

Journal of The American Institute of
ARCHITECTS



THOMAS U. WALTER

November, 1947

American Hospitals Through Swedish Eyes

Architectural Education in 1847

The Economics of Estimating

Books & Bulletins

What Color?

News of the Educational Field

Thomas Ustick Walter, F.A.I.A.—1804-1887

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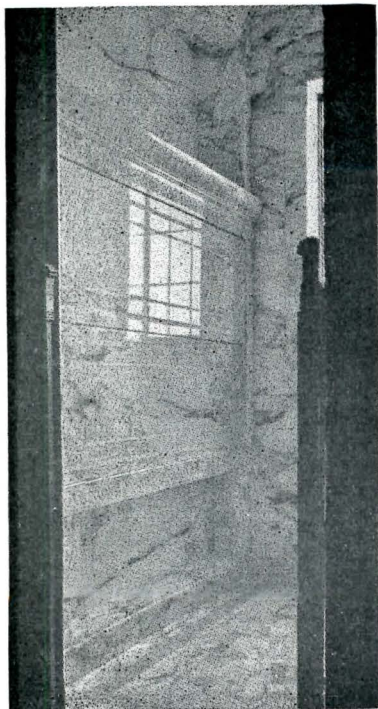
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Architectural Education in 1847

THE BEGINNINGS of professional architectural education in England stand forth in a clearer light because of Mr. John Summerson, Curator of Sir John Soane's Museum. Celebrating the centenary of the Architectural Association, Mr. Summerson read a paper in April dealing with the beginnings of the Association, as reported in *The Architectural Association Journal* for May 1947. It is a fascinating story, charmingly told, as may be gathered from an opening paragraph:

"A perfect introduction to the history of our Association was supplied by Charles Dickens, when he created Seth Pecksniff, and described the relations of that celebrated master to Tom Pinch, his draughtsman, and John Westlock and Martin Chuzzlewit, his articulated pupils. 'Martin Chuzzlewit' was published in 1843 and there, in broad caricature, is the three-cornered situation out of which this Association grew. Pecksniff is the standard product of the profession in the 'forties—the standard product at its very worst. To the

world he is a gentleman, a scholar and an artist; but he builds nothing and lives on premiums extorted from 'pupils' to whom he teaches nothing. Tom Pinch is the patient slave of the office, pathetically trustful of his master, without ambition or hope. Westlock and Martin himself are the more fortunate young men, endowed with the means to pay (£500 was the figure) for an education which, however, they do not get. Dickens's picture is complete and although we know—and what a relief it is—that he drew the character of Pecksniff not from an architect, but from a man of letters, it is impossible not to suspect that he may have come across some of those young men—Tom Pinches and Martin Chuzzlewits—who were then in the process of becoming our founders."

But aside from the personalized history of the Association's founding, a view of the ending of the apprentice system and the start of formal instruction will interest architects of this and other countries. Mr. Summerson writes:

"Certain young architects, just out of their articles, had been writing letters to the editor of *The Builder*, complaining about things in general and more particularly about the instruction, or lack of it, imparted by the average architect to the pupils in his office. The letters were never published, but at length Godwin, the editor, launched a slightly irritable leader, pointing out that hard work was a better cure for dissatisfaction than writing to the press. This elderly and rather thoughtless patronage evoked from a new correspondent, writing over the pseudonym 'R', a stream of vivacious and provocative copy to which Godwin, shrewd editor that he was, allowed free rein for some months. . . . By the end of the year, the Editor of *The Builder* had had enough of Mr. Kerr, whereupon the latter published everything he had written and a good deal more in the form of a duodecimo volume entitled 'The Newleafe Discourses.'

"Meanwhile, the Editor had softened towards another of the younger generation, for in the issue for Sept. 26, 1846, there appeared, over the signature of 'An Architectural Student,' a letter complaining in modest, moderate but distinct terms of the complete

lack of any provision to supplement the thin educational diet of an architect's pupil. The writer stated that he had tried, for six or seven months, to learn something at the Government School of Design in Somerset House. He had been given some very nice ornaments to copy but on asking for more substantial instruction had been candidly told that the School of Design could not possibly teach architecture because it would interfere with the rights of private individuals—or, in other words, the vested interests of Mr. Pecksniff.

"The letter went on to suggest, very humbly, that if the Government could not break down this barrier against learning, it was possible that the students themselves might. They might even start a school of their own. 'What is to prevent such,' said the writer, 'if a number of us put our shoulders to the wheel and form it?'

"Now, the writer of this letter was Charles Gray. He was articled to Henry Mawley (architect of, among other things, the Bedford Estate Office in Montagu Street). It seems that he knew Godwin of *The Builder* personally and was, no doubt, responsible for this gentleman's change of heart. Any-

way, his letter found an echo in the starved spirits of countless architectural pupils, all over the country. It was the signal for something to begin.

"If James Wyllson may be regarded as the proto-founder of the Architectural Association, Robert Kerr and Charles Gray are its unquestionable founders. Gray, when he penned that momentous letter to *The Builder*, was 18. Kerr had reached the imposing age of 23. Both were ambitious to be architects—preferably great architects. Both felt the architectural climate of 1846 to be perfectly intolerable to men of spirit. And when Kerr got in touch with Gray towards the end of the year, they felt themselves jointly prepared to set about what Kerr, in later years, referred to as 'a stirring of dry bones.'

"We know rather little about Charles Gray, but Kerr, in his youth, must have been a splendid person. Aberdonian by birth and education, he had, like Martin Chuzzlewit, paid a short visit to the United States where he had, in his own words, 'imbibed certain American notions.' He had imbibed, among other things, a swaggering belief that almost anything could be done if one really wanted to do it. He, Kerr, wanted to

revolutionise English architecture. We are told and can well believe that he possessed 'a gift of fluent and effective oratory which would have been regarded as exceptional in any gathering of Englishmen.' To this was added the advantage of an astonishingly facile pen. It is still possible to read 'The Newleaf Discourses' with some pleasure and amusement. They are rarely witty, never profound, but there is a gay, garrulous irresponsibility about them which carries the reader happily from page to page. They aim to show, in a series of rhetorical dialogues (coloured, I suspect, by a reading of Carlyle) that architecture is a Fine Art, and nothing else whatever; that it has nothing to do with archaeology, old churches, drains, supervision of builders or party-wall disputes; that living architects are, with the possible exception of Professor Cockerell, idiots or criminals; and that the Royal Institute of British Architects is a concern run by crooked tradesmen and doting antiquarians for their own largely dishonest amusement.

"Kerr's spirit, his oratory and fighting capacity soon made him the centre of a little group, all fired by Gray's published protest and all

prepared to do some vigorous stirring of dry bones. These youngsters were mostly articted pupils—Martin Chuzzlewits—who, like Charles Gray, felt strongly that if architects would not or could not teach the people from whom they get premiums, those people must find some way of teaching themselves. Clearly the first step was to associate, but before that step was taken one of their number stumbled across the mouse-like activities of the Association of Architectural Draughtsmen. Here, it seemed, was a Society, already four years old, whose aims mildly foreshadowed those of the organisation envisaged by Kerr and Gray.

To Kerr, the members of the A.A.D. seemed incredibly old. Some of them were over thirty, hopelessly respectable and even married. They were also, however, courteous and sympathetic, and Kerr was invited to speak at one of their meetings on the subject of 'Architectural Education.' This event took place on February 3, 1847, and the purport of his address was, in the first place, to drive home the high theme of the 'Newleafe Discourses' and in the second to propose the immediate establishment of an architectural society, 'for the benefit of those

connected with the profession in the capacities of student and draughtsman,' or, in other words, to found a school of architecture. A fairly detailed scheme had already been drawn up by Gray and one or two others, so that Kerr spoke with a brief as well as with confidence, and there was no delay in deciding to merge the existing society into the one not yet quite born and to pursue a joint object—the formation of a school.

"Within a few weeks of Kerr's lecture *The Builder* was able to announce that 'the Architectural School of Design is now in a fair way of being established in connection with the Society of Architectural Draughtsmen.' Jayne, of the A.A.D., became Secretary, a preliminary meeting was held on March 3, and five members of the old Society were appointed to meet a deputation of the newcomers and discuss details.

"Then, in May, 1847, there appeared for the first time a report in *The Builder* under the heading ARCHITECTURAL ASSOCIATION. It was a report of a lecture by J. K. Colling, who begged leave to differ from Robert Kerr on one or two points of architectural philosophy, a subject which, then as now, was

found to be inseparable from the practical objectives of any group of architects. Kerr replied, in July, with a paper entitled 'Architectural Style.' Finally, it was announced that on October 8 the Architectural Association would open its first session with a *Conversazione* at Lyon's Inn Hall, Strand.

"The meetings at which papers were read were important from the first. As a rule, these papers were read only by the members themselves, but they provided a much-needed forum where young men were encouraged to crystallise their ideas and attack other people's and could do so without impertinence or embarrassment. Thanks to Godwin of *The Builder* who, by this time, was a firm friend and ally of the Association, came to its *Conversazioni* and reported its proceedings regularly, we know what these papers were like. Some were merely sententious or pedestrian; many were really excellent. The subjects were very much the sort of thing we still discuss—for instance, monumental architecture, the condition of London, criticism and public taste, aesthetic principles, architecture and science. This last subject was dealt with in 1851, when James Edmeston spoke on 'the position of architecture as re-

gards recent discoveries in science.' He said that architects should reject the use of the arch in an iron church; that there was as much expression of intellect in machine-work as in handwork; that the experience of the past should be used with the fervid mind of the present and that designers must not become the slaves of medieval prejudices. It must be admitted that if one seeks out the few surviving buildings from Mr. Edmeston's hand they do not quite echo that sentiment of modernity expressed with so much conviction in Lyon's Inn Hall. But that was entirely characteristic of the times. It was much easier to postulate the need for a new architecture than to discern what form it could conceivably take.

"The tone of opinion at meetings in these early days was thoroughly romantic but—this is an important point—not Gothic. The Association did not hitch its wagon to the Pugin star. Gilbert Scott, though he came to lecture about the Architectural Museum in 1851, was never a member; neither were Carpenter, Butterfield, Street, Pearson, Ferrey or any others of the 'hard core' of the Gothic movement. They were, of course, rather

older than the average membership but they moved also on a different plane of ideas. In the A.A., they were thought (with the exception of Scott) rather precious. Kerr himself was a merciless anti-Camdenian. 'That's not Architecture,' he had said in the 'Newleafe Discourses,' 'that's Archaeology, *mon cher*, the science of Rubbish.' And most of his friends agreed with him. They wanted to go deeper than history—to go, as they said, back to nature and evolve from first principles that nineteenth-century style of which Donaldson had spoken at the first meeting. To this goal there were many different approaches, all easily expressed in words but not easily followed in practice. There was the approach via Paxton and the new architecture of iron; there was the approach via nature-study and natural ornament; there was the approach via the hopeful mixing of styles. Any approach had some value which broke free from the tyranny of the five orders on the one hand and from Gothic copyism on the other.

"In 1853, things were much worse and the attendances at meetings began to fall off. 1854 was a year of declining activity and in the following February the Asso-

ciation's assets were £3 0s. 11d. as against £50 10s. 6d. liabilities. Curiously enough, at this gloomy juncture, the Association set going a project which was to have the most important consequences not only on the future of the Association but on professional life as a whole. At a meeting on October 6, 1855, Alfred Bailey, the President, read a paper in which he put forward the idea of a qualifying diploma for architects. Mr. (later Sir) William Tite, M.P., and Vice-President of the R.I.B.A., a man who should be numbered with Godwin and Donaldson among our early uncles, was present as a guest. He was impressed with Bailey's exposition and the obvious earnestness of his approving audience, so that, a few weeks later, when presiding over a meeting at the R.I.B.A., he passed on the examination idea to the senior body. The Institute on this occasion acted with singular promptitude, for, exactly a fortnight later, John W. Papworth read at the Institute a paper called 'A Diploma in Architecture' and proposed that the Institute should set up a Board to hold examinations and grant diplomas. Before the end of the year the Council of the Institute had received a memorial from the A.A.

laying before them their desire to see an examination and diploma established. The memorial was from Alfred Bailey's pen and in the course of it he wrote: 'The want of proper knowledge on the part of the architect, combined as it is with a want of information on the part of the public, leads to many of the anomalies which are now so frequently observable in the practice of the profession, and to the presence in its ranks of many who have not the power, and in some cases have not the will, to uphold its credit.' Which formidable sentence may be reduced to the simple equation: ignorant architects *plus* ignorant public *equals* bad architecture. An equation which lies at the root of all the ugliness of London.



"Perhaps the appearance of John Ruskin at the next *Conversazione* (January, 1857) did something towards a restoration of confidence and enthusiasm. He was the first real celebrity to speak at one of our meetings. Lyon's Inn Hall was packed and a tense audience heard the great critic, then at the height of his powers, express himself on the subject of 'The Use of Imagination in Modern Architectural

Design.' He said that industry and imagination were qualities inseparable from greatness. It was necessary to possess and cultivate both: competence by itself was insufficient, the architect must also be a teller of fairy-tales. Then he attacked the still prevalent quest for a new style:

"After all when a new style is invented, what are you to do after that? Can you do more than build in it? Or what can you secure in building in a new style that you have not in the styles already known? Your new style may be different from everything ever known before; all the orders of architecture may be entirely reversed—but what next? I think that if you quietly consider the subject you will see that, if you are not content with a Palladio, you will not be content with a Paxton, and I pray you to get rid of the idea of there being any necessity for the invention of a new style.'

"Here was a group of beginners who, by their own efforts and with the trifling assistance of only a handful of their elders, undermined an old and firmly-established system of training and laid the foundations of the completely different

system which we enjoy today. It is doubtful if such a performance can be paralleled in any other pro-

fession. But then, architecture occupies a unique place in the fabric of society."

What Color?

By Dr. W. Schweisheimer

Reprinted in part, with permission, from
The Architect and Engineer for March, 1947

THE GREAT Italian painter, Titian (1477-1576), once said that a painter must have perfect command of but three colors: white, red and black.

This does not mean that painters are limited as to choice of colors. The human eye can distinguish differences among two million colors and shades, according to a report of the Inter-Society Color Council which consists of delegates from several scientific and industrial organizations interested in standardizing colors and shades. So far, 7,044 colors and their shades have been tabulated, it was reported earlier by M. Rea Paul, co-author of the Maerz and Paul "Dictionary of Colors". Standard English dictionaries, however, list only about 3,400 words for these seven-thousand-odd shades.

Hardly any part of the human language is as helpless and unde-

veloped as the naming of colors and their shades. You may walk into a paint store or textile store, ask for a piece of goods and try to describe the color you want. "It should be red, dark red, saturated red, like red carnation, you know, not a green shade in it." But not until you have seen twenty or thirty samples will you find what you are looking for.

Originators of colors have a hard task finding the proper names. The names of natural colored objects have long since been practically exhausted: names of flowers, fruits, vegetables, metals, minerals, gems, aspects of nature such as the sky, sea, etc. Several efforts were made by color experts to arrange tables or dictionaries of colors. There are scales of color hues which provide each one with a certain number or several numbers. Colors are designated by numbers and subdivisions of num-

bers. Much admired is the system of color organization originally developed by Wilhelm Ostwald, Leipzig physical chemist and receiver of the Nobel Prize. Since 1915, Color Cards have been issued by the Textile Color Card Association of the United States—two season cards a year. This introduction has proven a remarkable progress for industry.

Industry has in the past originated a myriad of names of colors; they have disappeared, being too inexact. In the sixteenth century, we are told in Challamel's "History of Fashion in France", Frenchmen wore colors—and great was their number—from Rat-color to that called Widow's-Joy, or Envenomed Monkey, or Chimney-Sweep. Maerz-Paul's "Color Dictionary" mentions among others the following color descriptions connected with fashion in eighteenth-century France: Rash Tears, Paris Mud; Brand from the Opera; Burnt Opera House; Stifled Sigh; Elliott's Red-Hot Bullets; The Smoke of the Camp of St. Roche. The modern systems and color cards are reliable and scientific though less poetic.

However, when certain colors and shades *had* to be named, there

was no real lack of words. The native who lives in the tundra—those flat, treeless areas in the northern parts of Russia—possesses no words for the colors red, green, blue, purple, etc.; they have the word "colored" for all of them. But the various shades of brown of their cows, from which they draw their livelihood, are vital to them for the necessary distinction between the various animals. Thus, they have invented 31 different words for the various hues of brown.

To the stranger, the tundra seems a lifeless grey-green, grey-brown or green-brown. He hardly can distinguish more than ten colors in these drab surroundings. The native, on the other hand, who lives continually in the tundra, has some 500 to 800 words and word combinations to specify these colors and their respective shades.

Actually, the painter or any other color expert sees many more colors and hues than the layman. Ask anybody about the color of the wall in the dining-room. He will answer: brown, greyish-brown, or grey-violet. But the interior decorator or painter or architect, who knows the various colors from long experience and

may know also how to combine certain basic colors to create a new color, has the exact name for the particular kind of grey or brown or green. Color experts will understand each other by the single word while other people have no way of expressing themselves properly until they are shown examples of the color hues within the broad limits which they are able to specify.



Exact examination has shown that the ability to perceive the different colors is unequally distributed over the retina. The eye has a certain field of vision; in its center the objects are seen distinctly, while the vision is indistinct on the margins of the visual field. These margins are sensitive only to white and black, and their mixture of grey; the fields for blue and yellow cover the whole area except the margins; the fields for red and green sensation are the smallest, occupying only the central part of the field and covering less than half its surface.

Everyone may find out for himself whether he can distinguish any color in objects which he sees at the margin of his field of vision. He will find out that he is not

able to recognize any color in those objects.

There are certain limits to our color sense and our color knowledge. These limits are partly physiological, founded on the nature of the eye and brain and therefore cannot be changed. But these very limits can very well be extended through practice and observation—and that is the reason why painters, architects, interior decorators, etc., have a much better knowledge of colors than the layman has.

One-color rooms, monochrome rooms, are recommended mainly for the city life. They are supposed to maintain tranquility and distinction in the hurried everyday life of the city dweller. Coming home to the easy color-flow of a monochromatic room is said to be more soothing for city nerves. Sharp colors are deemed appropriate for the country—for the city they seem to be nerve-tearing.

The small rooms of city apartments seem to be larger as well, because "the eye is nowhere stopped by intrusive color-contrasts." As an expert description states, "the living-room of one low-ceilinged apartment is lifted by light sky-blue walls, sea-blue curtains, furniture covered with

deeper blue; on the floor, a black Bessarabian rug touched with blue and green."

Apparently, seeing one color means less trouble to the nerves connected with seeing. Actually our eye rarely sees only one color. There is the important physiological fact of the after-image. A. H. Munsell has mentioned the classic example of the mother who glanced up from work upon a piece of vivid scarlet cloth, and shrieked at the look on her baby's face—believing its apparent pallor meant death of the child. Actually the rosy complexion of the baby had not changed, but her fatigued eyes could see no red for the moment, giving only a ghastly mixture of the two remaining sensations, green and blue. Had the cloth reflected a vivid blue-green, she might have been equally overwhelmed by a contrary illusion that the child was running a high fever.

Every color, or combination of colors has its specific after-image. When you have looked at green for some time red will appear as after-image. You stare at blue for a certain time; yellow will appear for your eyes on a white surface when you turn your eyes to it. The eye, fatigued with looking at

one color, is disposed to receive the impression of its complement. Complementary colors are such as when blended together give rise to the perception of whiteness. A painter in a paint shop is looking at red paints; after having seen five or six samples, he begins to complain of the bad color of those subsequently shown to him.

Actually the color is not bad. But his eye, weary of red, no longer receives the impression of it vividly, or as a source of pleasure. Some hundred years ago a color expert, M. Chevreul of Paris, gave this advice to textile men: "Let the prudent tradesman not allow ten or eleven red stuffs to be looked at in succession. After about the fifth red material, something green should be submitted for inspection. After the customer has looked at green for some time, he may go on looking at red material," and will be sure to see them to the best advantage.

When we are in a monochrome room or when we see somebody wearing a dress of one color, we cannot help being impressed in a certain manner. Blue, for instance, is known to usually have soothing effect on neurotic people and neurasthenics. The office

rooms of neurologists and psychotherapists are sometimes painted or decorated in a mild blue in order to produce a relaxing effect with the patients. Melancholic, depressive patients need a more vivid color to feel less depressed. A neurotic woman, despite all kinds of cures, did not improve until finally the despairing doctor suggested to have her whole house re-decorated in blue—removing the original bright, supposedly cheerful colors. This did the trick; the mysterious complaints vanished—at least for a long time.

The old colors in that house had contained a great deal of red. Red has a stimulating effect on most people and increases the working power of the brain. It is well suited for depressive moods, a woman who feels depressed might feel a lot better in a red dress. The Color Research Institute of America, in Chicago, recently reported this strange experience: A well-known professional man, very deeply depressed, decided to commit suicide by self-starvation. At last he was taken to a mental hospital and placed in a special room which was painted in a bright red. Within twenty-four hours, by the power of color alone, his will to live had been awakened and he ate

again. Red electric light is used as well to stimulate the depressive feeling and to drive away thoughts of suicide.



H. S. Kahm relates this experience: In one experiment, a group of salesmen had a conference in a red room. They had been asked to leave their watches outside, and after the conference they had to estimate how long it had lasted. The average consensus of opinion was six hours. Actually, it was just half that. In another corresponding experiment in a light blue room, the salesmen thought they were in there a shorter time than they actually were.

Yellow is another stimulating color which helps energize the brain. In color therapy it is used in treating colds, paralysis and chronic conditions. It might be preferable not to wear a yellow dress in an airplane; color experts of airlines have stated that airsickness is induced by a prevalence of yellow and brown, while it is averted by blue and green. Consequently painting and decorating in airplanes tries to avoid yellow and brown.

Orange is too stimulating in the long run, due to its being a mix-

ture of red and yellow. Only few people like orange-painted rooms.

Green possesses cooling effects and is useful in the abatement of excitement. It is subconsciously associated with nature and health and counteracts brightness and sunlight.

Black is useful for toning strong colors, it is not actually depressing. It is best used in combination with some other color.

White, on the other hand, is cheery; it attracts sunlight. But used alone, both as dress or in a room, it is cold. White has a stimulating effect when used with red, yellow or orange.

Brown is restful and warming, but somewhat depressing when used alone. Best effects are reached when it is combined with orange, yellow and gold.

Purple and mauve are sedative, soothing colors; they may induce sleep. Purple is a mixture of red and blue, but it seems that the

sedative influence of blue is more important in this combination.

The latter opinion is not unanimous. Dr. William S. Wadsworth of Philadelphia, a physician interested for many years in the study of color effects on the human body and mind, points out that purple causes the greatest emotional upset, though its effect will vary with the individual. He had the opportunity of studying the effects of colors on the professors who came into his office at the University of Pennsylvania. Among these men were found persons who, although emotionally stable in every way, could not endure prolonged exposure to the purple light. Uneasiness and mental restlessness were the consequence.

In using certain colors in rooms we are hardly aware of the physiological foundations of our selection. Still, they are the most important factors in our decisions.

“The International Style house, while a valuable negation of what preceded it, was fundamentally dishonest in that it used the oldest of methods and techniques while attempting to create the impression of a product turned out by a sheet-rolling and stamping mill.”

—GEORGE NELSON, in August *Arts & Architecture*.

American Hospitals Through Swedish Eyes

By *Gustaf Birch-Lindgren*

With Comment by JAMES R. EDMUNDS, JR., F.A.I.A.

The magazine *Hospitals*, Journal of The American Hospital Association, carried in its June, 1947, issue an article with the above title, by Gustaf Birch-Lindgren, an architect of Stockholm. Some of its observations were a bit disturbing. Are we in the United States too easily satisfied with our own work? Is pride of achievement blinding us to faults discernible by architects of other lands? We asked James R. Edmunds, Jr., F.A.I.A., for his comment on Birch-Lindgren's criticism, and, with the permission of the Editor of *Hospitals*, here are pertinent excerpts from the *Hospitals* article, followed by Mr. Edmunds' comments.—Editor.

MR. BIRCH-LINDGREN:

BEFORE THE WAR American hospitals and their design were a major influence in Swedish hospital planning, despite the difference in customs and traditions of the two countries. Perhaps this was only natural, since basic principles in planning for the care of the sick must be just as international as the science of medicine.

For a number of years, however, we have been isolated from American hospital development. In the meantime trends of design in the two countries have gone along independently.

For this reason, when we see American hospitals for the first time in years, we see them from a fresh viewpoint. Some of our ideas may interest American people. We do not want to be criti-

cal of things because they are unusual and different from those to which we are accustomed, and we realize that our comparisons and inferences are superficial and not necessarily correct.

American hospital exteriors give the impression that their interiors have been cramped and distorted to fit a preconceived architectural form. Functional design, which characterizes our newer buildings, had not yet been acknowledged by American architects when the present buildings were erected. Yet functional design was clearly advocated by the late Dr. S. S. Goldwater in his basic principles of flexible design.

The science of medicine is in constant development. To keep pace the hospital must have new floors, new additions, and permit interior rearrangement. The old

architectural concepts, restricted in form by ancient styles and heavily ornamented with costly stonework, offered no opportunity for such expansion.

I am convinced that the clean, matter-of-fact lines of the functional mode of design are best suited to house the modern hygienic institution that is today's hospital. It seems so much more sensible to spend the money for the care of the sick that formerly went into elaborate stone ornamentation that the patient could not even see from his bed.

In this connection, I believe the skyscraper hospital, as it has developed in some instances, is open to challenge. Obviously, in some American cities local conditions necessitate multi-story buildings. But my observation is that this type has been used in cases where plenty of ground has been available to permit the building to be spread out.

We recognize that vertical transportation is fast and convenient; but it also has limitations. When traffic is heavy it takes many expensive elevators with many operators. This raises the question of balance between the efficiency of walking a bit horizontally or waiting for an elevator.

The skyscraper hospital in the form of a cross provides an inflexibility that must be most disturbing to the designer. The extremely fixed limits of each floor area tend to force all of the different departments to the same contour or frame. They all have to be planned with identical depth of rooms; identical distances between windows; and to some extent, because of elevator locations, into identical floor areas not commensurate with their respective requirements.

This cruciform hospital presents a greater problem in the dead space that occurs at its center and the number of rooms that must be built without windows. There have been skilled plans following this style in which these difficulties seemed to be more or less overcome. But even these are not entirely convincing.

The trend in the design of Swedish hospitals, and in Swiss as well, has been quite different. The new hospital following this pattern consists of two connected units. One is almost entirely a bed building, the other a treatment building. The latter provides space for most diagnostic, treatment and outpatient activities. Services, such as kitchen, laundry and power

plant, are often placed in an auxiliary building of their own.

The advantage of this arrangement is that it is readily susceptible to the enlargement of any department in accordance with medical development. Contrast with this flexibility the cross-shaped building, in which the enlargement of the X-ray facilities or the addition of a new laboratory must involve a major alteration program and be performed at the expense of space formerly used for other purposes.

The design we have been using assures the provision of ample natural light for every room. I believe this is essential in a building dedicated to health and in which a high standard of hygiene should be maintained as an example. I cannot help but feel that the many windowless rooms entirely dependent upon artificial lighting, which must be a part of the cross-shaped hospital, are not a natural and hygienic solution.

Nevertheless, if the multi-story building pays too little attention to hygienic considerations, and a little too much attention to the transportation problem, the latter does have its advantages. The elevators for passengers and the dumbwaiters for tray service and

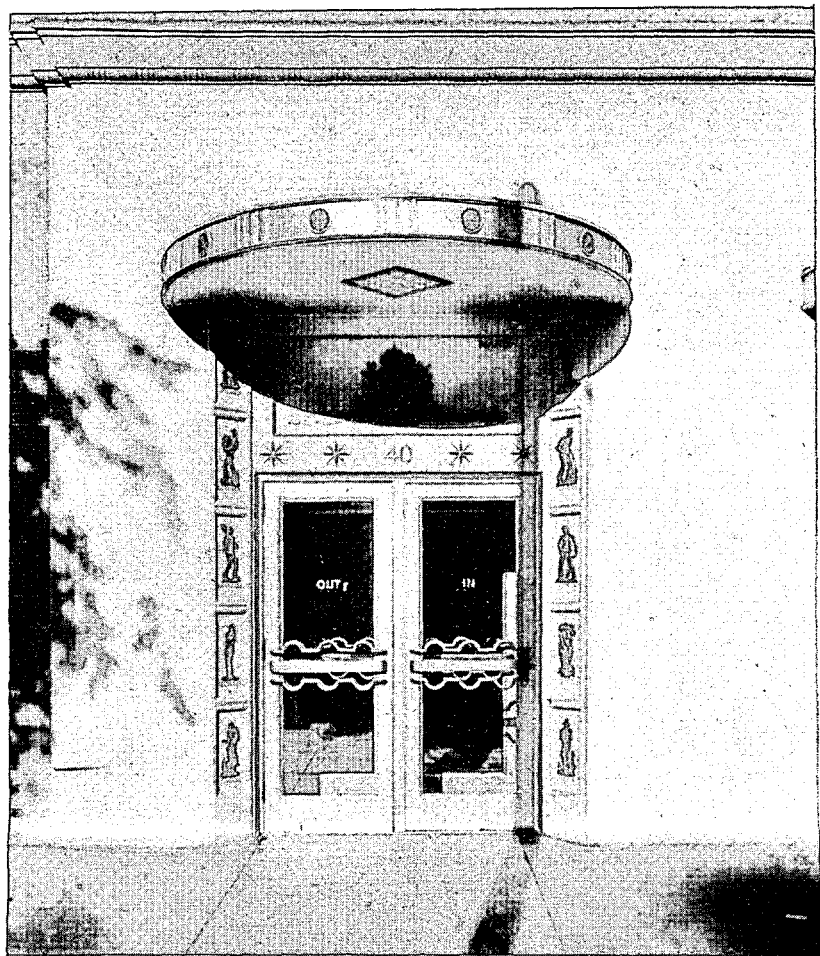
supply, all leading directly from the correct spot at source of supply to the right room in the ward unit, must simplify operating problems. Certainly the installation of pneumatic tubes, piping and wiring is simplified. I have no doubt also that our respective problems in personnel may influence these trends of hospital development.

Speaking of skyscraper hospitals, an important question is: What is the optimum number of beds for a hospital? There are some reasons for big hospitals; there are other reasons for small ones.

Most American experts take the personal contact view and mention 500 beds as a desired upper limit. Only a few do not see a reason why a hospital if well organized should not be much larger.

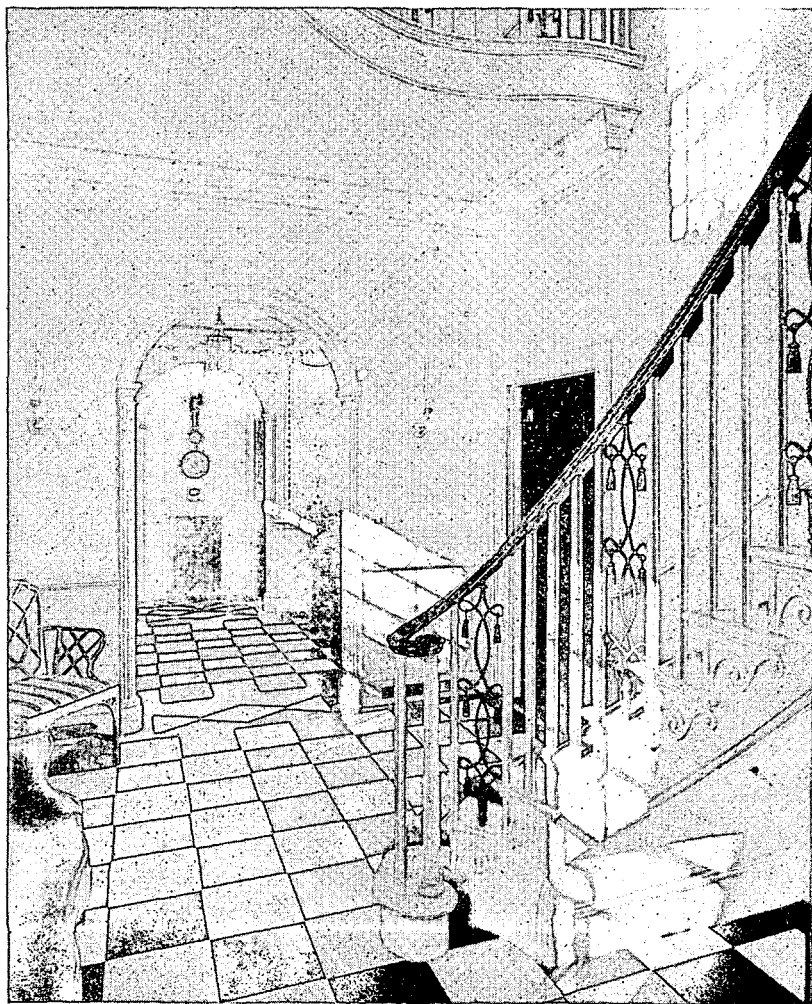
I think the 500-bed hospital is ideal from many points of view. There may be economical and medical reasons, however, that will eventually force us to adopt the 1,000-bed unit, let us say, as a more common type than it is now.

In planning Swedish hospital ward units, an accurate basis for design has been arrived at through the work of time-study engineers. With a stop-watch and notebook,



FRONT ENTRANCE OF THE TECHNOLOGY STORE
CAMBRIDGE, MASS.
PERRY, SHAW & HEPBURN, ARCHITECTS

Photograph by Weber



STAIR HALL OF THE H. H. LAUGHLIN RESIDENCE
CONCORD, MASS.
PERRY, SHAW & HEPBURN, ARCHITECTS

Photograph by Cushing

the time-and-work surveyor follows each person who has duties in a ward unit. Our nurses' stations, utility rooms, treatment rooms and serving kitchens are then carefully plotted in the right location to save the greatest number of steps and minutes.

In American hospitals, however, for apparently valid reasons, the nurses' station is frequently located at the entrance end of the ward.

Another thing immediately observed is the position of window shades which are pulled half way down. This happens on the sunny side, as well as where there is no sunshine to shut out, and it makes rooms less pleasant and unnecessarily dark.

In most cases the window construction does not allow them to open entirely. Furthermore the windows are of single instead of double glass even in the northern states where winters are comparatively cold. In the Swedish hospitals we endeavor to provide all possible light, sunshine and air.

It also was surprising to see heating systems constructed with heavy cast-iron radiators. These were abandoned in Sweden 25 years ago and never used either

for hospitals or apartments. We have felt that they provided uncomfortable heat, were difficult to regulate, and tended to overheat a room.



As contrasted with these items we criticize, a number of the mechanical provisions in the hospitals were found to be most agreeable and tend to provide a high degree of comfort. For instance, American provisions of artificial light is very ample, and the fluorescent lighting now being used so extensively gives adequate, pleasant illumination.

The doctors' call system is a very practical and effective arrangement, although the constant announcements of the loud speakers are rather disturbing to a visitor.

One thing a Swedish nurse would miss very much is a balcony for bedclothes, mattresses and the like in every ward where these items can be vacuum-cleaned and aired—a very important thing, for instance, in wards with bed-wetters.

From a technical point of view, the X-ray departments visited—it must be mentioned that only a few were seen—seemed very effective

and well equipped as far as a layman can judge. An excellent feature is the location of fluoroscopic laboratories in many areas frequently used in general routine examinations, as well as in X-ray departments. But the space for waiting patients and for beds in the X-ray departments was comparatively small, thus making them look crowded. Time was too short to investigate whether this was a handicap in effective operation.

The protection against the X-rays in many places consisted only of a screen in the laboratory. In Sweden a special room with lead-insulated doors has to be provided, in order to conform to the regulations of the authorities.

The laboratories take a great deal of room in American hospitals. For both routine and research work, far more space is used than Swedish doctors ever dreamed of.



One aspect of the American hospital system that was radically different from the Swedish is the attitude toward payment for care. In our country it is assumed quite naturally that everyone who needs hospital care shall have it. It was

a little startling, therefore, to encounter a system in which the first question a patient is asked is how much he can afford to pay, rather than what his illness is.

It is easy to state that the food served in American hospitals is much more varied and consists of many more dishes, especially salads and fruits, than in Sweden. More thought and care is devoted to food than we are accustomed to give.

For a new 825-bed hospital the kitchen departments measured more than three times the space regarded as necessary in Sweden. A 1,000-bed hospital used more than three times as many people in charge of food service.

As a general impression it may be stated that Swedish kitchen planning aims at greater concentration. Certain aspects of Swedish kitchen equipment seems superior to American, especially steam boilers and broilers. Undoubtedly much money could be saved by better kitchen planning in America.

The most general observation in contrasting the hospitals of our two countries is that, despite universal complaints of personnel shortage in America, there are many more doctors, nurses and

employees in the hospitals than we are accustomed to seeing in Sweden.

The cost of hospital care per patient-day is much higher in the United States. For the year 1944 the average cost per patient day in Swedish general hospitals was \$3.99. These costs include those for the Caroline University Hospital which had a \$4.08 per patient day-cost. I merely state these figures, realizing that the cost per patient-day is not a true measure of hospital efficiency, and that even the cost per individual patient as influenced by the average stay, cannot accurately measure efficiency.

MR. EDMUNDS:

I call your attention to his fourth paragraph, in which he says: "Functional design, which characterizes our (Swedish) new buildings, had not yet been acknowledged by American architects when the present buildings were erected." In the succeeding paragraph he states: "The old architectural concepts, restricted in form by ancient styles and heavily ornamented with costly stonework, offered no opportunity for such expansion." The greatest bar to proper expansion of a hospital or

any building has always been the lack of foresight in planning its functional arrangement with an eye to the future needs and with relationship to site limitations. "Ancient styles," per se, present no particular difficulty to expansion.

I do not agree with his comments relating to skyscraper hospitals and the cruciform plan. Most of us who have had to do hospital design in this country in recent years will agree that the vertical treatment of the large hospital problem results in the most efficiently operated and economically built plant. There are several on the cruciform plan that have no "windowless rooms entirely dependent upon artificial lighting."

His criticism of our mechanical work is somewhat justified. However, this has largely been due to the fact that the more desirable forms of heat and light have proven too expensive in most instances.

His comparison and criticism of our operating costs and those in Sweden may be justified. On the other hand, they may be entirely due to the different economic conditions in the two countries.



The Economics of Estimating

By R. D. Sannit

This article is the second of a series in which the author plans to review some of the time-worn methods used by architects in inviting competitive bids, and by contractors in preparing estimates. Subsequent articles will attempt to develop possibilities of improving estimating practices without disrupting the normal flow of building projects.—Editor.

I OFTEN THINK of a sign that hung outside the house of our neighborhood plumber years ago. It read: "FREE ESTIMATES CHEERFULLY GIVEN."

Even in those days, I used to wonder whether there is anything given "for free" in the business world. I know now that the answer, of course, is No. The consumer in his purchase price, pays for every service a business renders.

Just how much the owner or client pays for estimating services in competitive bidding we can't compute exactly. A contractor sometimes figures ten jobs before he is successful bidder on one. But the overhead charge he includes on that one job must cover his cost of figuring the other nine.

So the owner does not get something for nothing. Instead, he is paying not only for the estimate on his own job, but usually for nine other jobs as well.

Thus he, and the architect who represents him, have sufficient reason to look into the cost of estimating. The record is not too good.

The main cost in estimating is preparing the quantity survey—that is, finding out how much and what kind of materials are required for the job, as shown on the drawings and specifications. You can readily see that there is only one correct answer to this problem. It is the *exact* amount of material to be incorporated in the structure.

There is only one correct answer. Yet we find that every contractor who is figuring a job (and there may be from two to twenty of them) takes off the major items of work—concrete, carpentry, masonry, etc. Excavation work will not be mentioned in this discussion. It involves too many contingencies to determine the *exact* quantities or method of operation

in advance. The quantities of earth to be moved are not shown on the drawings, but must be figured indirectly. Therefore, the contractors' experience and judgment are the chief factors in determining them.

Then the subcontractors—there may be more than a hundred interested in the job—each takes off his own work.

The full extent of this wasteful duplication can best be seen on a typical project. Let's take one of the better jobs—a public school in a large city. It was put out for bids by a Board of Education that has handled hundreds of jobs in the past thirty years.

The design was structural steel frame, concrete floor, and masonry wall construction. Eight general contracting firms figured the job. The low bid was slightly more than a million and a quarter dollars.

In order to keep our perspective, we might follow the estimating process through to the pricing stage as done by one general contractor. We are safe in assuming that the other seven firms did the same amount of work, more or less. For, there is no other way of getting an intelligent figure together.

In setting up the schedule of

work, it was planned to take off the usual items—Concrete, Brick Work, and Rough and Finish Carpentry. These were to be taken off in careful detail. For they were the trades the firm was prepared to do itself, if the prices for them from the sub-contractors were not attractive.

As it turned out, however, we had to take off many more items on which sub prices were either unobtainable by the firm, or seemed out of line.

The quantity surveys were prepared in somewhat more detail than the average. However, we were working under pressure. So the actual time consumed in getting them out can be taken as a norm. The total number of hours spent on each item covered all the work involved in getting a quantity survey ready for pricing. That includes the takeoff work itself, the extensions and checking, and the summarizing.

We sent out five hundred post-cards requesting prices on 55 items of work from sub-contractors and material suppliers. For some time our plan room was jampacked with their estimators taking the work off. Each of the eight general contractors maintained a similar plan room which was kept as busy. Be-

sides, drawings were made available at the Estimating Room of the Board of Education, and at the Building News Services. All these facilities were equally taxed.

We received prices from more than a hundred sub-contractors (exclusive of the material suppliers who quoted unit prices for ready-mix concrete, brick, etc., delivered to the job). And, I am told that that number is small now compared to the Elysian days before the war when materials were plentiful and a buyers' market prevailed.

It is hard to know how many sub-contractors figured each item of work. We tried to get all the prices that were around. But we

were lucky if we got eighty per cent of them. The reason is that many subs figure only for a few favorite general contractors. And other subs fail to get the complete list of firms bidding the job. So they do not send their bid to all of them.

In order to maintain some semblance of accuracy, we shall work only with those sub-contractors who sent in prices. Each of the sub-bids received represented a quantity survey for the particular item of work.

Here is a tabulation of the approximate time required for the quantity surveys, and the number of sub-bids received for each item:

ITEM—	Approximate No. of Hours (Takeoff, Extensions, and Summarizing)	Hours of Work Done by General Contractor	Number of Sub-Bids Received	Total Hours Spent by Sub-Bidders
Paving Blocks	1/2	1/2	.....	.....
Concrete and Cement Work (Reinforcing Steel and Forms).....	200	200	5	1000
Cement Grout Waterproofing.....	1	1	.....	.....
Structural Steel	50	.....	1	50
Steel Field Painting.....	5	.....	1	5
Masonry	50	50	4	200
Granite	8	8	3	24
Limestone	6	6	5	30
Bluestone	1	.....	2	2
Caulking	6	.....	4	24
Dampproofing	2	.....	1	2
Asphalt Paving	1/2	1/2	.....	.....

NOVEMBER, 1947

Miscellaneous and Ornamental Iron, and Steel Stairs.....	20	.....	4	80
Bronze and Aluminum Work.....	6	6	2	12
Bluestone Stair Treads.....	2	.....	3	6
Wire-Mesh Guards and Partitions....	4	.....	3	12
Fencing	1	1	3	3
Steel Shelving	3	.....	3	9
Metal Toilet Partitions.....	3	.....	4	12
Steel Sash	3	3	1	3
Hollow Metal Work.....	5	.....	4	20
Wardrobes	2	2	2	4
Sheet Metal, Membrane Waterproofing and Roofing.....	5	.....	5	25
Metal Furring and Lathing.....	20	.....	3	60
Plastering	25	25	2	50
Acoustic Tile	2	2	1	2
Tile Work	6	.....	5	30
Terrazzo Floors	3	.....	2	6
Interior Marble	2½	.....	4	10
Rough Carpentry	8	8	2	16
Finish Carpentry and Millwork Installation	12	12	2	24
Millwork Materials	24	.....	1	24
Window-Cleaning Equipment	½	.....	2	1
Weatherstripping	1	.....	2	2
Doublehung Steel Windows.....	1	1	1	1
Playground Equipment	½	½	2	1
Blackboards	1	.....	2	2
Wood Flooring	1	.....	3	3
Asphalt Tile, Linoleum, and Rubber Base	8	.....	5	40
Hardware	20	.....	1	20
Glass and Glazing.....	20	.....	4	80
Painting	24	.....	5	120
Totals.....	563½	326½	109	2015

Let's take the General Contract figure of 326½ hours first. We can eliminate some 26½ hours as having been spent in taking off miscellaneous items, for every general contractor may not have figured them all. That leaves 300 hours on takeoffs, extensions and summaries, which we can safely assume was the average time spent

by each of the eight bidders. This totals 2400 hours. The rate for this work, including wages, supplies and equipment, and overhead, can be set at around \$2.50 per hour. So the total for general contract quantity survey work is \$6,000.

In dealing with the hours spent by sub-contractors, we should bear

in mind that two or three times as many sub-contractors would be figuring this job in normal times, when materials are not so scarce.

That would mean twice or three times as many hours consumed in takeoffs. But, to keep on the conservative side, we shall deal with the work on this job as it actually was done.

All the subcontractors spent a total of approximately 2000 hours on the quantity surveys. Figured at two dollars per hour, we get a total of \$4,000.

Now we have:

Cost of quantity survey work by general contractors	\$ 6,800
Cost of quantity survey work by subcontractors	4,000
<hr/>	
Total cost of quantity survey work	\$10,000

This \$10,000 comes close to 1% of the total cost of the project. Now let's see what was accomplished for the money.

First of all, there were over a hundred firms working on the drawings and specifications. Every last one of them had to do their own takeoff work. The time wasted was terrific.

The Miscellaneous Iron man familiarized himself with the drawings fairly well when he took off the metal stairs. That took time.

Yet the man figuring the bluestone work had to come in cold and study the drawings thoroughly to get the quantities of treads for those very same stairs.

The same is true with almost all trades. The steel sash and mill-work men have 90% of the glass openings taken off when they complete their own quantity surveys. But the glass estimator must go over the same ground on his own.

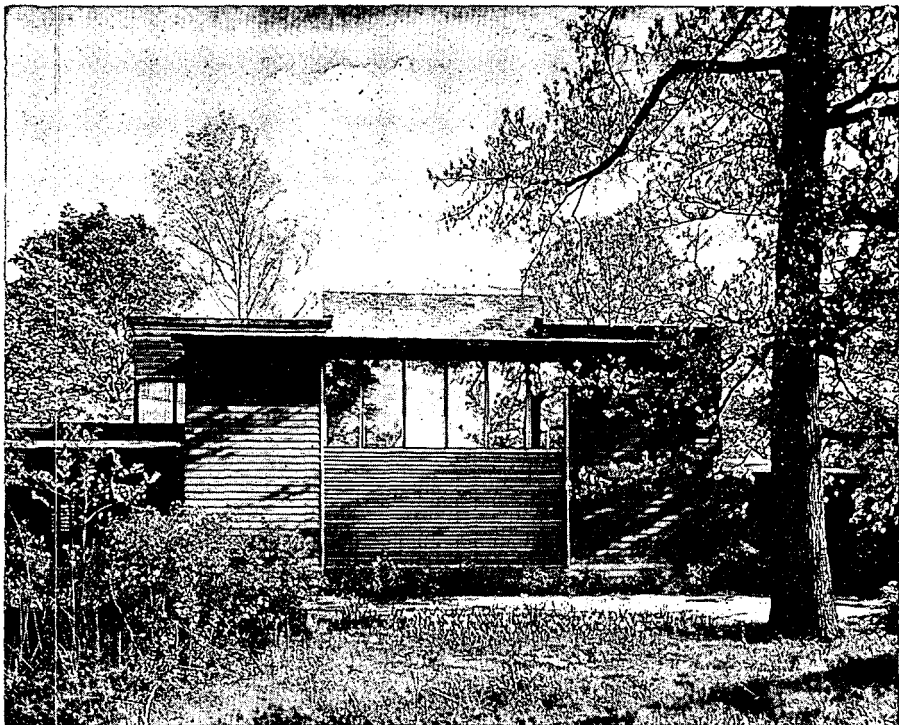


There has always been this total lack of coordination among the trades in preparing the quantity surveys.

How much accuracy does this system provide for?

Precious little. Each of the hundred or more firms takes off its own work once. No one of them consults or compares quantities with any other to see whether they have too much or too little. Their re-are good: 1) Legal—to avoid the taint of collusion; 2) Business—the firms have competitors, and each one thinks he is on the inside track.

The result is that no takeoff gets a check. Thus, on a job requiring over a million dollars worth of materials and labor, the only check for accuracy of the



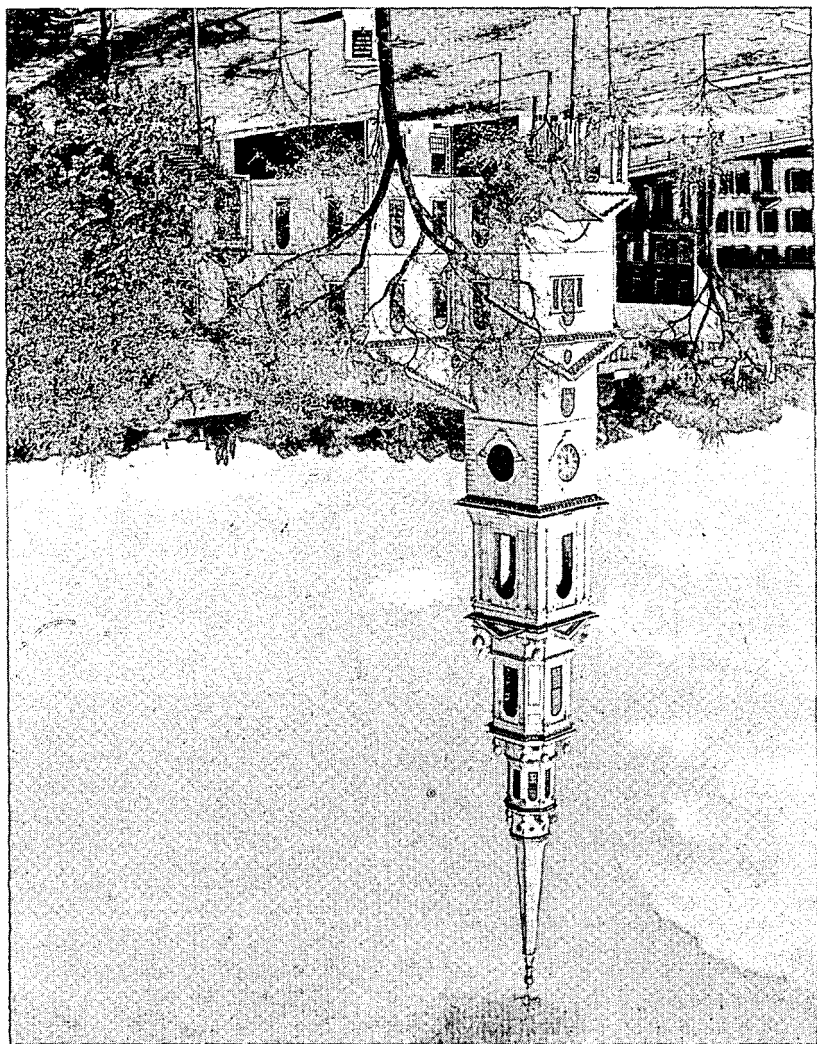
RESIDENCE OF PHILIP S. RINALDO, JR.
DOWNER'S GROVE, ILL.
SCHWEIKER & ELTING, ARCHITECTS
Photograph by Hedrich-Blessing Studio

FIRST BAPTIST MEETING HOUSE, PROVIDENCE, R. I. (1775)

JOSEPH BROWN, ARCHITECT

Photograph by Nicholas A. Romano

Do you know this building?



quantity survey is in the dollar value of the total bids submitted.

Then, too, the \$10,000 represents only the actual labor costs for preparing the quantity survey. There is a hidden amount that could run again as much and more depending on the degree of clarity of the architects' drawings and specifications.

The quantity surveyor is obligated to seek clarification from the architect on all matters in question. When, for some reason or other, he cannot get such clarification—it happens often—he must do his own interpreting. His tendency is, quite naturally, to go high on these assumptions. How much, in dollar value, this represents on any given job cannot be determined. But the fact remains that every project has a certain amount of it.

I think it is quite clear that the full \$10,000 is chargeable to this job, even though most of the bidders—general and subs—will not be in on the actual construction of the building. The successful bid-

ders include in their prices a cost covering all the unsuccessful estimates they prepare. It is part of their overhead charge. And it equals, if not surpasses, the "free estimates" submitted by the unsuccessful bidders.

It is amazing that the construction industry should tolerate such an outmoded and costly procedure.

In field work, contractors are quick to take advantage of the latest equipment and best methods in order to cut costs. Yet, nothing is done about the exorbitant costs of the quantity survey.

However, it is the owner who pays the bills. And, right now the owners are balking at the high cost of construction.

Therefore, in cutting costs through greater efficiency, architects and contractors alike must examine every possibility.

The current vogue is to blame all high costs on labor. But we can be sure that estimating contributes more than its share to the excessive building costs now prevalent.

News of the Educational Field

UNIVERSITY OF OREGON announces the following new appointments to the School of Architecture

and Allied Arts: Theodore Reyner as Associate Professor of Architecture; Marion Dean Ross as Assist-

ant Professor of Architecture and Allied Arts. Jean Kendall returns as Assistant Professor.

BEAUX-ARTS INSTITUTE OF DESIGN, 304 E. 44th Street, New York 17, N. Y., has issued its Circular of Information regarding the Department of Architecture for 1947-48.

UNIVERSITY OF ILLINOIS is carrying on research in connection with a "minimum house" of 768 square feet of floor space. The object is to find out how well a three-person family can live in it.

ILLINOIS INSTITUTE OF TECHNOLOGY is building its first two dormitories on Chicago's near south side—the first of twelve in a comprehensive master plan. Skidmore, Owings & Merrill are the architects.

YALE UNIVERSITY announces that its archeological excavation just north of Paris, conducted by Prof. Sumner McK. Crosby, has uncovered evidence that previous theories concerning the develop-

ment of Gothic architecture must be re-evaluated.

VIRGINIA POLYTECHNIC INSTITUTE announces additions to the faculty of the Department of Architecture: Henry H. Waechter, Henry H. Wiss, and Charles S. Worley, as Associate Professors of Design.

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING, University of North Carolina, announces the appointment of Lawrence Albert Enersen as Professor of Landscape Architecture.

Word has been received of the revival of the Alexander Koch Publishing Organization in Stuttgart. The Koch organization is one of the best of the Pre-Hitler German architectural publishing houses. The magazine *Innen-Dekoration*, the publication of which has been revived, was in the pre-war years a superb magazine. It has been published for 56 years and its international list of subscribers included many in the United States.

"As students, our lack of schooling in the history, geography and culture of the Latin-American republics has been nothing short of scandalous."—Francis Violich.



Thomas Ustick Walter, F.A.I.A.

1804-1887

By George C. Mason, Jr., F.A.I.A.

Excerpts from a Memoir of the second President (1879-1887) of The American Institute of Architects, as read at the Twenty-second Convention in Buffalo, October, 1888.

THOMAS USTICK WALTER, second President of The American Institute of Architects, was born in the City of Philadelphia, September 4, 1804, and died in the same city, October 30, 1887, being at the time of his decease the oldest practicing architect in the United States.

He was the son of Joseph S. Walter, and of Deborah, his wife, and was named after the Rev. Thomas Ustick, a well-known divine during the early years of the present century.

In boyhood Mr. Walter displayed a predilection for mathematics. His education was liberal, but not scholastic. In 1819, being then fifteen years of age, he entered the office of William Strickland, the architect of the Custom House, the Mint, the Merchants' Exchange and Marine Asylum and other buildings in Philadelphia, and of the State Capitol of Tennes-

see, in Nashville, within which structure he is buried under a suitable monument. From his own writings it is learned that Mr. Walter remained with Strickland until he had acquired the art of linear drawing and a general knowledge of the profession of architecture, after which he resumed his general studies and went through an elaborate course of mathematics. During seven years he devoted himself to the study of physical sciences, to the cultivation of the arts of drawing and painting and to the attainment of practical knowledge of the several branches of mechanical construction, while at the same time, in his moments of leisure, he studied landscape painting in water colors under the direction of Wm. Mason, a celebrated teacher of that art in Philadelphia.

In 1828 he again entered Mr. Strickland's office, devoting him-

self exclusively to architectural study, the practice of which he commenced in 1830, and in the following year designed the Philadelphia County Prison, which was his first important work . . .

In the year 1829, he was elected a member of the Franklin Institute of Pennsylvania and subsequently was elected one of its Board of Managers, and in 1846 was Chairman of the Board. Mr. Walter's interest in the Franklin Institute was manifest from the first and he entered heartily into its councils and discussions. At this early date the public taste for correct architecture was wholly undeveloped, but he worked and argued for the advancement of his art. This enthusiasm bore fruit and in 1835 it was voted "That a course of lectures on architecture delivered annually before this Society is indispensable as well to accomplish the ends as to promote the prosperity of the Franklin Institute; and that it is hereby recommended to the Board of Managers to secure the delivery of such a course next winter." The times were not altogether propitious for the establishment of a regular professorship, but at the beginning of the next year Mr. Walter was requested to deliver voluntary lectures. These lec-

tures he continued to give from time to time and his name appears in the Journal of the Institute, to which he frequently contributed, as "Professor of Architecture."

He fully appreciated the dignity of his art; and from the first, his pen and his public utterances all tended to one end—its elevation and the cultivation of high aspirations among its practitioners. Thus, in 1841, he writes: "If architects would oftener aim to think as the Greeks thought, than do as the Greeks did, columnar architecture would possess a higher degree of originality, and its character and expression would gradually become conformed to the local circumstances of the country and the republican spirit of its institutions."



Mr. Walter's professional practice increased after his design for the "Girard College for Orphans" was adopted in 1833, the cornerstone of which building was laid on July 4th of that year. When the structure was complete in 1847 he was elected one of the Board of Directors of the College and served in that capacity for three years. In 1838 the Building Committee of the College sent Mr. Walter to Europe for the purpose of "examin-

ing the practical workings of the various devices and appointments for health, convenience and comfort, in the principal seats of learning in Great Britain and the Continent," with a view to derive such information on these subjects as would be likely to prove useful in fitting up and furnishing the building of the college.

We must now refer to an event which advanced architectural development and was the beginning of systematic and united methods of architectural practice in the United States, viz.: the attempt in 1836 to found an "American Institution of Architects." At that time there were only a little over half a score of properly trained architects in the country. These gentlemen met in the City of New York, on December 7, 1836. Mr. Walter was one of the pioneers and most active promoters of the movement. . . . A draught of a constitution was formulated and the members adjourned to meet in Philadelphia on the first Tuesday of May, 1837. The circular calling for this meeting, dated March 23, 1837, was signed by Thomas U. Walter, Secretary.

The meeting took place at the Pennsylvania Academy of Fine

Arts, but it embraced only a handful of members and it was found that they were too much scattered for mutual sustenance and the strength necessary for a brotherhood.

The "Institution" struggled for a while, flickered, and was apparently quite extinguished, though it was really from its ashes that our present Institute, Phoenix-like, sprung. . . .

In the early days of his successful practice, it was generally the custom in Philadelphia to have the dwelling and office of architects in the same building or adjoining each other, and thus there was a more intimate and friendly acquaintance between the students and the preceptor's household than in these times. Mr. Walter was always affable and kind towards his students, and always took pleasure, during his leisure moments in the office, in lectures to them and imparting knowledge in practical and aesthetic subjects; but, although he had many during his early career, most of them lacked the patience and perseverance necessary to acquire the requisite knowledge to become successful practitioners, and eventually drifted into other pursuits.

Among Mr. Walter's works of

private practice may be enumerated the St. George's Hall, the Preston Retreat, the Debtor's Apartment, the Philadelphia Savings Bank and several churches in Philadelphia, the Chester County Bank, the Biddle and Cowperwaite villas on the Delaware River, and other buildings in the country.



But all these creditable labors were but the training and leading up, as it were, to the one great work with which his name must ever be associated—the extension of the National Capitol at Washington, together with the noble dome which surmounts and dignifies its mass.

The appointment of Mr. Walter as architect to execute his design for the extension of that truly noble building, was made by President Fillmore, in 1857. It was well merited, for, of all American architects of that date, Mr. Walter was the best fitted by steady and innate love for the purest types of classic architecture to grasp successfully the problem of the Capitol extension and to design the dome with which he later glorified and crowned his work. The boldness of his composition evinces his skill as a designer and his con-

fidence in himself. The vast wings forming the extension are of white marble of great hardness and durability. They have taken upon them with years a delicate pearly color, which as it shows itself in the long colonnades, gives them an effect of purity and beauty.

Much as we pride ourselves upon the advances made in architectural design, we have nothing to show more nobly simple and well studied than this, the grandest of Mr. Walter's works. Such is the verdict of the architect and the critic. . . .

The Hon. J. H. B. Latrobe, son of the architect of the original Capitol at Washington, Benjamin W. Latrobe, thus eulogized Mr. Walter, in an address before The American Institute of Architects in the City of Washington, at its Fifteenth Convention in 1881. Speaking of the extension of the Capitol he said "I can scarcely speak in his presence" (President Walter being in the chair at the time) "as I would like to speak, could I find words to do justice to the last architect of the vast pile that now looks down upon the Federal City. The pupil of Strickland, as Strickland was the pupil of my father, it has been with me a pleasing fancy for more than a quarter of century to believe that

there was, in some faint way, a law of descent, applicable under the circumstances, which connected the architect who clothed Thornton's skeleton with sinew and muscle and beauty, until the whole creature became his own, with his brilliant, refined and accomplished successor, who, at the head of a profession socially, today, without a superior, has absorbed all that has been done before in what is now the Capitol; who, making the magnificent dome—on whose iron sheets the hammer never ceased to ring during the war that threatened to make the whole structure worthless—the controlling feature of the design, has screened with it all the exterior littlenesses 'of a vitiated taste,' and made even the incongruities of the Italian Renaissance subserve the purposes of genius."

Ill health compelled Mr. Walter to resign from the service of the Government on June 1, 1865, and he then returned to Philadelphia.

Among the important works that Mr. Walter executed in Washington for the Government between 1865 and 1875, are: The extension of the Patent Office; the repairs of the Congressional Library; the extension of the Treas-

ury Building; the General Post Office extension; the Government Hospital for the Insane.

In 1849 the honorary degree of Master of Arts was conferred upon Mr. Walter by Madison University, N. Y.; in 1853, the University of Lewisburg, Pa., conferred upon him the degree of Doctor of Philosophy; and in 1857, Harvard University gave him the degree of Doctor of Laws. He also became a member of the American Philosophical Society of Philadelphia. In 1860 he delivered a course of lectures on Architecture at Columbian College, D. C., and also in Philadelphia and vicinity.

Dr. Walter was now well advanced in years and full of honors. After his return from Washington he engaged in but little private practice. When the erection of the new City Hall in Philadelphia was commenced he became connected with Mr. John McArthur, Jr., the designer and architect of that building, and continued to assist him on its work until a short time before his death.

Of Dr. Walter's connection with The American Institute of Architects, the profession may well be proud. The original "Institution of Architects" had slumbered for nearly twenty years when the pres-

ent Institute was founded in 1857, and on February 23 of that year, Dr. Walter was elected a Fellow. On the retirement of its first presi-

dent, Richard Upjohn, in 1876, he was elected its President, which office he filled continuously until his death.



Architects Read and Write

Letters from readers—discussion, argumentative, corrective, even vituperative.



PLANNING OF COMMUNITIES

BY SIDNEY N. SHURCLIFF, Boston

DESPITE my great respect for the person and reputation of Mr. R. Clipston Sturgis whom, when a boy, I used to visit with my father at Portsmouth, New Hampshire, I wish to express amazement at his statement contained in your September issue, that "Planning of communities is distinctly an architect's function." Mr. Sturgis mentions his World War I housing activities at Bridgeport, Connecticut, in this connection.

One of the reasons for my father's visits to Mr. Sturgis at Portsmouth was that both were members of a committee of three designers (Arthur A. Shurtleff,

town planner; R. Clipston Sturgis, architect with Andrew H. Hepburn, associate architect; Alfred H. Terry, engineer) who created the now famous Seaside Village at Bridgeport for the United States Housing Corporation, a Government agency. This project is fully described in my father's article "The Development of a Street Plan for an Industrial Housing Project" in *Landscape Architecture* for January, 1919.

Thus it seems to me that Mr. Sturgis' function on the committee of three was distinctly that of architect while the planning of the community was equally distinctly that of the town planner.

SUPERVISION OF THE WORK

By DENNIS E. DONOVAN, Oklahoma City

ONE OF the principal virtues of the A.I.A. Contract Documents is the very small amount of modification required to fit them to the peculiarities of specific situations that vary from job to job.

When the requirements of owners, the necessities of contractors, and the status of architects have been analyzed, it is found that they are all equitably provided for in the applicable Contract Documents.

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Even the all-embracing services of the architect, with the necessary limitations thereon, have been adequately described in straightforward language. In negotiating agreements with owners, I have found but one article that requires extended explanation. Article 7, Supervision of the Work, mentions a clerk-of-the-works, and the status of this fellow almost always occasions some confusion on the owner's part, and considerable ad lib elaboration on mine. One owner seriously proposed to employ a clerk-of-the-works to supervise the work, the contractor and the architect. Most owners consider elimination of the supervision part of the architect's fee, if they must pay someone else to do the work. Some owners have a relative who needs a job! It would seem that a more descriptive name might be given to this controversial big-shot.

Webster defines a clerk as a keeper of records. On a cost-plus contract where the materials received and the labor employed are of immediate concern to the owner, the constant presence of a clerk may be necessary. But on the majority of jobs, which are let on a lump-sum basis, there is little clerical work that immediately concerns the owner or the architect. Interpretation of specifications, checking of shop-drawings, etc., are certainly not clerical. Such clerical work as does appear (writing of change orders, making of estimates for payment, etc.) should not be entrusted to a temporary

employee whose choice depends upon acceptability to the whims of an inexperienced owner. It can be properly handled only by a carefully trained member of the organization, who takes care of such work for all jobs.

Approval of completed work is surely the responsibility of the architect and can be delegated to no clerk. If a job is large enough to require the full time of an architect or his representative, the architect can afford to pay the salary of such resident supervisor. And he cannot afford to employ anyone in such capacity if there is the suspicion of a divided allegiance.

The architect certainly needs a clause that will protect him from the suspicious owner, the fault-finding owner and the owner who expects him to live on the job. Both the owner and the architect need protection against dishonest or unscrupulous contractors and untrustworthy workmen. This calls for "inspectors" employed by the architect and, since the cost of this inspection cannot be even approximately estimated, paid by the owner.

The number and qualifications of such inspectors can be determined when the need for them becomes apparent, but they should be selected by the architect. If the owner wishes to interfere in their selection or does not care to pay for such work, it is his own funeral and the architect may be relieved of certain responsibilities.

In order to secure a more complete understanding and assure the most satisfactory prosecution of the work, I have to delete Article 7 and substitute the following:

"The architect will endeavor to guard the owner against defects and deficiencies in the work of contractors, but he does not guarantee the performance of their contracts. The supervision of an architect is to be distinguished from the continuous observation to be obtained by the employment of inspectors. The architect shall notify the owner when, in his opinion, any process of the work may appear to require continuous inspection. When authorized by the owner,

such inspectors as may seem desirable shall be employed by the architect at salaries satisfactory to the owner and paid by the owner upon presentation of the architect's monthly statements."

Such a modification of the agreement involves at least an implied criticism of The Institute, which includes the body of the practising architects of the country. Friendly relations are not engendered by criticisms of any kind, and criticism of contemporary individuals or organizations are particularly odious. It would be better if Article 7 were so worded that there would be no need to make any modification of the standard printed form.

RICHARD MORRIS HUNT, A GIANT OF THE PROFESSION

BY JOHN WALTER CROSS, F.A.I.A., New York

I WAS VERY much interested in the article about Richard Morris Hunt in the October number of the JOURNAL. His youngest son was a pal of mine in the late '80s and early '90s, and consequently I was much about their house which was next to ours in Washington Square. He was perhaps a trifle terrifying to the young because of his explosive speech which was interlarded with French and rich in profanity. His white imperial and mustache made him look like the father and mother of the whole French Army.

The house seemed to be filled with great leather-bound volumes

on architecture, and there were oversized plaster casts everywhere which may have had to do with the Paris work when he labored with Lefeul for some years.

"There were giants in those days" is a common saying, but everything about him appeared to be on a great scale, and looking back on his work even after many years, he did think of things in a big way, and I don't think that is entirely because I was very young at the time.

Even the next generation had strongly marked individuals that left a very definite impression on me years ago, whereas the individ-

uals of today seem rather tinged with the monotony of the apartments in which they live.

Conditions in the past half century may have benefited mankind,

but some of the color seems to have gone out of the individuals, for better or worse.

Thanks again for the pleasure the article gave me.

News of the Chapters and Other Architectural Organizations

The WASHINGTON-METROPOLITAN Chapter (a newly adopted name for the Washington, D. C., chapter) has issued a Circular of Information on Architectural Services and Fees. Copies may be purchased from John Dukehart, 1127 18th Street, N. W., Washington, D. C., at 20c, or \$2 per dozen.

PENNSYLVANIA SOCIETY OF ARCHITECTS announces a series of professional symposia consisting of

three separate meetings—in Philadelphia, Harrisburg and Pittsburgh—on Saturdays, including a luncheon and dinner. Tentative subjects for these are Materials; School and Educational Buildings; Office Practice. Qualified speakers are to be brought to the meetings, and a full day's examination of current problems will be undertaken—all at a fee which is still to be fixed.

Books & Bulletins

AMERICAN PLANNING: PAST—PRESENT—FUTURE. By Cleveland Rodgers. 304 pp. 5½" x 8¼". New York: 1947: Harper & Brothers. \$3.

A well-known figure in the cause of large-scale planning attempts a view of the U.S.A. as it might be seen through the eyes of a young airman.

REPORT ON WAR MEMORIALS. By the National Commission of Fine Arts. 16 pp. 8" x 10¼".

Washington, D. C.: 1947: Supt. of Documents, Government Printing Office. 15c.

ARCHITECTURAL METAL HANDBOOK. By Earl P. Baker and Harold S. Langland. 320 pp. 8½" x 11". Washington 12, D. C. (209 Cedar Ave., Takoma Park): 1947: National Association of Ornamental Metal Manufacturers. \$5.

An excellent guide, with many diagrammatic illustrations, in the

preparation of plans and specifications for ornamental steel and iron, miscellaneous steel and iron, and ornamental brass, bronze and aluminum.

THE CASE FOR REGIONAL PLANNING, With Special Reference to New England. By the Directive Committee on Regional Planning—Yale University. 96 pp. 12" x 9". New Haven, Conn.: 1947: Yale University Press. \$10.

In addition to a general presentation of the need for planning, and the factual data needed and how they are used, here are suggestions as to how to avoid the conflict between Federal and local powers and prerogatives.

PROVISIONAL DIRECTORY OF HOUSING AND PLANNING AGENCIES (U. S. A. and Latin America). 32 pp. 8" x 10½". Washington, D. C.: 1946: Pan American Union.

THE USE OF RESEARCH BY PROFESSIONAL ASSOCIATIONS IN DETERMINING PROGRAM AND POLICY. By Esther Lucile Brown. 40 pp. 6" x 9". New York: 1946: Russell Sage Foundation. 25c.

WORKS OF ART IN GREECE: Losses and Survivals in the War. Compiled by the Monuments, Fine Arts and Archives Subcommittee of the C. M. F., and issued by the British Committee

on the Preservation and Restitution of Works of Art, Archives, and Other Material in Enemy Hands. 64 pp. 6" x 9½". London: 1946: H. M. Stationery Office. Available from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y., at 60c.

WORKS OF ART IN GERMANY (British Zone of Occupation): Losses and Survivals in the War. Same authorship and issue as preceding title. 75c.

ART OF RUSSIA. By Helm Rubosow. 164 pp. 8" x 10¾". New York: 1946: Philosophical Library. \$6.

Mostly illustrations of Russian painting, from fourteenth-century icons to date.

YOU WANT TO BUILD A SCHOOL? By Charles Wesley Bursch and John Lyon Reid. 134 pp. 5¾" x 8½". New York: 1947: Reinhold Publishing Corp. \$3.50.

A State Department of Education (Calif.) official and California architect collaborate on a guide for schoolhouse building committee laymen.

THOMAS JEFFERSON AND THE NATIONAL CAPITAL: 1783-1818. 558 pp. 6½" x 9½". Washington, D. C.: 1946: Government Printing Office. \$1.75.

Notes and correspondence exchanged between Jefferson, Washington, L'Enfant, Ellicott, Hal-

lett, Thornton, Latrobe, the Commissioners, and others, relating to the founding, surveying, planning, designing, constructing, and administering the City of Washington.

A PRACTICAL GUIDE TO PREFABRICATED HOUSES. By A. L. Carr. 120 pp. 6½" x 10". New York: 1947: Harper & Brothers. \$2.75.

Chiefly a directory of products now available or presently to be available, and their makers.

CHURCHES OF OLD NEW ENGLAND—Their Architecture and Their Architects, Their Pastors and Their People. By George Francis Marlowe. Photographs by Samuel Chamberlain. 236 pp. 6" x 9¼". New York: 1947: The Macmillan Co. \$3.75.

THE STORY OF ARCHITECTURE IN MEXICO. By Trent Elwood Sanford. 382 pp. 6" x 9¼". New York: 1947: W. W. Norton & Co., Inc. \$6.

Including the work of the ancient Indian civilizations and that of the Spanish Colonial Empire which succeeded them, together with an account of the background in Spain and a glimpse at the modern trend.

INDUSTRIAL ART EXPLAINED. By John Gloag. 296 pp. 5½" x 8½". London: 1946: George Allen and Unwin, Ltd. Im-

ported by The Macmillan Co., New York. \$3.75.

Revised edition of a book first published in 1934, and now entirely rewritten after the author's visit to the U. S. A.

CABINS, COTTAGES AND SUMMER HOMES. By Bernard S. Mason and Frederic H. Kock. 174 pp. 8½" x 11". New York: 1947: A. S. Barnes & Co., Inc. \$2.75.

An outdoor man (Editor of *The Camping Magazine*) and an architect-illustrator offer practical advice and suggestions to the layman.

ON HOSPITALS. By S. S. Goldwater, M. D. 440 pp. 6" x 9¼". New York: 1947: The Macmillan Co. \$9.

Bringing together from many sources the authoritative writings of the man who was formerly Superintendent and Director of Mount Sinai Hospital; Commissioner of Health of the City of New York; consultant in hospital organization and planning; and Commissioner of Hospitals of the City of New York.

U. N. HEADQUARTERS. By Le Corbusier. 88 pp. 7½" x 8½". New York: 1947: Reinhold Publishing Corp. \$3.50.

Discussing the thinking and events making up a seven-months search for a suitable home for the U. N.—from shortly after the decision to establish the Headquarters in the United States up to the acceptance of Mr. Rockefeller's gift.



Honors

GERRIT J. DEGELLEKE, F.A.I.A., past-president of the Wisconsin Chapter, former member of The Board of Directors, A.I.A., and for many years Chairman of The Institute's Investment and Property Committee, was honored by

his Chapter on June 10th last. The occasion was the celebration of Mr. deGelleke's fiftieth anniversary as a practising architect. Moreover, during that half century his office has been maintained in the one City of Milwaukee.



Calendar

September 17-November 23: One-man show of the architecture of Ludwig Mies van der Rohe, Museum of Modern Art, New York City.

November 3-7: Second International Lighting Exposition and Conference, Stevens Hotel, Chicago.

November 17-20: Fourteenth Annual Meeting of the National Association of Housing Officials, Hotel New Yorker, New York.

December 3-6: Semi-annual meeting of the Board of Directors, A.I.A., Charleston, S. C.

January 12-16, 1948: Second National Materials Handling Exposition in the Public Auditorium

of the City of Cleveland, Ohio.

February 2-6, 1948: Eighth International Heating and Ventilating Exposition, Grand Central Palace, New York.

March, 1948: Cold Cathode Fluorescent Lighting Exhibit, postponed from October, 1947, Hotel Commodore, New York City. Specific dates, early in March, to be announced later.

May 27-30, 1948: Annual Conference of the R.I.B.A., to which A.I.A. members expecting to be in Europe are invited, Liverpool.

September 17-20, 1948: The Seventh Congrès International du Chauffage, in the Conservatoire des Arts et Metiers, Paris.

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The Editor's Asides

SYRACUSE UNIVERSITY has acquired a substantial part of a \$20-million war-materials factory, originally used in manufacturing turbines and jet-propulsion equipment. The group of buildings, five miles away from the present grounds, will form the nucleus of a new branch of the University, to be known as the "Science and Engineering Campus." Russian papers please copy.

AMONG SEVERAL WHIPPING-BOYS held accountable for the high cost of building is the building code. Speaking before the Building Officials Conference of America, in Columbus recently, John Weinhart of Detroit threw another well-aimed punch at outdated codes. He is reported to have urged that codes be made more flexible but that changes be made *without interference from pressure groups and politicians*. "Building departments and officials really constitute an institution of higher learning. Their rulings are as essential a part of a building as any of the materials going into it"—a factor which has helped make us the best-housed people in the world. "Since you have shown us

how to build, we say to you code men, now do something about costs. You in turn offer code changes, stating the code is all you control. In other words you are willing to sacrifice the textbooks that have made us the best-housed people, for a solution to high costs. We need a change from the static to the flexible. We need the functional type of code—something with life in it. . . . But if you are looking for the Utopia in price reduction by changing the code alone, I am afraid you are in for a rude awakening."

MAYBE we read the wrong papers, but it would appear that the public has not entirely outgrown its affection for the gracious furniture, hangings and wall coverings of former and less hectic years. One New York department store is reported as featuring four model rooms, the walls of which are hung with wallpapers of Colonial Williamsburg as a background for eighteenth-century furniture reproductions. Another store is stocking British Georgian furniture, silver, china and glass just received from abroad. Another store is presenting eight

rooms furnished with reproductions of period designs. Still another shows a collection of Robsjohn-Gibbings' upholstered furniture, "put on a diet," with eighteenth-century and French Provincial reproductions and a few antiques of the same period. This last-named store hedges by showing also some contemporary design in quiet settings.

ENGLAND gives a thought to the bride: Walter Grimaldi, who as Tottenham's superintendent registrar has married 35,000 people in thirty-five years, plans to make Tottenham's new register office a "model for the country." "We hope to make our offices more dignified so that they will impress people with the solemnity of marriage," he said. "Instead of poky little offices there will be proper rooms painted cream and a delicate shade of duck-egg blue which will not clash with any bride's dress."

SEVERAL LEAVES seems to have been taken from the industrial designer's book in presenting to the U. N. Headquarters Committee the proposed design for the Manhattan site. A scale model, a color film with sound track—perhaps even the black-velvet background

hangings—were employed to stimulate the visualization of the Committee members. In one of the shortest meetings ever held under U. N. auspices, the sixteen-nation group voted, with but one dissenting vote, to approve the design. Yugoslavia wanted first to know that the \$65-million was available.

Wallace Harrison told the delegates that the international group of architects had "many, many bitter arguments" in the course of planning, but that the finished product was a result of general agreement among all the architects and engineers.

Isn't there some great medal or service cross suitable for conferring upon that rare development among men, architect-diplomat on the international plane—Wallace K. Harrison?

YALE UNIVERSITY announces: "The architecture, furniture, literature and music of eighteenth-century France will be discussed by leading authorities in a series of lectures at the Yale University Art Gallery under the auspices of the Division of the Arts."

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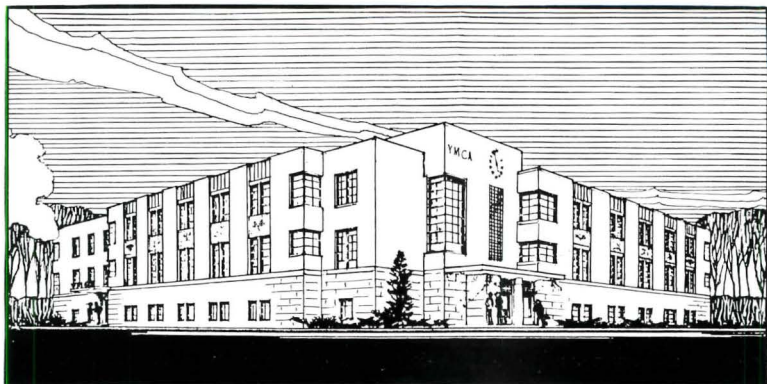
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It's not the kids' fault. They'd gladly skip the "wash-behind-the-ears," tooth-brushing routine. It's the fault of the guy who built the house and decided that old-fashioned, small-diameter piping "would do" to furnish the family's water supply.

This is not the only home with water-shortage a daily domestic dilemma. There are millions of such houses where there is a lack of freely flowing water even for normal purposes. As for those houses where the family wants to add another bathroom, shower or lavatory--well, there just isn't a chance.

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