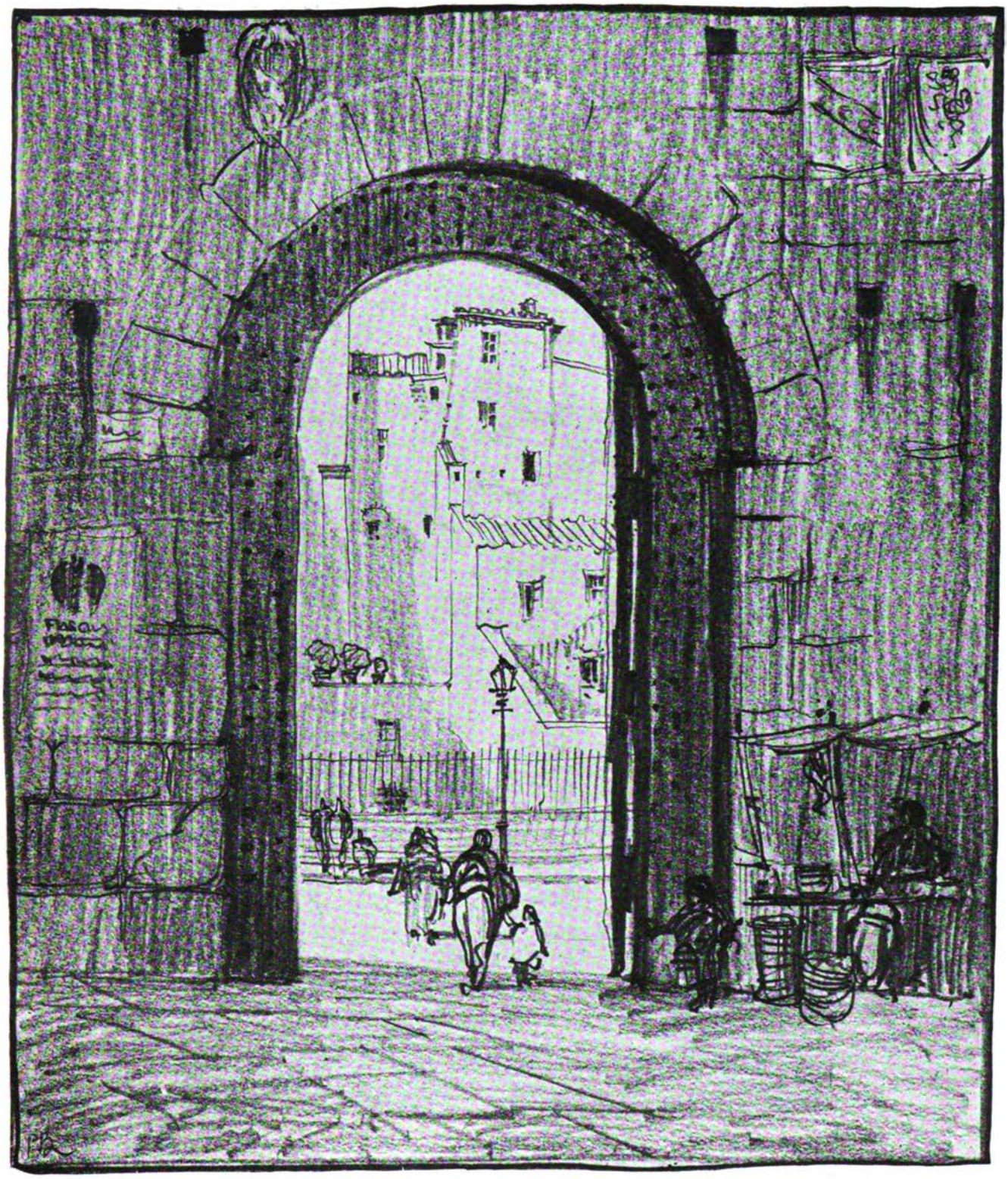
DECORATIVE PAINTINGS—NEW YORK COTTON EXCHANGE
NEW ORLEANS—EZRA WINTER
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DECORATIVE PAINTINGS—NEW YORK COTTON EXCHANGE
ALEXANDRIA—EZRA WINTER
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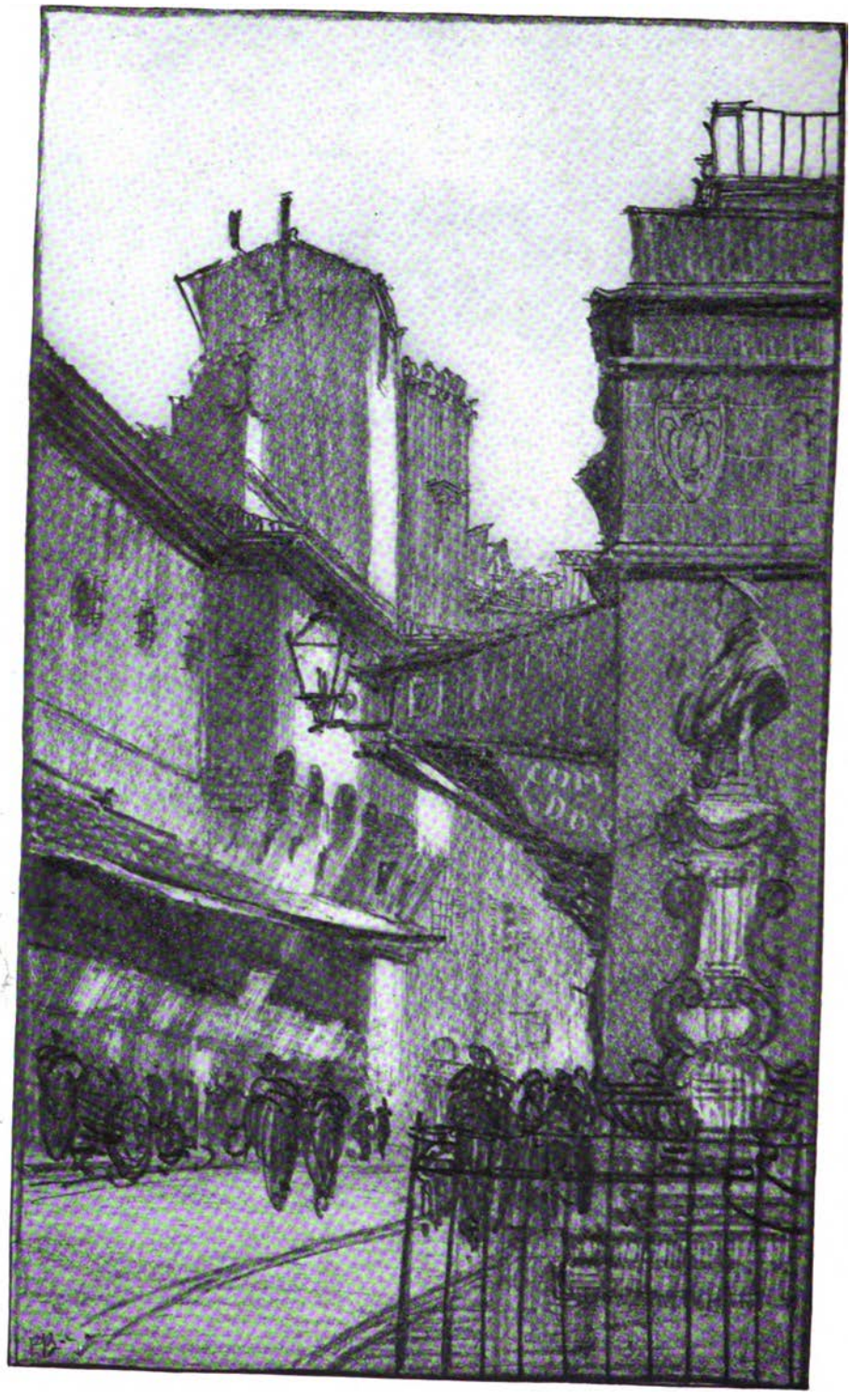


PORTA SAN MINIATO

Seven Drawings---Florence

W. POPE BARNEY

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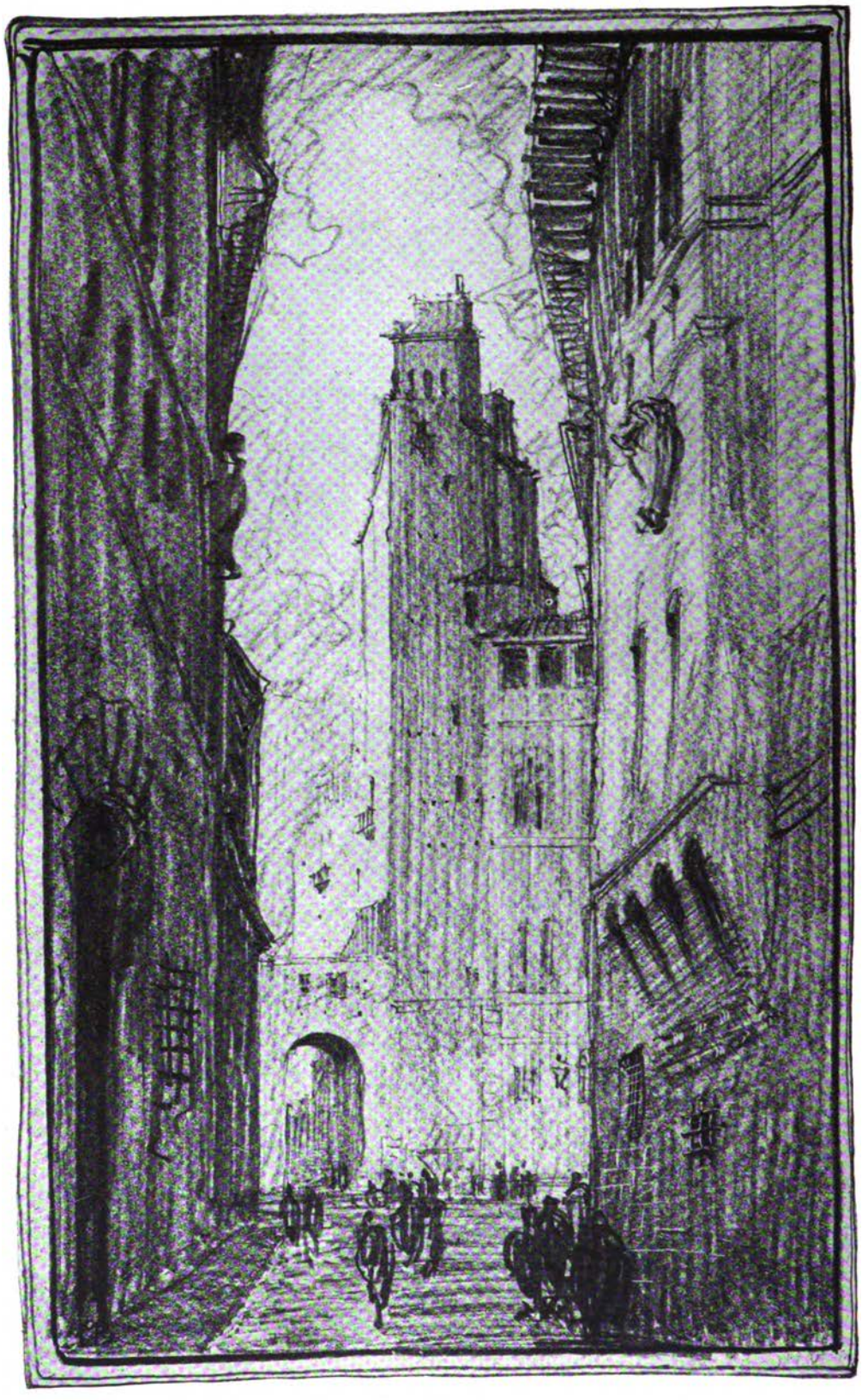
PONTE VECCHIO
W. Pope Barney

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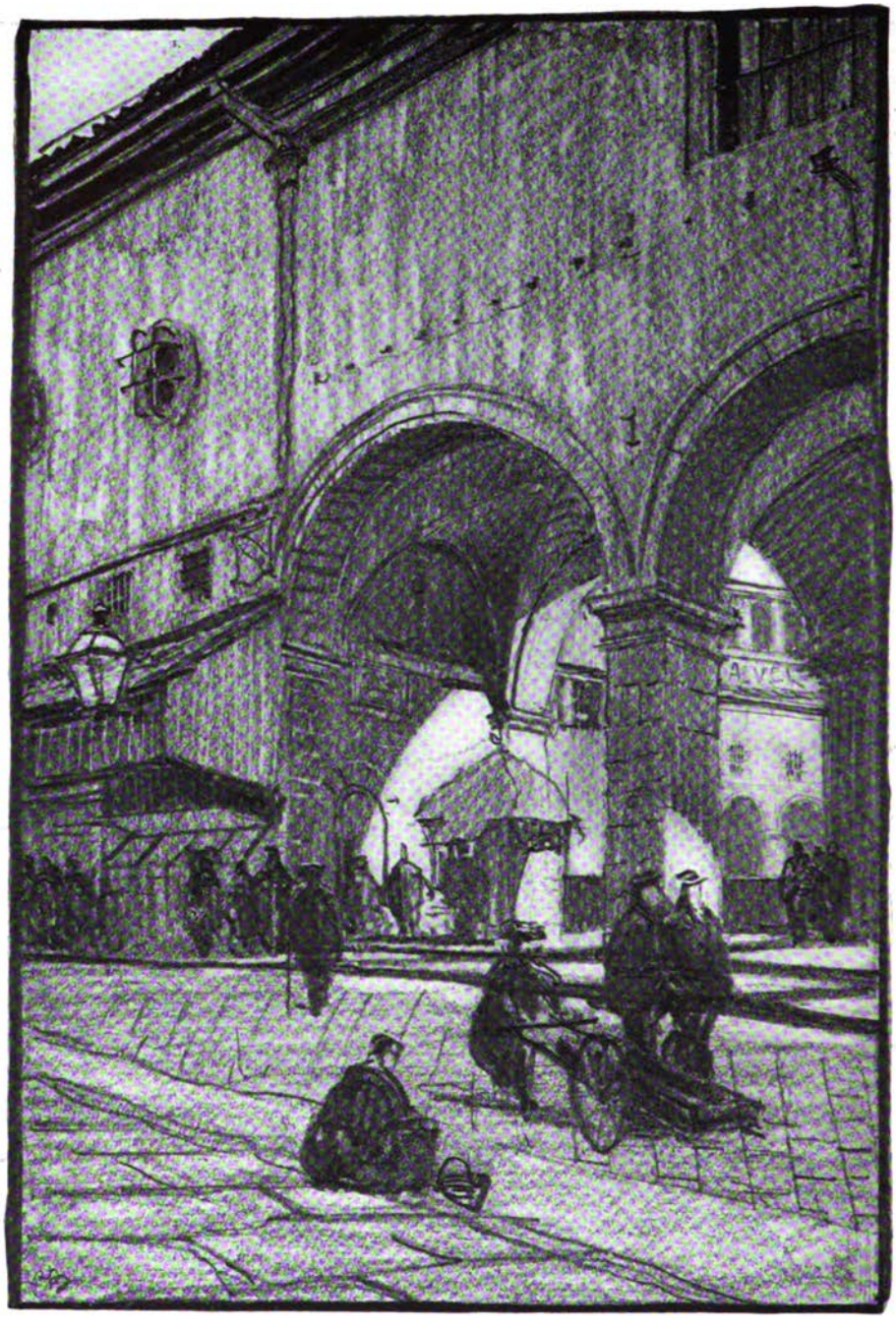
A Tower of Tuscany
W. Pope Barney

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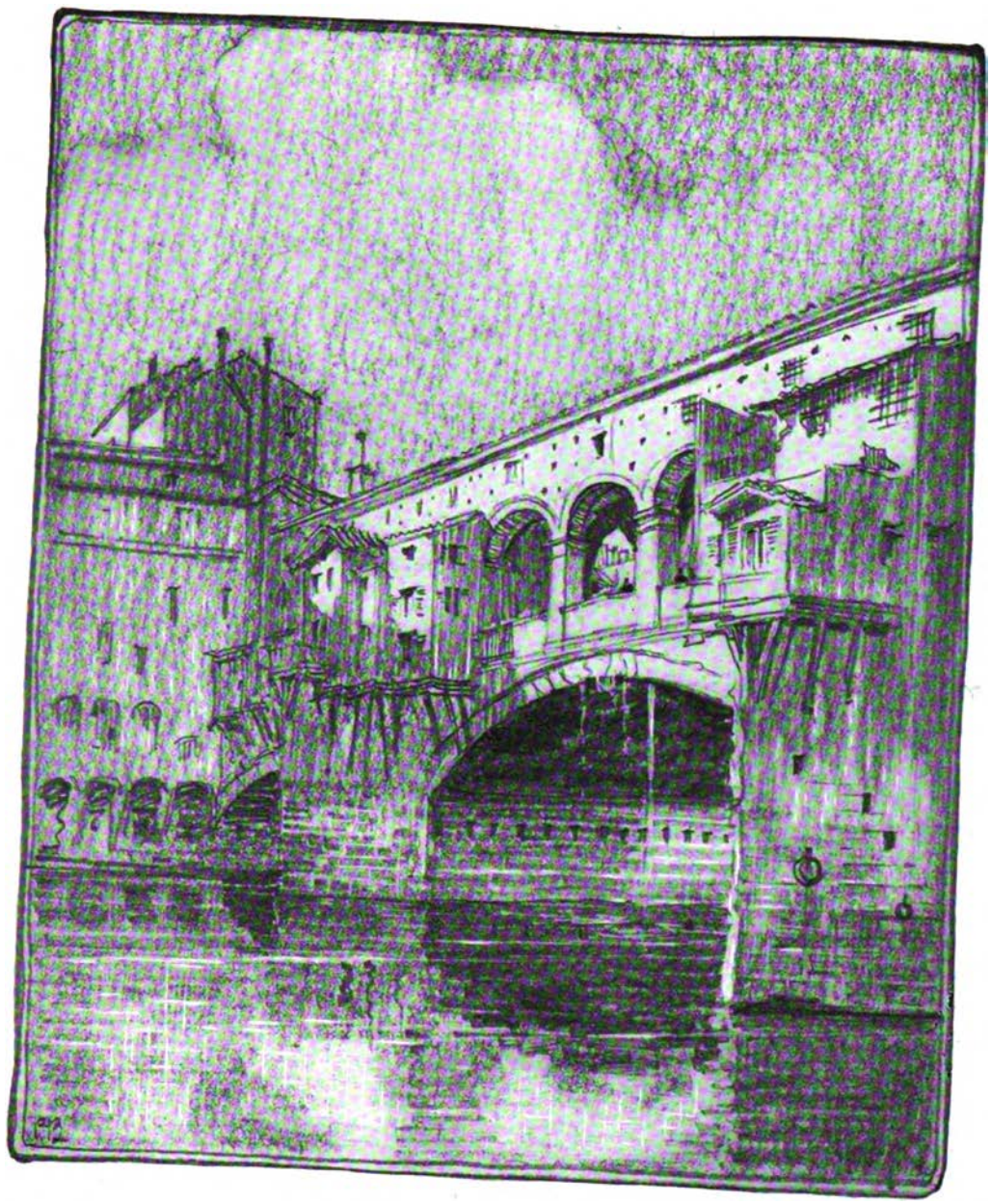
VIA DI BARDI
W. Pope Barney

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PONTE VECCHIO
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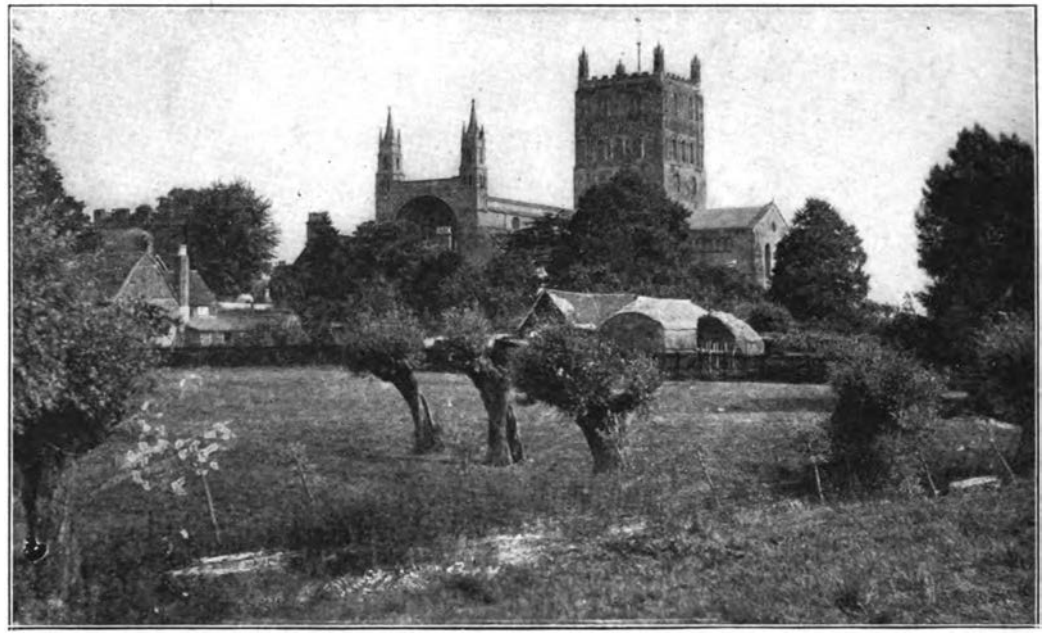
PONTE VECCHIO
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Tewkesbury Abbey[1]

By STEWART F. CAMPBELL

Photographs by Mallett, Tewkesbury



The study of any ancient building, be it ecclesiastical or otherwise, cannot be productive of much that is worth while unless due consideration be given to the historical circumstances which have surrounded its origin and subsequent development—a development which, it is quite possible, may have been exceedingly gradual and may have taken years, or even centuries, to come to the fruition of its final glory. And the more minutely one analyzes the various architectural characteristics of England's parish churches, and also its abbeys and cathedrals, the more apparent does it become that this process of development has been going on in many instances through countless generations and through innumerable epochs of England's history; and that from each period these churches have absorbed, to a greater or less extent, by additions and alterations, the characteristics of each style of architecture which succeeded the one in which they were built. Then too, between these periods, and at times when England was largely under the influence of foreign invaders, there were what might be called transitional periods when the architectural characteristics of one period were, consciously or otherwise, merged into the other. The result is that these types are often as varied within themselves as they are different from each other. This is particularly true of the interior of the churches. And it is because of this that in so many of the older churches, Saxon, Norman, Early English and even later characteristics have been merged into a more or less composite form.

[1] The eight-hundreth anniversary of the dedication of the abbey is to be celebrated in November next.—EDITOR.

For some centuries before the present Tewkesbury Abbey was completed and dedicated in 1123, there was a religious establishment at Tewkesbury. This was founded by two dukes of Mercia, Odo and Dodo who, as early as 715 A.D., set aside a portion of their estates for the use of the conventional buildings. Tradition has it that on the part of the land thus granted the monastery there lived a Saxon hermit, Theokus by name, and it was because of this that the town was called Tewkesbury.

In the old church register there appears this, "Odo et Dodo duo duces Marciorum; et fundatores Theokusburiae," and there is also a drawing in which the two knights are shown in armor with mantels and surcoats; and in the hands of each there is the model of a church, evidently to indicate that they were both church founders.

The fortunes of the monastery seem to have suffered reverses from some cause or other in 980 A.D., for in that year it lost its identity as a religious house and became a cell attached to the Abbey of Cranbourne, in Dorsetshire; and thus it remained until the coming of Robert Fitz Hamon, a Norman, who accompanied William the Conqueror at the time of his invasion of England in 1066.

Now the coming of Fitz Hamon was an event of great consequence to the monks of Tewkesbury, for it was he who tore down the old conventional church and started, in 1102, to build the beautiful abbey which now stands on the site of the old monastic church. This he

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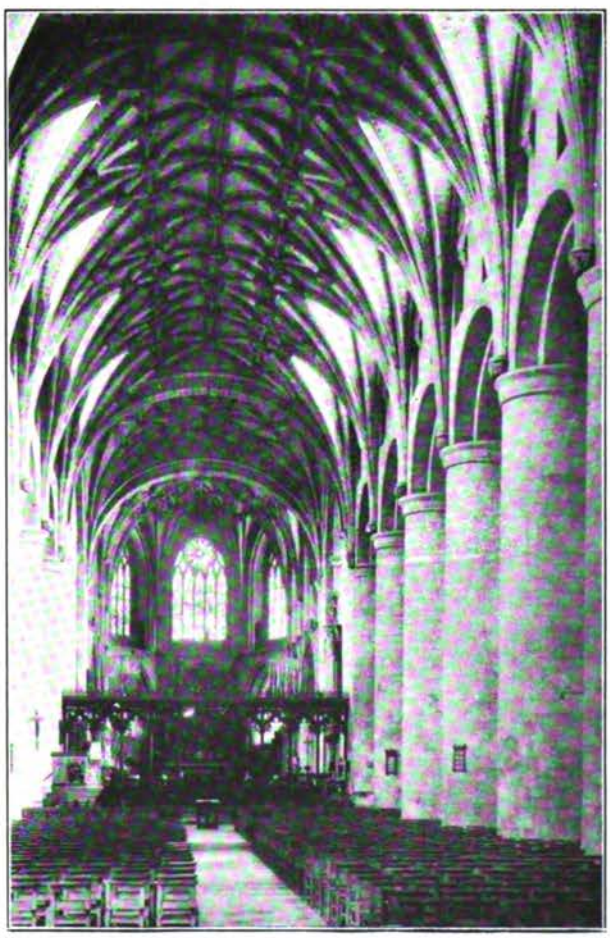
did, if we are to believe the early chroniclers of the monastery, as an act of reconciliation or atonement for his having caused the destruction of Bayeux Cathedral, in Normandy; and the new zeal with which Fitz Hamon seems to have endowed Tewkesbury resulted in a reversal in the order of things, for it then again became a religious house and Cranbourne was thereafter but a dependent cell with only a prior and two monks.

Although very little reference has been made to Fitz Hamon by the historians of his time, he was evidently of noble birth and enjoyed the close confidence of William Rufus and this had much to do with his being able to carry out his plan for the building of the great church—he having been granted the patronage of both Tewkesbury and Cranbourne by the King. However, his death in 1107 prevented him from seeing the Abbey completed. It was Fitz Hamon who told the King of that certain ominous dream of some Norman monk which led to the temporary abandonment of a shooting expedition which William had planned. The way in which the dream came to be actual history is too well known to be more than mentioned here. The expedition being later undertaken, William Rufus was fatally wounded by an arrow shot by one of his own men —whether accidently or otherwise history has never revealed.

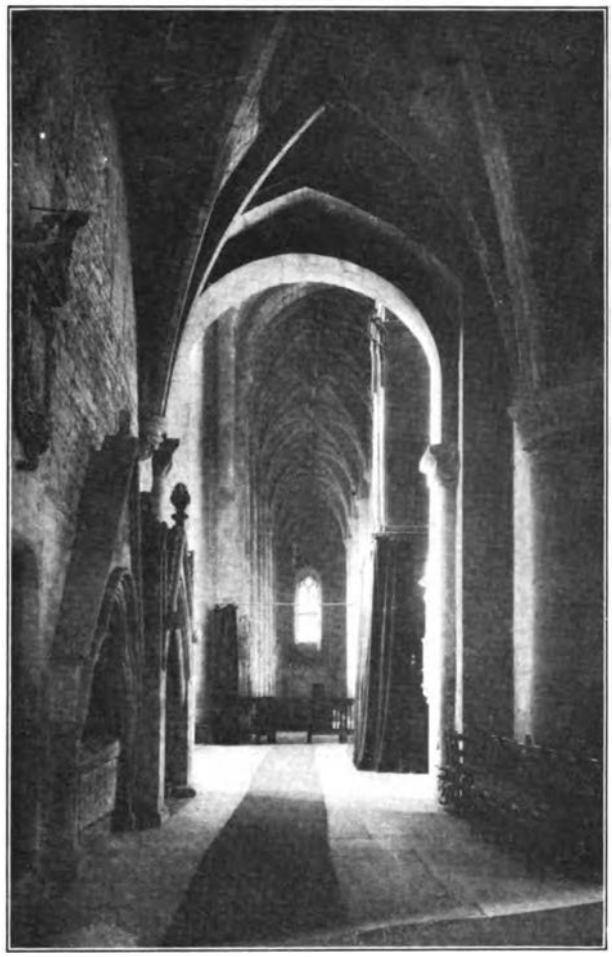
The methods used by Fitz Hamon in the building of the Abbey were lavish and his desire was sincere to make the abbey church one that would be famed throughout England. "It cannot," says William of Malmsbury, "be easily reported how highly Robert Fitz Hamon exalted this monastery, wherein the beauty of the buildings ravished the eyes, and the charity of the monks allured the hearts of such folks as used to come thither." But, because Tewkesbury was on the direct line of travel between the northern and southern parts of the Kingdom, the hospitality of the monastery became taxed far beyond its powers in its effort to give relief to itinerant strangers. Finally, the monks petitioned their diocesan superior, the Bishop of Worcester, telling him of their inability to provide further for the needs of Pilgrims. The Bishop, in acknowledgement of the justice of their claim, apportioned to the Abbey a part of the revenues of the church of St. Philip and Jacob, in Bristol.

The very close relation which existed between Church and State in the Middle Ages and the jurisdiction which the clergy exercised in secular affairs is indicated by the fact that at Tewkesbury and many other abbeys their rulers were ranked as mitred abbots and were accounted as barons; and as such they were entitled to a seat in Parliament, but whether they exercised the right or not seems to have been left to a great extent to their individual inclination.

Apart from the abbey church itself, little remains of



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the original conventional buildings; but such few as are left enable one to form an idea of what they must have been in those days when the abbeys of England were great centers of learning, both religious and secular. The gate house of the monastery still stands, although it has suffered much from the violence of man and the weathering of years. It was built very early in the XVth century and, judging from the similarity of its ornaments to those on the Founder's Chapel in the Abbey, which was built by Parker, it is quite probable that they were both built by him.

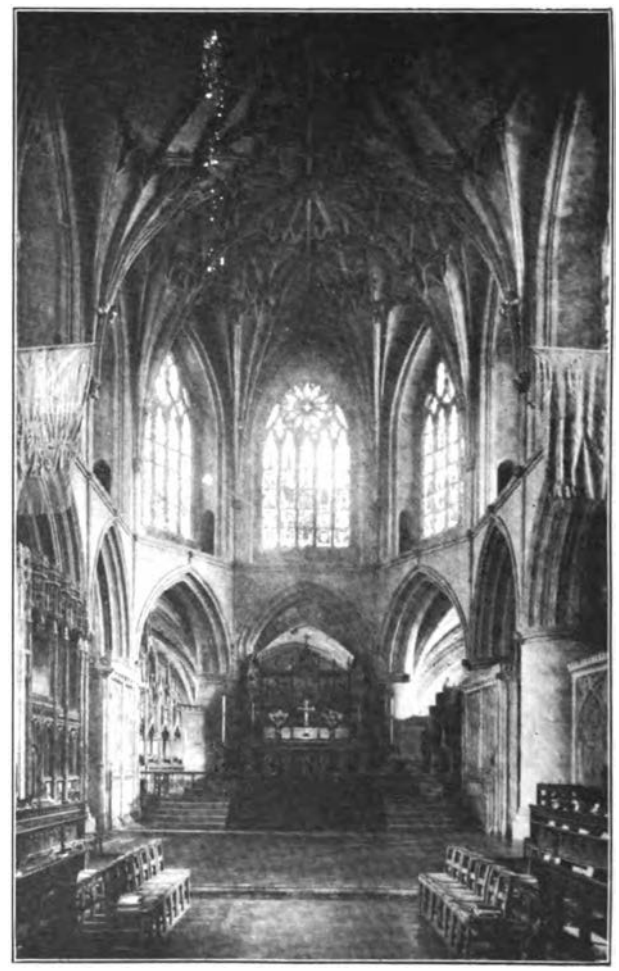
Although the exterior of the Abbey is interesting, especially in its detail, it is not as imposing as one might be led to expect; and this is partially due to its location, which was evidently chosen with small regard for the dignity of the building which was to be there erected. Like Gloucester Cathedral it suffers from being too closely surrounded by secular buildings of all sorts, with the possible exception of the south side.

The large central tower which springs from the intersection of the nave and transepts, is of very early date. In the horizontal divisions of the exterior walls of the tower the rounded Norman arch is markedly evident and in the middle section there is a fine series of interlacing semicircular arches. Until 1559 the tower was surmounted by a wooden spire, of which there is now no sign, but there still remain the four small angle turrets, or pinnacles. Apart from the tower itself, the most attractive portion of the exterior is an enormous arch at the west end of the church. This is sixty-four feet high and thirty-four feet wide and beneath it is the pointed arch of the entrance.

By far the most striking feature of the interior is the huge columns which separate the nave from the side aisles and which support on both sides of the nave the large arches. The columns are round and with very little, if any, taper and extend to a height of thirty feet and are twenty feet in girth.

The triforium, which is usually an important feature in churches of the Norman type, has here been reduced to small dimensions. It consists of a series of rather insignificant round arches, two in each bay, separated by a small column. Above the triforium is a clerestory which is also, in proportion to the size of the Abbey, rather diminutive and has only one pointed window in each bay, each window containing three lights. On the north side the clerestory is a little more ornamental than that on the south and has a small arcade.

The vaulting of the nave is markedly pleasing in its effect and this largely accounted for by its background



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which was colored a delicate shade of sea-green which offsets the design to the best advantage. The ribs of the vaulting spring from corbel heads which are immediately over the abaci of the huge columns.

The choir is of beautiful proportions and, as a rededication of the church took place in the year 1239, at which ceremony the choir appears to have been the center of attention, it is quite likely that it was built slightly later than was the main part of the Abbey and that it comprised the work of several periods. For example, the lower parts of the pillars are distinctly Norman while the upper parts, windows and roof, are apparently the work of the fourteenth century. From the choir ambulatory open a large number of highly ornamented chantries, the arrangement of which is strikingly similar to that of the chantries of Westminster Abbey.

There is a bit of history in connection with Tewkesbury's pipe organ which is worthy of mention here. It seems that Oliver Cromwell, who was very fond of music and especially that of the organ, conceived a great fancy for the one in Magdalen College, Oxford. With the puritanical audacity which marked the times, he had it removed and taken to Hampton Court where it was set up in the great gallery for his amusement. There it remained until the restoration, when it was sent back to Oxford; too late, however, to be of use, for during its sojourn at Hampton Court, another organ had been provided for Magdalen College. It was then sent to Tewkesbury and set up over an elaborate screen at the east end of the nave.

The question has often been asked, and it is a very reasonable one, "Why is it that some of the English abbeys were almost, if not entirely destroyed at the time of the Dissolution while others which were supposed to have come under the same ban of destruction, were left intact?" The answer is that the degree of vengeance and destruction wrought upon them was in direct ratio to the opposition which Cromwell's Commissioners encountered from their respective abbots. At Glastonbury, Richard Whiting, its last abbot, gave his life rather than surrender to Cromwell (Thomas), the possessions of his abbey which he believed that he held as a sacred trust—and therefore Glastonbury paid the price to the uttermost. On the other hand, at Tewkesbury there appears to have been no resistence, and even indifference, to the events which were taking place, and very little if any injury to the church was the result. Possibly this spirit of indifference may have been fostered by the promises which were made to many of the abbots that, if they would relinquish their treasures without further ado, they would be suitably rewarded. However it was, of this we are certain, that Wakeman, who was the last abbot of Tewkesbury at the time, was given a mitre for his surrender of the Abbey to the Crown. When the properties of the venerable church were taken, the records indicate that its jewels were reserved for the King as well as the valuable plate and many of the vestments.

And while the destination of these is so designated in the records of the old church, we can well believe that some of the riches of the treasury found their way into the copious and ever receptive pockets of the Commissioners themselves.

On the Appreciation of Things Made to Be Seen

By PERCY E. NOBBS

In the literary field one notes a general softening of the spirit of criticism in these days. The preoccupation of the last generation with the technical artistry of writing seems on the point of giving way to a more intelligent concern with the interest of the subject treated, or, better still, an appreciation of the *spirit* of the thing done, which is, after all, what matters most. Now this spirit of the work of art springs with apparent spontaneity from the conjunction of technical power with theme, much as Aphrodite of the sea foam sprang from the action of wind on water.

A certain school of critics adheres to the practice, complained of by a recent writer, of establishing accord with their public by the impertinent assumption that both the critic and his hearer of the moment could, of course, have done the thing better themselves. But, as that prince of critics, Benedetto Croce, continues to spread his already great and benign influence, that sort of thing is passing away.

When we consider the position with respect to the fine arts, matters are less satisfactory, and, generally speaking, the last thing it occurs to a modern critic to do is to help the good cause of intelligent appreciation.

But we are not about to consider the different ways in which the works of literature and of the fine arts are enjoyed in our day, but the various attitudes of the appreciators of the several fine arts—more especially the case where painting on the one hand and architecture on the other may be the subject of enthusiasm or the object of abuse.

There is after all, little that can be said about a picture, or a wrought iron grill, or a Persian rug, or a Greek statue, or a stone house, that will enhance the inherent essence of the thing in the way a touch of pepper brings out the flavor of a ripe strawberry, for the arts are untranslatable among themselves. Things spiritual can, for instance, be danced that cannot be built, or painted or printed. One may, however, be

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permitted to discourse the kind of speaking and writing which, however good and interesting in itself, not only does not help, but often hinders, what we call enjoyment, or appreciation, or understanding of the productions of the fine arts.

Æsthetic theory, when rightly understood, is the key to the garden in which the spiritual life is lived, but the key should not be jangled on its chain in front of each flower. The clink on the ear will neutralize perception of the balms and tints of lavender and lilies. Moreover, the garden can be entered so easily over the wall that the key is not really essential, except as a symbol of possession.

The intellectual perception of technical artistry is often a source of intellectual delight, but it is through sharpened senses, not sharpened wits, that such raw stuff as white lead, vermilion, ochre and indigo may so function, on occasion (when mixed with oil and brains), as to bring the spirit of a dead painter and of a living charwoman *en rapport* for a moment through the presentation of some mood of nature.

All which was put far better, and in fewer words, by a great philosopher, nearly two thousand years ago, in commending to his hearers the frame of mind to be cultivated before seeking entrance to the Kingdom of Heaven, which is the same thing as the garden already mentioned. For, if little children sometimes have sharp wits, they always have sharp senses.

And some of us approach the things of art bearing a lamp of learning. But to get good use of its yellow light the white light of day must be excluded. A knowledge of how they painted in Athens in 300 B.C., or in Tuscany in 1400 A.D., or in Vienna in 1914, and what their names were, and who taught them, constitutes a series of fascinating marginal notes on history's page. On this rather inconsequent material we found the polite accomplishment of connoisseurship. And nothing is more fatal than connoisseurship to that childlike directness of vision of which we spoke. The interest in classifications and appreciations of what is typical, and the familiarity with techniques (in which the expert is himself not adept), and all this biological knowledge of the evolution of the schools—the equipment of your connoisseur—leads almost inevitably to the appraisal of values by the sign manual of the brushwork or the signature in the corner. This ends in the vulgarian expression of appreciation in terms of filthy lucre and a speculative interest in picture values and many delusions with regard to authenticity. Do not mistake me. Connoisseurship may be a reputable profession, or a benignly innocuous hobby, but it is not a "gift of the Spirit," and your connoisseur is ever slow of appreciation outside the range of his special knowledge.

The arts, however, are infinite, painting itself having a range as wide as verse, and an eclectic response is no criterion either of depth or of fineness of feeling. Twenty years ago, Professor Santayana, of Harvard, pointed out that "a taste for landscape blinds us to what is best and most finished in the arts." Some of us will take keen delight in the consummately scribbled impressionism of recent years, who will feel unutterable boredom on straying into a museum of craftsmanship wherein are assembled ceramics and textiles and metal work from a score of civilizations. I have no quarrel with the connoisseur, with his limiting specialization, but as an artist of sorts myself I have some quarrel with the present fashion of the superficially cultured in over-rating the importance of connoisseurship as a prerequisite of appreciation, which, intentionally or not, has the effect of spoiling the pleasure of the man in the street.

But of this *"taste for landscape"* which has become so characteristic of our culture, there is more to say. We have landscape under the blue vault, and landscape in a gold frame. Some of us—I am loath to believe it is only those who can handle a pencil with credit—see Nature first and painting afterwards, as a representation of Nature's moods *as already known to us,* and take delight especially in paintings of familiar country. But there are innumerable picture lovers who are, to all intents and purposes, blind to nature. So to one, any hour of the day or night spent anywhere so that a patch of sky be discernible and the mind be secure, is to be accounted a spiritual blessing; while to another, such opportunity appears merely in terms of creature comfort—fur coats or sunshades. But it would be a great mistake to assume your nature-blind friend to be picture-blind as well, for many who, face to face with Nature, experience little more than heat or cold, can and do appreciate the moods of Nature as a revelation in the night, through the medium of cunning brushwork within the four sides of a frame.

Golden waters rippling over red gravel, flickered with the emerald reflections of Maytime birch trees, and streaked with zenith blue of Summer's first hot day, can hardly be rendered metrically, even by a Keats working in terms of the peacock's tail, but can be very adequately represented in touches of paint. Now, it is extraordinary how few people can see these spots of glowing, scintillating, dancing color, while the river sweeps around the bend before their eyes, yet many of these very people will glory and revel in this thing (seen after all at secondhand, as in a glass, darkly) when painted on canvas. To them the painter is indeed a magician, an interpreter, Nature's high priest, through whom they apprehend realities against which, in the open air "their eyes are held that they may not see."

Then, there are those of us who see nature quite well, but prefer art, and not in the least because art shows them nature, but just because, perversely enough,

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they are made that way, and these are often great critics. Take the familiar color scheme of a Quebec valley in the magic stillness of late afternoon in March; turquoise and dove in the sky, and primrose lights on the snow, and salmon and gold on the wooded hillside, and the whole gamut of blues in the shadows holding the singing colors to their tune. To some, a thing like this, be it never so truly rendered in paint, revives no scent of the thaw of an hour ago, and balsam newly come to life—no, to them it is a color scheme, a piece of craftsmanship, a fabric of brushwork, and they can be just as elated about it all as some of us nature seers, but in quite a different way.

I have spoken of three kinds of picture lovers, and there are many more—for some it is the painter, for some the painting, for others again the thing painted, and for those with hearts as well as eyes and brains there is the sentiment of the thing, the infectious mood in which it was accomplished.

But perhaps you do not labor greatly under this taste for landscape, but take your delight in the character of men and of women as you see it in their faces, so that when their features are wrought on canvas, as in an unchanging mirror, you love to look that man or woman in the eye as you never could look them in the eye in the flesh.

Or, do your feelings quicken in response to the apparatus of life with all the craft and skill and love and care that men have bestowed on things of use, and marked thereby the spirit of their times as the race has progressed and retrogressed in this and that manifestation of spiritual need?

Then, when you visit a treasure house to find the things you seek and, if you are so inclined as to look on them as on flowers of delicate pattern, hue and perfume, do not forget that the æsthetician's key should stay in your pocket, and the connoisseur's lamp be left outside, for the smell of its wick will surely militate against your delight.

A healthy eye, and an untired eye, are as necessary to the seeing of what is to be seen, and the getting of what is to be got out of a picture or a piece of furniture, as is a sound and hungry digestive apparatus where a dinner is concerned. A comfortable light is usually to be found in a gallery, and rarely in a house, but otherwise the house is to be preferred as a casket, on the ground that there will be fewer objects in it. The worst thing about galleries is the fatigue they engender. Only one or two pictures for instance, can be appreciated in the course of a visit, and for real delight the picture, like anything else that is exquisite in any sense, should be seen again and again, and alone. For there is a fine art in seeing things, as well as in making things to be seen. The æsthetic fact is not accomplished without the beholder to see and live again that textured moment which was lived by the artist and so share with him in the warp and woof of visible life.

The carrying of keys and lamps is all very well in its way, but the taking off of shoes in token of the nature of the ground to be trodden is more effective when good painting is our quest.

So much for painting, the best understood today of the fine arts.

Now, the appreciation of architecture languishes throughout the world, and this is no new result of the war, but of general conditions, which have affected the rather indirect commercialized circumstances under which modern architecture has been produced ever since the industrial revolution of the eighteenth century. On the other hand, there are abundant symptoms that, in the United States of America, there is a revival of public interest in *how* buildings just built *do look,* often confounded, alas, with an interest in *what* such buildings *look like,* which is quite another matter. This difference between looking, and looking like, is clear as day to any architect, but very few outside the ranks of that profession will see anything more than a precious juggling with words in such an effort at exposition. And here we have the secret of the whole matter in a nutshell. The architects and the public are looking at architecture in different ways, and as it is only a small portion of the public that looks at architecture in any way, it is unfortunate that that way should be a demonstratably wrong way. This hard saying it is my purpose to illustrate, after calling attention to the fact that the public looks at pictures in quite a number of quite right ways as well as some wrong ones. Perhaps it will be easier to expound the public's wrong ways of looking at architecture, if I first explain the architect's right way.

Writers and painters select their subjects, as convenient excuses for showing how they feel about things in general, or the subject selected in particular. This they would be quite unable to do without technical dexterity in words or color, or form, or whatever they rely on as a medium, and, incidentally, this technical dexterity breeds ideas and emotions in just the same sense as Isaac Walton spoke of certain rivers breeding "small trouts" of peculiar excellence, for the *trout really bred themselves* in the river (even according to the beliefs of his day when spontaneous generation was not as difficult to swallow as it is now), and so with the ideas; they breed themselves, but swim in technical dexterity.

Now, architects only differ from writers and painters in that the effects which are their medium of expression are costly to compass in such a degree that these can only become available to them by serving their fellows in the practical matter of contriving habitations and the like services connected with the larger apparatus of life, for without walls and windows there

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is no excuse for scale or proportion. Thus, they have less to say than writers or painters as to their subjects (but specialization sometimes brings its rewards, and some get breweries, and others cathedrals, with which to work their will and say their say).

Architects also differ from writers and painters in that they do not write or paint, but build, and so their ammunition for the battle of life consists not of words or colors but of the structural forms and the conventional and traditional variations and uses of these forms which are on analysis very parallel to the uses of words and phrases and the metrical formulæ of verse, and undergo continual evolution like language itself.

But architects do not differ one whit from writers or painters in that their subjects are just excuses for showing how they feel about things in general or the theme thrust upon them in particular. Like the others they depend on technical dexterity for the enunciation of their ideas and their ideals.

Architects do quite often interest themselves in the feelings and sentiments and ideas which other architects express. When doing so, it is very helpful to be able to apprehend or read the subject aright, and this is where laymen are at a manifest disadvantage because modern planning has become very highly specialized and technical. But architects of critical ability in appreciating architecture accept the technical dexterity and the traditional forms as mere conditions for expression and do not wonder at them but look beyond these things for the real subject which, as in writing or in painting, is an emotional affair—a spiritual mood —something of the heart rather than of the head.

But this is just where the modern public, in so far as it is interested in architecture at all, insists on paying attention to the things that do not matter. The lay critic goes on making observations about the "styles" of buildings, meaning what they look like, without the power to see any deeper for a realization of how they look. Thus the clients continue a source of exasperated if devastating humor to the architects, and the architects a source of aggravating mystification to the clients. Architecture for the man in the street remains an imitative affair "got out of books," a matter of catalogued periods, a science, and a dead one at that.

Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

Regional Planning Schemes [1]

There are two ways in which the problems of city planning and regional development may be met. The classic method of the city planners who followed Haussmann, was to begin with a central and more or less metropolitan city, and work outwards into the countryside, treating the surrounding area as so much grist that was doomed to go, sooner or later, into the metropolitan mill. When this kind of city planning is not narrowly urban, it is at best suburban; and against it we may set the method of beginning with the region as a whole, and of regarding the cities and towns in that region simply as focal points for its activities. The first method provides for the expansion of the central city: the second method seeks to promote the development of each separate village, town, and city in a harmonious unison, so that the natural increase in population will not result in congestion, in monopoly land-values, and in a complete denudation or obliteration of the natural environment.

The Doncaster Regional Planning Scheme[1] is an excellent example of the second method; and the report which has recently been published is a model of orderly planning, clear thinking, and beautiful presentation.

Doncaster is an old Roman town in the middle of a region that adjoins the great open coal deposits of Yorkshire, Derbyshire and Nottinghamshire; a region which seemed committed to a simple, mildly prosperous agricultural life until coal borings in the last decade of the nineteenth century showed the existence of accessible deposits beneath a great part of this area. Doncaster's combination of coal and excellent transportation facilities makes its "development" under the present system of industry, only a matter of time; and the question before the citizens of Doncaster is whether it is to become another Leeds or Sheffield, creeping out over the countryside with mile after mile of slum-dwellings and slum-factories, all of which will one day be consolidated into a "great city," or whether human welfare and the amenities of a civilized life are to be preserved by another kind of development. The present report is a tentative answer; for if it is adopted, the welfare of the region as a whole will take precedence over any temporary advantages private individuals may seek in pyramiding land-values or gutting out natural resources.

The problem of the Deeside[2] is somewhat different, but Messrs. Abercrombie, Kelly and Fyfe have approached it in a similar manner. Although coal mines and iron works have both been operated in this region for a considerable time, the silting up of the Dee has kept the industrial development down to quite moderate dimensions, and Chester, the central town of the Deeside, is still the administrative and military center, and the quiet, settled agricultural market, that it has been almost

[1] The Doncaster Regional Planning Scheme: The Report Prepared for the Joint Committee, by Patrick Abercrombie and T. H. Johnson, together with an Appendix on Coal Subsidies by Joseph Humble. University Press of Liverpool. London: Hodder & Stoughton. 1922.

[2] The Deeside Regional Planning Scheme (Chester and Flintshire). The Report prepared for the Joint Committee of Local Authorities, by Patrick Abercrombie, Sydney Kelly, and Theodore Fyfe. University Press of Liverpool. 1923.

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The red patches are the future residential areas of Doncaster and the surrounding communities, to contain a population of about 400,000 at the rate of 50 per acre: the green open spaces are at the rate of one acre per 250 persons. The roads are white, the railways yellow. Low-lying land, prohibited for housing, is coloured purple (factories), and buff (agriculture).

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continuously since Roman times. Here the work of Professor Abercrombie and his colleagues has been conservative in the most excellent sense of the word; that is to say, it attempts to keep intact the historic landscape and to provide for sufficient industrial growth and expansion to prevent the economic life of the district from dribbling away. New roads, new housing sites, new industrial areas are indicated in this report; but the original frame is strengthened and preserved. This kind of planning does not confuse "bigger" with "better"; neither does it attempt to lay out a strategic map of urban growth for the benefit of the real estate speculator: it rather prunes a little here, puts a prop in to support a weakness there, or prepares a new bed in another place, as an intelligent gardener would tend to his garden. Each particular community gets the benefit of a long view and a wide view, and the work of local development and inter-cooperation is to that extent advanced. The difference between this kind of regional plan and the city plans which we know so well in America is the difference between Sissy Jupe who understood a horse as a living animal and Bitzer who knew it simply as a granivorous quadruped. In regional planning we can well spare a little of Bitzer's smart, mechanical accuracy of definition; it is more important that we should understand the animal.

There is no need to go here into the authors' brief and lucid studies of health, population, water supply, mineral wealth, recreational areas, agricultural areas, and transportation, except to note that they consider every aspect of the region's development and indicate a line of approach; although specifically local problems, like local parks, as opposed to regional recreational areas, are referred to the local authorities concerned. What is more important, perhaps, is the conception of city life that underlies both reports; for it is a far cry from that concern with purely mechanical and financial problems which unfortunately characterizes so much of our American work. Let Messrs. Abercrombie and Johnson speak for themselves:

"Here is a district which has the chance of showing that industrial prosperity can be achieved without loss of amenity or health; and that an indulgence in the simple pleasures of a homely family life may be combined with the enjoyments of the highest flights of art, usually found only in the Great City—'La ville Tentaculaire.'

"The Doncaster Region, equipped by man, without any forethought to its industrial future, with unrivaled roads and railways, possesses in its most difficult feature, the low-lying tracts, the opportunity of grouping new industries in a manner at once fortunate for themselves and fortunate for those who will work in them. Coal, the *primum mobile* of this growth and the cause of its attendant difficulties, is found at such a depth that the worst infirmity of a mining district is absent—surface cracks and frequent pit-heads.

"But it is in the grouping of the population that the chief attractiveness of the picture is found. It is no longer, one hopes, possible for a single city of the numbers and density of Leeds or Sheffield to come into existence; and one contemplates with only less horror a town, equal in population, but with its people spread out at the rate of fifty to the acre.

"Instead, there should spring up in this region ten or more communities—new, or so changed as to rank as new, towns complete in every respect, but of moderate size, manageable in their loose texture. Central to these, but in no sense dominating their existence, is to be a city, neither swollen nor tentacular, but in the truest sense of the word, metropolitan. For major pleasures, for higher studies, for contact with great Art, dramatic, musical, and visual (which includes architecture, painting, and sculpture), the inhabitants of the surrounding communities would have, within easy reach, this focus of civilization.

"Agricultural land, small holdings, allotments, and ample space for playing fields would form the natural matrix to these human and industrial aggregates, cementing them together, and at the same time keeping them apart.

"Social life in such a region should be rich and varied; there need be no tame villatic existence in the smaller communities, nor loss of touch with nature in the central city."

I know of no reports except those of Messrs. Lanchester and Geddes in India which so steadily keep both the ends and the means of city and regional planning in view.

LEWIS MUMFORD.

Site Planning in Practice [1]

The text of this new book on English Town Planning methods constitutes an exhaustive and orderly digest of modern engineering and architectural practice as applied to English housing schemes of today.

The author has had that rare combination of experience and qualifications which can develop only under conditions in which comprehensive planning is closely related to continuous and complete execution, so that he may grasp not only the minutest details but appreciate their relative bearing and importance. With a training evidently as a practical engineer of high standing, Mr. Thompson appears also in various projects in the rôle of "Town Planner" and Architect, having been at one period assistant architect to the Housing Department of the Ministry of Health.

The book reviews in order the conditions which necessitate the establishment of new, self-contained housing areas; the preparation of the Regional and Town Surveys to determine both need and location; the choice of site in relation to suitability for habitation and economy of development; methods of procedure; provision for recreation and amenities; the design and distribution of arterial and local streets and roads; the arrangement of building lots and utilities in relation to their efficiency and usefulness, and the provision for private gardens and

[1] An Investigation of the Principles of Housing Estate Development, by F. Longstreth Thompson, B.S. See the Journal's Book Shop announcement in this issue.

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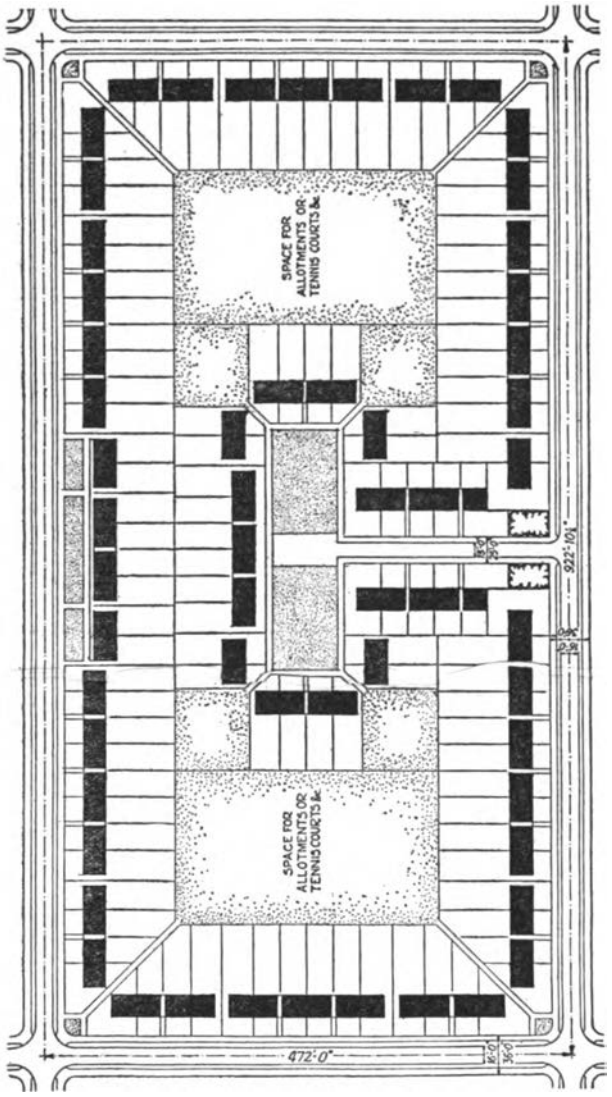


FIG. 42.—Diagram illustrating development of 10 acres of land at a density of 12 houses to the acre.
From "Site Planning in Practice"

allotments which occupy an important place in English Town Planning.

No less interesting is the disposition of the buildings themselves, in relation to natural setting, in groupings of private dwellings and the treatment of civic centers, village greens and market places. The careful arrangement of dwellings at road intersections and on odd-shaped sites, both for economy and interest, the development of the Cul-de-sac and "Road bays" and the handling of service ways, are all presented in detail, accompanied by interesting plans and photographs.

In conclusion, there is reiterated "the necessity of including Housing as an integral part of a comprehensive policy of urban development." Here is meant not the mere recognition of the need of certain areas being set off for one kind of housing or another, but the actual incorporation into the town plan of well developed schemes in which is determined the final disposition of the buildings in relation to "the welfare of the community rather than the profit of the individual." Here would seem to be a long step in advance of anything which has been attempted in City Planning in America, where to a large extent the question of housing is seldom recognized as an appreciable factor.

The fact that this principle is something more than a mere aspiration is evident upon an examination of modern English housing development. A large number of recent housing schemes, with photographs indicating their accomplishment, are shown in this book. At a glance they look quite as odd and foreign to us as an East Indian or Chinese village plan, being made up of a continuous series of geometrical patterns which, upon examination, are found to represent streets and house plots. Upon further study we are forced to two very obvious and important conclusions: First, that the English town planner has faithfully and consistently applied the lessons of site planning and street efficiency which were theoretically worked out and to some measure applied in the early garden city and war housing developments, and, second, that in doing so he must somehow have circumvented the

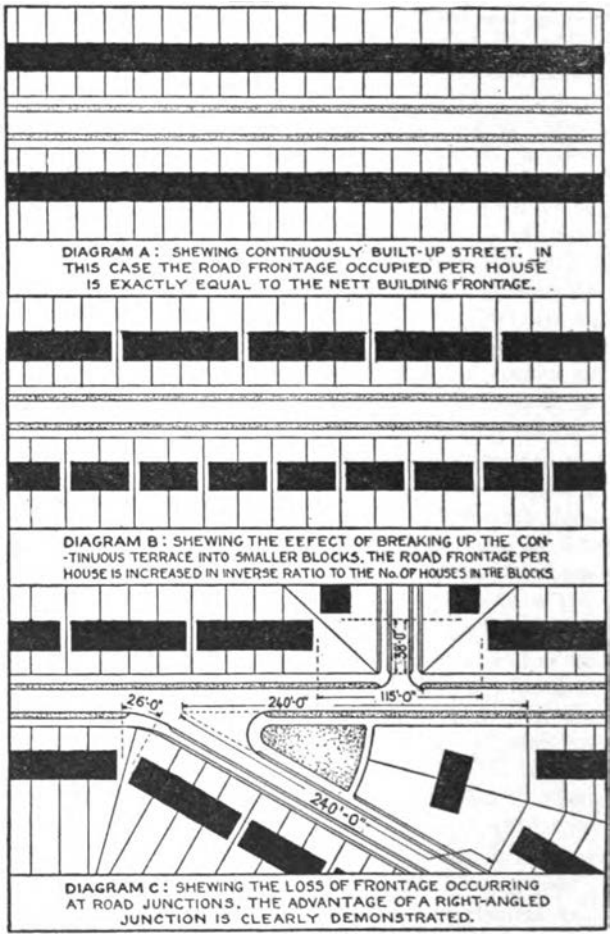
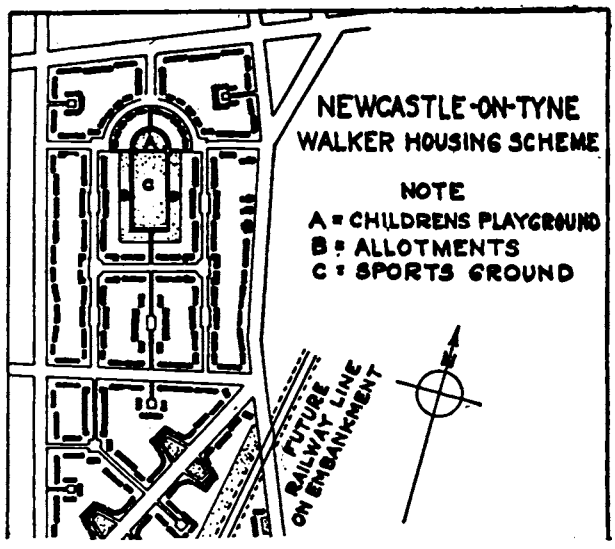


FIG. 40.—Diagrams illustrating the causes of loss of road frontage.
From "Site Planning in Practice"

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entire gamut of hurdles which are ordinarily set up by real estate perquisites, on the one hand, and, on the other, those established practices and preventive code and zoning regulations, such as operate in our own land, to fix the normally stupid methods of street planning and land allotment.

The result is that the English Town Planner is making genuine progress in the matter of preserving as far as possible those opportunities which yet remain to encourage the building of individual dwellings, and is succeeding to the extent of making them not only possible but permanently attractive. That he is getting straight at the crux of the matter, is clearly shown by a comparison of costs as applied to site development in relation to building. In this country, where we insist on wasteful standards of land development, the advancing construction costs have brought our site costs to fully 25 per cent of the complete cost of such dwellings. The figures given in Mr. Thompson's book would indicate that they have kept this factor within 10 or 12 per cent. What this means may be more effectively stated in terms of rooms. In relation to a 5-room dwelling, we require for site development the cost equal of 1 2/3 rooms as compared with 2/3 of a room in modern English Town Planning practice. Much stress is laid upon the establishment of a permanent rural belt, also the provision for a maximum of 12 families per acre which has been required in government housing schemes. To this latter factor is attributed the discovery that in many cases it is actually



From "Site Planning in Practice"

cheaper to reduce the density upon the land below what would be normally thought good business practice.

On the whole, there is much in English Town Planning Practice to which we might well give careful consideration, and it would be difficult to find the subject presented in a more thorough and concise manner than in this new work on the subject.

HENRY WRIGHT.

The Secretary's Page

At the risk of being thought presumptuous I am going to try to tell the readers of the JOURNAL a few things about the American Institute of Architects. I take the liberty of believing that this is an entirely original idea, but it isn't often that a man has such a wonderful opportunity to write things down on paper and then see them appear in really good print. As to whether I may be boresome or not, I am willing to make an offer of one year's dues to the Institute to any member who can honestly tell me at the end of this series that I haven't told him something he didn't know before. It will be cheap at half the price.

1. The JOURNAL is the official organ of the Institute in which news of all sorts from the Chapters and the members is given to the members. It is evident that this fact is not understood by many of the Chapters, for they so seldom send any news of what they are doing to the Secretary's Office, in order that it may be sent on to the JOURNAL for publication.

2. Some of the members seem to think that the Secretary's Office is the place where he resides. Really it isn't, you know. For the benefit of all concerned, the Secretary's Office is in The Octagon House, Washington. The Secretary doesn't carry it around with him any more since the efficient management of his predecessors in office. They have arranged for you all a very complete and interesting organization in that dear old historical building which we are so lucky to own, and this organization can and does keep all the wheels of the Institute moving. Let me introduce the members of it to you. Some of you, all of you who have ever been to a Convention, know Mr. Edward C. Kemper, our Executive Secretary. He isn't an architect, but in spirit and thought he is worthy of the profession, with as much love for it and for the Institute and for its success as the best of us who like to call ourselves architects. And then there is Miss Von Buben, who is Kemper's able assistant and who turns out all the nicely written letters and communications you have been getting in the past. Those of you who have been at Conventions will remember her well. Then there is Mrs. Miller and Miss Betz and Miss Brown, all capable young business women with the spirit of team work and loyalty to the Institute. And you will find Lawrence, the Office Boy, who fills that most to be desired of all positions in all going concerns. And don't let me forget George, who for the past twenty-five years has been the faithful caretaker and guardian of our property. Is this foolish? I don't think there are more than one or two of all you members who had the remotest idea of what and who the Institute is in The Octagon House.

3. This is important. The first two items were only news. This item is both a request and an order. Just because I don't carry the Secretary's Office around with

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me or keep very much of it in Minneapolis, I want you to send all your Institute business communications to the Secretary at Washington. I am very proud of my job but you must not forget the Office. To repeat, please send all your Institute business communications to the Secretary at The Octagon House, Washington. This will save time for you in getting answers and will also help keep Kemper busy. The more we hear from you the better we like it. Many of the questions that come in must be referred to proper Committees or Officers for answer. They get there quicker through Washington than they do through Minneapolis. All the Institute files are there also. When I became Secretary I began to consider where I could rent additional office space to house the enormous files that I knew Stanley Parker would send out to me. I had been Secretary of a Chapter once and the files followed the office. But this time I didn't get any. They are all perfectly kept at Washington. When I need information to answer any questions, or old data, I get all there is right fresh from the files when Kemper forwards the letter to me. I don't believe very many of you know that either.

4. I began this with the JOURNAL and now I am back to the JOURNAL again. Here I am safe in giving you news for so few of you give it the attention it deserves. If you don't send me news about yourself (read Item 3) how can I get the news to the JOURNAL? If you want the JOURNAL to be all you wish it to be you have to do your part and keep us informed (read Item 3). It is too expensive to send out the various communications to all the members and to the Chapter secretaries by mail, so I am going to save up what will keep and give it to you each month in the page of the JOURNAL which the editor is saving for me. It will appear under the head of Institute and Chapter Business. If you don't read it you will miss what is going on and then some of you (now I am talking to the Chapter Secretaries) will fail to do what the Institute wants you to do. And it will be your own fault.

5. Again referring to the JOURNAL. I will welcome volunteers from among the Chapter secretaries, for producing this page every little while. Full credit will be given, not that you may be rewarded but that others may be inspired to emulation.

EDWIN H. BROWN, *Secretary.*

Public Buildings

Secretary Wallace of the Department of Agriculture has laid before the Budget Bureau the outlines of a comprehensive building program to extend over a period of eight years and provide for the suitable housing of some 4,600 employees. The outlay involved is $15,350,000.00, and the rental now being paid by the Department in Washington amounts to $170,000.00. Anyone familiar with conditions in Washington would sympathize with Secretary Wallace, for the work of his Department has been carried on under extraordinary difficulties, for the rental mentioned covers as inefficient a lot of buildings as could be imagined.

It is significant that Secretary Wallace's proposal is laid before the Budget Bureau, for any fundamental plan for placing government building work on a sound basis must rest upon the premise of a business budget. The Government greatly needs public buildings, and yet is trying its best to economize in all possible directions. All of which is the best possible evidence of the wisdom of having a Budget Bureau which can have knowledge of expected income and thus calculate on wise outgo. The first important step has thus been taken, under the present administration, toward placing expenditures for public buildings on a sound basis. It now remains to work out the technical details of getting the buildings erected.

MILTON B. MEDARY, JR.
Chairman.

Competitions

The Chairman of the Committee recently received the following letter:

"A short time ago I was invited to enter a competition for a building to cost approximately $200,000.00. There are thirty-four or thirty-five architects in this city but the building committee, in charge of this work, eliminated all but four and issued their invitation to us. No set program was arranged for and only meager information was available.

"I presume you realize how important a building project of this magnitude is to an architect in a small city like ours, and while I wanted to go into the competition, I hesitated and wired the Secretary of the American Institute at Washington, regarding with whom I could take the matter up. When I was first notified of being one of the favored four, I informed the building committee that I could not enter the competition unless it was authorized, which would mean that they would have to prepare a definite program and form a committee of award, composed of professional men. They courteously advised me that they would do their own awarding and would give the work to the one they thought presented the best solution of their problems and they would not, under any circumstances, have any architect or engineer to suggest to them what they should do. Not being able to get satisfactory information regarding the matter from the Secretary of the American Institute in time, I did not prepare any drawings and dropped out of the competition of my own accord. However, sketches were submitted by the other three architects.

"I am willing to abide by the rules and regulations of the Institute, but I believe some measure ought to be had whereby other architects belonging to the Institute would do the same thing. If this policy were enforced we would not be continually asked into such competitions. Of the other three architects invited one was a member of the Institute.

"I would appreciate very much a little enlightenment on this subject and any suggestions you may have regarding a solution of the problem I have offered you."

To this letter the following reply was made:

"The difficulty set forth in your letter is new only in its particular circumstances. In principle, it is as old as the Institute Code of Ethics. I can personally understand your position very well because I have had to pass up at least a chance at quite a lot of work at various times through failure to take part in competitions.

"I am obliged to admit at the outset that I have no

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real solution for your problem and I am afraid that no committee of the Institute, no matter how competent and well disposed, can solve it. It has its roots pretty deep in the nature of things as they are.

"Modern business is aggressive if it is successful, and the architect must live by its methods. Where they come in conflict with his conscience or his code of ethics (which should be a public statement of his own conscientious views as to the practice of his profession) he must either sacrifice the business or go back on his principles. It seems perhaps trite to state it so baldly, but that is what it amounts to, as I see it. I can understand how a man may be placed in a position of having to choose the lesser of two evils, e. g., the man who steals a loaf of bread to feed his starving wife. In most cases, however, I believe that the sacrifices entailed by a high standard of practice are not so extreme.

"I think it is true that nothing is really worth while that is not worthy of some sacrifice. Each individual member must decide for himself just how much belonging to the Institute means to him and how far he is justified in denying himself and his family the rewards, financial, or otherwise, which tempt him to do things incompatible with the spirit of his membership.

"There is a further consideration that has helped me. I believe that the competition, so-called, among the professional men is all wrong, and that it does not pay to take part in it as a general rule. I could go into this phase of the matter at considerable length, as it amounts to a hobby of mine, but will spare you this time. You can see, however, that this attitude of mind must relieve the Institute of just that much "onus." The Institute does not appear in the matter at all, as compared with the case where the member declines participation in a competition on the ground that the Institute forbids that kind of a competition. This latter explanation sometimes creates an impression, on the part of the layman, that the Institute is a sort of Trades Union thing, that undertakes to interfere at the very beginning of negotiations in the business relations between client and architect. Suppose the architect can personally say: "I will not go into *this* kind of a competition because it is silly, unfair, unbusinesslike, but if you are bound to have a competition, and really want me to go into it, I will take part in *that* kind of a competition." Do you not think he has a better chance of convincing his possible client of the fairness of his point of view than if he will simply say: "I'm sorry. I would like to do as you suggest, but the American Institute of Architects won't let me"? Do you see the implication? The client thinks this architect is a good fellow, but the idea immediately comes to him that the Institute is unreasonable and dictatorial.

"I am sending a copy of your letter and my reply to the other members of the Committee in the hope that at least some of them may also write to you and give you their views."

WILLIAM M. STEELE,
Chairman.

Alabama Marble Scholarship

The Alabama Marble Company Competition Jury of Award, consisting of Mr. R. Clipston Sturgis, Boston; Mr. Abram Garfield, Cleveland; Mr. Donn Barber, and Mr. John V. Van Pelt, New York, met on Tuesday, August 28th, and made the following awards:

First Place and Scholarship—"Giotto Lanzi Memorial Bank." Author, Mr. Frank Martinelli of New York.

Second Place—Mr. Phillip Larfilippo of Brooklyn, New York.

Third Place—Mr. George N. Pauley of Pittsburgh, Pa.

Fourth Place—Mr. F. Ray Leimknehler of St. Louis, Mo.

Fifth Place—Mr. Victor Pribil of Woodhaven, Long Island.

WALTER D. BLAIR,
Architectural Advisor.

Industrial Relations

The American Construction Council, at its last meeting, adopted a report which had been prepared by Messrs. John M. Gries and D. Knickerbocker Boyd, from which we quote the following:

"The first efforts of the Council should be devoted to a solution of the more pressing of the many problems which await settlement. Among the most important of these are:

"1. The formation of a code of ethics acceptable to the industry and to the public.

"2. The gathering of adequate statistics so that the industry may operate intelligently; while there are partial statistics collected by many sources, they have not been brought together and interpreted in the light of all the facts.

"3. To establish and strengthen local organizations throughout the country, designed to attain the co-operation of the various elements in the construction industry in conformity with the principles of the American Construction Council.

"4. A reduction of the national shortage of building mechanics and the establishment of the necessary apprenticeship system. To promote legislation and vocational guidance through the educational systems of the country increasingly raising the standard of efficiency and workmanship.

"5. To cooperate in the establishment of uniform building codes throughout the country.

"6. To cooperate with the railroads in expediting the revision of existing freight rates on construction materials, which the railroads are now undertaking.

"7. To mitigate the evils of seasonal employment and the trade migration of labor.

"8. The encouragement of local building shows and the adoption of a publicity program capable of giving the public an adequate conception of the magnitude and work of the Construction Industry.

"9. Simplification, standardization and elimination of waste.

"10. Educating the public to the distribution of its construction and maintenance requirements more evenly throughout the year.

"11. To promote health and safety of employees on construction work.

"12. To reduce loss of life and waste of construction materials from preventable fires.

"13. To study old buildings in order to make better

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new buildings, and particularly buildings being demolished in order to obtain practical knowledge of comparative depreciation of materials and thus to establish superior methods of construction.

"14. To inform the public as to the necessity and economy of properly maintaining existing structures."

The Institute will extend to the American Construction Council its hearty cooperation, particularly in furthering object Number 3, which might have been more simply stated as: "To help establish and strengthen additional local organizations such as The Congress of the Building Industry, already well under way in five or six cities, as has been recorded in the JOURNAL from time to time. The Institute is on record as favoring this form of cooperative industry organization, and the Institute's Committee on Industrial Relations is delighted to find that the American Construction Council is beginning to see the light.

* * * *

The Oregon Association of Building and Construction has secured quarters for class rooms and, in connection with the Oregon State Vocational Commission, is at present training teachers, who will be certificated by the State Superintendent of Education, for use in educational work with mechanics now in the trades, and apprentices yet to be trained. These teachers, for the most part, come from the ranks of the Guild of Handicrafts, which is made up of mechanics honored by the entire Building Industry, as being Master mechanics and good citizens.

About the Guild, Mr. Ellis F. Lawrence says that "he believes it to be the soundest part of our system of handling this phase of the problem. At the last installation of Guildsmen, Secretary Hoover sent the following telegram:

"'I am much interested in the development of the Guild of Craftsmen which the Oregon Association of Building and Construction is launching. I am delighted to see the spirit of cooperation appearing once again by the recognition of the men directing the industry and the large part played by the craftsmen in the industry itself. The craftsmanship which has made the great structures of the world has lost much of its tradition in our commercial application and the restoration of the honor and distinction that should fall to the men who actually do the work of construction, will make for better communities as a whole.'"

ROBERT D. KOHN, *Chairman.*

Public Information

There has been very little activity in the direction of Public Information among the chapters during the summer, and there are only a few awakenings at the present time. Next month everything should be in full swing and the different Public Information Committees of the Chapters vigorously active. Last year a few of the Chapters had no Public Information Committee or Chairman. The Institute Committee makes a special plea to each of these Chapters, requesting it immediately to appoint such a committee and to send the name of the Chairman to John V. Van Pelt, 126 East 59th Street, New York City, and to Leigh Hunt, 412 Colby-Abbot Building, Milwaukee, Wisconsin. Mr. Hunt has undertaken to assemble the monthly reports from the following Chapters: Arkansas, Colorado, Iowa, Kansas, Kansas City, Minnesota, Montana, Nebraska, Oregon, St. Louis, St. Paul, San Francisco, Southern California, Texas, Utah, Washington State, and Wisconsin. Will those Chapters, therefore, please consider him as the member of the Institute Committee immediately in touch with western activities? The other Chapters will please send their reports directly to the Chairman of the Institute Committee. The Institute Committee has succeeded in securing some exceptionally able articles from writers of note. These articles are to be placed by the Chapters' Public Information Committees with a local newspaper that will agree to take the series at $5.00 an article. It is expected that there will be material enough for three months publication either in a Saturday or Sunday edition. Individual letters regarding this are being sent out to the Public Information Committees.

The Alabama Chapter is working on a Registration Law for that state.

The Baltimore Chapter is still busy with its newspaper articles, for which Mr. J. H. Scarff is principally responsible. A late one dealt with the Freer Gallery and another with the new Baltimore Museum. They had the Institute Procedure for Competitions published, and this together with excerpts from the document on the functions of the architect, might be interesting matter for papers throughout the country.

The Chicago Chapter has succeeded in inducing the Chicago *Tribune* and the *Herald Examiner* to reserve a half column each Sunday for items of interest from the Chapter's Publicity Committee. It has also obtained from the South Park Commissioners the appointment of an advisory committee of the Chapter to assist in developing the plans for the restoration of the Fine Arts Building in Jackson Park.

The Indiana Chapter has succeeded in obtaining the publication of articles relating to the activities, duties and general functions of the Architect.

The New Jersey Chapter has filled an important role in the creation of the New Jersey Building Congress. The New York Building Congress is doing such an important work that the formation of a Congress in a sister state is a most encouraging sign.

The New York Chapter was allotted a considerable amount of space in the Jubilee Exhibition, held at the Grand Central Palace. The Exhibition was an unqualified success. All of the important schemes that have been made for the development of New York were shown, and the exhibition was visited by the general public in a way that would not have occurred had the exhibition been relegated to a more architectural setting. Also the Chapter has been influential in the amendment to the Tenement House Act of New York. It has now appointed a committee to make a special study of uneconomic practices in the building trades.

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The Pittsburgh Chapter is making an effort to obtain the appointment of an architect for the bridges to be constructed along the Allegheny River. They have done another interesting thing in awarding a traveling scholarship for $150.00 to Mr. John Topnick, the honor student at the Carnegie Institute of Technology, to be used by him in traveling through the eastern part of the United States.

The South Carolina Chapter is making an effort to obtain a unit charge for all Chapter members from the Structural and Mechanical Equipment Engineers of the State. They also propose to hold a joint meeting with other Southern Chapters.

The Tennessee Chapter has been preparing an architectural exhibition to begin at Nashville, and to be sent from there to Chattanooga, Knoxville and Memphis. They are trying to arrange a scholarship for the Fontainebleau School.

The Texas Chapter, through its secretary, Mr. Bulger, has published weekly editorials in the *Texas Contractor,* and that paper has agreed to reserve half a page each week for the use of the Texas Chapter, the paper being sent to each member of the Chapter, and the Publicity Chairman has requested individual members in each community throughout the state to use these editorials as a basis for articles in the daily press, and, in turn, to send in material for the space. Prominent members of the Chapter are preparing articles for the space, but the secretary is not asking them to write the articles out in form, but merely to supply an outline and ideas, and he and one of the reporters of the paper write the copy. These articles have been copied by papers as far from headquarters as New Orleans. As the members of the Texas Chapter are disseminated throughout the state, the Chapter finds it difficult to secure large attendance at each meeting. They are, therefore, organizing a rally or a special meeting, the date of which will be determined before long.

The Washington D. C. Chapter is inaugurating a publicity campaign in which they will delegate speakers to address the various civic associations of the city on "The Architect." This contains a suggestion for other Chapters.

JOHN V. VAN PELT, *Chairman.*

Education

The College of Architecture of the University of Michigan announces that Mr. Eliel Saarinen of Helsingfors, Finland, has accepted the post of Visiting Professor in Architectural Design for 1923-4. He will criticize the work in advanced and graduate design.

Mr. Saarinen, whose work is among the most distinguished of Northern Europe, is now well known in the United States by reason of the design he submitted in the recent competition held by the Chicago *Tribune.*

* * *

At the recent distribution of prizes at the school of the Architectural Association in London, Mr. Harvey W. Corbett said the following things on the subject of education:

"Ever since I returned from Paris to New York twenty-three years ago I have been more or less interested in educational work, and I feel that it is the duty of every practising architect to give his time and thought towards education. We cannot afford to let that thing be done just by schools, and we must remember this particular point—that when a student finishes his course, whatever it may be, he is really only continuing his education, and a practising architect must take that man and guide and help him to go on with his educational work; and therefore I think it is the duty of every group of men interested in education to bring this matter forward and help to carry on educational work.

"The work that would probably interest you most is the work we do in America on educational lines for architects. You would probably like to know what I think the most necessary thing for a young man or woman to be taught in order to be a successful architect. Of course, the profession of architecture is a very broad one, as one realizes when we consider that nearly every human activity goes on inside a building and every architect should be able to cope with its particular requirements. It means that the field of architecture is the broadest, the widest field in the world. The only reason why I do not tell you what is the most important thing to learn is, that, during the twenty years I have been teaching, my ideas have constantly changed. Therefore, if I told you what I think about it now, in a month's time I should probably regret it. But I have decided on one point about architectural education, and it is a test that can be applied to any architectural school. That test is—are the students interested, enthusiastic, and excited about their work, or are they being driven along?

"Someone has defined education as something that is done to us, but I think that real education is something we do ourselves, and the aim and purpose of an educator is to do something that will inspire the student with an enthusiasm for his work, and when I look over the work of the Association and see the faces of the students I am convinced that you have passed the test of a perfect scheme of education 100 per cent. The system you are following—your President spoke of individuality—is perhaps different from ours in America, where we have to contend with a great volume of work, and we must therefore, of necessity, standardize in our educational work. But if you go on the lines of individuality or on standardized forms, providing the student is inspired and enthusiastic, and is ready to work twenty-three out of twenty-four hours a day, and sometimes twenty-four hours a day, then you will get ideal architectural results from that student later on in life.

"Another point I want to stress particularly. In all our educational work in the States, pressure is continually being brought to bear upon us to make our courses more practical—to train men more on the lines of practical work—to train men to know the sizes of bricks and pipe lines—all of which is an essential part of an architect's education, but there is a period in a man's life when the possibility of training is the best, and that is between the ages of eighteen and twenty-five. That is the period when he can develop his imagination and individuality and have the opportunity of engaging in free projects, not limited by a definite course, because if you go on developing your imagination and individuality, then you will have in actual practice the imaginative power to meet the situations arising in later life. As years go on the architectural conditions of our thickly-

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populated cities will require the greatest imaginative genius the architect can bring to bear upon them. We in the States, as you know, have architectural offices of considerable size. Your President has said to me that he thought it would be difficult to get several Englishmen into partnership, because each one would think he knew all about it and would not agree with the others. In our partnerships in America there are not only the principals of the firms of architects, but also draughtsmen as actual partners in the firm. We do that, not because we do not believe in individual expression in our work, but because the volume of our work covers so great a field that it is necessary to have a tremendous cooperative effort in order to bring about successful results. It is difficult to make a comparison between conditions here and in America. We have certain different conditions to meet, so totally different from what you have here, and we have to build up an organization to meet these conditions.

"In conclusion, I want to congratulate your staff and your President on the work you are doing. I think it is the starting point of an educational system which will, in time, spread all over Great Britain. I would like to see all Architectural Associations and schools brought together in some sort of central school in London, and their work grouped together and judged in London. In New York and other large cities throughout the States, even so far distant as San Francico, 3,000 miles away from New York, there are students who send their drawings and designs to the central school in New York, where their work is judged and the marks given for it are credited to them in the student's own school. All the universities join in, so that every student is in competition with students all over the country and not only with the students in his own group. The fact that the student knows that he is in competition with students all over the country, and not with only his particular group, is an inspiration to him, and he knows that the prize he gains means success in his entire group and inspires him to do his best. I suggest that all Great Britain join in with you in this marvellous work you are carrying on, and on which I heartily congratulate you."

Mr. Robert Atkinson:—"It is with very great pleasure that I propose this vote of thanks to Mr. Corbett for his admirable address. I had the pleasure of meeting him in New York last year and of admiring his work over there. It is also possible, of course, for you to see his building in Kingsway and get some idea of the class of work an American architect turns out. I was interested to hear about the advance of art in the schools in America, and I think that the architectural schools there have been so well organized during the last twenty years that architects have been produced who are capable of doing work which is well above the ordinary general level. Their designs have reached a universally high level, and this is undoubtedly due to the teaching in their schools. The draftsmanship in the office and every drawing sent to the builder was of such a quality that really they astonished me. Really the quality of these drawings was excellent, and details were rendered and proportioned so well that they could not be better. In England we have three or four architectural schools, and in America there are twenty-six, and about 2,000 students sent out every year. In England you have turned loose every year about fifty young architects.

"Between 1890 and 1920 the difference was so enormous that the schools may be said to have revolutionized architecture in America to such an extent that American architecture is now in advance of anything else in the world. It is certainly in advance of French architecture, which, to a certain extent is inferior, because it is so largely 'paper' architecture, and the American schools have gone ahead in teaching the difference between 'paper' architecture and 'building' architecture, and the result is wonderful buildings. I believe that in the future, cities of America will be the centers of pilgrimages for architects, as Florence is today. I do not see why we should not go to San Francisco and New York and study their designs, as one would go to Florence to study architecture there today. I think this movement is even now beginning, if the signs are any criterion, for every student in architecture today has the ambition to work in America just for a few years, just as a few years ago students all wanted to work in Florence. I attribute this to the fact that many old American students who had studied at the Ecole des Beaux Arts have returned and distributed the ideas and learning gained there."

INTERNATIONAL CONGRESS ON ARCHITECTURAL EDUCATION.—The Board of Architectural Education of the Royal Institute of British Architects, announce that the International Congress on Architectural Education will be held in London from Monday, 28 July, to Friday, 1 August, 1924.

London Letter

For the past few weeks London has enjoyed the unusual treat of basking in sunshine. Architects have taken off their coats and substituted flannels for tweeds. But the Palm Beach suit or its equivalent has only been seen once, and then its wearer was an engineer.

The sun's rays have combined with the virgin Portland stone of London's new buildings to give the city a fresh and sparkling appearance and many a new façade will never look better than it does to-day. Our climate explains many things and it may even hold the explanation of Professor Reilly's remark that our buildings "have whiskers on them," while their most recent competitor from overseas, the Bush Building, "is clean-shaven." Certain it is that strong lights and bright skies give every advantage to subtle mouldings and unbroken surfaces. English buildings are so often covered with surface breaks, designed to create emphasis and shadows where the play of natural light is atmospherically lacking. And Sir Christopher Wren's mouldings have the full bodied robustness of the compass-designed profile.

The façades of Bush House have the power which comes from recessed motives. The entrance porticoes, set back into the two main fronts, provide a big shadow contrast, and indeed the main architectural effect. The remainder of the wall surfaces are broken mainly by their fenestration, and ornament is almost completely absent. In our present frame of mind this treatment appeals as a virtue, and especially so as a foil to the riot of motives used on the adjacent Kingsway buildings, where restraint is at a discount.

But apart from the dedication of the Bush House to the "Friendship of the English-speaking Peoples," one of the most encouraging features is the generosity of its entrances, noble porches giving hospitality and shelter, lending to and not borrowing from, the public way. It

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is one of the few modern instances in London where a building owner has sacrificed space to the benefit of street amenity.

* * *

As an offset to the triumph of Kingsway we have the grief which must be felt by every visitor to London who notes the passing of Regent Street. The crown leases are falling in like a pack of cards, and those architects who had the right friends are engaged in working overtime.

A commercialized Louis XVI, a mixture of Assyrian —Empire—"Negro-Grec," big Renaissance Portland stone buildings trembling over plate glass on spindly shanks, these are beginning on every side to predominate over the calm architecture dear to the old Londoner now scorned as a "stucco sentimentalist."

The disappearance of the work of Abraham, Cockerell, Soane, Burton, Repton, and John Nash marks the closing of a chapter. It was impossible to add to these buildings, built to suit the needs of the small shopkeeper of a century ago, the man who lived with wife and family over the shop. The only alternative was to rebuild, and the office of Woods & Forests, the ground landlords, certainly did their best to try and secure some sort of unity of design for the Quadrant.

The result was the scheme by Norman Shaw, carried out in a small section as a façade to the Piccadilly Hotel. It was far too powerful for Regent Street, and its heavily rusticated arcades caused such an outcry from the shopkeeper that the remainder of the scheme was abandoned. For Oxford Circus a competition won by Sir Henry Tanner ensured a uniformity of treatment, and the handling of Waterloo Place was entrusted to one man, Sir William Emerson. There has, therefore, been some attempt at co-ordination, and one can only feel that a general poor architectural level is responsible for the patch-work which is now going up.

Regent Street was designed and carried out between 1813-16. It has lasted therefore over a hundred years. One can only hope that most of the new buildings will be found unsuitable long before another century has elapsed.

* * *

The latest development in architectural propaganda is distinctly refreshing. It consisted of a chatty tour round some of London's newest buildings, and it was conducted the other evening via the British Broadcasting Company. Tired architects returned home just in time to miss a children's bed-time story, but early enough to hear a fine eulogy of the County Hall, the Port of London Building and other recent works. There was a good deal of praise and not much criticism by the speaker who last year represented that rare combination, an architect and a Member of Parliament. This year Major Harry Barnes is only an architect, but he has given encouragement to those who believe that listeners-in sometimes have a mind above the level of catchwords like "Yes, we have no bananas."

* * *

Another method of spreading the infection of architectural interest is the scheme which is to be carried out this autumn by the Architectural Association for providing a permanent panel of lecturers on architecture whose services may be called upon from all over the country.

Each lecturer will have one or two subjects, such as "Architecture and Everyday Life," "The Architecture of the Country-side," or "City Buildings." A list of lectures and lecturers will be widely circulated to educational institutions and public bodies, the idea being that a lecture on any of the given subjects can be delivered at short notice and for a moderate fee. It is an attempt to promote more widespread interest, and bring home the truth that some knowledge of the mistress art is quite as important as a smattering of the lives of the painters.

* * *

The question of a National War Memorial is once more on the "tapis." It has been urged that a Commission should be set up to prepare plans, but what form the memorial should take is a problem which no Commission is likely to decide without considerable public discussion.

One suggestion is that it should take the form of a new Road Bridge across the Thames at Charing Cross, and this is a proposal which has always been advocated by the London Society.

That such a bridge would constitute a real benefit to the public is beyond doubt, but it appears to be scarcely capable of fulfilling the national desire for some memorial which would be the concrete expression of the emotions and sentiments of those who have suffered and are bereaved.

This kind of proposal, to erect a structure fulfilling both an abstract and a utilitarian ideal, is, alas, typical of England in an age of national economy. It is an instinct for commercializing sentiment which should be suppressed now or never. For already such things have happened, and we can see today at Golders Green a war memorial cenotaph with a blue dialed clock let neatly into its flank. And at the end is a door, leading, we imagine, to a thoroughly practical little store for municipal implements! They do these things better in —Germany. X.

September, 1923.

From Our Book Shelf

Sir Christopher Wren

At last there is a good book on Wren—Wren the man and Wren the architect. The Bicentenary Memorial Volume[1] published under the auspices of the R.I.B.A. is by long odds the best work about him. The older books, indeed, left much to be desired. The "Parentalia" was of documentary value, but singularly reticent on the personal side. Miss Phillimore, rather one-sidedly, supplied this lack. Birch's "London Churches of the XVIIth and XVIIIth Century" covers one phase of Wren's work very adequately, but is expensive and hard to obtain. Only Miss Milman's popular book attempts

[1] Sir Christopher Wren, 1623-1723. The Journal's Book Shop is the American agent.

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to survey the whole field. Now we have a well-rounded work covering with authority the many aspects of Wren's genius.

It is written by men who know, including Messrs. J. Alfred Gotch, Beresford Pite, Mervyn Macartney, A. E. Richardson, S. D. Adshead, Arthur Stratton, W. H. Ward—to mention only a few of the names more familiar to Americans. With others, they discuss in individual essays, the parish churches, the public buildings, the plan for London, the design, construction and present state of St. Paul's, the crafts at St. Paul's, and a number of special topics in architecture, besides Wren's personality, and his work in astronomy and biology.

These essays in many cases are not merely summaries of existing knowledge, but newly illuminate their subjects. This is notably the case with Mr. Somers Clark's "Observations on Wren's System of Buttresses for the Dome Piers," which brings out that the much maligned "screen walls" of the second story have an important structural function.

Of special interest are Mr. Stratton's paper on Dutch influences in Wren's work, and Mr. Ward's on French and Italian influences. Here fresh ground is broken in a field which Victorian self-complacency left quite untilled. Rightly appreciating the importance of the Dutch in England generally at the time, Mr. Stratton delves into their little-known folios to establish that they were building storied church steeples and belfries a generation before Wren. The relationship he brings out, however, is not close enough to establish a derivation, and I hope to show that for the steeples, the trail from London leads ultimately rather toward Italy. Mr. Ward quarters the ground conscientiously, and in several instances picks up the scent, without really pursuing the quarry to the death. Perhaps this is because France naturally claims his chief attention, not only on account of his own interests, but because of Wren's well known visit there. While in emphasizing what was accessible for imitation, he corrects many ignorant suppositions of the past, and perceives a number of significant relationships, others at least as important have escaped him. So too, in Mr. Adshead's interesting discussion of Wren's plan of London, mostly devoted to functional matters, he does not delve to the genesis of the ideas of form.

The illustrations, many of them selected from the rich stores of the R.I.B.A. by its librarian (who is also the editor), Mr. Dircks, are far from the usual repetitions of the familiar. Here, for instance among those of St. Paul's, are a plan and section of Wren's pre-Fire design, already foreshadowing the dome as executed, a photograph and a plan of the model for his "favorite" design with two perspectives showing how the interior would have looked, Malton's superb view of the south flank of the executed building, many fine details of the carving and the iron-work, and photographs showing present structural conditions. For the City churches there is notably the series of fine old water colors, showing in some cases buildings now destroyed. Thus the illustrations are not merely informative to the practitioner, but give something of a collector's flavor.

As a piece of book-making, characteristic of the best English work, the volume puts our American publishers to shame. It is large but not heavy, clearly printed on unglazed paper, yet richly illustrated. Numerous old engravings have been successfully reproduced as line cuts in harmony with the text. Among the plates are a dozen in color which achieve a mellow harmony.

The entire profits from the sale of the book will be devoted to the St. Paul's Cathedral Restoration Fund, which American architects may thus assist in a very agreeable way.

FISKE KIMBALL.

The Persistence of the Village

With the extension of the industrial frontier during the last century, we came to conceive of social life in terms of transportation rather than settlement. Thus our city planning has, in great part, been a matter of strategy in breaking or diverting the traffic, whilst our cities themselves have become more and more the interstices in our intricate net of highways and transportation systems. Particularly has this been true in America, where since the time of New York's famous city plan every street has been designed as a traffic street—a practice which reached the level of a religious mania, and was elevated into a creed; so that in the early part of this century a young engineer at length outlined a beautiful utopia called Roadtown, in which transportation was the key to every other item in the community's life.

Whether consciously or not, most of our city planning nowadays is done in terms of Roadtown; indeed, there is a whole school of landscape architects and city planners who conceive the fundamental pattern of community life to be an aggregate of factory districts along a railroad track, linking up indefinitely across the continent, in much the same fashion that they do today in the regions around Boston, New York, and Philadelphia. So completely have the elements of a civilized life dropped out of our minds that it is no wonder every Sunday afternoon finds many hundred-thousands of people on the roads, seeking in the hypnotic caress of the rushing air, or in the asphyxiating stench of other motors, some relief from the bare and depauperate life that they lead in those accidental collections of houses called towns. What we call freedom today is largely the ability to change our residence; and it has nothing to do with the older, peasant notion of having a residence that one would not willingly change. It is no wonder that our cities are perpetually running down; they are inhabited by nomads who have camped for the night, and who have no permanent interest in dressing the land, in keeping it, or in forming kindly ties with the folk around them.

We can perhaps gain a little keener sense of what we lack today if we turn to the pages of The English Village: the Origin and Decay of Its Community,[1] in which Mr. Harold Peake, an able English scholar, has brought together a wealth of first-hand knowledge and observation. When the only highways in England were the green "ridgeways" of neolithic times, there had already grown up, not merely in England but in Northern Europe generally, and even in India and China, the

[1] The English Village: The Origin and Decay of Its Community; an Anthropological Interpretation. By Harold Peake, F.S.A. London: Benn Brothers, Ltd. 1922.

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village—a cluster of families, grouped together for mutual aid and sustenance. It was within communities like these which made no effort to grow or to incorporate new members, that the foundations of our civilization were laid; and it was here that the first great changes were effected in economic life—the changes that gave us domesticated animals, and cultivated plants and fruits. Today if we go on a "rural ride" in England or America we are struck perhaps by the seediness and general decay of village life; but no one can study the history of the village without coming to the conclusion that this is but a temporary lapse; for the village is an essential social and economic nucleus, and over a period measured in thousands rather than in hundred of years, the village community kept intact as a social and economic organization, whilst war-bands swept over the land, whilst sovereignties rose and fell, and whilst cities themselves, once opulent, passed away.

The vigor and persistence of the village community is expressed in a taunting little jingle that the inhabitants of a little hamlet near Edinburgh sing to their sophisticated neighbors:

> Oh! Musselburgh was a burgh
> When Edinburgh was none;
> And Musselburgh will be a burgh
> When Edinburgh is done!

It is almost impossible to overestimate the solidity of the English village: not forty miles away from London, for example, is the little village of Fingist, where stands a Saxon Church in which people have worshiped continuously for over a thousand years. Who doubts that men will go on using that edifice for one purpose or another, long after William Morris's detested House of Parliament has ceased to be used even as a storage place for dung?

The political fortunes of the English village community, its comparative servitude under the Lords of the Manor, its final disappearance as a co-operative organization during the eighteenth century, as the commons were expropriated by progressive farmers and downright landlooters, and its deterioration into the administrative unit called the parish need not detain us here. The village was not so much destroyed as deserted: the competition of the pioneer-farmer in America, and of the pioneer-industrialist in Great Britain upset the economic balance which had so long endured in Western Europe, and the village was slow in adopting economic and social instruments to meet this change. By now, however, it has become plain through the agricultural revival of Denmark and Ireland that the village will again serve as the center of a settled life; and city planners or regional planners who do not take this fact into account are working in terms of more or less obsolete ideas as to the relation of agriculture and industry. In America, we are slowly getting over the booster's notion that every Four Corners must, or ought to, become a metropolis; but it is a little harder, perhaps, to emancipate ourselves from the wartime prospectus of the British Garden Cities Association, which urged the establishment of a multitude of Garden Cities, each with some 30,000 inhabitants, through the length and breadth of Great Britain. It takes a little time to see that this conception, too, is a little mechanical and made-to-order; that it does not necessarily coincide with either human necessities or preferences.

If the village, as an economic and social organization, is destined to continue, the real problem is how we are to maintain the intimacy and the rural character of the village without forfeiting many of the amenities of a civilized life. Here Mr. Peake has a happy suggestion. He points out that "as Hellenic civilization advanced we find that it was customary for two or three villages to coalesce to form the germ of a city. This synecism led to the foundation of Athens and Sparta and many another Greek city." So, taking the valley township of Wessex as his unit, a strip of land about three-quarters of a mile wide and from four to five miles long, providing work for about 200 people, Mr. Peake proposes to combine five of these strips and thus produce a united net of homes, farms, and workplaces holding about a thousand people; a population large enough to be mixed in character, and to have a sprinkling of professionals and intellectual leaders. "Two or three chains of such villages around each urban center," Mr. Peake says, "would cover the country, and provide homes for all the tillers of the soil, while it might house under healthy conditions a large part of those whose occupations lie in other directions. There would be no sense of isolation, no feeling of being in a backwater, for each community would be self-sufficing for its smaller needs, and for those of a more special order it would form part of a larger community, numbering many thousands, which focuses upon an urban center. In contrast to the purely urban centers, the industrial aspects of these villages would be represented for the most part by the handicrafts.

"Although for the last century or more we have been largely dependent upon machine-made goods, and in some respects this is likely to increase rather than diminish in the future, there is in some quarters a steady and growing demand for hand-made articles and materials, especially among those who value quality and durability in preference to mere cheapness. . . . I look to see colonies of craftsmen, cloth-weavers, potters, and cabinet makers settled in some, at least, of our ideal villages. These craftsmen might well lend a hand to the farmer or small holder in hay-time and harvest, while in the long winter evenings the farm laborer and his family might practice some minor branch of the craft."

Mr. Harold Peake's book, although it is a work of history and anthropology, contributes a valuable point of view to the city and regional planning movement, which has been predominantly concerned with urban problems and has failed to see that a fresh light is thrown on the whole field when one starts out in the country and inquires, not as to what must be changed, but as to what may be perpetuated. Sooner or later, the despised and neglected village will, I believe, come into its own. Whether this happens after our great urban centers have extirpated each other in their wars for markets, or whether it happens as a result of a more or lesss conscious and voluntary exodus into the country—towards which electric power and motor transportation industrially point the way—is a question which perhaps will not

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be a little affected by the sort of imagination and understanding the regional planners of the near-future will bring to the subject. LEWIS MUMFORD.

Obituary

T. B. Wolfe

Elected to the Institute in 1913
Died at Pittsburgh, Pennsylvania, 5 May, 1923

Mr. Wolfe was born in Pittsburgh, 8 September, 1860. When about twenty he became connected with the building business in Kansas City, Missouri. He served as superintendent for a number of architects prominent at that time, among whom were Mr. Hill, Mr. Shephard, and Mr. Vrydaugh, and at one time served as the representative of McKim, Mead & White on work in Kansas City.

About 1888 he associated himself with Mr. Vrydaugh, whose firm had been commissioned to plan the Calvary M. E. Church on Beach Avenue, North Side, Pittsburgh. On the completion of the work, Mr. Wolfe and Mr. Vrydaugh became associated in practice. Among their most interesting achievements may be mentioned the removal of St. Peter's Episcopal Church from its original location near the Court House to its present site on Craft Avenue. Some of their best known works are the Dilworth School on Stanton Avenue, the McKeesport Technical High School, the residences of Mr. Howard Heinz, Mr. R. M. Jennings, Mr. D. L. Gillespie, Mr. W. B. Scaife, Mr. E. E. Brosius, and Mr. A. M. Neeper; the Westminster Presbyterian Church in Steubenville, Ohio; the Bellevue Methodist Episcopal Church in Bellevue, Pennsylvania; the National Bank of Fayette County in Uniontown, Pennsylvania; the Bellevue Suburban Hospital in Bellevue, Pennsylvania, and the present working building for the Bank of Pittsburgh, N. A.

Late in 1918 the partnership was dissolved by agreement, Mr. Wolfe succeeding to the practice; in January, 1919, he took into partnership his son, and under the name of T. B. Wolfe & Lawrence Wolfe they continued the practice, until the death of the senior partner, in the present offices in the Century Building. Among the works of the new firm should be mentioned the new McKeesport Technical High School, the Fourth Methodist Episcopal Church on Frankstown Avenue, the Ben Avon Municipal Building, the remodeled First National Bank of Wilkinsburg, the new Shannopin Country Club, the plant of the Pittsburgh Goodwill Industries, and the residences of Mr. E. L. Parker on Darlington Road, and of Mr. R. B. Kernohan on Pembroke Place.

Mr. Wolfe distinguished himself during his business and professional career not so much by the magnitude or variety of his commissions as by the careful and conscientious execution of each particular piece of work and the unfailing courtesy, tact and consideration which he exercised in dealing with his many business associates and friends. L. W.

George G. Shattuck

Elected to the Institute in 1913
Died at Keene, New Hampshire, 4 September, 1923

George C. Shattuck was born in Andover, Massachusetts in 1864. There he attended the public schools and was graduated from the course in Architecture at the Massachusetts Institute of Technology with the Class of '88. He entered the office of Shepley, Rutan & Coolidge, and remained continuously with that firm until, on the death of the two senior members, he was admitted to partnership with Mr. Charles A. Coolidge. During this practical experience of over thirty years, there had been designed and erected an unusually large number of buildings both of public and private character. In their production Mr. Shattuck had contributed a large part by careful supervision of the drawings and attention to the business routine of the office. Last year the medal of the Boston Society of Architects was awarded to the firm of Coolidge & Shattuck for the Boston Lying-In Hospital as the most notworthy example of architecture erected in Boston during the year.

In the multitude of details connected with a large office, he worked quietly and steadily, with a conscientious devotion to duty. He did not limit himself to the usual number of hours for a day's work. It was his custom to arrive regularly at the office at seven A.M., and enjoy two hours of quiet labor before the distractions of the day began. Attention to details became a habit, not from necessity but rather from choice and from his love of personal supervision. Doubtless his death was hastened by the self-imposed efforts made in the accomplishment of the work which he considered his duty.

Mr. Shattuck made many friends outside of his profession. Clients and contractors alike had implicit confidence in his sense of fair dealing, honesty and judgment. He had a judicial mind and temperament. Painstaking and efficient himself, he expected much from others, and his death is a great loss not only to the firm but to the architectural profession.—Contributed.

Peter J. Weber

Elected to the Institute in 1907
Died at Chicago, Illinois, 21 August, 1923

Peter J. Weber was born in Cologne, Germany, in 1864. He came to Chicago from South America shortly before the World's Fair and was concerned in the planning of the exposition buildings. For several years he was connected with the late Daniel H. Burnham, later opening offices on his own account. Among the Chicago structures designed by him are the Illinois Trust and Savings, the Mercantile and the Fisher buildings in Chicago, the Ravinia Park buildings and the Seattle Public Library. A widow and three sons survive him.

Structural Service Department appears on the second right hand page following

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Structural Service Department

LEROY E. KERN, *Technical Secretary*

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.

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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Concrete Surfaces, Acid-Proof Coatings for (3b3)—(*Letter circular* 42, *revised Feb.* 12, 1923, *Bureau of Standards, size* 8½" x 11", *pages* 15). Four methods of treatment have been used for the protection of concrete floors, vats, tanks, reservoirs and other concrete surfaces against mineral acids and acid salts. The methods selected depend upon the character of surface to be covered, the concentration and temperature of the acid, whether the coating is required to resist abrasion, and cost. The materials are bituminous compositions of various kinds.

Bituminous paints are used chiefly on account of their cheapness and ease of application, and when properly applied and not subjected to abrasion have given fair protection against mineral acids and acid fumes of low concentrations. Two kinds are marketed; those made with an asphalt and those with a coal tar pitch base, thinned to the desired brushing consistency with suitable volatile solvents. For very dilute mineral acids, paints made from either base are suitable, but asphalt paints appear to be somewhat more resistant than the coal tar paints against acids stronger than 10 per cent. Asbestos fiber is sometimes added in order to increase the thickness of coating obtained.

Bituminous paints will not resist abrasion, and their effectiveness depends upon the thickness and imperviousness of the dried coating. Portland cement is very susceptible to acid of any strength, and consequently any pin-holes due to faulty application or any abrasion in the surface will be sufficient to destroy the protection afforded by the coating. Once the acid penetrates the paint coating it will readily soak into and disintegrate the concrete beneath and cause the paint coating to form blisters which will ultimately flake off.

The most satisfactory method of applying bituminous paints is to use a thin priming coat to fill up the surface pores and thus obtain a good bond with the concrete surface, and, when this is thoroughly dry, to apply carefully at least two coats of a thicker material of the same character or containing asbestos fiber, allowing sufficient time for the first coat to dry before the application of the second. It is important that the concrete surface be thoroughly dry and fairly dust free. Special care should also be taken to touch up and recoat all dull, brown, porous and uncoated spots. At least one week should elapse after the application of the last coat of paint before exposure to the acid.

The bituminous enamels are used where protection for fairly long periods against relatively strong acids is desired, and when the cost of the structure justifies the extra expense of application. They can be employed both on smooth and rough walls and surfaces, and on account of the thickness of the coat used an impervious coating is more easily obtained. They will not resist abrasion at elevated temperatures.

The bituminous enamel consists of two materials, the priming solution and the enamel proper. The enamel is applied hot over the properly dried priming coat. Extreme care should be taken in the application of these materials so as to obtain a continuous coat free from blisters and pinholes, and bonding well to the surface. The concrete surface should be as dry as possible, and free from oil and grease and all loose particles and dust.

Acid-proof asphalt mastics have been used extensively for floors and have given very satisfactory service in a wide variety of chemical and dye manufacturing plants, metal pickling, plating, acid tank, and storage battery rooms, the pulp rooms of paper mills, in copper, gold, lead, and other similar refineries, and in laboratories. Although used to some extent in the past in tanks, vats, and reservoirs for acids and acid liquors, this use for acid-proof asphalt mastic has developed greatly recently, owing to the very satisfactory behavior of the material when exposed to acid conditions. In several copper refineries mastic has even been used for making pipes for carrying the acid liquors.

Acid-proof asphalt mastics are somewhat similar to the mixtures used in the construction of bituminous concrete, except that they contain a little more asphaltic cement, so that when hot and ready to lay they can be poured and are sufficiently plastic to be troweled into place by wooden floats or light tamping irons. When mixed and ready for laying, they usually consist of about 10 to 15 per cent by weight of asphaltic cement, approximately 20 per cent by weight of finely powdered siliceous mineral filler passing a No. 200 sieve, and the remainder properly graded sand or other acid resisting aggregate retained on a No. 200 sieve and containing no particles larger than those passing a No. 3 sieve. The proper grading of the aggregate so as to get a mixture of maximum density is important, as upon it the stability and efficiency of the finished mastic largely depends.

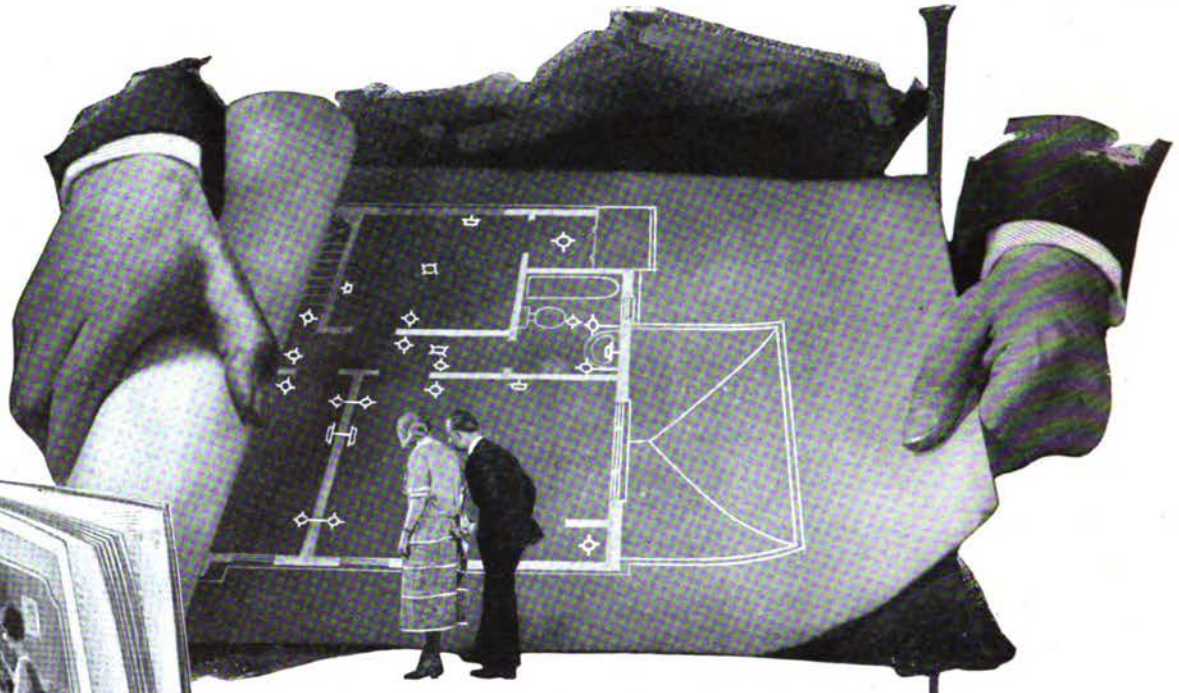
The asphalt cement and finely powdered mineral matter can be mixed together directly on the job or they can be mixed by the manufacturer at his plant and shipped to the job in blocks or cakes called "mastic blocks" or "mastic cakes."

Mastic blocks consist of a mixture of asphalt cement of a definite melting point and consistency combined with the finely powdered mineral matter and sometimes part of the coarser aggregate.

For use the blocks are broken up and placed in a mastic kettle or the drum of a mastic machine. Sufficient "hard or soft flux" is added to meet the particular conditions of the job, and the mixture is heated and stirred or mixed until the block is entirely disintegrated and the mass is homogeneous.

Mastic is most effective when applied at least one inch thick. For flooring, when more than one inch is required, the mastic is laid in two courses of approximately equal thickness with staggered joints. In special instances wire mesh or expanded metal is used for reinforcing, especially

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G-E Wiring Devices

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in tank work where there are vertical surfaces. For tank work the mastic is usually cast in a special form.

Acid-proof asphalt flooring compositions for cold application are sometimes improperly referred to by the term mastic or mastic flooring because they are used like true mastic for floors. The term mastic, however, is very definite and is properly applied to those bituminous mixtures containing mineral filler and coarse sand or fine gravel which, when sufficiently heated, melt to a thick fluid mass that can be poured into place and can be spread and compacted by hand with wooden trowels, floats, or light rollers.

Acid-proof asphalt flooring compositions for cold application are of troweling consistency and consist essentially of a relatively hard asphalt, asbestos fiber, and finely powdered siliceous mineral filler, thinned with a volatile solvent. When the solvent evaporates, a very thin coherent coat of the intimately mixed asphalt and mineral matter is left behind.

Acid-proof asphalt flooring compositions are used chiefly where a thin surfacing for concrete floors is desired, as in laboratories which do not have to withstand any traffic heavier than walking. The black composition is most resistant to acid but, where appearance is of importance, red, brown, and olive green are sometimes used. In that case only the top two or three coats of composition contain pigment.

In general four different compositions are used in applying these coatings: (1) primer, (2) body coat, (3) neat or finishing coat, and (4) floor dressing.

Synopsis.—Bituminous paints, bituminous enamels, acid-proof asphalt mastics, acid-proof asphalt flooring compositions for cold application.

Descriptions of use of above materials, specifications, formulæ, test requirements, manufacturers making materials of these types.

Concrete Development of Strength. (4a2)—(*National Lime Association, Bulletin No.* 302, *Improving Cement products by Norman G. Hough, size* 6″ x 9″. *Pages* 8. There is a well established theory in concrete practice, which has been proved by several of the foremost scientific concrete investigators in the United States, that the strength of concrete containing a given amount of cement is governed almost entirely by the quantity of water used in mixing. These investigators have conclusively proved that with a given aggregate, maximum strength of concrete containing a given quantity of cement can be produced by using an exact quantity of water. Any increase in free water content over the exact amount necessary to produce maximum strength will cause a decrease in strength. It has also been proved that a decrease in strength results when a quantity of water less than the exact amount is used.

The semi-dry process is commonly used for certain classes of concrete products. In this dry consistency there is an insufficient quantity of water to cause maximum strength to be developed, and for this reason the products do not develop as high strength as is commensurate with the quantity of cement they contain. In order to develop high strength, it is customary, in many factories, to use the water-spraying or steam-curing methods.

A given weight of hydrated lime requires about three times as much water to produce a paste as the same weight of Portland cement, so that for each ten pounds of lime used in a mixture for concrete products, there is carried into the mix approximately as much water as would be carried into it by thirty pounds of cement. This water is carried in by purely mechanical action on the part of the lime and the consistency is not changed.

Concrete products are made by the semi-dry process in order to take advantage of economy in handling. In the manufacture of such products, it is customary to handle them almost immediately after being moulded. Concrete of a wet consistency requires considerable time to harden so that it can be safely handled; hence, in order to save time, many manufacturers have adopted the semi-dry process. Heretofore, it has been necessary to use a dry consistency for the manufacture of these products so they could be handled as early as is necessary and at the same time have a minimum of breakage. When hydrated lime is used, it carries a considerably larger volume of water into the mixture, but does not change the consistency, so that the products, after moulding, can be handled without loss of time and without any more breakage than when the usual dry mixture process is used.

Cement will hydrate and continue to increase in strength just so long as moisture is available to react with the cement. As soon as conditions are such as to make it impossible for moisture to form contact with the cement, hydration ceases, with the consequent result that the development of strength also stops.

Synopsis.—Important properties of artificial stone, development of strength, semi-dry process, water carrying capacity of hydrated lime, advantages of hydrated lime in the semi-dry process, water-tightness.

Cause and Prevention of Blue Stain. (19a31)—(*Technical Note No.* 151. *Forest Products Laboratory.*) Blue stain is the most troublesome of the sap stains which discolor wood. It is caused by a fungus which germinates on the sapwood and penetrates its cells in search of starches and sugars. This action of the fungus causes no perceptible weakening of the wood, but the discoloration which results lessens the value of the lumber for many purposes, such as interior finish, flooring, and basket and box veneers. The stain at first may be no more than a bluish spot or streak on the surface, but later, as the fungus develops, the discoloration may involve all of the sapwood and become too deep to surface off. The blue-stain fungus can revive in timbers after long periods of inaction brought on by lack of moisture.

Warm weather and a comparatively high moisture content of the wood are the most favorable conditions for the growth of the blue-stain fungus. Most of the infection occurs in green lumber which is piled without ample ventilation between the boards, in the mill yard or during shipment.

As yet no absolutely dependable means of preventing blue-stain has been found by the U. S. Forest Products Laboratory, other than kiln-drying the lumber. The ordinary kiln-drying process is entirely effective against blue-stain, but there are many cases in which this means of prevention is not feasible. Staining during air seasoning can be largely controlled by open piling. This affords free circulation of the air and so hastens drying, but not always sufficiently, under adverse weather conditions, to discourage the stain fungi.

The treatment of the green lumber with antiseptic dips is the most effective method which is generally applicable at the present time. The chemicals most commonly used are sodium carbonate and sodium bicarbonate. Directions for the use of these are given.

Semi-Gravel, Top Soil and Sand Clay for Roads. (11)—(*University of Georgia, Bulletin No.* 5a, *Vol. XXII. Pages* 35. *Size* 6″ x 9″.) The essence of this investigation was to determine the behavior of these coarse and fine materials under the weight and impact of rolling loads and in what way they are affected by the presence of water. The functioning of these road soils seems to be as follows:

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Synopsis.—The economic aspects of sand soils. Geologic and distribution aspects. Scientific and analytic aspects. Construction aspects. Use of these materials on state highways. Durability and maintenance. Relation of soils to road building efforts. Why sand clay road soils are efficient. Specifications, mechanical analysis and tests of physical properties of semi-gravel, top-soil, and sand clay aggregates.

Sheep Barns, Sheds and Equipment. (351)—(*U. S. Department of Agriculture, Farmers' Bulletin* 810, *Equipment for Farm Sheep Raising, by V. O. McWhorter and C. G. Potts. Size* 6" x 9". *Pages* 28. *Illustrated.*)

Synopsis.—Drawings and Bills of Material, Important Features of Buildings for Sheep. A barn for the exclusive use of sheep, a combination horse, cattle and sheep barn. A closed sheep shed, an open sheep shed, feed racks and troughs, fencing, sheep-barn equipment.

Electric Heating of Residences. (31g)—(*University of Washington, Engineering Experiment Station, Bulletin No.* 15 *by Edgar A. Loew. Size* 6" x 9". *Pages* 44. *Illustrated.*) The climatic conditions to which the data given apply are mild, as indicated by the fact that the mean outdoor temperature for the year 1920 was about 51 degrees F. Under these conditions, with electrical energy at one-half cent per kw. hr.: (a) An average six-room house having a wood and coal range or a small auxiliary heater in the kitchen may be heated comfortably with a connected heater load of about 8 kw. at an annual cost of $75.00 for electrical energy. (b) An average six-room house using radiant type heaters in the rooms to be heated may be heated comfortably with a connected heater load of about 10 kw. at an annual cost of $110.00 for electrical energy. (c) An average seven-room house using an electric furnace may be heated comfortably with a connected heater load of about 12 kw. at an annual cost of about $145.00, including hot water requirements. The energy consumed in house heating is directly proportional to the difference between indoor and outdoor temperatures.

The efficiency of heating by means of electric heaters located in the space to be heated is 100 per cent. Therefore no improvement in the efficient use of electrical energy for house heating is possible when a radiant heater is used, since all of the heat energy available is already utilized. The same is not true of the coal fired furnace. Improvements in the efficient utilization of heat from coal burned in furnaces are still possible, and such improvements are gradually being made. At present the maximum efficiency attained in a hot air pipeless furnace under the most favorable conditions seems to be about 65 per cent, while the piped furnace yields a maximum efficiency of about 60 per cent. If an average efficiency of 60 per cent were attained, electrical energy would be on a par with it if sold to the consumer at at $18.00 per ton, or with coal at $9.00 per ton electrical energy would be on a par with it if sold to the customer at one-quarter of a cent per kw. hr. There will thus probably be sufficient difference in cost in favor of coal to prevent the general adoption of electrical energy even if the supply of energy available at the half-cent rate were ample.

Synopsis.—Cheap hydroelectric energy and dear fuel as factors, experiments and reports on electric house heating, domestic heating in Tacoma, heating loads analyzed, consumption by electric furnace plants, total energy consumption for completely electrified home, influence of outdoor temperature on power consumption, costs of heating electrically and by means of coal compared.

Cisterns. (29d4)—(*Kansas State Agricultural College. Extension Bulletin No.* 38 *"Soft Water for the Farm," by H. B. Walker, Prof. of Agricultural Engineering. Pages* 10. *Size* 6" x 9". *Illustrated.*)

Synopsis.—Size. Location. Water-tightness. Types of Construction, Cement Plaster—on Earth and Masonry. Filters, sewer-pipe, metal, compartment, concrete, bee-hive. Roof Piping. Overflow.

Clay Pipe Joints. (29b5)—(*Tests of jointing materials for Vitrified Clay Pipe by S. E. Dibble, Clay Products Association. Size* 6" x 9". *Pages* 14. *Illustrated.*) Vitrified clay pipe can be jointed and the joints can stand a pressure of 10 lbs. without showing any leaks, provided a compound is used similar to those mentioned in this report. The following practice should be used when pouring compound:

First.—Packing such as oakum or jute must be used and caulked into the annular space to act as a packing and to hold the molten compound into the annular space until it has thoroughly set.

Second.—A joint runner must be used when the pipe is in a horizontal position. This joint runner may be of the metal flexible type or asbestos rope type or may be made of clay, that is sometimes found on the job. The joint runner must be perfectly tight so as to hold the compound and not allow it to run outside into the ditch.

Third.—The compound must be poured when it is very hot and runs like water.

Fourth.—A pouring device or ladle should be used that is large enough to fill the annular space in one hour.

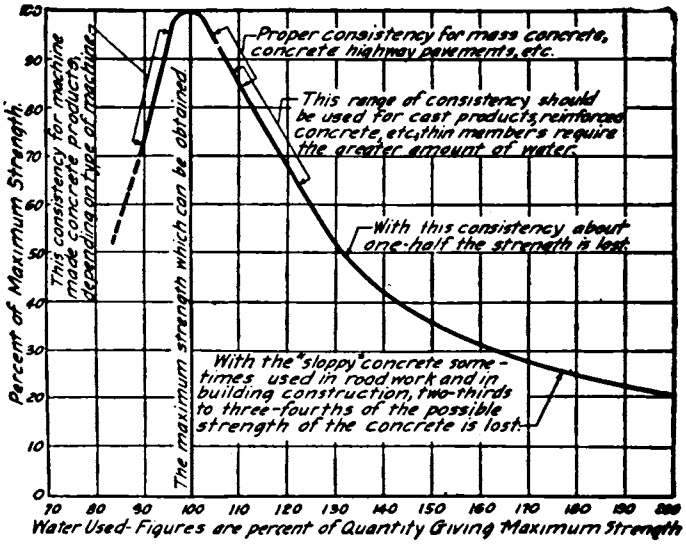
Fifth.—The joint runner should not be taken off until the compound is set. This is a matter of probably four or five minutes.

Synopsis.—Final report of four jointing materials; City of Philadelphia, Pa., tests of bituminous compound joints.

Heating, Use of Natural Gas. (29f4)—(*Bureau of Mines Technical Paper No.* 325. *Natural Gas Manual for the Home by R. A. Cattell. Size* 6" x 9". *Pages* 30. *Illustrated.*) This paper contains information about natural gas and reasons for preventing its waste, methods of saving gas, use of gas in furnaces and boilers for house heating, hot water supply heating, and other uses.

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When One Pint of Water Wastes Two Pounds of Cement



Effect of Quantity of Mixing Water on the Compressive Strength of Concrete

NOTE: In general construction, the maximum strength can rarely be obtained, but it is possible to obtain 70 to 90 per cent of the maximum strength without additional expense by restricting the quantity of mixing water.

Observe this curve closely. It shows impressively the effect of the quantity of mixing water on the strength of concrete.

It is now known that excess mixing water, not only weakens concrete, but that it is actually wasteful of cement. One pint of water more than necessary in a one-bag batch decreases the strength and resistance to wear as much as though two or three pounds of cement were left out.

Here is a fact, which if brought home to the superintendent and the foreman, can be of great practical value in raising quality on the job.

Wouldn't you like to have, right at hand for quick reference, a practical manual which tells how the quantity of mixing water can be closely controlled, so as to give concrete greater strength without using any more cement?

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LEWIS MUMFORD

Locality and Humility
CHARLES HARRIS WHITAKER

Non-Competitive Methods in Education in Architecture
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Housing in Christiania
NILS HAMMARSTRAND

Six Studies of Bridge Arches
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Public Buildings—Co-operation with the Commission of Fine Arts—Advertising—Antiquities of the Architectural Book-Shelf—Rhythm—Acoustics—Drawing from Memory—Church Monuments—Committee Appointments—Structural Service.

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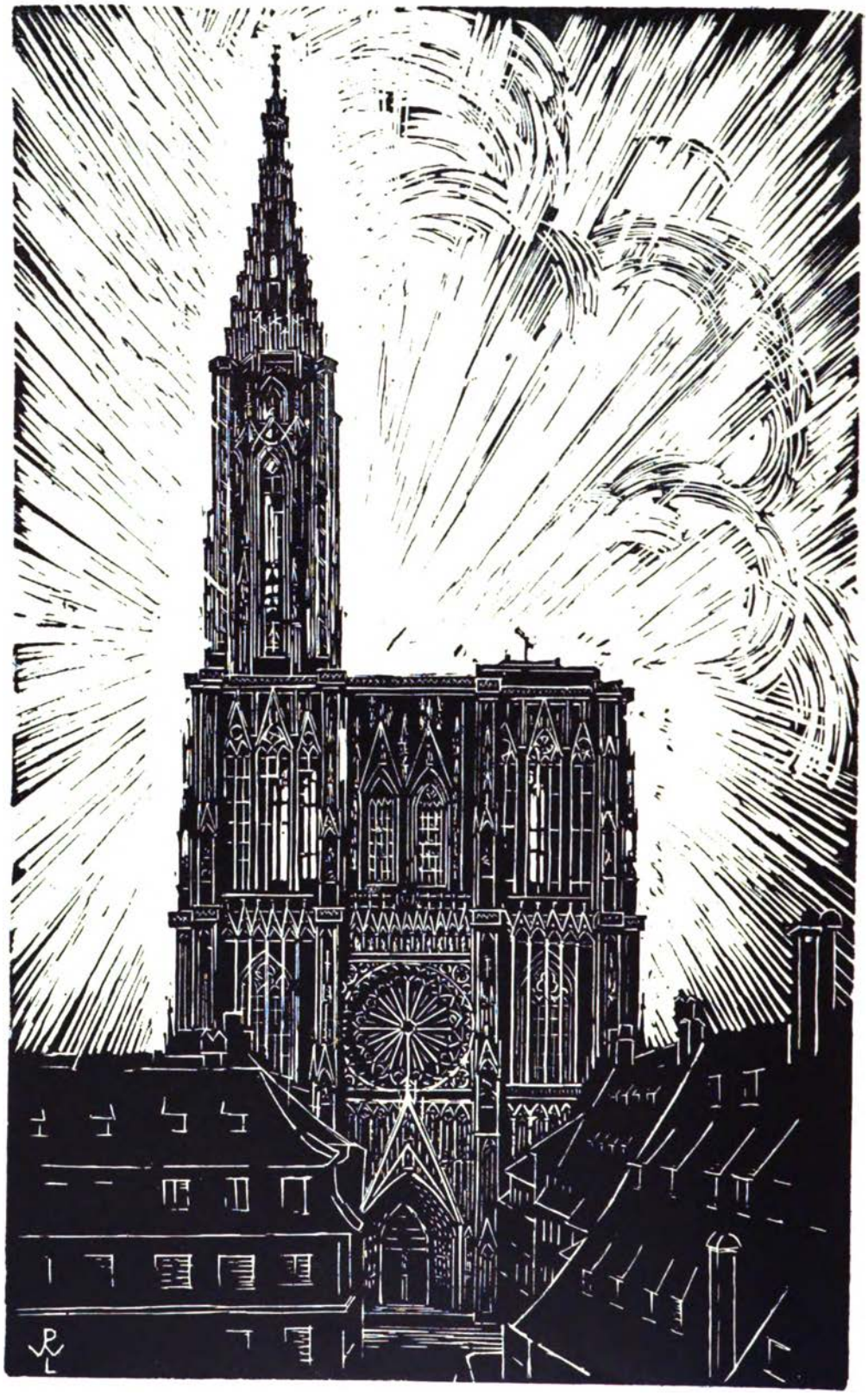
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JOURNAL OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Volume XI NOVEMBER, 1923 Number 11

Locality and Humility

The First Regional Conference of the Sixth District[1]

By CHARLES HARRIS WHITAKER

In the days when there is so much of that agitated and querulous writing—the kind born of loose and slovenly thinking—about the practice and profession and the past, present and future of architecture, it is restful indeed to sit down with a group of men who meet together to talk over the problems of architecture as they see and know and have experienced them in their LOCALITY. This makes for that breaking down of reticence which no formal gathering such as an Annual Convention can ever hope to accomplish. A relationship is established which at once gives courtesy and tolerance the right of way, and makes for common sense and that willingness to lay cards on the table rather than to keep them well sleeved for the sake of gaining some useful advantage or oratorical point.

LOCALITY was indeed the keynote of this conference. It held the discussions true, echoed and re-echoed in all the deliberations, not through conscious iteration by the delegates, but because they clung tenaciously to their own knowledge, the truth as they had experienced it in their localities. They were not seeking to carry a point, or to gain some parliamentary victory. I shall say that of all the architectural meetings I have attended this was the one that steered the truest course. The chart had to be made by soundings, step by step. The inspiration of service to the Institute, evoked in the opening address, was the lead that went down to the depths. Never was it sent down slyly or trickily, and never was the conference afraid to hear the reading. When it came to the shoals of architectural incompetency, the reefs of unprofessional betrayal of principle, the sands of educational weakness, the readings were recorded on the mental charts of the minds present with quite as much straightforwardness as when the line showed depths beyond the reach of the lead. How magnificent a thing it is when a group of minds can meet in humility, for if LOCALITY was the keynote of the conference, so was HUMILITY the light by which it took its way. And those, after all, are two of the Seven Lamps.

One other thing I shall say, also, even though I retain the right to unsay it again next month. No architectural gathering within my memory ever gave a greater promise than this one. Not because of any special action taken, or because of any brilliant contribution to the problems of the day. No, to none of these fleeting and temporary flares, alight tonight and gone tomorrow, but to the fact that, as the preamble to their resolutions recites, they saw in the recognition of the needs and traditions and growths of localities the great safeguard of the ends for which the Institute is said to exist. And they were right. Utterly and completely right, for in the present cycle when the most powerful forces are seeking to break down every light and shade of locality and to substitute a world in which there shall be no differences in the things we eat, wear, drink—and even the speech we utter under the delusion that we are thinking—heaven help us—how good it is to come back to the thought that the localities of the world, the places where our folk have lived their lives, are the sources of all that is worth remembering either in life or in art,—though the two are twain. LOCALITY is dying. The fearful thing called national distribution is taking its place, not only in breakfast food and collars, but in school-book and newspaper, in the spoken word, the filmed play, and the written dogma. The First Regional Conference

[1] The Sixth District of the American Architects, Regional Director, William L. Steele, Sioux City, Iowa, includes the following Chapters: Iowa, Kansas, Kansas City, Minnesota, Nebraska, St. Louis, St. Paul, Wisconsin. The delegates to the First Conference were: Iowa, Mr. Steele; Kansas, Mr. Lorentz Schmidt; Kansas City, Mr. Albert S. Owen; Minnesota, Messrs. Edwin H. Brown and Robert T. Jones; St. Louis, Messrs. Harry G. Clymer, William Wedemeyer; Nebraska, the Chapter Members, of whom the following were present: Messrs. Charles A. Carr, Edwin B. Clarke, Frederick W. Clarke, M. L. Evans, Harry Lawrie, Mark M. Levings, Alan McDonald, John McDonald, Lewyn J. Prestwich, George B. Prinz, Josiah Dow Sandham, Louis W. Smetana, Charles W. Steinbaugh, Thomas R. Kimball, F. W. Krelle, H. A. Salisbury, Frederick Scholer, Berger Kvenild, F. S. Stott. The St. Paul and Wisconsin Chapters were unable to send delegates. Mr. N. Max Dunning, First Vice-President of the Institute and the Editor of the JOURNAL, were present as invited guests. The sessions were held in the Fontenelle Hotel, Omaha, on October 26 and 27.

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of the Sixth District says that we must refuse to submerge locality in the yawning maw of centralization and standardization, and that we must begin to trust locality to have that voice in its affairs which will secure and preserve to it the things which justify its existence, and thus save the whole.

When the resolution adopted concerning the Competition Code is read, a little later on, there will be some who will see in it only another menace to the established custom. I see no menace in it at all. I say that if a group of men, in one Chapter or in several, cannot be trusted to interpret their own professional relation to the community they serve, then the whole professional idea is a joke. I say that if the 75 per cent of the volume of large building work which goes to members of the American Institute of Architects is thought to be brought into the architects' offices by the client, and thus to be given out by direct selection, without competition, then the profession is too ignorant to be believed. The open "wildcat" competition has been conquered, to a very considerable extent. Our citizens are learning that buying a building cheaply, by free competition, is a costly experience. The regulated competition has thus made great headway, but to imagine that the totality of architectural commissions received do not in any way conflict with the Competition Code as it now stands is to wander in the clouds. Thus the First Regional Conference of the Sixth District does not propose that the Competition Code be done away with but that it be so honestly interpreted that no member of the Institute may have to compromise with it, as so many have to do, if they are to live at all. I call it a healthy sign when competition is called by its right name and when it is recognized, for, of a certainty, the architects who do not have to face it are not numerous. I say that it will be a very healthful thing when the members of the Institute are ready openly to admit that a very large percentage of them do compete with their fellows, in trying to get work, and that there is no indignity about it except when it is done in an unsportsmanlike manner. And some LOCALITY, left to work out its own problems in its own way, might make a discovery that would be worth while. Such things have happened, always, where men are put on their honor.

The afternoon given over to canvass of methods by which to make chapter meetings was perhaps the most interesting event of the conference. The subject always seems to be surrounded by a sort of pathetic halo through which one discerns an abundance of energy and devotion on the part of a few members and a large and consuming apathy on the part of the rest. For some reason or other the source of the apathy has never been very carefully explored and the force which renews the energy of the devoted band has been more or less a matter of conjecture. But these things have their origins and perhaps the conference of the Sixth District has here made a valuable contribution. I opine that just as the Institute has gained in strength and potential influence by growing out of itself and into contact with the social and economic body which it serves, so the problem of chapter interest is merely a matter of growing out of the narrow confines of a small group and into the life and thought and action of the community the chapter serves. When chapters begin to hold meetings with other groups of common kinship, they may have found the remedy for a malady which has begun to assume something more than a passing significance. The possibilities of cultivating LOCALITY have never been touched, except here and there in one or two chapters. But out of themselves and into their localities is their one path of growth.

Speaking of LOCALITY raises a point at once, in connection with the Small House Service Bureaus. The recital of its development was a moving tale. They, too, are trying to preserve the ideals of locality in their work, and their failure to grow faster is undoubtedly due to the fact that all the localities are not at work on the job. For myself I should just as cordially dislike seeing the designs of the Small House Service Bureau copied *ad lib* as I at present dislike to discover that architecturally there is little difference between one modern American city and another. A hotel is a hotel. Price, food, service, ever the same. The difference of exterior *motif* is trifling when compared with the deadly monotony of the inside. I hope that all the buyers of small house plans do things to them, try to change them, experiment with them even at the cost of a money loss and a disturbed design. I think then of the Small House Service Bureau as a force for teaching people to think,—as a force that will perform its mission and retire. If it were to be a self-perpetuating institution forever handing out repeating designs, it would merely be contributory to the general madness which at present inspires men to be alike rather than to dare to be different. Daring to be different is a beginning of things. Trying to be alike is the end of everything. The Small House Service Bureau impressed the conference with the idea that it was doing a great educational work for the profession. So it impressed me.

If there was a place where the Conference got beyond the soundings, it was when it came to the question of what to do about interesting the public. Two phrases struck the mind of the reporter with special significance. Some referred to "selling architecture" and some spoke of "selling the architect." I should not think of questioning the sincerity of a single speaker, and there are no records by which it may be learned which phrases were used. But a long observation has convinced me that there is considerable mental ob-

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scurity at this point. I think it is quite all right, if one likes it, to experiment with ways of "selling the architect" to the public, even though the use of the word "sell" is to me a sign that professionalism is bleeding to death. In the struggle which cannot end until professionalism has taken the lead which business now holds, "selling" schemes are not likely to get far. But there is a simple test of sincerity which I often apply. When a man speaks confusedly of architecture and the architect, I ask him if he really loves and believes in architecture. The answer is invariably "Yes." Then, say I, what difference does it make who produces it? If he answers, like a shot, "not a bit!" then his sincerity is certain. If he looks perplexed, you know his mind is befogged. He is thinking about earning a living, which is a righteous thing, but it should not be allowed to pass as a holy emotion.

The First Regional Conference of the Institute has passed into history. There have been other meetings where many Chapters have come together with the Board of Directors, but you cannot get much out of a gathering when the Board is around. Such gatherings offer the other delights of meeting and acquaintanceship, and the opportunities for companionable minds to meet in little knots and groups, but for a voyage in professionalism where you wish to take real soundings and make a true chart of LOCALITY, with notes and observations about its life and resources, its origin and its traditions, its learnings and its unlearnings, a regional conference is the best thing the Institute has so far found.

In recording my impressions I have refrained from mentioning names. I remember one or two contributions with very keen pleasure, it is true, but the names of the speakers are unimportant. Some set the tune for certain discussions, but there was not a member present who did not rise to his feet and there was not one who did not help in establishing that crystallization of thought out of which the resolutions grew. I am not sure that this form of record will be satisfactory. We are so used to dealing with names and not with thoughts and ideas that most of us find ourselves lost when there are no names to go by. "Who wrote the play," said the critics, when it came time for them to appraise it, and their confession is well nigh a universal one. But I suggest that the reader consider the crystallized thought which grew out of the First Regional Conference of the Sixth District of the American Institute of Architects, and ponder it on its merits.

The resolutions adopted by the conference were as follows:

WHEREAS, the First Regional Conference of the Sixth District of the American Institute of Architects, in its two days discussion of the many questions confronting the profession of architecture, in the frankness and freedom of its deliberations, in the generous and wholly tolerant welcome so happily and cordially extended by the delegates, one to the other in the utterance of their needs, the expression of their opinions, the recital of their difficulties, has so clearly and admirably demonstrated the wisdom of conferences based upon the idea that the preservation of the spirit, traditions, and experiences of localities are vital to the great ends for which the American Institute of Architects stands, and

WHEREAS, there must ever be such patient and tolerant consideration in the councils of the Institute as will secure and safeguard those social, spiritual, and esthetic grows of locality out of which the present civilization has sprung and upon which alone it can rest secure, now therefore the Conference RESOLVES:

That the Board of Directors of the Institute be requested to give earnest consideration to the immediate holding of regional conferences throughout the Institute and that it take active steps toward that end.

That the President of the American Institute of Architects should preferably be elected for a term of two years, beginning with the next Annual Convention, and that the Board be requested to provide for the submission of such amendments to the By-laws, as may be necessary, to the next Convention.

That the Conference has been greatly impressed with the development of the Small House Service Bureau as presented to it, and with the heroic labors of the small membership that have made this development possible. It therefore urges: (1) That the Board of Directors of the Institute take steps to enlarge the interest in the Small House Service Bureau by acquainting the membership with the nature and extent of the invaluable service which the Bureau is rendering to the profession through its widely distributed newspaper representation and service: (2) That the Board of Directors of the Small House Service Bureau be requested by the Board of Directors of the Institute to give immediate consideration to such modifications in the conditions of membership in the Bureau as will contribute to the larger membership it has so well deserved.

That the interpretation of the Competition Code and the formulation of rules for its observance be left finally and decisively with the Chapters of the Institute.

That where a Chapter has formulated its own interpretation and rules, as hereinbefore noted, the Institute Committee on Competitions shall have no jurisdiction, unless invited to act by the Chapter.

That it shall be unprofessional for a member to violate, within the territory of another Chapter, any interpretation of rules formulated by the said other Chapter, or, in the absence of any Chapter interpretation of rules, to violate the Institute Competition Code as at present existing.

That the Committee on Registration of the American Institute of Architects be requested by the Board of Directors of the Institute to collect and lay before the Board the results of the operation of the various registration laws now extant.

That the Conference heartily endorses the invitation extended by the Kansas City Chapter to hold the Annual Convention of the Institute in Kansas City in 1925.

That the First Regional Conference of the Sixth Region deeply appreciates the warm hospitality extended to it by the Nebraska Chapter and congratulates it upon having been the host of the First Regional Conference.

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Seaboard Architecture

The Maritime History of Massachusetts[1] is one of those books which not merely inform the mind but make the heart glad: it is as minute and accurate as a ship's log, as penetrating in its way as the observations of Henry Adams; and with the help of these qualities it paints a picture of provincial life on the eastern seaboard which, without a lurid touch, makes Mr. Hergesheimer's Java Head look like a tepid water color. It is useless to heap comparisons on a book like Mr. Morison's; for it stands by itself and it awakens its own peculiar enthusiasms. Enough to say that this history is a seasoned piece of work which would merit reading even if it threw no particular light upon early American architecture.

Mr. Morison set himself to reconstruct and vivify an entire scene, rather than merely to link together a chain of events: he embraces the whole show from the upland farms where the adventurous lad, sick of his daily drudgery, sniffed the brine carried by the east wind, down to the little ports from Newburyport to New Bedford where, between 1783 and 1860 the trade with the East brought in and capriciously distributed a great cargo of riches; where even the humblest fisherman had the chance of a lucky haul; and where distinctions of rank and rating, erected between the bridge and forecastle, upset the earlier provincial democracy of the town meeting. In the light of Mr. Morison's interpretation, one sees the provincial architecture of New England in a more definite perspective, and one discovers that the work of the early republican period belongs not merely to a different time but to a different civilization.

Up to the time that Mr. Morison treats, the architecture of New England had grown largely out of the simple agricultural life of the village community: the rough equality in holding land gave no man much greater opportunity or much greater wealth than his neighbor, and since the village or town itself was not a mere political unit, but a corporate economic organization, restricted in size, there was no danger of sudden increments from rent or trade. Here is a situation in which the village craftsman can prosper without playing the flunkey. Even when the classic porticos and pilasters make their appearance upon the houses of the provincial village, as they began to do early in the eighteenth century, the little touches of "style" are modest and chaste; and the house itself retains its traditional size, shape, and elevation.

During the eighteenth century the port-towns of New England, which had been maritime by accident, became deliberately wedded to the sea; and, as Mr. Morison points out, the windfalls of trade brought inequalities of wealth, and inequalities of wealth turned a simple village community into a class-stratified commercial town, given over to what Mr. Thorstein Veblen would call the ritual of conspicuous expenditure. With the old Adam let loose in these thriving ports, it is no wonder that the style of the new-Adam, who was powdering and frilling the mansions of the aristocracy in Great Britain, knocked the spots out of the early provincial house.

We are in the habit of looking upon this change as a great gain for architecture; but when one examines these towns a little more closely the gain disappears. And even in the work of a greater craftsman like Samuel McIntire a shrewd eye can detect the beginnings of cracks and checks which resulted in the great debacle of the mid-nineteenth century.

In contrast to Bullfinch, who was a merchant's son, McIntire represents the direct influence of the sea. He begins, it would seem, as a carver of figureheads and cabin mouldings, and in 1782 he becomes the architect of the Pierce Nichols House in Salem; and follows this triumph with a succession of houses for the great merchant captains of his region. What was the result? The result was that the square house, with its hipped roof, its classic ornament, its frequently ill-proportioned cupola, and its captain's—or widow's—walk supplants the long, low-lying traditional farmhouse: the merchant who thinks in terms of magnitude lords it over the farmer with his homely eye for use; and the carpenter-architect is compelled to make up by wealth of ornament a beauty which the early provincial houses had achieved by subtlety of proportion and by adaptation to site.

For a while the classic taste of the eighteenth century keeps all the houses of the time within a congruent convention; and whether this convention was anything more than a frosted timidity or not, it had the merits that the Prime Minister demanded of his cabinet; each house agreed upon the same sort of lie!

As wealth grew, however, whim entered more and more into this architecture; it is only a short step between applying the classic orders and applying whatever happens to come into one's head, the outcome being such birthday cake architecture as one discovers on the road to Kennebunkport, Me. Gothic icing on a plain square house built, tradition says, by an old ship captain and his son, who had taken a fancy to "Gothic" ornament in Europe. It is curious to note that McIntire, the carver of figureheads, plays much the same part in disrupting the traditional colonial architecture that the decorators and artists of the Italian Renaissance did with the vernacular of their time; unlike the older builders, who were used to working with their fellow-guildsmen, these artists created a one-man show and sought to stamp their personal imprint

[1] The Maritime History of Massachusetts: 1783—1850. Samuel Eliot Morison; with illustrations.

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upon every detail of the work. *Aprés moi, le deluge!* —and the deluge came.

If McIntire brings the craft of the ship-carpenter to his work, Bullfinch shows us what the ship brought in. His grand tour in Europe gave him the inspiration for Franklin Crescent, in Boston, a venture which paralleled even to its financial failure the Adelphi Buildings in London; and Bullfinch's first big piece of work was, characteristically enough, the first theater that Boston had ever tolerated—a fact which shows how far the seventeenth century Puritan idolum had disintegrated. The Federalist Boston that gave Bullfinch so many fine jobs began during the first quarter of the century to suck the life out of the little seaports; and although Salem held on right through the clipper period, Newburyport's days of expansion and wealth were over by 1820; and all along the coast there was a break in tradition between the ship-shape architecture that followed the Revolution, and the loose, illiterate work that came after the Civil War.

With agriculture shifting to the untilled prairies, and trade concentrating in the few seaports that tapped the hinterland, the economic basis of provincial architecture became shaky; and after a while even the bare decencies of building were available only to a fortunate minority. In short, the commercial traditions, which had their brief glory for a single generation, carried the seeds of social decay; the craftsman in wood kept hold of his skill in the building of the clippers, those lithe, trim, dashing whippets of the sea; and then he, too, disappeared, and the jig-saw artist came on the scene. As Mr. Morison points out, domestic architecture deteriorated during the third decade of the century, precisely when ship architecture advanced to fresh triumphs. Plainly, no one knows provincial architecture who does not know its ships; here is the architectural *raison d'être* of Mr. Morison's brilliant book; and no one can properly understand how one waned unless he understands what happened to our seaboard communities when the other waxed.

London Letter

Once again has cropped up that hardy annual question of whether the architect should cast aside his professional dignity, and frankly advertise his wares. This time the gauntlet has been flung down by that most vigorous of organizers, Lord Leverhulme, who avers that architects "would be wise to fling away modesty and advertise," thus opening up a tempting field which has been tentatively and surreptitiously trodden already by some of the less scrupulously minded of the profession.

The question is more important than would at first appear. Already the dividing line between architect and estate agent is all too lightly drawn, and the grievance of unfair competition is not by any means entirely on the side of the architects. Notice boards, indicating that architects (apparently) act as agents in the letting of buildings are increasingly common, and are a distinct step towards a régime of advertising. The temporary abeyance of the Institute Code of Professional Conduct, the squabble over unification, and the increasingly keen struggle for existence have all helped to make more difficult the resistance to temptation. At present, however, Lord Leverhulme's suggestions have not found much favor, and architects still enjoy their dignity, their prestige, and the poverty which accompanies pride.

Indeed, prospects for the winter are far from brilliant. The building trade has accepted an increase in working hours per week. But prices have, if anything, hardened rather than diminished, and the lack of a European settlement means a further period of industrial depression, unemployment, and reduced building activity. That there is, however, a certain amount of building in prospect, when once conditions are more stabilized, is borne out by the increase in the number of public competitions for large buildings. Theatres, concert halls, art galleries, schools, baths, and a residue of war memorials constitute the bulk of the schemes. In addition there are a very few for industrial enterprises, as is natural when trade is depressed. One of these, however, as represented in the competition for the shipping offices of the Holt Line in Liverpool, represents a building costing nearly £1,000,000, and ranks, therefore, with the largest competitions of recent years, such as those for the London County and Westminster Bank and the Cairo Hospital. The winners, Messrs. Thornely & Rowse, are both Northerners, who have been very strongly and obviously inspired by American architecture of the genus McKim, Mead & White. Liverpool, with its school of architecture directed by a professor who intensely admires American practice, is already exerting a direct influence towards Americanism—an influence which will be all for the good in so far as the clarification of English methods in design is concerned, but which may too easily degenerate into the type of restraint which spells timidity. It would be a pity for England to take up that phase of cosmopolitan classicism out of which the United States has already begun to emerge. There are healthy signs on the other hand

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of an architectural revolt against a too iron tradition, certainly due in part to a realization of what is being done in Northern Europe. The Gothenburg Exhibition, the highly characteristic new Town Hall in Stockholm, the experiments in Dutch architectural cubism are sources from which the younger school is drawing, if not inspiration, at least incentive. The last two years were what might be called "Dutch years," and this time it is safe to predict a "Swedish year."

* * *

Londoners are watching with interest the approaching completion of the interesting anachronism which the firm of Liberty is erecting as their new headquarters, and the old black and white houses of Staple Inn which nod over the sidewalk of High Holborn are being provided with a prim modern rival.

The style is that which young and arrogant modernists denote as "Tudorbethan." A stone-faced ground story, protesting against the extent of its shop windows, supports an upper part rejoicing in all the mediaevalism of gables, oak framing, brick nogging, and plaster panels, the whole complete with pegs and leaded casements. The old timber necessary for the job was cleverly arranged for by the purchase of the old wooden battleships *Impregnable* and *Hindustan,* which were broken up so that their framing, properly adzed, might be distributed over the solid fireproof backing of Tudor House in Argyll street. This shop is going to challenge its dressy Regent street neighbors with their tricky detail and T-square ornament. It is a sham, a retrograde step in design, yet it will be probably sympathetic to most Londoners, merely because the echo of a pleasant tradition is preferable to the aggressiveness of most of the otherwise nondescript designs in Regent street. The old work was conceived with a certain kindliness which made a mute appeal to the passerby. But the new stone Regent street conveys no other emotion than the smugness of commercialism triumphant.

* * *

It is this perversion of the commercial spirit which is probably responsible for reactions which express themselves in the formation of such societies as that of the recently constituted "Federation of the Arts." This group is the English branch of a sort of coalition of the intellectual workers of the world. Its object is to prevent the artist, the professional man, and the black-coated worker generally from being crushed between the hammer of the capitalist and the anvil of the manual workers' trade unionism. It is, in fact, a kind of "middle class union," but with a wider and more elevated scope and its membership is international. The English group is modeled in its organization on the French *"union des travailleurs intellectuels et professionels,"* which has similar objects. The architectural profession will certainly provide many adherents, and the Federation in its first meeting in July was fortunate in having as its architect spokesman Mr. H. V. Lanchester, of the firm of Lanchester & Rickards, whose interest in the larger issues affecting his profession is as great as his architectural reputation.

Coinciding with the considerable enlargement of its premises, there seems every prospect that the Royal Institute will inaugurate its new session by increased activity towards a tangible benefitting of the members and the profession. An ambitious educational congress for 1924, a definite scheme of architectural propaganda, and internal reform, which will include a revision of the competition system, are items already on the agenda. In connection with the propaganda is the compilation of a pamphlet which will describe for the laymen what an architect is, and what is his relation towards the client.

As regards the International Education Congress, invitations are in course of issuance to important architectural schools all over the world, and subjects for discussion are already being arranged. It is probable that some of these will be highly controversial, and that the Congress may decide the fate of such established institutions as the Rome Prizes and all that they stand for. It is a significant fact that from the largest and most progressive architectural school in England there was this year not a single aspirant for Rome honors, a sure sign that the sojourn in Rome is losing its appeal to the student.

* * *

It is rumored that the state subsidy for housing reestablished only a few months ago, will shortly be withdrawn. The much criticized Housing Act of 1923 limited the area of houses or flats eligible for the subsidy to 950 square feet in two-storied cottages and 880 square feet in bungalows or flats and even this figure was an increase on that originally produced. Under this scheme an allowance of £6 for 20 years is made to the local authority to enable it to assist private enterprise to build houses by means of a bonus of £75, which may be increased in special cases up to £120. It would be regrettable if the present financial stringency should cause the withdrawal of this offer, which was to have held good till October, 1925, and which, although considered inadequate by many, would certainly have stimulated the production of much-needed homes. X.

November, 1923.

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Non-Competitive Methods of Education in Architecture

What follows is not an attempt at demonstration of the efficacy of non-competitive methods of education in architectural design, but simply the result of reflection upon the subject.

For many years, the Institute refused to recognize competition as a proper incentive to production of work of the highest merit. Young men, often, were eager to gamble unremunerative work against the chance of getting a job. Older men,—even men who had won public recognition through competition,—agreed that the practice led to serious evils. Gradually the Institute yielded objection so far as to say that there were circumstances in which competitions could not well be avoided. It, therefore, sanctioned them, if conducted under a specially prepared code of procedure.

While the latter is now urged as a means of preserving the profession safe from lapses into unprofessional methods of "doing business," it has wide support as the method of producing the best results, on the ground that a race for a job stimulates effort in a manner that no mere interest in art, or architecture, can possibly do. On the other hand, it is held by many that competitions invite unscrupulous practices; that they tend to direct attention away from the merits of the problem to other considerations, such as the probable attitude of those who will act as judges of award. The incentive to win, certainly, is the possibility of securing a commission; if good architecture results, it is a gain for art, but the all-impelling motive for entering a competition is the possibility of procuring a job.

That may be a fine and inspiring "business" motive, but as an incentive to seek an ideal, it has limitations. Such an incentive is more likely to be found in a love for, and a desire to create, architecture for the sake of its own fitness and beauty,—in a desire to express convictions and emotions through the medium of architecture, unhampered by limitations almost solely economic. Should we lack faith to believe that in this direction lies the path to perfection?

While, in education, anything comparable to an economic urge does not present itself, directly, competition, as an incentive to creative effort, has been of almost universal acceptance. The reason seems to be that without recognition of *individual superiority,* the student will not exert himself, hence, will not equip himself for creditable practice. It seems to be based upon an assumption that the awakening of imagination, the development of a love for the beautiful and the quickening of impulse to create it, together with the development of facility in self-expression, are not sufficient incentives for acquiring an education.

In education, the aim, it would seem, should be the development of one's own endowments, and not to surpass another, merely, who strives for the same goal. What higher motive than the first can there be, and why should a lower one be accepted as a necessary stimulus? With such an aim, the goal is open to all at the same time; it is not an arbitrary, fixed standard of excellence, but a relative one. Its attainment can be measured only with respect to *growth,* not with respect to *another's* attainments. To urge necessity for a lower motive is to indict the fitness, the inspirational force and value, of the teaching staff. It condemns the latter for a lack of faith in the inspiring qualities of beauty; it predicates the need of *teasing* the artist to strengthen his abilities. But the genuine artist requires no teasing,—create he must, to be happy,—that is his sufficient joy.

The competitive method is recommended, also, as a sort of game,—a race, in which the prize is proclamation of superiority. But without mentioning the personal element which enters into decisions, the school competition actually lacks the first essential of a true sport; it lacks the element which gives zest to a game, —comparable ability, or skill, of contestants. In golf, tennis, billiards, horse racing,—every genuine sport,—handicaps are arranged so that differences of capacity are equalized.

But nothing like that happens in school competitions. Into the latter, perforce, every member of a class is required to go,—the brilliant and the dull, the experienced and the inexperienced, he of more with him of less native talent. The outcome is what might be expected; certain men usually win the high places and certain other men usually win the low places in each contest. The affair seldom offers the adventure of a casual betting event.

While granting that the competitive method may prove an incentive to those especially well endowed and bring them certain satisfactions, (and it is such as they, among the students, who favor the method), it tends, also, to build up a false self-assurance. But for those who, while working as industriously, never win, there can be none of that kind of incentive. Inability to win, is for them a foregone conclusion. Their incentive comes, and of course *must* come from other sources,—patient purpose to progress, to enlarge their own capacities, develop their own skill, without comparison with others by nature more amply endowed.

It is argued that for the loser the system is good, because it teaches him to be a "good sport." Evidently, what is meant is, that it teaches him to conceal his disappointments which the distinction of inferiority constantly thrusts upon him. But how can that lesson in suppression advance his skill as an architect? How can any system of education which ceases not to impress inferiority upon the consciousness of certain students, although their work reveals excellent and improving qualities, be equally helpful to all within their respective limitations?

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What, in fact, should be the atmosphere of a school, in which, it may be assumed, all students are anxious to develop their creative skill, and are interested in the advancement of an art? Should it not be one of mutual helpfulness? Yet, the very fact that the prize offered is public recognition of *superiority,* deters a student from helping a fellow, lest such enlightenment as he may supply should lessen his own chances of winning the distinction. It is unnatural for competitors to be expected to help their fellows to surpass themselves. A competitor cannot unqualifiedly rejoice at another's success, although the code requires that he simulate goodwill. The psychology of the apprehension that a fellow student may find the apt solution of a problem is as evident, as that of the generosity of upper classmen helping lower classmen with their work.

Another motive for the employment of competition in architectural education,—a sort of corollary of the first, that some incentive to self-improvement must be offered in addition to a chance to cultivate imagination and skill in self-expression,—seems to be that certain students are not especially interested in architecture, but register in the course for various other reasons, and that such as they require the discipline which comes from compliance with rules governing a sport. Granting that the method may be more or less effective in such cases, to impose it upon those seriously interested in equipping themselves as architects, is to place an entirely false valuation upon the less important element of a class. The latter,—those who need some such secondary incentive as competition to engage their interest, should find in that necessity a demonstration of their unfitness for the life and work of an architect. The serious interest of a student in his course is early apparent, and whatever his native ability, he has a right to the time and assistance of his instructors, undivided with those whose purpose is unformed.

Education consists in drawing forth a student's qualities, perfecting his skill, enlarging his knowledge, quickening his imagination, developing his powers of analysis, of criticism, focusing his mind upon the great principles which underlie all creative design, without diverting his attention to such a matter as personal superiority. His contact with the world will determine,—often, not justly,—the comparative merit of his works. The school should prepare him to do his best, irrespective of every consideration other than the perfection of his own abilities. Its atmosphere should be one of faith in the compelling incentive of a search for the beautiful,—an incentive so compelling as to make the quest inviting without the urge of personal laudation, or acclaim of superiority.

Consider the situation, were the members of a class to study a problem of the same general description at the same time, but with such matters as topography, orientation, capacity, etc., altered; the principles of planning would be alike for all, but there would be a variety of conditions, each of which would require a fresh application, thereby enlarging the experience of every member of the class. Such practice would be likely to switch the aim from *individual superiority* to *personal excellence,* and to an art enhanced by common interest in criticism and co-operation.

It strikes the writer that some such practice would tend to reinstate art as a sufficient aim in itself,—to return to it a respect now lessened by the very fact that competition is considered a necessary incentive to its cultivation; it would concentrate the students' mind upon permanent benefits, and not confuse it with thought of temporary advantage. It would help to cultivate an unhampered imagination, an independent spirit, a free soul.

Practically, of what value is a judgment of designs? Never was a competition, in or out of school, but the absence of absolute standards became at once apparent upon the announcement of awards. Seldom is there unanimous agreement as to its justice, and in no case can it make, or mar, the intrinsic beauty of any work, though it may cause undeserved discouragement and confusion in the mind of a student of developing talents. If only those esteemed the most proficient were to be permitted to practice the profession,—and if the best work could be justly determined by a jury,—competition might have its uses in assuring a high grade of practitioners. But so long as the schools graduate men of greatly varying skill,—those who have never received a mark of distinction for excellence, as well as those who have displayed notable attainments,—it seems desirable that all graduates should have received, within their individual limitations, equal encouragement from the method of education in force.

That the competitive method of education in architectural design accomplishes that result is seriously to be questioned. It may increase the number of "safe" designers, conformists to accepted ideals, but to the extent to which it does that, it will lessen the number of artists, because the genuine artist desires and seeks change, abhors the imitation and the reproduction. The "safe" designer fears to try the new thing, he fears to make mistakes, to be judged "unscholarly" by his fellows, yet it is largely by his mistakes that an artist grows in power,—comes to know the reasons underlying what is good or bad; by reason of them he develops grasp of the principles of design, enhances his ability to think clearly, to adapt wisely, to compare and properly to judge relative values.

The competitive method tends, perhaps, to a too assiduous adherence to precedents,—the non-competitive method to a freer, but none the less intelligent, use of them as sources of inspiration and suggestion, deducing from them the fundamental principles inherent in all great art, rather than adopting the explicit forms they may have taken.

W. R. B. Willcox.

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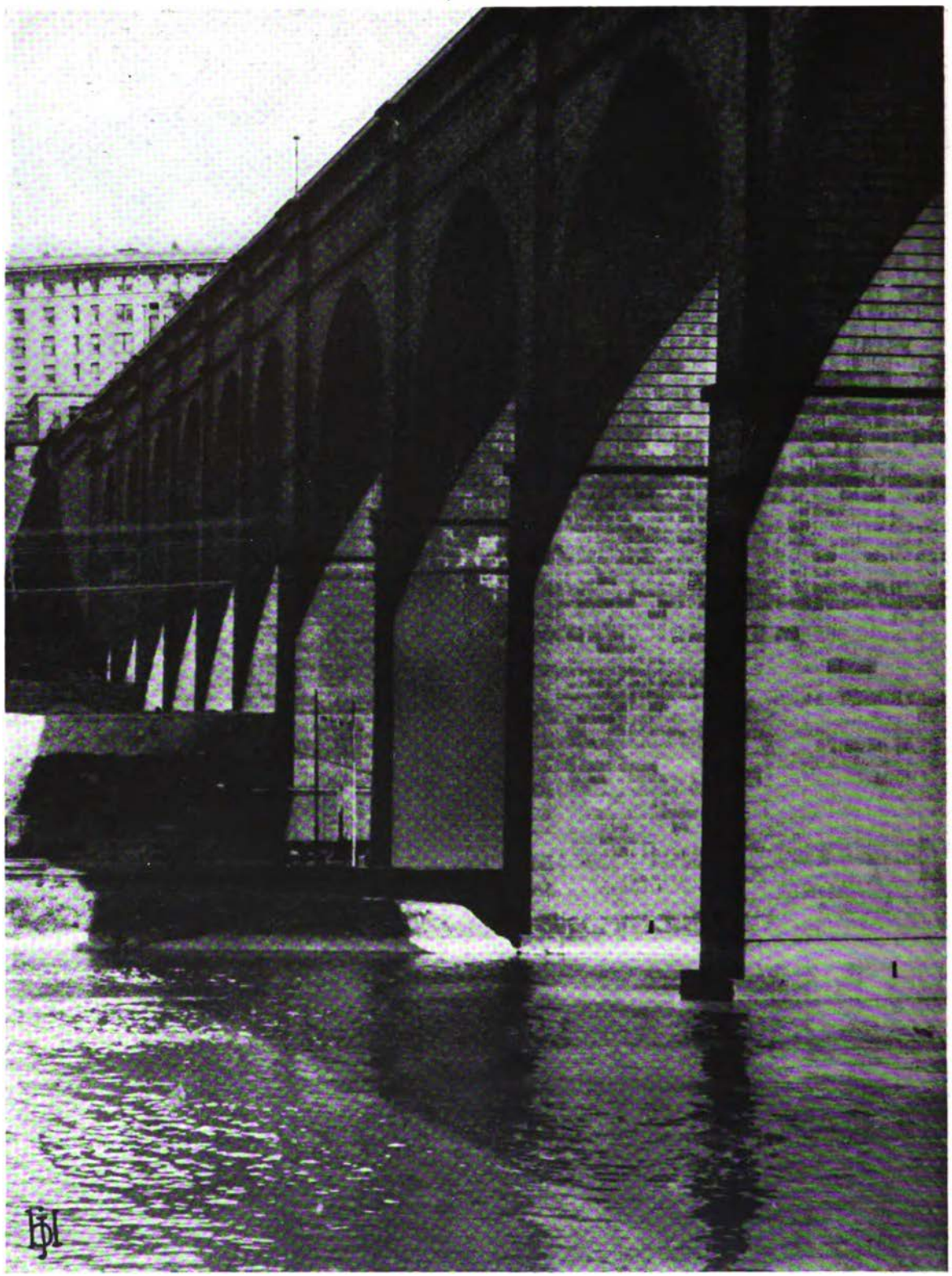


HIGH BRIDGE, HARLEM RIVER, NEW YORK CITY

Six Studies of Bridge Arches

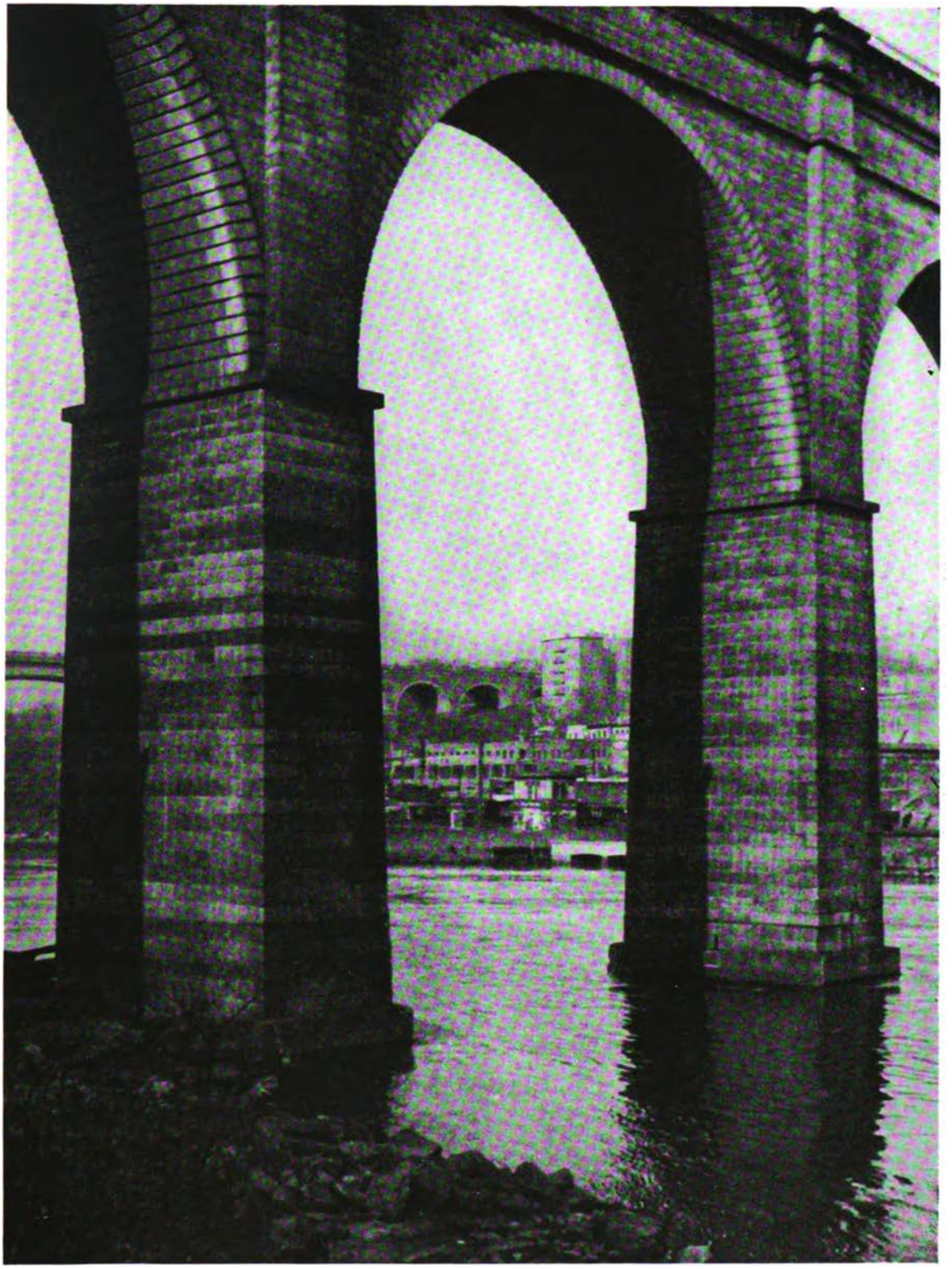
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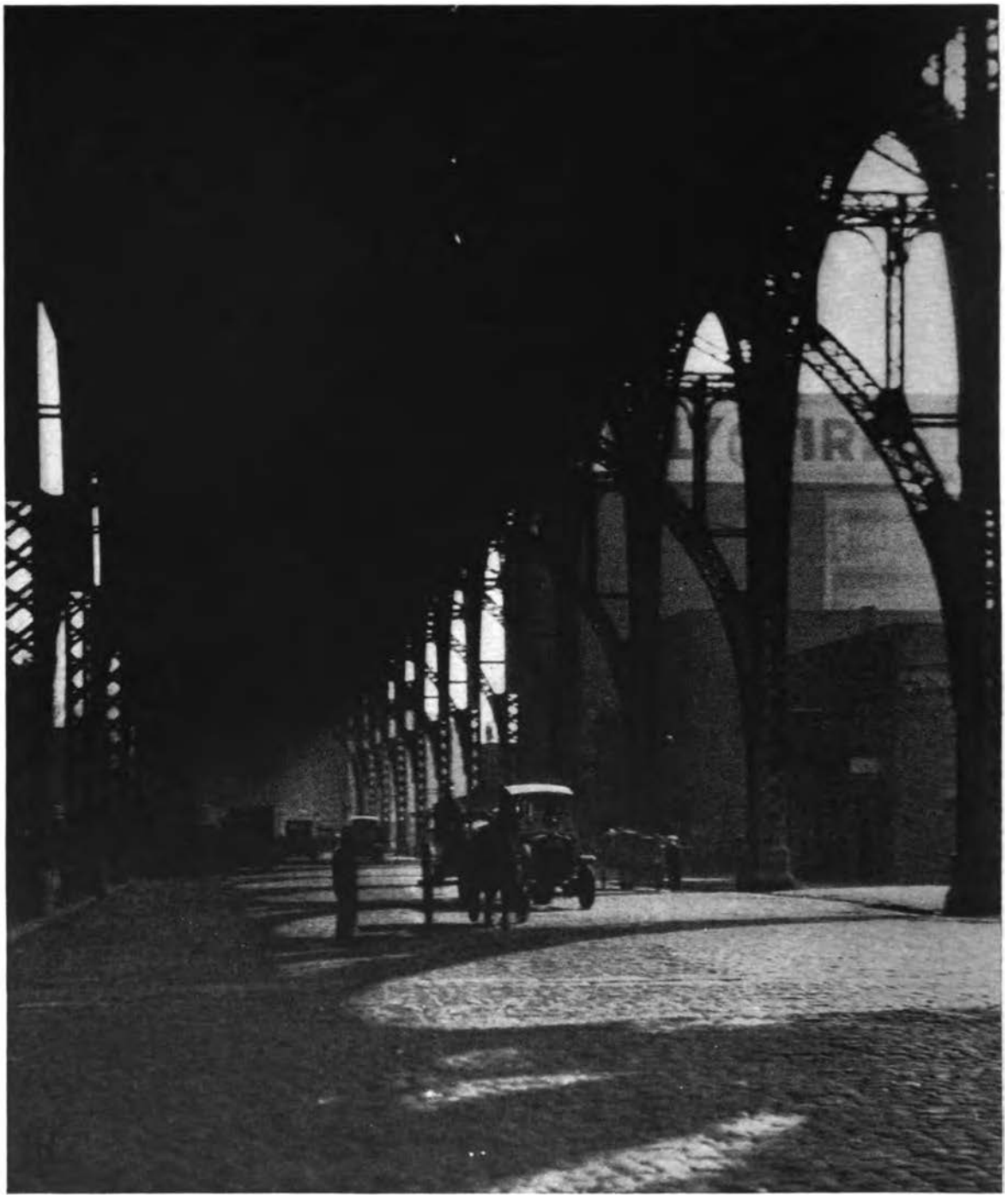
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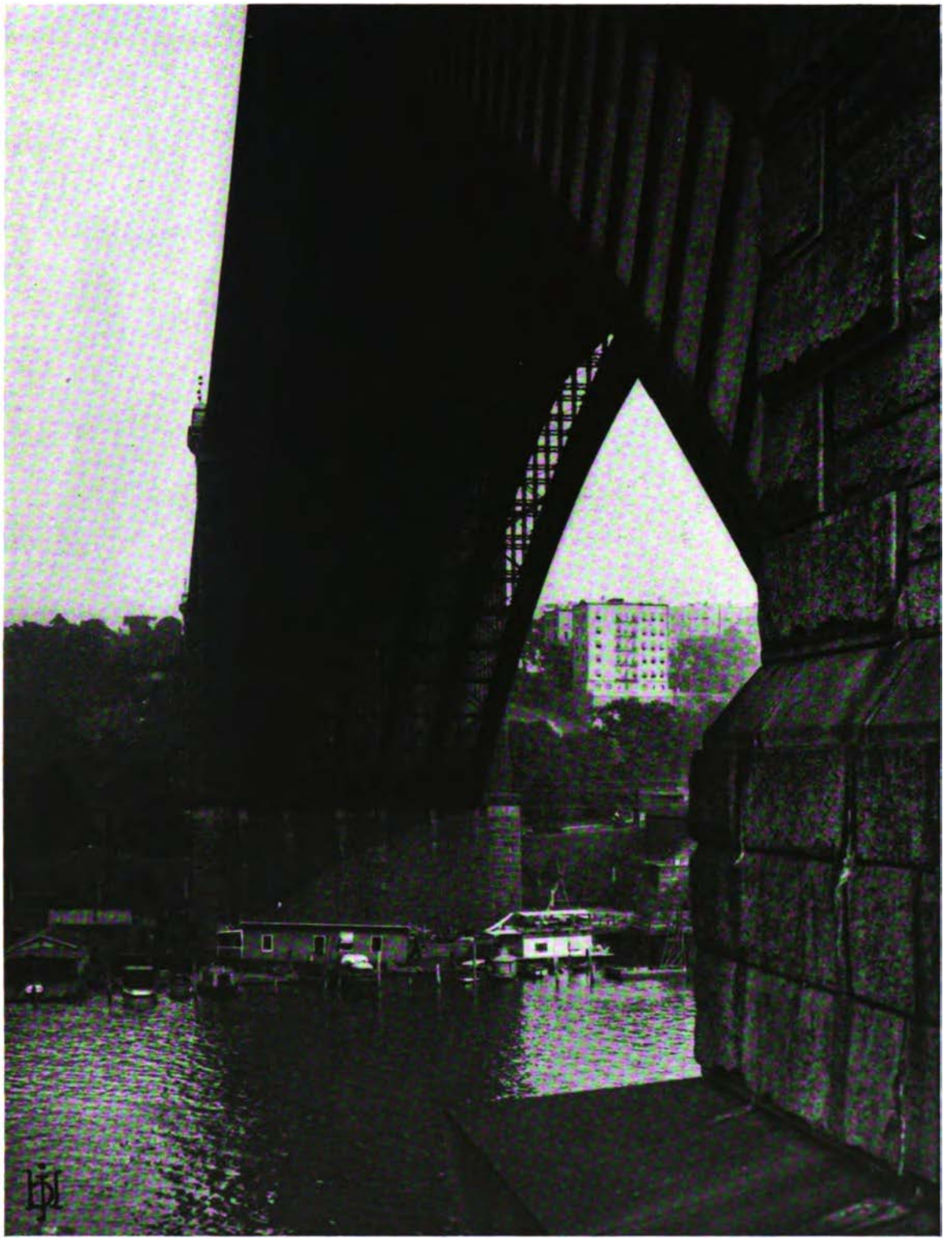
THE ARCH, HIGH BRIDGE, HARLEM RIVER, NEW YORK CITY

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THE VIADUCT (UNDER RIVERSIDE DRIVE), NEW YORK CITY

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Community Planning and Housing

CLARENCE S. STEIN, *Associate Editor*

Housing in Christiania

In the past ten years the city of Christiania has spent about a hundred million kroner (roughly, $27,000,000) in erecting low rental dwellings. Yet Christiania is smaller, for instance, than Newark, New Jersey, and if New York City, for example, had built houses on a similar scale, toward a billion dollars would have been expended for that purpose during the same period, and the annual expenditures of the largest American city for housing would have constituted the heaviest item in the municipal budget.

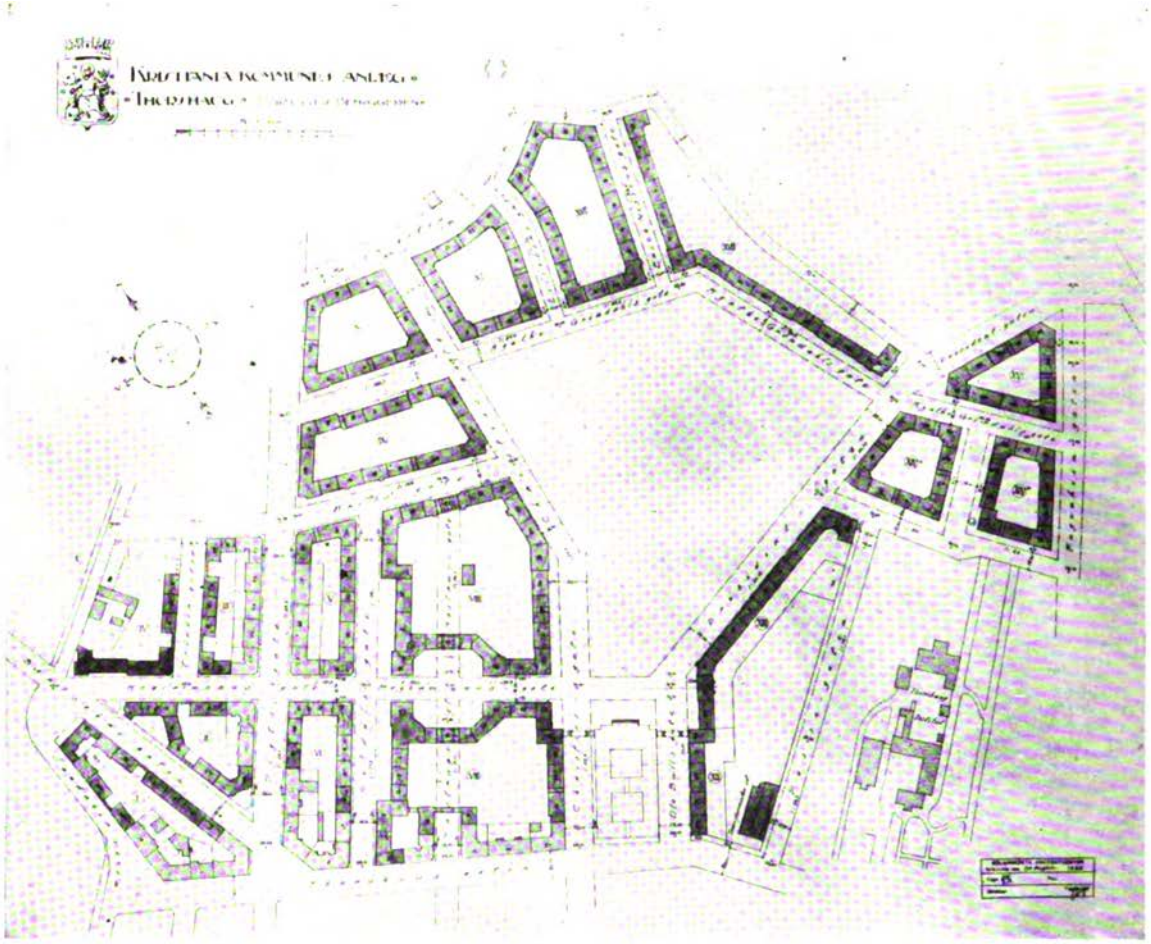
Cities in general, the world over, may learn a lesson from the capital of Norway, for all large and growing communities, and even the smaller ones, have to realize what it means when private capital turns away from the production of that class of dwellings which are needed by the most people. In Europe, the measure of this development was, as is well known, widely experienced before the war, many cities suffering from an ever and ever more acute shortage in low-rental dwellings as well as from an increasing decline in the quality of such buildings as tenants were forced to accept. War or no war, the economic tendencies at the root of the trouble would have become quite as universal as they are today.

But Christiania offers a conspicuous example of what a city of a few hundred thousand people may achieve in endeavoring to relieve the shortage of low-cost dwellings. The municipality was forced to take action when, some twenty years ago, the production of this class of accommodations ceased. Even before, in the beginning of the nineties, the city had begun to feel the hardship, discomfort, and annoyance of a housing shortage, an experience which coincided with the rapid increase of population which began at that date and continued during the succeeding ten years. This growth offered a golden opportunity for speculative building, than which nothing more unfortunate can overtake a city. Through almost the entire period of the nineties there was a feverish activity, resulting in such an over-production of dwellings that in the year 1900 there were nearly six per cent of vacancies—and Christiania began to experience the severest building crisis of its history. The crisis was aggravated in the years from 1900 to 1905, in which period the population actually decreased by a few thousand, in consequence of which not less than ten



ULLEVAAL

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THORSHAUG

per cent of the total number of dwellings were unoccupied in the latter year.

During the building boom which came to so disastrous an end, there had been built a great number of small dwellings, yet the output was relatively smaller than the demand because private capital had already shown a preference for investing in expensive apartment houses and business buildings. Norway at that time traversed a period of industrial expansion, of rising wages, of rising cost of well nigh everything, building materials not excepted. Speculation was growing. The cost of living was rising. Norway, in those years, exhibited signs of what is generally termed prosperity.

Industry grew fast in and around Christiania. It grew also in the provinces. But Christiania, the capital of the nation and its greatest city, was of course the economic and financial center of this development, where new companies were rapidly formed, new banks founded, and where retail trade flourished. Business demanded space. Thus many dwellings in the center of the city were pulled down and business buildings took their place. Apartment houses were converted into offices. Land prices rose rapidly. Building became more costly and luxurious than it had ever been. Rents increased. Many expensive apartment houses were built to house the relatively few wealthy or well-to-do. While to complete the picture of inflation and its effects, all the circumstances thus created combined in preparing a more permanently precarious housing situation,—one which finally gave rise to a veritable housing problem.

During the early years of the present century tenants had enjoyed the benefits of a surplus of housing accommodation. The city was growing slowly and the previous over-production had left an abundance which naturally caused rents to fall. But in 1905 the population began to increase at a more rapid rate, growing by nearly 30,000 in the succeeding ten years. It was then that the development entered the critical stage. In the year 1910 the percentage of vacancies had fallen to two per cent, as against ten per cent in 1905. In 1915 the vacancies fell to four-tenths of a per cent. Thus it may well be observed that the seriousness of the housing situation was a pre-war development, and that the war and its consequences have merely had the effect of aggravating a condition which was already intolerable before 1914.

The building of small dwellings, already insufficient in number during the building boom of the nineties, had ceased. On the other hand, the boom had resulted in a surplus of more expensive dwellings, of which the supply was continuously ample to meet all needs. The

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ULLEVAAL (Upper) and THORSHAUG

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situation gave ample evidence of the fact that private capital could no longer be relied upon to meet the requirements of the emergency, a conclusion which was reached by the majority of Christiania's municipal council. Could the municipality remain indifferent when facing a situation so menacing to the welfare of the community? Did not the experience so far gained sufficiently justify constructive municipal intervention in housing matters? Such an intervention had indeed been proposed in the early nineties in order to relieve the then threatening housing shortage, and the community had, in fact, built a few houses in the ensuing years. It seems safe to conclude, in view of later developments, that this first faltering step toward a constructive housing policy had been one in the right direction.

Today, the practical measures taken by the city of Christiania proclaim the answer to the questions raised. With justifiable pride the municipality can point to the remarkable results of nearly a dozen years of housing activity. During that time the city has gathered experience both regarding the difficulties attending and the possibilities of municipal housing. It need hardly be emphasized that the difficulties were enhanced by those very conditions which now make municipal housing more urgent than ever.

Several years before the effects of the war became most seriously felt, Christiania started construction. In 1912 the first beginning was made. In the earlier half of 1914 plans were completed for building on a much larger scale. Since that time, thousands of dwellings have been erected. A present-day visitor to Christiania would certainly miss something if he or she failed to see the results of municipal building activity. The old Christiania,—the remnants of what was built a hundred or more years ago,—can no more be seen. It was almost completely swept away by the extensive rebuilding of the nineties. Little remains to remind one of the ancient origin of the city. The center has been transformed into that diversified but not very enjoyable character which is stamped upon most of those old-world centers that became modernized during the later half of the nineteenth century. The Christiania which has thus disappeared was no doubt a city very modest in its appearance, but those engaged in remaking it were not always so unassuming, for here, also, the vanity of architectural pretense was a stalking specter of bad taste.

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ULLEVAAL (Upper) and LILLE-TÖIEN

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LILLE-TÖIEN

Since that time, however, architecture has descended from its pedestal in Norway as elsewhere. Norwegian architects are once more able to design houses with a regard for simplicity, as is evidenced by the new Christiania which has risen under the auspices of the municipality. More than that, there is also ample testimony that real city planning is practiced in Norway. The results are in visible evidence.

Primarily for this reason the visitor to Christiania should not miss the opportunity afforded. All around the city, in all of its outskirts, are to be found groups of municipal houses, well adapted for their purpose and harmoniously laid out. There is much variety in the planning. The aspect of sternness or severity which is sometimes thought to pervade Northern architecture is here mitigated by picturesque grouping. In general, the effect is agreeable and attractive. It is precisely the opposite of that hardness, coldness, and monotonous indifference which has so largely made great areas of our modern cities into a repulsive and inhuman jumble. Here again, as in ancient Greece, the word city seems to designate not primarily the streets and houses, but those who live in them. They have been considered in the planning, not merely as rent-paying tenants, but as human beings.

And is this not a precious impression to retain—for us, poor city-dwellers of today, surrounded as we are by the chilly atmosphere of the "house to be bought and sold," of the human warehouse of modern exploitation? Only those who can afford a house of their very own, can escape this atmosphere by fleeing from it at intermittent intervals. In Christiania, thanks to the municipal housing schemes, the chance of escape has been extended to at least some of those who, both economically and otherwise, are the victims of the housing systems that now universally prevail.

How different the result would have been if those areas, now occupied by Christiania's own houses, had been left to the exploitation of private enterprise. It is a hundred times more likely than unlikely that it would have been inferior, not only in its social and economic, but in its architectural aspects. Only where the result is good in all these respects are the objects of city planning fully attained. In Christiania the houses are spacious. Ample room is left for gardens and play spaces, and as the city remains the owner and the landlord the tenants need have no fear of the dread consequences of building speculation.

Thus it appears that the necessity of building dwelling-places, enforced on the municipality of Christiania by the chain of circumstances which no modern city has escaped or can hope to escape, offered an opportunity of which the most was made. Indeed, so well was the opportunity realized that Christiania, as regards municipal housing, now stands first in Scandinavian countries. In all Europe, few municipalities have done as well.

Yet this is not all. Christiania has done much to relieve the housing shortage by other means. The city has aided private building activity in many ways. Loans aggregating tens of millions have been granted to private builders. Municipal credit has been pledged for loans, the total value of which is in tens of millions. Other easements of various kinds have been accorded. Building societies have been aided and their formation encouraged and practically facilitated. To promote these activities the Norwegian state has granted subsidies to the city, but most of the monies expended have been in the nature of purely municipal appropriations.

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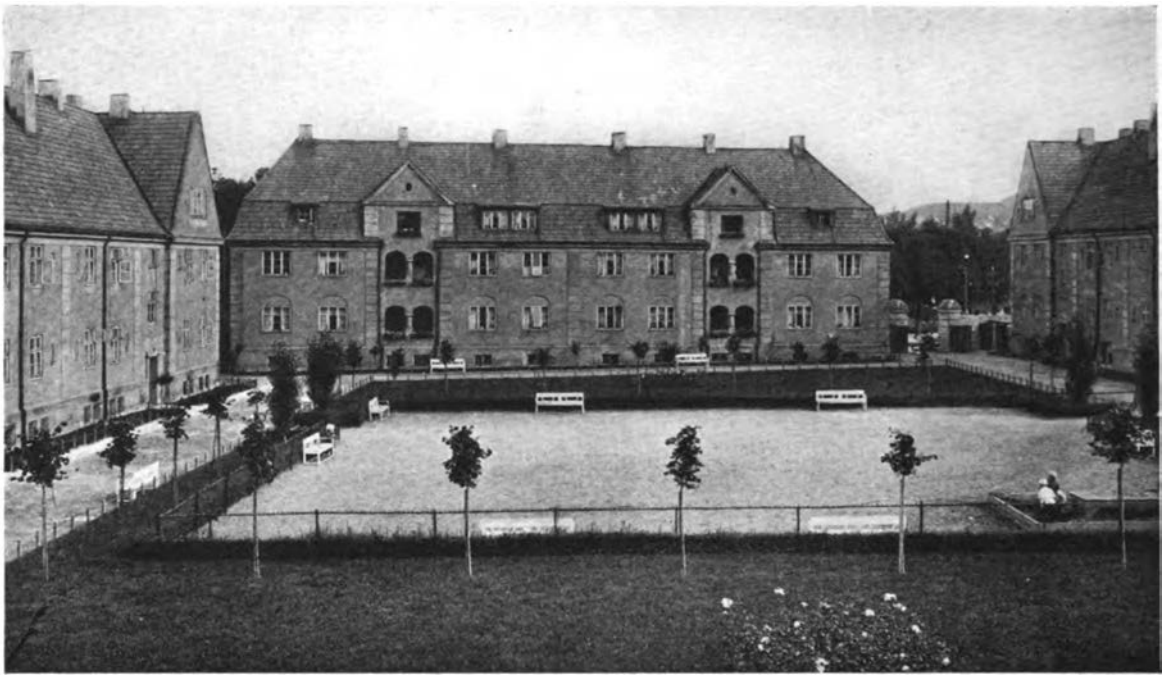






LINDERN (Upper) and ULLEVAAL (Middle and Lower)

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LINDERN

The initiative manifested makes a good showing, it would seem, for a city of little more than 250,000 inhabitants. Yet in engaging in these strenuous tasks of the present the city authorities were not unmindful of the future. Low-rental houses can be erected only on low-priced land—on land which is beyond the influence of speculation. If a community fails to acquire land, when it is at its cheapest, and before it has been acquired and held for speculation, all attempts at a constructive policy are doomed to failure.

In Christiania this has been well understood. It is the most important phase of a constructive housing policy, says Mr. Harald Hals, the very able director of the permanent housing commission of Christiania and author of the excellent volume called "Ten Years' Housing in Christiania," which appeared in 1920*. Since then it may be taken for granted that Christiania has bought, or has planned to buy such land as may be necessary to safeguard the continuation of its housing policy. Likewise, the national plan for housing projects, which was being considered two years ago, has probably now taken definite form. This is all-important for Christiania, whose housing and city planning problems are intimately bound up with the demographic conditions and economic development all over Norway.

NILS HAMMARSTRAND.

* HAROLD HALS: Ti aars boligarbeide i Kristiania. Kristiania, 1920.

Antiquities of the Architectural Book Shelf---II

By V. O. REES

It may perhaps be more interesting to turn to the works of the first original writers on architecture in French and English, than to continue an examination of translations from the Italian masters. The only original work in France, before the various reprints of Vitruvius, is the well-known series of notes and drawings by Villard de Honnecourt, which is not in book form, except for a modern photographic reproduction. The Bibliothéque Nationale possesses a copy of the original in manuscript form. Leaving on one side Vitruvius and the various reprints of Vignola, Palladio and others, there is nothing in France until 1561 which saw the publication of Philibert de L'Orme's *Nouvelles Inventions pour bien bastir et a petits frais*, containing new methods for good and economical building.

He felt the need to show that French architects were producing work that might be compared with that of the Italians; they had the task of adapting the pure doctrine of the latter to the practical needs and different climate of a vigorous and growing country, confident and proud of its distinct nationality.

The illustration of Aret (plate 6) and an interior mantelpiece (plate 7) which are given here are taken from de L'Orme's *Premier Tome d'Architecture, 1568.*

Plate 8 is a design for an Assembly Hall or Basilica, remarkable for its tone, taken from his *Nouvelles In-*

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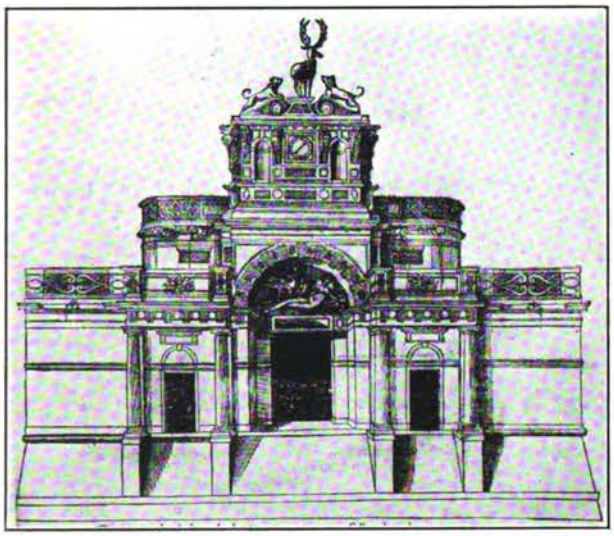


FIG. 6

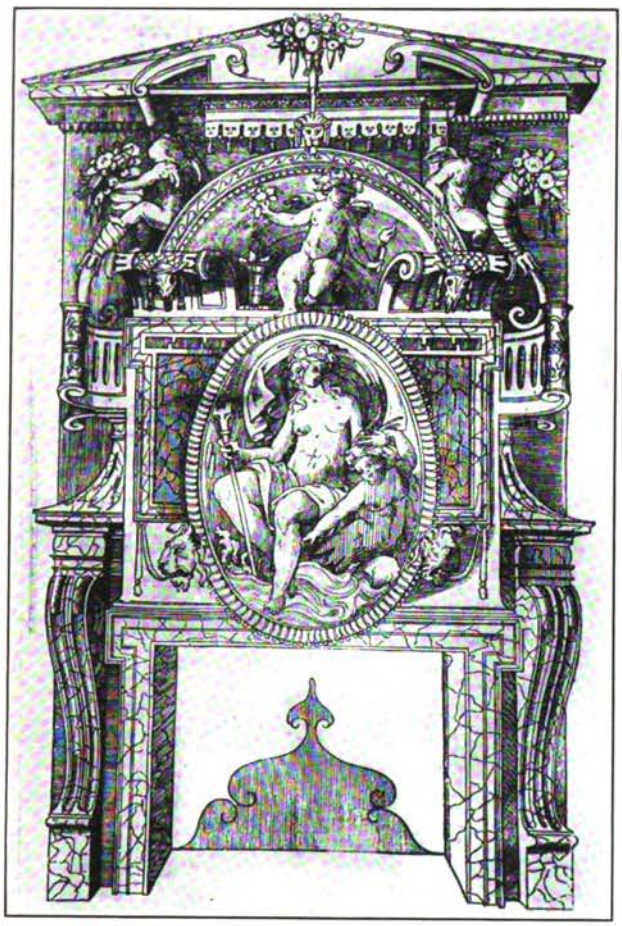


FIG. 7

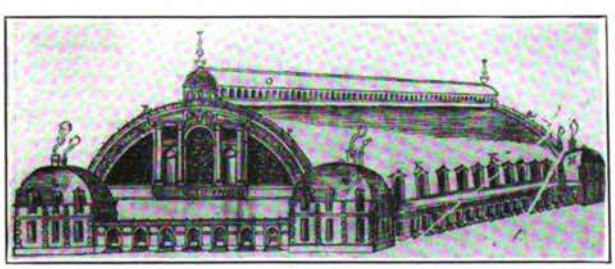


FIG. 8

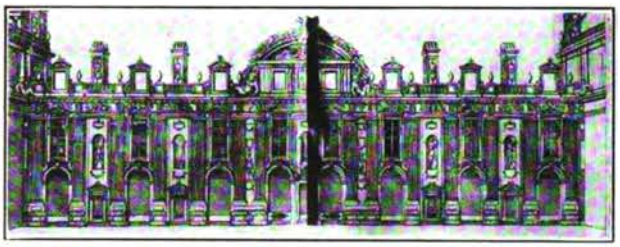


FIG. 9

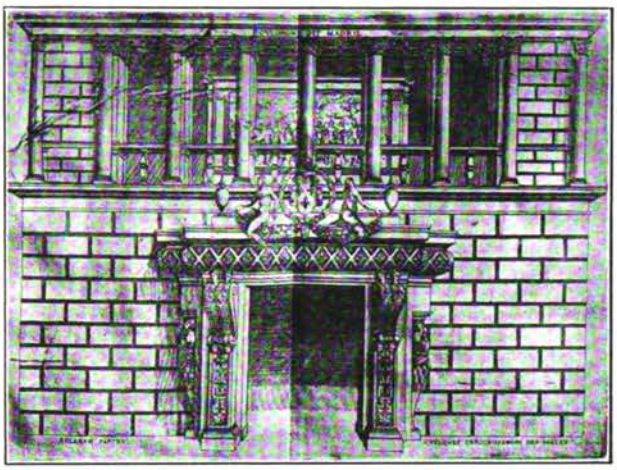


FIG. 10

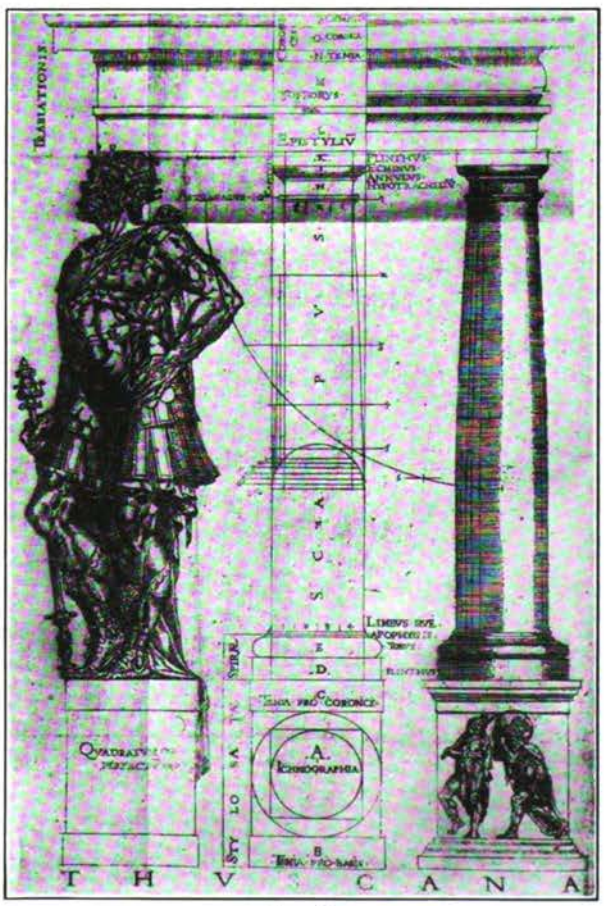


FIG. 11

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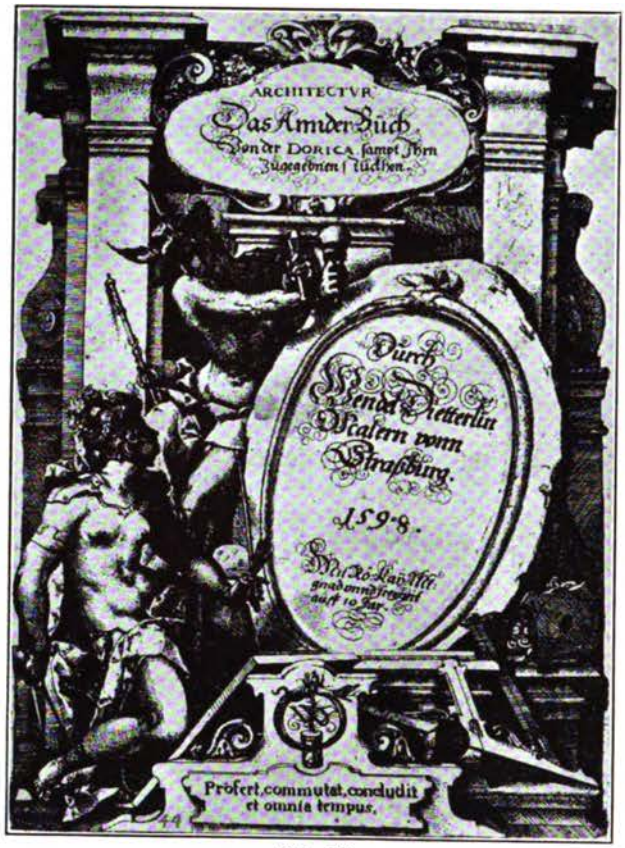


FIG. 15

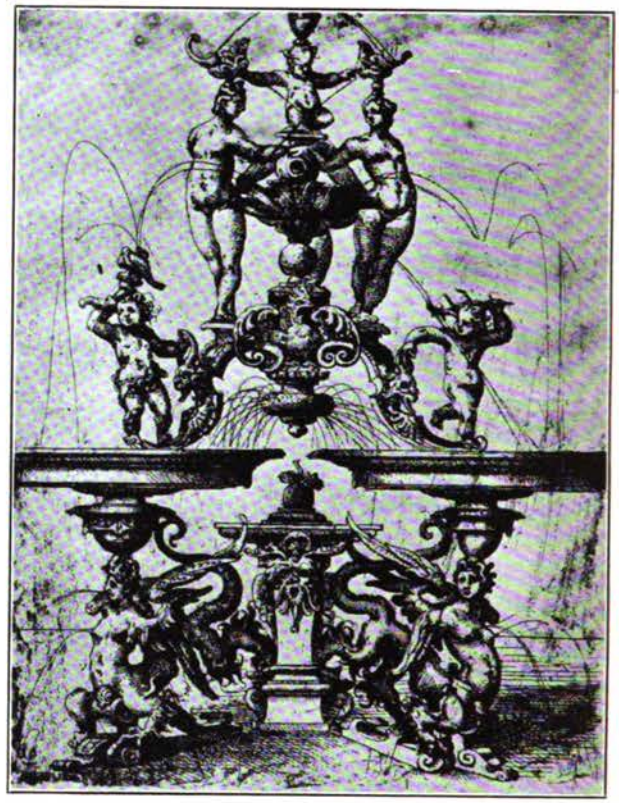


FIG. 14

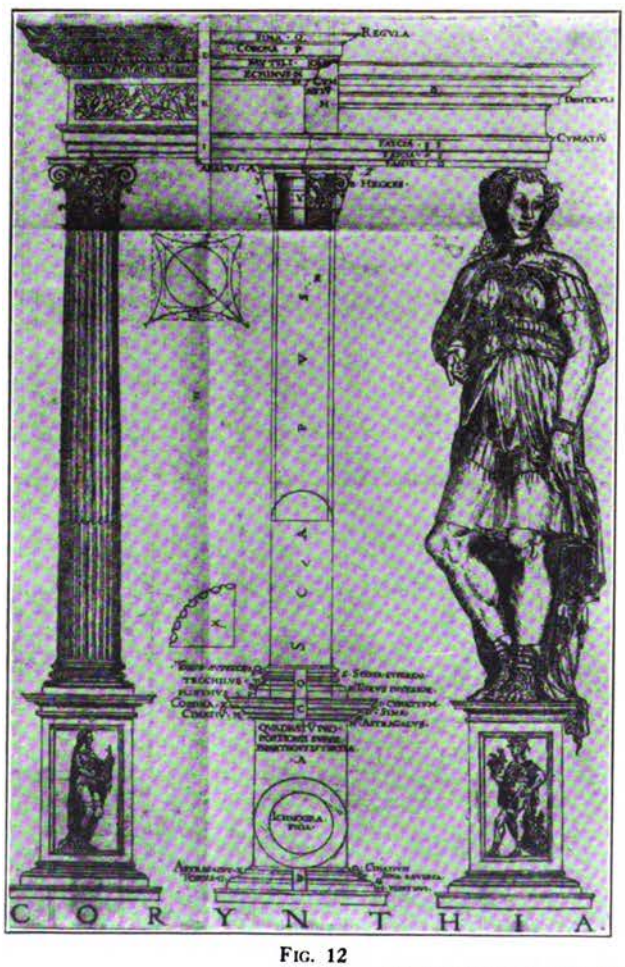


FIG. 12

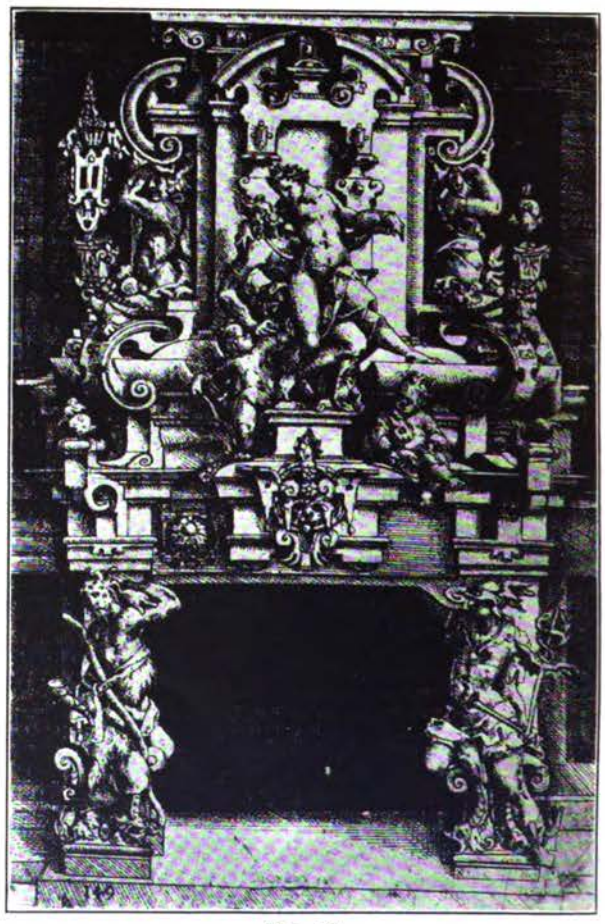


FIG. 13

ANTIQUITIES OF THE ARCHITECTURAL BOOK SHELF

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ventions, and which was the outcome of a method of construction of which he was particularly proud of inventing—the roofing of a span of sixty feet or so without the use of heavy timbers, somewhat in the manner of a steel lattice arch. He says it is by the grace of God that he has been able to do this,—*"C'est de la grace de Dieu qui donne les aduisements et inventions quand il luy plaist, et a qui bon luy semble."*

It is curious to note how in comparison with Lescot and Bullant, who wrote very little or not at all, the figure of de L'Orme stands out, and that mainly on the strength of his books he has become the central figure of the earlier French Renaissance. In addition to the remains of his work that are still existing, he had a rather considerable influence on his time in establishing a greater degree of science in building and in limiting the sphere of the master-masons, who had hitherto done the designing and erection of all important buildings, to the narrower one of being simply master-craftsmen under a new type of individual—the architect. In addition to de L'Orme, Bullant contributed his treatise *Nouvelles Regles, 1564,* to the literature then available on architecture. And a particularly valuable book is the *"Plus Excellentes Bastiments de France"* in two volumes, 1576, by Jacques Androuet du Cerceau, a summary of all the then existing important buildings. Of the latter an excellent selection has been published by Mr. W. H. Ward in recent years.

Du Cerceau was of an erratic and fitful temperament, and was not able to absorb the spirit of Renaissance design in the same balanced way as de l'Orme. Two illustrations have been taken from his book (plates 9 and 10), the section of the base court of the Chateau de Charleval, and a mantelpiece for the Chateau de Madrid in the Bois de Boulogne.

The first original effort in English on the production of a book on Architecture is *"The First and Chiefe Groundes of Architecture used in all the ancient and famous monymentes, with a farther, a more ample discourse upon the same than hitherto hath been set out by any other, published by John Shute, Paynter and Architecte, imprinted at London in Flete Street nere to Sainte Dunstans Churche by Thomas Marshe 1563"* —from which are reproduced here examples of Tuscan and Corinthian orders (plates 11 and 12).

Whether his claim set out above means the existence of previous works in English is not known, but certainly none are now existent, so he probably was referring to the works of foreign authors. Little is known of him, except that like de l'Orme he traveled for a time in Italy. He was "Servante unto the Rt. Hon. Duke of Northumberland," and was sent by him to Italy in 1550 —"to confer with the doinges of the skilful maisters in Architecture."

The reaction on this still medieval mind produced by the direct, and in comparison, modern methods of Vignola and Palladio is interesting. A comparison between his orders here illustrated with those of Palladio, may be paralleled by a comparison of the texts of the two authors. Shute gives instructions for the setting out of the pedestal of an order in the following manner—"Ye shall make a four square stone-like unto a dye, the quarters of the square as great as ye wil according to your purpose"—which is hardly intelligible beside Palladio's concise—"the pedestals placed under the column of the order are to be made plain and one module in height."

Like his countrymen at that time, his head was full of poetical fancy and suggestion, in the same exaggerated vein as Lely's Euphues; he invented allegorical explanations of the origins of the orders,—The Doric, for example, from the legendary Dorus who took the length of his foot as one-eighth of his height, and measured all the parts of the temple of Apollo; and narrated how the just measure of a woman was adopted for the ordinance of the temple to Diana. There are only the plates of the five orders in his book and they are printed in a brownish ink and are from copper engravings. Only five copies of the *Chiefe Groundes of Architecture* are known to exist.

Like the work of John Shute, the earliest German books are full of wandering imaginations and elaborations of details dear to those of Northern blood. The three illustrations (plates 13, 14 and 15) may give an idea of the amazing complications that could be produced with Renaissance motifs by a mind still soaked with medieval fancy. The mantelpiece and fountain are particularly involved and are in a manner similar to much of the work of the Jacobean period in England. A somewhat purer note is attained in the frontispiece though the architectural details have a strong Baroque flavor; the drawing is admirable and is equal to that of any of the Italians.

The "Sub"

A cornice to run and a few odd jobs of patching, and the plastering Sub would be through with his work; the painter could finish, and the families could move in. But the work had stood thus for some two weeks with only one plasterer working occasionally. So the Sub came to my office to explain: Conditions were pretty bad; he had several jobs to finish; everyone was pressing him; and he had recently lost ten of his plasterers.

He was an honest and most agreeable fellow, this Sub who used a slide rule in computing quantities and took what one might term an old-fashioned pride in his work. And from what I could gather at the job he got on well with his men. In fact he had managed to maintain a fairly full quota at the twelve dollar a day rate, which was less by some four or five dollars than had for some time been offered through the want columns of the daily press. His men had stuck in the face of offers of fourteen dollars. They had stuck in the face of fifteen. But when offers of eighteen and twenty dollars were pressed upon them around the first of September they fell for them.

He could get them back in the latter part of October or in November—maybe—if speculative building fell off by then. But for the time being it was difficult—he would go broke if he had to finish everything up at eighteen dollars per day.

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He was hard hit by the run of events; but he was not resentful. And as far as I could see he held no grudge against those who had quit and gone where more pay was to be had. He appeared to fully understand the driving force in offers of eighteen and twenty dollars. And so he stood ready, as well he might, to take them back when they had finished with their work of "white washing" as he said they called the class of work they were to do for the speculative builders at eighteen dollars per day.

Here was an attitude which differed greatly from that held by space writers and editors of the daily press. For, day after day and month after month, there had been handed out to the reading public news items and editorials dealing with the extortions of the building trades workmen, while just over the page want ads proclaimed how it was that workmen were wanted at almost any price by those who had work to be done. Nor was his the attitude of the people one meets. They have read the news items and the editorials in the press and so had come to a firm opinion as to who is responsible for high wages and the high cost of building.

It's too bad, of course, that building has to be carried on at such a price. That's plain enough. But it's not so plain that it is extortion to take what is offered through the want colmuns of the daily papers. So one may question the fairness of the writers of news and editorials and the consumers of all the news that's fit to print who cast so much blame upon "labor" for high wages. Nor is it plain that these high wages are the outcome of union action. In this particular case, which is fairly typical, the building operation had been going on for some ten months. One trade had followed another; there had been no strikes and only one demand by a representative of organized labor. But there had been a high turnover of labor as men responded to their pressing invitations to accept two, five and even eight dollars more per day. It was not collective action on the part of labor which developed these offers and accounted for the turnover and the restlessness; no demand had been made for such wages by individuals or by the representatives of labor.

Maybe it would not help matters appreciably to look the facts which go to make up specific situations squarely in the face. Maybe it would not help openly to discuss the conditions in the building industry as they come to light on the run of operations, news of which does not find its way into the press. But this much, dealing with the facts of the case rather than with fancies and biased preconceptions might do: it might give the impression to workmen who had been offered high wages and who had accepted them that they were not looked upon as the greatest of malefactors for doing what has ordinarily been rated a common sense thing to do, that is, take what is offered.

There can be no doubt that a detailed examination of the situation would disclose that the extremely high wage rates which have prevailed in the New York metropolitan area during the last twelve months have been occasioned and sustained by the use of credit advanced with respect to the prospect of profits to be secured by a quick turnover of funds in building, which has in turn led the speculative builders to compete so strenuously for labor as to lift the wage level clean above the maximum rates demanded by the union. All this is understood in a way by the workmen who reading the news items in regard to their extortionate methods grow cynical, or, failing that outcome, adopt the rôle which is so unanimously assigned them.

It is all very well for the people to make a fuss and demand, for example, of such groups as the bricklayers that they voluntarily forego the comfort of the well advertised offers of sixteen dollars per day and take twelve instead so that for once the children of the great metropolis may have schools enough. But that also makes for a cynical attitude on the part of those upon whom the demand is pressed if that demand is unaccompanied by a like demand, with respect to all other interests concerned, that they too forego the possible profits to be had out of the need and demand for sufficient schools.

But to return to our point of departure, the Sub who had found himself in something of a hole but was not resentful, holding no grudge against those who had deserted him for higher wages. Out of his background of experience as a workman and his intimate contact with his men he had come to appreciate how it feels to be offered eighteen dollars instead of twelve. He had also come to appreciate the nature of the reaction which follows being popularly proclaimed a malefactor for leading a life in strict conformity to the so-called laws of supply and demand. He had come upon the springs which give rise to that seemingly cynical attitude which differentiates the workmen of the present from those who did their work during the era of handicraft and petty trade. So, having understanding, he could be calm and accept what was coming to him.

All of which sets going a train of thought; What about the Sub; what is his position in the building industry; what is his function? He takes account of materials required and the work to be performed and sets a price upon it. Ordinarily he sets a fixed price on it and "signs up" to deliver. Now and then a concession is made in respect of the fluctuating markets of labor and materials; but such a procedure is ordinarily rated as one to be avoided and pressure is brought to bear upon him to agree to deliver at a fixed price.

Insofar as the contract acknowledges the fluctuation of the market he is on fairly secure ground; under such conditions there remains the possibility that he may function as a workman; that is, he may if he choses, go to his work with the idea of delivering precisely what was intended in the instruments of service and the contract agreed to. But to the extent that the contract ignores the existence of a fluctuating market, and such is quite often the case, the Sub functions as a gambler.

To thus refer to the Sub as a gambler is not to cast a slur; it is merely to view his function from an altogether impersonal economic standpoint—that is all.

He bets. He bets with other Subs in his line; and the general contractor, the speculative builder, the owner or the architect hold the stakes, so to speak. He bets that he can beat the field of Subs with respect to price;

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that his bid takes account of the turning of the market. Ordinarily he bets against "prosperity" and rising prices; against non-delivery of materials, a shortage of materials and labor; against the action of labor unions and trade associations looking to the special interest of their members; against bad weather, credit expansion and inflation of prices which always follows. Favorably affecting him is a falling market, of course; and in the same way unemployment and the bread line, wars and rumors of wars in Europe and any calamity which sets prices tumbling. For it is upon such circumstances and events that his gains or losses and the nature of his work hangs.

So that as it works out, under the pressure of competitive bidding and the constantly fluctuating value of money, the chances that he may function as a workman or a builder, in a literal sense, are very limited. When the work had been secured virtually without price competition, and when "prosperity" had hung in the balance or when it had appeared to be falling away—then he had built in a literal sense. But when the work had been taken under the pressure of competitive bidding or when the actual operation had taken place during a period of credit expansion and rising prices—then he had to subordinate the process of building to his interest in price.

This is not to say that the Sub invariably subordinates his interest in the quality and character of the materials and services which he delivers, to his interest in cost and profit. It is to say that such a subordination of interest is inherent in our system of fixed price contracts for work to be executed and delivered under our system of credit economy with its rapidly fluctuating money unit.[1]

With such a system in which ability to bid and buy may be expanded to almost any magnitude with a corresponding inflation of prices, there are no grounds upon which fixed-price contracts with respect to future deliveries may be defended except that such contracts afford a ready opportunity for gambling.

Of course, it is not pleasant to contemplate the complication of architectural practice which would follow adding the Sub to the list of those who do work "cost plus" or on a basis which would frankly acknowledge the fluctuations of the dollar. But with the range of fluctuations growing wider, with rise and fall occurring more rapidly, such is likely to be the outcome. The only alternative in sight under competitive bidding for work is a gradual increase in the allowance which all Subs will make in their bids to cover the greater chances which they are forced to take by the fluctuations of the dollar.

Which of these two alternatives will come to pass cannot be foretold. But it is fairly certain that, under the rule of an even more widely fluctuating money unit, even more work will be done under a "cost plus" agreement or one which recognizes the fluctuating value of the dollar; or failing that outcome, an ever increasing allowance will be included in the bid to cover the increasing risks which credit advances of constantly increasing magnitude have introduced into what once was the workmanlike process of building. Which is to say that the Sub will not play the game as it is now played unless he can get better odds. That will add a little bit more to the cost of building; but after all it is only through the success of the Sub as a gambler that he is permitted to function as a builder of structures architectural.

R.W.T.

[1] It is not ordinarily observed that under the fairly mature development of credit economy such as obtains today, price is no longer even the rough and ready indication that it once was of a relation between productive capacity and effective demand. In fact, price no longer (typically) bears any relation to these two factors involving the common welfare as is plainly to be observed in the current rates of exchange. Two hundred thousand marks for a postage stamp is a pecuniary phenomenon altogether unrelated to productive capacity and to effective demand. So, in the fluctuation of the cost of building index, ranging in a few years from 100 to 280, we have an indication of the magnitude of the disturbance occasioned by the use of credit. Certainly, this range is not to be taken as any indication of how short was the supply or how great was the demand at the extreme point of the rise. Conditions in this respect probably differed but slightly over the entire course of the index curve. The index indicates approximately the magnitude of the disturbance occasioned by the anarchistic use of credit.

The Secretary's Page

Personally, I enjoyed seeing myself in print last month. I hope my presumption in trying to tell about the INSTITUTE is also being enjoyed by the rest of you. I think I will make the various paragraphs continuous and their numbers consecutive. So I will begin with the number that follows from last month.

6. Each member should have received a copy of the *Annuary*. If you didn't, please write my office (see item 3 in the October number of the JOURNAL), and ask for one. It is worth owning. Also it is worth keeping in a handy place. The mere list of committees will give a very definite idea of the many things that your INSTITUTE is carrying on and of real things being done. I was surprised just the other day to have a Chapter Secretary ask me to what Regional District his chapter belonged and what other chapters were in that district. All that is told in the *Annuary*, also which of the nine Directors is particularly responsible for each district.

7. You have all received the List of Institute Documents. You would be surprised to know how many of these lists go into the waste basket or are lost. Just the list is worth reading, for it shows what your INSTITUTE has done for the profession. If all the members of the INSTITUTE were familiar with these documents many vexing problems would be very simply solved. However, I don't want to ask the impossible, and the Secretary (see Item 3) will give prompt attention to all questions.

8. Architects are queer people in many ways. They are rather proud of themselves too. One of their hobbies is their individual way of writing Specifications, the very special General Conditions, Forms of Proposals,

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Forms of Agreements, etc. Each one feels, frequently, that to vary in any way would be disastrous. Permit me to call your attention to the list of documents again. The INSTITUTE Committees, made up of some of our ablest and best practitioners, have prepared some admirable documents on most of these subjects. While the printed forms do not meet each and every case exactly, yet they can be used in almost every case that arises. Such parts as do not apply can be crossed out neatly if you are afraid of them, although in most cases their presence can do no harm. Your own little pet ideas can be added in the main body of the specifications. But there is one thing, and I doubt if most of you have considered this, that is gained by their use. The name of the AMERICAN INSTITUTE OF ARCHITECTS is brought prominently before both client and contractor. The prestige of the INSTITUTE is vastly increased. The routine of architectural practice is made more uniform throughout the country. And all these things are surely worth helping by a little effort. And again, the very use of them brings in a small revenue to the INSTITUTE, which has good uses for all the revenue possible. Will it add to the cost of production for the architect using them? If he keeps any record of cost in his office as to what a typewritten page amounts to he will be glad to pay the few cents for these desirable documents. I recommend your using them.

9. How many of you have expended the $5.00 necessary to procure a copy of "The Handbook of Architectural Practice"? If you all owned that and had read it these monthly remarks of mine would be almost valueless. If all the architects of the country ran their work along the lines suggested in the *Handbook* there would be no more unpleasant insinuations of lack of business ability, lack of exactness, carelessness, throwing the client's money away, and all the various undesirable things that are said about our wonderful profession by some of our ill wishers and dissatisfied clients. The *Handbook* is a monument to one of the finest and best men that our profession has ever produced, one who brought honor to the INSTITUTE and the profession by his mere membership therein, and finally one who has given such value to the profession by his works that the profession can never do him enough honor. Don't fail to get the *Handbook*, if you haven't it already, and use it for yourself.

10. What did you do with your copy of the *Manual of the American Institute of Architects*? The Secretary's office spent a lot of time getting this out and it hopes that the *Manual* is kept where it is available for reference. It, too, is worth reading. It tells what the various committees and officers of the INSTITUTE are supposed to do. It describes the medals and awards which the INSTITUTE presents to those whom it considers worthy of honor in their respective spheres.

The *Manual* also gives in condensed form the objects and hopes of the INSTITUTE, and every member should make himself familiar with them.

The *Manual* is not listed among the INSTITUTE documents, so I am happy to be able to call it to your attention in this way. I also wish to warn you that the names of officers and the committee personnel as given in the *Manual* are for last year and do not apply now. The place to find the correct lists and names is in the *Annuary*.

11. There is another small pamphlet issued by the INSTITUTE. It is primarily intended for the Chapter Presidents and Secretaries. It may be obtained, however, by any member upon application to the Executive Secretary at Washington. This little booklet is called *The Spotlight*. It was established by my predecessor and I am proud to continue it along the same lines. It makes a very brief outline of the methods of conducting the business of the INSTITUTE and should be followed closely by all the chapters. A very handy little reference book for the chapter officers to have at their immediate disposal.

12. I hope you are receiving and noticing the delightful circulars from the JOURNAL bookshop. Let's all try and make as much use as we can of this new source for obtaining, with no more delay than the span of two postal journeys, all those special books which apply so definitely to our profession, and which, for those of us who are not living in one of the great metropolitan centers, are so difficult to obtain.

I have devoted this number to the documents and booklets published either directly by the INSTITUTE or through the Press. I feel it well worth while to make sure that every member understands just what his officers and committees are doing. I shall take up in future numbers various particular problems that come to the Secretary's office and to the chapters, in the hope that this little page will result in a more general acquaintance with the actual work of the INSTITUTE.

EDWIN H. BROWN, *Secretary*.

Co-operation with the Commission of Fine Arts

"The Plan of the National Capital," an excerpt from the Ninth Report of The Commission of Fine Arts, has been issued by the Government Printing Office in pamphlet form. It embodies a great deal of valuable abstract material from the original report of the McMillan Park Commission, now out of print, with analysis of the accomplishment during the two succeeding decades under the guidance of The Commission.

As general material of interest to an architect, the booklet is the desirable sort that would be ordered for the reference file without a second thought. It is a bargain in printing—35 pages of text, two dozen beautiful illustrations of plans, perspectives, parkways and fountains, all for the trifling sum of twenty cents.

Aside from this detail of the investment, however, it must be remembered that the Fine Arts Commission to a large degree represents the architects of the country in their concerted effort to make Washington the greatest capital city in the world; that the architects have a special committee of co-operation with the Commission and that general committees on the Federal City are now being formed in Washington and other sections of the country to focus attention upon the possibilities and the

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difficulties of the great program. If the architects as a whole are to throw the weight of their influence where it will count, the first step is to become thoroughly posted about the locality. The brochure under discussion gives a clear, readable analysis of the situation. Its possession will make it possible to follow the Washington problems intelligently as reported from month to month and to make the co-operation of this committee really helpful to the Fine Arts Commission.

It is suggested that the purchase of these booklets be made a chapter action to insure placing one in the hands of each Institute member and to avoid the nuisance of individual ordering. Block orders may be sent direct to the Supt. of Public Documents, Government Printing Office, Washingon, D. C., or through the Journal Book Department.

HORACE W. PEASLEE, *Chairman.*

Public Buildings

Secretary John M. Glenn of the Illinois Manufacturers' Association has issued a public statement in which he points out that any tendency of the forthcoming Congress to abolish or impair the budget system of appropriations of public money should be resented and stoutly opposed. "The day is long past," says Mr. Glenn, "when any member of Congress can satisfy the folks back home with juicy morsels out of the 'pork barrel.' Business men are tired of it, too. If money is appropriated unwisely by Congress, it simply means more taxes for everybody to pay."

During the two last presidential terms the pork barrel has been pretty dry. The popular support of a budget system has gained ground very fast. In the matter of public buildings, one of the fattest distributions of "pork" from which the country suffered, there has been nothing for many years, not since President Wilson flatly told Congress that he would veto the proposed Omnibus Public Buildings Bill proposed in 1917. President Harding took the same stand. Now it is proposed to apply sufficient political pressure to the present administration to drive a breach through the budget system.

What Mr. Glenn did not make clear in his statement, or in that part which was published in the press, is the fact that there is a difficult gap to fill as between home interest and Washington interest. The "home folks" are the key to the situation. If they want a pork barrelling representative in Congress, they will probably have one. If they want loot out of the Public Treasury as a means of raising home land values, they will encourage their representative to oppose the business administration of government by the budget system. Thus the Congressman has his troubles, too, in many cases. But the point is that the capital city needs many new government buildings. Our departments are housed in a manner that would disgrace an aboriginal tribe. But it takes a vote of Congress to change these things. Hence the gap. If Congress says to the administration: "We'll vote for your Washington buildings if you will let us have ours," the administration is put in a hole. It knows the desperate needs of the departments and bureaus that are trying to function in that miserable lot of broken-down structures for which the people pay nearly two million dollars a year in rent. It knows that it costs a larger sum still in the waste and inefficiency of an office system that rambles for miles. It knows that these things ought to be changed. But the situation involved in any attempt to change is not clearly understood by the electorate at large, or else Congress would not dare to oppose the budget by dissembling to the constituencies.

What the budget system means in the question of public buildings is that we should proceed precisely as any business organization would proceed. A survey of needs, a study of future growth and a provision for it, a selection of site, an estimate of cost. Any other method of procedure is ridiculous and is bound to be wasteful. The Institute has rigidly adhered to this elemental and fundamental idea for nearly ten years. It must now actively take steps to support the administration if Congress challenges it by refusing to vote money for the needed public buildings in Washington unless it can have its regular old-fashioned distribution of pork. Let it not be forgotten that the buildings for Washington should go into the budget with all the rest. The whole public building needs, in Washington and out, should be analyzed, and then budgeted in the order of their importance. Only so can we ever struggle out of the blind swamp of political opportunism which has dominated the federal public situation these many long years. Only so can we ever hope to place architecture truly at the service of the government.

Even the ardent friends of the city of Washington must lay aside their hopes for the moment. They are, one opines, as much to be feared as Congress itself, in many cases. But however high their hopes, however supinely they are willing to compromise, however tempting may be the morsels held out, whatever the size of the crumbs that may be dropped from the table, let them remember, too, that in the years to come any surrender now will cost dearly. The hope for the steady and sure improvement at Washington is indissolubly bound up with the hope for the whole federal public building activity throughout the land. One cannot succeed at the price of the other.

C. H. W.

Advertising---Once Again

To the Editor of the JOURNAL:

SIR: Various aspects of advertising have been discussed in the JOURNAL during past months, all, I suppose, of more or less interest to architects. The following reflections may come within one or the other category.

For a number of years the writer has suffered a periodic shock of—what shall he say?—disgust, contempt, cynical mirth, at the sort of advertising resorted to by many business concerns. That it is assumed to pay, contributes to a suspicion that in the business world today, nothing—however sacred or holy it may by some people be regarded,—may not, with obvious hypocrisy, be

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seized upon as a means of "keeping one's name before the public," for benefits it is hoped may accrue.

Each holiday season brings to the architect's desk —(whether the architect is specially favored, the writer knows not)—an assortment of cards protesting earnest wishes for success, happiness, and all that sort of thing, under the guise of a "Christmas greeting." They come from concerns dealing in every material and goodness knows what not—from concerns with whom he may have had business dealings, and from those unknown and almost unheard of—all desperately anxious that the architect should know of their tender solicitude for his welfare.

Some count it sufficient to make of Christmas an occasion merely to slip their names under his eye, wishing him the compliments of the season. Others give evidence that at least once a year they are reminded of those unselfish principles which are commonly acknowledged to be a trustworthy guide to conduct, but which, due probably to the urge of business, pass unnoticed at other seasons. Still others protest *too* much—for instance, among the choice specimens of this form of "publicity" which the writer has collected during recent years. One advertisement—rather, one "Christmas greeting" reads, "The Spirit of Christmas prompts us to extend to you a wish for more of your business"—no, that's wrong—"to extend to you our appreciation of your trust," etc. A brick concern, on a card decorated with a design of brickwork in screaming red, hopes that the "friendly gleam of Yuletide Joy shall glow" for him—also, the writer suspects, that the striking decoration will serve to keep its name warm in his memory, against the time when he shall be in the market for brick.

One concern proclaims in fetching type, "At this season of the year when the great heart of the Universe throbs with love—(Whew!)—when winged charity fills the atmosphere, it is fitting that we send, etc." Another, with camels embossed in color in one corner and a gilt star in another, essays, "As again we approach the anniversary of the Star of Bethlehem, we pause to think of you and send our greetings. May Christmas bring you joy and the New Year, prosperity; and through it all may a kindly spirit lead you—(probably to give them some business?)—as it did the Wise Men of the East."

Such touching solicitude! Perhaps the one longest to be remembered, sends a card on which is a comic figure of a bull, with this—"Just a little happy bull! 'Merry Christmas!'" Evidently the sender was "on," he knew, and he knew that the architect knew, too, but alas! business demanded that he, also, keep his name before his customers, or prospective customers, along with his competitors. Great, isn't it? Even the birth of Christ capitalized! Used to turn shekels into the coffers of trade!

Of a similar sort is a card edged with mourning, announcing the death of an officer of the company (one wonders that such things can be done!) whose demise is published with "profound sorrow." Are there yet dearer, holier sentiments which business can appropriate for a supposed enhancement of profits? If so, no thought of a beautiful reverence, doubtless, will stay its hand, provided it offers opportunity for profitable (?) "publicity."

W. R. B. W.

From Our Book Shelf

Sculpture

The exhibition of American sculpture recently concluded has left behind it an illustrated catalogue of so comprehensive a character and with illustrations so wisely chosen as to make it a permanent reference work of great value. In addition to this, the exhibition has furnished the inspiration and occasion for a little book[1] by Mrs. Herbert Adams which, as its name implies, is not so much a treatise on the work of individual sculptors as a broad and understanding survey of the influences and qualities which have made our sculpture what it is. Criticism of current artistic work seldom has much permanent value but a sympathetic appreciation and intimate knowledge of the personalities that have influenced and directed the development of a national art are essential to the future appraisal of that art, and it is in this respect that "The Spirit of American Sculpture" will, as the years go on and as personalities more or less familiar to all of us today fade from the memory of living men, attain an ever increasing importance and become a milestone, as it were, beside the upward path of our accomplishment in this art.

The author's graceful preface and the gracious "Note" supplied by the Committee of the Sculpture Society, make clear the point of view from which Mrs. Adams has approached her task and the early chapters contain many interesting facts in connection with the beginnings of sculpture in America. The supreme value of this work, however, lies in the chapter headed "Of Three Leaders and of Moral Earnestness in Art." Probably no one else could have appraised the significance of the lives and works of Ward, St. Gaudens, and French so discerningly, so prophetically and so beautifully.

J. Monroe Hewlett.

[1] The Spirit of American Sculpture, by Adeline Adams. The Sculpture Society, 1923.

Rhythm

The first sentence in Mr. Wright's Preface gives us an interesting clue to his attitude of mind towards Greek Art and states the theme which is developed in the three essays.[1]

"Insensibly we have diverged from the principles that guided the Greeks through life, and the traditions of the arts which we have inherited from them have slowly been altered and falsified. Moreover the caprice of language has changed the meaning of many of the terms of art, and to the Greeks the words, music, colour, and dancing, had a very different signification from that which they now convey to us. This book is an attempt to state some ancient principles again, and to show how it was that to the Greeks music was the music of words and not the music of instruments; how their painting depended on the beauty of line and not the beauty of colour; how dancing was not a mere form of exercise but a form of mental expression using the body for its medium. In each one of the arts here discussed there is a vital difference between Greek and modern conceptions; and the

[1] The Arts in Greece. Three essays by F. A. Wright. Longmans, Green & Co.

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difference is not always to our advantage. In art at least it is perpetually necessary to go back to the fountain head, and even in social morals we have still something to learn. As Sir Henry Maine said, 'Except the blind forces of Nature, nothing moves in this world which is not Greek in origin,' and no one can neglect with impunity the source from which so much of what is really valuable in our civilization comes.

"The modern mind, in art as in all other paths of life, attempts too much and wastes its efforts on the unessential. The devices that we regard as marks of intellectual and artistic progress are often but palliatives invented to disguise a central weakness. In music, painting, and the drama we see everywhere the signs of effort and insecurity. Our artists are constantly endeavoring to conquer difficulties of their own making, and for them art has become a long struggle. For this disease a study of Greek life in all its aspects is the best cure. A simple thing well done without effort: such was the Greek's artistic ideal. In music they did without our wealth of instruments, in painting without our range of colors, in drama without our scenery and crowd of actors. And in simplicity they found strength. A lyric of Sappho, a vase of Douris, a speech of Euripides; these are the models that our musicians, painters and dramatists should keep before them if they would escape from that spirit of restlessness which since the Renaissance has been the bane of art."

The reviewer is tempted to discourse upon the fine points in that little Preface. It strikes a chord, intones the principle theme and with a few modulations leaves the reader in a state of pleasant expectation. It is a real prelude, as artistic as the "opus" which immediately follows.

The first movement (to continue the metaphor) is "The Dance." The second is "Music" and the "finale" is "Painting." The reviewer must plead ignorance as to what an expert archaeologist would say about these essays. He begs leave to opine that it doesn't matter, for here is some food for the soul, and the kind of nourishment that the ordinary everyday man needs. It is unusual, to say the least, to find a treatise, which bears so much evidence of extensive research, which goes so deeply into matters of root-meanings and origins, which deals so capably with the form and the technic of the art expressions discussed, and still is so free from pedantry and bookish conceit. We meet here the goodly company who made Bullfinch immortal, and if perhaps we had regarded them as mere names of more or less shocking marble statues, they would now have become for us what they must have been to the Greek,—a delightful galaxy of lovely spirits who filled everyday life with poetic meaning.

The absence of illustrations is only noticed because of the pictures which spring into the mind at almost every sentence. Such a book would be a rare delight for the artist-illustrator, and could be made the inspiring text for a very sumptuous pictorial setting. By the same token the student who will read this book may readily gain motive power for new and delightful excursions into the art gallery and the reference library.

We are made to realize the lofty imagination and sweep of vision of the Greek philosophy, and we see clearly how much of our modern scientific research in its laborious and painstaking minutiae of detail has pigeon-holed us with a "subject" cut away from its relation to the life of man's spirit. This detached attitude of present-day investigation is doubtless necessary as a matter of technic, but to vitalize and make interesting to the average man the work to which we devote our lives we must keep whole and unbroken the emotional links which draw all human endeavor back for renewal and sustenance to the love and desire of the human heart. For example, note the mental pictures which this paragraph causes to float before the mind's eye:

"The nine (Muses) were sisters together, and it is only from lack of imagination that we do not now naturally connect astronomy, mathematics and history with music: in other words, that two of these arts have lost and the other is losing the close connection they once had with literature. The most imaginative of the Greek philosophers thought otherwise, when he said to the young literary aspirant, 'Let no one come to me without mathematics,' and the most scientific of Greek historians was not afraid to plan his narrative on the lines of a tragedy, with the Athenian people as hero and Chance as the guiding spirit of the play. It is true that even in Greece, Urania and Clio often stood apart, but the other seven sisters went hand in hand, and in Greek music rhythmic words, rhythmic action and rhythmic movement made one harmonious whole."

One of the interesting little items is the working out of a new and ingenious theory as to the original meaning and derivation of the word Tragedy. That dancing is the oldest of the arts and that its earliest form was probably religious will be another surprise for most people.

"In ancient worship the choir danced, and it was the dance rather than the song that had a definitely religious purpose, even as at the performance of a tragedy it was the dance that emphasized the ritual character of the play. The Oedipus Tyrannus should begin with the Dance of Self-abasement; the Antigone ends with the Dance of Death."

Sculpture is only treated incidentally in these essays as a record of the Greek dancers as they lived and moved. The Greek vase is described with enthusiasm. Even our taste for statistics is humored by the surprising statement that more than fifty thousand of these vases have been discovered since the end of the eighteenth century. "We know the names of over eighty different artists who have affixed their signatures to their works."

Our modern view of ancient art as something fixed and highly conventionalized by rule must be materially modified in the light shed by Mr. Wright's studies. Their knowledge was not set down in text books and encyclopedias. As Mr. Wright says, "Moreover, literature was not so much written books as spoken words; the Muses were the daughters of Memory, and education largely consisted of learning by heart the sound of great literature; the education of Ruskin, in fact, who every day *said* his chapter of the Bible at his mother's knee." No oral training can produce for any but short periods of time hard and fast, mechanical, or conventional results in any branch of art. There was convention in their music and in their painting and in their architecture, but it was in matters of technic rather than in the subject matter which was well nigh limitless.

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The Greeks were not musicians as we understand the term, nor were they painters in our modern sense. We praise their oratory, but as Mr. Wright shows, oratory was in the Greek mind a special application of what they considered musical science.

"The Greeks had very little instrumental music because they had very few musical instruments; and, as is the case with most of the things which the Greeks did not possess, they did not have them because they did not want them. They realized quite clearly that the most perfect of musical instruments is the human voice, and that it is the function of imperfect mechanical devices of wood and metal to play a secondary and supporting rôle, not to take the chief part in music.

"But the Greeks, like the modern Italians, had the advantage of possessing a musical language; a language which it is a pleasure to speak and to hear; not the blurred vowels and the harsh monosyllables of English, nor the nasal sibilants and clipped consonants which too often do duty for French, nor, worst of all, the polysillabic cacophony into which German can degenerate.

"As Aristoxenus says, 'Vowels are vocal sounds; consonants are merely noises.' The more consonants there are in a language, the more it diverges from music and approaches to discord. It is when a language has lost its own music that men call in all the instruments of the wind and string orchestra."

The Greek mind "disliked the specialist, and when the specialist came to the front—specialist soldiers such as Philip of Macedonia, specialist teachers, specialist musicians—the true Greek ideas began at once to perish. A Greek prided himself above everything on versatility, and there is nothing more interesting in Aristotle than the elaborate pretense he makes of being merely an amateur in every subject. Inspired by a gentleman's curiosity, and not a pedant's love of research, he jots down his observations in careless notes for other careless but cultivated gentlemen to read."

The place of art in Greek life as a natural and well nigh universal mode of self expression is well brought out in these pages.

"The Greek vases were the possession of the people; they are art popular and world-wide. They were exported to all the Mediterranean countries—examples have been found in South Russia, in North Africa, in Italy and in France—and there can be little doubt that they passed with Alexander into Eastern Asia, and brought with them there the vivifying influence of Greece. Just as Buddhism is an adaptation of Greek philosophy and Jiujitsu a reflection of Greek wrestling, so the art of China and Japan drew its first inspiration from the Greek vases."

Those of us who heard Mr. Jenkins talk at the last Convention in Washington (and we all may read what he said in the "Proceedings") will feel that Mr. Wright has shown us how the subject matter and theory of art may be divested of sciolistic trappings and presented as captivating affairs of common interest. "The Arts in Greece" should stimulate our teachers as well as our students, and, perhaps best of all, should renew the love of the art which is our own in the hearts of those of us who may have grown "weary in well-doing," and who need a revival of our boyhood's love for "the Glory that was Greece." W. L. S.

Drawing From Memory

Seventy or more years ago a young artist of Paris, Lecoq de Boisbaudran, published a pamphlet on "The Training of the Memory in Art," explaining a method of training the memory to facilitate artistic expression, which has remained but little known, in this country at least, to the present day. Men like Legros and Rodin acknowledged their indebtedness to the master, Boisbaudran, and his methods, and expressed profound gratitude for the influence his teaching had upon them. Boisbaudran evolved his methods in a successful attempt to free himself from the fetters imposed upon him by a perfectly academic and perfectly bad training. Two other pamphlets followed the first and later came a collected edition of all three. More recently, in 1911, was published an excellent English translation of Lecoq's book by L. D. Luard.

Lecoq's teachings influenced for good, many of the greatest artists of modern times, and that the seed sown by his book bore other fruit is plainly evident from Mr Catterson-Smith's little book,[1] in which the author has gone further than Lecoq at times but has adapted in his teachings, with great intelligence, the methods of Lecoq. In his Preface, he says:

"It is possible that this little book may be compared with Mr. Luard's translation of M. Lecoq de Boisbaudran's excellent treatise, "The Training of the Memory in Art." It may be thought that in it the last word had been said on memory drawing, and that another book on the subject was not needed. I think there is enough difference between his point of view and mine, and in the results of my experiments to justify the publication of this book. Besides it is three-quarters of a century since Lecoq wrote, and in that period, especially the last twenty years of it, a great deal has been revealed concerning the unconscious or sub-conscious working of the mind and this must be taken into account before anything like the last word is said on the training of the memory in relation to Art. I do not claim to have said it, but I think I have carried the subject a step or two onward."

The pioneer, Boisbaudran, seems to have stopped when his pupils could, with rare accuracy, recreate from memory something they had seen, often for only a few moments, but Catterson-Smith begins here where Lecoq stopped. He uses the memory training of Lecoq just as Lecoq did, to develop the power of visualization, then goes on and uses the power of memory and visualization as an aid to *creation*. Some of his results as shown by the illustrations are truly remarkable. Young pupils have been shown how to think and feel design. We only wish that Mr. Catterson-Smith had acknowledged his debt to Boisbaudran a little more, for he really owes him much. The book is seriously worth reading by all who are interested in drawing and design, their teaching and learning. It will prove doubly interesting, we believe, if read in conjunction with Lecoq de Boisbaudran's "Training of the Memory in Art." BEN J. LUBSCHEZ.

[1] Drawing from Memory and Mind Picturing, by R. Catterson-Smith, M.A.

Acoustics

The science of acoustics as applied to buildings has been developed almost entirely within the last twenty-

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five years. Results of research by various investigators have been published in more or less scientific form from time to time in scientific journals and technical publications. To meet the request from architects and builders for help on acoustic problems, Professor F. R. Watson of the University of Illinois has set for himself the very difficult task of simplifying the treatment of the subject. However, it is doubtful if this work will do more for those engaged in building than to stimulate an appreciation of the advance this science has made. For in turning the pages many forbidding mathematical formulæ, involving trigonometric and exponential functions and analytic curves stare one in the face, and will probably ward off the average architect. Nevertheless, the reader will find the subject matter, except for equations and graphs, very readable and exceedingly interesting.

The collection of data given will make the book[1] convenient and invaluable for reference, presenting as it does graphically and in tabular form, information representing years of research. The derivation of formulæ, either empirically or mathematically, and extended discussion of theory is left as might be expected, to the more technical articles and treatises. This simplification increases the convenience of the book for reference very considerably.

The book is divided into Parts I, II, and III.

Part I, "Introduction," gives in simple form a discussion of the physics of sound as applied to buildings.

Part II, "Acoustics of Auditoriums," covers the general theory of acoustics of auditoriums of all sizes. This part is amply illustrated by examples of the actual application by Professor Watson of the laws expressed in formulæ developed by the late Professor Wallace C. Sabine of Harvard, both in the design of new work and, augmented by the author's experimental investigation of the sound properties of the room itself, in the correction of faulty acoustics in existing auditoriums.

Part III, "Soundproofing in Buildings," deals with soundproofing of rooms and of a building as a whole. This is an important and intensely interesting subject, but, as Professor Watson says, the theory is still incomplete and practical attempts at soundproofing are not always successful. He gives in detail the method of making tests, the apparatus used and results of his experiments together with a summary of the work of other investigators.

We should feel gratefully appreciative of the services Professor Watson has rendered by his invaluable research and his painstaking preparation of this work.

HAROLD D. WAY.

[1] Acoustics in Buildings. By Professor F. R. WATSON.

Church Monuments

An agreeable green volume covered in linen and lettered simply in good gilt, with nearly three hundred smooth pages of heavy paper!

Turning the pages, you will be delighted, for the author has prepared this "introduction to the study of tombs and effigies of the mediæval period" with careful consideration for the visual-minded reader; and the architect will find pleasure in these pages, tor more than half of them are illustrations.

A sage has said that we are happiest if we do not try to realize our pleasures. If we lave ourselves in them and become too conscious of them they are lost as a flower is wilted by the plucking. With romance too we are better pleased by reality than by fiction: a popular historical novel is more widely read than is this book of Mr. Crossley's but perhaps it is less keenly enjoyed. The romance here comes to us in a most engaging way because we are not looking for it.

This depends in part upon the visual side and the excellence of the photographic reproductions. Consider a few of these: shrine of St. Edward, 1269; Astbury yard tomb; tomb of Lord Burghersh; and the two on page sixty-four. Then there is the wall tomb of William of Grendon, Priest, 1275, at Great Brington, Northants. On consecutive pages we find beautiful alabaster tombs of the Vernon's and of Ralph Neville and his two wives; and early bronze effigies of Queen Eleanor and of King Henry III. There are figures of knights and their ladies, of priests and prelates, of kings and of cadavers. All these in a scholarly study of tombs and effigies!

Now of course this romantic side is not to be considered for its own sake but only as a part, an integral part, of the theme. It may be hoped that this element will be a lure that will draw busy people to hunt this book out.

Mr. Crossley has made no point of the romance. He has divided his subject into a working classification of introduction, which treats of materials, colors, contrasts and conditions of production; next of architectural style, in the thirteenth, fourteenth, and fifteenth centuries; and a final division which deals with costume. In the first division he describes the brasses and the latten, which is an alloy of copper and tin, explaining that these costly metals could be used only by royalty and the highest nobles. Alabaster, freestone and oolite were used more generally as were the Purbeck marble (actually a dark limestone) and the Caen stone from Normandy. And he gives a most entertaining description of the wooden tombs and effigies with their covering of gesso (size and whiting) and enamels. Many of the tombs were encrusted with gold and jewels and nearly all were painted in bright colors. One paragraph here should be especially held in mind: "We are so accustomed at the present time to find the interiors of churches grey, gaunt, and scraped, that when we are faced with a patch of bright color, our over-sensitive tastes are apt to be offended. It is difficult to realize that in mediæval times the use of color was general. Not only was glass painted, but the walls, roofs, choir-fittings, screens and tombs, all received their appropriate scheme of decoration, resulting in a rich mosaic of splendour."

The findings for architectural style fall into the familiar types of Norman, Early English, Decorated and Perpendicular and with but little accent on the first. Altar tombs had origin when race history was hid in forest glades but the first examples noted here are con-

[1] English Church Monuments, A. D. 1150-1515. By FRED H. CROSSLEY, F.S.A.

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siderably after the Conquest. Heraldry was systematized before the thirteenth century as a means of identification and a record of marriage and its remains bear no mean part in an understanding of the architecture. The work of the early mason shows in "the largeness of the handling, the flow of the drapery, and the decoration of the tombs." There was a great field for the designer in the chantry chapels, used for masses and the worship of the saints. Effigies at first were carved without attempt to counterfeit the recumbent position; these early figures lie uneasily on the altar tomb with postures of a standing position. Fine work in iron is found in the thirteenth century but generally the whole contract for the tomb was in the hands of the mason and to him may be ascribed the design. In 1350 the Black Death destroyed seventy per cent of the population and brought about a change in the design character of the tombs. After this time the carving was generally done in the shop and hauled to the church for erection. Alabaster came into more general use. And in this time the Decorated style was reaching its fruition. Until the sixteenth century we find a period of splendid production and then, with Pietro Torrigiano, comes the Renaissance influence from Florence. Mr. Crossley points the transition and sees in "the Gothic period * * * an age of faith and experiment, the Renaissance an age of scholarship."

There are many good things in this book and a quality of scholarship that does not deal in generalizations. You may have guessed by this time that the reviewer hopes for this book a wide reading. D.H.S.

Announcements

John Galen Howard, architect, announces his association with E. Geoffrey Bangs, Henry C. Collins, Henry Temple Howard and Charles F. B. Roeth, architects, for the practice of architecture, under the name of John Galen Howard & Associates, Architects, First National Bank Building, San Francisco.

Committee Appointments

Committee on Architectural Relations[1]

Harry T. Stephens, Chairman, Paterson, N. J.

Chapter	*Member*	*Address*
Alabama	Hugh Martin	*Birmingham*
Arkansas	Theodore M. Sanders	*Little Rock*
Baltimore	William G. Nolting	*Baltimore*
Boston	William D. Austin	*Boston*
Brooklyn	Frank H. Quinby	*New York City*
Buffalo	Edward B. Green, Jr.	*Buffalo*
Central Illinois	Warren W. Day	*Peoria*
Central New York	Ornan H. Waltz	*Ithaca*
Cincinnati	A. O. Elzner	*Cincinnati*
Chicago	John Holabird	*Chicago*
Cleveland	Abram Garfield	*Cleveland*
Colorado	Harry J. Manning	*Denver*
Columbus	Frank L. Packard[2]	*Columbus*
Connecticut	E. B. Caldwell, Jr.	*Bridgeport*
Dayton	Louis Lott	*Dayton*
Erie	C. Paxton Cody	*Erie*
Florida	Walker D. Willis	*Pensacola*
Georgia	Hal F. Hentz	*Atlanta*
Indiana	Robert F. Daggett	*Indianapolis*
Iowa	P. T. Burrows	*Davenport*
Kansas City	Thomas Wight	*Kansas City*
Kansas	Joseph M. Kellogg	*Lawrence*
Kentucky	Capt. B. B. Davis	*Louisville*
Louisiana	Chas. A. Favrot	*New Orleans*
Michigan	D. J. V. Snyder	*Detroit*
Minnesota	Robert T. Jones	*Minneapolis*
Nebraska	Frederick W. Clarke	*Omaha*
New York	Joseph H. Freedlander	*New York City*
North Carolina	W. C. Northup	*Winston-Salem*
Oregon	Charles D. James	*Portland*
Philadelphia	John P. B. Sinkler	*Philadelphia*
Pittsburgh	Charles T. Ingham	*Pittsburgh*
Rhode Island	F. Ellis Jackson	*Providence*
San Francisco	Harris C. Allen	*Berkeley*
Scranton-Wilkes-Barre	F. L. Brown	*Scranton*
South Carolina	H. C. Harrall	*Bennettsville*
South Georgia	Wm. B. Clarke	*Savannah*
Southern California	Myron Hunt	*Los Angeles*
Southern Pennsylvania	C. Emlen Urban	*Lancaster*
St. Louis	Louis LeBaume	*St. Louis*
St. Paul	C. H. Johnston	*St. Paul*
Tennessee	Bayard S. Cairns	*Memphis*
Texas	Clarence C. Bulger	*Dallas*
Utah	Leslie S. Hodgson	*Ogden*
Virginia	Philip N. Stern	*Fredericksburg*
Washington, D. C.	Louis Justement	*Washington*
Washington State	George Gove	*Tacoma*
Wisconsin	Peter Brust	*Milwaukee*

Chapters not represented—Montana, Toledo, West Virginia.

[1] As the membership of this and the three following committees was not complete at the issuance of the Anniversary they are here printed for reference.

[2] Deceased.

Committee on Historic Monuments

Fiske Kimball, Chairman, New York City

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Connecticut	George Keller	*Hartford*
Dayton	Clifford C. Brown	*Dayton*
Erie	Frank A. Shutts	*Erie*
Florida	Miss Ida Anne Ryan	*Orlando*
Georgia	Francis P. Smith	*Atlanta*
Indiana	Albert A. Honeywell	*Indianapolis*
Iowa	Frank E. Wetherell	*Des Moines*
Kansas City	Harry S. Bill	*Columbia*
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Colorado	George H. Williamson	*Denver*
Columbus	Howard D. Smith	*Columbus*
Connecticut	Geo. Herbert Gray	*New Haven*
Dayton	Howard W. Germann	*Dayton*
Erie	William F. Frank	*Erie*
Florida	V. Earl Mark	*Jacksonville*
Georgia	Francis P. Smith	*Atlanta*
Indiana	Merritt Harrison	*Indianapolis*
Iowa	George M. Kearns	*Ottumwa*
Kansas City	Courtlandt Van Brunt	*Kansas City*
Kansas	Lorentz Schmidt	*Wichita*
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Oregon	Joseph Jacobberger	*Portland*
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Structural Service Department

LEROY E. KERN, *Technical Secretary*

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.

Annual Convention of the American Society for Testing Materials

(Report by Thomas Nolan, F.A.I.A., Delegate of the American Institute of Architects.)

I. A brief statement of the purposes and functions of this society, as far as they are concerned with the work of the architect in building construction. The American Society for Testing Materials is a national technical society organized for "the promotion of knowledge of the materials of engineering and the standardization of specifications and methods of testing." These objects are attained by the presentation and discussion, at annual meetings, of scientific and technical papers and committee reports on the properties and testing of a wide variety of engineering materials; for example, steel, iron and non-ferrous metals and alloys; cement, lime, gypsum and clay products, such as brick, building tile, concrete and reinforced concrete, sewer pipe, drain tile and refractories; paints and oils, petroleum products and lubricants, road materials, coal and coke, timber and timber preservatives, shipping containers, insulating and waterproofing materials, rubber and textiles. In addition to papers, discussions of important topics are held at each annual meeting, so that the proceedings annually contain information of exceeding value to all who produce, use or test materials of engineering.

The standardization of specifications and methods of testing is carried on solely through the activities of some 40 representative committees appointed to study the properties of the various materials and products mentioned above. The committees are organized and conduct their work under prescribed regulations. The membership on committees dealing with subjects having a commercial bearing is evenly balanced between producers and non-producers of the materials or finished products within the province of the committee, although the non-producing interests may predominate with the consent of the producing interests. Adoption of all standards is by action of the Society upon recommendations contained in the annual reports of the committees.

The Society has in this way formulated 172 *standard and* 163 *tentative specifications and methods of test,* covering such products and materials as the following:

Steel Rails and Accessories, Structural and Boiler Steels, Reinforcement Bars and Wire, Steel Blooms, Forgings, and Axles, Steel Wheels and Tires, Steel Castings, Steel Tubes and Pipe, Automobile Steels, Bar and Tool Steels, Magnetic Properties of Iron and Steel, Chemical Analysis of Iron and Steel, Wrought-Iron Pipe, Bars, and Plates, Pig Iron, Cast-Iron Pipe and Wheels, Malleable and Gray-Iron Castings, Ingot Copper, Spelter, Nickel, and Lead, Aluminum Alloys, Heat Treatment of Steel Objects, Copper Wire and Cable, Brass and Bronze Products, Babbitt and Solder Metal, Chemical Analysis of Non-Ferrous Alloys, Cement, Brick, and Hollow Building Tile, Drain Tile and Sewer Pipe, Lime, Gypsum, and Gypsum Products, Refractories, Concrete and Concrete Aggregates, Oils, Shellac, and Pigments, Petroleum Products and Lubricants, Road Materials, Coal and Coke, Timber and Timber Preservatives, Shipping Containers, Insulating Materials, Waterproofing Materials, Rubber Products, Textile Materials.

II. Papers, Reports, and Research of Interest to the Architectural Profession. The program of the twenty-sixth annual meeting of the Society, at Atlantic City, was of unusual interest. In addition to the reports of thirty-five committees, there were many valuable papers and technical discussions scheduled. The special features of the meeting were as follows:

Metals. The Endurance of Metals Under Repeated Stresses was discussed in two papers, one devoted primarily to steel and the other to duralumin and manganese bronze. The work of the Bureau of Standards in the study of Gases in Steel was described. There was a discussion on the desirability of including Chemical Requirements in Cast-Iron Specifications. A further report on Effect of Sulphur in Steel was presented by the Joint Committee on that subject.

Concrete and Reinforced Concrete. The outstanding feature was a discussion on the topic "What Properties of and Methods of Making Concrete Require Further Investigation?" Slag as an Aggregate in Concrete was discussed in one paper. Fatigue of Concrete in another; and there were two papers on the use of Calcium Chloride in Concrete.

Highways. Some of the previously mentioned papers on concrete are of direct application to highways. In the session devoted to highways there was a report on Highway Developments in Europe as an outcome of the International Road Congress. An interesting feature was a motion picture on the road test work of the Bureau of Public Roads.

Consistency. This subject has long been a troublesome one. A paper by the Sub-Committee on Consistency of Committee E-1 recorded the various conceptions of consistency and methods of test developed by the several committees, and the whole discussion was introduced by a paper treating of the fundamental considerations involved in this property of materials.

Slate. The program contained two papers on this subject, which were discussed at an A. S. T. M. meeting for the first time.

Testing. The entire meeting was replete with valuable papers and reports on methods of testing, covering such topics as babbitt metal, magnetic properties, tool steels, insulating varnishes, paints, concrete, etc.

III. Of the thirteen sessions of the four days of the convention, and of the ninety-two reports and papers, thirty-three are of special or general interest to architects.

1. *Report of Committee on Screen Wire Cloth,* presenting Tentative Specifications for Non-Ferrous Screen Wire Cloth.

2. *Report of Committee on Corrosion of Iron and Steel.* Report of further inspection of sheets in atmospheric corrosion tests and of sheets in total immersion corrosion tests. Submitting proposed tentative Methods of Determining Weight of Coating of Zinc-Coated Articles, and of Tin, Terne, and Lead-Coated Sheets.

3. *Report of Committee on Wrought Iron.*

4. *Report of Committee on Cast Iron.*

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5. *Topical Discussion: "Is It Desirable to Include Chemical Requirements in Specifications for Cast Iron?"* This discussion was introduced by papers on the affirmative and negative of the question. Affirmative: Present knowledge as to physical tests is often insufficient to definitely determine the meaning of these tests in terms of actual serviceability of the castings under practical working conditions. Owing to this lack of knowledge, supplementary chemical tests have, by practical experience, been proved necessary to secure efficient service from the castings. Negative: Except for fixing maxima for specific injurious elements, the tendency of specifying the chemical analysis of castings in addition to prescribed physical tests is strongly deprecated. Where it has been tried, the limits of the individual elements have had to be made so wide, in order not to exclude suitable castings, that no useful purpose could be served.

6. *"Alice in Modernland."* A popular talk with lantern slides, covering illustrations of prevalent absurdities in over-diversification, such as women's shoes, axes, and milk bottles, contrasted with the advances certain outstanding industrial leaders have made toward sane standardization. Particular emphasis is placed on Secretary Hoover's vision of the tremendous national importance of simplification and standardization, and on the service of the United States Department of Commerce available to any industrial group which wishes to cooperate in undertakings along these lines for individual and national advantage.

7. *The Relation of the American Society for Testing Materials to Research in Engineering Materials.* A statement on behalf of the Executive Committee presenting to the members certain considerations that have an important bearing upon research problems.

8. *Report of Committee on Steel,* submitting proposed revised Specifications for Steel Castings, and Specifications for Plates for Forge Welding, flange and structural quality; also, minor revisions in a number of steel specifications. New Developments in Electric Telemeters describes a carbon resister suitable for many engineering measurements, including the measurement of strains such as are encountered in steel structures under either steady or live loads. Describes some remote-reading and remote-recording features and contains data on field and laboratory tests.

9. *Symposium on Consistency.* The purpose of this Symposium was primarily to secure contributions that would lead to some better understanding of that property of materials commonly designated by the term "consistency," with particular reference to the more or less conflicting usages of this term in different fields covered by the Society's activities. Information brought out in this Symposium will be immediately useful to the Committee on Methods of Testing, which has charged itself with a general study of consistency.

(1) Introduction: A Discussion on Consistency.

The Symposium was introduced by a paper discussing the fundamental considerations involved in such properties as "consistency" of materials. It was proposed to define "consistency" as that property of matter by virtue of which it resists the relative motion of adjacent component parts (flow). It should not be confused with surface phenomena, such as smoothness, roughness, dryness, wetness, tackiness, nor their effect upon testing methods or machines. Recorded measurements of resistance to flow show this resistant force to be analyzable into two factors:

First, that resisting the start of flow, and second, that which resists established flow at a given rate. It was proposed to call this latter force the "yield value." The following theory was put forward, not as complete but as covering a great portion of the field: The presence of "yield value" may be attributed either to the forces of molecular orientation or to the surface tension forces existing between the several phases that constitute a mass. The testing of metals, rubber, paint, and the common so-called plastics were reviewed in the light of this theory.

(2) Résumé on Consistency: Nomenclature and Methods of Testing. Prepared by the Sub-Committee on Consistency, Plasticity, and Related Properties. This sub-committee has prepared a résumé of the definitions of "consistency" and related properties, and the methods of test, including the apparatus used, that have been adopted by or are in general use in the several committees of the Society. It was desired, through this paper, first, to make available the results of research conducted by some of the committees during this year, and second, to present to the Society an account of the difficult problems which the sub-committee is facing.

The résumé, following a brief introductory statement, contained contributions from the following committees of the Society: On Lime, on Concrete and Concrete Aggregates, on Gypsum, on Petroleum Products and Lubricants, on Road and Paving Materials, and on Waterproofing Materials.

10. *Report of Committee on Road and Paving Materials.* Recommending for advancement to Standard Specifications for Broken Slag and for Block for Granite Pavements. Presenting new Tentative Specifications for Asphalt Cement for Sand-Clay Mixtures and for Broken Slag for Bituminous Macadam and Bituminous Concrete. Presenting tests for Bitumen Insoluble in Carbon Tetrochloride and for Soluble Bitumen. Submitting revisions of a number of specifications and methods of test relating to road materials.

11. *Highway Developments in Europe.* An informal report, by the Director of the Advisory Board on Highway Research, on the recent International Road Congress held in Spain, and on European Highways in general, with particular reference to road materials.

12. *Motion Picture: "Tests for Better Roads."* This motion picture, furnished through the courtesy of the U. S. Bureau of Public Roads, illustrated investigations of the Bureau at Arlington Farms, Washington, D. C., with regard to subgrade and tests of road slabs of different designs under impact of a heavy machine designed to give the same impact as a heavy truck. It showed two circular tracks in operation, one designed to throw light on the stability of different kinds of bituminous mixtures, and the other a test of the wearing qualities of Portland-cement concrete having a wide range in quality.

13. *Report of Committee on Waterproofing Materials,* presenting new Specifications for Asphalt Mastic, for Bituminous Grout, for Felted and Woven Cotton Fabrics and for Burlap for Use in Waterproofing. Submitting revisions of present specifications and methods of test for waterproofing materials.

14. *Report of Committee on Timber.* The committee has cooperated with the Central Committee on Lumber Standards formed during the past year through joint action of the National Lumber Manufacturers' Association, the U. S. Department of Commerce and Agriculture, and the various national technical and trade associations.

15. *A Fungus Bed Test of Wood Preservatives.* Introduced by a brief résumé of the tests described in an earlier paper, with a description and analysis of all the preservatives used, together with the amount of preservative on each specimen. About 30 preservatives were used, applied to four different kinds of wood by three methods of impreg-

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nation. The paper gave tabulations and diagrams of the results of annual inspections since the tests were started in 1914.

Motion Picture: "From Bale to Cloth." This motion picture, furnished through the courtesy of Saco-Lowell Shops, Boston, Mass., outlined the processes of manufacturing fabrics from the cotton in its raw state to the finished product.

16. *Report of Committee on Preservative Coatings for Structural Materials.* Submitting New Tentative Methods of Testing Oleo-Resinous Varnishes, and Methods for Specific Gravity of Pigments. The report contained the result of an extended series of tests of varnish. An inspection of panels in the tests on Preparation of Iron and Steel Surfaces for Painting was reported. The investigation on Anti-Fouling Paints has been continued during the year, and the report contained the results of an inspection of panels exposed at Raritan Bay, N. J., and at Norfolk, Va.

17. *Report of Committee C-1, on Cement.*

18. *Late Data on the Effect of Finer Grinding and a Higher SO_3 Content Upon the Physical Properties of Portland Cement.* Final report on a number of tests discussed in a paper presented in 1915. A number of commercial cements were finer ground and some of them contained higher SO_3 contents. The customary physical tests were made. In general, cements are not deleteriously affected by the use of SO_3 to the extent of 2.5 per cent and are improved by finer grinding.

19. *Report of Committee on Nomenclature and Definitions.* Reporting progress made in coordination of definitions of terms. Tentative definitions of terms relating to Hollow Tile, Lime, Gypsum, Textiles, Coal and Coke, Metallography and certain miscellaneous terms have been reviewed by the committee and recommendations submitted to the respective standing committees.

20. *Report of Committee on Brick.* Recommending the advancement to standard of the Tentative Specifications for Clay Sewer Brick. Report on further recommendations of the Department of Commerce Conference Committee on elimination of excess variety of sizes and shapes in vitrified paving brick.

21. *Report of Committee on Hollow Building Tile,* recommending for adoption as standard the Tentative Definitions of Terms Relating to Hollow Tile, as revised.

22. *Report of Committee on Refractories.*

23. *Report of Committee on Clay and Cement Sewer Pipe,* submitting revisions of the Specifications for Clay and for Cement-Concrete Sewer Pipe.

24. *Report of Committee on Drain Tile.* Description of work accomplished in a study of the deterioration of concrete in alkali soils. Report on the standardization of drain tile sizes. The report contained recommended revisions in the Specifications for Drain Tile.

25. *Report of Committee on Gypsum,* submitting Tentative Specifications for Gypsum Partition Tile, and some revisions of tentative standards. Presenting reports on volume changes in gypsum, on fire resistance of gypsum, and on microscopic determination of gypsum.

26. *Report of Committee C-7, on Lime,* presenting a method for the measurement of consistency of lime pastes. Submitting revisions of the present Tentative Methods for Sampling Lime.

27. *Topical Discussion: Slate.* It was suggested that the importance of slate as an engineering material justifies the organization in the Society of a standing committee on Slate. A general discussion of the subject by representative producers and users was therefore planned. The National Slate Association was officially represented and contributed to the discussion. The discussion was introduced by the following three papers:

(1) The Characteristics of Slate. Slate defined and briefly described. There was a discussion of desirable standards and tests in some detail under the four headings of roofing, structural, blackboard, and electrical slates.

(2) Electrical Slate. Reviews of some of the more important applications of slate for use in electrical apparatus, the requirements for a good electrical slate, and the characteristics of typical slate. Discussions of the various tests for electrical slate.

(3) Insulation Tests of Slate for Electrical Use. Descriptions of the early methods of testing the insulation of electrical slate and the development, characteristics of, and results obtained by a new method of making insulation tests.

28. *Report of Committee on Concrete and Concrete Aggregates.* This contained a brief review of the status of the standards and tentative standards for which the committee is responsible, and submitted a revision of the coarse aggregate section of the Tentative Specifications for Concrete Aggregates. A report on cooperative tests on accelerators (of the hardening of concrete) conducted by nine different laboratories during the past two years under the auspices of the committee was included.

29. *Report of Committee on Reinforced Concrete. Blast Furnace Slag as an Aggregate in Concrete.* These described the methods used in the production of slags and gave the results of tests made on slag produced at over 30 plants, including the unit weight determination of each size of material. The results of routine chemical and physical tests were presented. The fabrication and testing of cylinders and blocks for compression and wear, respectively, were described and the results of tests at one and six months were given.

30. *A Penetration Test for the Workability of Concrete Mixtures, with Particular Reference to the Effects of Certain Powdered Admixtures.* This described an instrument designed to distinguish workability from flowability or consistency of concrete and illustrated its use in showing the effects of various powdered admixtures in concrete with results that have not heretofore been obtained. The relative effects of additions of Portland cement, hydrated lime, kaolin, and diatomaceous earth can be very approximately determined. The workability was shown to depend upon segregation and lubrication, and varied only moderately with consistency or flow. It is more dependent upon the aggregates than the water and is maximum at medium wet consistency.

31. *An Investigation in the Use of Calcium Chloride as a Curing Agent and Accelerator of Concrete.* The problem of curing concrete pavements without the use of water prompted a number of investigations in curing. In conjunction with these experiments, tests were made incorporating various materials in the mix to develop quick set and early strength. The curing investigations proved that calcium chloride sprinkled dry on the surface would produce excellent results. In many cases the calcium chloride slabs showed greater strength at the end of 14 days, than did the wetted dirt-cured specimens at the end of 30 days. In the incorporated calcium chloride investigations 2 per cent of the chemical by weight of cement produced excellent results in securing a quick set and early strength.

32. *Fatigue of Mortar.* A machine was described in which a series of experiments undertaken to gain some

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information upon the ability of cement mortar to withstand repeated loads was carried out by the Engineering Experiment Station at Purdue University in cooperation with the Bureau of Public Roads. The machine is so constructed that one to four cantilever beams may be tested at one time. Results of the tests and conclusions drawn therefrom were included.

33. *Symposium: What Properties of and Methods of Making Concrete Require Further Investigation?* A discussion of the requirements of concrete to meet the many varieties of service conditions. What can be learned from behavior of Actual Structures?

The behavior of outdoor concrete is today a subject of especial interest and significance to the engineer, contractor and owner of concrete structures, and to the general public as well. Its importance has been recognized by the Society's Committee on Concrete and Aggregates in the study now being given to the conditions affecting the durability of concrete in structures. It seemed desirable, therefore, to hold this Symposium and thus to provide opportunity, under the auspices of the Society, for enlightened discussion, and constructive criticism of concrete in structures. The introduction sounded the keynote of the discussion. The constituents of concrete and methods of making were considered in the light of service requirements, followed by a discussion of the behavior of concrete under various service conditions.

The underlying purpose of the entire Symposium was to arouse engineers and architects to the need of further intensive study of concrete as a material.

(1) Introduction. This Symposium was an attempt to get away from the view of concrete as a combination of cement, sand, stone, and water which possesses certain physical properties to be studied, and to look at it in detached fashion as a material to perform a service.

With the increase in the use of concrete as a material of construction, there has naturally been an improvement in the technique of its manufacture. It is, however, a complex material, most susceptible to variation in the constituents and the process and subjected to a variety of service conditions. No other structural material has had so great an INDUCTIVE study, which has formed the basis for the developing science of making concrete. In our interest in the test, however, there is danger of losing sight of the end for which the test is planned. We are failing to record the behavior of the actual structure and to tie up such behavior both to the tests and to the facts that these tests indicate. This discussion, therefore, emphasized the need of a DEDUCTIVE study of concrete.

A great deal of existing concrete falls short of the expectation of its designers in appearance and in structure, caused not by unexpected or undue load or wear, but by natural exposure to the elements and reactions in the concrete itself. Study of such examples, in the spirit of constructive criticism, may reveal basic errors which can be avoided in the future.

THE DISCUSSION OF THIS SUBJECT WAS HELD UNDER THE FOLLOWING SUBDIVISIONS:

(2) Quality of Materials:

(*a*) *Cement.* The properties that Portland cement must have to meet service conditions were critically discussed, and instances were pointed out where trouble with concrete is believed to be due to the cement. Investigations of certain properties were suggested, and the need was pointed out for developing cements having properties making them especially suited for specific service requirements. Methods of production and their relation to the finished product were briefly discussed, and the author urged "Concrete for Study" as a thought to be kept before us in the future.

(*b*) *Aggregates.*

(3) Methods of Making Concrete:

(*a*) *Proportioning and Mixing.* Certain limitations of recently advocated methods of proportioning concrete were mentioned. More exact methods of measuring the raw materials of concrete should be studied, and it was pointed out that inherent errors in measuring produce undersanded and permeable concrete, more susceptible to the action of destructive agencies. Large-scale experiments on mixers of different makes and different capacities were advocated, and the influence of plant layout on proportioning and mixing concrete was suggested for study.

(*b*) *Relation Between Consistency and Strength of Concrete.* Tests under the auspices of the Joint Committee on Concrete and Reinforced Concrete to determine the practicability of the several recommendations in the tentative specifications of the Joint Committee were described. (The results of the tests were not ready for presentation.)

(4) Progress in the Study of Reinforced Concrete by Joint Committee on Concrete and Reinforced Concrete. This was a brief statement of the Joint Committee's work during the past year and its plans for the coming year.

(5) Behavior of Concrete Under Service Conditions:

(*a*) *Mass Concrete.* The behavior of mass concrete as observed in large dams by the U. S. Reclamation Service was described under the following headings: alkaline action, temperature changes, distortion under pressure, and wear of concrete under high velocities.

(*b*) *Concrete Exposed to Atmospheric Conditions.* The author expressed the belief that much of the trouble with concrete structures exposed to atmospheric conditions can be avoided if specifications are drawn and construction is handled with a view to producing concrete with the qualities necessary to meet the demands of the particular service. Too often strength is used as the principal guide, with little or no thought to other requirements, such as impermeability. Several examples were cited as illustrations.

(*c*) *Concrete in Roads.* The service of concrete in roads as observed over the entire country was discussed under twelve headings descriptive of various types of failures, due to such factors as subgrade, materials, methods of construction, atmospheric conditions, and traffic. Emphasis was laid upon the importance of proper design, materials, and methods of construction, and proper inspection on the job.

(*d*) *Concrete Exposed to Sea Water.* The author divided the deterioration of plain and reinforced concrete exposed to sea water into two classes: (1) deterioration resulting from corrosion of reinforcement, and (2) disintegration of the concrete itself. The general nature of these two types of disintegration was described. The conclusion was stated that there is needed an organized investigation into the means of prevention of attack of sea water, involving some fundamental research.

(*e*) *Concrete Exposed to Alkaline Conditions.* A very general summary was given of investigations of the effect of so-called "alkali" soils upon concrete, which are considered to have demonstrated that disintegration under these conditions is primarily a chemical action of sulfate salts. Two types of studies that are being made to discover means for eliminating the possibility of disintegration in future work were referred to. The author believed that the final settlement of the problem is dependent upon the modification of, or some addition to, Portland cement, to make it immune to such action.

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A residence at Longview, Washington—A. N. Torbitt, architect

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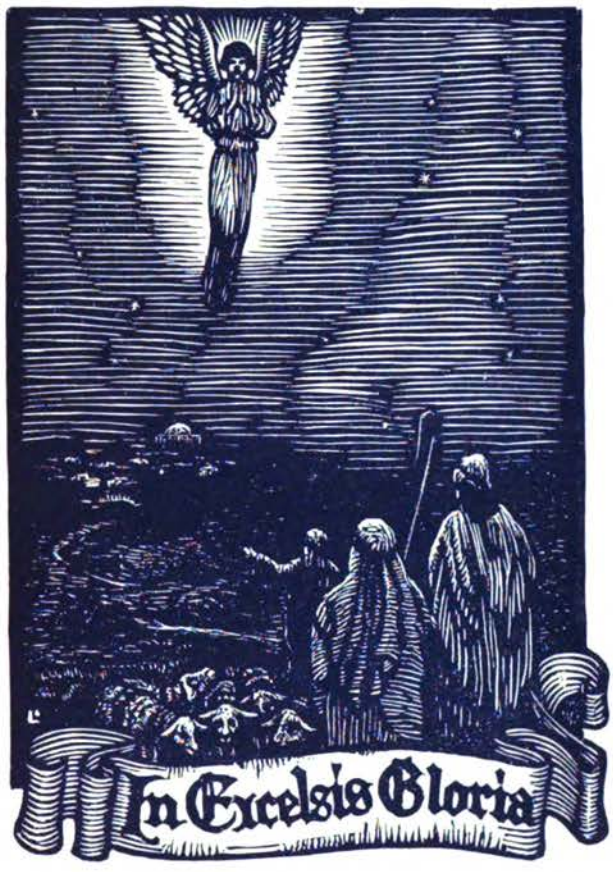
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THE JOURNAL OF THE AMERICAN INSTITUTE OF ARCHITECTS



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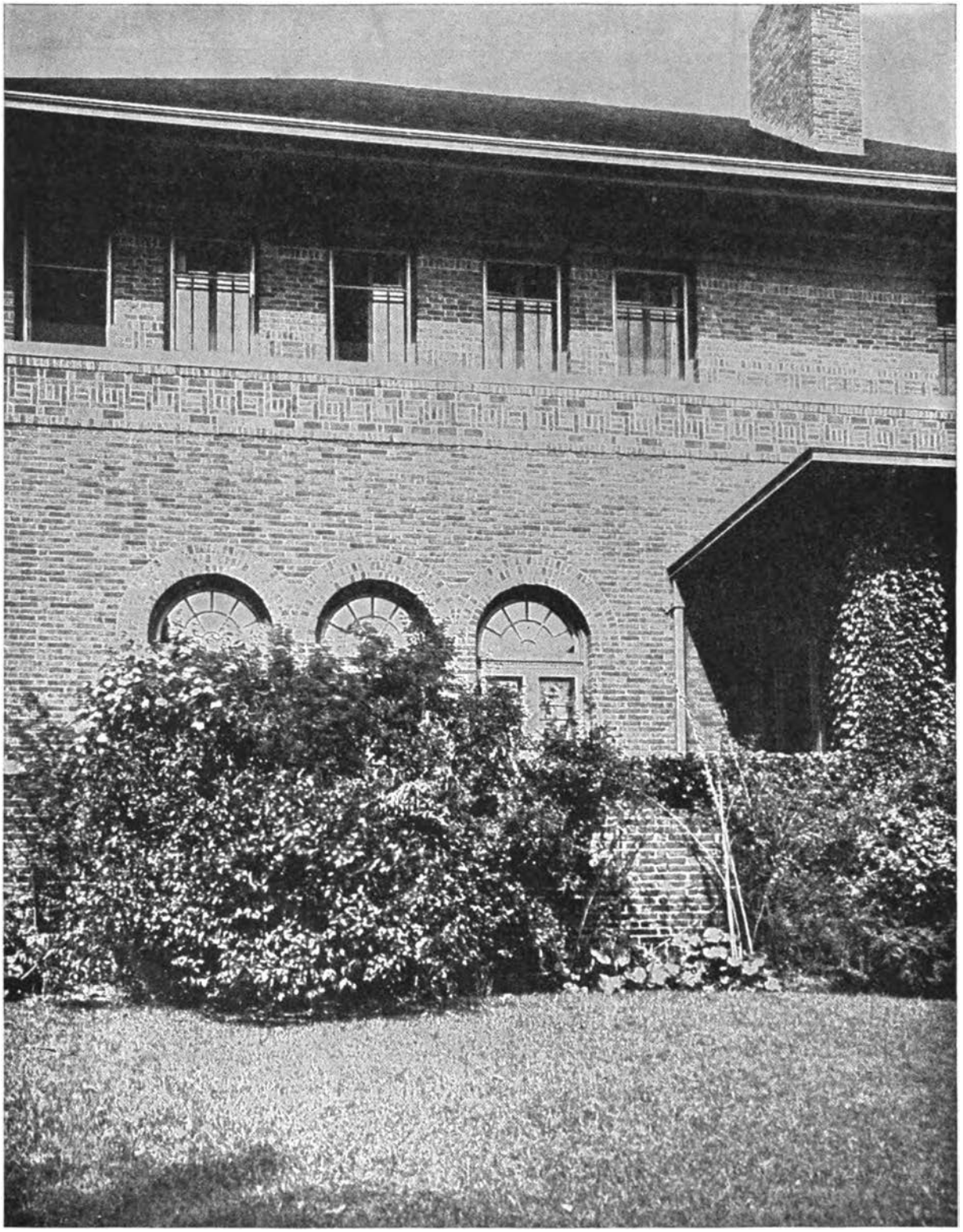
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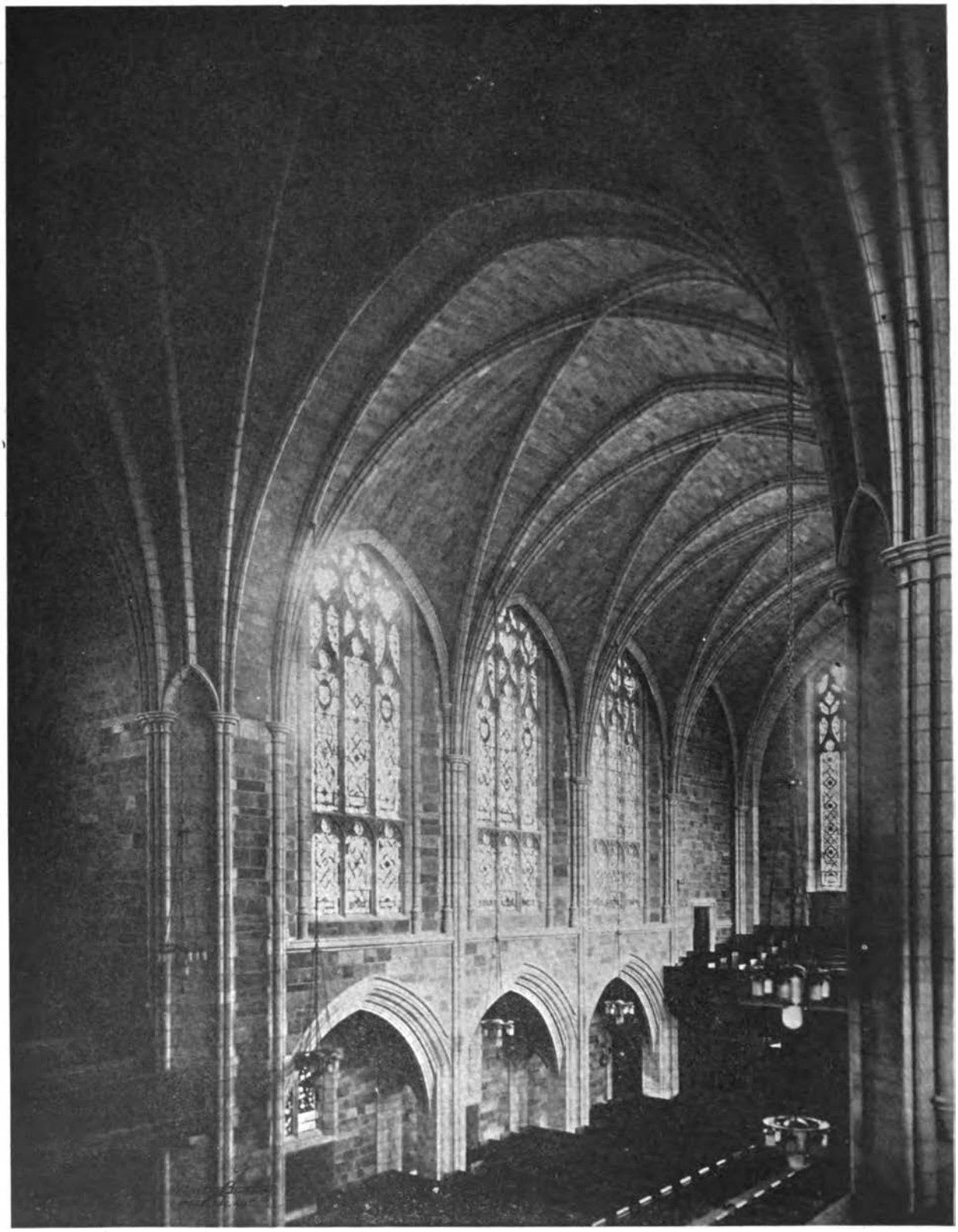


Detail of Residence, Evanston, Illinois. Perkins, Fellows & Hamilton, Architects

A DOUBLE stretcher Flemish Bond is seen in the field of this charming detail. The threefold rowlock arches and the exquisite pattern work in the broad belt course below and the wall above the windows show a fine treatment of brickwork. In "Architectural Details in Brickwork" you will find many other examples of artistic brickwork in which only standard brick are used. The half-tone plates, issued in three series, each in an enclosed folder ready for filing, will be sent to any architect requesting them on his office stationery.

Address, American Face Brick Association, 1750 Peoples Life Building, Chicago, Illinois.

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BERTRAM G. GOODHUE, *Architect*

FIRST CONGREGATIONAL CHURCH, MONTCLAIR, N. J.

Ceiling vault in random size Rumford Acoustic Tile in connection with random size Rumford Acoustic Blocks used on the side walls. Constructed by R. GUASTAVINO CO.

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After the Painting by H. M. Bonnell

THE PAGEANT AT THE PRESENTATION OF THE GOLD MEDAL OF THE AMERICAN INSTITUTE OF ARTHITECTS TO HENRY BACON, F.A.I.A., ARCHITECT OF THE LINCOLN MEMORIAL, 18 MAY, 1923

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JOURNAL OF THE
AMERICAN INSTITUTE OF ARCHITECTS

Volume XI DECEMBER, 1923 Number 12

The Parable of the Master Builder

By THE SHIP'S CARPENTER, F.A.I.A.

"Unto us a Child is born."
Isaiah, IX, 6.

"We have seen his star in the East."
Matthew, II, 2.

"God bless us, every one!"
Tiny Tim.

What have we architects to do with Christ? For the sake of brevity let us grant that we have everything to do with Him. The Christ philosophy is at the root of all constructive thought, and the examples of the Great Teachers of conduct are still without a rival. They have been argued about and fought over. Their influence has made saints and heroes. They are the Great Figures in history. Today thoughtful men in the western world are abandoning their faith in abstract theories of evolution and progress, and are harking back to their Christ Jesus of Nazareth for inspiration.

The Great War showed to the world, in colossal scale, the weakness of materialism, and the futility of faith in mere science.

The hope had been that science, by calling into being more and more deadly agencies of destruction, would make war inherently impossible. But science is already at work on still more destructive agents and the horrible engines of 1918 are being "scrapped" to make way for the more horrible ones of—when?

The hope had been that the machine would liberate the worker, but it is evident that it has brought about a condition that means slavery of a singularly dehumanizing type.

The hope had been that education would prove a panacea by liberating the minds of men, for have we not all believed that "The Truth shall make you free"? But education has been developed into a vast system which, when carried to its logical conclusion, will make the teacher the paid hireling of the prevailing Privilege, and the pupil the stereotyped dupe of a blind pseudo-philosophy.

The hope had been that unrestricted speech and press would set free great and inspiring movements toward "the uplift (favorite word) of society." But the press reflects the thought and the will of its owners; organized propaganda is more potent than individual effort, and the result of it all is that the thought of the world has disintegrated.

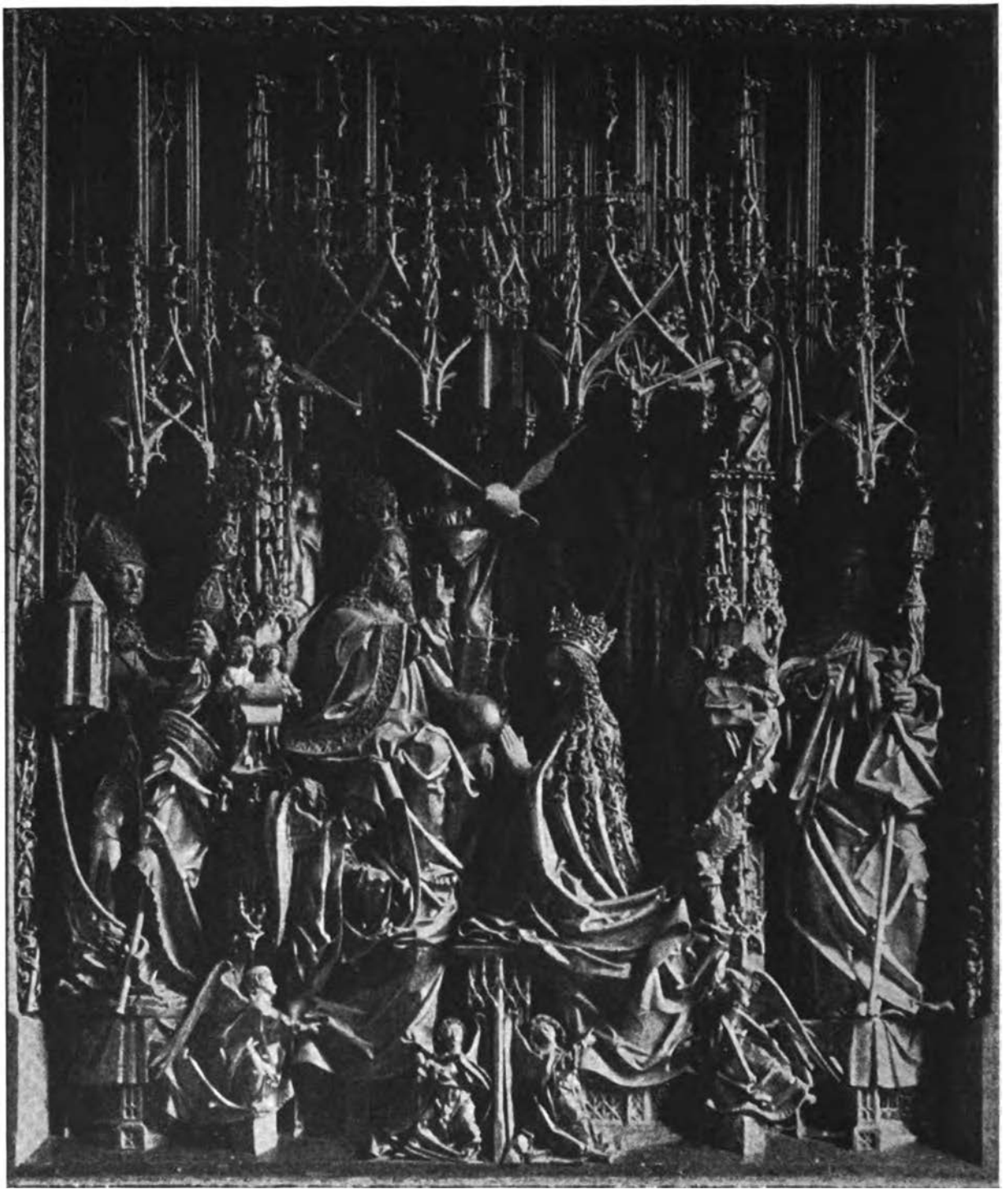
We have lost what an English philosopher aptly calls "the Common Mind." We have agreed to disagree on every vital point and the effect is confusion and discord. At Christmas men draw together instinctively and clasp hands. Agree with me, then, for a moment, that a star shines on Christmas eve that shines not again for another year. Give assent to the further statement that to some folk the starshine is an illusion, to other folk it is a challenge and a judgment, and yet to other folk it is forever as "a little candle shining in a quiet place."

When the first Christmas eve had lighted up the tiny flicker of that star, a few Judean shepherds and three eccentric Oriental persons saw it. As the years fled on successive generations claimed to have seen the star, and told their children and their children's children of its miraculous shining.

Now it came to pass that it was said of the star that no man saw it save he who possessed wisdom. Other men said that no man saw the star save kings and the sons of kings. A minority always averred that he who had love in his heart saw the shining beams, and that none other could even glimpse a single ray. It became known to those who live close to the center of things that when a man had really seen this wonderful star he became as one marked and set apart forever.

Ye have not heard that a certain Master of the Art of Building, no less, on a Yule-tide ages agone was suddenly stricken as it were blind, and in the midst of his darkness was what seemed a star shining wondrously? In the mind's vision he beheld a little child of surpassing loveliness. But the child was weeping with a mighty sorrow. And he tried to comfort the

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THE REREDOS—ST. WOLFGANG'S
By Michael of Bruneck

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child, but the child would not. And he bethought him mightily for pleasing words and smiles and merry laughter, but his own heart was heavy and he was as one made dumb.

Now since he knew naught but buildings he tried to fashion a noble structure for the child. He caused the little men of the earth to fell trees and to dig, and with great machines and roaring they mixed stones and finely ground substances which took form as great blocks of wondrous hardness. He commanded the hewers of wood and the artificers thereof to assemble, and they fashioned curiously carved posts and beams and great timbers of strong fibre. He summoned also the workers of metal and the ingenious men of all crafts to do what was needful, and it seemed that they knew his mind. He needed but to say: "Make!" and it was made. Now all this took place within the span of a dream.

But the child still wept and it came upon the mind of the Master-Builder that his work was futile. He saw it not as a simple act, but as a complicated turmoil of futility, with no inner and but little outward relation. It was clever and sophisticated. But it was not real. It had no grace of the spirit.

So the Master-Builder bowed his head, and passed silently into the night, and a wind stirred the black tree-tops. Then it was that he heard a voice which spoke from within himself saying ancient words. And these words were the two Great Commandments of the Law, known of old. It came into his mind for the first time that these words were meant for him, a Master-Builder. And he knew presently that the child had wept because the builders and the artisans and the makers of all manner of things and the doers of all human deeds had not put the love of God and the love of their fellowmen into their work and their doings.

In the days that followed he gave over striving for money and fame and pleasure. It is said that he continued to work for the sake of the joy he found in trying to create buildings that were both serviceable and lovely. As he waxed old he traveled far, and passed into many countries, and wherever he worked Art was born.

And it came to pass that he died and was gathered to his fathers, and became a legend, and the spot where he was buried was made a matter of dispute between cities that no longer knew him. Nowadays no one knows where he lived or what ways he trod, and science has laid its hand on his work and pretended to men that the Art of building can exist as a thing apart from their love and joy.

But I have heard the story, and have plucked a flower from the grave of one who once told me that nothing else mattered but to fill Life and Work with a mighty desire for Truth, an intense hunger and thirst after Righteousness, and a flaming love for all the little people of God.

Michael of Bruneck

His Masterpiece

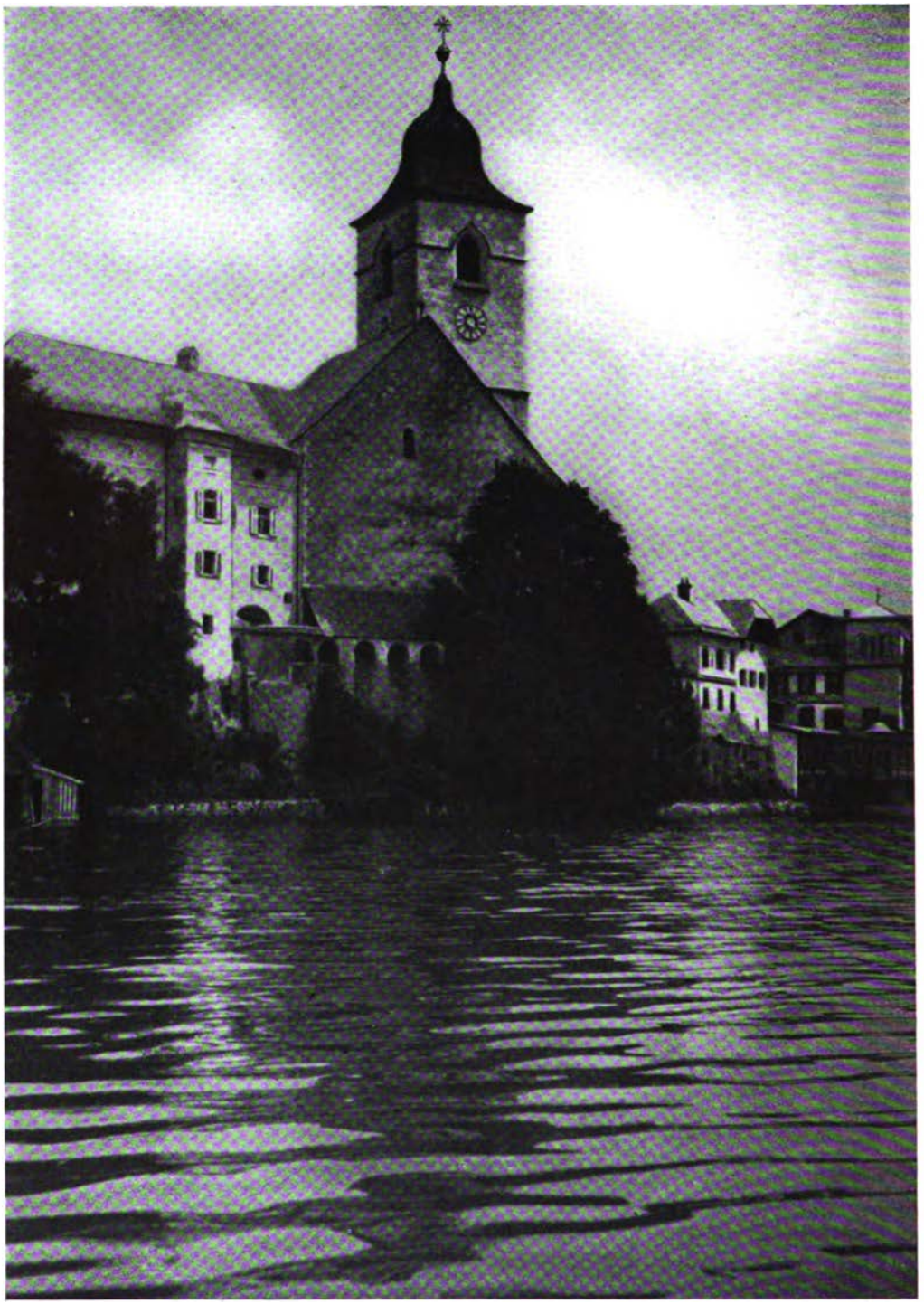
On the shore of Wolfgangsee, a lake of jade blue surrounded by a settlement of tiny houses in tan, gray, white and green, all jumbled together without the slightest regard for arrangement, stands the ancient village church of St. Wolfgang. Its exterior, apart from the fact that the tower is not capped with the whimsical Baroque ornament, so general with the Austrian churches, is not unlike many others. Its outside walls, which are of great thickness, have been washed over in a shade of creamy yellow in delightful harmony with the blue of the lake lying immediately below, across the still surface of which it casts its full colored reflection.

In striking contrast with the simple and severe lines of the exterior of the church is the south portal. This is of red marble and its horizontal and vertical members are elaborately carved and polished like onyx. It is a remaining fragment of a very ancient monastic church which, before 1420, was a dependency of the nearby Benedictine monastery at Monsee. Twice before that year the St. Wolfgang church was destroyed by fire and the present building was begun by Abbot Reichlin some time between 1420 and 1463; but at his death it was completed by his successor, Benedict Eck, who was abbot of the monastery from that year until 1499.

Upon entering the church one is distracted by a conglomeration of odds and ends and what-not. A gilded Baroque altar, painted, jeweled and bedecked with garlands and cherubs; festoons of flowers, and candle-lighted shrines bring a feeling of disappointment. But when one reaches the apse all else is forgotten, for there stands an altar than which I have seen none more beautiful, nor of greater dignity and delicacy of execution. It is the work of a master painter and carver of the fifteenth century, Michael Pacher (of Bruneck).

"Benedictus Abbas in monsee opus fieri fecit ac complevit per magistrum Michaelem pacher de prawneck, Anno Dm MCCCCLXXXI." Thus runs the inscription on one of the wings of the reredos the order

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ST. WOLFGANG'S—WOLFGANGSEE

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for which was given in 1471 and among the archives of the city of Linz there is still to be seen the original contract made between Abbot Benedict and Michael of Bruneck.

That it was considered a work of momentous importance at the time in which it was executed is certain. Before the order was given the artist came to Monsee and submitted sketches of his projected work, and the contract, later entered into, provided for the transportation of both carvings and paintings at the expense of the artist, over the Brenner Pass to Hall, in Tirol; and from there down the River Inn to Brannan. At this point the abbot assumed the responsibility for their carriage upon the condition that the artist should assemble the whole and set it up in the church of St. Wolfgang. The exact size of the reredos is, in accordance with the original contract, eleven meters high and three meters wide, with wings extended six and a half meters.

The center shrine represents the crowning of the Blessed Virgin and is carved from wood, and upon each exquisitely sculptured face there is a fineness of expression that could come only from the hand and mind of a master. The strength and beauty of the enthroned Christ and the completed suffering of the Virgin Mother are shown with the skill of an artist who, not only loved, but lived his work. At the extreme right and left of the group, within the center frame, are the figures of St. Wolfgang, bishop and founder of the church, and St. Benedict; and at the outer sides of the shrine are the figures of St. Florian and St. George.

Beneath the central carving, and immediately at the back of the altar, is the predella which, on account of its smallness, is quite as wonderful in its detail and in the portrayal of its subject, the Adoration of the Magi.

Suspended at either side of the shrine itself are two hinged screens, or wings, containing sixteen pictures in which the artist has, with the exception of two representing St. Wolfgang as the founder of the church, depicted twelve scenes from the life of Our Lord. The Nativity, the Circumcision, the raising of Lazarus, Jesus driving the money changers from the temple and others are of unusual interest as showing the artist's treatment of architecture in the fifteenth century and from the standpoint of drawing and color. These have apparently suffered little from the ravages of time. On the contrary, they have taken on with the years a softness and harmony which is a delight to the eye.

The other works of Michael of Bruneck, although numerous, are widely scattered throughout Austria, and a few are in Germany. Two panels by him, formerly parts of St. Michael's altar in the parish church at Bozen, are now in the Staatsgalerie in Vienna. His masterpiece, however, is the reredos at St. Wolfgang.

STEWART F. CAMPBELL.

The Church at Nara

It is a matter of history, is it not, that each of the many races of the world, as it has come into Christendom—whether it was the Byzantine, the Italian, the Scandinavian, the Russian, the French, or whatever—has evolved its own peculiar style of ecclesiastic architecture? And many of the forms of these same styles originated, did they not, in sources quite outside of Christendom,—in truth, came down from times far antedating it? No less familiar examples than the classic orders of the Wren churches, and of great St. Peter's, were originally reared to the glory of other gods of the Romans, the Athenians, and the Ephesians. And yet they have not since been thought unworthy to grace the temples of the One God.

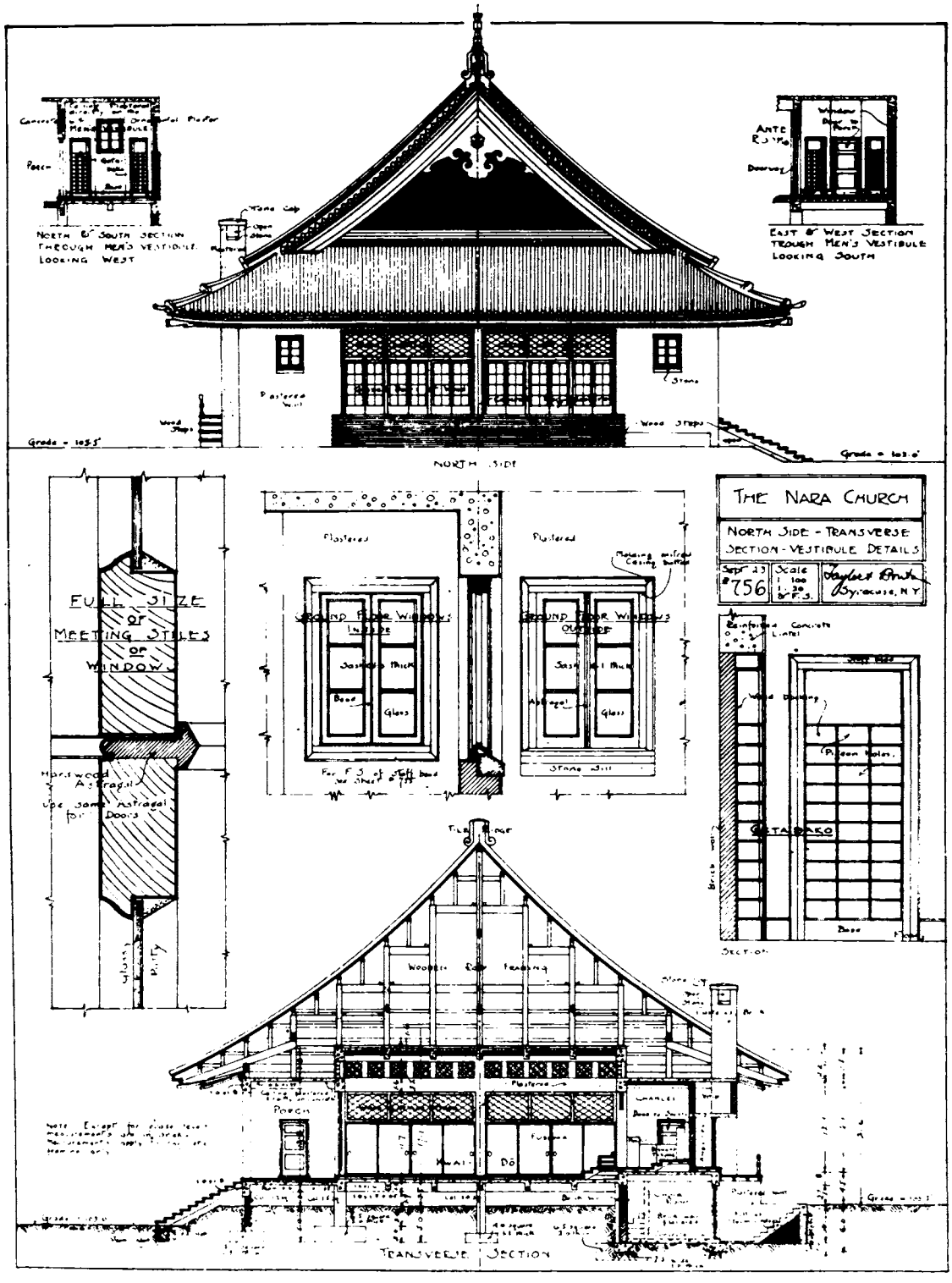
But the committee of the new church for St. John's Parish, in Nara, Japan, did not deliberately and consciously set out to undertake a native ecclesiastical style—the task was rather imposed upon them. The design for the new building is a sincere attempt on the part of its building committee to house a wholly Japanese church society in a truly Japanese edifice.

Nara is a place of pilgrimage for all loyal subjects of the emperor. In Nara Park, included within the city limits, stand ancient temples and other monuments of Eastern classic antiquity dating from times as remote as the eighth century A. D. And, cropping up here and there through the broad green carpet underneath the trees, are the remains of many other such monuments equally old. The place is a veritable Olympia of Japanese civilization. It is said that, on an average, eighty thousand pilgrims pour into it monthly. It is one of the proudest possessions of a proud race.

It is not surprising therefore that the committee of the mission board of the American Episcopal Church, was informed that any building with such a frontage adjoining the Park must conform architecturally with the classic style of these old monuments.

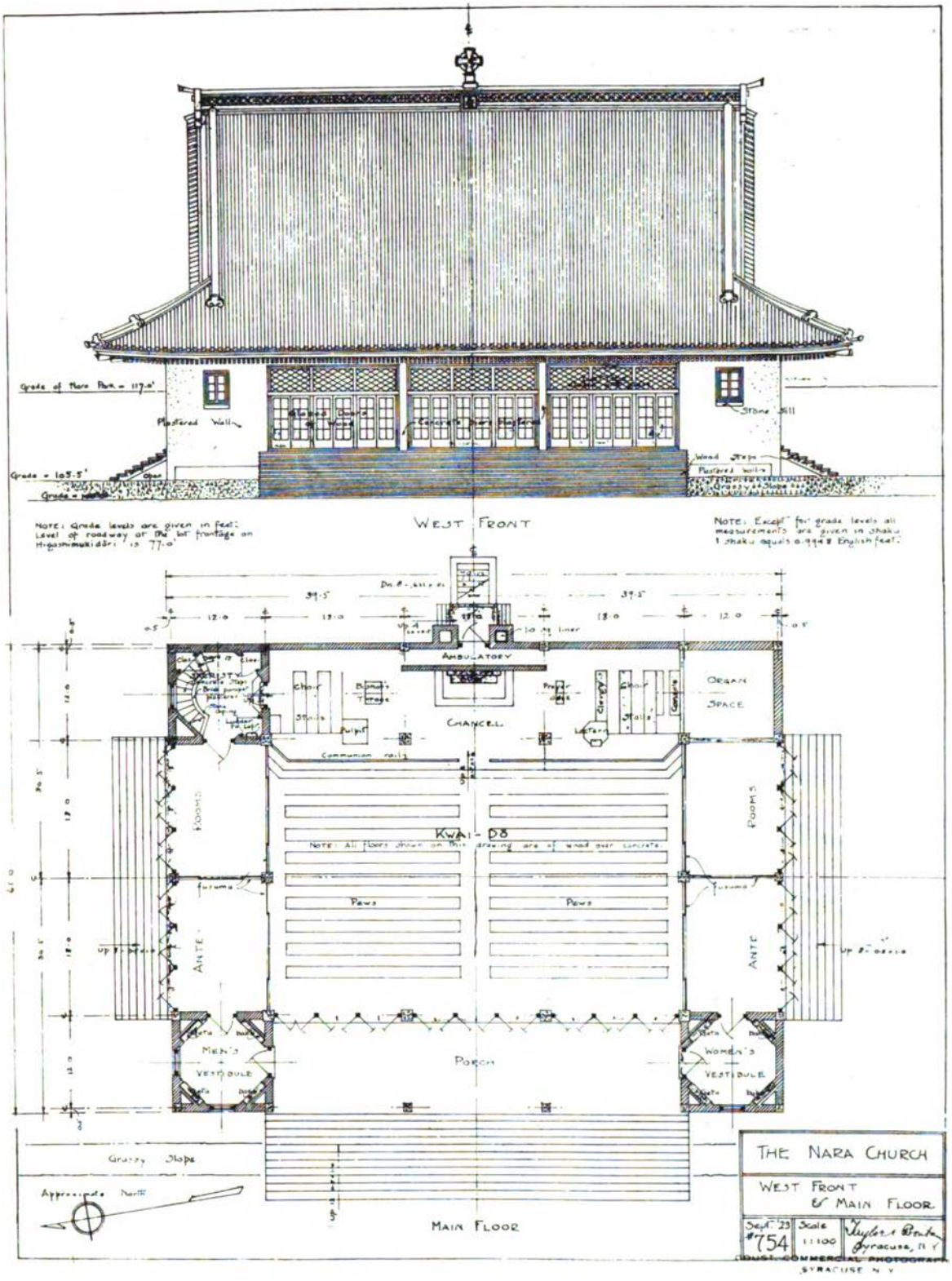
At the outset, only able to think of a church as we of our particular race have always built them since the days of the Norman William, they considered designing another of our own familiar interiors, and housing it beneath the tent-like roof of Sino-Japanese antiquity. But they were afraid that the result would prove to be neither one good thing nor the other,—and yet nothing of itself.

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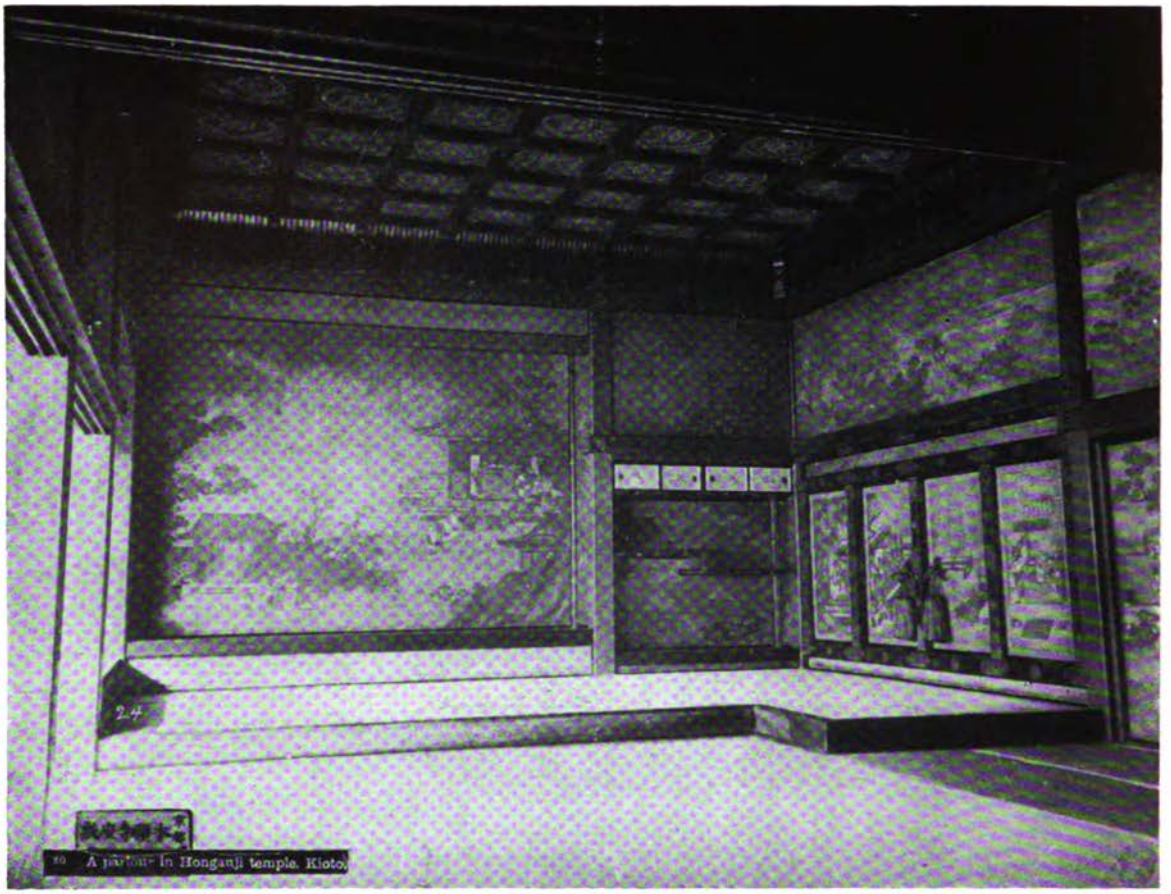
THE CHURCH AT NARA

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THE CHURCH AT NARA

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ONE OF THE ROOMS OF STATE BELONGING TO THE TEMPLE OF THE ORIGINAL VOW, KYOTO

So they determined rather to make the plan and the interior Oriental as well,—just as much so, in fact, as the necessities of modern civilization would permit—borrowing for the purpose from the plan and structural forms and details of the Far Eastern religious edifice whatever seemed to them true, and just, and pure, and lovely, and of good report.

A foreign member of the committee remembered vividly his own original impression of the Buddhist temple type. He remembered looking for the first time upon that unbroken row of doorways extending around the entire building. He recalled the great broad steps, stretching the whole length of the structure, leading up to these openings. He remembered thinking at the time that here was an expression of invitation, a symbol of hospitality, that one would look far to find in any of the many forms of ecclesiastic art in the Occident.

If this was true, there might well be other Oriental traditions of worship that the new Japanese Church could borrow for its own proper edifice. And there followed a conscientious effort to compare the classic temple design of the Far East with the ecclesiastic traditions of our own world.

It has often been said that Japan is a topsy-turvey land where everything is just the opposite from what it is with us. And it proved that there was no exception in the case of architecture—even religious architecture. It seemed as if, even in fundamental things—their every tradition was directly opposed to ours.

Aside from the roof, which is intended to be a faithful copy in all respects, the rest of the building is not classic Japanese construction at all. In fact it is very modern reinforced concrete, as being more fireproof, and less subject to decay, than the traditional wood. But the whole is intended, nevertheless, to be Japanese in spirit. For this purpose the committee has tried to delve behind the actual Japanese forms to find the principle underlying them, and, while working in a new, strange material, it has employed as the basis of all its design the old familiar (to the Oriental) flat rectangle that is the reasonable characteristic of a framed system of construction,—but that is running ahead of the story.

To begin as one logically should, with the plan, we find that in the Buddhist temple the sanctuary is found on a long side rather than, as with us, at one end of the structure. In our own world the idea of the sanctuary at the end has come down from such remote times that it would surely have been impossible for us

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A Temple at Itsukushima on the Inland Sea

to conceive of it in any other location. It was at the end of the Gothic cathedral, the early Christian basilica, the Parthenon, the temple of Solomon. It was so even in the edifices of most ancient Memphis and Thebes. For countless centuries it has stood there as an expression of the sanctity and the mystery of a God whom man can never hope fully to understand.

In the Far East, however, since the beginning of their recorded time, the sanctuary has been on the side —"in their midst," almost,—but never far from even the most remote worshippers under the roof. (And one cannot refrain from observing that this expression is not out of accord with our own present-day conception of worship here in the Occident.)

But, quite aside from the mystic aspect, there may also be practical advantages in such a location for the sanctuary. In this little church, accommodating only two hundred and fifty persons, it makes possible a communion rail over fifty feet long, at which as many as forty communicants can kneel at one time—almost a sixth of the entire number. In a church of equal capacity on an Occidental plan the rail would hardly accommodate more than twelve—only a twentieth of the whole.

With the sanctuary on the side, naturally the lectern and the pulpit are found there too. And in a room so shallow from front to back no one can fail to hear and see the priest distinctly. Such a shaped room has long been used for theaters, but no tradition of ours has permitted us to use it in churches where ritual was followed.

We pass hastily over the purely mystic aspect of the low interior—the great contrast between the towering nave of Amiens or Winchester, sublime and inspiring, and the community and intimacy of the low-ceilinged interiors of the Buddhist temple—for there are other practical advantages to be presented, such as economy of construction and economy of heating.

It is to be supposed that church builders throughout all the centuries have had to consider the additional cost of rearing such high interiors as our tradition has established. But that tradition has been a tradition of stone construction, handed down to us from Egypt, from Greece, and from the Isle of France. For the underlying basis of all stone design—just the opposite to that of wood—is the tall rectangle. Isn't this true? Do not the very words "door" and "window" recall at once to our minds openings taller than they are wide? And, starting out with these tall rectangles, our efforts to design low buildings that have dignity and are satisfying have met largely with failure.

Nevertheless, not only is the cost of building today higher than ever before, but modern standards of living demand that our interiors be comfortably heated —another potent reason to cause one to wish the more

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for some suitable low form of design for such buildings.

With the Oriental wood system to follow the present committee has been able, naturally and straightforwardly, to design a low interior in which all parts were in keeping and whose forms had been associated with ritualistic worship. They were able to do this even though they did not copy the Buddhist forms literally. As said above, they tried to borrow the principle alone—taking only the characteristic flat rectangle as the basis for their reinforced structure—allowing that structure to be evident throughout the interior and exterior—not right down to the last beam in fact, but, as they have hoped, at essential points—much as the elbows and wrists and shinbones of our human frame reassure us of the structure within.

The flat voids of this edifice proper they have filled with decorative detail. The fact that this decoration is Japanese is not essential. It is Japanese only because the building itself is to be erected in Japan, for a Japanese parish. They might equally well have filled these voids with Gothic tracery, or Byzantine forms, or Classic orders, had they been more suitable to the location and the uses of the building. The essential thing was the shape of the voids of the structure itself, and a frank acknowledgment of the framing of this structure in the finished design.

They borrowed from Sino-Japanese traditions the delicate lattices over the doorways and in the openings of the chancel; the form of the communion rail; the latticed ceilings of the "kwaido" and the ante-rooms; and the light paper-covered doors or "Fusuma" that cut off these ante-rooms, and that are so conveniently light in weight that a child can lift them in and out of place.

The screen-wall behind the altar; the cross, outside on the tile ridge; the tile-work pattern in the spaces between the concrete beams overhead; and the white plastered walls—these were all once again borrowed directly from China, whence originally came almost all the forms of Japanese building traditions.

The glazed doors, and the steps, and the solid paneled doors of the narrower openings—these were borrowed from the Occident, as there was nothing among any of their own traditional forms that was satisfactory to modern living conditions.

Above the latticed ceilings of the "kwaido" and ante-rooms it will be easy to put a thickness of hair felt to absorb reverberations if it is found necessary. But an authority on acoustics, who has already passed upon the design, has given assurance that there will be no excessive reverberation, considering the nature of the design and the construction.

The ceiling of the chancel is paneled in wood in the hope that the resonance of this material will help the hearing qualities even more. The names "men's and women's vestibules" on the plan attest that, in the Japanese service, segregation is still the rule. The "getabako" indicated here are cupboards for the storage of the wooden clogs that are worn on the street with native dress, and that have to be exchanged for straw sandals upon entering the building.

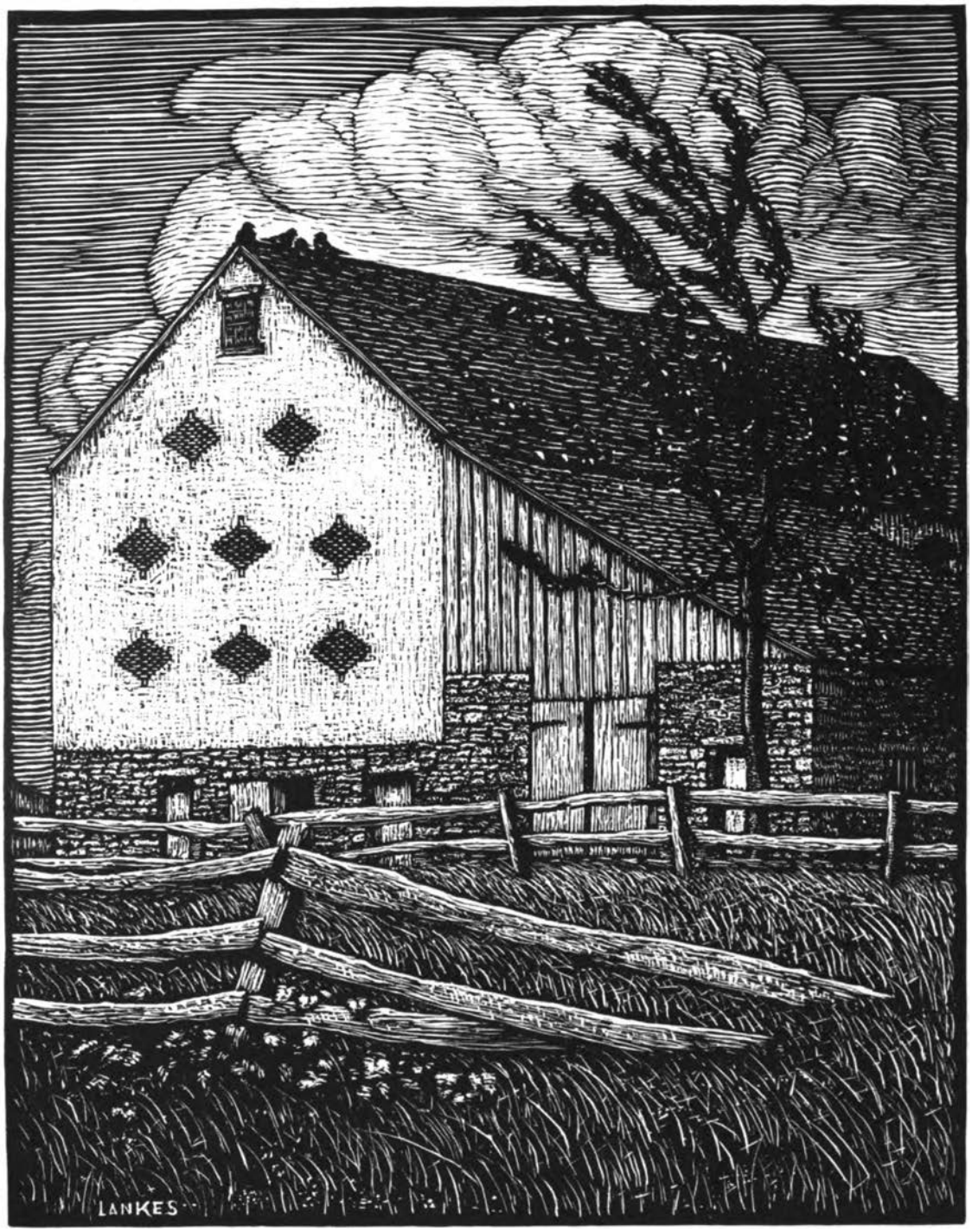
Nara Park lies on a high plateau east of the business part of the town—a high plateau beautifully wooded with giant cryptomeria that resemble the Douglas fir of our own Pacific slope. The church site has a wide frontage on the Park—the entire east line of the property abutting upon it. From this east line the site slopes rapidly down hill toward the west and toward the crowded narrow streets of the city below, a slope hundreds of feet long. From the upper levels of the property one gets an inspiring view westward, out over the little city, and far beyond to the famous plain of Yamato—the "cradle of Japanese civilization." Below, at the very bottom of the slope, a narrow strip of land leads straight to the busy thoroughfare itself—to Higashimukidori—and a towering flight of stone steps will eventually bring worshipers up from there to the church precincts.

The property is broad, and eventually there will be a greater establishment—built around a hollow square—the church in the center, and dominating the group,—the square open toward the west and toward the view—on one side the long low building of the Parish House—and on the other, a similar long low Japanese roof will shelter a rectory and a missionary residence. Back of the whole group, and setting it off as only the Japanese are able to do it, will tower the dark green cryptomerias. The church yard will have a stone wall and parapet on its open west side, from which one will be able to look down upon the black tiled roofs of the crowded city and the plains beyond.

Following the temple tradition the yard will be open to all. It will serve as a thoroughfare from the park to the town below, down the hundred steps or more. Cherry trees will flower here in the spring, and maples will turn their brilliant scarlet in the fall. Children will run about at play, quite unawed at their surroundings, just as they now run around the court yards of the Buddhist temples. Mothers will come with their babies on their backs to gather together in the warm sunshine. That is, it is to be hoped that this will be so,—and it is to be hoped that the whole will stand to them as a mute assurance that, in taking on the beliefs and ways of Christendom, they need give up nothing of their own traditions that was good. In fact, who knows but that they, in coming in with us, may bring with them something that may satisfy even our distant needs—we who are finding that our own traditions have not wholly kept pace with the progress of our time.

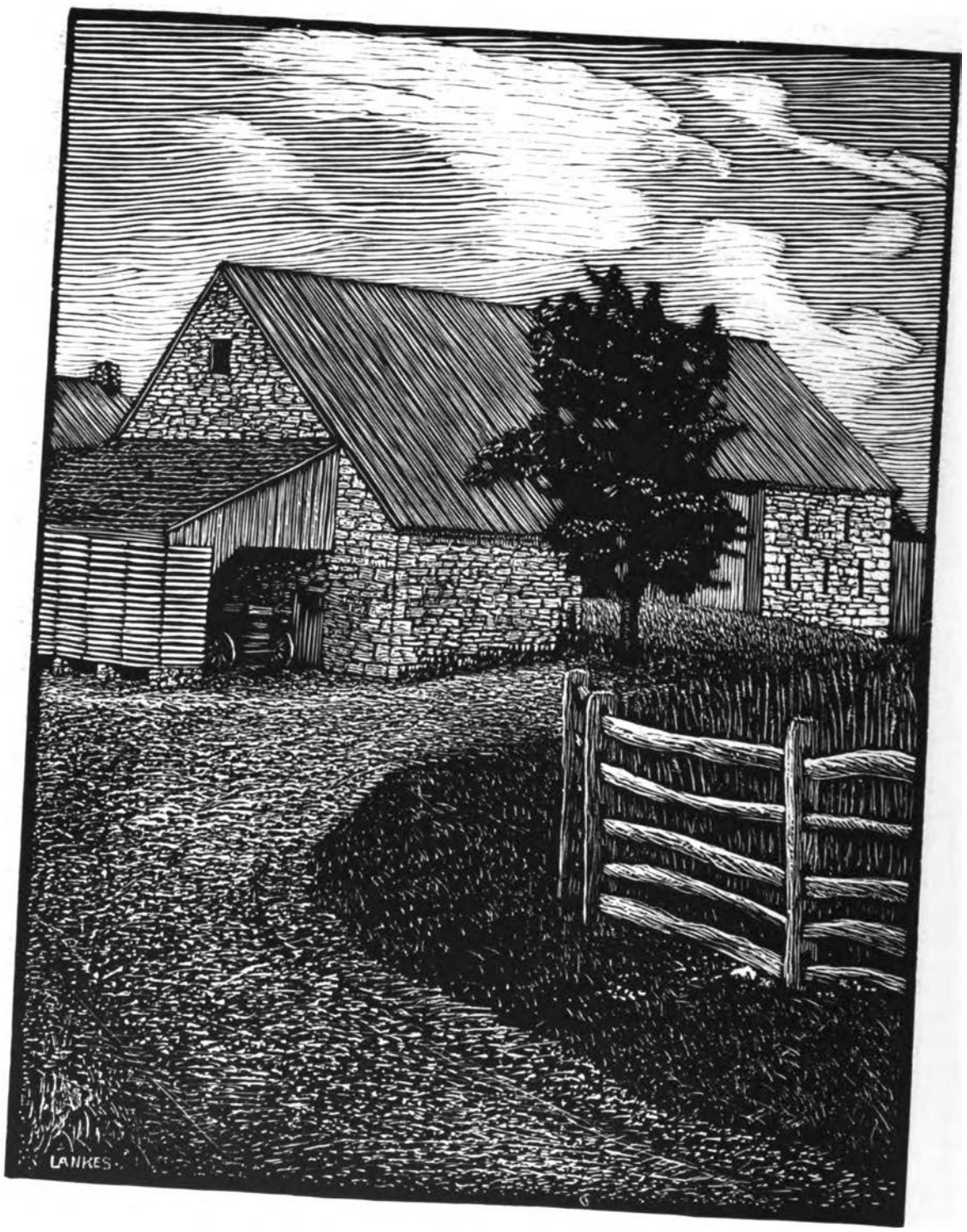
EDWIN BONTA.

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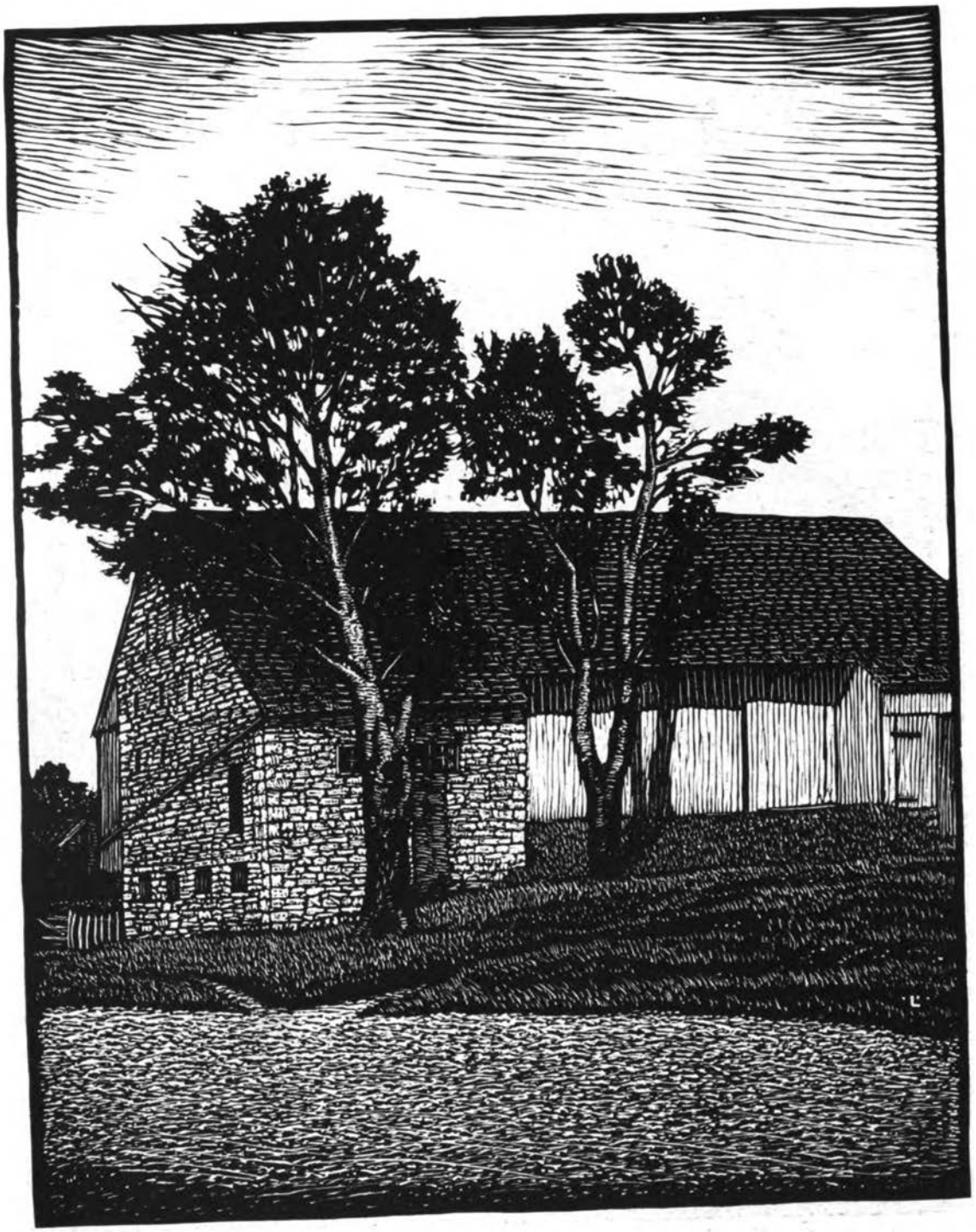
A Pennsylvania Stone Barn
After the Woodcut by J. J. Lankes

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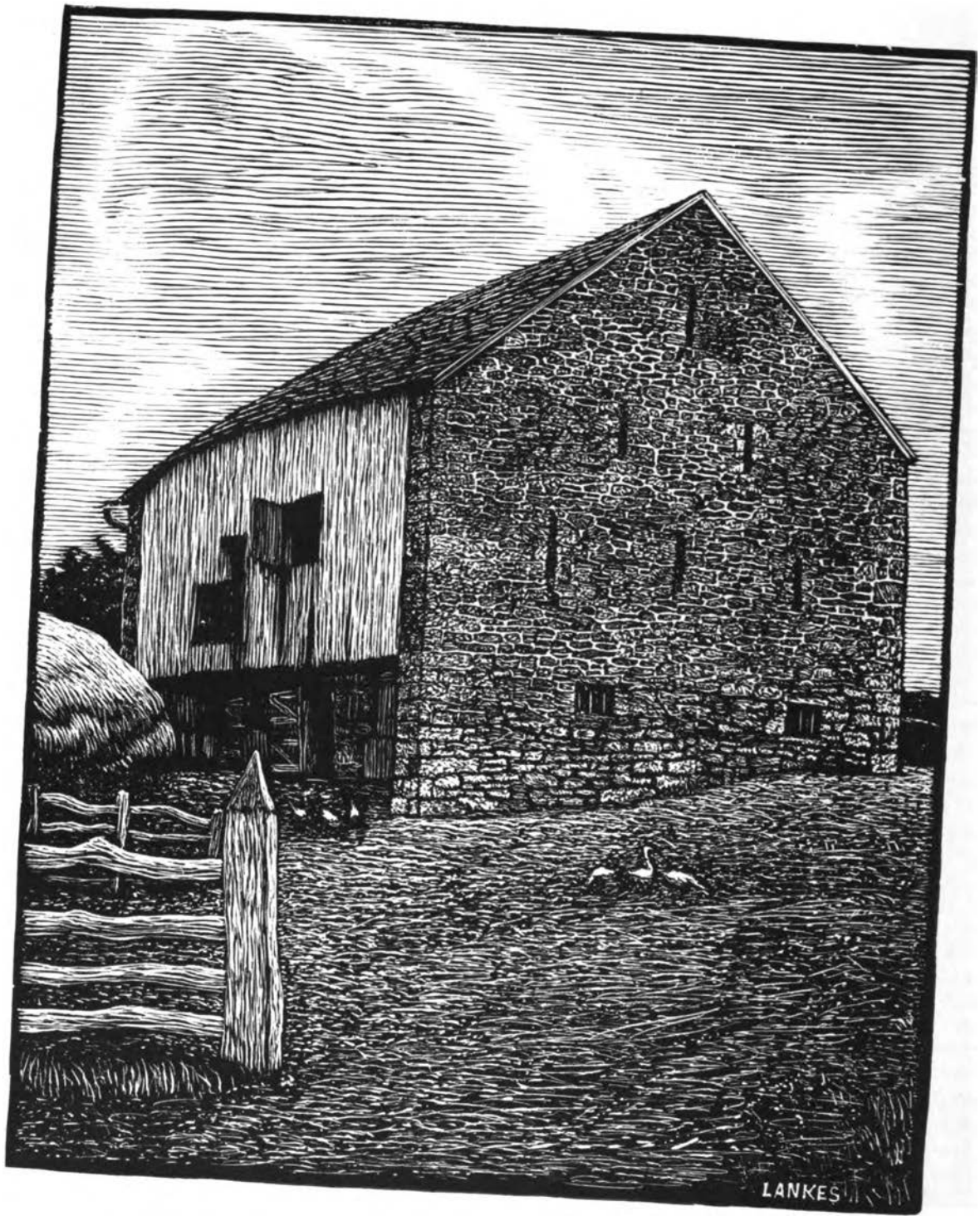
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Some Notes on Palladio

His times, and his church of the Redentore

I.

"The outstanding mark of Renaissance Architecture is a backward vision, a preoccupation with the antique. So much must be conceded even by those who have studied the variety and realized the vigor which the Renaissance style displays, who see most clearly how inevitable was this imitative impulse and how deep the inventive genius that accompanied it."[1]

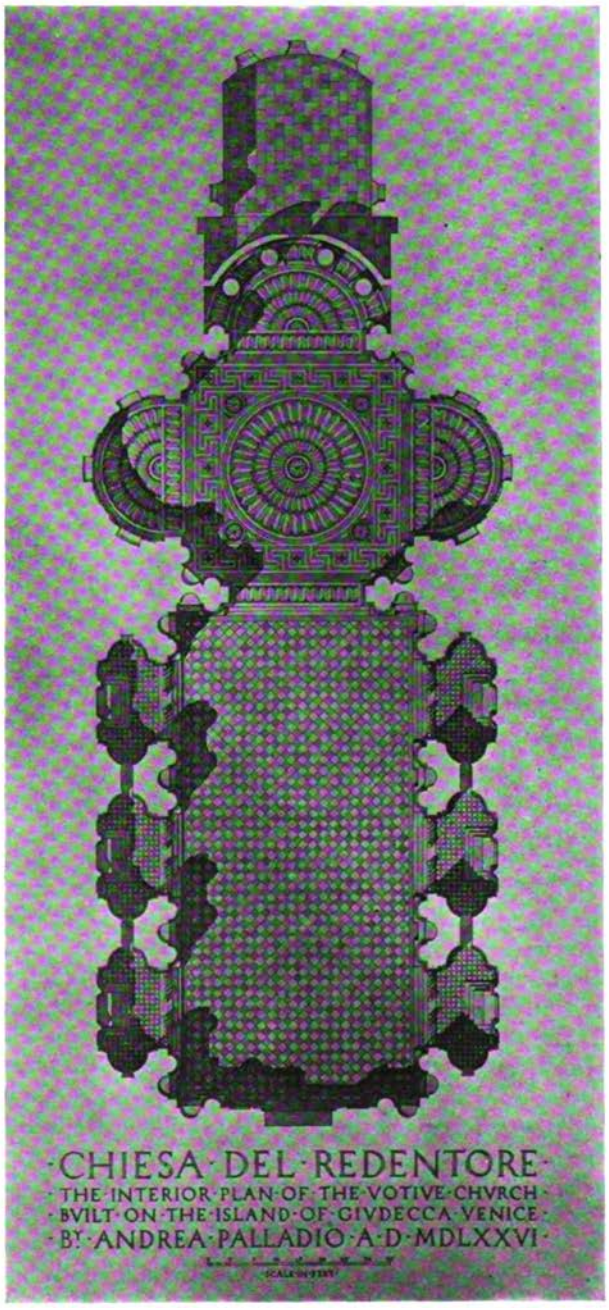
It is inevitable that the foregoing fact should apply to the work of Andrea Palladio, standing as he does among the greatest of a great period. It has given rise to two groups of critics, one blaming, the other praising, while neither seems to consider how unavoidable was the impulse for research at this time, nor the infinite variety and invention displayed by the artists; and both seem largely to ignore the qualities which more than all others distinguish and commend the sixteenth and seventeenth centuries and with them the work of Palladio.

It is idle to condemn for lack of originality and pedantry a man who, though living in an age when pedantry was a virtue, so characterized his work by his genius as to influence strongly and mark indelibly the ages following, in both France and England, and who, by virtually one brilliant example, stamped with his name an architectural motif no newer than Diocletian's palace and used numerous times by his predecessors and contemporaries. Again, it is as useless to laud him as a firm haven of conservatism in a tempest of architectural degeneracy because some hack with a measuring line finds more novelty in Della Porta's proportions or Michaelangelo's details.

Palladio's fame does not rest upon the refutation or confirmation of these criticisms, yet it is interesting to note how far wrong they are. If a curved pediment is architectural degeneracy, then Palladio was degenerate; if a broken entablature shows waning taste, then Palladio's taste must have been waning. His work is filled with tapering pilasters, with blind windows, with figures waving against the sky or reclining upon architectural forms, while in his gardens he displays all the ostentation, yet dignity, of the Baroque examples. In the Veneto we find him doing what Michaelangelo was doing in Rome—introducing the attic story, the half pediment, the colossal order, and grasping every opportunity to demonstrate his own ability in, to use his own words, "excellent and surprising inventions."

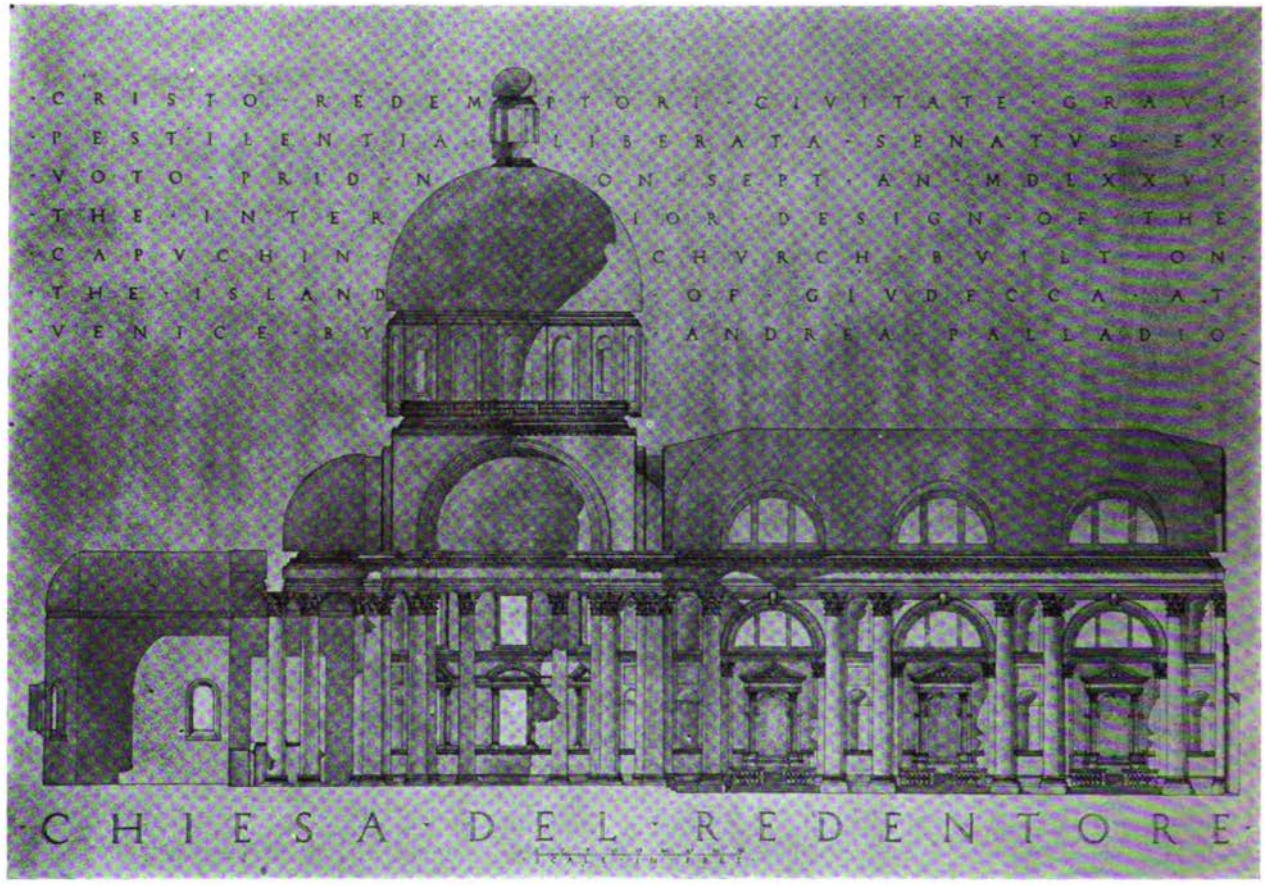
In spite of his "preoccupation with the antique," we find in his works endless variety, invention, and above all, an individual character which carves his name upon the architecture more enduringly than the tools of the stonecutter. If these statements are verified by turning to his works, we must then conclude that Palladio was of his times as well as in them, and that the slur of pedantry is indeed a libel.

No matter what may be said for or against Palladio's work, it is certain that he always had to struggle against economic conditions, for seldom if ever were



[1] Mr. Geoffrey Scott in "The Architecture of Humanism."

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lavish funds at his disposal. It is hardly just to criticize because he had to resort to brick and stucco when his buildings were designed for stone for which parsimonious clients would not pay, nor yet to call his works colorless and cold because the wealth of Rome, and Roman marble was not at his disposal; rather, he rises higher as an architect because of the beautiful results achieved in spite of the materials and conditions forced upon him. It was by the highest type of creative ability alone that he made his buildings "grand without great dimensions, and rich without much expense."

However, any criticism, either condemning or commending, which bases itself upon Palladio's use of architectural forms and detail, has entirely missed the great import of his work. To one whose admiration is exhausted by a Peruzzi moulding, or whose soul gets its full delight from a Bramante pilaster, Palladio will present much that seems bad, and to those who feel that originality consists in the creation of something not seen before on earth, sea or sky, Palladio will most certainly seem pedantic; but to those who appreciate even in a small way the great creative impulse of the High Renaissance, it will not seem strange that the proud republic of Venice had to turn to the creator of the "dull and depressing town of Vicenza" for some of its grandest palaces and churches. The fact remains, at least, and cannot be ignored.

II.

It was the search for and the creation of form which distinguished the High Renaissance; details become but means to an end. The vocabulary of classic motifs has been learned, and now the scheme, the arrangement, the proportion and the ensemble are the things which stand foremost in the minds of the artists, and it is by these things that Palladio must be judged, and in these things he will be found supreme. While at times his detail causes purists to hold up their hands in horror, still it is always fitting and necessary to the general scheme.

Unless one can put detail where it properly belongs —contributing to but not making the whole—a means to an end but not the end itself—words to express but not the expression—one can never fully appreciate Palladio or his time.

III.

Of all the arts, that of Architecture is the only one which allows the artist to place his observer within a space, a void, if you will, of three dimensions. Space,

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controlled space, may be represented and suggested by the other arts, but its creation is in the field of architecture alone. This fact has too often been ignored in architectural criticism, which, in interesting itself in the walls and their members, forgets that except for the desire to isolate certain spaces architecture would not exist. The design then of space, the proportioning of voids, is not only of equal importance with the design of the solids, but is the very core of architectural art, for in this province alone is architecture unique. The architect models with space as the sculptor does with clay.

Too much effort has been spent in explaining and criticizing the relationship of architectural forms, details, and ornament to the structural parts which they modify or adorn, when their true relationship is to the space those structural parts enclose. One of the most striking examples of this fact is found in the nave of a Gothic cathedral where it seems the whole effort has gone toward achieving a space which will in its very essence be a religious harmony. Almost one might say that all structure and decoration have been subordinated to this idea, so much so that the real work of holding the fabric together is done on the outside, and all interior forms and ornaments are conceived solely for their effect upon the space sensation.

Architecture is not an exact science; it is an art; consequently it is impossible to lay down fixed rules which would govern the proportions of space as architecturally correct, for too many variable things will affect our impressions. Space is undoubtedly affected by actual dimensions, but the source and quality of light, color, the character and arrangement of predominating line, the projection of forms, all contribute to the sensations. Moreover, our expectations, as well as our memory of the space immediately left, will bear not a little upon the value of the space we at present occupy.

The great value of this space designing was thoroughly realized by the architects of the latter half of the sixteenth and of the seventeenth centuries, and it is by this often ignored quality that the works of that period take their properly high place in the history of art.

IV.

In reverting to Palladio, a leader of design in this field, no better example could be chosen to illustrate his genius than the church of the "Redentore" in Venice. Built in 1576, on the island of Guidecca, as a votive offering for the ceasing of one of the ever-recurring Venetian plagues, it is a triumph of proportion and architectural fitness. Upon entering the supremely

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dignified nave, the eye is immediately drawn onward, pauses for a moment under the dome but goes onward and upward following the light filtering through the great columns which form a screen behind the high altar.

As Anderson so aptly put it, "The whole interior has a remarkably religious expression, akin to that which might be produced by slow music of rich full chords." So satisfactory is the great space that it is some moments before one tries to analyze the means by which the effect is obtained. It would be hard to find anywhere an interior so rich and so dignified which was achieved by so little expenditure of detail or by the use of such simple materials.

The church in a general sense is cruciform, and not of great dimensions, consisting of the nave with side chapels, the crossing surmounted by a dome, the transepts, the chancel and the choir. The nave proper is slightly more than fifty feet wide and twice as long. Each side is divided into three bays, by well proportioned arches leading to the side chapels. The piers between them are each treated with two semi-attached columns which support an unbroken entablature, and the space between them is filled by two superimposed niches. This same treatment is used on the four piers at the crossing, which support the dome, giving an effect of a cloister of columns. The use of the order, which measures from the floor to the top of the main cornice approximately forty-six feet, is continuous throughout the church.

The columnar treatment of the walls, while continuous in effect, consists of columns, piers and pilasters, piers being placed under each of the four great arches of the crossing and in each corner of the nave, while pilasters are used in the transepts. The only free standing columns are those placed behind the high altar. The arches of the side chapels rest upon a secondary order, and both this and the main order are a transcription of the Corinthian. However, the main entablature is much simplified, while that of the smaller order is resolved into a simple cornice of few Corinthian characteristics. All the piers and pilasters of both the main and secondary orders are diminished and have the same entasis as the columns.

The floor of the nave is eighteen inches below that of the crossing and side chapels. This difference of level is taken up by a simple base course, placed under the plinths of the nave columns, the crossing and chapels being reached by flights of three steps set into it under the "triumphal arch" and side arches. The "triumphal arch" terminating the nave is but one of the four arches forming the crossing and supporting the dome. It is a round arch of thirty feet clear span with a large degree of stilt, the actual curve beginning four feet above the main cornice which acts as the spring line. The side arches of the nave are stilted proportionately, the whole device permitting of a more robust impost treatment, without losing grace or verticality.

The dome above the crossing is raised, after the Renaissance fashion, upon a high circular drum placed upon pendentives. The drum is decorated by broad pilasters and flat niches, four of which are pierced by windows. It should be noted that in this case the pilasters are without entasis or diminution.

The dome, however, is devoid of all ornament—in fact the whole church is noteworthy for its restraint.

The transepts are in the form of apses, whose walls are divided into three parts by pilasters, each division being pierced by two superimposed windows placed after the manner of the niches between the columns of the nave and crossing. The chancel, though apsidal in form, is bounded by the four free standing columns rising behind the high altar and supporting in turn a half dome similar in size to those of the transepts. Through these columns a view is allowed of space beyond which is the choir for the Capucin monks who administer the services of the church.

The floor is treated with a simple pavement of colored marble and forms the strongest color note of the scheme. The walls, vaults, and their members are of two tones of warm gray, the orders and trims being slightly darker than the walls proper. The orders were to have been of stone and the walls and vaults of stucco, and such is the impression; in reality, however, the stone is used only for the cornice and for the first ten feet of the height of the columns. It is but another example of the poverty of funds with which Palladio had to contend.

V.

With this brief sketch in mind, we find, so purists will tell us, two matters of technique which are radically wrong. The first is the use of the same order for both the main and secondary pillars, and the second, the use of diminution and entasis upon the pilasters and piers. The first matter involves us in difficulties, not only caused by the necessity of raising two different sized pillars of the same order upon the same base, but also caused by the limiting of the reveal of the arch supported by the smaller pillar in a way which could not be done by an impost moulding. The second matter is even worse, for it is an offense against architectural ethics, involving, to quote a well-known critic, "a most objectionable practice of the later Venetians."

We cannot here refute or deny the truth of these technical criticisms as they apply to the architectural art in general, except to suggest that if one thinks about it one will see that the reveal of an arch need not be limited by the use of the supporting pillar. Here in the church of the Redentore it might also be noted that the secondary order is related to the greater one only in its entasis and its capital; in no other respect does

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it possess characteristics which are individually Corinthian, and, even if it did, surely Palladio's treatment of the bases seems beyond reproach. Though the use of entasis upon pilasters may be an objectionable practice, here it seems to be done with a touch of inspiration.

Let us glance once more into the church and see that rich, stately dignity with no feeling of scantiness,

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thinness or poverty of ornament; and above all let us feel the deep spiritual serenity which permeates the whole fabric; and let us realize that, except for a few carved capitals, a line of brackets in the main cornice, and a wave motif inscribed upon a string course, there is no carved ornament—nothing but an arrangement of light over form, then we shall see that these theoretical errors are in fact master strokes which help to achieve a character with the simplest means.

The reveals of the side arches are beautifully adequate. They were probably thought of before the treatment of the secondary order, and regulated it, but the use of the smaller Corinthian caps was the touch of delicate form necessary to give quality to the interior. Imagine any other treatment in its place and one will see the unity and richness begin to disappear.

So the diminution and entasis of the pilasters and piers, far from being a defect, is a stroke of brilliant design. By this means all the vertical lines of the church are kept in perfect unity, the broad surface of the piers being sufficient to emphasize the importance of their function. The dignity of the whole is undoubtedly effected by the rhythmic repetition of this delicately curved, upward moving line. The high stilting of the arches overcomes all foreshortening and produces a beautifully rounded form, free from any sense of heaviness. It may be noted that in the drum treatment, where conditions are quite different, no entasis was placed upon the pilasters. One is forced to the conclusion that Palladio, rather than falling into decadent ways, deliberately chose his treatment to accomplish a certain result, knowing full well the elusiveness of spirit and character. The long, heavy, unbroken cornice of the nave undoubtedly adds to the effect of length and dignity, yet without the other expedients a cornice of its robustness could scarcely have been used without seeming to be of overweight.

Probably the happiest bit of arrangement in the whole scheme is the use of the semicircular screen behind the altar by which the practical necessity of a choir in the rear was turned into a decided advantage, in that one's mind is led out from the altar into space beyond, thus not only adding to the sense of physical magnitude but also largely contributing to the feeling of spiritual serenity.

The church as it stands is a masterpiece of that type of design in which every form and device used is subordinated to and planned for the character and sensation to be conveyed by the whole, that character making its impression not through the forms and devices, for one is not conscious of them, but through sensations conveyed by the spaces in which the eye wanders. "Slow music of rich full chords," where every note is in perfect harmony, in perfect rhythm, and in perfect tone, in the midst of which one hears not music but sees a vision, and sees not architecture but feels a spirit.

Was such a fabric raised by a mind steeped in pedantry and bound on every side by rules evolved from the ancients, or was it done by one of those rare intellects which can sum up all the life that has gone before, into a perfect expression of the life that is, and which the world calls genius?

JAMES CHILLMAN, JR.

√ From Foreign Shores

When I comment—as I expect to later—upon some of the newer suggestions for city plans, which, we may be devoutly thankful, have not yet materialized and which we may sincerely hope never will materialize, I may touch upon the skyscraper designs which generally form an integral part of the proposed schemes. The world seems bent on building skyscrapers whether really needed or not; which they mostly are not; and the city-planners and architectural designers seem bent on producing plans and designs which however pretty they may appear upon paper—and that too infrequently, though it seems the aim sought—in realization are devoid of all charm and destitute of any appeal to the emotions (except, maybe, that of disgust), awaken no feelings of intimacy or warmth, and, consequently, are not within the field of art. A geometrical arrangement of spaces and buildings seems to be the aim of the newer city planner; a mathematical placing of commonplace features seems to fill the mind and limit the ambition of the designers. I sometimes wonder if architectural designers today realize that there is such a thing as a heart in the human composition; that is, such a spiritual organ.

A Cargo from Scotland

But let us drop abstractions for the moment and inspect our cargoes. I have before me for the first time the *Quarterly, Illustrated, of the Incorporation of Architects in Scotland.* Reviews of two recent books catch my eye. The first bears the title of *Essays and Memorials,* by John W. Simpson, Past President R.I.B.A., and starts out thusly: "In the ingeniously composed introduction contributed by Major Barnes, F.R.I.B.A., to this pleasant volume of collected papers by the versatile Past President of the Royal Institute he likens his Preface to a fore-court lying between the passer-by and the house which it invites him to enter. Pursuing the analogy further, it may be suggested that the house in this case would seem to consist of a rather fortuitous collection of rooms. *A Parloir* in which the reader is entertained with much information most agreeably imparted, a Lecture-hall where he instinctively looks around for lantern and screen, and a School-room on break-up day with its platform exhortations introduced by the never-failing declaration that the Speaker is a student in equal degree with his young

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Specimen of Vitreous Tiles
Designed for a Bedroom Floor
for H.M. the Queen of Roumania
Designed by Gerald P. Hutchinson, London, England

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CANADIAN MONUMENT—ST. JULIEN *Architects' Journal*
Chapman Clemesha, *Architect*



NEW MEMORIAL CHAPEL—RIDLEY COLLEGE—ST. CATHERINE'S, ONT. *Construction*
Sproatt & Ralph, *Architects*

hearers." The furnishings of these rooms are set forth in the review. The reviewer questions the validity of some of the canons or principles laid down by the author (in the Lecture-hall compartment of his literary edifice, probably), such as that "a roof-slope of 45 deg. is generally unpleasing," or that in a façade "the more numerous the points of support the narrower should be the intervening voids, if of equal width," and feels that that which embraces all, the quality of imagination, is left unstated, or at best but lightly touched upon in passing.

Such "principles" must not be too dogmatically stated nor too closely adhered to in design. One of our own architects of wide practice in the "Scholastic Gothic" has indicated that all roofs in that "Style" should have a pitch considerably in excess of 45 deg. Somehow I am inclined to feel that the creative imagination working along æsthetic lines is not to be hampered by externally determined angles but is to be left free to leave the dead level at whatever gradient best suits its purpose and in so moving will produce harmony and pleasing forms and proportions in its progress. The reviewer falls under the spell of Mr. Simpson's literary style and advises a reading of the book, both for its matter and its manner.

Mr. T. P. Marwick reviews Sir Lawrence Weaver's *"Sir Christopher Wren, Scientist, Scholar and Architect."* Mr. Marwick himself writes with charm and understanding. He is the President of the Incorporation of Architects in Scotland, and as head of the Incorporation entertained the R.I.B.A. on the occasion of the Edinburgh Conference in June. The *"Quarterly"* before me reviews that conference, but modestly makes no mention of Mr. Marwick's delightful and scholarly paper on the "Rise and Progress of Edinburgh," which opened the proceedings. Mr. Marwick made me see Edinburgh past and present, and Edinburgh, present, for some good reason or other, pulls at my heartstrings. The architectural commentator on the conference says: "The absence of Architecture in its sophisticated sense was a relief. Then the drive along the King's Mile of Holyrood and round Arthur's Seat—revelations of Edinburgh beauty."

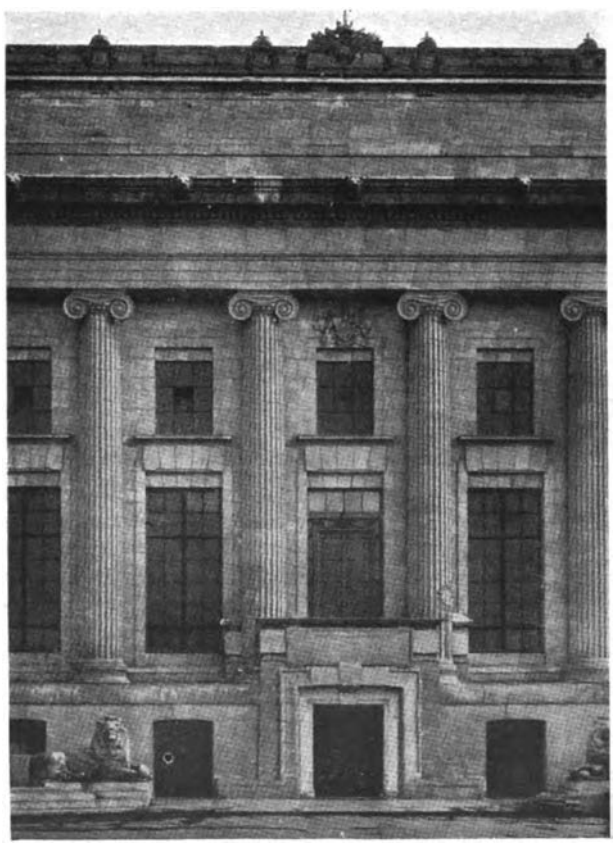
War Monuments

I am sorry that there was a war for it was bound to breed a crop of memorials. Countries which cannot pay their debts can spend, evidently, untold sums on objects which are intended to harrow the feelings and keep old sores alive. Would only that peace and harmony and joy could reign in the heart and permeate the designs. But this seems not possible. It was with a feeling of relief that we heard at the close of the war that France, pre-eminently the land of emotional expression in the arts, was to permit the erection of no monuments for a term of years—so that stock might be taken of morals and ideals and of aesthetics and that the country might not be burdened with a lot of unworthy memorials. Evidently this eminently wholesome determination was not adhered to and we are flooded with multitudes of not altogether fully considered designs. I do not know the French people well enough to be satisfied in my own mind as to what proportion, if any, of these works are emana-

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tions from the popular mind and so to be characterized as art—as sincere expressions of a national impulse—or whether they all are expressions of individual tastes and predilections. There is a unity of spirit about them which marks them as more than merely individualistic; but there is an uncouthness about them which marks them certainly as not of the Grand Manner we are accustomed to associate with a national expression in French art. Perhaps, after all, the French are only now really beginning to find and to express themselves as the Germans were beginning, and a good beginning they had made, to find and express themselves as a people before the World War. However this may be, there is evidenced in many of these designs a return to the primitive which is a good sign if it is a popular expression but which is to be deprecated if it be only the result of an individualistic desire to be different. More time than has elapsed since the signing of the Armistice is needed to bring a satisfactory answer to that question, which involves the vitality of art and the desirability of a permanent expression.

A Canadian monument shown in the *Architects Journal,* has lately been completed at St. Julien and "is to be duplicated on five other battlefields in Belgium and France on which the Canadian forces were represented." The design was selected in competition, the judges, all architects, being Paul Cret, representing France; the late Frank Darling, representing Canada; and Professor C. H. Reilly, representing England. This monument appeals to me by its simplicity and the brooding spirit which permeates it. I am wondering if there might not be an advantage in showing a bit more of the front of the figure, supposing this could be done without changing the contour of the mass.



BRITISH MUSEUM EXTENSION *Architects' Journal*
Sir John Burnet, *Architect*



BUSH HOUSE—LONDON *Architects' Journal*
Aerial View

Cementing Ties of International Friendship

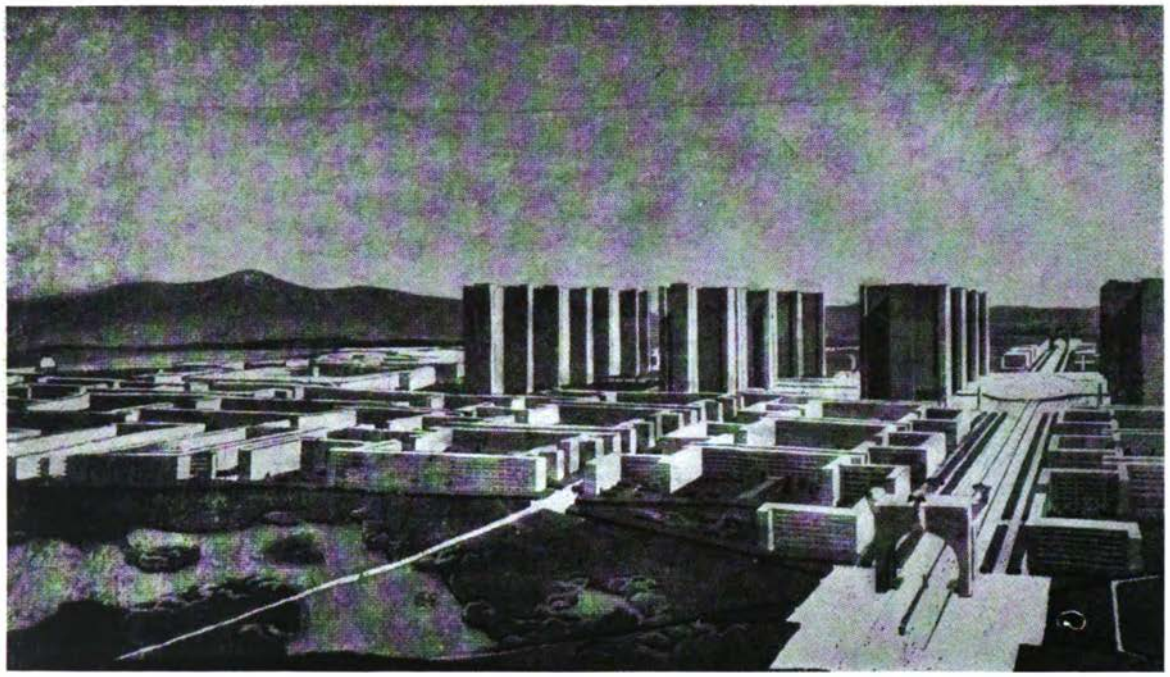
I have had occasion once or twice in these papers to refer to the kindliness with which our British brothers accept certain of our American professional methods and certain of our architectural designs. Sometimes I have felt that in this acceptance there was not always exhibited that fine sense of discrimination which I have been wont to associate with British criticism. A thing, it seemed to me now and again, was accepted favorably more or less because it was American.

This kindly expression of international good will has come from the architectural press as well as from individuals. I have quoted, I think, from both sources. Once again, as it seems to me, our brothers have, in their desire to be kindly, lost a bit of their sense of proportion. Major Harry Barnes, V-P.R.I.B.A., F.S.I (the same Major Barnes who was referred to earlier in this article), in "broadcasting" some quite enlightening and entertaining observations on London streets and architecture, states clearly what in my semi-subconscious mind I already had assigned as the principal reason for this present and pleasant—let us hope ever to be reciprocated—British attitude toward us in America.

Before I go one step further let me say that I crave a close, intimate, and heartfelt relationship between America and the Mother Country. I always have so craved and have expressed that desire in public print as well as in private word. I believe the World will be safer for civilization, with a sympathetic understanding and co-operation on the part of the English-speaking peoples; but I do not want the British to feel that they must find a virtue in whatever we may do or produce thus to aid in establishing that sympathy or gaining our co-operation.

But to return. Major Barnes, in speaking of Bush House recently erected (in part) at the head of Kingsway

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A New Idea in Cities — *L'Architecture*

and cross from St. Mary-le-Strand, London, by American capital, from designs by American architects, says:

"In these troublesome times, when so much depends upon the friendship and the co-operation of the English-speaking people of the world, it is a great thing that, in



Bush House—London — *Architects' Journal*
Helmle & Corbett, *Architects*



Bush House—London — *Architects' Journal*

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the heart of our great city, buildings should have been erected by men from across the sea, who speak the same language as ourselves, dedicated to the friendship of the English-speaking people throughout the world. It was a fine conception, it has been finely carried out; the simplicity and dignity of the building are extraordinarily great—" and so on.

Extravagant praise has been lavished on this particular structure by editors of the architectural press and by others, and, I repeat, for slight reason, it seems to me, other than that it is an American product; and small compliment it is to us and to our real achievements. Its grandiose portal, wasting space to no good purpose, is the only typically American feature about it. My own feeling is that externally it is barren and distinctly lacking in any element of charm. Its fenestration does not proclaim the office building. (I take it that is its intended use). It may be all right in seasons of London fog when lights have to be burned anyway, but I have known beautiful sunshine in London, when its warmth and light would be acceptable in even a commercial interior.

Our kindly critics argue that Bush House does not overpower (the word needs definition) St. Mary-le-Strand, but rather that it acts as a foil to bring out the beauty of the church; and a photograph with the church in the immediate foreground is offered in evidence. I think, at this distance, I can trust my feelings and imagination as far as I can the distorting lens which magnifies objects in the foreground and diminishes those in the background. I rather suspect that when the two flanking wings of Bush House are erected St. Mary-le-Strand, in so far as any power of self-assertion is involved, will be in the situation of the mother partridge upon which the benign elephant had inadvertently trodden.

Is it the boxlike piling up of diminishing masses—I am thinking of Bush House with its completed tower—that the English find particularly pleasing? One sees the feature so frequently along London streets, especially those trodden by the late Sir Christopher. Somehow that principle in design never greatly appealed to me. I want some material or structural symbol or expression of the spiritual bond which unifies (if it does) this untelescoped nest of architectural features. These towers and spires remind me of the old rhyme—a rhyme so full of meaning now that science has resolved the Atom, the Ion and the Electron.

> Large fleas have little fleas which 'light on 'em and bite 'em
> These again have lesser fleas—and so *ad infinitum*

The only discernible unifying principle being the propensity to 'light and bite.

But the world is so full of lovely things, even in architecture, why not write about them? And there is friendship, why not write about that? And let our English friends place their own interpretation on loveliness. Why waste time writing about the inept except to aid the writer to dodge ineptitudes? As for the reader, writing need not waste his time—no, nor reading neither; the reader has the matter of wasted time entirely under his own control. And I never got to mechanistic city plans or fantastic skyscrapers! These for another time.

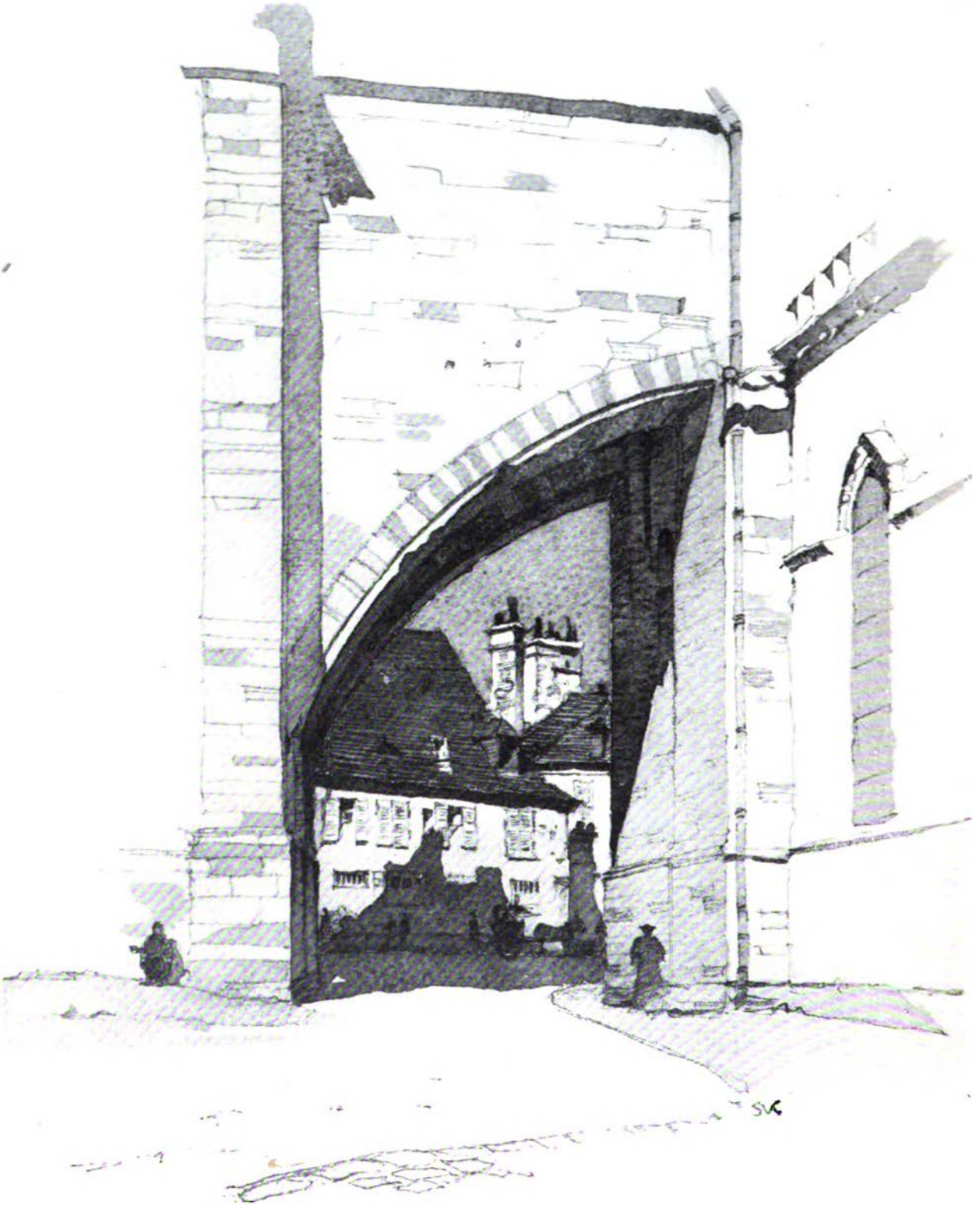
IRVING K. POND.

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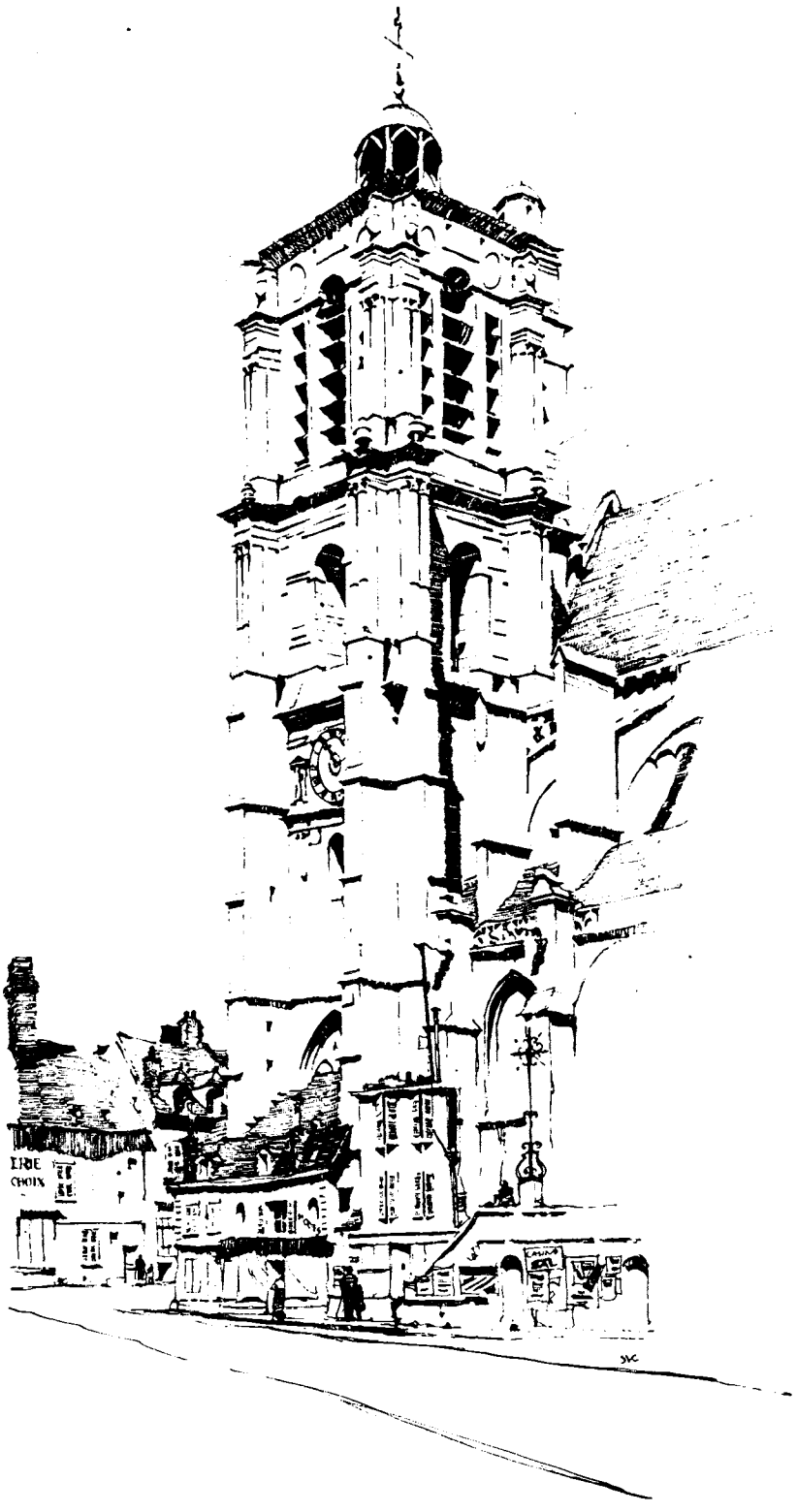
ANTIQUE SHOP—BOULEVARD RASPART, PARIS
After the Drawing by Samuel V. Chamberlain

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THE GIANT BUTTRESS—BOURGES
After the Drawing by Samuel V. Chamberlain

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THE CHURCH AT SEZANNE
After the Drawing by Samuel V. Chamberlain

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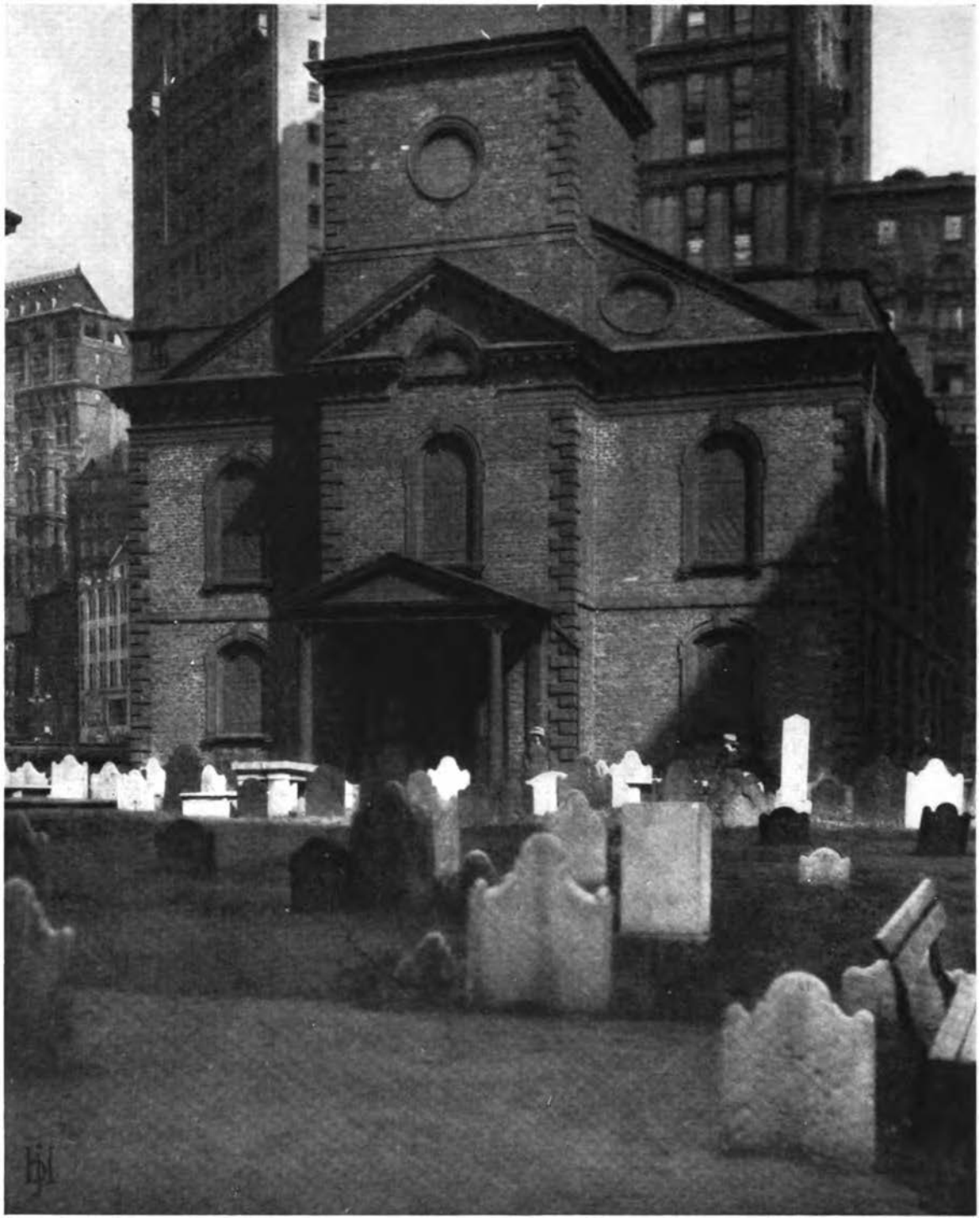
OLD GOSLAR
After the Woodcut by Arthur Heyde

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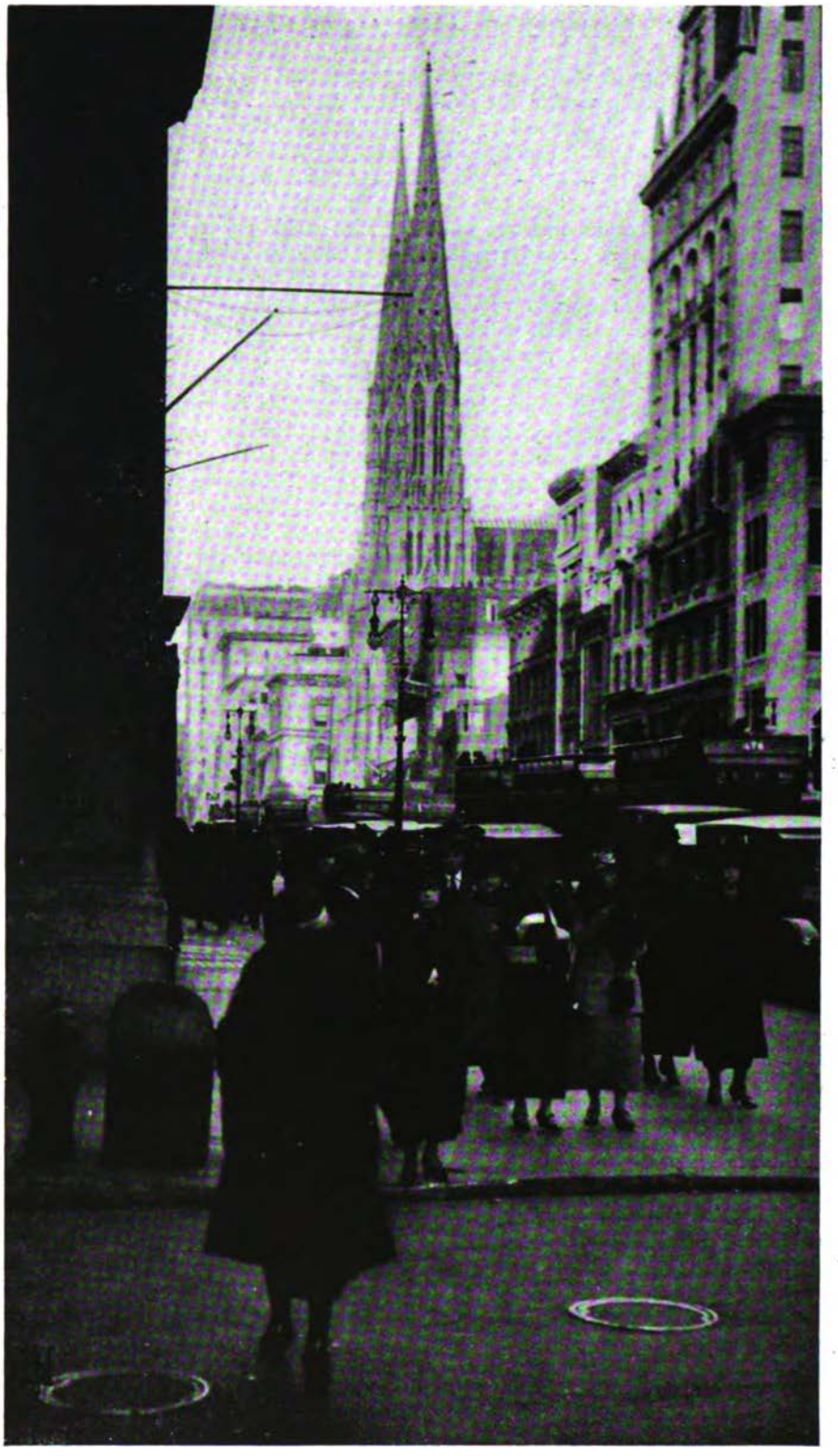
"The Sugar House"—Hildesheim
After the Woodcut by Paul Winkler

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ST. PAUL'S CHURCHYARD—NEW YORK
After the Photograph by Ben J. Lubschez

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UPPER FIFTH AVENUE—NEW YORK CITY
After the Photograph by Ben J. Lubschez

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The Ancient Builders of Cities

If we take an interest in the city planning endeavors of the ancients, the individual attitude toward the subject will, of course, be more or less determined by the professional viewpoint. However, students of ancient city planning, be they archæologists, city planners or social economists, will, no doubt, mostly agree that the city planning of the Greeks and the Romans was not only comparable with our own, but even in certain respects excelled anything we have attained.

This attitude of humility toward the great achievements of the long past, while being healthful, will also help us in acquiring a more thorough understanding of the conditions, the needs and the aspirations of the present age in regard to city planning. Indeed, we should never lose sight of this viewpoint in studying the city planning endeavors of the Greeks and the Romans. They were our masters in utilizing city planning as an instrument of social betterment, and this is true to such a degree that it seems as if we were only beginning to realize its possibilities as such an agency. They were experienced practitioners endowed with a broadness of outlook which is apt to make us ashamed of our tardiness in fully grasping the significance of those urban problems that affect us all, whether we live in the cities or in the country.

However, to enter upon a discussion of this aspect of ancient city planning in particular, is not the object which the writer has in mind for the moment. It is rather to devote some attention to the quesion of the beginnings of city planning in the Greek world and thence to proceed to some observations on its later development. In so doing, it has seemed convenient especially to refer to the late Professor Haverfield's valuable book, "Ancient Town Planning," which was published ten years ago and no doubt is well known to many readers of the JOURNAL. Mr. Haverfield was among those writers on the subject who consider that the Greeks began to utilize systematic city planning in the age of Pericles, when Hippodamus of Miletus, as Aristotle says "laid out the Piræus," "invented the art of planning cities," and introduced the "modern fashion" into street planning.[1]

On the other hand, one of Germany's foremost classical scholars, Eduard Meyer, an historian like Haverfield, agrees with those who hold that the Greeks utilized city planning at a much earlier date, during the period of Greek colonization which began about the year 750 B. C. and lasted for about two hundred years.[2]

Alfred Zimmern, another eminent classical scholar and a countryman of Mr. Haverfield, says that "the Greeks did not go in for artistic town planning till the Hellenistic Age. It was," he adds, "one of the results of consciously thinking about the city, as the philosophers did, as a work of art."[3] Obviously, this statement does not contradict the possibility that the Greeks planned cities earlier, as no doubt they did in many of the colonies which they founded in foreign lands, originally for the purpose, mainly, of relieving an excessive population. However, city planning in such an application was used merely as a convenient expedient and was not based upon any formulated principles other than perhaps those dictated by religious observances and practical needs. The purpose of this early planning was to facilitate the speedy establishment of a colony, of a city laid out at once. As is well known, similar instances of regular city planning occurred in our own Middle Ages, when a considerable number of colonial cities were founded in various parts of Europe and were laid out along the lines of a definite plan.

The statement by Mr. Zimmern, just quoted, indicates the rôle which the new philosophy played in preparing a new departure in Greek city planning. In consciously thinking about the city as a work of art, Aristotle, like Plato and Hippodamus before him, evinced an interest in the esthetic aspect of city planning, and it was this philosophical attitude, this new esthetic ambition, which in reality constituted the "modern fashion" in city planning and marked the beginning of a new era in urban development. Thus the philosophy of the fourth century B. C. sowed the seeds which bore fruit in the ambitious city planning achievements of the Macedonian Age, just as the theory of the Italian Renaissance preceded the conscious planning endeavors in the architectural spirit in modern times.

A reader who has accepted this point of view will rather frequently have reason for disagreeing with Mr. Haverfield in reading those chapters of "Ancient Town Planning" which deal with planning in the Greek world. He will entirely miss an appreciation of the earliest efforts in the period of colonization and will find that the author has laid too little emphasis on the new philosophy as an agency in amplifying the scope of city planning and in stimulating its aims. Incidentally, in this connection the author might also have referred to those "ideal conceptions" which were not less symptomatic in the age of Plato and of Aristotle than they were eighteen centuries later in the age of Filarete, of Ammanati, and of Palissy.

Reaching its apogee in the Hellenistic period, Greek town planning was probably "self-inspired" to a greater extent than Mr. Haverfield was ready to admit. There is no acceptable evidence to prove the influence from Babylonia and Assyria, to which he refers as a possibility. And it should be remembered that at the time when Herodotus visited Babylon, in the fifth century B. C., the Greeks were no longer novices in the practice of planning. Their earlier endeavors were not necessarily dependent on any inspiration from the East. Nor were they really in need of Babylonian guidance for perfecting city planning into an "art."

However, the conquests of Alexander the Great brought the Greek world into closer contact with the near Orient, and further discoveries may definitely prove that this development also affected the city planning of the Hellenistic Age. Perhaps no period of city planning in the past is so apt to arouse our curiosity and to stir our imagination. Here is the beginning of the intensified

[1] Aristotle, Politics, II. 8 and VII, 11.
[2] Eduard Meyer, Geschichte des Altertums. Vol. II, p. 524.
[3] Alfred Zimmern, the Greek Commonwealth. Third ed. p. 296.

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urban development which culminated during the Roman Empire. In all probability, no earlier civilization witnessed so extensive and intensive an urbanization. The great cities of Egypt, not less than Babylon and Nineveh, Carthage, Tyre, and Sidon, always remind us of earlier urban developments on a large scale, but as to the general conditions surrounding the rise and growth of these cities our knowledge is fragmentary and uncertain. While it is possible, even likely, that the Egyptian, the Assyrian and Babylonian, and even the Phœnician world, utilized systematic city planning to a great extent, we positively know that this practice was frequent in the very extensive urbanization during the Macedonian Age.

In regard to the achievements of this period, however, overstatements have frequently been made and this fact should perhaps be pointed out. The number of cities which were founded in Asia Minor, in Syria and in adjoining lands during the reign of Alexander and of the Seleucids has often been exaggerated. Leone Battista Alberti, in the fifteenth century, recorded these "foundations" according to the ancient writers, and reference to them has repeatedly been made ever since. Undoubtedly many new cities were actually founded during this period, and city planning seems to have been generally applied in establishing them. But not a few of these instances of foundation were in the nature of a "refounding," such as became rather frequent in the Roman Empire, amounting merely to an extension, and perhaps an improvement, of cities which already existed, this process sometimes being accompanied by a change of name. It is not rare either that the mere renaming of a city has been recorded as a foundation.

To say that most of these cities sprang up full-grown, as Professor Haverfield does, is perhaps even to say too much. On the other hand, it seems certain that the city planning of the Macedonian Age penetrated as deep into the continent of Asia as Alexander's armies did, spreading over the whole length and breadth of those vast regions which he conquered. There were Macedonian settlements in most parts of these areas, inclusive of north-western India, and it can not be doubted that "the Macedonian army," as Mr. Haverfield says, "carried the town plan of their age, in more or less perfect form, as far as their conquests reached."

Such a process of penetration was entirely in the spirit of the age. After the armies had conquered, there ensued the establishment of cities to secure the conquest. "The general policy of the Macedonian monarchs," says J. S. Reid in his excellent work on the Roman municipalities, "had been to establish centers of urban life, which might at the same time be fortresses of strength. To break up the peoples by multiplying the 'Polis' was their constant endeavor."[4] That imperialism was ascendant which reached its climax in the world-dominion of the Roman Empire. As a direct consequence of this development humanity in the countries around the Mediterranean became, in an ever increasing degree, concentrated in the cities, many of which now began to expand in an alarming way. The glorious age of the physically small Greek City States had passed. The city of Athens gradually declined in importance. So did Corinth, Ephesus and Miletus—Miletus which once was the greatest trading center of the Greek world and was the mother-city of nearly a hundred colonies in the regions of the Black Sea. New important centers arose, and others, which hitherto had been insignificant, became world-renowned for their size, their wealth and splendor—and their misery. Among the new great centers was Antioch in Syria, founded by Seleucus Nicatur, which may well be called the "fabulous city," celebrated for its splendid colonnaded thoroughfares, which no doubt were among the most luxuriously impressive creations of city planning in Classical Antiquity. Seleucia on the river Tigris and Cæsarea in Cappadocia, although perhaps less famous than Antioch, had a similar history of meteoric rise to very populous cities even according to present day standards, each of them numbering several hundred thousand inhabitants. Alexandria, with a probable maximum population of about seven hundred thousand, is of course the best known example.

The Roman phase of this evolution presents the aspect of an ever more over-urbanized world, in which the problem of the over-grown city was as actual as it is to-day. He who would undertake to write the more comprehensive work on Ancient City Planning, which is needed, would have to devote an especially important chapter to expounding this process of urbanization and of its attendant gradual decay. He would, above all, have to show the underlying causes and the social and economic effects of the over-crowding in the great urban centers, where land and building speculation flourished, rents were oppressive, and the housing problem a permanent cancer. In discussing this phenomenon from the viewpoint of city planning, he would have to emphasize the fact that the city planning problems of this period, in spite of differences, especially technical ones, were *fundamentally* not different from those of the present age. The conditions of the capital of the Empire, as well as those of Constantinople, offer a particularly striking parallel to those of our own "world-cities." Their problems were indeed "appreciated" at the time and attempts to remedy the situation through city planning measures and economic legislation were not lacking.

However, when Professor Haverfield wrote "Ancient Town Planning" he did not have in view so comprehensive an aim. But he devotes some very valuable chapters, constituting the larger part of the book, to exposing many individual examples of Roman town planning, as revealed through archæological research. In discussing the plan of Pompeii he advances a new and suggestive hypothesis regarding its development around a nucleus of Oscan origin—an hypothesis which seems interesting and discussable, but which probably has caused some perturbation among the archæologists. He is less fortunate in attempting to ascribe a Roman origin to the town plan of ancient Naples, the Greek Neapolis. Perhaps the most successful chapters of the book are those which deal with city foundations in the Roman provinces, particularly those in England.

[In an appendix the author gives us a glimpse of ancient Chinese town planning as brought to light in the partly excavated ruins of a military colony in Turkestan, established in the eleventh or twelfth century of our era.

[4] J. S. Reid, The Municipalities of the Roman Empire, p. 390.

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But the book does not contain the slightest reference to town planning in ancient India, which is greatly to be regretted.]

Finally, the writer may quote some concluding words by Mr. Haverfield. "It is not likely," he says, "that modern architects or legislators will learn many hints from plans of Timgad or of Silchester. There are lessons perhaps in the growth of Turin from its little ancient chess-board to its modern enlargement, but such developments are rare. The great benefit to modern workers of such a survey as I have attempted is that it shows the slow and painful steps by which mankind became at last able to plan towns as units, yet inhabited by individual men and women, and that it emphasizes the need for definite rules and principles. Nor is it perhaps quite superfluous today to point out how closely, even after the great upheaval of the nineteenth century, the forms of modern life depend on the Roman world."

These are excellent words, to which one might add, however, that there are certainly lessons for us in the growth of the cities of the ancients, and it is not superfluous to point out how closely the fundamental city planning problem of today resembles that of Classical Antiquity. But in order to learn something from these lessons and in order to comprehend the striking and significant resemblance between our most essential urban problem and that of the Ancients, we have to study their cities from another viewpoint than that of archæology.

NILS HAMMARSTRAND.

The Second Pan-American Congress[1]

Report of Delegates

The following report has been presented to the President of the Institute:

We have the honor to submit the following report, to which we have added some observations and reflections as to the result of our cordial and pleasant contact with the delegates present at the Congress, among whom were the Deans and other eminent members of the Faculties of the Architectural Departments of the National Universities, and also with the most prominent practitioners in every city visited in Chile, Argentine, Uruguay and Brazil, on our journey from Santiago to Rio de Janeiro, after the Congress adjourned.

We left New York 23 August, and after an enjoyable voyage through the Panama Canal and down the West coast of South America, calling at numerous ports, we arrived at Valparaiso in the early morning of 13 September, one day behind schedule. Here we were met by Señ. Rafael Bustos, a prominent architect of Valparaiso, who gave us our first taste of South American hospitality. Our delay caused us to miss the work of one day only—the opening session having been most courteously postponed a day—which, however, was the subject of much regret, as the inaugural meeting held in the University of Chile was attended by the President of the Republic, and was followed by a banquet given by the Executive Committee of the Congress.

The next morning we presented our credentials, and saw the active work of the Congress well under way. Profiting by the experience of the first Congress, organization had been established along excellent lines, eliminating, as far as possible, general discussion and consequent loss of time. The general or plenary sessions of the Congress were only three in number, the greater part of the work being done by eight "Commissions" or Committees, to which were assigned the different subjects brought before the Congress.

Their recommendations were submitted to the plenary sessions, where they were finally discussed and conclusions determined. Your delegates were appointed to membership on two of these commissions: (a) Conservation of monuments having historical value, architectural or archeological; (b) creation of edifices and monuments of a public character—(the discussion involving the subject of international competitions).

At a banquet given by the directors of the Associated Architects of Chile, to the official delegates and the local and visiting architects, on the evening of 15 September, in the Hotel Savoy, attended by approximately 150 men, Mr. Watson had the honor to present the greetings of the architects of the United States, especially those of the American Institute, and also the greetings of the United States Government and of the North American branch of the Pan-American Union. These were most enthusiastically received, and at once we felt that we were in intimate touch with a splendid body of men whose efforts and aspirations were in sympathy with ours.

At an official banquet given to the delegates by the Minister of Industry of the Republic of Chile, at which were present many distinguished personages, including the Ambassadors from Cuba, Mexico, Argentine and Panama, the Chilean Minister of War and others, we were honored with the request that our delegation respond for the delegates to the toast given by the host, the Minister of Industry. The response was made by Mr. Plack, and was warmly received. Another happy incident of the evening was a stirring address by the Mexican Ambassador, who referred in warm and gracious terms to the United States and the settlement of the agreement between our governments, just then consummated. We had the pleasure of exchanging with the Honorable Ambassador hearty congratulations on the happy event.

The exhibition was a notable feature of the Congress, and was thoroughly organized and splendidly managed by an able committee, consisting of the following gentlemen: Señores Bernardo Morales, President; Manuel Rojas, Secretary; Carlos H. Sotomayor, Ernesto C. Bon-

[1] Convened at Santiago, Chile, September 10-20, 1923.

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nencontre, Alberto Schade, delegate from the executive committee and professor in the University of Chile.

The exhibition was held in three buildings, the main exhibit being in the Palace of Fine Arts, consisting of the international exhibits of professional and student work of the Architectural Schools of Argentine and Uruguay. The exhibition of the Architectural Department of the University of Chile was held in a very creditable building, devoted exclusively to the School of Architecture and Engineering. The Universidad Catolica (Catholic University) also held a separate exhibition of student work in its own buildings. Your delegates were both appointed on the international jury of award, Mr. Black serving on the committee of international exhibits and Mr. Watson on that for the student work of the University of Chile.

We wish especially to call attention to this feature of the Congress. The exposition was large and, as a whole, most creditable. Every facility was afforded for the placing and arrangement of the various national exhibits, some of which were exceedingly interesting. The Mexican exhibit, consisting of a magnificent collection of photographs of antique and colonial work, to which were added photographs and drawings of new work, was most noteworthy.

Our own exhibit was very creditable, as far as it went, but was not of sufficient size to create the interest it might have done. We found the authorities not only willing but anxious to meet any suggestions as to the placing and hanging of our work, and we were given ample space in a good location, where our exhibit was satisfactorily grouped and arranged. Here we wish to express our appreciation of the efforts of the members of the "hanging committee," who were thoroughly up to the requirements of the work. A word of commendation is also due the officials of the Grace Steamship Company for the manner in which the complete transportation of our exhibit from New York to the exhibition building in Santiago de Chile was accomplished, and by whom we were relieved not only of the trying details of this work, but from all charges. Mr. Gittings, of the United States embassy at Santiago, was early on the scene, and afforded us most valuable assistance, and we have every reason to believe that the exhibits will be safely returned to the United States and to their respective owners. All the exhibitions of student work were noteworthy, and represented the Architectural Departments of the Universities of Chile, Argentine, Uruguay and the Catholic University of Santiago.

On the Commission of Award, of which Mr. Plack was a member, assigned to pass upon the professional exhibits from Cuba, Mexico, Uruguay, Argentine, Chile and North America, the Chairman called attention to the general requirements for the gold medal and diploma, and announced that since all of the North American architects had failed to observe the requirement relative to "one Elevation, one Cross Section and two Plans," in addition to Perspective drawings and Photographs, on each project displayed, the only distinction they could award them was Honorable Mention. This interpretation, in its application to the American Exhibit, was suspended, however, and North America thus received three gold and one silver medals, one special mention and twenty mentions.

Mr. Watson, serving on the Commission of Award at the University of Chile, was afforded an opportunity for a careful analysis of this work, which he found to compare most favorably in draughtsmanship and rendering with that of any of our schools in the United States. The problems are, in many respects, dissimilar, and the viewpoints so at variance with our own, that the conception is quite different, especially in plan; but there is much which we can well afford to emulate, as well as much to give, and it is indulging in platitude to say that it lies with the students that this good work should begin and continue.

Your delegates were more than casually impressed with the educational work being done by our South American confreres, and we would recommend the encouragement of the interchange of students for at least partial or post-graduate courses. This idea is looked upon with favor by our colleagues in the southern hemisphere, and while many of their young men already come to us for their architectural training, it would be well worth while for many of ours to go to them. We would urgently recommend that exhibits of school work be exchanged annually. A move in this direction would undoubtedly be met with hearty co-operation. We would be most happy to furnish further information to the deans of our architectural schools, whom we sincerely hope will encourage an effort of this kind.

The Second Pan-American Congress of Architects was an undoubted success, and received the support not only of the members of the profession and those directly interested in architects and architecture, but was also heartily supported by the national governments of the countries represented, several of which sent their ambassadors (where professional men were not available), who took an active part in the plenary sessions and official functions.

There were present at the congress approximately sixty-five official delegates from the following countries: Chile, Argentine, Uruguay, Paraguay, Columbia, Mexico, Cuba (Ambassador); Panama (Ambassador); Guatemala (Ambassador); Venezuela (Chargé d'Affaires in Chile); United States. Peru was not represented and Brazil had no official delegates, but her Ambassador extended the felicitations of the government to the Congress at the final plenary session, and also offered a memorial of congratulation to Chile on the occasion of the Anniversary of Independence—"Diez y Ocho de Septiembre"—which occasion added wonderfully to the enjoyment and interest of our entertainment. This is the national festival of independence or Chilean "Fourth of July," and the event is celebrated with magnificent pomp and ceremony. The solemn Te Deum at the Cathedral, the military review, the general pleasure-making of the people, not to mention "The Races," make the occasion one never to be forgotten by those privileged to see it and join in its spirit. Indeed, we must here record our appreciation of the entertainment provided for the Congress, and of the thorough and splen-

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did way in which it was organized and carried out by our Latin brothers—masters in this gracious art.

The Congress was financed first by the architects of Santiago, assisted liberally by the Chilean Government. Mark this! *by the Government*—and there was no detail omitted in providing for the comfort and pleasure of the delegates every minute of every waking hour. This is another subject in which we Anglo-Saxons have much to learn, and the knowledge of which might add to the graces of our students attending South American schools.

Brazil did not send delegates to the Congress, and we felt that after the adjournment at Santiago, our formal and official duties had ceased. This, however, proved to be otherwise, for upon our arrival at Rio de Janeiro, we were at once called upon by representatives from the Sociedade Central de Architectos da Brazil, and were given a formal reception and honored with corresponding membership in the Society. A luncheon was also tendered the Society by Col. Crawford, representing the Baldwin Locomotive Works in Rio. The architects of Brazil have only recently organized, the Society being but three years old. This explained the absence of delegates from the Congress.

No doubt the question will arise: What are the opportunities in South America for architects from the United States? The answer to this is most difficult and would involve a much longer discussion than the space allotted to this report will permit. We will, however, venture upon a few points which came under our observation during an all too short visit.

First: The ethical codes under which the practice of architecture is conducted in South America are totally different from ours. In most cases the architect and the builder are the same individual, and this method has had the endorsement of long standing, and is used by some of the most distinguished men in the profession.

Second: The ethics of competition are as yet unsettled, and it will probably be a matter of more than another Congress before a satisfactory basis will be established. We found, however, a keen interest in our methods, and we had many requests for the "Standard Documents," which will no doubt bear fruit.

Third: Our conceptions are so different that it is impossible for North American architects to have anything like the proper understanding of South American problems, until they take up residence, not of a week or month, but sufficiently long to acquire the languages and the mental approach. Here again looms the question of the interchange of students. No doubt there is a rapidly increasing open-mindedness towards North American ideas in architecture as well as other things, which is creating a demand, and, added to this we have the ever growing North American population living in South America. Taking the above matters into consideration, we believe that *in time* many agreeable and profitable associations may be effected by North American architects in South America, and by South Americans in North America. We consider this a matter of great interest to our young men, and one which should be seriously investigated by the authorities of our architectural schools.

Another question will naturally be asked: Is it worth while for the American Institute of Architects to become a permanent member of the Congress, and to participate in its meetings and exhibitions? We strongly recommend that the Institute give the affirmative answer to this question. The salient facts, we think, warrant such action, to say nothing of the supporting volumes which might be written of the spirit and influence of the Pan-American Congress of Architects as an organization, and which, to be appreciated, must be experienced. Your delegates were invited to become members of the permanent Executive Committee of the Congress, to which each national body has the privilege of sending five delegates.

After the closing sessions of the Congress, the visiting and resident delegates were taken to Valparaiso, where at the charming seaside village of Con Con, approached from Valparaiso by a shore road destined to become an "Amalfi Drive," we were tendered a farewell luncheon by the architects of Valparaiso, and where we took occasion to express our appreciation of the unbounded good will and hospitality which had been extended to us.

We left the Congress and Chile with deep regret, for we felt that we had been in contact with men of fine ideals, with whom we had established real friendships, and that we had perhaps succeeded in accomplishing something towards an amalgamation of the interests of the architects of North and South America, and the promotion of the spirit of real Pan-Americanism, so much desired by our government, which had endorsed our mission through the State Department with special credentials and passports carrying the signature of the Honorable Secretary of State, Charles Evans Hughes.

WILLIAM L. PLACK,
FRANK R. WATSON.

The Secretary's Page

I had thought that in last month's Journal I would finish writing about the Institute Documents. Various correspondence that has come to the Secretary's office, however, together with conversations at different Chapter Meetings and at the Sixth District Regional Conference, has led me to believe that I omitted to say anything about one of the newer and, judging from the above mentioned incidents, least understood of the Documents. I am referring to A.I.A. Document No. 186, on "Functions of the Architect." The note at the beginning of the document says: "This Circular is issued for the purpose of supplying information to those outside the profession of architecture who are interested in building." And so, therefore, in spite of which, and because of which, it is the first subject of the Secretary's Page for this month.

13. A.I.A. Document No. 186.—"Functions of the

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Architect." I recommend very strongly to all members of the Institute, and to all architects, that they read this Document with care. After they know what is in it, I counsel them to buy a large number of copies and distribute them to their prospective clients. Neither of these actions will hurt them at all. While the need for which the Circular was issued was supposed to lie outside the profession, I am forced to the belief, from all I can discover, that knowledge of what the circular contains is confined to so few in the profession that the actions of the rest, who seem to be ignorant of these very statements, are, in some localities, rapidly educating the public to a belief that the statements themselves mean nothing. Take a given community, anywhere in the world. Let one-half of the architects attempt to carry out the principles laid down in A.I.A. Document No. 186, and let the other half remain in joyful ignorance of them. What is the immediate result? Every time an owner or a committee, for example, thinks that some sketches would be nice they can get a fair number of the profession to provide them. They can also get proposals for doing the architectural work for whatever fee they want to pay. If you were an owner and knew nothing about an architect, other than that someone of that name was customarily employed to make some blue prints of a building, wouldn't you take exactly the same course of procedure? And how much credence would you place in the chap that tried to tell you that you weren't entitled to all the free sketches you might happen to desire? Gentlemen of the profession, it is absolutely your own fault that you are up against the idea of free sketches and inadequate fees. Just as long as a large percentage of architects run about the country doing this sort of work, at fees for which they cannot possibly give either good or adequate service to an owner, just so long will that type of work and that type of architect bring discredit to the profession as a whole. Document No. 186 is not understood by the members of the Institute. It is less understood by architects who are not members of the Institute. Tell me how is it possible to expect "those outside the profession of architecture who are interested in building" to understand, or be interested in, such a document, when the profession promulgating it is, to a large measure, ignorant of its contents.

14. All of which leads me now to depart from the documents themselves and to theorize idly for a few minutes. If every member of the Institute would endeavor to know the things for which the Institute stands, and then would endeavor to play the game in the profession to which he has dedicated himself, along those lines, it wouldn't be long before the other fellows would be asking to come in and play the game the same way. And then it wouldn't be long before the public would understand perfectly well for what an architect stood and most of the public's troubles with the architect would be ended. You see, what I am getting at is not the welfare of the architect himself. That is a purely secondary matter. What this country needs is not architects but good architecture. If the architects cannot give the public what it wants in this matter, why the architect? It won't take the public long to discover that it is worth while to pay a proper fee to the architect; to avoid free sketches as they would avoid free prescriptions from free doctors or free opinions from free lawyers; and thus to know what good architecture is. But the profession itself must get together and prove its case. One is amazed to realize how much the Institute has accomplished along these lines, in the past, in those parts of the country where the architect has been practicing for some time, particularly when one realizes that the Institute represents but a portion of the profession in the country at large. But the newer parts of the country are naturally behind the older parts in the appreciation of architecture. And this leads me to the keynote of the Sixth District Regional Conference, the first Regional Conference thus far held.

15. LOCALITY. I hope you have all read the report of this conference in the last number of the JOURNAL. I had the good fortune to be there and it was a most inspiring occasion. And it was odd that it should be so when there wasn't a single beautiful speech on architecture, on design, on artistic ability or on any of the æsthetic sides of the profession of architecture. And yet, when you think of a group of men from eight or ten different sections of the country all sitting about discussing the general problems of their work in a spirit of open-minded constructive optimism, you are not surprised that it was as inspiring as it was valuable. As a direct comparison of the differences in locality and the problems of the different parts of the country, take the Chapters in the various states and compare their memberships, territories, possibilities, and natural variations in methods of work and people with whom they may have to deal. New York state has four Chapters with 598 members. Pennsylvania has five Chapters with 304 members. Ohio has five Chapters with 214 members. Texas has one Chapter and 76 members. The Minnesota Chapter has 84 members and three states. How can conditions be the same? They can all be helped, however, if all the architects will work together and will realize these differences of locality and recognize them when their work carries them into territories other than their own. The present regional distribution of the Directorate of the Institute is a great step ahead in the fair understanding by the Institute of its many localities. The development of the Regional Conferences is the next great step in this direction. May the Secretary strongly recommend the adoption of the Regional Conference idea?

Official Notices to Members

ARCHITECT'S CATALOGUE SUPPORTED BY ADVERTISEMENTS

The Secretary calls attention to the formal notice concerning catalogues or similar documents illustrating the architect's work and supported by advertisements, as specifically deprecated in Article 9, of the Circular of Advice Relative to the Principles of Professional Practice.

This notice would have been sent shortly after the 56th Convention had it not been discovered that several members, in different parts of the country, had unwittingly entered into contracts for the publication of such catalogues. This involved correspondence and further consideration by the Institute Board. The Directors, at their meeting in New York on 8 and 9 November, instructed that the notice herewith be promulgated, with a

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ruling that it shall not be retroactive. In other words, no cause for disciplinary action will lie against members committed to the publication of such catalogues prior to the issuance of the December JOURNAL. The appearance of such catalogues, commitments for which were made subsequent to the issuance of the December JOURNAL will constitute grounds for the filing of charges of unprofessional conduct against Institute members concerned therein. Here follows the formal notice.

To the Members of The American Institute of Architects:

The last paragraph of Article 9, of "The Principles of Professional Practice" of the Institute reads as follows:

"The issuance by an architect of a professional treatise or a monograph of his work in the form of a book or pamphlet which is supported by advertisements, whether privately printed or published through regular channels, tends to lower the dignity and standing of the profession and is to be condemned."

At a recent meeting of the Executive Committee of the Institute two brochures were submitted containing photographs and descriptive data of executed buildings by Institute members. One of these books was designed and issued by a professional promoter, and contained advertisements by contractors, manufacturers of building materials and others. The other was published by the architect himself, and while there were no laudatory references to the various buildings illustrated, the document contained advertisements by contractors, manufacturers of building materials and others.

Concerning this practice the Institute Board of Directors in its report to the last Convention had the following to say:

"The Board of Directors in September, 1917, passed the following resolution:

" 'Resolved, that the Board of Directors condemns as contrary to the spirit of the Canons of Ethics the issuance by Members of the Institute of professional treatises or monographs of their work in the form of books or pamphlets, whether privately printed or published through regular channels, which are supported by advertisements.

" 'This vote was printed in the JOURNAL for September, 1917. The matter was again brought before the Board of Directors at its meeting in December, 1922, when the same opinion was declared.

" 'The Board came to the conclusion stated in the above resolution through the conviction that there is no legitimate advertising value in such catalogues, and that the material men and contractors take space in these catalogues believing that the space has no financial value to them, but solely because they are disinclined to refuse on account of some possible unfavorable reaction by the architect. The architect may or may not state explicitly that he does not care whether the contractor takes space or not. However, this may be stated, it does not carry complete conviction to the contractor or material man who is approached by a third person.

" 'The Board's conviction in regard to the value of these documents as advertising mediums and the reason why contractors agree to take such space is completely substantiated by copies of letters from advertisers themselves and in communications from the Secretary of the Association of National Advertisers.

" 'The Board believes that this practice is vicious in its results, no matter how scrupulously the architect attempts to state his position, and urges members of the Institute to co-operate in putting a stop to it. It is substantially in violation of paragraph 9 of the Circular of Advice and of Canon No. 3, which states that it is unprofessional for an architect "to accept any commission or substantial service from a contractor or from any interested party other than the owner." In securing for his own use copies of a catalogue of his own work at the expense of contractors and material men, an architect is in effect accepting a substantial service.' "

The Board of Directors of the Institute now calls the attention of every Member to the impropriety of members issuing such brochures as those described in Article 9, whether they be issued by promoters or by the architect himself.

DELINQUENT MEMBERS

At the Board meeting in November it was decided to modify the policy of leniency toward delinquents which came into effect during the war and has since then continued. The feeling of the Board is that business conditions have improved and that the Institute members ought to pay their dues with reasonable promptness.

The following resolution was adopted:

Resolved, that those members delinquent for more than one year on January 1, 1924, be given until February 1, 1924, to make payment in whole, or to reach some agreement with the Treasurer as to payment. Otherwise the Institute membership of each delinquent coming under this resolution shall be terminated on March 1, 1924, upon notice to him from the Secretary to that effect. It was further

Resolved, that the Presidents of Chapters and the Directors having jurisdiction be advised of delinquents in their Chapters coming under this resolution and that they be requested to assist the Treasurer.

PAN-AMERICAN CONGRESS

At the Board meeting a report from the Institute delegates to the Second Pan-American Congress was presented, and it was

"Resolved, that the Board of Directors of the American Institute of Architects hereby expresses its appreciation of the unselfish action of Mr. W. L. Plack and Mr. Frank R. Watson, who at their own expense made a journey to Santiago, Chile, in September, 1923, for the sole purpose of representing the Institute and the architectural profession of the United States at the Second Pan-American Congress of Architects. Grateful acknowledgment is made of their contributions of ability, time and money towards the advancement of closer relations with the architects of South America."

1 December, 1923. EDWIN H. BROWN, *Secretary.*

Industrial Relations

CRAFTS TRAINING IN THE BUILDING INDUSTRY

The Federal Bureau of Vocational Training, established by authority of Congress, called a conference for 15 November in Washington on the subject of craft

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training in the building industry. The meeting was arranged by Mr. G. A. McGarvey, of the Vocational Training Department, and presided over in part by Chairman Cushman.

According to the programme, invitations were issued to national organizations interested in improving the training of the building crafts and to educational directors already at work in trade schools or developing training methods in the crafts. The invitation to the Institute Committee on Industrial Relations was very interesting because the Secretary of the Government department indicated that he was familiar with the work of the Building Congress groups in various cities and very anxious to have the Institute's point of view represented at the hearing.

The meeting in Washington was held in one of the large Senate Committee rooms and was attended by thirty or forty representatives of different national building organizations and the directors above referred to. The Institute was represented during the early part of the meeting by Edward B. Lee, of Pittsburgh (Delegate of the Institute on the Board of Jurisdictional Awards), and by myself as Chairman of the Committee on Industrial Relations. Mr. D. K. Boyd, of Philadelphia, was also present as representative of the American Construction Council.

The first session of the conference was devoted to discussions of various programmes of education already under way, their relative merits, successes and failures. Exceedingly interesting reports were made by Mr. Carroll, of Cleveland, on the brick-layers' training courses there, by Messrs. Hawkins and Walker on educational experimental work conducted by the tile manufacturers, and by Professor Bowman on the educational plan being worked out by the National Association of Plumbers and Steam Fitters. Frequent reference was made in the course of the discussion to the general methods adopted by the Boston, New York and Portland Congress groups in their apprenticeship commissions. It was apparent that most of the delegates present were familiar with these educational schemes and thoroughly approved them. Mr. Boyd reported that at a recent meeting in St. Louis a decision was reached to form a Congress group there with the idea that an apprenticeship system would be started at once. Mr. McGarvey raised the question as to whether or not, while such apprenticeship plans would probably prove admirable in large cities, they could also be expected to work out in scattered communities. It was suggested that the Congress group in New Jersey would have an opportunity to experiment as to how the apprenticeship scheme could be worked out at certain definite centers where apprentices from scattered communities could be brought together.

While the final action of the Washington meeting is not yet to hand in a formal government report, it may be said here that the meeting accepted without a dissenting vote the fundamental principles which were laid down several years ago by the Institute through its Committee on Industrial Relations and which are incorporated in the principles on which the various Congress groups have been founded. The meeting adopted a statement to the effect that the first step to be taken in the organization of any scheme of education of apprentices in the building industry is to bring together for its management and support a co-operating group which shall include not only employers and employees, but related interests: Architect, engineer, building finance, building materials and the city or state educational departments having jurisdiction. It is hoped at a later date the Committee on Industrial Relations may report in detail through the columns of the JOURNAL the actual series of statements formally adopted by the Washington conference on this subject.

At this time, however, it is well to note one valuable and helpful suggestion made at this meeting which will justify study by architects who are already working in our Congress groups towards developing crafts training. It was generally agreed by the delegates to the meeting that one of the most serious difficulties with getting a training scheme on foot in any city was the fact that apprentices for a number of months were of no value to the men employing them. The meeting therefore adopted a recommendation in favor of pre-apprenticeship training courses in school centers, so as to overcome that first uneconomic period and make apprentices acceptable to the employer at the time when they cease to be an economic burden. ROBERT D. KOHN, *Chairman.*

Co-operation With the Commission of Fine Arts

The following account of the Washington Committee on the Federal City has been prepared by Miss Harlean James, Secretary of the American Civic Association:

It was thought by President Washington that the "Federal City" might at some distant day become a metropolis of two hundred thousand inhabitants. That time has long since passed. On any day in the year more than half a million people can be found in the National capital. Tourists may remain a day or a month. Residents may come from Maine or California for two, four, six years or some multiple of these mystic numbers. Still others serve the Federal Government for ten, twenty, even thirty years, for it must be remembered that under the Civil Service each State in the Union is entitled to its quota of Federal employes. According to Dr. John M. Gries of the Division of Building and Housing of the Department of Commerce there are fewer families, more single persons and widows, and fewer children in the District of Columbia than in any city of similar size in the United States.

Consideration of the transient character of so large a proportion of the population of the Federal City leads us to understand why the District of Columbia was designated as neutral political territory and placed under the control of the capital in the hands of Congress.

The L'Enfant Plan for Washington has left its indelible impress on the inner city although there are many regrettable departures from it. The restudy and extension of the L'Enfant Plan, the removal of the railroad tracks from the Mall, the location of the Union Station, the establishment of a new axis in the Mall still waiting to be completed to adjust the old error of location of the

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Washington monument are due to the initiative of Senator McMillan and the eminent men who collaborated. But the McMillan report contains many recommendations which are not yet carried into effect. Some, alas, can never be realized because virgin woods have fallen before the axe, ravines have been filled and hilltops cut to make monotonous clay levels covered with endless rows of "attached" houses.

This generation owes much to the Commission of Fine Arts, authorized by Congress and first appointed by President Taft. The Act (of May 17, 1910) creating this Commission require that it be consulted as to the location, selection of models and of artists to execute all statues, fountains and monuments, and by succeeding executive orders its advice is requested upon plans for public buildings. Lord Bryce declared that the site of

(*Continued on page* 494)

Community Planning and Housing

By CLARENCE S. STEIN, *Associate Editor*

The cartoons and diagrams opposite, by Mr. Henry Wright, distinguish three different factors in the housing situation which have hitherto been confused. The first factor is the rise in building costs. Except where a temporary shortage in buildings or raw materials or labor occurs this rise may be neglected, since it has taken place steadily in almost every other commodity, and has to a certain degree been met by an increase in wages and salaries.

The second factor is the high cost of *what we build.* The house which satisfied the early settlers in America consisted of two rooms and a fireplace; literally nothing more. Since that time there has been a constant increase in the internal appliances with which the house is equipped: the Franklin stove in the eighteenth century, running water in the nineteenth, and bathrooms, central heating plants, and complicated systems of waste removal have made the house an increasingly costly bit of apparatus. Various attempts at "improved workingman's dwellings" have recognized this second cost factor, and have sought to reduce it by cheapening the methods of construction, by decreasing the size of rooms, by combining bathroom and kitchen into one, and so forth; this has been the "architectural" solution of the housing problem.

In the meanwhile, as Mr. Wright's graph shows, a third element has entered. This element is the municipal equipment; and during the last fifty years it has risen to a point which makes any purely architectural solution of the housing problem absurd; since the main cost of housing tends more and more to lie outside the house.

From the rough data that is obtainable, we see that a striking rise occurred in site cost between 1850 and 1870; that is, in the period when street grading, pavement, gas and water systems were being widely introduced into American cities. There is another distinct leap upward from 1895, when municipal sewage disposal systems, open plumbing, and the increase of electrical appliances increased the burden of municipal equipment. The curve of present tendencies, based upon Mr. Wright's independent investigations, supplemented by averages throughout the country provided by the Department of Commerce, would indicate that at the present time the structure of the house is only about 55% of the total cost. Those who believe in the inexorable continuation of mathematical curves may comfort themselves with the indication that the structure itself will disappear, in favor of site costs and appliances, some time after 1970.

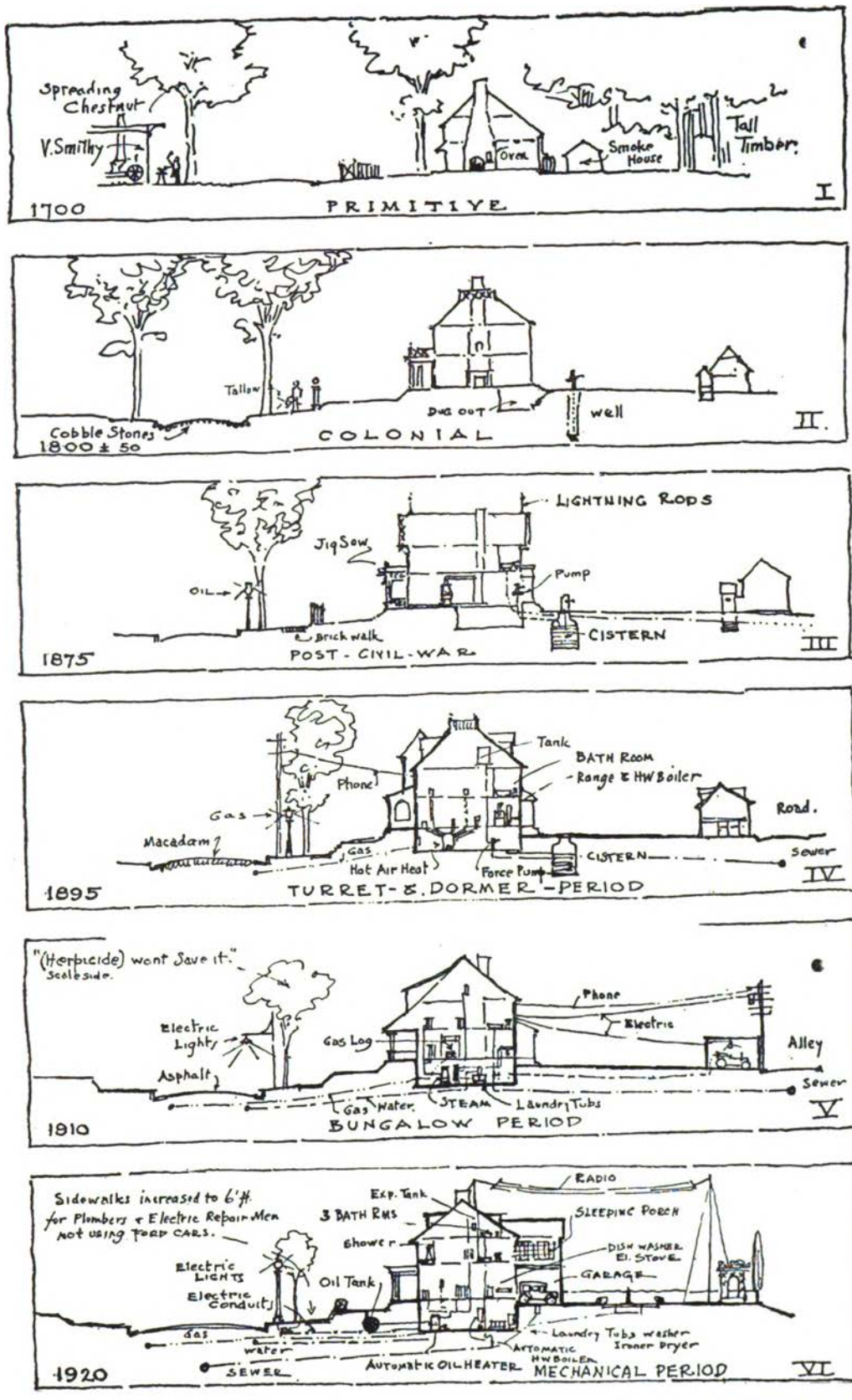
This curve of increasing site costs becomes even more significant when placed alongside the diagram showing the proportion of houses and multiple-family dwellings built in the larger cities. The rapid change to multi-family dwellings, from 1900 to 1915 shows, among other things, a tendency to overcome these costs by taking advantage of some of the economies in this type of construction. If this tranformation was temporarily arrested between 1915 and 1921, it was only because building costs advanced whilst site costs remained relatively stationary, and, in other cases, because a large number of houses were planted in suburban tracts without suitable or complete street construction.

There is no need to prove here that the multiple-family house by itself is no solution of the housing problem under present conditions of land tenure, occupancy, and city growth; even the most economical methods of construction are handicapped by our extravagant procedure in grading, street layout, and platting, to say nothing of the burden of rapid transit systems and internal congestion in big cities where the workplace and the dwelling-place are widely separated. As a solution of the housing problem we are offered the alternative of shifting the costs of the municipal equipment, or reducing the elements of waste and extravagance. The first method means some form of subsidy; it is ineffectual in the long run and uneconomic all the time.

What remains is a concerted effort at house-planning and regional planning; a solution which will deal with the individual house in all its relationships. The task before the architect, it would seem, is to circumvent the rising costs of site and appliances, not by paring away necessities, but by curtailing the waste that our present haphazard method of city development carries with it. The longest way round is here, literally, the shortest way to a home. Unless the architect can begin by providing a functional layout for his community, there is little possibility any longer of providing decent houses in a good environment, except for the prosperous minority. Either community planning and housing go hand in hand, or else, these graphs indicate, the architect's task becomes the sorry business of making the best of a bad job.

L. M.

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HOUSING PROGRESS—I

Henry Wright

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Co-operation with the Commission of Fine Arts

(*Continued from page* 492)

Washington surpassed that of every capital save Constantinople. We had the advantage of starting with an adequate plan, but in spite of the outstanding achievements in the Mall plan, future generations may well point to the permanent scars inflicted in the present decade; and these scars can never be healed! Areas which should belong to the Federal Government for public buildings, parks, playgrounds and schools are being alienated to other purposes. Private buildings are being erected on land which the government is bound to acquire, with the inevitable result of increasing its cost by millions of dollars.

In the next twenty-five years there is bound to be a program for public buildings unprecedented in any similar period, all of which leads to an inescapable conclusion that the *National Capital needs a unified plan.*

The American Civic Association has undertaken to focus public opinion on these needs of the capital. Mr. Frederic A. Delano has become chairman of the Washington Committee on the Federal City on which more than a hundred residents of Washington have accepted service. By December there will exist in the country at large more than fifty co-operating committees. This network of public-spirited citizens will labor to bring to the Congress, which acts as a common council of the Federal City, that encouragement and cordial support which will enable this body to give the capital of the United States a beauty worthy of its site and living conditions worthy of the American people.

The American Civic Association bespeaks the active co-operation of the architects in this movement to make Washington at once an example of the best development in American cities.

* * * *

May I add to Miss James's vivid picture by pointing out that, as an illustration of the scope of the work planned, there are ten sub-committees as follows:

(A) Forest and park reservation within and without the District. (B) School sites and playgrounds. (C) Housing and reservations for future housing requirements. (D) Zoning. (E) Street, highway and transit problems, including future development and extensions thereof. (F) Architecture. (G) Extension of metropolitan Washington beyond the District Line, and contact with the Maryland and Virginia authorities. (H) Waterfront development, commercial and industrial, as well as otherwise, and (I) Industrial development and limitations. (J) A Committee of contact and future relations with existing organizations.

In addition to the central co-ordinating Committee on Architecture, which is divided into two groups working on public and private buildings, there is an architect for each of the other committees, furnishing technical advice and bringing back to the Committee on Architecture his special point of view. These reports will be submitted for review to technical groups so that each one will stand as a model when distributed to the various local committees throughout the country.

Architects interested in civic betterment throughout the country are urged to co-operate with the work for its influence on their own problems as well as for their help in making Washington, which stands to all the world as the most conspicuous American city, rank high among the capitals of the world.

HORACE W. PEASLEE, *Chairman,*
A. I. A. Committee on Co-operation with the Commission of Fine Arts.
Sub-Committee on Architecture,
Federal City Committee.

From Our Book Shelf

As the Bird Saw

Rembrandt was born in 1606. Hollar was born a year later, and yet one might conclude that the master plan-maker had never known or heard of the master painter and etcher, so little is there of resemblance in their work. All of which is not by way of brushing Hollar aside as a mere maker of plans. He was an orderly-minded man who saw things in the larger sense than that of the geometrical or the standardized. He saw architecture as something that belonged to a city and could not be torn away from it. A plan might be a useful way of indicating thoroughfares, squares, bridges, and the location of important edifices, but to Hollar it must have been plain that a plan was (and still is) a skeleton, after all, and that it has little importance if it is not truly embroidered by the builders who are to use it, and the people for whom it exists.

From all of which it might be fair to guess that the people of Hollar's day had an interest in towns that had something to do with people and how they lived and what their houses and buildings looked like. There must have been an appreciation of other things than those that now grow stale with monotonous repetition. Hollar made plans, it is true, and even though they were pretty likely to be bird's-eye views, when they were not he was almost certain to ornament the margins with a sketch or two in order to avoid, one feels, the dry and lifeless delineation of thoroughfare and property lines. People counted, as they no longer count, and if Hollar also derived an appreciation from the growing interest in places, in travel, in journeys to far countries, one cannot study his work without being conscious of the apparent fact that the days of engineering in human efficiency had not dawned on the horizon.

To the architect Hollar is, therefore, worth while. He recorded, most truthfully, the narrative of towns and cities. He was an etcher par excellence. 'Tis even said that Rembrandt owed him a small debt of suggestion. He did poor things, it is true, for he delineated towns that he never saw and gave to the East a strong and rather comic taste of the West. But he drew like a master, and he must have loved architecture whole-heartedly, even though he invented it when he had none to go by.

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FROM OUR BOOK SHELF

Mr. Hind's book[1] is a good one, to be used not only as a *catalogue raisoné,* but as a document by which to gauge the atmosphere that made good architecture a pleasant attribute, rather than a conscious and overstudied effort to give people a setting which could not fit—for people have to create their settings in order to have them interesting, and the conscious and frantic effort to design with an eye to engineering terms has not yet produced one interesting urban and truly human community. One might indeed ask what good it will do to look at the work of Wenceslaus Hollar, and the answer could only be that it might help to gain a glimpse of the kind of thing that kept buildings in scale with the people that lived in them and made structure an intimate part of the conscious life of people. C. H. W.

[1] Wenceslaus Hollar and his Views of London and Windsor in the Seventeenth Century, by Arthur M. Hind.

Composition

Before me are five text-books on Architectural Design in French, German and English. The first is Guadet's "Eléments et théorie de l'architecture," published in Paris some twenty years since. It is a monumental and, from the French point of view, an exhaustive treatise in four volumes on architectural design; the first volume devoted to the general theory and principles of architectural design, and the other three to the application of these principles to various specific types of buildings. The second text-book, earlier in date by nineteen years, is in German; it is Heinrich Wagner's "Architektonische Composition," an excellent discussion, with German system and thoroughness, of the theory of plan, mass, proportion and exterior and interior composition. The other three are American books; one is the work of the late Professor John Beverley Robinson and is devoted wholly to exterior design; the second, by John V. Van Pelt and entitled "Essentials of Composition as Applied to Art," follows in part the "Composition décorative" of Henri Mayeux; in addition to the treatment of general theoretical principles of design in decoration and architecture, it includes *projets*—programs and their study. The last of the three, and the subject of the present notice, is "Architectural Composition,"[1] beautifully printed, comfortable to handle, and attractive from the outset by its readableness and by the fitness of its illustrations, which are excellent examples of free-hand drawing by the author.

All these books are by professional teachers, and are intended for students and teachers of design rather than for the instruction of the layman. They are all interesting efforts to put into the permanent form of the printed page those principles of architectural design which in the "elder days of Art" were inculcated by word of mouth under the apprenticeship system of the studio, atelier, or *bottega,* and which in this modern age of schools, classes, professors, and systematized instruction, have been customarily imparted by means of stated lectures to groups of classes pursuing identical studies. But the value and efficiency of lectures depend so largely upon the personality of the lecturer, and the impressions and ideas conveyed are so evanescent when not reinforced by such person and individual instruction as is impossible with large classes, that text-books are almost indispensable as ancillary instruments of teaching.

This is the function that Professor Curtis has aimed to fulfil in the book under review. He has not produced a comprehensive treatise on architectural composition in its broadest aspects, nor an exhaustive philosophical discussion of theories of design. As compared with the masterly first volume of Guadet's treatise (upon which, in part, it is founded), Professor Curtis's book measures less than half the volume of the French text, passing lightly over sundry topics that occupy many pages in the French work. The whole field of the three French volumes of application to and discussions of specific types of buildings, this book omits. One may regret that the author did not see fit to undertake the larger task of producing a comprehensive, philosophical treatise on architectural design; but I have always contended that a reviewer should judge a book by what the author set out to do, not by what he did not set out to do. Judged by his evidently limited purpose, Professor Curtis has done his work well, and for that purpose the book may be warmly commended to teachers and students alike.

This purpose was evidently to provide a vade-mecum or manual for teachers and students of architectural design in schools conducted in general according to the French system. As this is the system in general use in American schools, there is a wide field of usefulness for such a book, which embodies in clear and concise statement those principles and maxims enunciated orally by lectures on architectural design in the schools and more or less fragmentarily repeated by the atelier-critics from desk to desk. The limitation of its scope and method to the sort of instruction generally prevailing in our schools is indicated by the titles of its seven parts. These are: The Nature of Architecture; The Elements of Architecture; The Elements of Composition; Primary Rules of Composition; The Program of the Building; The Parti; Development of the Parti. Part I is introductory and too brief; Part II discusses walls, openings, roofs, orders, and vaults; Part III vestibules and communications, stairs, forms of rooms and courts, façades and masses. Part IV takes up general principles, proportion and scale; Part V the subject of programs; Part VI the study of the program, entourage, group plans, etc; and Part VII the development of the design, the bibliography of architecture; the first four parts are thus devoted to theory and the last three to applications. The point of view is that of the French Ecole tradition; there is, therefore, no discussion of composition in medieval styles, nor of informal design in domestic architecture, nor of the philosophy and use of historic styles. The author sticks closely to his purpose of producing a manual of practical instruction adapted to American schools as they are, not as some

[1] Architectural Composition, by Nathaniel Cortland Curtis, A.I.A., Professor of Architecture and Head of the School of Architecture in the Tulane University of Louisiana. Formerly: Professor of Architectural Design in the University of Illinois; Professor of Architecture in the Alabama Polytechnic Institute. Illustrated with Drawings by the author. 7 x 10; 250 pp., 266 illustrations.

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one may think they might or ought to be. Within this limitation his discussions are almost without exception sound, sane and sensible. He understands both what the student wants to know and what he ought to know. Especially commendable is his insistence on the plan as the fundamental element in design, and his subordination of exterior design and façade composition to excellence of plan. Equally to be praised is his constant use of American examples to illustrate the principles laid down. His clever free-hand drawings are well chosen to "point the moral" of each maxim or proposition, and include some of the latest buildings resulting from the New York zoning law. His comments on the Orders as subjects of study and on their proper place and function in design are judicious; his discussion of vaulting concise and excellent. The sections on Proportion seem to me too brief for the confessed importance of the subject; and one notes with regret the lack of insistence on the section as a necessary accompaniment to the plan in the study of the design from the outset, an insistence which Guadet used to make very emphatic in his desk-to-desk criticisms, as the reviewer vividly remembers. The subjects of unsymmetrical plans and exteriors and of roof-plans might well have received more notice, and the bibliography at the end of the book should, in another edition, be expanded to include a number of important works in English and German in addition to the French classics of the *atelier* there listed. In another printing, moreover, the very numerous errors in proof-reading, especially of French words, should be corrected. It must annoy Mr. Ruggles, to whom the author expresses his thanks for his aid in the "typographical" presentation of the work, to have such an error appear in the very expression of these thanks, and to see the name of one of America's most distinguished architects uniformly printed "Meade."

All these omissions and errors, easily corrected in another edition, are mainly superficial blemishes on a generally excellent piece of work, which will assuredly find wide favor among teacher and students alike.

A. D. F. HAMLIN.

Pastoral England

One cannot know England well without thinking of it as a place where there still is some leisure. And by the same token it cannot be visited by charabanc as one goes to Chinatown in America. The observer who would record his impressions must achieve leisure, if he should win his way to the ranks of Griggs and New and Brewer. Is there an outsider who has ever managed to draw English domestic architecture so that its every tale was told?

One speaks of these things with some regret, in the case of Mr. Louis Rosenberg's latest book.[1] It gives every evidence of that hurry which will not do. The photographs speak of a hard and fast schedule—one that would not wait for those conditions of light which are not too plentiful in England. They do try the patience, it is true, but the price of good work is patience, just the same. Hence the photographic illustrations are very uneven in quality and are not infrequently too black to give more than a fragmentary idea.

As for the drawings, there is something else to be said. At first glance one would say that Mr. Rosenberg had entirely failed to catch the real spirit of the domestic architecture of a pastoral land. One who has often walked the hills between Cleve and Burford, and come down into Broadway over many routes and by many lights, would deplore Mr. Rosenberg's records of the Cotswolds as most inadequate. But it is to be remembered that his drawings are too subtle for reproduction by any of the mechanical processes. In the present instance they have undoubtedly suffered atrociously from the high-light halftone process. Thus it were unfair to judge a draughtsmanship so superb as is that of Mr. Rosenberg by the mechanical manner in which they have been rendered in this case. We opine that before Mr. Rosenberg can hope to obtain any good reproductions of his work, he will have to modify his process of drawing, or, better still, he will learn to draw upon stone and thus easily and beautifully circumvent the camera and the etching bath. His method is essentially one that lends itself to lithography and to no other reproductive process of which we know.

The book will be prized, nevertheless, for it has great charm. The measured drawings are done with great skill and exhibit that trace of leisure we miss elsewhere. Particularly unfortunate are certain grievous locutions in the preface and foreword. A little editorial care would have relieved them of blunders which ought not to mar any book.

STEPHAN IVOR RICHEBOURG.

Construction

"Good Practice in Construction" by Philip G. Knobloch is a recent contribution to the Pencil Points Library. Without text, this book presents a complete study of the graphic side of construction and goes over the ground of Kidder, Martin, Clark and others. It is a splendid volume for the office and should form a groundwork for the proper training of the draftsman. Certain established conventions of the drafting board, gathered from the realm of oft-forgotten verbal instructions, are set forth here definitely for the first time. The "hand" of a door is explained so clearly that the reader may ever after talk with the hardware man on equal terms. The details of metal covered doors, of canvas floors, and of safe deposit vaults will be of help not only to the student but to the small office (by which the reviewer means most of us) where there is no wealth of detail on file from actual construction in the past. Most of the recommendations presented in the plate for waterproofing are good, although this treatment shows less experience than the others. One fails to understand why the flue must be "absolutely" over the center of the fireplace and yet there is little in these plates to find fault with. Only a change in the materials and methods of construction, so vast as to bring about a new era, could displace this book.

D. H. S.

[1] COTTAGES, FARMHOUSES AND OTHER MINOR BUILDINGS IN ENGLAND OF THE 16TH, 17TH AND 18TH CENTURIES. By Louis Conrad Rosenberg.

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FROM OUR BOOK SHELF

Art and the Gods

Genius has many definitions, of which none are of any consequence. The children of genius, born of that joyous wedding of brain and hand, have many names, and they are likewise of no consequence. Not that it is useless to be able to distinguish between the lyric quality of Keats and the satire of Daumier, or the feeling that Mozart danced and Tchaikowsky wept, but that it were wiser to abstain from naming these things lest we stupefy our discernment and fall carelessly to thinking that we know the faces of all the children of genius and that by those faces we shall always recognize them. And lo! many a new genius is born, and passes by, and is lost to us. Surely the habit of naming things is the curse of all curses laid upon man, for it dulls and atrophies the feeling of and for and about things, and that is all that is important.

Lovat Claud Fraser died at 31.[1] Whether that is a tragedy we do not know. We wish that he might have lived, but whether that were best, we do not know. He was spared at Ypres, where he might have preferred to pass out with the comrades that fell all about him, and died in 1921. These bare details are not written either to add pathos or regret. They are the simplest personal facts that need to be recorded. Lovat Fraser was a genius, and a very great one. In his work one might trace influences from the works of others who had gone before, for even genius cannot escape the ties of mystic kinship and burst wholly unparented upon a very old world.

"Before undertaking the hideous responsibility of advising Lovat to pursue the career of art," says his biographer, "I had pointed out to him that the modern pose of the artist was an utterly false attitude towards art. . . . It is the artist's job to *create his art* to the people's need and hunger for a fuller life. He should bring the emotional experience aroused by art into everything that is a need of man's day—glorify everything and raise everything—from man's delight in his habitation to his notepaper, from the commercial poster to the city office. And thereby the greater artist he. It lay with him, through the sense of sight, to make the home a lyric harmony wherein to dwell. Every activity of man's day lay within his reach whereby to utter his art—not only a canvas in a gold frame. Look at the hideous thing most publishers call a book! Look at the demoralizing and dingy doghole that most people call a home!"

His biographer further records that Lovat learned that lesson, yet it was an easy one for him to learn. He had the true artist's nature, and nothing could more truly exemplify this in the case of Lovat than the streams of people of all sorts and conditions, that journeyed to Hammersmith, night after night for more than two years, to see "The Beggar's Opera." Let Gay have his place, as he ought, but even he would have been staggered at what Lovat Fraser gave to his jollity. Purer fun and greater joy have we seldom had.

Undoubtedly Lovat was on the way to a place in the theater such as few attain, but as artist with pen and pencil, perhaps more reminiscent of my adored Caldecott than any of his successors, let us also remember him well. For he gave joy to life, touched it sweetly and always kindly, even as his friends remember the nature that once so beautifully commingled with their own. The Book of Lovat is a story about art such as seldom happens. Would that one were so rich that a copy of it might be put into the hand of every youth and maiden in the western world. What a peaceful overthrow of art schools, art societies, art poses, art talk, art significances, and art hypocrisy might result!

Lovat Fraser's biographers have done a really good book. If it errs, it is through over manifestation of affection, surely, for their friend was greatly loved. When one thinks of the quantity of genius that has been sent to the dogs by adulation, flattery, and the long purse of the exploiting publisher, one almost marvels that Fraser remained unspoiled, so that we still have him in memory as we would have kept him always.

WALTER WOODBOURNE.

[1] THE BOOK OF LOVAT CLAUD FRASER. By Haldane Macfall. London, 1923. With 20 plates and many illustrations.

Drawing

Perhaps the best thing about Mr. Field's book[1] is that the student of architectural drawing may get a fair idea from it of what he has to learn; he can hardly learn very much of that from the book itself. There is a too evident tendency to present a lengthy course of study in tabloid form with the result of a volume rather more in the nature of a catalogue than of a text book. When we note that the book is divided into ten chapters or "Articles," *one* of which, for instance, includes Perspective, Shades and Shadows, and Rendering, that these ten articles are covered in a hundred and forty-two pages, of which eighty-four are full-page plates, something of the tabloid nature of the text may be realized.

In spite of the fact that some of the methods recommended and some of the definitions given are rather provincial and not in accordance with what is commonly considered best practice, the book contains much useable information in good form and should prove a useful guide to a course of study, as well as a fairly valuable reference book for the drafting room.

B.J.L.

[1] ARCHITECTURAL DRAWING—By Wooster Bard Field, with an introduction and chapter on Lettering by Thos. E. French.

Things Spanish

Once in a while there comes along a book which makes the reviewer glad that he is an architect for the reason that being one enables him to get an enjoyment out of the book which is so full and so satisfying that it would be lamentable to miss it. Such a book is "Spanish Interiors and Furniture".[1] It was probably far from the minds of the authors to compile a book especially inspiring for the architect. Their attitude towards the wonderful Spanish things they bring to us is rather one of the archæologist or collector, but there is more inspiration for the architectural designer in every page of this book than there often is in many, many pages of books frankly published as collections of suggestions for

[1] SPANISH INTERIORS AND FURNITURE—Photographs and Drawings by Arthur Byne, with brief text by Mildred Stapley.

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architects. It is difficult to describe the charm of some of the simple wall treatments of the old Spanish rooms illustrated. The lesson of restraint, of taste, of the use of the band of ornament or spot of color of just the right size and in just the right place, is often seen through the pages. Many a suggestion is here if we look rather to learn than to copy.

There are but eight and a half pages of text, but in these few pages is given a sweeping panorama of that glorious XVI century in Spain. This text with the titles and notes on the plates give one an extraordinarily satisfying fund of information on the subject. There are two hundred excellent plates, mostly photographic, and each plate carries with its title a note on the materials and color scheme. The unique construction of the furniture or some peculiar detail is clearly shown on the several drawings, as well as described in the notes or text. The book is well printed and made. Unfortunately the photographs, although generally excellent in quality, were not taken with a view to registering the color values correctly, and comparison with the notes often reveals a shocking discrepancy between the picture and what the original must be. Nevertheless, here is a book that every architect and lover of beautiful things should own and pore over, be he mediævalist or classicist.

B.J.L.

Things Chinese

Looking at the sumptuous collection of illustrations in Picturesque China,[1] how can any open-minded Occidental escape from wincing at the memory of the epigrammatic jibes with which our youthful civilization has affected to dismiss one that for thousands of years has been practising the arts and the humanities as no western civilization is today practising them. The result, in architecture, has been different, but art, after all, is a relative matter. The deformed waist of an Occidental lady is quite as offensive to a man of China as the deformed foot of a Chinese lady is unpleasing to us both are equally bad. And yet it is almost wholly in smiles of the grotesque, the eccentric, and the "heathen," that one of the greatest civilizations of all time has been dished out to us in geography and school-book, with an especial slur at its religious practices.

Looking at the illustrations in the book under consideration, the subjects of which have been selected with care and photographed with great perfection, what mind can escape the reflection that the art and the craft of China are something to make us of the West humble and not proud. Their feeling for form ran a different course from ours, in many ways, but their feeling for proportion had nothing to learn from us. As for color, for line, for design and for pattern, what had, or what has, the Western world to offer? These things are said in the iterated faith that art is a relative matter and that the true measurement of its usefulness has to be taken in terms of human beings and not in statistics from museums, banks, and art societies. If that is so, then China has done well. They say, and it seems so, that she has survived and cultivated her garden because the hand of centralized government has never penetrated the provinces, where petty officials see to it that certain things are arranged and others are not, as is the custom of petty officials, and of some high ones, everywhere. In China it costs the taxpayer much less, they say, and gives him a great degree of freedom, the overstepping of which is perfectly controlled by his faith in the obligations imposed by his ancestral family. But whatever the reason may be, we are gradually getting true glimpses of the China that has so long been pursuing its way, and every fair-minded historian that is known to the reviewer has expressed but one fear—the dread fear that western customs and western economic exploitation will bring the proud fabric of Chinese civilization crashing to chaos.

Picturesque China is a book to sit with, for under the spell of Wall, and Temple, and Garden, and Pagoda, and of Dragon and Strange Effigy, behold a record, in terms of art, such as the goddess of beauty must have smiled upon in happiness, for the resultant expression seems to transmute the individual right to liberty and other things into something that appears to have been a common possession of great numbers, even if not of all, and which derived its energy and its force from something we would call spiritual, if we were honest. Adams Beck, in the "Key of Dreams," quotes these words: "Here in Peking a Chinese gentleman, old and dignified, wrinkled and patient, spoke with me of Europe. He knew it well. A part of his education had been there. His delicate hands, fine as the instruments of some music in the mind, lay with the long fingers intertwined on the blue brocade of his robe. The stiff black cap did not hide the faint smile in wearied eyes as he continued: 'Your august continent glides swiftly in the swell of the river before it plunges to the fall. In my insignificant land we based our civilization many years ago on the Moralities—the duties of each to the Family, the Empire, the Pieties—and thus was twisted a triple cord of trust between man and man. How should it fail?'" May it not, and may the West remember, before it is too late. If Picturesque China helps, as it ought, let us be graciously thankful and becomingly humble.

H. C. B.

Inspiration?

A book without text often has its compensations. Here, for example, is a collection of seventy plates[1] each made up of from twenty to thirty small sketches, reduced to the simplest form and indication of the architectural features or elements of buildings, although groups of complete plans and facades in schematic form are also shown. It seems a short-hand dictionary of major architectural forms. An index to the individual sketches thereon is printed opposite the plates, which are arranged alphabetically as to subject, and a contents table at the beginning of the book tabulates various architectural features and refers each to the plates where examples may be found—as, for instance, under "Pediments" we find "Doorways, Windows, Wall Treatment," meaning that we may find examples of pediments under these plate titles.

[1] PICTURESQUE CHINA. Architecture and Landscape. A journey through twelve provinces. By Ernst Boerschmann. 288 illustrations.

[1] A MANUAL OF ARCHITECTURAL COMPOSITIONS by John Theodore Haneman.

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Mr. Haneman in a "Foreword" of five lines says that the express purpose of his book is to furnish suggestion and inspiration "to those interested with the solution of architectural problems." We wonder if the person able properly to develop the suggestions received from these skeleton themes would need suggestion and inspiration from the sketches in the first place. It does seem, however, that Mr. Haneman's book might prove an expedient in the "esquisse" stage of Beaux-Arts Society student problems. We can easily imagine the parti of such a problem being given rather mystically as 42-24, 22-8, 16-13, referring to the plate and sketch numbers in the book. Somehow or other we fail to discover the possibilities of real inspiration in this manual. As an inducement to lessen the already small apparent necessity for architectural students to think, we believe it has its place.

BEN J. LUBSCHEZ.

Building Guilds

Many readers of the JOURNAL have been interested in the work of the English Building Guilds, and from time to time we are asked what has become of them. The National Guild, it appears, expanded faster than its capital would permit and, being unable to finance itself, was placed in the hands of a receiver. This proceeding seemed to prove that the London Guild, for a long time not amalgamated with the National, was the stronger of the two. We understand that the London Guild has now been freed from the National and that although it has had to assume the hardship of liabilities not its own, there is a chance that it may win through.

The over-expansion of the National Guild was a misfortune, for the operations of the London Guild have been proven to be exceptionally favorable. Quite contrary to repeated assertions by the ill-wishers of the Guilds, the large undertaking at Walthamstow, of which an account appeared in these columns, has now been finally audited and shows the following results:

The original bids of the Guild were:[1]		
116 houses at	£ 870. 7. 0	£100,960. 12
176 houses at	932.11.10	164,136. 2
54 houses at	838. 1. 2	45,235. 3
8 pairs houses at	1,839. 2. 3	14,712. 18
362		£325,064. 15
The Guild fee at 6% was		£19,503. 17
The allowance per house for continuous pay was* at the rate of £40		14,480.
Electric installation for lighting 362 houses at £14 per house		5,068.
Total Estimated Cost		£365,116. 13
Actual cost		£320,064. 19
Saving		£ 45,051. 14
Add Extras of £60 per house not included in estimate		£ 21,720.
Total Net Saving, the whole of which accrued to the Walthamstow Urban District Council		£ 66,771. 14
Average Cost of house by estimate	£1,008. 12	
Extras per house	60.	
	£1,068. 12	
Actual average cost of house including extras	£ 884. 3	
Average saving per house	£ 184. 9	

S. F. C.

NOTE—In the above figures, items of pence are omitted.

[1] Bids were in competition with other builders, and the Guild bids were lowest.

* As is well known, the Guildsmen have based their work upon the theory of continuous pay and the amount thus computed was intended to approximate the loss that would otherwise fall upon the workers by bad weather or delayed delivery of materials.

Skyscrapers

In reference to the several articles on skyscrapers which appeared in our September issue, Architect Hans J. Philipp, of Itzehoe, Germany, has written us at great length. His letter is too long for our columns, but he expresses the opinion that although the necessity for skyscrapers never really existed, except as the high building was seized upon as an instrument for capitalizing land values, in the United States, the situation in Germany is not at present the same. He believes that the criticism directed at the folly of looking about to see whether or no a high building could be built is based upon an erroneous impression, due, in part, to the fact that Dr. Behrendt did not sufficiently emphasize the fact that the present housing shortage in Germany is intolerable. Therefore to remove many business concerns from the houses and apartments they have encroached upon and place them together in one large building, seemed an economic stroke of sound wisdom. It was the study of the problem from this angle, Herr Philipp contends, that led German architects to the consideration of the problem of high buildings and what could be done about them to avoid the economic consequences which followed them in the United States.

Architect Philipp, as did Dr. Behrendt, has something to say of the pedantry which he feels has invested our high buildings in an atmosphere of lazily borrowed classicism, but it is certainly no longer to be asserted that the high building in the United States, whatever may be its other faults, is a mere esthetic pilfering. Likewise it ought to be observed that it would be difficult for another country not to profit from our experience, should the hardship of high buildings on narrow streets, and in an area never designed for such things, fall upon its urban settlements.—*The Editor.*

Announcements

AT ITS MEETING in New York City, 8 and 9 November, the Board of Directors of the Institute has deemed it wise to change the place at which the fifty-seventh annual convention will be held as heretofore announced.

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Some months ago it seemed both wise and possible to hold the convention in New York City and a temporary committee was appointed to study and report to the Board in November. After a careful canvass it was thought best, in view of the limited time available for preparing for the elaborate program conceived by the Board, that it would be wiser to hold the fifty-seventh convention in Washington in May, 1924, and to hold the fifty-eighth convention in New York City in 1925.

GEORGE BAIN CUMMINGS announces the admission to partnership of Fred Leonard Starbuck, under the firm name of Cummings & Starbuck, with offices at 520 Security Building, Binghamton, N. Y.

MR. E. B. LEE, of Pittsburgh, has been appointed as the representative of the American Institute of Architects on the National Board of Jurisdictional Awards, *vice* Mr. Ernest J. Russell, resigned.

GEORGE HERBERT GRAY, successor to L. W. Robinson, of New Haven, and Clark J. Lawrence, of New York City, announce the formation of the partnership of Gray & Lawrence, for the practice of Architecture and Community Planning, at 42 Church Street, New Haven, Conn.

BERNARD HERZBRUN announces the removal of his office in New York City for the practice of Architecture and Interior Decoration to 135 West Forty-Second Street.

ALBERT KELSEY has been awarded a medal by the Twentieth International Congress of the Americas held at Rio Janeiro "in recognition of his work as an architect and in the interests of closer and more cordial relations between the Pan-American republics." The presentation was made through the United States National Museum.

THE AMERICAN ACADEMY IN ROME announces its annual competitions for the Fellowships in Architecture, Painting, Sculpture, Musical Composition, and Classical Studies. The first four Fellowships are open to unmarried men; the last to both men and women, citizenship in the United States being requisite in all cases. Full particulars as to stipends and allowances, together with all other information, may be had from Roscoe Guernsey, Executive Secretary, 101 Park Avenue, New York City.

THE LE BRUN SCHOLARSHIP COMMITTEE, Julian Clarence Levi, chairman, 215 West 57th Street, New York City, announces that the program for the selection of the beneficiary of the scholarship will be issued about 1 January, 1924. The competition is open to architects and draughtsmen resident in the United States, and the stipend is $1,400, which must be used in a trip to Europe lasting not less than six monhs. Competitors must be nominated by a member of the American Institute of Architects, and nominations must be received before 1 January, 1924.

Obituary

FRANK L. PACKARD

Elected to the Institute as a Fellow in 1895
Died at Columbus, Ohio, 26 October, 1923

Mr. Packard was born in Delaware, Ohio, 11 June, 1866. He began his professional career in the office of F. A. Gartner, in the town of Delaware, and later took special courses in architecture and engineering at Ohio State University and the Massachusetts Institute of Technology. He began practice for himself in Columbus in 1896 and since that time his work covered a very extensive field. He was chosen by President Harding as his official representative in the purchase of the site, the designing and construction of the embassy building at Rio de Janeiro and at his death was a member of the Committee on Public Buildings of the Institute.

He was a member of many clubs and had taken a prominent part in the civic development of his home town, and he lived to see some of his plans for the beautification of Columbus well under way. He was president of the Columbus Chamber of Commerce, 1919-20, a trustee of the Ohio Archaeological and Historical Society, and was influentially connected with many important business interests. Among the more noteworthy structures to his credit are the Girls' Industrial School, Delaware, O.; the Ohio Building at the World's Columbian Exhibition, St. Louis; the Capitol Annex, Charleston, W. Va.; Lima State Hospital; the buildings in Columbus for the Columbus Savings & Trust Co.; Huntington National Bank, Memorial Hall, Elks' Club, Chittenden, Seneca, and Virginia Hotels, 8 East Broad Street, Morehouse-Marten's store, Columbus Club, Columbus and Aladdin Country Clubs, as well as various buildings on the campus of Ohio State University, including the Armory, the School of Mines, the Botany Building, Biological Building, Hayes Hall, and Horton Hall.

At the time of his death he was occupied with plans for the new City Hall and Auditorium, Lexington, Ky.; the new North High School, the Yuester Building, and the Baker Art Gallery at Columbus.

He was a former president of the Columbus Chapter of the Institute, by which body resoluions were adopted in memory of his long service and civic activities. He is survived by his widow and one sister.

JOHN BEVERLY ROBINSON

THEODORE C. LINK

(Further Notices next month.)

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Structural Service Department

LEROY E. KERN, *Technical Secretary*

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.

Annual Convention of the American Society for Testing Materials

(Report by Thomas Nolan, F.A.I.A., Delegate of the American Institute of Architects.)

V. The Trend of Standardization. This is the title of the annual address delivered at the Convention of this American Society for Testing Materials, by its president, Mr. George K. Burgess, Chief of Division of Metallurgy, U. S. Bureau of Standards.

The writer of this report, in outlining for the Institute some of the work of the Society during the past year in the perfecting, simplifying, and standardizing specifications of the materials of construction, cannot do better than to quote from that interesting address.

"Our present industrial chaos, resulting in untold and unnecessary wastes in production and distribution, is largely caused by a lack of understanding, by both producers and consumers, of the benefits to accrue from an intelligent application of the principles of standardization. Our industries have multiplied so rapidly both in number and kind that the brunt of effort has been spent in satisfying the immediate demands for expansion as they arise without giving adequate consideration in most cases to the possibilities of concerted action looking to simplification in type, design, and dimensions, and standardization of materials, practice and performance.

"We are living, however, in a period of transformation and improvement in this respect, which may be called a renaissance of the standardization ideal and practice; and this period is further characterized by a growing realization by the leaders of industry of the economic advantages to be gained from the elimination of these preventable wastes which are such a severe drain on our resources. Others have said it is a reflection on the engineering profession that it has allowed the existing situation to develop to the present state of confusion, but it is one of the encouraging signs of the times that the profession is now awake to its responsibilities and is making masterful efforts to bring order and economy out of the existing chaos and waste.

"Let us consider some of the agencies at work in this field, their interrelations and what they are trying to accomplish. The files of the American Engineering Standards Committee show there are in the United States some 300 bodies, most of them of national scope, interested in standardization projects. Many of these organizations have under way very extensive programs relating to standards in the engineering and industrial fields. The American Engineering Standards Committee is now functioning normally and efficiently, but with too scant financial support, in its role of national supervising agency as to the form and representative character of standards, specifications, and codes relating to engineering presented for its approval as American Standards. Not all of the member bodies of the American Engineering Standards Committee, however, yet make a practice of submitting automatically all of the standards of which they themselves approve. The reasons for this reticence are various. It may not be out of place to cite the case of our own Book of Standards, which last appeared in 1921, a volume of which we all are proud. Nevertheless, a motion to submit the 1921 Book of Standards for approval as American Standards to the American Engineering Standards Committee was overwhelmingly voted down in your Executive Committee. Why? A single answer cannot be given, but a canvass of our technical committees showed in many instances the desirability of further revision which is now proceeding. Of the 160 standards in our 1921 edition, 50 have been submitted to the American Engineering Standards Committee, a record not approached by any other organization, and of those so submitted 24 have received the endorsement of that body, which means that those standards are recognized and accepted by the whole engineering community in the United States. Many standards have also been withheld by us awaiting joint action by other bodies. The establishment of the American Engineering Standards Committee has been of the greatest service to the American Society for Testing Materials in stimulating more genuinely serious activity on the part of our committees charged with the arduous task of formulating standards and writing specifications fair to the producer and consumer alike, which has always been our ideal and practice.

"Turning now to some of the standardization activities of the Federal Government—in view of the close association of this Society with many of these, it seems appropriate to mention at least some of them. Let us consider, first, the Federal Specifications Board, of which the Director of the Bureau of Standards is ex-officio Chairman. This Board, established by Executive Order under authority of Circular 42 of the Bureau of the Budget, dated October 10, 1921, and reporting through the Chief Coordinator to the Director of the Budget, is organized with mandatory powers for the purpose of unifying all government specifications for materials and services other than personal. All government establishments are represented on the Board, which functions through technical committees, of which there are 44, which in turn prepare the specifications after consulting as may be deemed advisable by correspondence, conferences or hearings, with representatives of industry. Proposed specifications are also submitted by the Board informally through the American Engineering Standards Committee to industry for comment. When promulgated by the Board these specifications became binding upon all government establishments. Provision is made for appeal by a department to the Chief Coordinator and a Secretary may, under certain conditions, exempt his Department from using a given specification. Strictly military items are not considered by the Board. To date there have been promulgated 62 specifications; a great many projects are under way and many of these nearing completion. It should be remarked it is not the policy of the Board to formulate new specifications when this can be avoided, and the desire is to bring the government specifications into harmony with our industrial and commercial fabric. The federal specifications are evidently buyers' specifications, but they are issued only after representatives of industry have advised they meet current manufacturing conditions and will not require exceptional procedure for furnishing the commodities specified.

"Two years ago there was established a Division of

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Simplified Practice, which has for its object the encouragement of reduction in varieties in our industrial production.

"Recently the Secretary of Commerce has considered that more could be done by the Department in the campaign for the elimination of waste in production and distribution, through more concerted cooperation in the application of the practices of unified standards and specifications, and that it would be of use to the community to compile and issue what he has called a Dictionary of Specifications based on commodity standards and commercial practices recognized as sound by industry and as fair by the Department. This project is still in the embryonic stage and is being headed up on the Bureau of Standards in liaison with the Commodity Divisions of the Bureau of Foreign and Domestic Commerce and other departmental activities. At first, it is planned to limit this activity to those commodities with which the federal, state, and institutional purchasing agencies are concerned. It is hoped also to enlist the active support of industry itself in this movement. It is not expected to duplicate any existing activities but rather stimulate the extension of the specification idea into fields in which the benefits to be gained are not yet appreciated. At a meeting of state purchasing agents held in Washington, May 25, it was evident this sort of an appeal for economy and united effort would not fall upon deaf ears. The Department can undoubtedly become of greater service not only to the state and other local governmental purchasing organizations, but to the community as a whole; and there are evidently also opportunities for further service in this field by such societies as this.

"For example, a plea was made by some of the states' delegates at that meeting for information regarding the possibilities of the development of simple acceptance tests for materials purchased under specifications and delivered at stations not possessing elaborate testing facilities. This is a problem to which it might be wise for this Society to devote some attention.

"In considering this phase of our subject—the testing of materials—we may find it advantageous to distinguish between materials which are rapidly consumed and are therefore relatively of transitory interest and those which enter into permanent structures or involve a life hazard. For the first, rudimentary tests for compliance with the specification may often be sufficient, while for the second, rigorously defined and executed acceptance tests may be necessary. This suggestion for the establishment of simple tests is not to be construed as advocating the lowering the standard of our testing methods, but rather the setting up of acceptance tests in many quarters where such are needed but are not now available.

"From this brief survey of some of the activities of our Society as related to standardization, testing methods, specifications, and research, we may conclude that in all these fields there are abundant opportunities for further service to the community; and it is to be expected that for the coming quarter century, as for the past, in the realm of the materials of engineering and industry the American Society for Testing Materials, always cooperating generally with its contemporaries, will maintain its leadership."

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 Department 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 accord architects and others a convenient means of keeping themselves conversant with rapidly expanding knowledge in the technique of construction.*

Sycamore (19a21) (*United States Department of Agriculture—Bulletin No. 884. Utilization of Sycamore, by W. D. Brush, Scientific Assistant*). This twenty-four page, 6" x 9", bulletin gives information on the supply of sycamore, on the conditions attendant on its manufacture, and on how it may be used most advantageously.

General Appearance. Sycamore, in general, is a uniformly colored, clean-looking wood, and therefore presents a good appearance when manufactured. The heartwood is brown tinged with red; the sapwood is lighter. Plain-sawed sycamore has little figure, excepting the lighter colored bands which mark off the annual-growth layers from each other. It usually has also a slightly mottled appearance, due to the large medullary rays. In quarter-sawed wood these rays are very conspicuous and resemble the figure in quartered oak. The effect produced in quarter-sawed sycamore is decidedly different from that in quarter-sawed oak, principally because the rays are darker than the rest of the wood, while in oak, as in most other woods, they are lighter.

Properties. Sycamore wood is moderately hard, moderately heavy, moderately stiff, moderately strong, has moderately good shock-resisting ability, and is difficult to split. It shrinks moderately and is inclined to warp, but not excessively, in seasoning.

Average properties of sycamore wood as compared with white oak:

(Oak = 100.)

	Per Cent
Specific gravity	76.7
Shrinkage:	
Volume	99.3
Radial	104.1
Tangential	84.4
Strength in bending	75.2
Strength in compression parallel to grain	82.7
Strength in compression perpendicular to grain	61.9
Stiffness	80.9
Hardness	58.2
Shock-resisting ability	56.4
Shearing strength parallel to grain	76.6

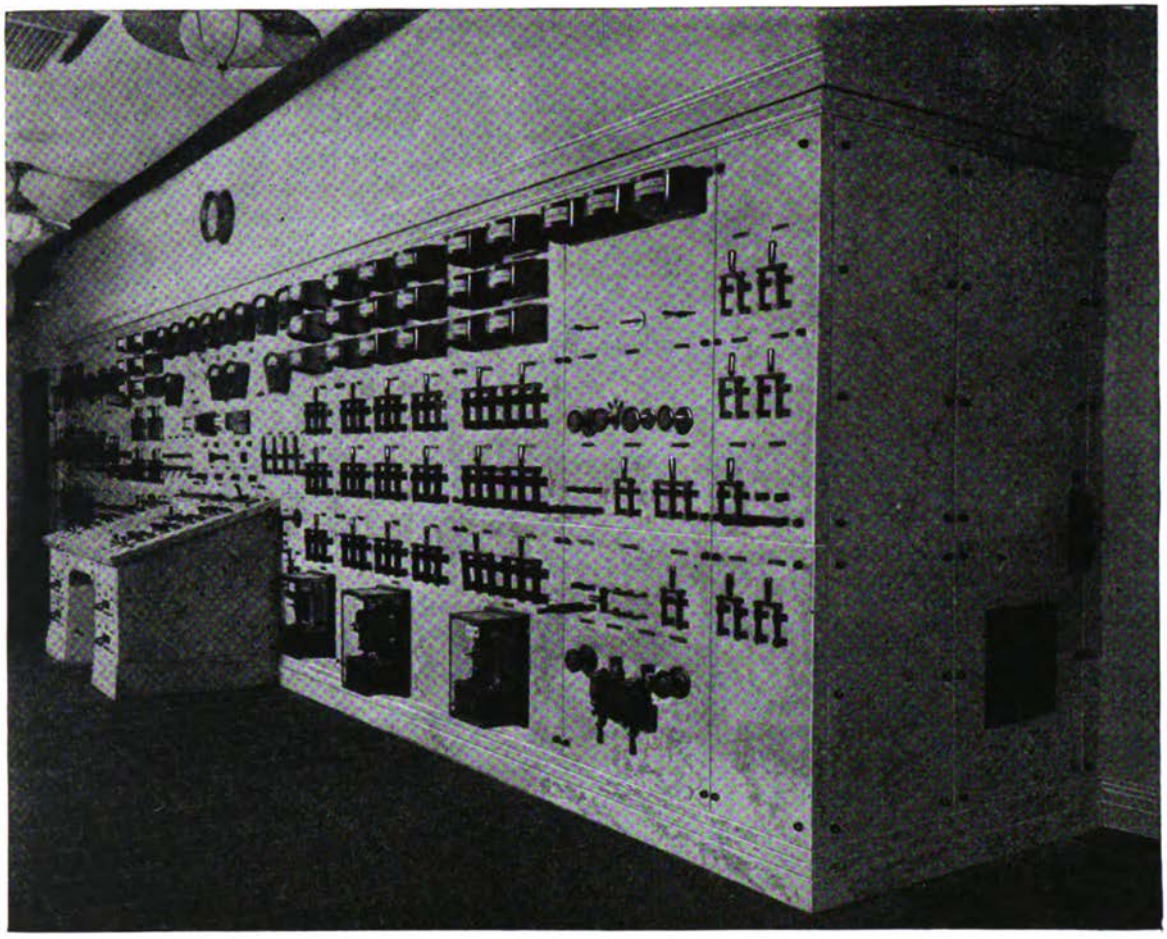
Sycamore wood is not durable, the average life of the untreated lumber in the United States in exposed situations being placed at from three to five years. The life of any individual stick, however, may vary from this figure, depending on the quality of the wood and the conditions in which it is placed.

Sycamore dose not impart odor or taste to substances in contact with it, nor does it stain them. This quality, together with its moderate degree of strength and the difficulty in splitting the wood, makes it particularly suitable for certain kinds of containers.

Commercial Supply. The principal center of the sycamore industry seems to be at present located near the junction of the Ohio and Mississippi Rivers. Much sycamore is available in this region along these streams and their large tributaries, and, therefore, many factories using large amounts of sycamore are located near by.

Uses. Little sycamore is used in the rough for such purposes as building construction. It goes principally, therefore, to factories for the manufacture of various products. The box, crate and slack cooperage industries utilize the largest quantity of sycamore. The annual consumption of sycamore for furniture and fixtures is about 10 per cent

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Bankers Trust Co. Building, New York City. Trowbridge & Livingston, Architects; Meyer Strong and Jones, Consulting Engineers; Mark Eidlitz & Sons, Builders.

Switchboards in Architecture

The practice of architecture requires that every building be provided with electric service. The control of this service is accomplished through a switchboard of some sort, be it an entrance panel, containing only meter and switch in a small bungalow, or a more complicated type of switchboard in large commercial buildings.

Whatever the size or condition of supply or distribution, the General Electric Company manufactures the necessary equipment and has the requisite knowledge and facilities for the construction of a finished product.

The architectural plan or limitations of space may make certain demands which only the best of engineering skill and the broadest of installation experience can satisfactorily meet.

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of the total and for planing mill products, sash, doors, blinds and general woodwork about 5 per cent.

The greater part of the sycamore employed in furniture and fixtures is in the form of plain-sawed lumber. Much of it is manufactured into common furniture for kitchens, pantries, porches, etc. Since it does not impart taste, odor, or stain, sycamore is used for shelving, sides, and bottoms of kitchen cabinets and for refrigerators. It is also used for kitchen tables. There is some objection to its use for the tops of tables on account of its liability to warp.

Sycamore constitutes a not inconsiderable portion of the interior and hidden parts of more expensive furniture. It is very useful for drawer sides, backs and bottoms, shelves and pigeon holes, partitions and compartments, guides and linings. It is also used as a core material on which veneer is glued. It finds place in such situations, because it is not a high-priced wood and not because of any superiority over many other woods used with it or replaced by it.

Quarter-sawed sycamore is a higher class material and is used for the same purpose as more expensive woods. The quarter-sawed stock is used in solid pieces and in the form of veneer and is frequently made into panels. Sycamore is also cut into plain veneer for panelwork. Owing to the tendency of the solid wood to warp and twist, panels of built up veneer are preferable.

The striking figure shown by sycamore when quarter-sawed makes a demand for it for planing mill products, especially for interior finish and also for flooring.

Grading Rules. Sycamore lumber is graded under the National Hardwood Lumber Association Rules. There are separate classifications for plain and quartered sycamore. Lengths are from 4 to 16 feet, but not over 15 per cent of odd lengths are admitted. Thicknesses are ¼, ⅜, ½, ⅝, ¾, 1, 1¼, 1½, 1¾, 2, 2½, 3, 3½, 4, 4½, 5, 5½, and 6 inches. Widths are 3 inches and over.

Plain sycamore is graded under the same rules as beech, birch, hard maple and hackberry, and the grades are as follows: Firsts, seconds, selects, No. 1 common, No. 2 common, wormy, and No. 3 common. Inspection is made on the poor sides of each piece.

The grading rules for quarter-sawed are the same as for plain-sawed, except that the combined grade of firsts and seconds and selects must show figure on one face not less than 90 per cent in the aggregate and the cuttings in No. 1 common and No. 2 common must show figure on one face. There is a slight difference also in the grade No. 1 common, the rules for plain sycamore allowing a large number of cuttings in the longest pieces.

Lime Mortar (3 1 2) (*Lime in Construction, by T. B. Shertzer, Bulletin* 306 *National Lime Association, Size* 6″ x 9″, *Pages* 80) Tests of brick work laid in varying mortar mixes have given the following results:

Authority	1:3 Lime (lbs. per sq. in.)	50:50 Mortar (lbs. per sq. in.)	1:3 Cement (lbs. per sq. in.)	1:2 Cement (lbs. per sq. in.)
The Clay Worker, 1917	1073	1840	1980	
Bureau Standards		1524	1668	
Watertown Arsenal	1379		2035	
Watertown Arsenal	1941			2987
Watertown Arsenal	1767			2203
Columbia University	1950	3820	2840	
Averages	1622	2592	2131	2595

The specimens used in the Bureau of Standards test with 50-50 mortar and reported in Technologic Paper No. 111 were laid in a mortar composed of 35 per cent lime, 65 per cent cement to three parts of sand, by vol.

The ultimate compressive strengths are reported in terms of pounds per square inch of the total cross-section of the specimen. The column headed "50-50 mortar" represents lime-cement mortar of the following mixture: one part lime (paste or hydrate), one part Portland cement, and six parts sand (by volume). All test reports for cement mean Portland cement of American manufacture.

It is evident that even allowing for poor workmanship and field hazards, it would be perfectly safe to allow working stresses of 150 pounds per square inch for the lime-cement mortar, the same as usually allowed for the straight ⅓ cement mortar.

Assuming the weight of brickwork as being 140 pounds per cubic foot and the unit working stresses as above, we find that a wall laid in ⅓ lime mortar would have to be 154 feet in height before the pressure on the lowest mortar bed reached the allowable stress, and one laid in 50-50 mortar would have to be 257 feet in height, when of uniform thickness.

Experience has proved that a lime mortar, fixed in the proportion of one part lime to four parts sand, can safely carry a working load of 100 pounds per square inch.

The following tabulation shows the height to which buildings may be constructed, using ¼ lime mortar, brickwork at 140 pounds per cubic foot, 20 feet frontage, combined live and dead loads at 60 pounds per square foot for each floor and roof, allowable working stress on the mortar 100 pounds per square inch, wall thickness increased four inches for every two stories, or twenty feet in height. The loads given are for the party wall with no allowances made for openings.

Add'l. height in.	Frontage ft.	Number of floors	Live & dead loads, floors and roof lbs.	Dead load wall lbs.	Total load per ft. lbs.	Load per sq. in. on lowest mortar bed lbs. per sq. in.
20	20	4 and roof	6000	4700	10700	57
20	20	2 and roof	3600	1900	5500	57
20	20	6 and roof	8400	8400	16800	88
20	20	8 and roof	10800	14200	24000	100

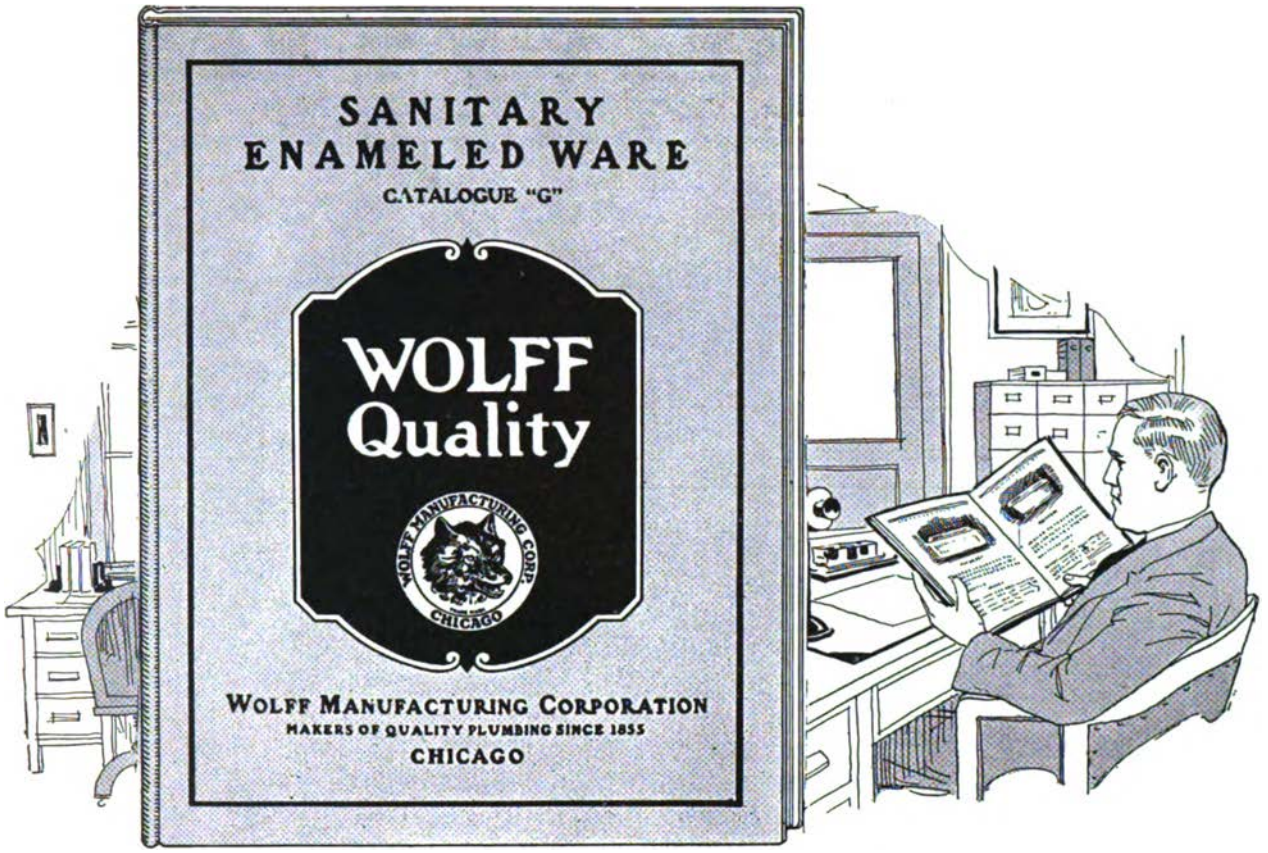
It is highly improper to retemper Portland cement mortar. Lime mortar hardens and binds through an entirely different action and can be frequently retempered and reworked without in any way affecting its efficiency.

In the case of straight Portland cement mortar, the cohesiveness of the mortar is the predominating property. As lime is added the adhesiveness of the mortar to the brick increases and the cohesiveness of the mortar decreases, but less rapidly.

The Bulletin also contains comparative costs of various mortars and suggested specifications.

Synopsis. Uses of lime concrete, mortar, plaster, stucco; clauses suggested for inclusion in Building codes and specifications; data derived from tests, tentative specifications of committee C-7 on lime of the A.S.T.M.; resolution passed by Labor Union regarding the use of lime.

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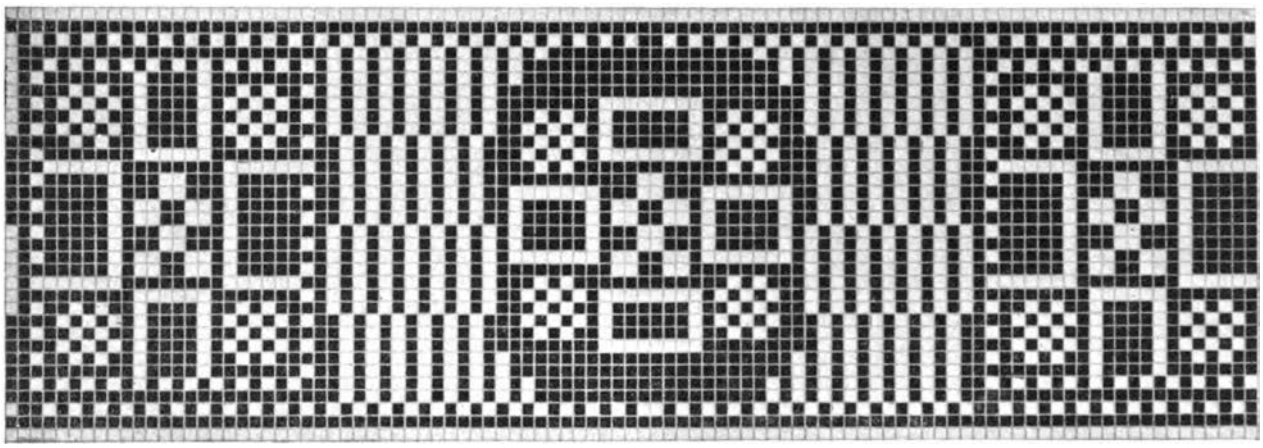
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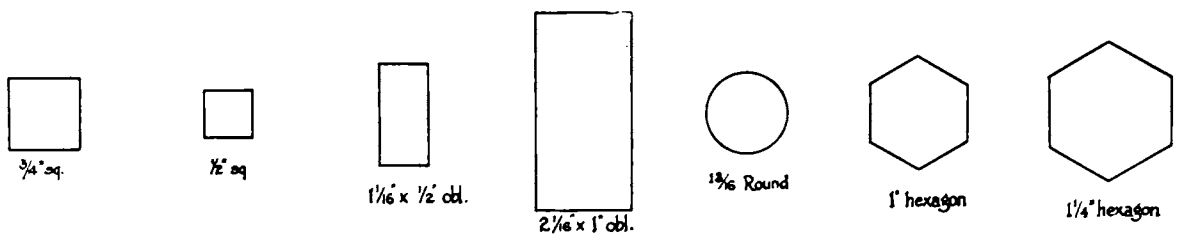
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and

A Portfolio of Twenty Drawings

By Louis H. Sullivan

The Autobiography

IN the whole literature of architecture there is nothing that approaches the story told by Mr. Sullivan. He writes not as The Idea appeared to him, but as he appeared, acted, and was influenced by The Idea, which, as the Spirit of Architecture and of all art, appears to the little child and guides his feet up to the building of the great Auditorium in Chicago —one of the landmarks of architecture.

One might question The Idea. One might decline to believe in the spirit that refused to falter. But no reader can resist the high faith of the man, or escape the magnificent rhythm of a piece of literature that will take its place among the classics of American writing. Even more than that—even of more import still—is the fact that Mr. Sullivan has written a tale that will influence the training of children to an extent that we shall not dare to predict.

Mr. Sullivan has written not only for the architects who remember their childhood and for the children who are to be architects, but for the fathers and mothers of the children upon whose training the texture, the color, the form, the pattern of our civilization rests.

From the Irish fair where Louis Sullivan's father, a mere lad, lost his father and never saw him again, down through the little farm near Boston, into the city itself, into the English High School, Tech, the Beaux Arts at Paris, the return to Boston and thence to Philadelphia and finally to Chicago, Mr. Sullivan has woven a pattern of American life that will take its place with the writing of Mark Twain, in subtle humor, and with *The Education of Henry Adams* for its intellectual introspection and clear insight.

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The Portfolio of Twenty Drawings

(Bound in Heavy Board)

IT is said that the architecture of Louis H. Sullivan has given rise to more opinion than the work of any other man. In the United States he has an ardent following, while in Europe it is undoubtedly true that his theories have paved the way for the splendid renaissance that now makes Northern Europe a Mecca for all lovers of architecture.

And even those who could not accept his theories were moved by the development of ornament as it revealed itself in the various structures that Sullivan designed. Ultimately, they will undoubtedly share the fate of most American buildings—and give way to larger ones on the same site. But that Sullivan's theory of ornament may not be lost to sight, the Burnham Library of Chicago has persuaded Mr. Sullivan to make a series of twenty drawings in which his theory and its application shall be preserved.

These drawings are now being published, very slightly reduced in size in order to keep the portfolio within a reasonable size for library use, and the portfolio is offered as below.

If Mr. Sullivan's marvelous powers as a writer are made clear in his book, then his equally marvelous facility as a draughtsman is revealed in these twenty drawings. They are for architects and artists everywhere. They are fundamental in their relationship to that evolution of form and pattern which still leaves Nature as our inspiration and our despair.

The Autobiography..... $3.00
The Portfolio..... $8.00

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BOOKS FOR ARCHITECTS

We offer our services to those wishing to give books for the holidays. It is not possible to list the many appropriate works which we have to offer. Write us regarding your needs and we will send you a list of suggestions. Packages will be shipped direct to destination, appropriately wrapped and containing a greeting card, whenever this service is desired. Shipment will be sent forward in ample time to reach their destination by Christmas, provided, of course, the orders are received by us sufficiently in advance to make this possible. This number of the JOURNAL contains reviews of books that will make ideal gifts. Other suggestions are to be found in the November JOURNAL.

SPANISH FARM HOUSES AND MANOR PUBLIC BUILDINGS

Photographs and Drawings
By WINSOR SOULE - - - - - - - - **$10.00**

Mr. Ralph Adams Cram in his introduction says:

"Spanish architecture is incomparable, Moorish, Romanesque, Gothic, Plateresque, Rococo; and whatever its source or genre, is transformed by Spanish temperament into something quite racial and unique, but side by side grows a quite different thing, and that is the modest building of the poor farmer and the undistinguished denizen of the town. Here is the art of building reduced to its simplest and plainest forms, and the collection of photographs which, for the first time, does this work due honor, is a wholesome lesson for architects of small things (actually more vital and important than the big things) and is a stimulus and inspiration as well.

"No matter where you go you find this sort of thing at every turn, whether in the dim calles of Seville, the gray alleys of Toledo, the ochre and umber streets of Segovia, or in the tropical towns of Andalucia or the bleak barrens of Aragon and Castile. Nor does it matter what century gave it birth; it is all good and of a piece, down through the seventeenth and eighteenth centuries, even into the nineteenth."

COLONIAL INTERIORS—PHOTOGRAPHS AND MEASURED DRAWINGS OF THE COLONIAL AND EARLY FEDERAL PERIODS

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By WOOSTER BARD FIELD - - - - **$4.00**

Deals primarily with architectural drawing, but suggestions are made for further study into both architectural design and engineering.

See review on page 497.

ROMANESQUE SCULPTURE OF THE PILGRIMAGE ROADS

By A. KINGSLEY PORTER, Professor of Fine Arts in Harvard University - - - - - - **$150.00**

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See review on page 498.

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In Portfolio - - - - - - - - - - **$40.00**
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See review on page 497.

GOOD PRACTICE IN CONSTRUCTION

By PHILIP G. KNOBLOCH - - - - **$4.00**

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A MANUAL OF ARCHITECTURAL COMPOSITIONS

By JOHN THEODORE HENEMAN, B.S., A.I.A.
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A reference book on architectural composition. relating to plan, façade, and their architectural adjuncts. Reviewed on page 498.

ARCHITECTURAL COMPOSITION

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Reviewed at length by Prof. Hamlin on page 495.

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Reviewed on page 496.

GARDEN CITIES OF TOMORROW

By EBENEZER HOWARD - - - - - **$2.00**

We have been able to secure a few more copies of this rare book which was the forerunner of the Garden City movement—of Letchworth and Welwyn—and the later efforts of French and German planners. It is a work that no architect interested in planning can afford to be without.

THE HANDBOOK OF ARCHITECTURAL PRACTICE

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WENCESLAUS HOLLAR AND HIS VIEWS OF LONDON AND WINDSOR IN THE SEVENTEENTH CENTURY

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A frontispiece and ninety-six illustrations will give to architects a set of fine reproductions of the exquisite draftsmanship of Hollar, whose work has long been admired wherever men have essayed to put line on paper. See review on page 494.

ANCIENT TOWN PLANNING

By F. HAVERFIELD - - - - - - - **$2.00**

Reviewed at length in this issue of the JOURNAL by Mr. Nils Hammarstrand in his scholarly article "The Ancient Builders of Cities." The reader will be astonished to find how great is the similarity of the problems that confronted urban growth in the time of antiquity and in the days of the present. More is here to be learned of the *fundamental* things about city planning than from many a modern textbook.

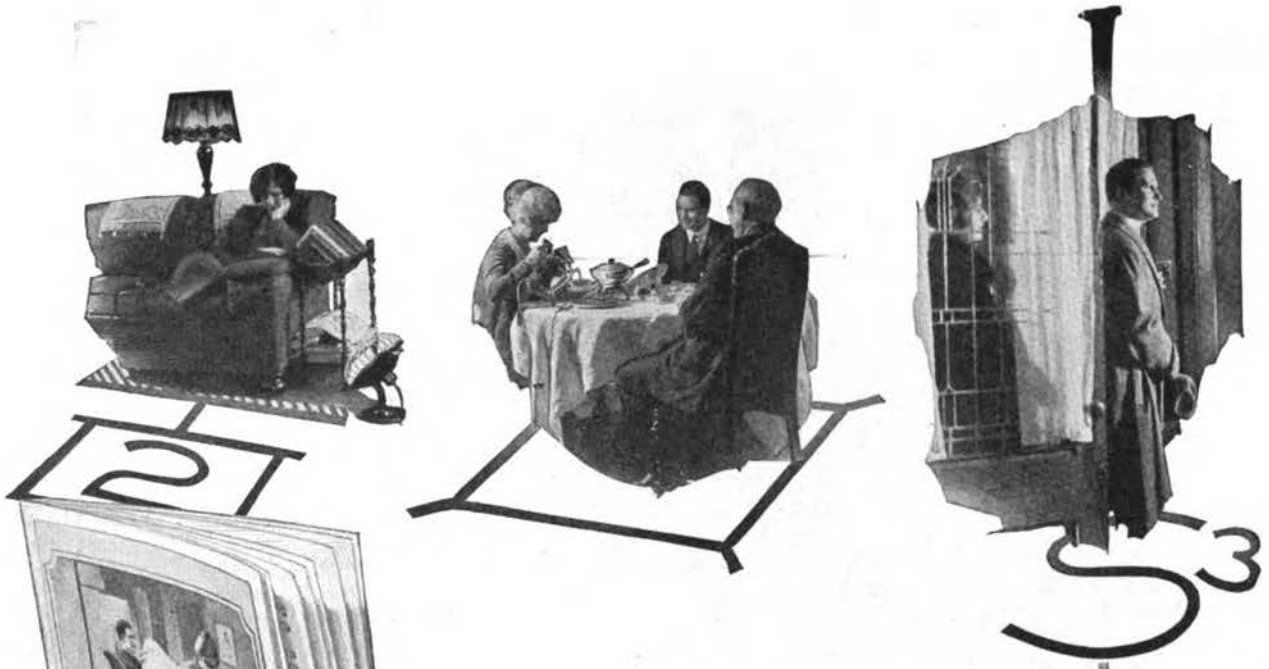
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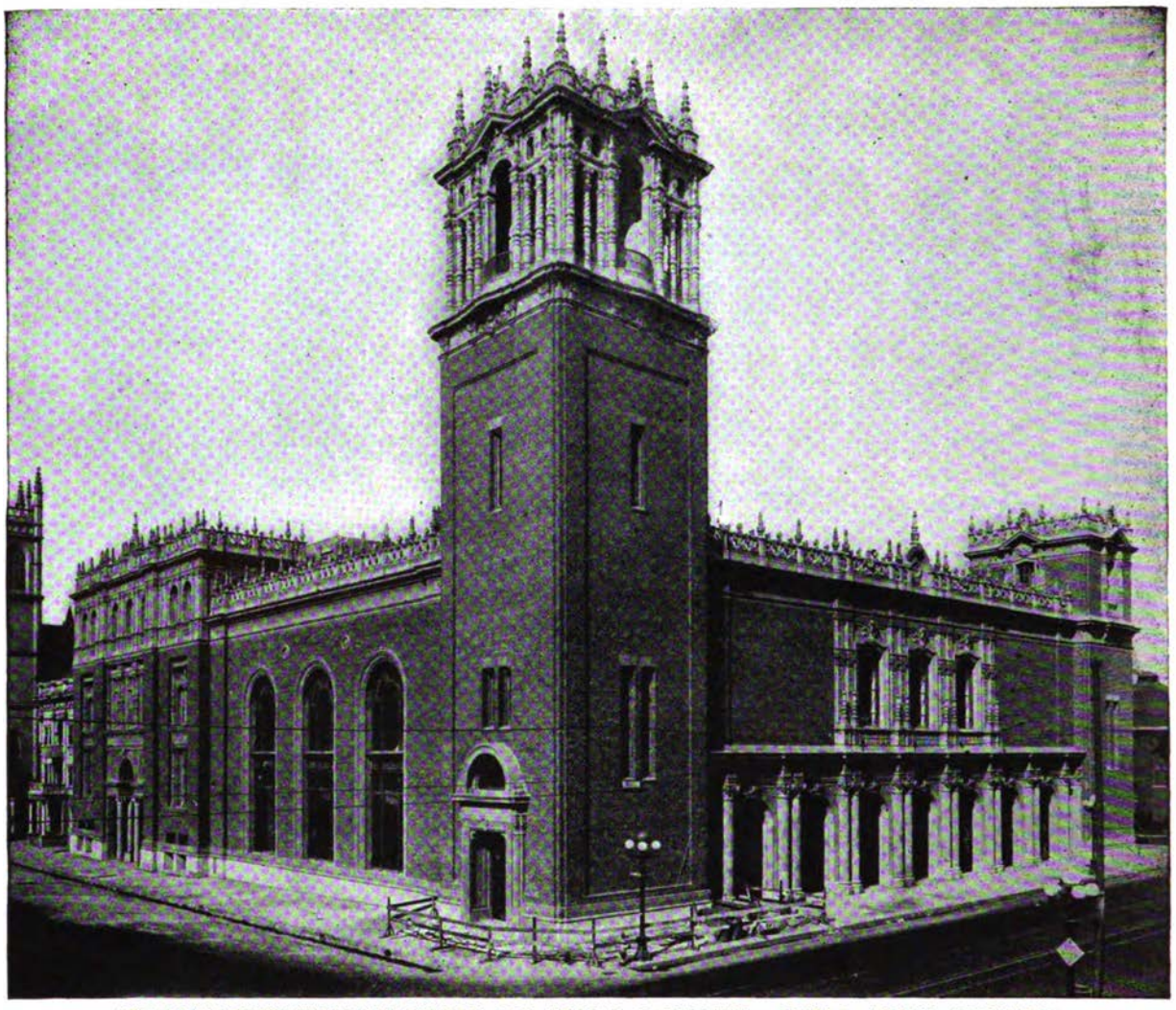


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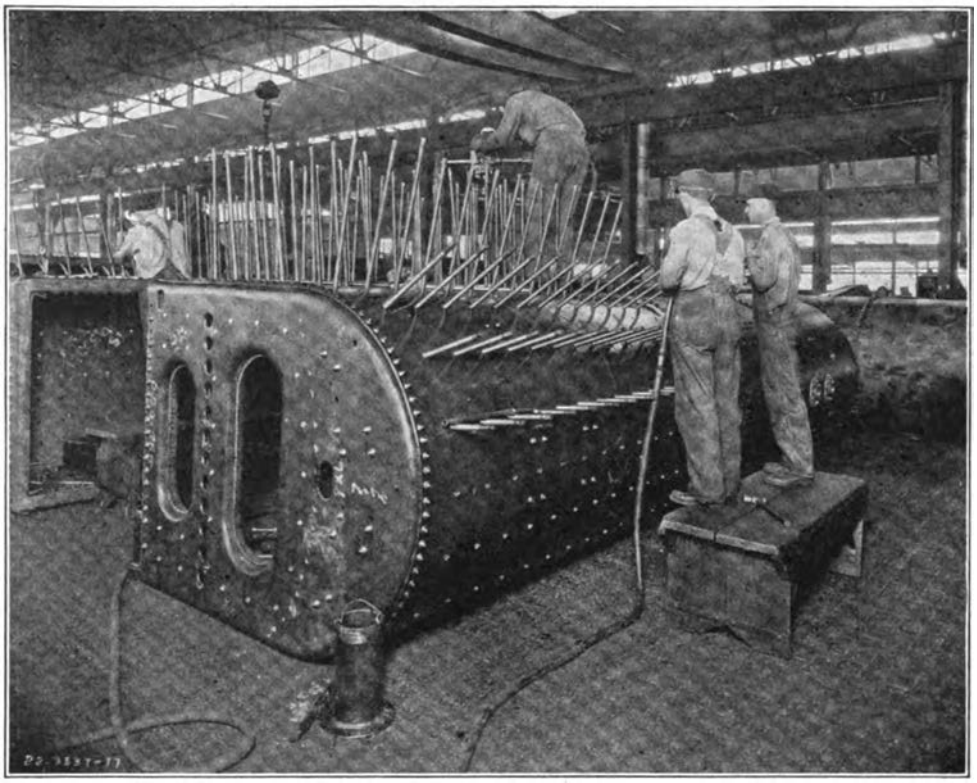
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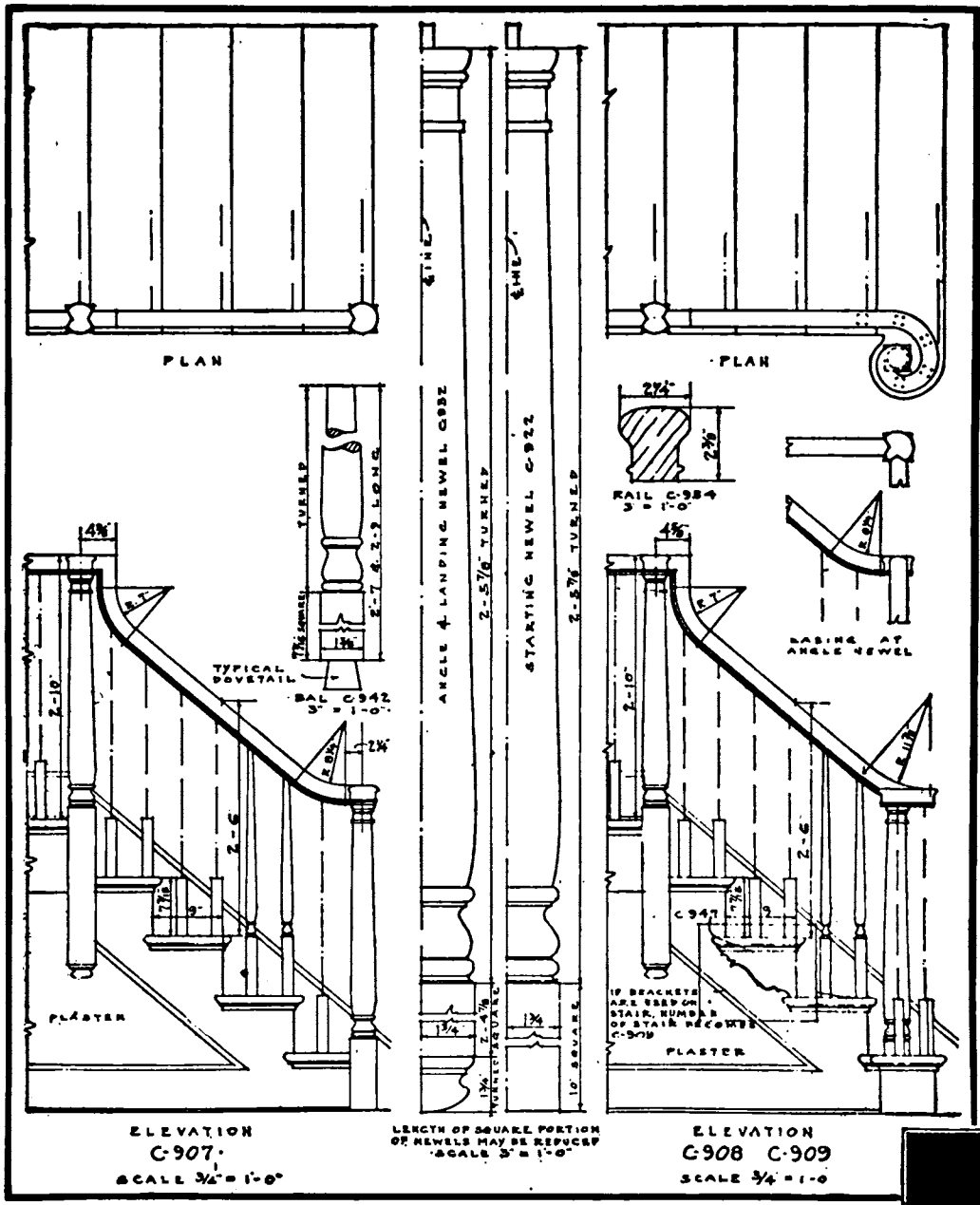
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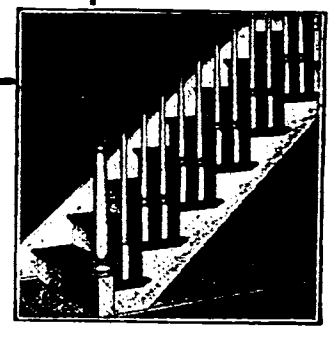
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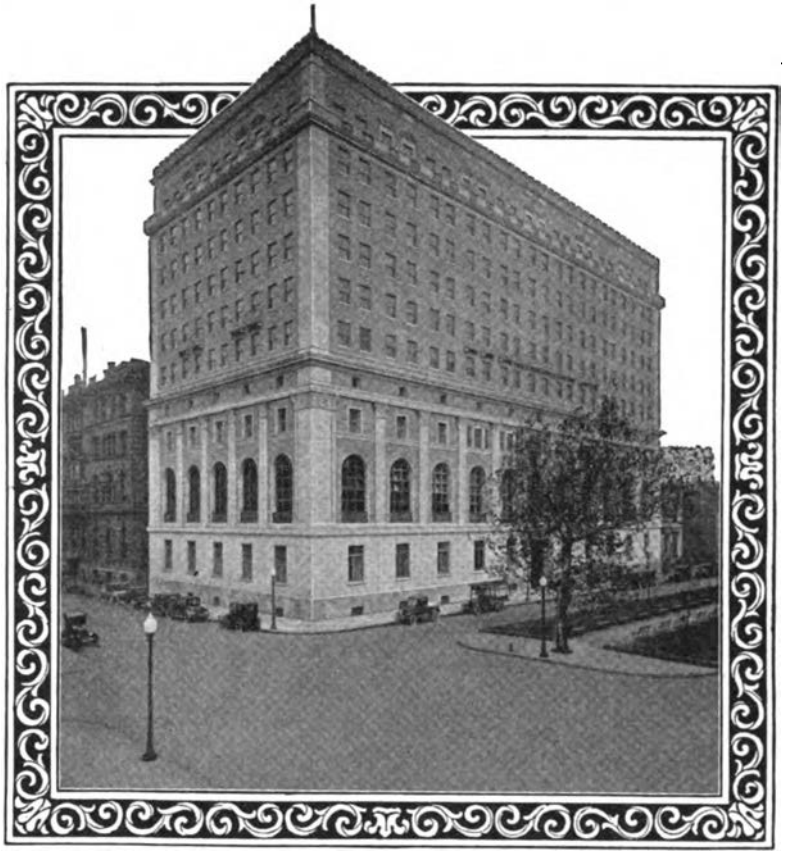
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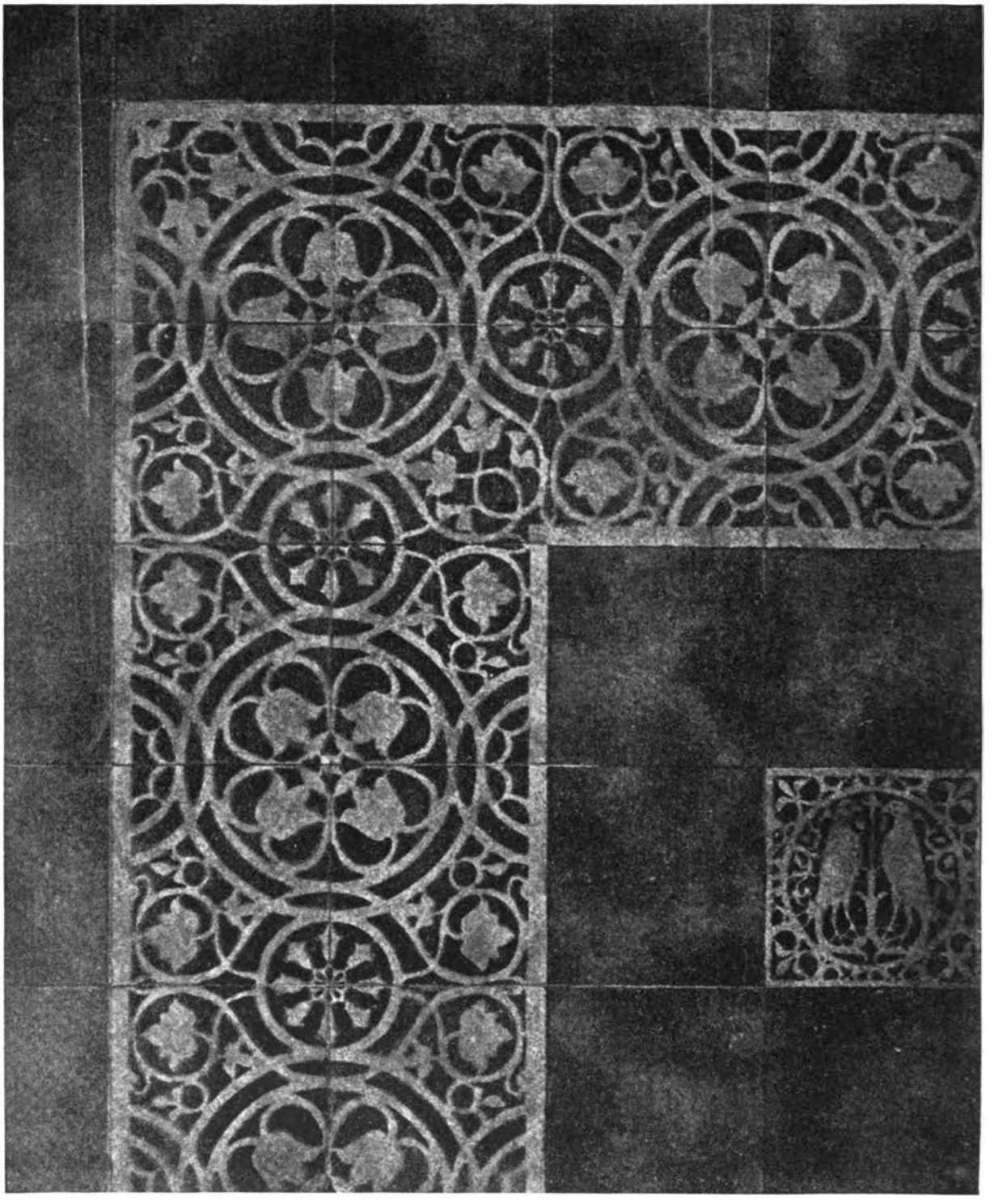
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View of stacking yard in the Indiana Limestone district

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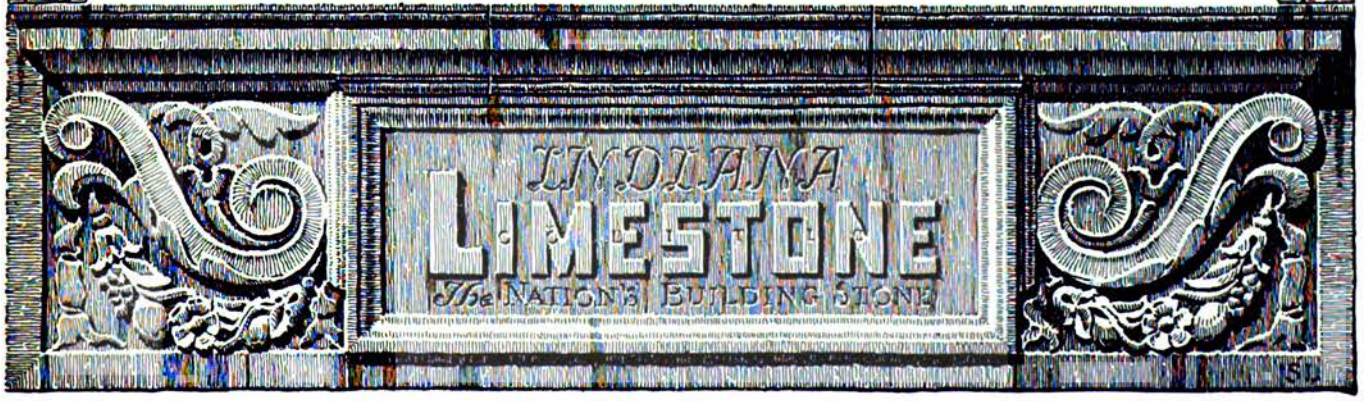
Builders of commercial and public buildings, schools and churches, as well as builders of homes, know it as the most beautiful and durable of building stones, and as one whose cost is not prohibitive.

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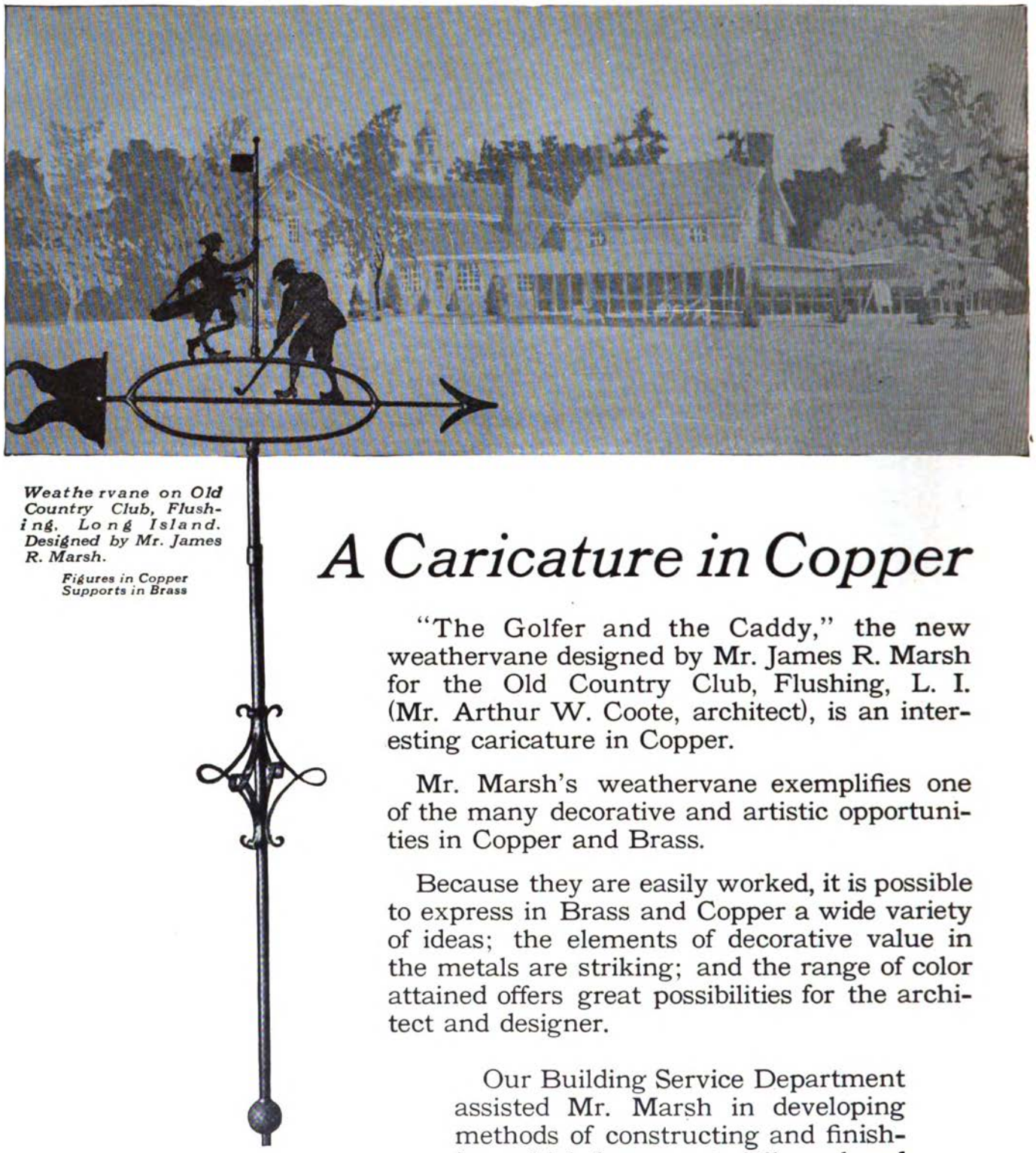
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Weathervane on Old Country Club, Flushing, Long Island. Designed by Mr. James R. Marsh.

Figures in Copper Supports in Brass

A Caricature in Copper

"The Golfer and the Caddy," the new weathervane designed by Mr. James R. Marsh for the Old Country Club, Flushing, L. I. (Mr. Arthur W. Coote, architect), is an interesting caricature in Copper.

Mr. Marsh's weathervane exemplifies one of the many decorative and artistic opportunities in Copper and Brass.

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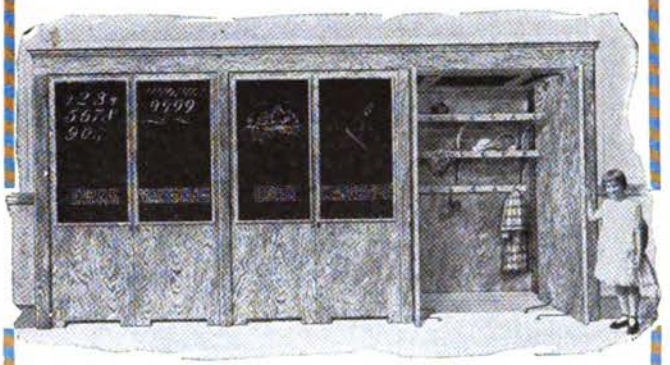
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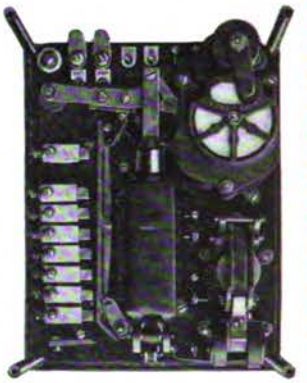
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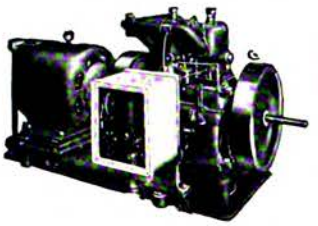


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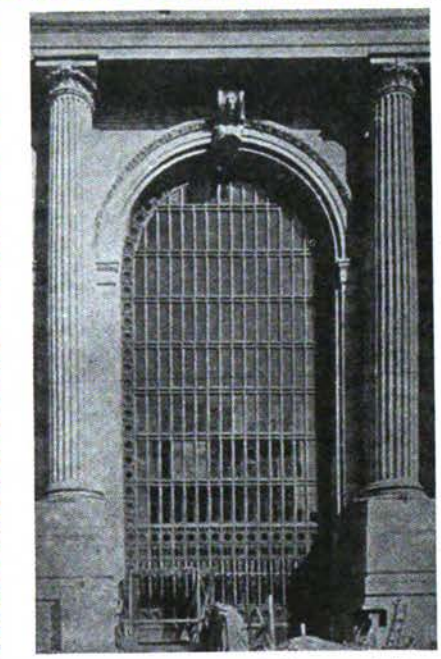
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Pickwick Arms Hotel, Greenwich, Conn.
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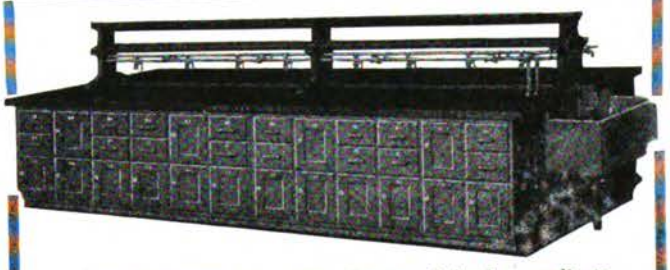
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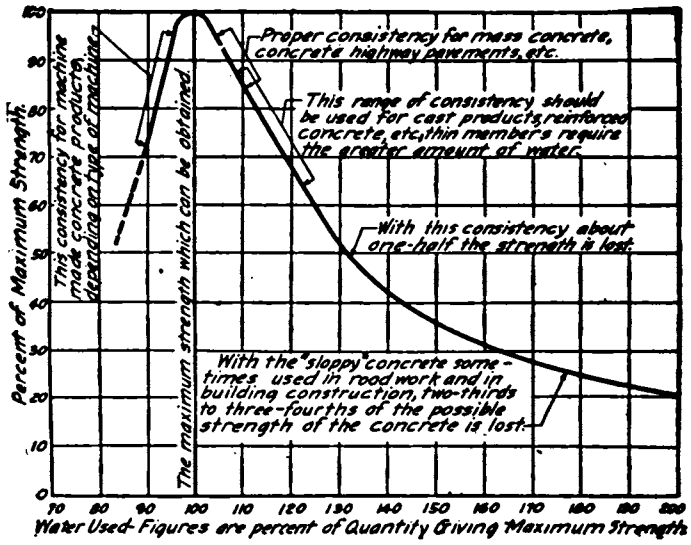
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When One Pint of Water Wastes Two Pounds of Cement



Effect of Quantity of Mixing Water on the Compressive Strength of Concrete
NOTE: In general construction, the maximum strength can rarely be obtained, but it is possible to obtain 70 to 90 per cent of the maximum strength without additional expense by restricting the quantity of mixing water.

Observe this curve closely. It shows impressively the effect of the quantity of mixing water on the strength of concrete.

It is now known that excess mixing water, not only weakens concrete, but that it is actually wasteful of cement. One pint of water more than necessary in a one-bag batch decreases the strength and resistance to wear as much as though two or three pounds of cement were left out.

Here is a fact, which if brought home to the superintendent and the foreman, can be of great practical value in raising quality on the job.

Wouldn't you like to have, right at hand for quick reference, a practical manual which tells how the quantity of mixing water can be closely controlled, so as to give concrete greater strength without using any more cement?

Then write today for our free booklet, "Concrete Data for Engineers and Architects." We will be glad to send you extra copies for superintendents and foremen.

Take full advantage of the service the Portland Cement Association has to offer. One of the District Offices of the Association is always near you. Get acquainted with it.

PORTLAND CEMENT ASSOCIATION

A National Organization
to Improve and Extend the Uses of Concrete

Atlanta	Denver	Kansas City	New York	San Francisco
Birmingham	Des Moines	Los Angeles	Parkersburg	Seattle
Boston	Detroit	Memphis	Philadelphia	St. Louis
Chicago	Helena	Milwaukee	Pittsburgh	Vancouver, B.C.
Dallas	Indianapolis	Minneapolis	Portland, Oreg.	Washington, D.C.
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Entrance doorway, The Admiral Hotel, Chicago, Illinois: John A. Nyden, Architect.

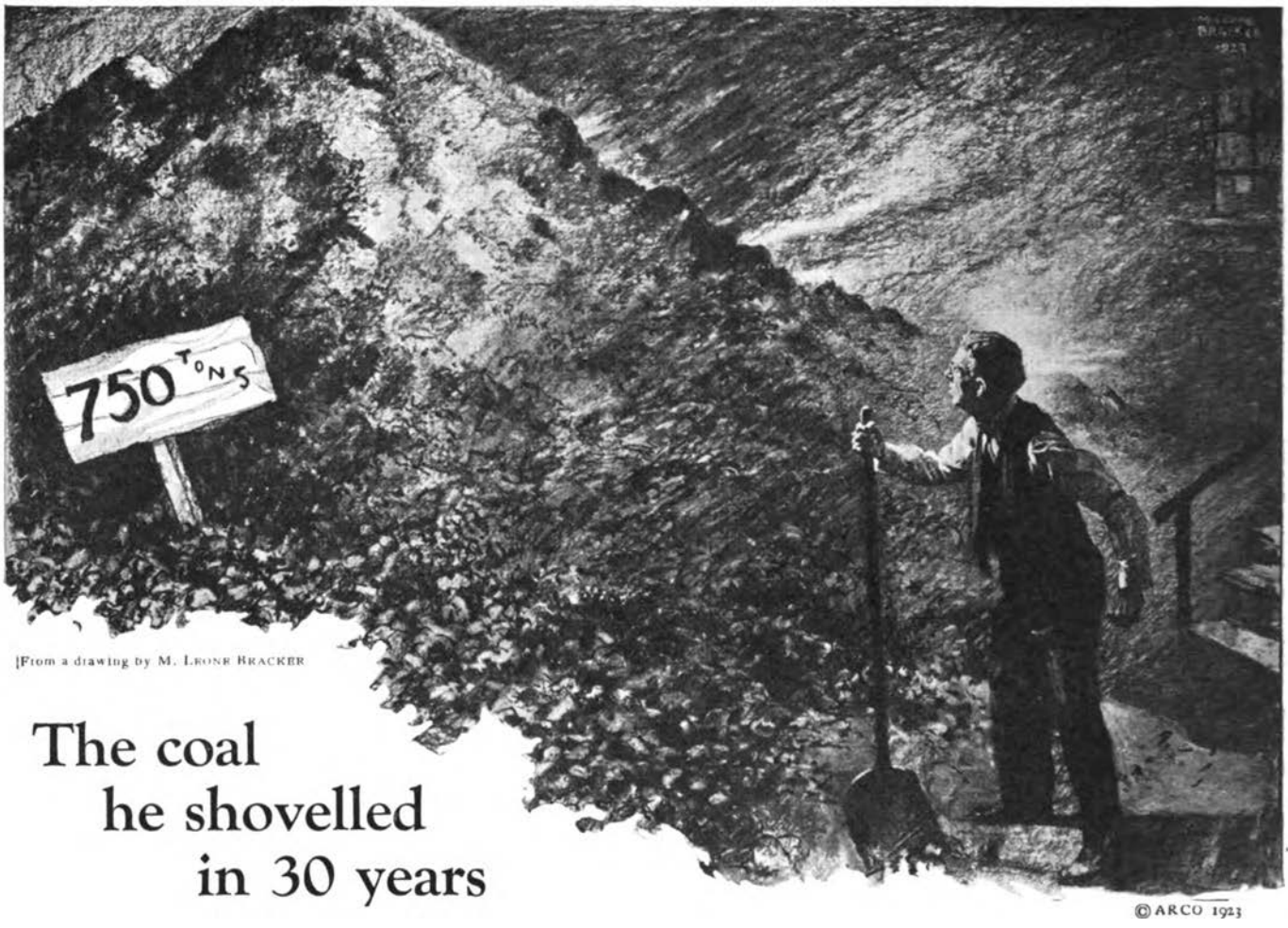
"NORTHWESTERN" mottled glazed terra cotta of a grey-green tint, with base course of pink granite finish, was used for the trim of this entire building.

NORTHWESTERN is a short form of specification for architectural Terra Cotta of superior quality.

THE NORTHWESTERN TERRA COTTA COMPANY

CHICAGO

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The coal he shovelled in 30 years

—*a true story for Architects and Heating Engineers*

LET US tell you the story of a home-owner in Evanston, Illinois.

He has had an IDEAL Boiler in his cellar for thirty years; it cost him new, about $275 (without radiators and piping).

His house is large. In these thirty years he has shovelled more than 750 tons of coal which, at an average cost of $10 a ton, amounts to $7,500 or 27 times the original cost of the boiler itself!

Three things can be learned from this story:

1 How amazingly IDEAL Boilers last. In thirty years there have been no repairs except a new grate, the old one having been "burned out through carelessness."

2 How little any boiler costs in comparison with the cost of the coal it burns. Since the difference in the first cost is so small, it is wisdom to urge clients to buy the best.

3 There have been many improvements in IDEAL Boilers, just as there have been improvements in automobiles. It would pay any home-owner to take out his old heating apparatus and install a modern IDEAL Boiler. It would cut his annual coal bill one-third, which would quickly pay for the new boiler.

We wonder how many home-owners actually realize how trifling is the first cost of their heating plant compared with the coal they burn! We are stressing this thought to millions of home-owners through the national magazines. Isn't it pretty sound logic to preach to your clients?

AMERICAN RADIATOR COMPANY

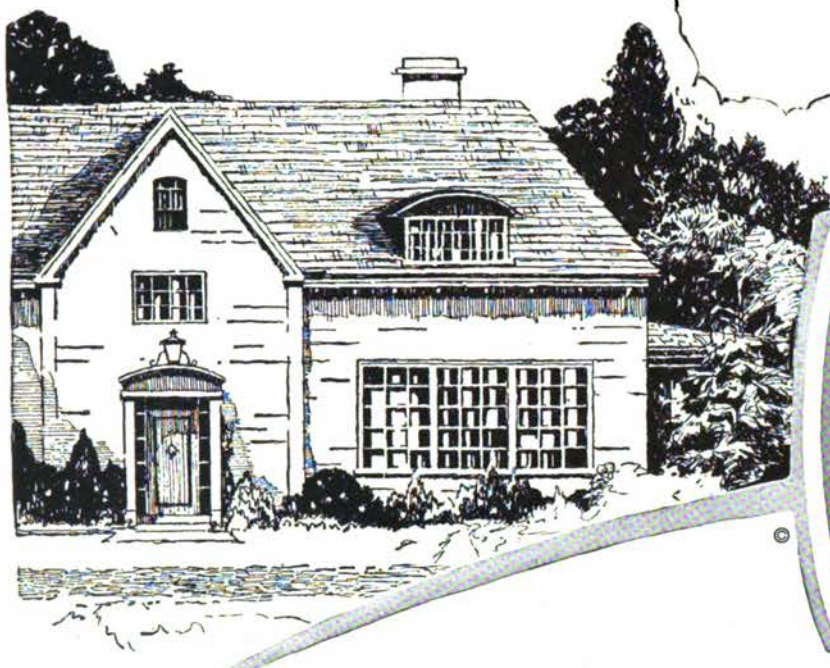
IDEAL Boilers and AMERICAN Radiators for every heating need

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NEW YORK

AMERICAN RADIATORS IDEAL BOILERS

816 So. Michigan Ave., Dept. T-189
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Use PLATE Glass

Like plates of crystal

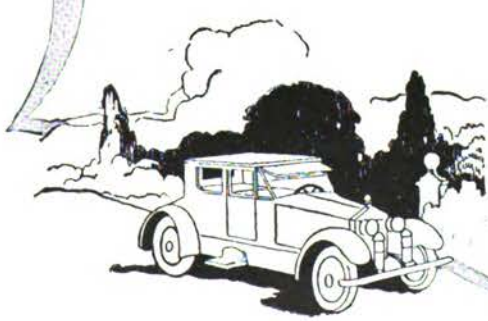
CONSIDER the æsthetic value of Plate Glass windows. They are like gleaming plates of crystal, like jewels in their setting. They are a beautifying feature of the house.

Unlike common sheet glass, Plate Glass does not distort objects. Its smooth, polished surfaces and crystal-clear body afford a perfect view from the inside, without the annoying imperfections of sheet glass. From the outside, it gives back perfect reflections of lights and shadows. It is this property of reflection that makes Plate Glass the æsthetically proper glass for windows.

When building a home, apartment house, hotel or business building, Plate Glass should be in the specifications. It is worth far more in its artistic effect than the slight extra cost.

PLATE GLASS MANUFACTURERS *of* AMERICA

Genuine **PLATE GLASS** MADE *in* U.S.A.

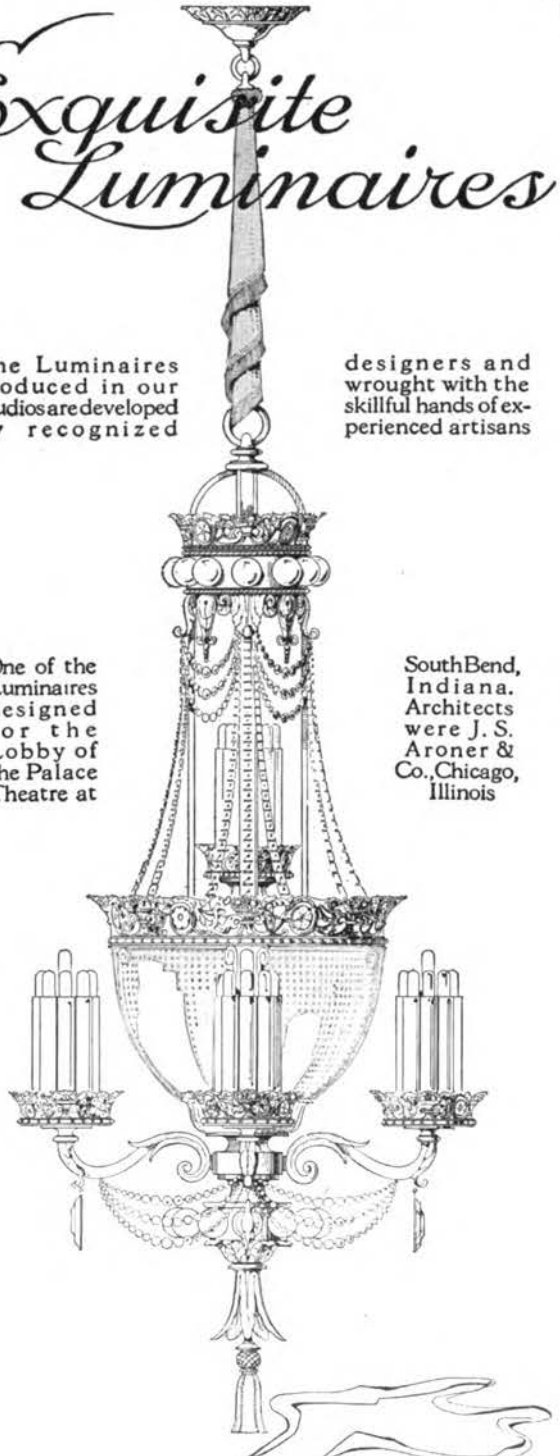


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The Luminaires produced in our Studios are developed by recognized designers and wrought with the skillful hands of experienced artisans



One of the Luminaires designed for the Lobby of the Palace Theatre at South Bend, Indiana. Architects were J. S. Aroner & Co., Chicago, Illinois

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Have for forty years specified Loomis-Manning Water Filters for use in their great creations, and under such specifications we have installed Loomis-Manning Filters in many thousands of Homes, Hospitals, Public Buildings, Office Buildings, Hotels and Apartments, etc.

IF YOU ARE BUILDING A NEW HOME, don't fail to ask your Architect to include a Loomis-Manning Filter in his specifications, for it filters all the water, it frees the water from all matters in suspension, color and iron stain, odors and tastes, chlorine odor and taste, and delivers it to all the faucets in the home, clean, sparkling and safe for any domestic purpose, and it is highly palatable.

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These Butts are furnished in malleable Iron Sand-Blasted and in Black Rustless Iron. The Sand-Blasted Butts are generally being used and painted at the job to match the trim.

The price is so low that these Butts are often submitted in competition with the cheapest Butts made, yet Architects consider them good enough to use where otherwise high priced Bronze Butts would be used.

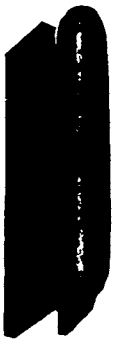
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IN BUILDERS' HARDWARE

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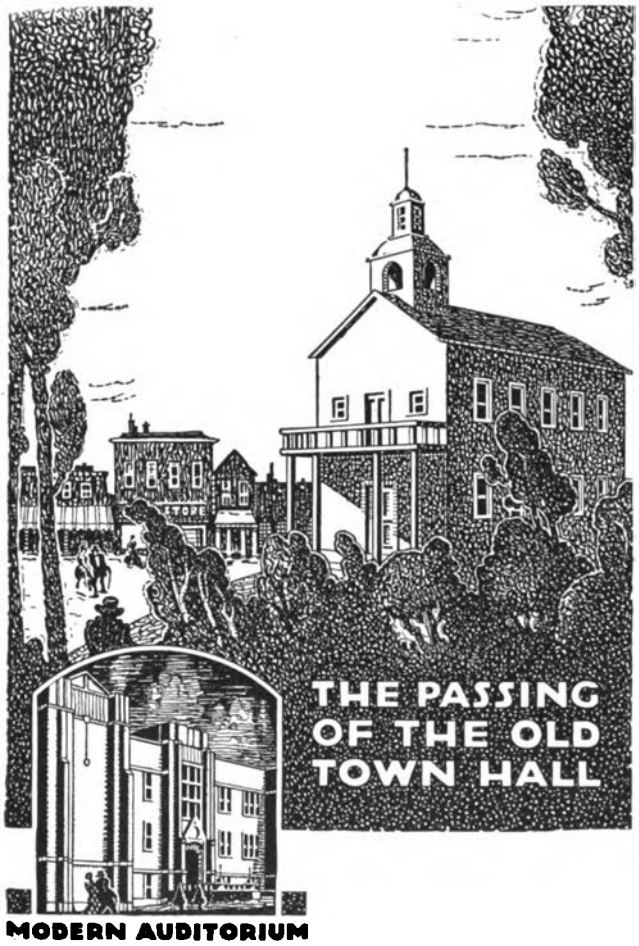
Class No. 70 Butt





James Gamble Rogers, Architect
Marc Eidlitz & Son Builders

Harkness Memorial, Yale University
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THERE is a marked contrast between the Old Town Hall and the Modern School Auditorium. In the old days, the Town Hall opened its draughty interior for Lyceum and lecture courses and other entertainments during the long winter evenings. Today the School Auditorium is functioning for community interests and activities. Yesterday the Town Hall was seated with rickety, worn, and ill-shaped chairs or benches, inimical to the children's health and adult comfort.

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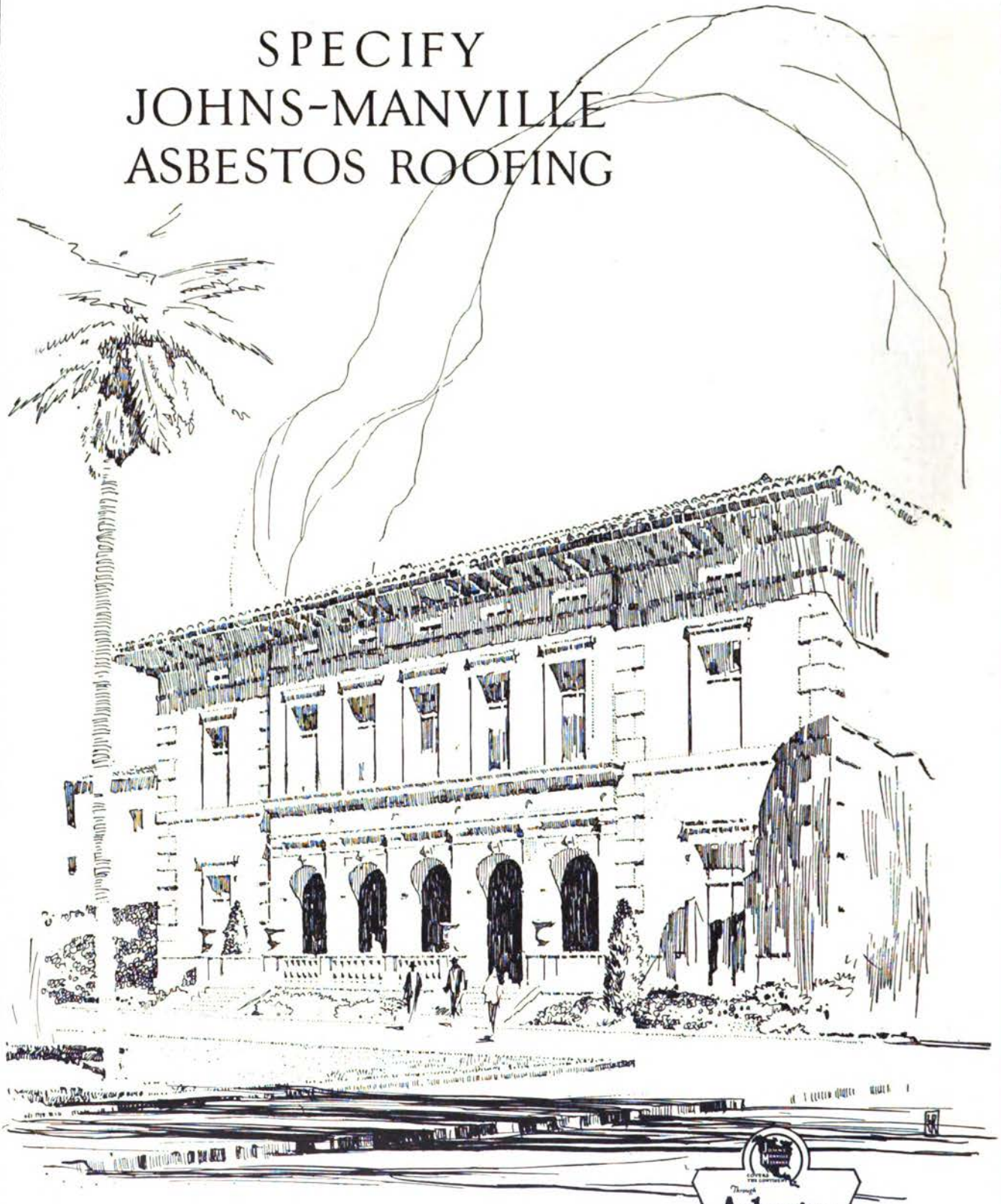
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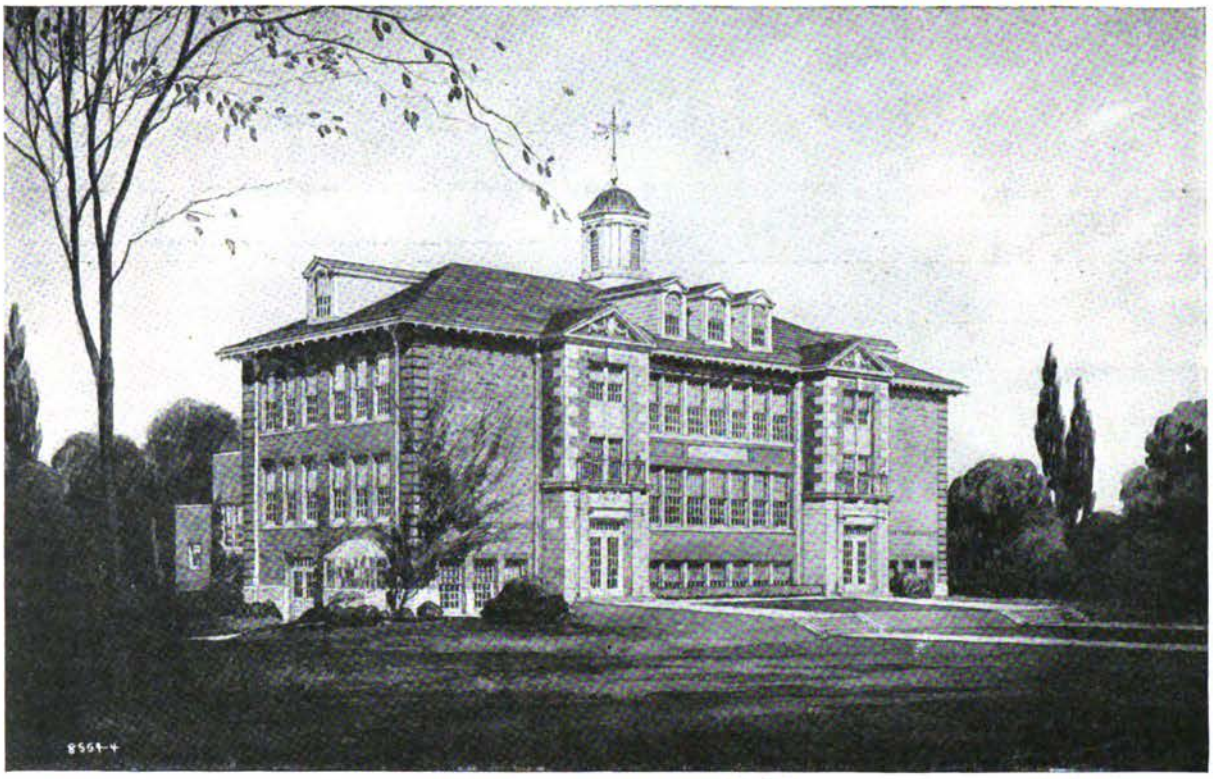
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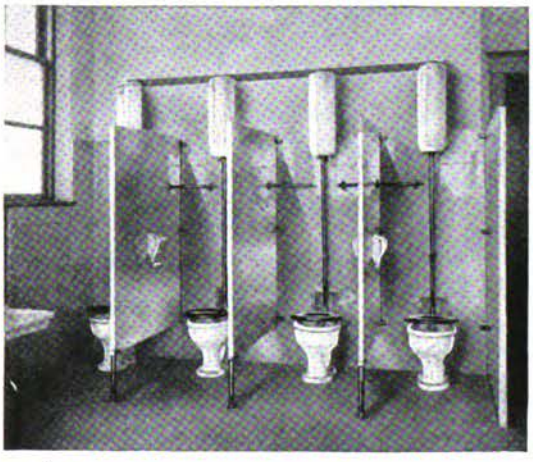
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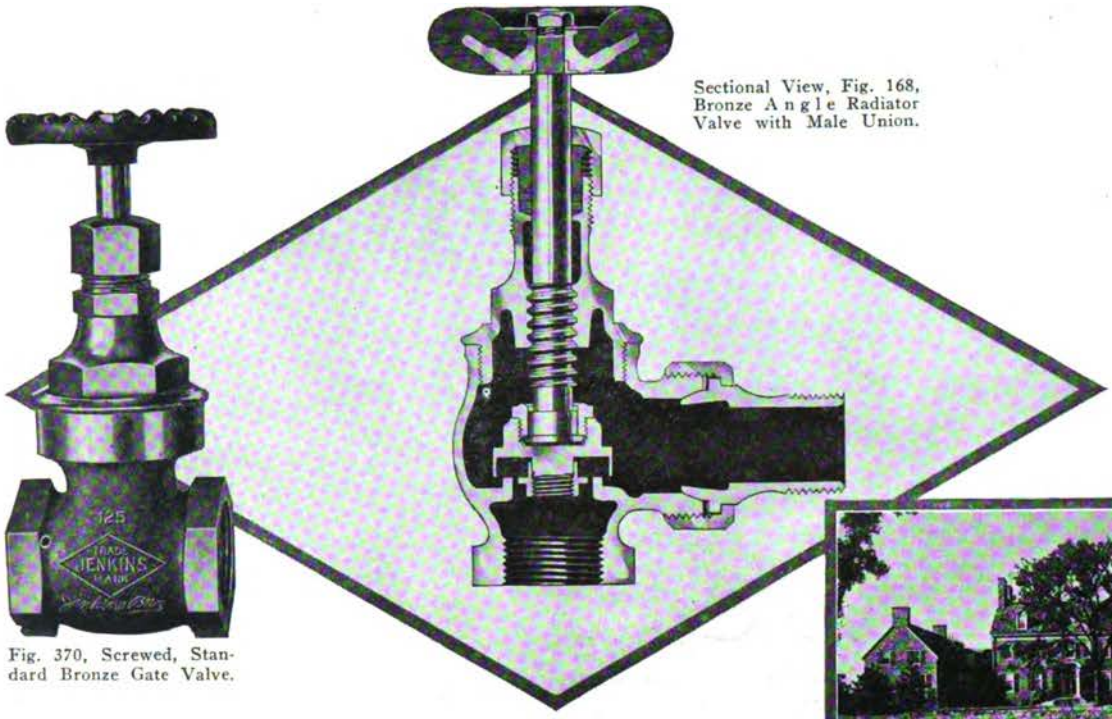


Fig. 370, Screwed, Standard Bronze Gate Valve.

Sectional View, Fig. 168, Bronze Angle Radiator Valve with Male Union.



Residence of T. H. Frothingham, Esq., Far Hills, N. J., Office of John Russell Pope, Architects; Stevenson & Cameron, Contractors; Joseph Miller, Plumbing.

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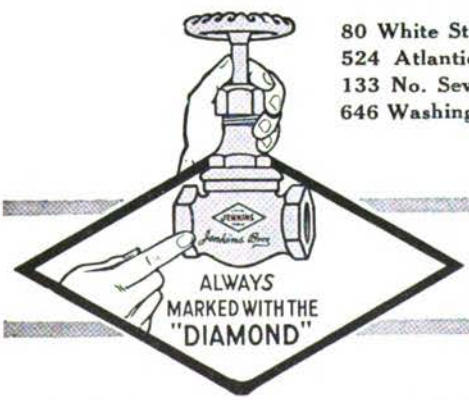


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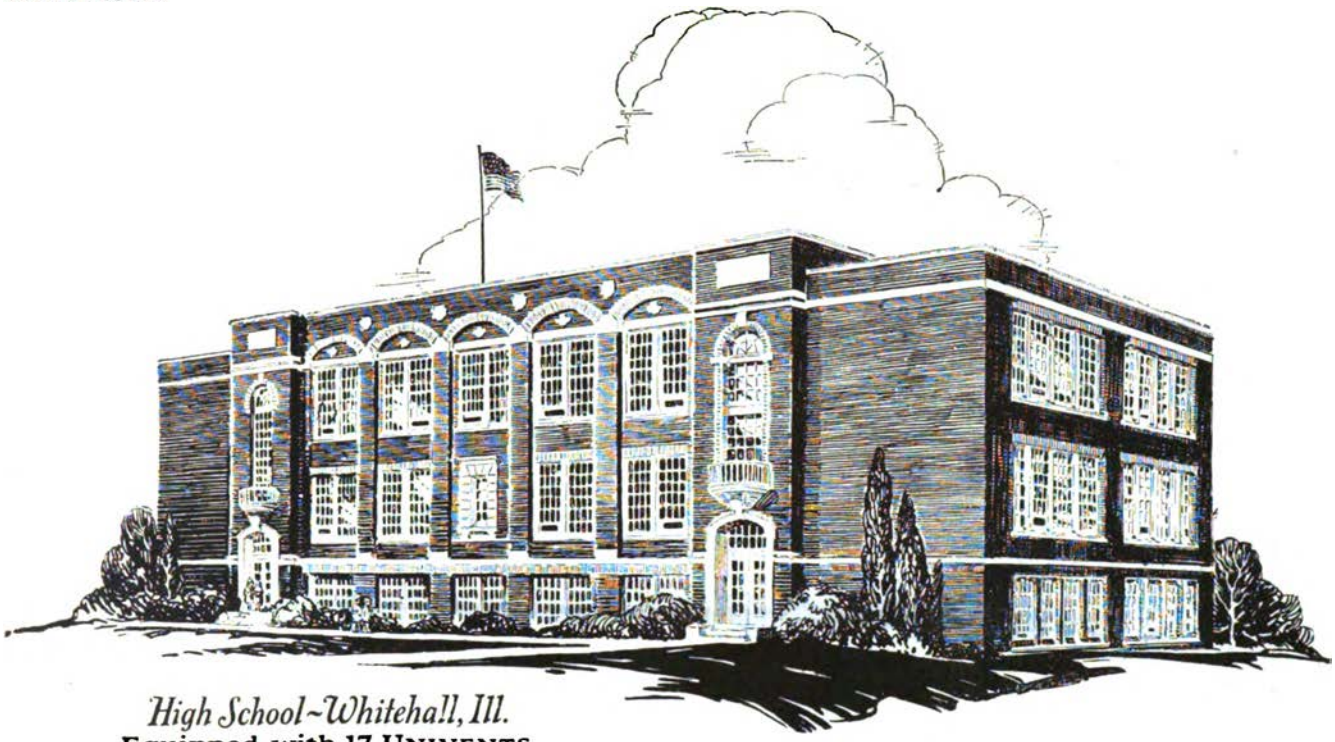
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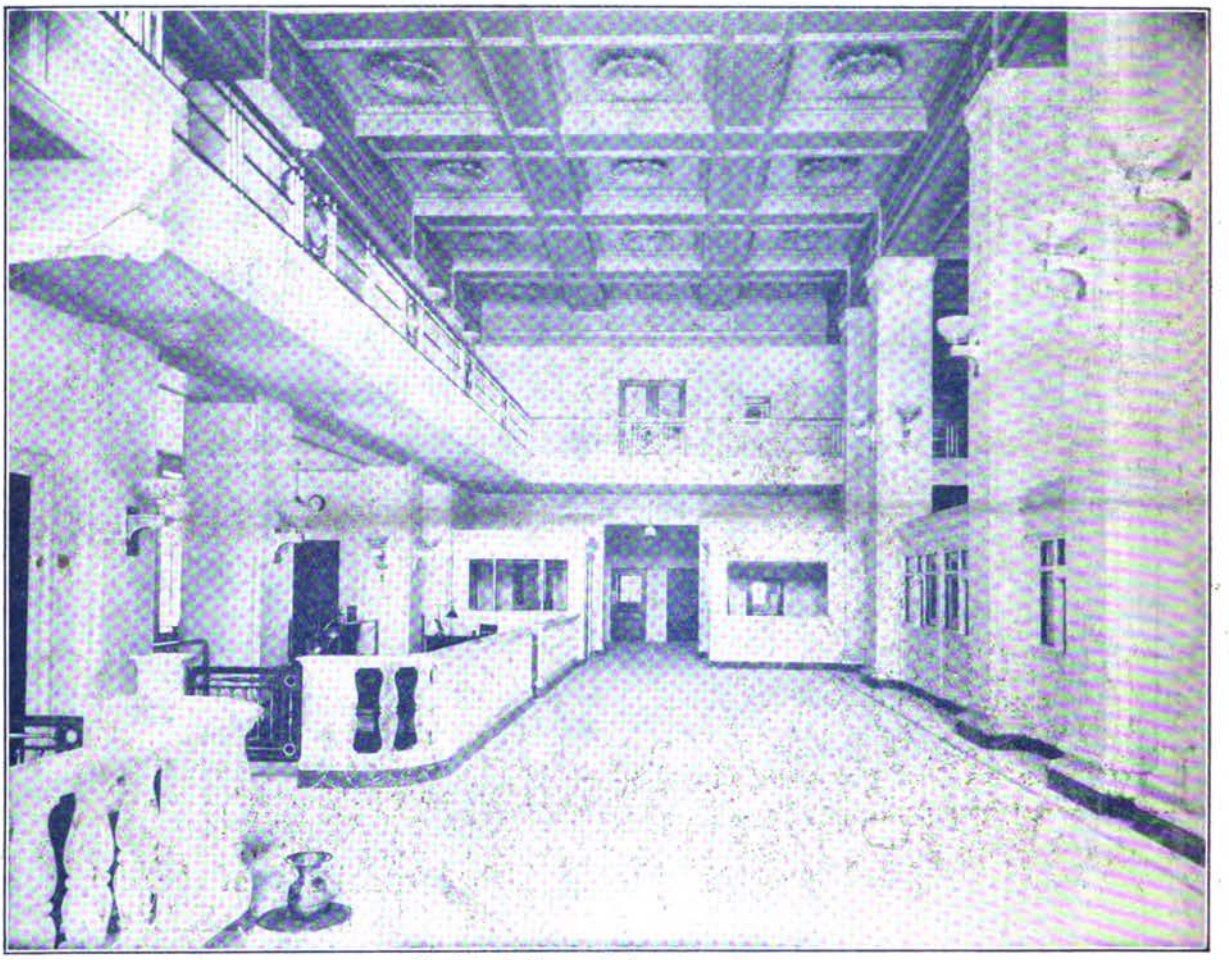
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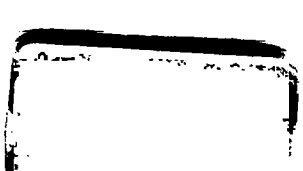
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