JULY, 1957

AIA Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS

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The *Journal of The American Institute of Architects*, official organ of the Institute, is published monthly at The Octagon, 1735 New York Avenue, N. W., Washington 6, D. C. Editor: Joseph Watterson. Subscription in the United States, its possessions, and Canada, $4 a year in advance; elsewhere, $5.50 a year. Single copies 50c.

Entered as second-class matter February 9, 1929, at the Post Office at Washington, D. C. under the Act of March 3, 1879. Change of Address: Notify The Octagon, giving both old and new addresses. Allow four weeks for change to go into effect.

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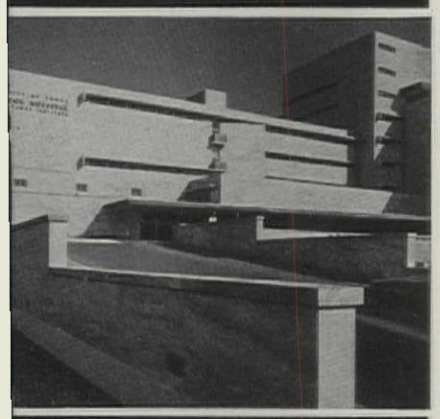

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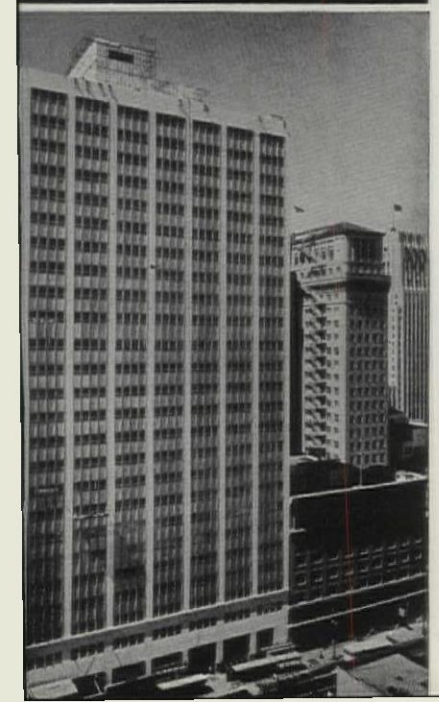

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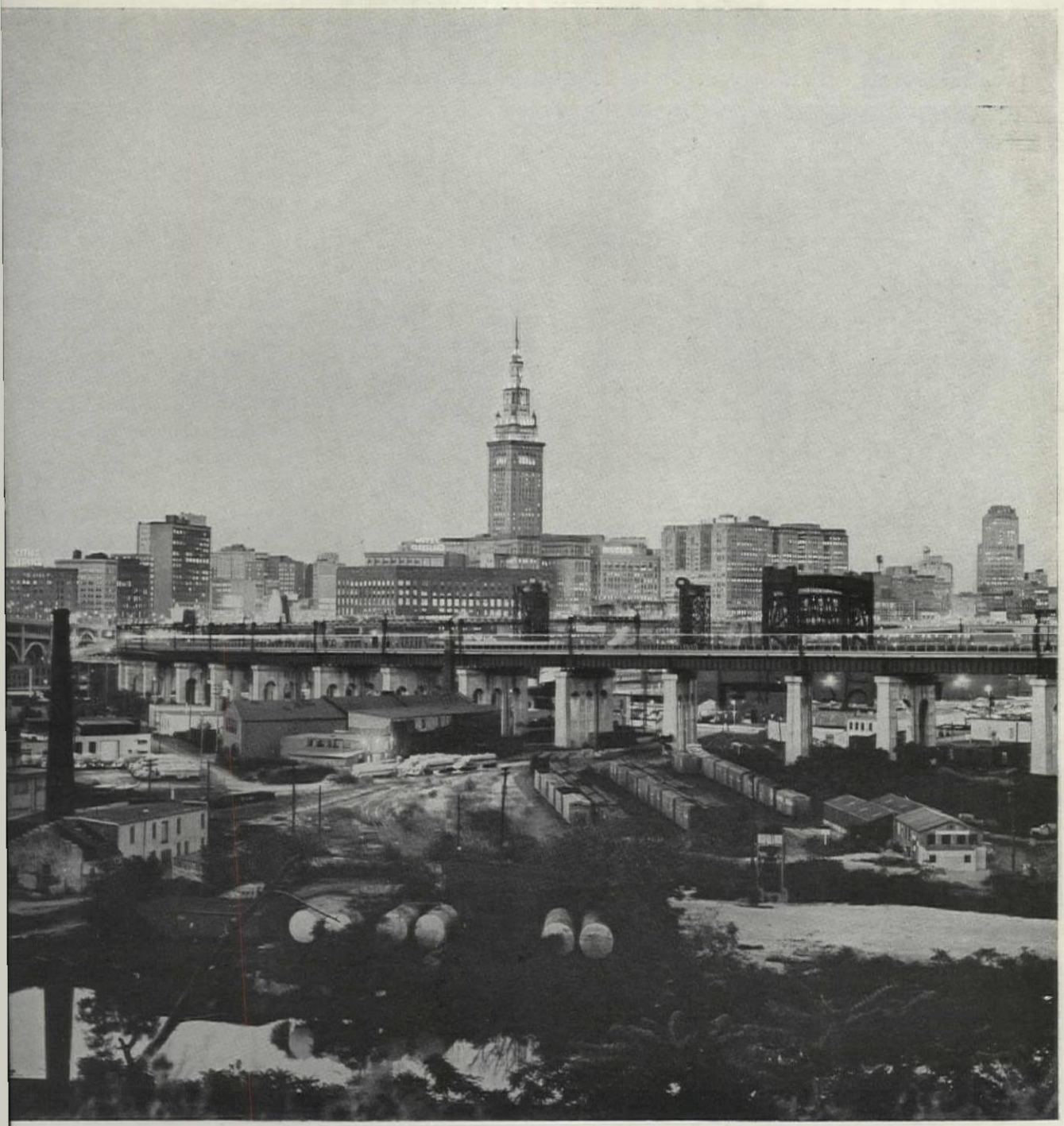

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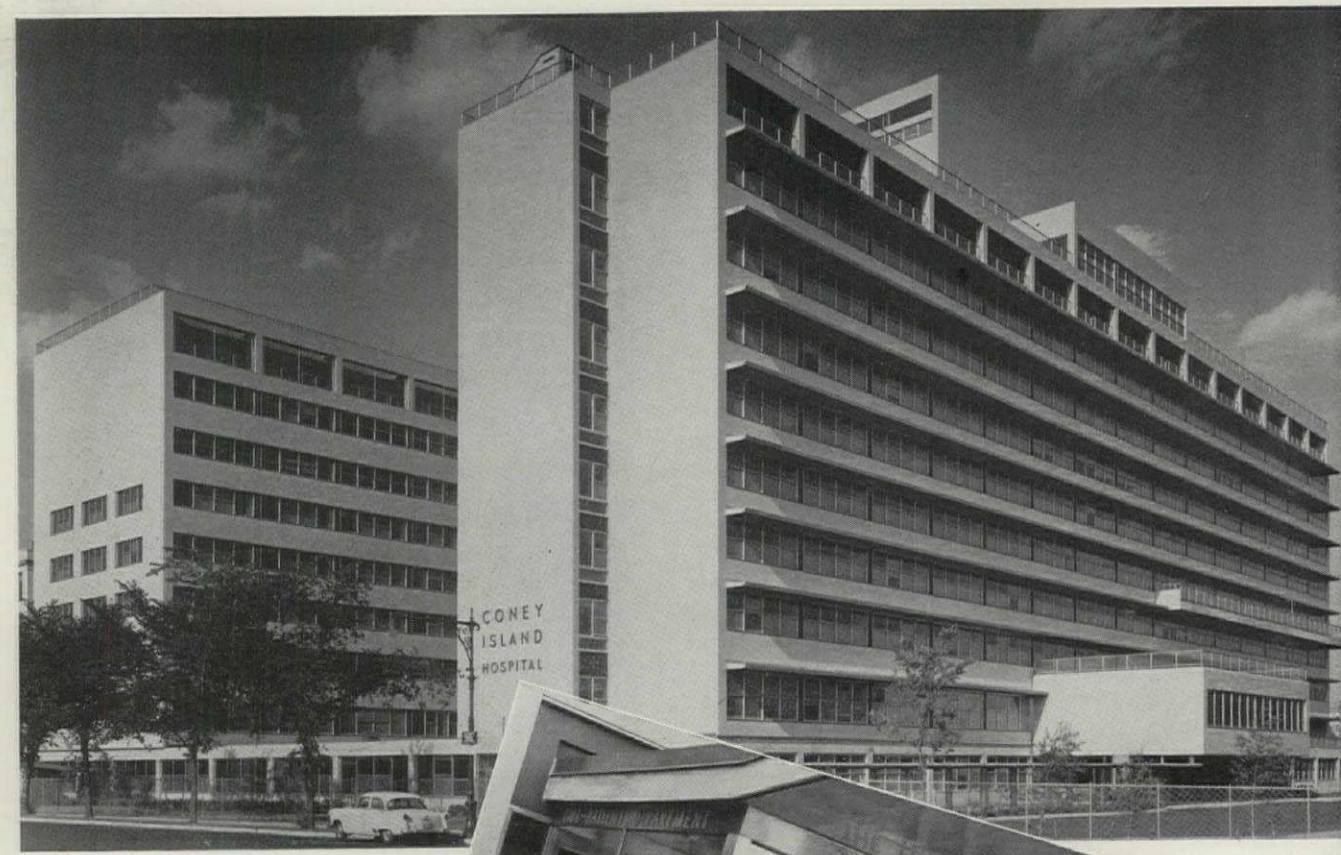
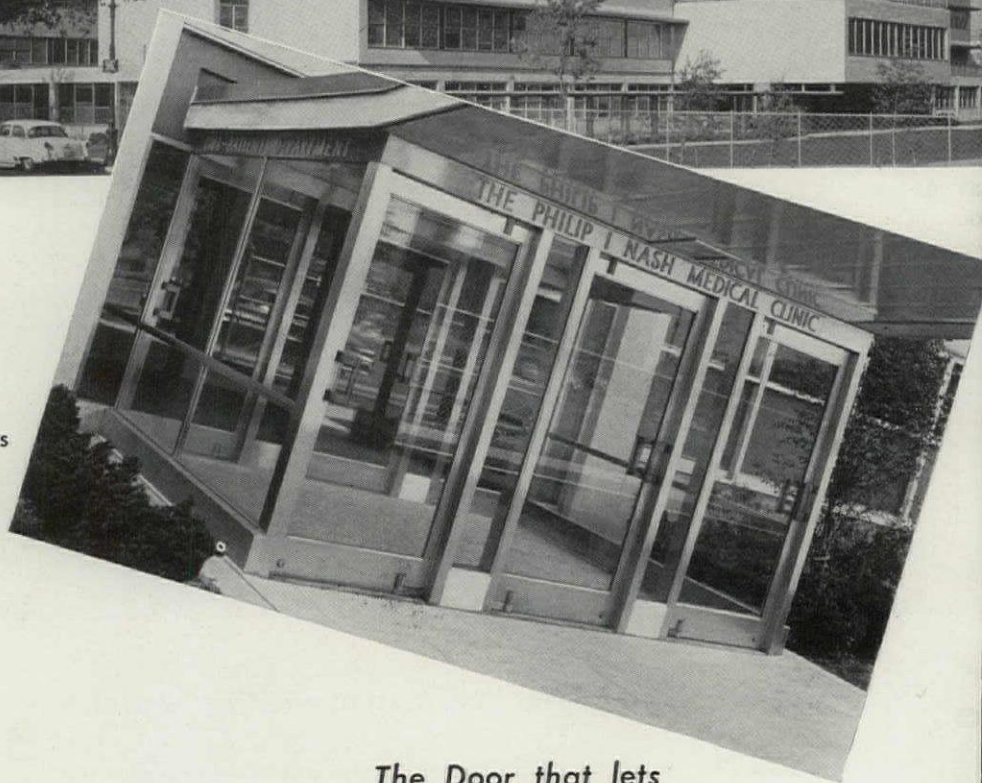
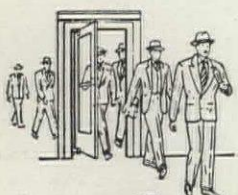




more . . . .

Ellison doors

13 Ellison Balanced Doors in the entrances to Coney Island Hospital.



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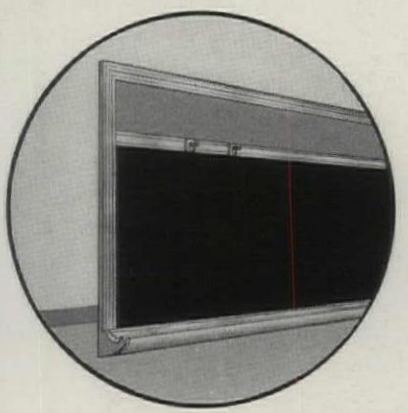
The Loxit Complete Chalkboard System, the Loxit Floor Laying System, and the Loxit Victory Acoustical System all have one thing in common: they are SIMPLE in principle. If your planning includes chalkboard and tackboard installation, wood floors laid on concrete, or acoustical suspension, you'll do well to consider the many proven advantages these Loxit Systems offer—how they simplify construction problems, meet unusual conditions, assure permanent beauty, and reduce maintenance costs. Because of their simplicity, Loxit Systems are easy to erect and assure years of trouble-free service.



OXIT CHALKBOARD SYSTEM

s is a COMPLETE system. It provides the answers all your chalkboard, tackboard and trim problems. luded are porcelain steel, composition and cement-bestos chalkboards in eight colors; Loxitex and kikork tackboards in six colors; boards completely nmed ready to set in place with or without the use the new Loxit Miracle Adjustable Chalkboard ting System, sliding boards, trophy cases, bulletin ards and a complete line of accessory items.

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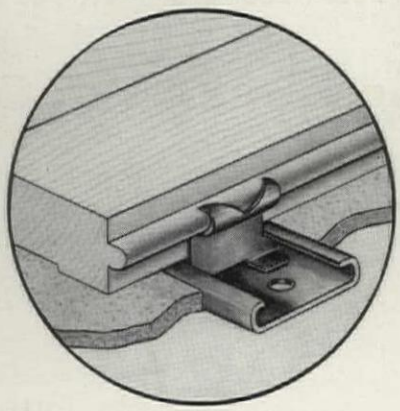

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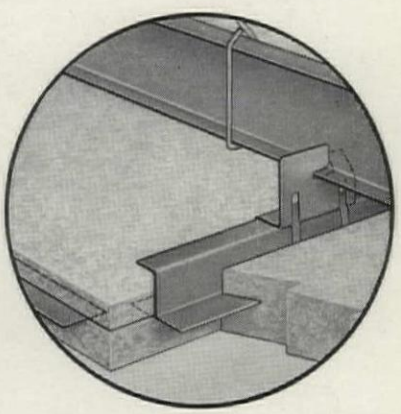

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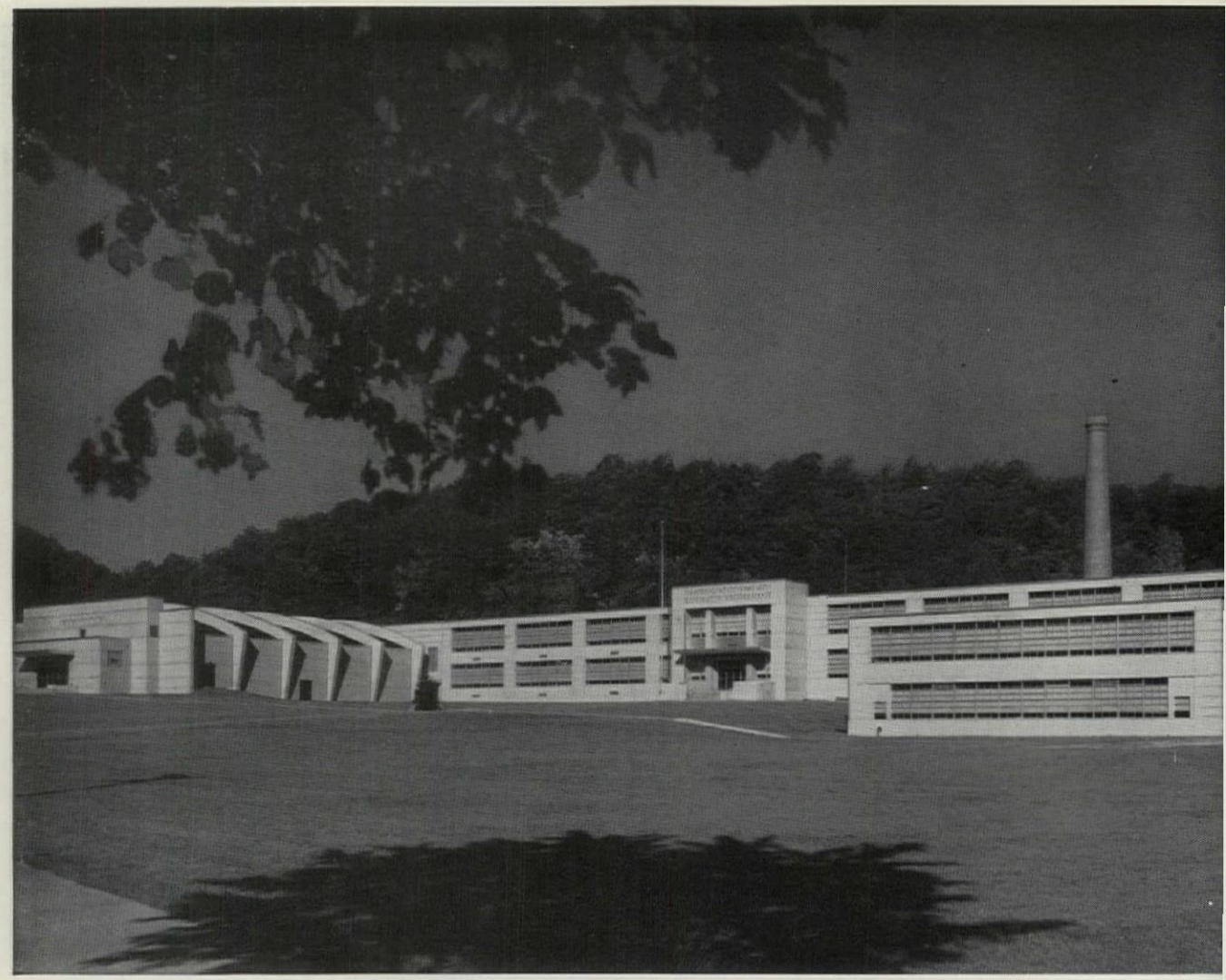

Outstanding school built at "astonishingly low cost" with Architectural Concrete

The beautiful Theodore Roosevelt High School in Williamsport, Pa. is considered by many to be the best school building built in the entire area since January 1, 1946.

In commenting on the interest in this school, architect D. H. Grootenboer, A.I.A., said:

"While I take deep satisfaction in the great interest and many favorable comments about one of my buildings, I must point out that architectural concrete made it possible for me to design a modern, completely fire-resistive building at the astonishingly low cost of $0.763 per cu. ft. when fire-resistive buildings of other construction were costing from 10 to 40 cents more per cu. ft."

Fire resistance and low cost are only two of the outstanding characteristics that make architectural concrete the choice of more and more architects. Architectural concrete also offers great durability and strength. It requires little maintenance and delivers ***low-annual-cost*** service.

While it is an ideal material for modern schools architectural concrete is equally adaptable to hospitals, apartments, churches, factories, stores, offices and public buildings.

For more information about designing beautiful architectural concrete structures of any size or style, write for free illustrated literature. It is distributed only in the United States and Canada.

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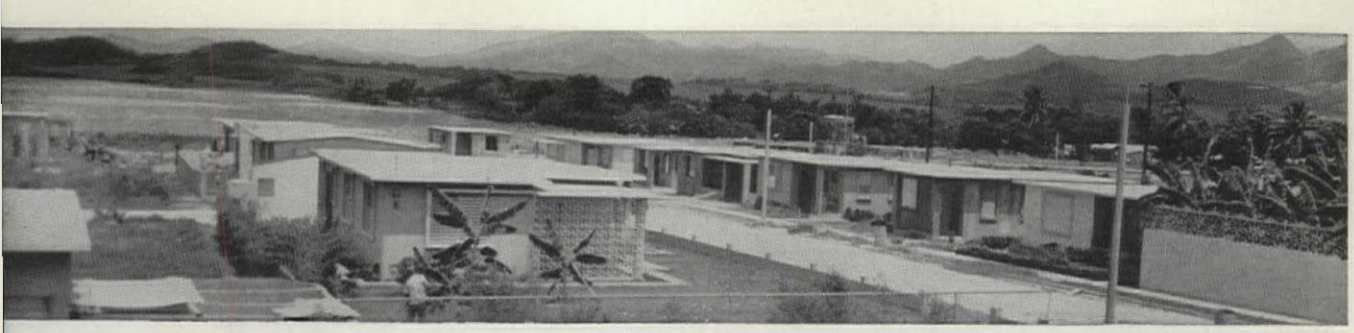
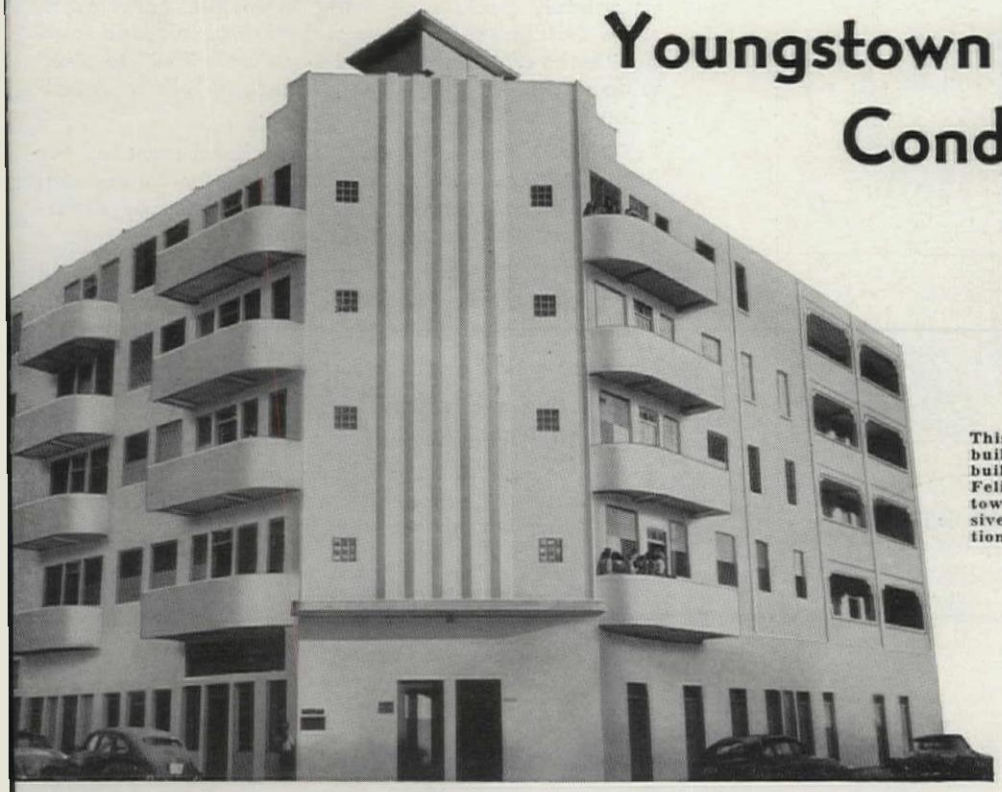
A national organization to improve and extend the uses of portland cement and concrete through scientific research and engineering field wo



This 34-unit private housing project—known as "La Esperanza"—under construction by contractor Felix A. Torres utilizes "Buckeye" conduit exclusively.

MODERN PUERTO RICAN HOUSING PROJECTS GET LIFE-TIME PROTECTION FOR ELECTRICAL SYSTEM BY USE OF

Youngstown "Buckeye" Conduit



This modernistic 36-apartment building in Ponce, Puerto Rico—built and owned by contractor Felix A. Torres—utilized Youngstown "Buckeye" Conduit exclusively for wiring system protection.

In many of Puerto Rico's modern multi-story apartment buildings and private housing developments, Youngstown "Buckeye" Full Weight Rigid Steel Conduit has been used exclusively to give positive, safe, life-time protection for the electrical wiring systems. Electrical systems must function properly or they are definitely a bad investment. So to guarantee safe and efficient operation, leading owners, architects and contractors wisely specify Youngstown's "Buckeye" Conduit.

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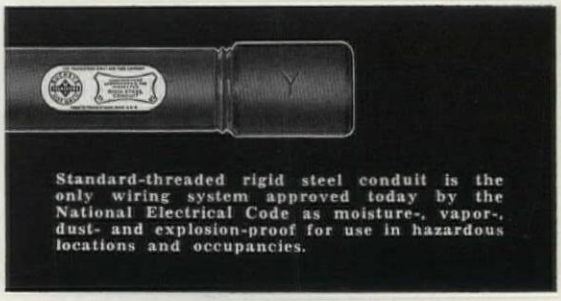

Standard-threaded rigid steel conduit is the only wiring system approved today by the National Electrical Code as moisture-, vapor-, dust- and explosion-proof for use in hazardous locations and occupancies.

solve all opening problems easily with

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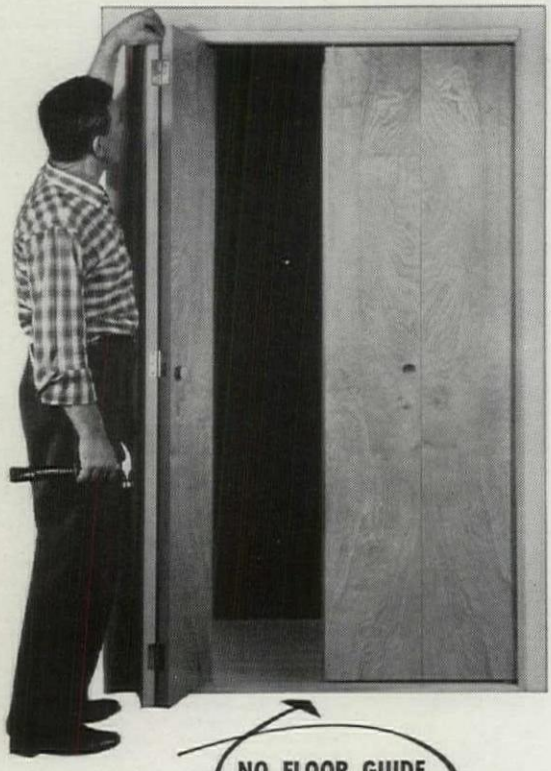
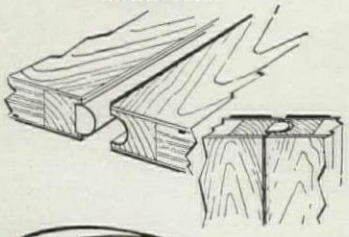


NO FLOOR GUIDE OR TRACK REQUIRED.

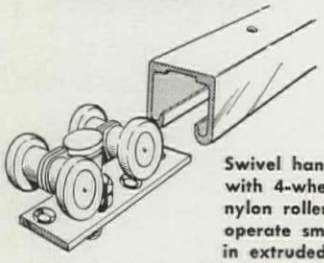
the only folding doors with an air-vented, all-wood grid core and advanced-design hardware

- ✓ Completely packaged—ready to install. For closets, room dividers, passageways. Standard two and four-door units available for openings from 2'-0" to 6'-0" wide and 6'-8" to 8'-0" high. Easy-to-follow installation instructions in each carton.
- ✓ REZO-FOLD hardwood panels are hand matched for both grain and color. Available in any commercial species of natural wood to complement any decorating motif. Door thickness — 1-3/8".
- ✓ REZO-FOLD Doors have air-vented, all-wood grid core construction for rigidity, strength, light weight, and dimensional stability.
- ✓ No floor guide or track required.
- ✓ Tongue and groove meeting stiles guarantee snug, secure fit when closed.
- ✓ New type, advanced-design hardware and swivel hangers with 4-wheel nylon rollers assure smooth, easy, trouble-free operation.

TONGUE AND GROOVE MEETING STILES FOR SNUG FIT.

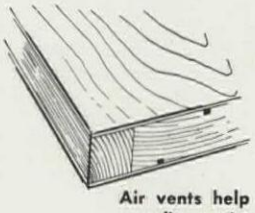


NEW TYPE ADVANCED DESIGN HARDWARE



Swivel hangers with 4-wheel nylon rollers operate smoothly in extruded aluminum track.

DOORS ARE AIR VENTED



Air vents help equalize moisture content throughout the doors.

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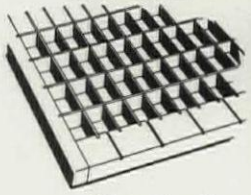

All-wood grid core assures rigidity, strength, light weight.

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SPECIFICATIONS:

Sizes: 9" x 9" x 1/8"

Colors: Rose Tones Gray Tones, Green Tones.

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Random Tones are laid just as they come from the carton . . . keeping labor costs to a minimum.

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Office of the Liberty Life Insurance Company, Greenville, South Carolina.

Architect: Carson & Lundin, New York.

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Liberty Life Insurance Company of Greenville, South Carolina take pride in the beauty of their office building and its functional utility and convenience. On each of its four floors long runs of Hope's Custom Steel Windows, fixed and vertically pivoted sash, are fitted in Hope's Pressed Metal Framing. In the building there are also large installations of direct glazing in these custom-built sub-frames. The flexibility of Hope's products for layout purposes helps the architect greatly in designing the large glass areas in contemporary style buildings, especially as the fixed window requirements of air conditioning are now always a consideration in a modern office.

Both architect and owner may take extra satisfaction in the assurance that when Hope's Steel Windows are specified either as Window Walls or in individual openings, the maintenance costs will be low and the window operation dependable for the life of the building. Make full use of Hope's engineering and planning assistance. It is always yours without obligation. You will find further information on Hope's Windows in Sweet's File. Hope's latest catalog is 152-AI. Write for it now.

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AIA Journal

OF THE AMERICAN INSTITUTE OF ARCHITECTS

VOL. XXVIII, NO. 3 JULY 1957

CONTENTS

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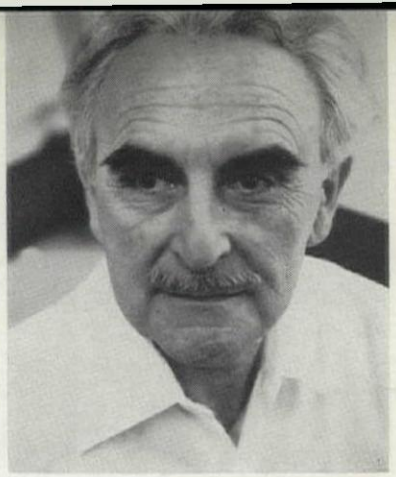
PHOTOGRAPH BY ALOYSIUS SCHOSZLER,

An Editorial:



Y RICHARD J. NEUTRA, F.A.I.A., R.I.B.A.

Arts and Sciences of the Architect and his "Status"

Free quotes from
"Survival Through Design"
Oxford University Press

FOR A THIRD OF OUR INSTITUTE'S CENTURY I ve held faithful membership in it. As guest and norary member of architect associations around the be, from London to Manila, from La Paz, Bolivia, Edmonton, Alberta, I have always with a sincere d cordial conviction said that the constructed man setting was of too grave an impact on man- nd, to leave the fatal responsibility for it in the nds of lay persons and non-professionals, however all might cherish amateurship. The grace of in- tion may descend on anyone trained or untrained, t it simply is too hazardous in the midst of the olific production of our type of civilization.

Architecture at its best always answers deep man needs. As a folk art it does so, often in- tively, but where it reaches the status of a profes- n there is a systematic approach needed in every gle case from examination to diagnosis and ther- , so to speak. None of these is achieved without npathy and empathy. Let us emphasize that this passes scientific method but surely needs it, for per balance and security in the design of our ting.

Design is by no means abstract art, but very con- tely human and for humans. To "know man" is ancient philosophical precept. Especially, the nt must not remain to us "Man the Unknown." s far too little to be informed about his bank ac- nt or borrowing capacity. We live not only in an of financial statistics, but also in the midst of a pendous progress of the life sciences.

What may be practical and necessary to know ut clients? Whether they are trustees of a univer- , high officers of the Navy, board members of an insurance company?—it would always be best to know them as intimately as we learn to know the clients of a domestic project. This face-to-face relationship to the actual user of what is being planned, holds for a young man in architecture a profound significance and, wherever possible, an instructiveness for his entire career. On all levels and through all stages, architecture, practiced as a profession, is an organic human relationship problem, suffused with the confidence of someone seeking sensitive advice, and trusting to an architect a great deal of his future and the future of his dependents.

The background and the ambitions of a project are commonly first cleared by a subjective report. To understand the client's verbal expressiveness and limitations, is perhaps the first thing for the skill of an architectural clinician to gauge. Some human beings are more expressive physiognomically and orally, some are hard to read; some seem eloquent, some monosyllabic. If a "corporate client" sits opposite us at the long table of the Board Room, each component member deserves his own understanding, and right when the cart gets rolling, one of four wheels might display itself as the squeakiest, but not necessarily as more decisive in operation than the other three. We must not forget that in human affairs, and in group action, decisiveness becomes effective in many mysterious and subtle ways. The proportion of emotional, intellectual, purposive influence, when an architect looks from husband to wife and back again, sometimes has a long and complex prehistory difficult to penetrate. Yet it will have to be intuitively grasped if the future should be bright over the amortization period, and for all

parties concerned. The professional advisor is too wise to strive for quick salesmanship. Fast persuasion, even if feasible, would be foolish. Ours is not a quick turnover, but a long range business and, for this reason, probably does not deserve the designation "business" at all.

We act more as doctors have acted for thousands of years, who, with a clinical experience and the sympathy of sincerely convincing bedside manners, approach a hopeful advice seeker. It is wonderful for such a relationship that we have no pills to sell, or lumber, or plumbing fixtures, although I have seen great engineers in Rome or Mexico perform miracles with their own trained companies. At any rate, we should never put a graphic prescription in black and white, unless our patient has accumulated sufficient confidence to last and sustain us on the long safari of a construction project, moving with its mixed crew of performers slowly through all its phases.

Of course, we are born and trained to be also self expressionists as any artist cannot help being, but we have to guard against the cliché attitude of seeing in others, especially in the client, an interferer, a head-on clash with our inspiration. I have found it, on the contrary, extremely helpful to feel inspired by it, that he and she are so human. Humanity after all is the best there is along these lines on our planet.

I have for forty years felt that if the great Renaissance architects and artists were so anxious to be in touch with the science current in their day, we architects of this glorious scientific age cannot well be less curious. Hundreds of scientific journals from New York to Moscow published last year some ninety-eight thousand earnest research papers on human biology, on our millions of senses which have a fused intake, on all our endocrine, muscular, nervous responses. At the same time pretty horrid statistics show that annually—in our own know-how country, nine million people annually cool their too hot heels in psychiatric waiting rooms. I wonder how they all found a place to park their cars. But there is little doubt that in the din and jam and rush of our civilized environment, anxiety and nervous disorders have multiplied.

Architects and city planners are basically staging the drama or tragedy of our urban life and may well have something to do with all its failures and successes.

Design produces harm or help in human life; it evokes irritations or accumulates them, piles up fatigues and strains over the days and years—often so gradually that the damage is noticed too late. The physiological wear and tear of any architectural design and its placement into the urban scene, is rarely calculated. And yet biological maintenance and repair costs are as real as plumbing and roofing bill Preventive maintenance is the best part of wisdo not only in industry.

Sometimes it is claimed that humans can lucki adapt themselves to anything. First of all, this is fairy tale and a fiction. But, secondly, the organ expenses of adaption are very truly appalling if t requirement is severe. This cost and condition m be much mitigated or aggravated by plans to accon modate man, woman and child in all their activitie

Shapes are not only following function, but i deed cause them. Form is a primary dynamic ager if it is not merely abstract play but derived from t concrete energy transactions sparked by our now richly explored senses. Our organic endowment is kept in living motion by their stupendous intake.

The architect designs "the happy fit" to natu about us, and nature within us. His plot and lan scape reach from our innermost being through o skin into outer spaces which we sense way beyo property lines. The stars shine, the clouds move, t sun radiates heat, the scent of the night jasmine a the odors of the garbage can freely travel across leg boundaries. The one great landscape is parcell only on paper.

Organic well-being and nervous comfort a steadied or upset by those who shape the human s ting. It can, in the midst of all activities become haven and an anchorage of the soul, or a perpetu multiple irritation and disastrous turmoil. In c civilization of ubiquitous industrialized technolo where so much has become automatic, man's survi is not at all guaranteed to be so. On the contra It depends on design; and thus design is a dee responsible job, both beyond just long hair, and b yond dollars and cents. The designer of those st and long lasting shapes around us—that determi our very lives every moment, make us function or f inwardly and outwardly—will have a deserved n status. The life sciences give him a provable p tion.

The position of the architect will steadily r when our Institute and its membership in a sec century is as well known to the community as American Medical Association, which was feeble deed only two generations ago, and has lifted it miraculously by its boot straps, and by its active sight into the twin problem of public confidence professional status.

In a way we are ourselves engaged in prevent medicine and in applied life sciences. It is a c plicated but most worthwhile pursuit. As N Purves put it: "Our opportunities are without pa lel." It may be even more wonderful to be architect in these days to come.

From the Executive Director's Desk

IT WAS EXCITING to look forward to a Centenial Convention; it was rewarding to have participated in the planning and organization of the celeration. It was a pleasure to have labored with the edicated people of The Octagon.

Probably no convention of the Institute has ever eceived such thought, such energy and such affecon. The members of the staff have kept up with eir other duties while devoting countless hours to e celebration. At the same time we did not lose ght of the events that were taking place around us. 'e were and are aware of the ceaseless grinding of e legislative mill, of the endless policy-making of ose executive departments of the government and those forces in the construction industry which will ffect your futures. We cannot afford to relax our gilance or to disregard our usual activities.

The discussions of the Centennial Convention lled to the country's attention the alertness of the chitects and the appreciation of the profession of hers in the body politic. Those discussions will oduce lasting results; projects will be initiated—e fulfillment of which will mark further milestones the progress of the profession and of its organizaon, The American Institute of Architects. We are peful that the Centennial Convention of The merican Institute of Architects will be regarded by ture generations as the culmination of an epoch—the moment when the planning forces of America ok on a new lease of life, and set their faces forard to achieving those goals which have been the jective of our civilization since our forefathers first und their way to these shores.

Occasionally we lose sight of those objectives. e are reasonably sure that the Pilgrim fathers and planters of Virginia, for whatever motives the hers might have come here, were impelled at the me time, or rather imbued with a desire, to plan d establish a way of life that would achieve for eir descendants all they hoped for in their lives, d would make up for what they lacked. They oked to the day when their communities would be well-planned, well-balanced, well-governed; when there would be a community of communities; when the progress of this country would be orderly and sane.

I do not believe we ever actually lost sight of those objectives, but they were forced into the background by trends which we failed to control although we did not lack the power to do so. We have not yet recovered, for instance, from the setbacks and benighted philosophies of the industrial revolution. We have not recovered from the exploitation of man and of man's property by the forces of selfish interest.

We are aware that our housing program, especially the public housing program, has bogged down in a welter of red tape, of impossible standards, of paternalism (sometimes another name for socialism), of myopia and lack of brilliance. We travel through the country and see how strong the aftermath of the industrial revolution still is; how our communities go on spreading themselves across the landscape—seldom with due regard for the people who have to live in and enjoy them.

We of the architectural profession have perhaps been negligent in not forcing ourselves upon the growing country and demanding in stronger voices the essentiality of our direction.

However, progress is slow, recognition comes after performance, but we are confident that one great and as yet completely untried force for the better in the planning of America is the architectural profession. We have the ability within ourselves, we are making our voices heard and, I think, in the years to come when this country will have achieved a semblance of orderly planning, of the possibility for a better and more enjoyable life, that the credit for the accomplishment can in large part be laid to the architects and to its instrument, the AIA.

Edmund R. Purves

Afterthoughts on Aspen

BY JAMES M. FITCH

Mr. Fitch, Associate Professor of Architecture at Columbia University, is a Director of the International Design Conference held annually at Aspen, Colorado

THE SIXTH ANNUAL INTERNATIONAL DESIGN CONFERENCE, held in Aspen, Colorado, from June 23rd through July 1st, differed from its predecessors in many important respects. It had the largest attendance—almost 700 registered conferees—and the largest and most distinguished group of speakers from overseas—12 men from 8 foreign countries. The conferees came from all major fields of design—industrial; graphics, advertising and television; architecture and landscape architecture; there were craftsmen and management representatives; educators and students; and (unlike previous conferences) the representation from each field was just about evenly divided. It was extremely well organized, with boxed picnic lunches, a day nursery with registered nurse and doctor in attendance, etc.

But such statistics miss the most important aspect of IDC at the end of the sixth year: The fact that it is a viable, independent organization with wide international support and every prospect for a genuinely constructive future. This conference proved what its sponsors have always held—that there is a common base to all design, whether it be poster, automobile or architecture: and that, therefore, common problems face the designer—whatever his specialty, language or nationality. Unquestionably, it was this central fact which made possible the intense interest and lively participation of the audience in all the sessions irrespective of the subject, profession or nationality of the speaker.

The structure of the conference, evolved from years of experience, was interesting. It was organized around one central thesis and divided into three cycles of two days each, each cycle followed by a "day of rest" with no activities programmed. Given Aspen's splendid scenery and recreational facilities, this gave the conferees leisure in which to relax, mix and—most important—digest the e tremely rich intellectual fare of the discussions. Th three Cycles—*Management and Design, The Pra tice of Design, Education and Design*—each had i own panel of speakers (usually six) whose pape had been printed and distributed to all conferees the registration. (Incidentally, this technique, bo rowed from scientific circles cannot be too high recommended for guaranteeing an orderly and sy tematic discussion of the subject in hand. Tho of us familiar with the loose verbalizing so typic of art and design circles should adopt it as standa procedure.)

Morning sessions were devoted to the readi of the papers, discussion between the panellists a questions from the floor. In the afternoon, the co ference broke up into smaller seminars, where d cussion of the morning's topic could be more in mate and detailed. Each cycle was moderated one man and, generally speaking, he did an a mirable job of keeping a lively (at times, tempest ous) discussion on the tracks.

Since this was my first time at Aspen, I c make no comparisons between the quality of t and previous conferences. All I can safely say that I found this year's discussions stimulating a solid, with little of that preciousness and subjectiv which too often surrounds the discussion of su large and abstract forms as "art" or "design." seemed very apparent that all the conferees w seriously concerned about the future of their fie and most anxious to discover what steps to take protect it. Typical of this were the excellent pap read by three industrial designers—England's Mis Black, France's Jacque Vienot and the Americ Gordon Lippincott. All three were sober, factu frank. Indeed, Black's candor triggered a long a

illuminating discussion when he said that designers "are, with the fewest honored exceptions, the great compromisers, the second-layer men, the translators of the real creative work of our time to a more common denominator." There was, of course, no harm in that, he continued, because "for every act of creation there must be a thousand adaptors."

Did Mr. Black mean to say that "compromise" was defensible in design? Several conferees decisively disagreed. But then some one pointed out that, as a matter of semantics, the word "compromise" had itself been compromised in common use. There was a "good" as well as a "bad" compromise. As for example in airplane design. Here, clearly, the contradictions between payload, speed and range had to somehow be resolved. Would anyone call this process an "immoral" compromise? Was it not, on the contrary, the very essence of the design process? Was it not the designer's responsibility to get the most strength with the least weight, the most speed with the greatest range?

Clarification of this point was closely related to another, raised by both Lippincott and Vienot: the problem of the annual model or the New Look. It was an easy trap for the manufacturer to fall into, said Lippincott: "It suggests to the public that this year's model is superior to last year's (since) it is styled with the 'new look.' In practice, I think most creative designers and engineers would agree that it is simply not possible to find a 'new and revolutionary design' every year or so. Even if it were, the tooling and parts inventory problems would be staggering. In many product lines, the result is a 'new look by gimmick.' The 1957 refrigerator is actually the 1955 model with a new handle and rearranged chrome."

Vienot spoke against the concept of the annual model with equal vigor. Coming from a country where it is only just now appearing, he saw the annual model "as a great danger—especially in countries where a big effort is made to promote sales by any means, and where almost each year a new look is to be given to products although no technical improvements in these products warrant such a change. The consequence of this is . . . a new design that is different without being better." How can you "improve" an already perfected exhaust valve, M. Vienot demanded. By plating it with gold? By wrapping it in leopard skin? A long and lively discussion followed this; the Americans seemed as much convinced as the foreigners that this was the cause of much of the "compromise" to which they objected.

But how to correct the situation? This was a horse of another color, especially in America where the annual introduction of a new model dominates whole fields like the motor car. The idea of outlawing the annual model seemed little short of un-American heresy to one conferee: Where would American industry be without it? But another gentleman pointed out that Henry Ford had got along nicely, for decades, without it.

Lippincott made perhaps the wisest point when he urged manufacturers to adopt long-range, coherent policies such as they already are accustomed to in plant expansion, financing, research and the like. Stop-gap designing, trying each year merely to copy the fashion as expressed by successful competitors, produced not only bad design but ultimately bad business. "Surveys we have conducted recently," said Lippincott, "show that the average American cannot identify an appliance or an automobile without looking at the name plate." Such a situation means mediocre and/or monotonous design, loss of sales, even corporate instability.

Mischa Black pointed out that such a problem scarcely exists in Great Britain, since a product like an automobile is ordinarily bought for long-term use, "if not indeed for life." This naturally works against the annual model and minimizes at least *this* source of corruption in design. But many of the American conferees were disturbed: Were the opponents of the annual model not also opposed to progress? Not at all, said Jacques Vienot. Change was by no means synonomous with progress. He was merely in favor of "natural" development in design and distrusted the "artificial forcing" implicit in the annual model.

Closely related to the above was the whole problem of "good design." What was it a charming young lady from Denver asked? How does one get it? A most interesting paper, read by Arthur Hald of Sweden, gave some persuasive answers to at least the second question. He felt that the generally high (and universally recognized) standards of Swedish design were due to two factors: A vigorous craft movement and a design-conscious public. While by no means advocating the "handcraft dreams of William Morris," he felt that Swedish experience proved that modern industrial society *"must* permit and encourage the existence of a high-class handcraft—an art handcraft so ruthlessly high-class that it will serve as a criterion of good design of any kind. Why? Because . . . the finest handcraft yields that complete integration of the factors which determine form; that absolute clarity of a finished, successively-refined form; the requirement that a material yield its maximum possibilities of expression; and a superb mastery of technique. These represent a moral that has not yet sufficiently penetrated (industrial produc-

tion) . . . Craftsmanship symbolizes the concept of quality in an absolute sense."

Asaba's paper agreed with Hald's on this point. He too came from a country in which the handcraft tradition was exceptionally strong and to which industrialism had come comparatively late. The danger in Japan was the destruction of handcraft traditions by cheap and shoddy industrial products.

Hald and Black also attacked the problem of good design from another angle—that of educating the consumer. In both England and Sweden, they reported, this process has gone far enough, and its importance was so generally recognized, that government agencies have been created to promote and maintain higher standards of design. Some of the Americans, including Lippincott, bridled at this, showing our almost comic distrust of the government in any area outside war and taxes.

Despite the sharpness of many of the comments on management's actual performance in the design field (the automobile industry was a sitting duck for frequent and scathing jibes), the manufacturer's problems were handled with sympathy and respect. Given the subject of this cycle, this emphasis was correct. But for many free-lance designers who design directly for the individual consumer, the second cycle of the conference proved both broader and more profound. Here the discussion could deal less with the exigences of commerce and more with the needs of society. A group of especially fine papers was read, including those of two Americans—the West Coast landscape architect Garrett Eckbo and the architect Paul Rudolph—as well as those of the Milano architect Alberto Roselli and the Swiss architect-turned-author Max Frisch. It was significant that all the papers and most of the discussion pivoted around the social responsibility of the designer. Everyone remarked a central paradox: despite able men, a fine technology and modern scientific knowledge, the environment we are building falls far short of what we know it should be. Considering our vastly increased resources, our cities are inferior to those of five hundred years ago. Why was this?

Eckbo stated the problem in its most general terms: "In the last analysis, the landscape is indivisible. It stretches from ocean to ocean and its only limits are those of human vision and motion." In terms of human experience, it is a totality: Every poster and gas station, auto and roadside stand becomes an integral part of the landscape. But in actual practice, we do not act as if this were the case. Our landscape is built up of bits and pieces of individual projects. Did this produce a landscape as orderly, as convenient, as handsome as it could and should be? Eckbo thought not; and Frisch, with poetic eloquence, thought not also. "How can a bird be kept in a snail's shell without damage either to the live bird or the pretty shell?" he wanted to know. "That is more or less the problem of town planning as we see it in Europe today."

European cities, designed at small scale for pedestrian traffic, were choking in modern vehicular traffic. The great squares and piazzas of Europe had become mere parking lots—"they were only visible as architectural monuments at dawn." Tall buildings, often good in themselves, bred more congestion, more traffic. Streets were widened, old fountains removed, the canals of Venice got traffic lights. But matters got worse all the time: The shell in Frisch's view, was killing the bird. But the villain was not merely the auto: Frisch thought it was the private ownership of urban land. This land, he said (and here he was echoing our own Henry George almost verbatim) was far too dear and precious to be left at the disposal of the owner! Only the community could be trusted with such a responsibility. Such a point of view not unnaturally led to a warm discussion of the pros and cons of planning, zoning, controlled land use and the like.

Alberto Roselli, the famous Milanese, dealt in his paper with some of the special problems of the modern architect. In his view, there were two dangers in contemporary architecture: Its tendency toward a blind and uncritical acceptance of technology and its disastrous break with the cultural continuity of tradition. Designers like Maillart and Nervi were truly great, he said, because they went far beyond what a strict interpretation of what the slide-rule indicated as possible. They overcame "technical determinism" by the sheer brilliance of their "intuition." Roselli's use of this word "intuition" caused quite a controversy. Rudolph seemed to think it meant the discarding of rational, objective standards of design. He pointed out, quite correctly, that "intuition" is often used as a fig-leaf for sloppy thinking and irrational designing. It was my impression, however, that Roselli's "intuition" was of quite a different order: It came only from the artist's profound knowledge and absolute mastery of his medium.

Roselli's other point—the importance of tradition—was also warmly debated. What he said was this, that contemporary design in each country "must be linked to (its) purest tradition rather than (spring) from an international culture with no attachment whatever to the true nature of the people involved." Several conferees wondered if he meant to recommend a return to the eclectic copying of antique forms; and to one conferee it seemed as if he were advocating the kind of vulgar nationalism exem-

plified by Mussolini's architectural policy. Actually, Roselli's own work in Italy—such as the magnificent new Pirelli skyscraper now rising in downtown Milan —protects him adequately from any charge of either blind traditionalism or vulgar nationalism. But the discussion did reveal the tendency of Americans to be impatient with "sentimental" attachments to any tradition other than our own.

A fundamental discussion of professional design education grew out of a paper by John A. Pappas, professor at Institute of Fine Arts at Athens, Greece. Outlining the curricula and teaching methods of that institution, he described what we would call, in this country, an orthodox or classical system of art education. He was immediately challenged by the audience which, by its questions, showed the wide prevalence of progressive theories of education. The idea of so narrow a curriculum, with no social studies, no science, no room for experimentation in technique, obviously startled many. Yet Pappas defended his position quite well. It had its dangers, he admitted, but also its virtues. He questioned the validity of exposing teen-age students to every artistic wind that blows in the modern world. With movies, television, papers and magazines, they got too much "exposure" as it is. In this connection, he even questioned the value of today's museum as a teaching instrument. Piero and Picasso, Rembrandt and Renoir, "arranged, if you will pardon me, like the wares in an American drug store"—would indiscriminate exposure of the young student to all this really broaden him or merely confuse him? He felt that the student should only gradually be exposed to an increasing number of stimuli; it was the teacher's task to protect him from too many. Eckbo raised the obvious objection: Who could one trust with such censorship and according to what standards?

With this Cycle, the conference ended. I have necessarily omitted many fascinating facets, (entire papers, in fact, such as Dennis Flanagan's fascinating slides and talk on structure in Nature); but I hope I have suggested the richness of the subject matter and something of the excitement of the actual discussions. The Conference had, of course, its shortcomings. Not a single woman was on the panel of speakers, nor was there any spokesman for the consumer who, after all, is the ultimate object of all our endeavors. The eastern seaboard was inadequately represented; the sound and projection equipment failed at several critical moments; and the box lunches were dreadful. These are faults which can and will be corrected. But I think it was clear to all present that the International Design Conference fills a need which no other organization does. And this alone is a guarantee of its future success.

NEW STUDENT CHAPTER AT THE UNIVERSITY OF PENNSYLVANIA. Seated from the left: David H. Morgan and Sidney Martin, FAIA, past presidents, and Harry Stewart, president of the Philadelphia Chapter; Holmes Perkins, Dean, and John MacGuire, professor, School of Architecture, University of Pennsylvania.

Standing from the left: Beryl Price, chairman national Chapter Affairs Committee; Paul Kuhnle and Marvin Suer, members, and Harry Peschel, chairman, of the Philadelphia chapter committee; N. McAllister Page, president and Mary Baird, Robert Ennis and Karyl Radzievich, officers of the student chapter.

BRONZE FOUNTAINHEAD FIGURES BY RENÉ CHAMBELLAN AT ROCKEFELLER CENTER

Toward a Reunion of Art and Architecture

By Donald De Lue, *Member of the National Sculpture Society*

Perhaps a title such as "Toward a Reunion of Art and Architecture" will disturb you, and perhaps you will ask if art and architecture have, indeed, gone down divergent paths, and if today's clean-lined buildings really are art in architecture? These questions, of course, deserve thoughtful answers.

As a worker in the "decorative arts" I feel that too often today's structures have a common limitation—they reflect a lack of warmth. The architect and the engineer have produced designs of brilliant precision; building materials and structural concepts are handled with ingenuity and imagination, but the use of the decorative arts is too often ignored.

Many architects regard their works as single, gigantic pieces of sculpture. But the architect has the advantage of seeing his building in the model stage, isolated and tremendously reduced in scale. His scale is of such a size that the eye can immediately grasp the design as a whole, uncomplicated by the sheer mass of the real building. The man on the street, however, does not have this "vista" approach. He usually views the building a piece at a time in a crowded city area.

For an example of how art and architecture hav united to produce liveable beauty in structural forn we do not have to go back to the days of the grea cathedrals. We can find a harmony of the arts in th group of nationally famous office buildings at Rocke feller Center, the first of which was completed twenty five years ago. Here is a place where fifteen building dominate the area completely, and where more tha thirty outstanding artists have contributed over on hundred major works to make this one of the mos varied and interesting collections of contemporar art in the United States. Here art and architectur are combined to produce a feeling of gracious vita ity; where plane surfaces are broken up by paint ings and bas-reliefs; and where plazas and court are lightened and given meaning by the use of sculp ture as a focal point. From the point of view o public interest, Rockefeller Center is said to be th most photographed spot in the world.

In Finland and Sweden, in Mexico, France Italy and Germany, contemporary art goes hand i hand with modern architecture. There is a realiza tion that the human spirit needs not only the mate

rial comfort afforded by the buildings, but the spiritual affinity that only the decorative arts can provide. In these countries, and in the United States as well, the love of beauty persists. With all our country's wealth, it is strange indeed that our major architectural achievements give only a passing nod—if even that—to the use of the arts.

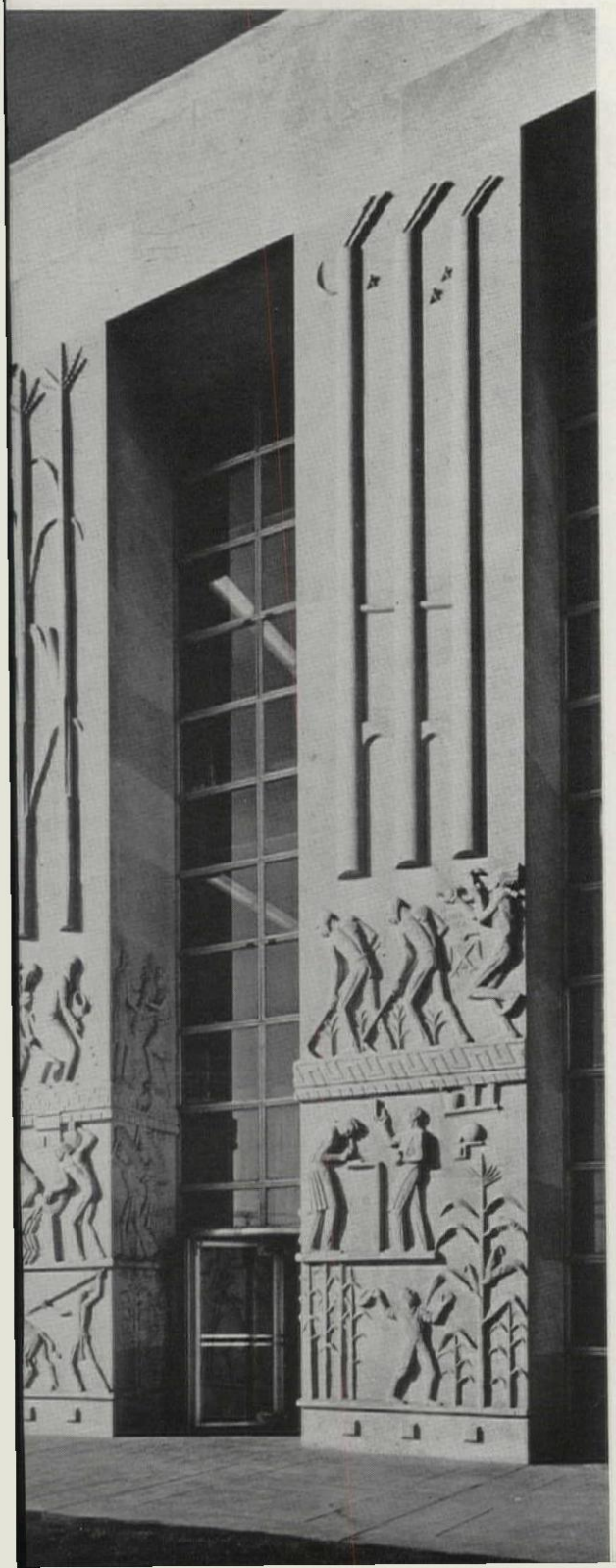
Can it be that the use of the decorative arts is too expensive? The money required for a major work would represent only a small fraction of a percent of the total cost of the whole project, and the investment would be repaid many times over by increasing the attractiveness of the area and by adding to the value of the building itself. A sculptural fountain, for example, like the one by Karl Bitter at 59th Street and Fifth Avenue, in New York City, relieves the eye and calms the spirit of all who see it. It creates an oasis of beauty and peace in a busy spot far better than a tranquilizer.

Ralph Walker, past president of the AIA, said in a recent issue of the *National Sculpture Review,* "I think there'll come a time when we will be tired of thinness in the modern building and try to get richness, and the sculptor will be more fully employed. There are signs of this already." He further cites instances where, though the architect and the sculptor never met, pieces of free-standing sculpture were created which so closely related to and harmonized with the building that the structure acquired a totally different magnitude of importance in the community. It is never too late for sculpture!

I believe that the human spirit cannot adapt itself to the machine-shop atmosphere so prevalent at this time. The spirit has a right to demand more graciousness, warmth, and originality. Confronted with continuing uniformity, the mind is bored, the eye becomes half-seeing, unaware.

I admit the disadvantage under which a sculpture must work when writing an article urging the increased use of sculpture. Educators can plead for more schools, lawyers for more courts, and doctors for more hospitals—and it is assumed that they speak for the public good. The sculptor, on the other hand, immediately becomes suspect, and is thought to be after some undefined but slightly questionable gain.

I want least of all to deprecate the desire of the architect to view his work as an art. It is this mutual drive toward an esthetic valuation that is bringing the sculptor and the architect together. Architecture is one of the greatest of the arts, with a long history of benefit to the human race. I do not believe that the architect has ever had a greater opportunity than at the present to construct buildings of vibrant beauty. Sculpture and architecture together, should make us conscious of our spiritual heritage, and add beauty, imagination and nobility to an otherwise mechanical age.



THIS CARVED LIMESTONE ENTRANCE TO THE LABORATORY BUILDING OF THE CORN PRODUCTS REFINING COMPANY, ARGO, ILLINOIS, WAS DESIGNED BY LEE LAWRIE. SCHMIDT, GARDEN & ERIKSON ARCHITECTS.

My Interviews with Greene and Greene

BY CLAY LANCASTER

The work of these early West Coast architects has awakened much interest in recent years

A PILGRIMAGE TO THE DELIGHTFUL domestic creations conceived by the Greene brothers in the vicinity of Los Angeles, especially at Pasadena, shortly after the turn of the century, had left me a confirmed Greene and Greene enthusiast. As I drove up the California coast I determined to meet the two octogenarians if possible. The elder, Charles Sumner Greene, was residing at Carmel, where he had gone into semi-retirement at the time of the First World War. The younger, Henry Mather Greene, was visiting a son, who was in the process of moving from Sacramento to San Francisco. The matter was uncertain because members of the family in the south used only a postal box number rather than a street address on letters to Carmel, and none of them had heard, when I spoke to them, where the new home in San Francisco was to be.

It was late afternoon on the twenty-eighth of March, 1954, when I came into sight of the little town at the base of the Monterey Peninsula. Thoughts rushed through my mind of the various things I had been told about this strange projection into the Pacific Ocean, of its unique vegetation more related to that of the Far East than to plants elsewhere on this side of the sea, of the sounds of temple gongs and other Eastern phenomena witnessed in the woods on quiet days. With the shadows lengthening, I found myself quite willing to accept the weird tales that had been told to me.

The community often called Carmel-by-the-Sea is naturally charming, and its quaintness has been consciously intensified by resident shopkeepers. A few posters and the dress of the people on the streets indicated that the place was artistically inclined, addicted to little theatre, music and easel-painting. I parked the car near the post office and went in. The boxes were available to the public, but the attendants already had gone home. I walked around the corner toward the main street, and when I came to a bulletin board where notices were being eagerly consumed by various persons in assorted attire, I bluntly asked promiscuously whether anyone knew where the "famous architect Charles Sumner Greene" could be found. No one in the group had heard of him, but someone suggested I ask the man in the shop in the first block on Main Street. I arrived at his door just as he was locking up for the night. He could not help me, and told me to go to the proprietor of the filling station on the corner. I got no information there either. Across the street was a fire station and as I approached I saw through the wide open doors a group of firemen seated inside. I went in and announced my inquiry. A tall, lean fireman of middle years, whom the others indicated to be named John, got on his feet and said that he had worked with Mr. Greene on a job in 1920. I could find him at Betty Greene's, on Lincoln Avenue, between Thirteenth and Santa Lucia Streets. The yard was enclosed by a brick wall so that I could not miss the place. I thanked him and returned to the car, and soon was headed up Lincoln Avenue.

The pitch of my anticipation made the ride seem endless, as I slowly counted off the blocks, one to thirteen, with a few miscellaneous streets inserted between those numerically named. After crossing Thirteenth Street I saw a low bungalow gable on the

Studio of Charles Sumner Greene in Carmel-by-the-Sea — Clay Lancaster

ght and an arched wall beyond, the openings filled ith screens of driftwood. Both constuctions were white and red checkerboard of brick laid in Flemish ond. The effect would have drawn any Hansel and retel to it, and I felt as though I would like to vallow the house whole. Pulling off the pavement got out and walked over to the arched entrance. n the wooden door were carved a pair of Chinese each trees growing out of spheroid jars. I rapped h this exquisite piece of low relief, and the noise verberated inside. The stillness that followed was oken by a thin voice which said: "We can't find e key to the door; I'll come around." The quality the voice reminded me of the one heard by Pinocio upon returning to the Blue Fairy's doorway.

In the half light the next episode made me feel ore and more transported to Never-Never Land. he gate in the center arch of the wall opened and t came a tiny old man, very much stooped over, th long strands of white silk hair falling down to his oulders.

"You are Mr. Charles Sumner Greene!" I vened. "I've seen your picture in the *Forum*."

He acknowledged the identification and looked at me with such sweetness, while I introduced myself and announced my purpose, that I followed him ll of the sense of having reclaimed an old friend on his inviting me to come inside. The court beond the gate ran riot with masses of green foliage d tropical blossoms hardly discernible in the thering dusk. A lamp was aglow in the studio, d we crossed a terrace (which I discovered the llowing morning was inlaid with brilliant mosaic that sent reflections dancing on the walls in the sunlight) and entered through a French window. The room was broad and square, a wide skylight filling the low-pitched ceiling on the north side. Except for a few exposed wood beams, and door and window frames, the interior surfaces were all plastered, with restrained friezes fashioned of sketchy rinceaux that had been impressed when the plaster was wet.

In a small arched niche above the fireplace sat an image of Jizo, and I thought that this kindly Japanese bosatsu who goes down into purgatory and bids the souls of the children hold onto the long sleeves of his kimono, whence he leads them up to the Paradise of Amida, was a fitting patron deity for the frail little man who stood beside me patiently while my eyes wandered from object to object in the room. The curtains hanging beneath the skylight were partially in shreds, the upholstery on some of the furniture well worn; but the room contained treasures, and its totality was as charming as it tenant. A three-panel teakwood screen carved by the artist in 1934 stood in the far corner, the delicacy of the carving comparable to that on several exceedingly fine Chinese chests and cabinets with which the room was furnished. Chinese chairs and a desk, as well as a number of Western pieces, including a grand piano, filled the studio, but with no sense of clutter. I later was told that the Greene family was quite musical, Charles Sumner usually playing the violin and Henry Mather the flute in home recitals. A stack of oil paintings by my present host testified further to the extent of his talents. Some of the paintings, I noted, depicted nearby missions. Oriental

rugs were strewn over the parquetry floor. There was a study adjoining the studio, an ante-room, bath, and, I believe, a large closet for storage.

The residence proper was a separate structure, a low, L-shaped frame house with a flat roof. We walked through the garden to meet Alice, an elderly lady radiating as much goodness as Mr. Greene. Her name had been mentioned to me in the studio, and when I asked whether she were his wife, or his sister Mr. Greene answered that she was like both to him, which was not very specific.

"Here's a young man I've invited to stay for dinner," he announced, the first I had heard of the invitation. I thanked them both but protested that I had to leave now to find a hotel, though I would like to return later in the evening for an interview—if it would be convenient. It would be, they told me, for which I felt quite grateful. Before I departed a young man of about twenty came into the room and was introduced to me as Philip.

On the way to the village I wondered who Alice and Philip were, as well as Betty Greene (mentioned by the fireman) who had not appeared.

Lincoln Avenue seemed as unending driving back to the sanctuary of Charles Sumner Greene in the night as it had at twilight. There is only one adjective to describe the garden with lights from the house and studio filtering through the branches, and that is *enchanted!* The interview took place in the studio. Charles Sumner and Alice sat on a sofa by the piano, and Philip pulled out stacks of mounted photographs and drawings for my inspection. Many of the office prints were of historic Japanese buildings—which pleased me immensely, inasmuch as the project that had brought me to the West coast had to do with Far East influence on early modern architecture in America—and these made interesting comparison with pictures of Greene and Greene's own work. Alice later told me privately that Mr. Greene used to contemplate his Eastern *objets d'art* for hours by way of gaining inspiration for creating himself. His retirement to Carmel has been motivated primarily by a desire to delve into the profundities of Buddhist philosophy, and he had spent long periods in abstract meditation. This accounted for his present unconcern for answering factual questions.

I was being shown a wealth of material and I asked if I might photograph some of it. Given an affirmative, I brought my camera and tripod from the car, and with Philip's help arranged two lamps in the study and picked out a number of drawings and photographs. Some of the interior shots were unfamiliar to me so that I had to inquire what they were. While copying in the study I took the opportunity of asking Philip about the family. Alic of course, was Mrs. Charles Sumner Greene; t couple were his grandparents, and Aunt Betty w their daughter. There were two other daughters ar a son, Philip's father. Henry Mather Greene h three sons and one daughter. When the copyi job was done I returned to the studio.

Interior of Charles Sumner Greene Studio at Carmel

The following day, which was Sunday, was a ternately bright and cloudy. I drove out the coa road to the Highlands to see the D. L. James hon built by the elder Greene about 1920. The hou on the edge of a cliff is made up of low stone forr contrasted with tower-like chimneys, and roofed wi tiles in warm, light colors. It makes a picturesq composition viewed from a jutting mass of rock o posite, that embraces a cove of deep blue water. T palisades here are lavender and pink as they ri above the white line of the surf, and are crown with dark green tresses of evergreen. I waited p tiently for clouds to part, to be able to take the phot graphs I wanted.

Stopping on Lincoln Avenue to take pictur of the studio by day I found only Mrs. Greene abo puttering in the garden. Mr. Greene was still aslee she told me, and Philip had returned to Stanfo where he was studying. After making a few ti exposures of the studio and taking various shots the garden Mrs. Greene said that the ceramic pla containers about had been rejected on jobs becau of imperfections. She had found them all the mo interesting because of their irregularities, and th helped to liven up her garden. The gulls circli overhead made shrill noises and she remarked th this was a sure sign it was going to rain. Befo the day was over I experienced the full brunt of California downpour on the outskirts of San Fra cisco. The sun was shining, however, when I l the garden screened by the driftwood in the bri arched wall.

Several days later in San Francisco, acting on a hunch that the son in Altadena may have heard by this time the new address of Henry Mather Greene, I wired to him and by return telegram received the information I wanted. A telephone had just been installed and an appointment was made for the following morning.

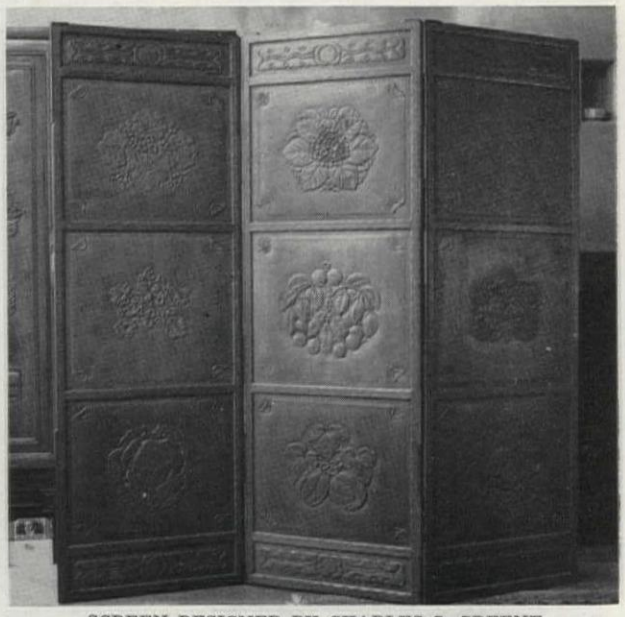
On April first I drove out to Stoneston Village, a new development south of Golden Gate Park, and was met at the door of the apartment, that still smelled of fresh plaster and paint, by Mr. Greene's handsome daughter-in-law, Mrs. William Sumner Greene. The elderly gentleman sat straight and tall and spoke with assurance and clarity on all the subjects I broached. Mrs. Greene herself complimented "Father" on his answers, and seemed pleased over the response I was getting. Fifteen months the junior of Charles, Henry Mather had passed his eighty-fourth birthday on the twenty-third of January (1954). My first questions had to do with biographical data.

Charles and Henry were born in Cincinnati, Ohio; their father, Thomas Sumner Greene, a Civil War veteran, was a physician specializing in ear and throat disorders, originally came from Boston. Their mother, Lelia A. Mather, came from Virginia. The family moved to Saint Louis when the boys were eleven and ten. (On my way back eastward I found the father's name listed in Saint Louis city directories from 1880 through 1892.) Here they attended the newly founded Manual Training School of Washington University, which had grown out of the O'Fallon Polytechnic Institute begun in 1856. The first building stood on the southwest corner of Eighteenth and Washington Avenue near Lucas Park, a fashionable residential district. Mr. Greene recalled that the students were given a regular high school course, plus woodworking and carpentry the first year, metalworking the second, and toolmaking the third year. Professor Calvin Milton Woodward, the first director, was a friend of Dr. and Mrs. Greene. It is fairly well known that the brothers attended the Massachusetts Institute of Technology, after which Charles was employed by the Boston architectural firm of Winslow and Wetherell, Henry by Chamberlin and Austin, and also by Shepley, Rutan and Coolidge, for two years following graduation.

Dr. and Mrs. Greene having moved to Pasadena from Saint Louis, Charles and Henry went out to the West coast to visit their parents, stopping in Chicago to see the World's Columbian Exposition in 1893, and also witnessing the Mid-Winter Exposition in San Francisco the next year. The architect told me that they admired the Japanese buildings at both fairs for the way they tied in with the landscape. The exhibit in Chicago, I recalled, was an important piece of architecture, being copied after Yorimichi's eleventh-century villa at Uji, considered by the Japanese as their first mature building in native style, afterwards used as a temple called the *Hoo-do* (Phoenix Hall). When the Greenes opened an office in 1894, Pasadena had a population of 1,600. One street was lined with business houses and other streets were dirt roads. Two trams pulled by teams of mules transported shoppers to and fro along the town's main axis.

The brothers produced about 540 buildings, most of them bungalows, during their working span of a little over twenty years. They were members of The American Institute of Architects until retirement, and Henry Mather was extremely proud of the citation given them by the A.I.A. in 1952, and recited it to me as he had learned it by heart. An earlier honor was the Special Certificate of Merit bestowed upon them by the Southern California Chapter in 1948. Charles and Henry had worked together with the utmost accord, both engaging in every phase of building operations to a greater or lesser degree. I think the truth of this was demonstrated by the fact that Henry Mather carried on the business successfully alone for a while after Charles Sumner left; and, as indicated earlier, the elder Greene practiced independently some at Carmel. When horseless carriages came into use each had gotten one for faster mobility, which accounts in part for the large amount of work they were able to accomplish.

Working drawings were made first in pencil and afterwards were traced in ink on cloth, the latter replaced by tracing paper when it became available. Furniture was made by Peter Hall, who, while work-



SCREEN DESIGNED BY CHARLES S. GREENE

CROCKER HOUSE IN PASADENA, BY HENRY MATHER GREENE, 1910.

ing for someone else, had been persuaded to build his own shop. Hall's former foreman and fellow Scandinavian, David Swanson, still manufactures furniture in Pasadena. (A week later, back in Pasadena, Swanson told me that Charles Sumner was the boss and that Henry Mather attended to most of the drafting. I found only the elder brother's name or cipher incised in the furniture I examined in the Gamble house at Pasadena and Pratt house in the Ojai Valley.) Unusual woods came from San Francisco, thoroughly seasoned. Special glass for lighting fixtures and windows was produced by a student of Louis Comfort Tiffany, a Mr. Langey, who, like Hall, started off his business on a paying basis largely upon Greene and Greene patronage. His shop was in Los Angeles. Most of the landscaping and gardening was carried out by George Chisholm, who ran a nursery, though other gardeners were used upon the client's request. A Japanese undertook the landscaping of one of their projects in the Ojai Mr. Greene added. The R. R. Blacker house on Hillcrest Avenue in Pasadena, which the brothers considered their finest achievement, was surrounded by ample grounds lending themselves to interesting landscape effects. Through division the lot today has become considerably constricted. Ceramics were executed by Gladding and McBean of Los Angeles. Drawings were submitted to the potters and models approved before firing. In the same way every piece of glass, wood, stone, brick, etc., had to be passed upon by the architects before going into the houses. Painted friezes, like the fruit blossom branches sketched in the living room of the Thorsen house at Berkeley and in the dining room of the Blacker house at Pasadena, came from the brush of Charles Sumner Greene. Inlay work and the finish of the furniture and sometimes even the shaping of large beams (which were given subtle curved outlines) were hand done by the brothers.

I glanced at my watch and realized that my visit had extended longer than I had anticipated, though Mr. Greene seemed not at all tired, and rather enjoyed talking about his work. I thanked him heartily and apologized to his daughter-in-law for having stayed so long. She made me feel that the information given out justified any inconvenience on their part. It happened this was one of the last interviews given by Henry Mather Greene, for several weeks later he came down with pneumonia and was ill until the first of June. Two months later he returned to Pasadena where his health soon began to fail. He went into a rest home seventeen days before passing quietly away on October second, 1954.

The contribution made by the Greene brothers to American domestic architecture is not to be reckoned only in material terms, though they were prolific for more than two decades. They stood for the best in bungalow design during the formative period of the modern house, solving design problems realistically and sensitively. It was they, more than anyone else, who made the expression "California house" a synonym for the best in contemporary building, before them it having signified something that was little better than a barn. They were devoted to quality rather than to display, they sought beauty rather than publicity, and they built securely rather than cheaply. Many of their clients were well-to-do people who had come West to live comfortably amidst tasteful (not pretentious) surroundings, and recognized in Greene and Greene the artists who could give them what they wanted. It was to their credit that the architects retired when building standards lowered to the point of becoming offensive to them. The brothers Greene understood that intrinsic worth is the only element of real value in one's work; and they loomed head and shoulders above most architects of their day through combining careful consideration to planning, exercising imagination and vision in design, harmonizing construction with setting, requiring good craftsmanship, and giving careful attention to details and finish which was kept as natural looking as possible, each project possessing a well studied individuality and a freshness that have mellowed gracefully over the years. Greene and Greene having become an inspiration to a new generation of designers who wish to maintain high ideals in the building profession, in no sense copying the Greene style, but benefitting much and producing notable results through living up to the same high norms the Greenes kept as their goal.

Life in a Martini Glass:

A FEW MONTHS AGO, *Harpers Magazine* published a snide article on the history of the Penn Center, that great "memorial" to the Philadelphia City Planning Commission and Art Jury. In picturing the struggle to bring this hideosity to fruition, the author takes the liberty of noting that the architect, Louis I. Kahn, "is the only genius which Philadelphia can endure"—I think that's the correct quotation.

The author credits Mr. Kahn with a lot of nasty remarks against other architects, city planners, landowners, the poor downtrodden rich, real estate men, etc., and pictures him as one who suffers terrible for his ART and ideals and lack of recognition of his great abilities. All these are the accepted clichés and marks of a true Genius.

I grant that Louis is a genius, and even if he didn't say all those things, he Suffers—maybe not always in silence, but he Suffers—but why should he be singled out as the only Genius which Philadelphia can stand?

How about me, I'm a Genius? My Mother told me so and my wife is sure of it and now that I am a FELLOWOFTHEAMERICANINSTITUTEOFARCHITECTS I wear my hair long and always take off my glasses when I speak to an audience of two or more. I don't know how much longer Philadelphia can stand me but here I am.

Then we have an architect who wins all the medals and poses for pictures wearing a guitar like that sound genius Elvis.

I always understood that to be an accepted Genius you had to wear a porkpie hat like Frank or Oskar, or have a single syllable name like Mies or Corbu.

How about Johnny Harbeson? He's here. He wears Italian ties, sideburns, collects chessmen and stands up and takes a lot of slung mud for the Architecture of the American Battle Monuments Commission; and now he's getting a beating for daring to want to move the face of the Capitol forward. I guess, maybe he is just a martyr. John doesn't seem to suffer—no genius, you gotta suffer.

Paul Cret was a real Philadelphia Genius. He never got a real job here, and he always used as an opening gambit on his students, draftsmen, associates and colleagues "You do not know what you are doing" . . . Nobody ever slugged him. That's Genius in Architecture, to always know what you are doing.

How about Roy Larson? There's a pinup. Despite all the "minds" he pushed through the scheme of opening up the area around Independence Hall so the yokels could have a look from the *tapis vert*. Boy, has he taken a shellacking. He has "ruined the scale," made another "Williamsburg," is "ruining the whole scheme of permitting modern buildings in the area instead of fake quaintsys." Trouble with Larson is, he wears a vest with a gold chain and gets lost in a crowd of bankers. No whining, no genius.

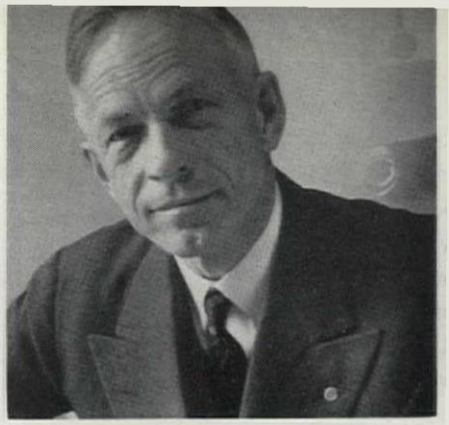
It's a shame Fiske Kimball died. There was a real Philadelphia Genius and an Architect. He lived up to all our Ideals. First of all he was from Boston. You gotta be from Boston or somewhere else to be recognized in Philadelphia at all and particularly if you want to be a Genius.

Fiske could smoke a cigarette, cough, get ashes all over himself and you, talk in a loud stentorian voice and insult you in such a way that he was appreciated to a point where he got more art collections for the City of Philadelphia than any local boy whose great grandpop sold firewood to Washington's army at Valley Forge. Philadelphia stood him all right, they showered him with honors.

And finally, Frank Furness. His buildings are all the rage now, and in his time he was Appreciated. FRANKLLOYDWRIGHT told me that Louis Sullivan told him that Furness told him that his great ambition in life was to get all his clients into the Academy of Music so that he could come out on stage and tell them all to go to hell.

Alfred Bendiner

BY WILLIAM ROGER GREELEY, F.A.I.A.



Cheaper Schools?

NO!

THE HIGH COST OF SCHOOL BUILDINGS is receiving a lot of attention in the press and the impression has been created that people are distressed, if not actually financially crippled by this burden. It would seem that there is need of examining what appears paradoxical at first glance.

On the one hand we have the richest country in all history, provided with technological and mechanical assets far exceeding anything previously known on earth, supplemented by available manpower working the fewest hours per day and the fewest days per year ever recorded. Forests, quarries, kilns, mines, furnaces and hydro-electric mills provide a flood of building materials—wood, fibre, plastics, stone, ceramics, and metals—all that is required for building construction. Such is our affluence and potential productiveness.

On the other hand we are so obsessed with making and saving money, and yet so determined to have all the things that money will buy, that we have actually set up a system whereby we first grab everything that we want in the way of luxuries, and then put ourselves in a banker's straight-jacket of mortgages and assessments and proceed to feel poor ever after.

We do the same in our processes of government. First we vote roads and dams and armies and schoolhouses and bonuses, and refuse to appropriate enough money to pay for them, but insist that the cost be charged to future tax-payers, chief of whom are our own children, and that our government pay us for loaning money to defray the costs of the facilities that we are providing for ourselves, but on condition that we, personally, are repaid in full later for every dollar that we have loaned.

Our fathers taught us this wonderful pass-the-buck-to-the-next-generation system, so we are still paying for the Civil War, but we have improved on those old boys. In fact if ancient Egypt had had our financial brains, Nasser's supporters would still be paying for the pyramids.

So there is the paradox! Richer than Croesus, yet crushed with debt. Spending forty-seven billion on luxuries, and groaning because when we build a schoolhouse we can't afford even that small part of the cost which we are not charging to the younger generation, to the very children who are now enjoying the classrooms and gymn, under the curious misapprehension that their dear parents are paying the bill.

This is the paradox. We cheerfully pay $125,000 a night to a man who entertains us with frivolities on TV, but can't spend one dollar on the adornment of a building in which our children are to acquire much of the taste and culture for their mature lives. The building must be shorn of everything except what is practical, however devoid of charm that may make it.

Such is our opinion of ourselves.

But this is not quite fair to us. Our claim that we care only for the functional in our school buildings, and that we regard adornment of any kind as a mere frill falls to pieces when we find ourselves on a building committee. During several decades of architectural revolt and civic economy-worship, experience with actual committee members has revealed the fact that every one of them has his pet convictions in regard to the design of a school building. These include requirements for appropriate and worthy materials for the walls, trimmings, and stage curtains, and for the "style" of radiators, lighting fixtures, windows, auditorium seats, etc. Price is no longer the determining factor. There still lurks in the unconfessed recesses of the adult's, especially the parent's mind a desire to have for his children a building that will be beautiful as well as functional.

In passing let it be noted that there is no justification for excluding beauty from the purely functional requirements. A school is for education, which involves not merely learning facts but the inculcation of taste in the arts, including architecture.

A school is for citizenship preparation, which

nvolves pride in democracy and in its institutions, as witnessed in its buildings and monuments. If we possessed the cultural instincts of the peons of a wretchedly poor country like Mexico, our school buildings would blossom forth in beauty as appropriate testimony to our taste and our will to express it, as well as to our ability to afford the things about which we care.

Does it ever occur to us that if the Greeks had had our point of view when they built their temple to Athena they would have used common stone and rough cast for the walls, (functional—no waste) and no roof at all (a frill in a dry climate)?

And the Roman baths, from our point of view, should have been more like our army barracks, at a wonderful saving in cost!

Even in our day what a lack of common sense! Jefferson choosing a circular building for his University Library, instead of a simple rectangle! Harvard adorning its many buildings with the Colonial and Georgian elements of design! It has been hard for us to give up our yearning for elaboration of detail and for monumental impressiveness in our school buildings and we should never have been able to conquer our love of the noble and classical in architecture but for our fetish worship of the dollar.

Nevertheless it may be our great good fortune that the noble and honored traditions of the Fine Arts are in eclipse, for the emotional ties are broken, the cultural decks are cleared, and a new renaissance will in its own good time blossom forth and establish a manifest destiny for us as a cultured society—if we can make up our minds to afford it!

Meanwhile at the present the hunger for cheapness must be satisfied, and ways found to eliminate all unproductive items of cost.

Let us run our eye over the specifications to see what we can discover:

Under Section I, General Clauses, there is a performance bond costing ¾ to 1% of the construction cost. This is to insure the town or city against failure of the contractor to complete his contract. This cost would be saved if the award of the building contract could be given to a competent and reliable contractor. It is one of the extras we pay for the privilege of giving every incompetent rascal in the building business the privilege of bidding on important public buildings, and laying ourselves open to lawsuit if the lowest bid is not accepted.

This is not all. There are similar bonds for fifteen or twenty subcontractors. These bonds are likewise poor business for the owner. Perhaps they total ½ of 1% of the contract price of the entire building.

Then there is heavy liability insurance on everyone employed and again on others legally using the premises. Amounts covering half a million for one accident are common and make litigation or the threat of litigation tempting if not lucrative.

Then there is the schedule of hourly wages required to be paid to mechanics working on the job. In Massachusetts the law states that this shall follow the rates prevailing at the time in the district. In practice the rates promulgated are the rates, often higher, established by the unions.

The state law in this way helps to eliminate from public work all of the hundreds of good builders and the thousands of carpenters and other mechanics available throughout the area. The unions themselves complete the boycott by striking any job where even a single non-union man is employed.

The matter of illegal boycotting of great numbers of citizens who are entitled to their share in public projects is much more serious than generally recognized. Aside from the fact that it is an outrage to our democratic principles, it adds immeasurably to the cost of the work. The difference in the rate per hour between union and non-union men is often important, although not by any means the principal reason for higher costs.

Fifty years ago it was prophesied that union insistence upon equal pay for all men in a given trade, instead of pay to each in proportion to his own productiveness, would remove the incentive to do good work both as to quality and quantity, and would eventually result in leveling down the efficiency of the good workmen to the inefficiency of the poorer ones.

This is what has happened, and the men themselves don't know it, and resent the statement, because they have no idea of what workmanship and efficiency were fifty years ago. It is true, however, that if there is a bit of fussy work to be done, or work requiring exceptional skill, it is almost always some old man who is selected to do it or else some mechanic who was trained in England or northern Europe. Add to this falling off in skill and efficiency the continual pressure on the part of the union to discourage good men from producing as much as they would like to, and the picture begins to be fairly clear.

Yet the worst is yet to come. The extra costs due to jurisdictional buck-passing are hardest to swallow. To illustrate, imagine a painter at work on a plaster wall painting over some little blobs of plaster carelessly left there by the plasterer. In the old days the painter would have flipped off the lumps with his putty knife before painting over that particular spot. Now the only way to do is for him to stop work, send for a plasterer to remove this defective work, and wait till it is dry before proceeding. The

union principle that one trade must not under any circumstances cooperate with another or give any consideration whatever to the owner's right to expect the use of common sense is almost enough to discourage any attempt to build. A good case in point is that of two workmen in a cupola, who accidentally set it on fire and yelled to the fire station across the street for help, but were refused because the firemen were union men and the carpenters were not, and so the cupola went up in flames.

So, taking one consideration with another a constructor's life is not a happy one.

So much for labor's generous contributions to the higher cost of schoolhouses.

To return to the specifications:

In Section III, IV and V, dealing with construction, law supports current practice in designing all structural members with a factor of safety of four, that is to say four times as strong as their bare capacity to stand the stresses put upon them. The reason for this is to cover defects in materials, and carelessness in putting them together at the shop or in construction at the site. This form of insurance against failure of the structure is wise, indeed necessary. The question arises, however, as to how much to encourage carelessness by over-insurance. It became customary in our largest city to leave out hundreds of rivets in building a skyscraper. The mechanics knew about the over-strength, but for us to trust their judgment in weakening the structure is unscientific and dangerous. It would be wiser to reconsider the engineering formula with a view to using a factor of safety of perhaps 2½ instead of four.

In the lighting of our classrooms we are as extravagant as the commercial interests can persuade us to be and as negligent as gross carelessness permits.

In the first place we provide windows sufficient to light the rooms during all hours of the day-school sessions. Not satisfied with this, but yielding without careful check-up to the propaganda of the electrical industry, we install artificial lighting three times as bright as the eye specialists declare to be adequate. Then what happens?

The sun goes under a cloud and on go the lights, not to be turned off again that day. The rooms are customarily flooded with both sunlight and artificial light, and the pupils are complaining. Their eyes are like owl's eyes, and like all our eyes, are provided with automatic adjustment to different intensities, and perpetual over-illumination is exhausting.

All of this is done forgetting that in most classrooms little reading or other careful use of the eyes is required, and that there is no such thing as straining the eye by reading in semi-darkness any more than straining the ear listening to hushed sounds.

Another extravagance is a complete intercommunication system, replacing the errand-boy and errand-girl system, with its obvious educational and morale-building advantages.

Ventilation systems have been based upon theories of the 1880 period, since thoroughly exploded. We have pleased only the sheet-metal worker with our excesses in ducts and registers and electric fans. If, instead of a stream of steam-roasted air continuous and unvarying through the school day the windows were opened for two minutes at the end of every class period, how much fresher the room would seem and how much less difficult it would be for the pupil to stay awake. Our classrooms are now thermostatically controlled (by teachers with chilly ankles) to eighty degrees to what to the pupils is a deadly heat. If we really want economy this is not it.

As for athletic exercise, we used to put on running shoes and a light jersey and tights and run a mile out doors, even in cold weather. Nowadays a magnificent gym is heated up to 60 or 70 degrees while most of the class watch a favored few play basketball.

To assume that indoor exercise is required in this climate is to go far. Weather invites outdoor programs during 75 to 80 per cent of school hours and exercise in the open is invariably more stimulating than indoors. The mere gymnastic use of the muscles is a small requirement in an educational program. A little adaptability to weather and some resulting hardihood is of greater moment.

Children today flock from indoor school to indoor movies, and to be encouraged to spend more hours in the open air would be of inestimable value.

To save a single gym floor by at least supplementary use of outdoors, is to save $100,000 and up.

Why attempt to explore further in a brief exposition like this one? The problem that confronts us is to design our school buildings from the point of view of education, including its cultural aspects, and to economize on the items that do not contribute to such education.

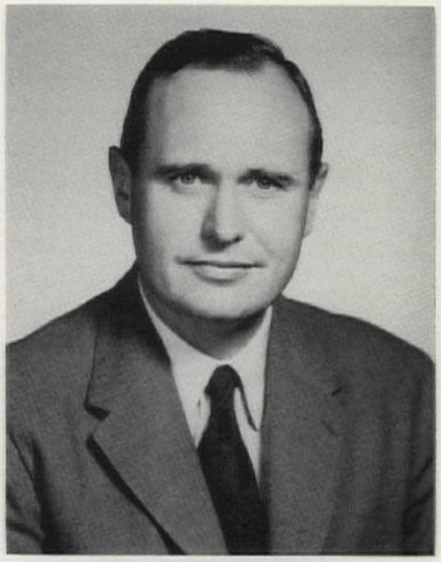
The result will be the least that we can justify for the character of the building and the cost will be the lowest that the market permits for such a building.

When we have built the building that we need to satisfy our educational program and our own pride and self-respect, and have done it at the lowest cost obtainable, there is no real occasion for regret. It is better to pay the bill and enjoy the building.

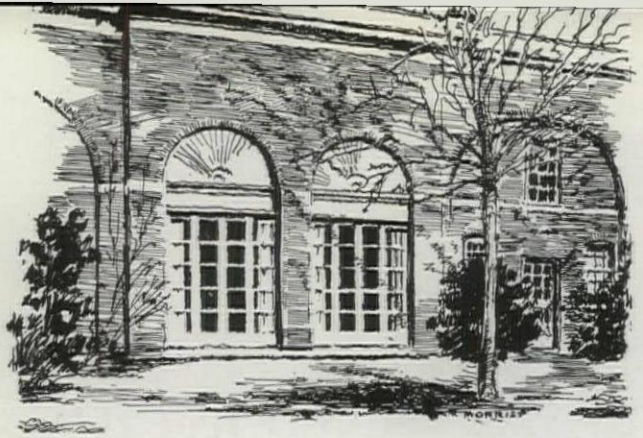
NOTE: THE INDEX FOR NUMBERS 1, 2, 3 AND 4 FOR 1957 IS NOW AVAILABLE UPON REQUEST.

HONORS

John Carl Warnecke, of San Francisco, was awarded he Arnold W. Brunner Prize in Architecture of the National nstitute of Arts and Letters. The award was conferred on Mr. Warnecke by Ralph Walker, FAIA, at the Joint Annual Ceremony of the National Institute and the American Academy of Arts and Letters. In making the award Mr. Walker aid, "Mr. Warnecke's architecture is imaginative and at he same time disciplined. It delights without the use of ither cliché or stunt. He has achieved a distinguished indidual character in his designs and is to be congratulated n their charm and the human qualities of their planning."



When asked for a photograph of his favorite design, Mr. Warnecke submitted the photograph above of the Mark Thomas Inn, at Monterey, California.



A.I.A. Library Notes

As part of its celebration of the A.I.A. Centennial, the Potomac Valley Chapter of Maryland presented the Octagon Library with $150 with which to purchase additional books. This was a most pleasant surprise for the library and in noting this gift it is a pleasure to reprint the announcement that appeared in the *Potomac Valley Architect* with its attractive sketch of the library's interior by A. H. MacIntire.

The exterior view of the library above, to be used as part of the permanent masthead of the library column, is by Edwin B. Morris, Sr., of the same chapter.

Your editor sat in one of the chairs in the nook of the Octagon library drawn for this page by our Secretary, Andrew H. MacIntire and was quiet —very humbly so.

The atmosphere of the historical headquarters is such as to remove hats and, with them, any halos being inappropriately worn by any A.I.A. member in spite of his privilege in having the free run of the great house. Nowhere in the Octagon is the atmosphere more present than among the nearly eight thousand volumes of its library, which attracted visits from many architects attending the 100th Anniversary A.I.A. Convention.

An unusual advantage—one not always fully realized—a member of Potomac Valley Chapter has is the convenience of this growing, practical library for the A.I.A. members' exclusive use. Here you may reasonably expect to find any recent book on architecture published in the United States—just show your card and the book is yours for reference or to borrow. There is a large collection of old and rare books and quite a selection of foreign books, these being generally for reference in the library.

Since even those who practice and live by the library's door sill seem not always to be awake to this invaluable facility, some information would seem to be timely. It is for all members and should be supported by all members beyond the library funds which can be alloted by the Octagon operation. To date, and in observing the Centennial, our young chapter has contributed $150 for new books. Other chapters and individuals will find this a splendid way to establish a Memorial and make a good investment in the profession's future.

Greeting and helping you at the library is a pleasant, trained staff headed by George E. Pettengill, who has served the Institute as librarian for six years. He was with the public library system in Reading, Pa., and immediately prior to the A.I.A. appointment, he was Assistant Librarian of Franklin Institute, Philadelphia. Curator Pettengill's first and primary objective was to make the sanctuary a practical, useful, working library containing all current material. Under his direction the architects' retreat has developed rapidly in the attainment of this goal. Being now an exceptional collection, the Octagon Library may become the finest collection of American Architectural books, pamphlets and periodicals but utility will remain Librarian Pettengill's practical objective.

It was for this reason that Potomac Valley Chapter, in making its first library donation, relied on the Librarian's suggestions as to which books

The Octagon Library

might best carry the chapter's bookplate. As a result our gift is providing ten or more volumes, some of them being quite expensive and representing an outstanding source addition. Mr. Pettengill does not wish to restrict any chapter's donation. It may wish, for example, to provide volumes in a particular field but, in such cases, the Librarian's suggestions will be practically helpful. The chapter delegate to the Centennial found a visit to the Octagon Library a stimulating, valuable experience.

Regional News

THE KANSAS CITY CHAPTER has had many requests for showing of their local slide production of "Architecture on Parade." This show was created specifically for presentation at a meeting of the Kansas City, Missouri, Chamber of Commerce as part of their continuing series of programs devoted to the better knowledge of the professions, business and industry of this area. The show is made up of approximately 150 - 35 mm. color slides, coordinated with a taped commentary on the past, present and future contributions of the architects to the well-being of the people of Kansas City, and its trade territory.

The Chapter plans to make "Architecture on Parade" a continuing part of their Public Relations program by annual editing to achieve a more selective group of representative old work, current news and planned future.

AS AN AFTERMATH to the refusal of the new Governor of Missouri to move his family into the old (90 years) Governor's Mansion, which he termed a "rat infested fire trap," a joint committee of the House and Senate was appointed to consider the use and disposition of the Governor's Mansion and provisions for future Governors' living quarters.

The committee was most appreciative of the aid offered by a statewide committee of architects, to assist them in their study of this problem.

Sub-committees have since been appointed to analyze several possible schemes of procedure by the state and a report detailing four alternate programs have been submitted to the Joint House and Senate committee. We hope to have some information on the results of the architects' efforts in the next issue.

CALIFORNIA COUNCIL: Henry L. Wright, FAIA, of Los Angeles, has been elected first chairman of the Architects and Engineers Conference Committee of California. The newly formed committee is composed of representatives of the California Council, A.I.A.; the Structural Engineers Association of California; the Consulting Engineers Association of California, and the California Council of Civil Engineers and Land Surveyors.

The Purpose of the group is "to provide a means for the exchange of information and planning of cooperative action at the state level in fields of mutual interest to the architectural and engineering professions in California." Other representatives of the California Council, A.I.A., are Walter S. Stromquist of Palo Alto and Executive Director Melton Ferris.

SOUTHERN CALIFORNIA CHAPTER: An organizing committee headed by Amos Randall of Pomona is studying formation of a district organization of the Southern California chapter for Pomona, Ontario, Riverside, Palm Springs, San Bernardino and adjoining communities. The proposed district organization would retain all chapter services, but conduct its own meetings and participation in local affairs.

HAWAII CHAPTER: An illustrated "Guide to Architecture in Honolulu" has been published by the Hawaii Chapter in connection with the A.I.A. centennial exhibit at the Honolulu Academy of Arts. Copies are available for $1.50 at the Academy, the Hawaii Visitors Bureau, hotel desks, or from any chapter member.

WASHINGTON STATE CHAPTER had a very stylish (full dress) dinner at the Olympic Hotel, Seattle, to celebrate the first 100 years. We were fortunate to inveigle Philip Johnson away from the East Coast to be our main attraction. He had the full attention of all of us as he "tore" into Wright, all of us in general, and American businessmen. This, by no means, gives away his speech, but one can readily see from these few words that it was a fascinating presentation.

Festival of the Arts—Allied Arts, a movement started in Seattle only a few years ago with the lead of the architects through John Detlie, AIA, had its first Festival (will be a yearly event) in the Seattle area May 2-12. With the program including architecture, landscape, planning, interior design, music, theater, dance, painting, sculpture and crafts, this was a pleasant eye-opener to local citizens as well as a delightful experience to out-of-towners.

World's Fair Proposal—Local Seattle architects have been in back of a proper civic center and to develop it soon have proposed a Fair to be held about 1960. The City went for it in a big way and last month the Washington State Legislature put its stamp of approval on the project. All Easterners should put this on their schedule as a must for future travel plan.

Seminars—Washington State Chapter is in process of six seminars expounding subjects such as business aspects of architectural practice, case studies, engineering and related fields, codes, financing. The courses are given each year by very qualified architects for the benefit of the profession locally.

The Editor's Asides

WE SUPPOSE OUR EDITORIAL FACE should be red about the lateness of the June and July *Journals*, but frankly, it isn't. Cramming that colossal convention into a magazine was an even more colossal charette than the convention itself. Just for comfort, we looked up the masthead of one of our most esteemed commercial contemporaries, and found that beside an editor-in-chief, an editor, a managing editor and an art director, there were fifteen associate editors, four editorial assistants and an art staff of three or four. Considerably comforted, we now feel that one editor and one editorial assistant didn't do so badly. Anyway, we sincerely hope our readers liked the special Centennial Convention issue. At the time of writing it's still at the printer's, so we haven't seen it yet.

MANY THINGS HAVE COME to our attention that we wanted to comment upon since this column last appeared. One of the most interesting was city-planner Christopher Tunnard's comments on New York, in a recent issue of *Art in America*. Planner Tunnard says that New Yorkers resemble the Romans in their "love of extravagance and splendor, their welcomes to heroes, their five mile-long parades, their expensive festivals, and love of sports and games."

But the exuberant Gothamite, says Mr. Tunnard, has been hampered by the confines of his island. Washington has the spaciousness to provide the setting for the kind of displays New Yorkers like. But tight-knit Manhattan "cannot expect to be a second Rome, still less an American Paris. Elements of Grand Design are in New York City, but they remain elements, unconnected." He says Chicago's Michigan Avenue has replaced Park Avenue as "the most splendid street in the United States. The long glimpse of Warren and Wetmore's Grand Central Tower looking down Park Avenue used to be the greatest urban view in America when it was flanked by those apartment buildings of the 1920's, but now these are being pulled down and replaced by glass towers with odd setbacks from the street." So "Park Avenue is a street no longer and the effect is rapidly being lost."

Sorry words for New Yorkers—Romans, indeed! But we cannot but agree with Mr. Tunnard on shedding a tear for the passing of the majesty of old Park Avenue, with its rhythmic facades and more or less even cornice lines. The new buildings are individually inspiring, but they are not communit architecture.

MORE BAD NEWS FOR NEW YORKERS: The thrilling city is about to lose its identity and becon merely a neighborhood in a greater city, "Mega opolis." The Twentieth Century Fund has retaine Dr. Jean Gottman, of the University of Paris and th Institute for Advanced Study at Princeton, to make study of the continuous urban area running for s hundred miles from north of Boston to south Washington. This extended seaboard city is actual a combination of conventional cities and adjace areas. Already there are similar areas forming other parts of the country, such as the stretch fro Los Angeles to San Bernardino, which may some da unite with San Diego on the coast. Around Chicag and Cleveland-Detroit similar complexes are formin The study will attempt to find out how this form urban development affects the way people live, the recreation and their work; and what implications bears for methods of government and taxation— say nothing of transportation. All this sounds on too much like the dire threats that were hurled at during the Convention. But there's one thing sur they're right and we've got to face it.

TOO BAD WE CAN'T LEARN from simpler peopl like the Indonesians. There is an ancient custom co-operative activity in that land known as "gotor rojong." It is almost as old as the islands themselve permeating all aspects of community life. Today t Indonesian government, with technical assistan from Uncle Sam, is directing this old custom of cor munity self-help toward the solution of a proble which we all face, the lack of housing.

At a training center, young Indonesians from over the archipelago are being taught how to bui safe, sanitary, durable, low-cost houses. The gra uates go out as "mobile teams." When they rea a village they pick out an owner and survey his nee working out a plan with him. Simple drawings a made back at the center, and then with these dra ings and with the help of the team, the villagers pit in with the owner and build the house. With t house as a model and the training the villagers ceived in building it, with help from the team if quired, other houses are built in the community. seems as though there was a day when we had su community spirit in this country.

Hospital Departmental Area Studies — II

A Project of the AIA Committee on Hospitals

In the following pages we continue tabulation f hospital department area data from our May issue. he first installment included 27 hospitals—this one 31 ospitals and about 18 remain for publication in a later rticle to conclude this part of the committee's study.

When this project was begun (1954) the national IA Committee on Hospitals & Health (CHH) hoped be able to tabulate 100 jobs. Weeding out some bmissions for various reasons—old jobs, additions, versize, etc.—brought the total available to 76.

As noted in the introduction to the May article ere is a lesson (and a useful talking-point) in the fact at this recent national cross-section of hospitals from)-200-beds in size shows so little correlation. A stock- an hospital would be a stockplan only once! There- re it is all-important to start with a specific written rogram to meet specific needs and to develop a master- an based on study of future demands upon individual cilities. Useful as these area data are for reference and r analysis of plans, CHH considers them only a step ward a still more important objective analysis of costs hospital departments. Considerable study has been ven this matter by CHH members and the following de- ription of one procedure will indicate their approach:

AIA COST STUDIES

Comment by A. N. Kiff, *Chairman*
AIA Committee on Hospitals and Health

Logical extension of department area studies is into e field of departmental costs. The Committee is in- stigating methods by which varying relative costs of spital departments may be understood in relation to each other and to average unit costs of hospitals. They want to know, for instance, what the unit cost of the dietary department of a hospital is in relation to the nursing departments, or to surgery, et al.

Most architects have available certain cost data on their various hospital jobs. They may not have these costs allocated departmental-wise since usual cost-reporting methods are based on sub-trades. If the committee can find a method for allocating sub-trade costs to departments in a given project, it should be possible to arrive at the unit percentage of cost which goes into each department. Without research funds, the committee members are investigating such a method on a voluntary basis. With the backlog of data already assembled in the area studies for several scores of constructed hospitals, it is anticipated that extension into such a cost analysis may be a worthwhile contribution in itself. It may turn up enough useful data to justify financial assistance for a really accurate survey of hospital costs by departments—by paid researchers and estimators. We believe that all a committee can do in this kind of project is to develop enough data to indicate what it would add to our general knowledge of the subject if carried on to its ultimate goal through more accurate and complete methods.

Before publication of the following area data, CHH decided that to avoid wrong and possibly harmful comparisons, identifying information should be omitted. This has been done, each job being given a number and location listed only by state without name of hospital or architect. Permission to publish these figures was granted by sources on this basis.

Hospital	No. 28			No. 29			No. 30			No. 31		
Location (State)	Illinois			Texas			Texas			Arizona		
Date built	1953			1950–1952			1953			1956		
Total beds	108			105			104			104		
Med. & surgical				71			76			62		
Maternity				34			28			42		
Ped. & others				none								
Ultimate Total Beds				1 (detention bed for disturbed)			180 beds			NP dept. 2 beds above		
Spec. features or com												
Shape of plan												
Rectangular										W/leg on stem of T		
T												
X	X											
Offset X												
Double corridor												
Other—state												
Gross floor area	88,862 SF			66,756.37 SF			73,280 SF			98,930 SF		
DEPARTMENTAL AREAS—FIGURES GIVE GROSS AREA IN SF—AREA PER BED & % of total												
1. Administration	8,730	81	10	3,412	34,12	5.13	5,150	49.5	7.0	6,510	65	6.60
2. Adjunct facilities	8,642	80	9.2	2,240.3	22.4	3.26	1,840	18.0	2.5	5,208	52.1	5.25
a. Laboratory				647.4	6.47	.97	930		1.26	1,996	20	2.00
b. Radiology												
1) Diagnostic				597.6	5.98	.87	710		.96	1,563	15.6	1.60
2) Treatment				265.6	2.66	.34						
c. Physical medicine				456.5	4.56	.68				1,295	13	1.30
d. Pharmacy				273.2	2.73	.40	200		.28	354	3.5	0.35
3. Nursing departments							27,285	263	37.0	31,195	215.6	31.40
a. Bed units	29,725	275	32	28,947.3	289.48	43.6						
1) Med. & surgical				15,364.6	153.66	23.0	13,280	127.8	18.1	11,065	110.6	11.20
2) Maternity				6,136.0	61.36	9.18	6,155	59.6	8.4	9,585		9.70
3) Ped & others				none								
b. Operating suite				3,710.4	37.10	5.58	4,110	39.6	5.5	7,415	74	7.50
c. OB delivery suite				2,898	28.98	4.34	3,300	31.8	4.5	2,002	20	2.00
d. Emergency				838.3	8.38	1.26	440	4.2	.5	1,128	11	1.00
4. Service departments	5,090	47	6	8,900.9	89.0	13.2	9,830	94.5	13.5	14,499	144.5	14.70
a. Dietary				3,623.2	36.23	5.43	4,210	40.4	5.8	7,117	71	7.20
b. Housekeeping				1,846.0	18.46	2.77	470	4.5	.6			
c. Employee facilities				1,253.3	12.53	1.88	1,275	12.3	1.7	1,352	13.5	1.40
d. Storage (incl. CGS)				1,531	15.31	2.15	3,010	29.0	4.2	4,027	40	4.10
e. Cent. sterile supply				647.4	6.47	.97	865	8.3	1.2	2,003	20	2.00
5. Outpatient department	4,200	39	4.7	none						10,421	104	10.54
6. Residential quarters	495	4	.5	207.5	2.07	.37						
7. All other space	31,980	296	34	23,040.37	192.29	35.09	29,175	280	40.0	31,097	310.5	31.51
a. Circulation				14,810	148.1	22.13	17,080	163	23.3	19,721	197	19.95
b. Educational				none								
c. Mechanical				3,838.6	38.4	5.75	4,300	43	5.9	7,655	76.5	7.76
d. Other usable				270.5		.41						
e. Walls & dead space				121,3	3.7	6.8	7,795	74	10.8	3,721	37	3.80
8. Totals	88,862	822.8	100%	66,756	630.6	100%	73,280	705	100%	98,930	951	100%
Area per bed	823 SF			630 SF			705 SF			951 SF		
No. of operating rooms	7			6			5			4		
General surgery	5			2			3			2		
Orthopedic	1			1						1		
Eye & ent				1						no		
Cystoscopy	1			1			1			no		
Others				1–emergency			1—minor			1—emergency		
Pharmacy functions												
Dispensing	yes			yes			yes			1 room		
Compounding	yes			yes						stor vault & 1 rm		
Manufacturing				saline sol only						no		
Type of food service	trays from main kitch			central tray system			central tray			pats trays & cafe		
No. of meals per day	400									1,650		
Seats in dining rooms	94			75			100			114		
No. of sittings noon meal	150						200			450		
Quantity of laundry done	none of ldry done			all for hops & nurs home			outside			none		
No. of delivery rooms	none			2			3			2		
No. of labor rooms	none			2			6			1		
No. of bassinets	none			40			29			10 plus 4 premature		
Loc. of premature nursery	none			maternity floor						adj to nursery		
Radiographic rooms	3			1—diagnostic						1		
Combined				1			1			1		
Superficial therapy	1			combination						3		
Deep therapy				treat room								
No. staff lock. nurses & tech	25 m.		152 f.			50 f.				no		
Others	11 m.		11 f.	36 m.		48 f.				10 m.		16
Doctors	58 m.			25 m.						12 m.		26
Outpatient exam rooms	12			1			none			19 m.		
Residence beds in hosp	4			2			none			31		
Other features							4 recovery beds			none		
										4 recovery beds		

Gross Floor Areas — Acute General Hospitals Up to 200 Bed

No. 32			No. 33 Washington			No. 34 Mississippi			No. 35 Mississippi			No. 36 Michigan		
1953			1951			1950–51						1955		
100			100			100			100			100		
82			74									82		
18			20									12		
			6									6		
						modified X			modified X			X		
62,061 SF			rectangular with offset corridor 43,444 SF			52,780 SF			60,350 SF			addition of 6,000 sf & old bldg completely remodeled 50,914 SF		
2,975	29.8	4.8	2,277	22.8	5.2	4,210	42.1	7.97	3,850	38.50	6.4	3,882	38.82	7.6
3,535	35.5	5.7	2,397	23.9	5.6	2,950	29.5	5.59	2,947	29 47	4.9	3,473	34.73	6.6
1,140	11.4		940	9.4	2.2				1,613	16.13	2.7	575	5.75	1.1
565	5.7		809	8.1	1.8	2,950	29.5	5.59						
565	5.7								800	8.0	1.3	935	9.35	1.8
									264	2.64	.4	198	1.98	.4
820	8.2		253	2.5	.6							905	9.05	1.8
445	4.5		395	3.9	1				270	2.7	0.5	860	8.60	1.7
23,930	239.4	38.5				25,380	253.8	48.07	23,000	230.0	37.9			
18,830	188.3		18,055	180.3	41.7				16,815	168.15	27.7	19,401	194.00	38.0
			9,179	91.8	20.8	16,560	165.6	31.37				12,763	127.63	25.0
			4,102	41.0	9.5							1,877	18.77	3.7
			408	4.1	1							476	4.76	.9
3,235	32.3		2,964	29.6	7	2,790	27.9	5.28	3,083	30.83	5.1	2,820	28.20	5.5
1,505	15.1		1,023	10.0	2.4	5,480	54.8	10.38	2,541	25.41	4.2	1,105	11.05	2.2
370	3.7		379	3.8	1	550	5.5	1.04	561	5.61	0.9	360	3.60	.7
8,800	88.1	14.2	5,532	55.3	12.9	9,520	95.2	18.23	9,638	96.38	16.10	8,192	81.92	16.10
3,540	35.4		2,116	21.2	5	2,480	24.8	4.7	3,224	32.24	5.4	3,420	34.20	6.7
1,805	18.1		1,300	13	3				2,075	20.75	3.4	1,926	19.26	3.8
1,215	12.2		432	4.3	1	3,890	38.9	7.37	1,439	14.39	2.4	1,430	14.30	2.8
2,240	22.4		1,083	10.8	2.5	2,480	24.8	4.89	2,300	23.00	3.9	871	8.71	1.7
			601	6.0	1.4	670	6.7	1.27	600	6.00	1.0	545	5.45	1.1
												193	1.93	.4
												none		
23,376	233.8	37.6	13,320	132.2	21.1	10,720	106.2	20.31	20,915	209.15	34.7	15,773	157.73	31.1
13,895	138.9		8,392	83.9	19	4,510	45.1	8.54	11,220	112.20	18.6	11,760	117.60	23.0
												256	2.56	.5
1,860	18.6		1,110	11.0	2.6	6,210	62.1	11.77	3,500	35.0	5.8	2,341	23.41	4.8
			960	9.6	2.2				1,512	15.12	2.5	160	1.60	.3
7,621	76.2		2,768	27.7	6.3				4,683	46.83	7.8	1,256	12.56	2.5
62,061	621	100%	43,444	434	100%	52,780	528	100%	60,350	603.50	100%	50,914	509.14	100%
621 SF			434 SF			528 SF			603 SF			509 SF		
			5			3			5					
			2—major, 2—minor						3			2		
												1		
						1			1					
			1—fracture			1			1					
			1											
												yes		
												yes		
			central tray			hot food cart			hot food cart			heated carts		
			175						400			360		
			32									50		
			40									100		
			approx 450 lbs/day			all			all					
			2			3			3			1		
			2			2			3			2		
			22			22			30			16		
			nursery unit			nursery			nursery			main nursery		
			x-ray, dark rm, view & dressing, toilet			1						2		
			1						1					
			none						1			1		
					43 f.			31 f.			60 f.	none		
			4 m.		8 f.	10 m.		23 f.	13 m.		27 f.	10 m.		40 f.
			12 m.			19 m.			25 m.					
												10 m.		
												1		
												none		

Hospital	No. 37			No. 38			No. 39			No. 40		
Location (State)	Washington			Oklahoma			Idaho			California		
Date built	1954			1953–1954			1950			1950		
Total beds	100			99			87			88		
Med. & surgical	71			78			33			58		
Maternity	21			21			33			24		
Ped. & others	8						21			6		
Ultimate Total Beds												
Spec. features or com.												
Shape of plan												
Rectangular												
T	T						T					
X										X		
Offset X												
Double corridor												
Other—state												
Gross floor area	62,672 SF			64,427 SF			40,900 SF			47,970 SF		
DEPARTMENTAL AREAS—FIGURES GIVE GROSS AREA IN SF—AREA PER BED & % of total												
1. Administration	3,770	37.7	6.0	2,118	21.34	3.29	2,600	29.9	6.36	3,098	35.2	6.5
2. Adjunct facilities	3,297	32.6	5.16	3,207	32.42	4.99	1,600	18.39	3.91	2,692	30.6	5.5
a. Laboratory	1,608	16	2.6	1,031	10.41	1.60	1,600	18.39	3.91	977	11.1	2.0
b. Radiology												
1) Diagnostic	901	9	1.4	991	10	1.54				731	8.3	1.5
2) Treatment	none									none		
c. Physical medicine	544	5.4	.77	604	6.14	0.94				676	7.7	1.4
d. Pharmacy	244	2.4	0.39	581	5.87	0.91				308	3.5	0.6
3. Nursing departments				22,579	228.05	35.06	17,500	201.15	42.79	18,058	205.2	37.7
a. Bed units	25,228	254.0	40.32				17,500	201.15	42.79			
1) Med. & surgical	11,274	112.7	18.0	12,057	121.78	18.72				8,203	93.2	17.1
2) Maternity	5,367	56.6	8.6	4,584	46.30	7.12				3,645	41.4	7.6
3) Ped & others	1,767	17.6	2.8							271	3.1	0.6
b. Operating suite	3,612	36	5.8	3,139	31.70	4.87				2,868	32.6	6.0
c. OB delivery suite	2,632	26	4.2	2,306	23.29	3.58				1,957	22.2	4.1
d. Emergency	576	5.7	0.92	493	4.98	0.77				1,114	12.7	2.3
4. Service departments	8,420	83.9	13.47	10,630	107.36	16.50	6,700	77	16.38	6,136	69.8	12.7
a. Dietary	3,176	31.7	5.1	4,700	47.47	7.30				2,258	25.7	4.7
b. Housekeeping	592	5.9	0.94	2,490	25.15	3.86				1,203	13.7	2.5
c. Employee facilities	1,766	17.6	2.8	1,583	16.00	2.46				405	4.6	0.8
d. Storage (incl. CGS)	2,178	21.7	3.5	1,189	12	1.85				1,358	15.4	2.8
e. Cent. sterile supply	708	7	1.13	668	6.74	1.03				912	10.4	1.9
5. Outpatient department	none						part of adjunct			none		
6. Residential quarters	288	2.8	0.35				none			none		
7. All other space	21,957	219.0	35.05	25,893	261.52	40.21	12,500	143.6	30.56	17,986	204.3	37.6
a. Circulation	14,238	142	22.8	16,108	162.70	25.02				11,515	130.9	24.0
b. Educational	none			716	7.23	1.11				617	7.0	1.3
c. Mechanical	5,963	59.6	9.5	3,776	38.14	5.86	12,500	143.67	30.56	4,008	45.5	8.4
d. Other usable				252	2.54	0.39				none		
e. Walls & dead space	1,468	14.6	2.4	5,041	50.91	7.83				1,846	20.9	3.9
8. Totals	62,672	627	100%	64,427	650.77	100%	40,900	470.11	100%	47,970	545.1	100%
Area per bed	627 SF			651 SF			470 SF			545 SF		
No. of operating rooms	5			5			4			4		
General surgery	2			2			2			2		
Orthopedic	none			1						1		
Eye & ent	1											
Cystoscopy	1			1								
Others	1—fracture			1			1—minor, 1—emerg			1		
Pharmacy functions												
Dispensing	yes			yes			yes			yes		
Compounding				yes						yes		
Manufacturing												
Type of food service	central tray & cart			central-floor pantries			hot food carts—trays			tray service		
No. of meals per day	222									250		
Seats in dining rooms	32						60			53		
No. of sittings noon meal	45 full meals											
Quantity of laundry done	none						none					
No. of delivery rooms	2			2			2			2		
No. of labor rooms	2			1			1			2		
No. of bassinets	31			24			19 plus 2 suspect			26		
Loc. of premature nursery	nursery unit						in nursery			2nd floor		
Radiographic rooms	1									1		
Combined	dark room, viewing			1			1			1		
Superficial therapy	1									1		
Deep therapy	none			1								
No. staff lock. nurses & tech			91 f.			22 f.			35 f.			29 f
Others	21 m.		27 f.			58 f.	16 m.		10 f.	7 m.		7 f
Doctors	18 m.			19 m.			22 m.			25 m.		
Outpatient exam rooms	none									2		
Residence beds in hosp	2											
Other features										4 recovery beds		

No. 41			No. 42			No. 43			No. 44			No. 45		
Connecticut			Tennessee			Rhode Island			Mississippi			Pennsylvania		
1955			1954–1956			1950–1951			1949–50			1952		
86			83			80–104			80			77		
60			42						50			50		
16			22						5			22		
10			19						25			5		
			X						X					
47,300 SF			56,562 SF			66,582 SF			36,978 SF			43,031 SF		
none			3,067	36.95	5.42	3,727	46.6	5.60	8,200	140	22	2,645	34.3	6.2
2,376.79	27.64	5.02	2,193	26.44	3.43	3,303	41	4.96	1,390	18	3.6	2,130	27.6	5
1,075.84	12.51	2.27	826	9.95	1.46	720	9	1.08	300	4	.8	1,164	15.1	2.7
1,194.58	13.89	2.53												
			1,087	13.12	1.92	770	9.6	1.16	490	6	1.3	578	7.5	1.4
									200	3	.5			
						266	3.1	.40				194	2.5	.45
106.37	1.24	.224	280	3.37	.5	1,547	19.3	2.32	400	5	1	194	2.5	.45
0,069.94	233.37	42.43	18,785	226.18	33.21	20,969	262	31.49	10,275	126	27.8	15,322	198.80	35.59
1,721.69	171.18	31.12												
			8,113	97.74	14.34	10,036	125.5	15.07	2,950	36	8	7,888	102.4	18.3
			6,318	76.12	11.17	5,459	68.2	8.20	1,800	22	5	2,695	35	6.3
			435	5.24	77	none						717	9.2	1.7
2,733.78	31.79	5.78	1,862	22.43	3.29	3,057	38.2	4.59	3,600	44	9.7	2,030	26.4	4.7
2,036.47	23.68	4.31	1,463	17.62	2.59	1,607	20	2.41	1,200	15	3.2	1,567	20.3	3.6
578.00	6.72	1.22	594	7.03	1.05	810	10.1	1.22	725	9	1.9	425	5.5	.99
5,123.06	59.56	10.83	8,133	98.08	14.40	11,024	137.80	16.56	6,960	88	18.7	8,913	114.98	20.70
3,220.40	25.82	4.69	3,457	41.65	6.11	4,656	58.2	6.99	3,000	37	8.1	2,760	35.8	6.4
1,027.33	11.94	2.17	1,613	19.43	2.85	1,993	24.9	2.99	2,200	28	5.9	1,152	15	2.7
424.58	4.94	.89	967	11.76	1.73	2,287	28.6	3.44	380	5	1	1,103	14.3	2.6
874.24	10.16	1.84	1,623	19.54	2.87	1,020	12.8	1.53	400	5	1.1	3,450	44.8	8
576.51	6.70	1.21	473	5.70	.84	1,068	13.3	1.61	680	9	1.8	448	5.8	1
n emergency now						1,095	13.7	1.64	300	4	.8	408	5.3	.9
						none						352	4.5	.8
9,730.21	229.42	41.71	24,373	293.65	43.07	26,464	330.8	39.74	10,153	126	27.4	13,259	172.1	31
4,596.57	111.59	20.29	15,322	184.60	27.09	13,496	169	20.27	7,223	90	19.6	8,460	109.8	19.9
						none								
2,621.07	30.48	5.54	4,121	49.65	7.28	8,731	109	13.11	1,630	20	4.2	2,380	30.9	5.5
1,239.29	14.41	2.62												
6,273.28	72.94	13.26	4,930	59.40	8.72	4,237	30.9	6.36	1,300	16	3.6	2,419	31.4	5.6
6,300	550	100%	56,562	681.46	100%	66,582	832	100%	36,978	462	100%	43,031	558.8	100%
550 SF			681 SF			832 SF			462 SF			559 SF		
	4						3							
	2			3			3						2	
													1	
	1			1									1	
	1											1—emergency		
es			yes			yes								
			yes			yes							1	
ntral bulk			cafeteria			cafeteria						bulk to floors		
	400			3			300							
	30–40			52			95							
	3						2							
5,000 lbs/year			all			10,000 lbs/week								
	2			1			2			2		1 & emerg delivery		
	2			2			2			3			2	
plus 3 suspect				31			28			16			26	
nursery			third floor			separate			surg & OB wing			maternity floor		
				1						1				
	2					1—fluoroscopic							1	
	1													
					41 f.	12 m.		6 f.			11 f.			35 f.
tal of 36 lockers			30 m.		30 f.	31 m.			14 m.		17 f.	15 m.		40 f.
			21 m.			15 m.			12 m.			13 m.		
							4			2			2	
							2						3	
arium														

Hospital	No. 46			No. 47			No. 48			No. 49		
Location (State)	West Virginia			Minnesota			Vermont			Illinois		
Date built	1955			1950						1948		
Total beds	76			70			70			63		
Med. & surgical	50			49			46			39		
Maternity	22			21			24			14		
Ped. & others	4									10		
Ultimate Total Beds												
Spec. features or com												
Shape of plan												
Rectangular												
T												
X				X								
Offset X												
Double corridor												
Other—state												
Gross floor area	66,762 SF			38,525 SF			47,274 SF			39,673 SF		
DEPARTMENTAL AREAS—FIGURES GIVE GROSS AREA IN SF—AREA PER BED & % of total												
1. Administration	3,147	41.4	4.71	3,063	43.7	8.5	4,302	61	9.0	1,712	27.2	4.3
2. Adjunct facilities	2,473	32.7	3.69	1,584	22.7		2,012	29	4.3	1,475	23.2	
a. Laboratory	1,262	16.7	1.89	420	6	1.1	905			737	11.6	1.9
b. Radiology				544	7.8	1.4						
1) Diagnostic	636	8.4	.95				785			635	10.0	1.6
2) Treatment	225	3	.33				none					
c. Physical medicine				364	5.2	.9						
d. Pharmacy	350	4.6	0.52	256	3.7	.7	322			103	1.6	.3
3. Nursing departments	23,019	242.72	34.31	13,735	196.1		17,239	246	36.50	14,089	226.6	36.0
a. Bed units												
1) Med. & surgical	8,362	110	12.37	6,799	97.1	17.6	7,196			5,547	87.8	14.0
2) Maternity	5,547	72.98	8.30	3,158	45	8.2	4,440			3,604	57.3	9.1
3) Ped & others	470	6.18	0.70				none			1,708	27.1	4.3
b. Operating suite	5,287	69.56	7.92	2,287	32.7	5.4	2,982			1,713	27.1	4.3
c. OB delivery suite	2,664	35	3.99	1,140	16.3	3.0	1,653			1,146	18.2	2.9
d. Emergency	689	9	1.03	351	5.0	.9	968			571	9.1	1.4
4. Service departments	12,380	165	18.52	6,341	90.3		8,508	120	17.8	6,027	95.7	
a. Dietary	4,903	66	7.34	2,836	40.5	7.3	3,930			2,764	43.9	7.0
b. Housekeeping	3,034	40	4.54	1,300	18.5	3.4	1,034			1,305	20.7	3.3
c. Employee facilities	1,594	21	2.39	780	11.0	1.7	1,063			836	13.3	2.1
d. Storage (incl. CGS)	1,827	24	2.72	968	13.8	2.7	1,683			770	12.2	1.9
e. Cent. sterile supply	1,022	14	1.53	457	6.5	1.2	798			352	5.6	.9
5. Outpatient department	25,603	336	38.34				768	11	1.6			
6. Residential quarters	986	13	1.47				290	4	.6			
7. All other space				13,902	198.0		14,155	204	30.2	16,170	256.9	
a. Circulation	11,418	150	17.10	7,204	102.3	18.7	9,309			10,152	161.3	25.6
b. Educational							none					
c. Mechanical	3,362	44	5.03	3,310	47.4	8.5	2,778			3,492	55.4	8.8
d. Other usable	8,524	112	12.77	1,755	25.0	4.5						
e. Walls & dead space	1,313	17	1.97	1,633	23.3	4.3	2,068			2,526	40.2	6.4
8. Totals	66,692	877	100%	38,525	550.4	100%	47,274	675	100%	39,673	630	100%
Area per bed	877 SF			550 SF			675 SF			630 SF		
No. of operating rooms	6			2								
General surgery	2						3			2		
Orthopedic	1											
Eye & ent	1											
Cystoscopy	1						1			1		
Others	1—emergency						dental in OPD					
Pharmacy functions												
Dispensing	yes			yes			yes			yes		
Compounding				yes								
Manufacturing												
Type of food service	warm carts			centralized			central tray			bulk		
No. of meals per day				3			189					
Seats in dining rooms				40			72					
No. of sittings noon meal							1					
Quantity of laundry done				all			sent out 171,163 lbs yr					
No. of delivery rooms	2			1—delivery, 1—emergency			1			2		
No. of labor rooms	1			3			2—incl emerg delivery			1		
No. of bassinets	24			12			21			25		
Loc. of premature nursery	beside reg nursery			regular nursery			maternity					
Radiographic rooms				1			1					
Combined	1			X						1		
Superficial therapy				electro therapy								
Deep therapy	1			hydro therapy								
No. staff lock. nurses & tech	1 m.		25 f.			43 f.			45 f.			62
Others	26 m.		26 f.	8 m.		13 f.	10 m.		10 f.	19 m.		22
Doctors	19 m.			11 m.			11 m.			13 m.		
Outpatient exam rooms				none								
Residence beds in hosp	6			none			1					
Other features	3 recovery beds						4 recovery beds					

Gross Floor Areas — Acute General Hospitals Up to 200 Bed

No. 50 Virginia			No. 51 Oklahoma 1953–54			No. 52 Mississippi 1954–55			No. 53 New York 1950–51			No. 54 Tennessee 1954–55		
61			60			54			53			51		
43			47						38			39		
18			13						10			12		
									5					
						X			X			X		
46,466 SF			41,000 SF			37,950 SF			27,794 SF			44,694 SF		
3,192	50	6.5	3,655	61	8.9	2,467	45.68	6.5	1,330	25.1	4.79	3,350	65.68	7.5
1,957	32	4.2	1,155	19.3	2.8	4,437	81.78	11.7	3,506	66.1	12.61	718	14.07	1.6
1,073			375	6.28	.91	731	13.5	1.9	1,646	31.0	5.92	322	6.31	.72
884			565	9.44	1.38									
						597	11	1.6	465	8.8	1.67	396	7.76	.89
						187	3.4	.5						
						165	3	.4						
			215	3.58	.51	284	5.2	.8	65	1.2	.23			
17,256	284	37.3	15,875	264.6	38.8	14,526	268.76	38.2	9,048	170.6	32.57	16,310	319.80	36.99
7,298			8,175	136.20	19.80	7,666	141.96	20.2	4,808	90.7	17.31	7,326	143.65	16.39
4,362			2,510	41.80	6.40	2,435	45	6.4	1,970	37.2	7.09	3,168	62.12	7.09
one														
2,788			2,780	46.40	6.75	2,462	45.6	6.5	1,300	24.5	4.68	2,768	54.27	6.19
2,268			1,850	30.85	4.50	1,418	26.2	3.7	770	14.5	2.77	2,394	46.94	5.36
540			560	9.35	1.35	545	10	1.4	200	3.78	.72	654	12.82	1.46
6,681	110	14.4	7,075	117.90	17.3	6,785	125.6	17.9	4,931	93.0	17.74	7,834	153.59	17.53
2,649			3,035	50.6	7.40	1,979	36.6	5.2	1,615	30.5	5.81	2,615	51.27	5.85
1,257			1,360	22.6	3.35	2,467	45.7	6.5	45	.85	.16	428	8.39	.96
961			505	8.4	1.25	485	9	1.3	308	5.8	1.11	1,188	23.29	2.66
1,317			1,180	19.70	2.88	1.420	26.3	3.7	2,577	48.6	9.27	3,075	60.29	6.88
497			665	11.1	1.62	434	8	1.2	386	7.3	1.39	528	10.35	1.18
									340	6.4	1.22			
			330	5.50	.80									
17,380	286	37.6	13,240	220.2	32.3	12,205	226.1	32.2	9,969	187.24	35.86	16,482	323.18	36.88
7,021			8,275	138.00	20.10	8,127	150.5	21.4	5,212	98.4	18.75			
one														
7,681			1,535	25.30	3.75	2,155	40	5.7	2,424	45.8	8.72			
one			925	15.30	2.30									
2,678			2,505	41.60	6.15	1,923	35.6	5.1	2,333	43.54	8.39			
46,466	762	100%	41,000	683	100%	37,950	703	100%	27,794	524	100%	44,694	876.3	100%
762 SF			683 SF			703 SF			524 SF			876 SF		
			4			3			2			4		
3			2						1			2		
												1		
			1						1					
			1—fracture						1—emergency			1—emergency		
es			yes						yes					
ntral tray			central tray						bulk—decentralized			tray		
175												3		
32			30 & 16 sisters						24					
2														
ne									none					
1			1			2			1			2		
-incl emerg delivery			1 & emerg delivery			1			1			2		
30			12 & 3 suspect						10—4 isolation			19		
aternity												3rd floor		
1						1			1			1		
1			1											
		24 f.			6 f.	11 m.			24 m.		24 f.			36 f.
8 m.		10 f.	5 m.		20 f.	9 m.		11 f.				12 m.		12 f.
0 m.			10 m.			12 m.			18 m.			20 m.		
				2					2					
recovery beds			2 recovery beds						none					

Hospital	No. 55			No. 56			No. 57			No. 58		
Location (State)	USPHS guide			Louisiana			Missouri			Minnesota		
Date built							March, 1953			1954–1955		
Total beds	50			50			50			50		
Med. & surgical	38			40			30			38		
Maternity	12			10			20			12		
Ped. & others												
Ultimate Total Beds												
Spec. features or com												
Shape of plan												
Rectangular												
T										X		
X												
Offset X												
Double corridor												
Other—state				1-story								
Gross floor area	35,579 SF			26,830 SF			28,800 SF			30,325 SF		
DEPARTMENTAL AREAS—FIGURES GIVE GROSS AREA IN SF—AREA PER BED & % of total												
1. Administration	1,970	39.4	5.5	1,650	33	6.2	1,245	25	4.3	1,842	36.8	6.1
2. Adjunct facilities	1,850	36.8	5.2	795	16	3	700	14	2.4	1,320	26.4	4.4
a. Laboratory	560	11.2		330	6.65	1.23	250	5	.87	612	12.4	
b. Radiology	565	11.3										
1) Diagnostic	565	11.3		390	7.85	1.46	450	8.2	1.56	589	11.8	
2) Treatment												
c. Physical medicine	520	10.2										
d. Pharmacy	205	4.1		75	1.50	.29	combined with lab			119	2.4	
3. Nursing departments	12,830	256.5	36.1	12,520	250	46.6	8,580	171.3	29.79	9,753	195.0	32.3
a. Bed units	9,305	186.3										
1) Med. & surgical				6,990	139.4	26.10	3,100	62	10.76	6,330	100.7	
2) Maternity				1,750	35.0	6.52	2,768	55	9.61	1,044	20.8	
3) Ped & others				380	7.6	1.43						
b. Operating suite	1,980	39.6		1,905	38.10	7.10	1,275	25.5	4.43	1,016	20.2	
c. OB delivery suite	1,175	23.5		955	19.1	3.53	1,095	22	3.80	1,057	21.5	
d. Emergency	370	7.4		540	10.8	1.92	342	6.8	1.19	306	6.1	
4. Service departments	5,330	116.6	14.9	3,045	61	11.3	3,612	72.9	12.53	3,732	74.6	12.4
a. Dietary	2,025	40.5		960	19.2	3.57	1,197	24	4.16	1,767	35.3	
b. Housekeeping	1,365	27.3		575	11.7	2.12	898	18	3.12	912	18.3	
c. Employee facilities	765	15.3		400	8.0	1.49	438	8.8	1.52	568	11.4	
d. Storage (incl. CGS)	1,175	23.5		705	14.10	2.62	789	15.8	2.73	975	19.5	
e. Cent. sterile supply				405	8.0	1.50	290	5.8	1	510	10.2	
5. Outpatient department												
6. Residential quarters												
7. All other space	13,599	281.9	38.2	8,820	176.0	32.9	14,663	293.3	22.77	13,678	264	45.
a. Circulation	8,010	160.2		4,855	97.0	18.12	3,044	61	10.57	6,500	130	
b. Educational												
c. Mechanical	1,220	24.4		1,320	26.0	4.92	4,940	98.8	17.16	2,860	57	
d. Other usable							120	2.4	.41			
e. Walls & dead space	4,369	87.3		2,645	53	9.86	6,559	131.18	22.77	4,318	86	
8. Totals	35,579	712	100%	26,830	536	100%	28,800	576	100%	30,325	605	100%
Area per bed	712 SF			536 SF			576 SF			605 SF		
No. of operating rooms				3			1					
General surgery				2			1			1		
Orthopedic												
Eye & ent												
Cystoscopy												
Others				1—fracture								
Pharmacy functions												
Dispensing				1			1			1		
Compounding												
Manufacturing												
Type of food service				central tray			central tray			central tray		
No. of meals per day												
Seats in dining rooms				18			18			30		
No. of sittings noon meal							2					
Quantity of laundry done												
No. of delivery rooms				1			1			1		
No. of labor rooms				2			2			1		
No. of bassinets				11			12			12		
Loc. of premature nursery							isolated			none		
Radiographic rooms												
Combined				1			1			1		
Superficial therapy												
Deep therapy												
No. staff lock. nurses & tech						13 f.			14 f.			32
Others				12 m.		12 f.	3 m.		6 f.	2 m.		
Doctors				13 m.			5 m.			20 m.		
Outpatient exam rooms							none			none		
Residence beds in hosp							none			none		
Other features												

AMERICAN ARCHITECTURAL FOUNDATION
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SCHOOL PLANT STUDIES

Outdoor Education in the Secondary School

George W. Donaldson

- SCIENCE
- SOCIAL SCIENCE
- PHYSICAL EDUCATION
- ARTS & CRAFTS
- MATHEMATICS
- HOMEMAKING
- NATURAL GEOGRAPHY
- CORE CURRICULUM
- CO-CURRICULAR ACTIVITIES
- SUMMER ACTIVITIES
- TEACHER-PUPIL RELATIONSHIPS

OTE:

HIS IS TWENTY-EIGHTH OF A SERIES OF PAPERS PREPARED BY MEMBERS OF HE AIA COMMITTEE ON SCHOOL BUILDINGS, & BY SELECTED SPECIALISTS, O MAKE LAYMEN AWARE OF SCHOOL BUILDING PROBLEMS & TRENDS & O STIMULATE DISCUSSION. THEY ARE NOT INTENDED TO BE DEFINITIVE AST WORDS & CARRY ONLY THE AUTHORITY OF THEIR RESPECTIVE UTHORS. THE SERIES WILL BE EDITED BY THE COMMITTEE & ISSUED BY THE A DEPARTMENT OF EDUCATION & RESEARCH UNDER SPONSORSHIP OF HE AMERICAN ARCHITECTURAL FOUNDATION. MANY NEW SUBJECTS RE BEING WORKED ON & CONTRIBUTED ARTICLES ARE WELCOME. WIDE-READ DISTRIBUTION TO LAYMEN & EDUCATORS IS MADE OF THESE NON-ECHNICAL ARTICLES IN REPRINT FORM.

ne copy each issue free—additional copies 10¢ each)

OUTDOOR EDUCATION IN THE SECONDARY SCHOOL

By George W. Donaldson, Director of Outdoor Education, Tyler, Texas

WITH CERTAIN notable exceptions, adoption of methods and materials of outdoor education has moved slowly in secondary schools. Major administrative problems of time and space account for a large measure of this reluctance. However, American schools, at all levels, have taken justifiable pride in their ability to make necessary administrative adjustments when convinced of need for newer methods or materials. Witness time and place modifications made necessary by such courses as distributive education, driver-training, and vocational shop. Or, note temporary schedule changes and travel arrangements made to facilitate playing of a game of football, basketball or baseball. American secondary schools have adequately demonstrated ability to live with—and profit by—flexible schedules. They have likewise shown that they can move teacher and pupils to point at which desired experience can be had. Administrative problems, then, do not present a valid excuse for not providing secondary school students with vivid learning experiences which await them outside classrooms.

science:

Biology teachers have probably used outdoors more, and more systematically, than any other teachers. Unfortunately, only a small percentage of this group realizes its value.

It is axiomatic in world of living things that plants and animals are part of their environment. Biological facts and principles are poorly understood, if at all, when living things are viewed out of their environmental context. The frog in formaldehyde which so many students have studied is quite unlike the frog on the banks of the creek.

Pickled frog has structure but no function—he has no need for food, protection, or propagation. These very aspects of his life are what make him a frog. A sound and true understanding of the frog as a biological illustration cannot result from such isolated study. How much better it would be to combine traditional textbook and laboratory work with enough fieldwork to assure an understanding of "the frog in context"!

Organized and supervised collection trips can result in much finer things than a mounted collection. Too often, students making individual, unsupervised collections have contributed materially to destruction of things they should be learning to understand, admire and conserve.

Biology fieldwork to observe seasonal changes also offers rich possibilities. In addition there is an enormous amount of biology subject matter relating to resource use.

Chemistry teachers might well use field trip techniques outdoors when dealing with such problems as chemical elements in soils, community sanitation and domestic water supply.

Teachers of secondary school physics have frequently used outdoors—especially when area of light is related to astronomy and telescope construction. In school camps, basic tools and processes of woods work are among most simple illustratio of laws of physics. For exampl use of a cant-hook or peavey to r logs is a clear-cut and meaningf illustration of the lever principle.

Teachers of vocational agricu ture have rather consistently en ployed outdoors as instructional m terial. Whether in "projects" c students' own farms or, as is increa ingly true, on farms owned and o erated by school, students actual do farm work, planning and bool keeping on school time—outdoors.

School farms and school fores are dealt with later. School-owne farms and forests serve a 3-fold pu pose in highschool curricula.

- demonstration of good practices overall farm program
- laboratory observations of specif procedures
- actual participation of studen in farm work

social science:

Alert social science teache have long used methods of outdo education. Trips to ghost town abandoned farm can give highscho students of history or modern pro lems a keen insight into changi patterns of America's developmer An hour or two spent at an excav tion site can demonstrate mo clearly than thousands of words t slow, tedious methods by which mu of history is literally dug out.

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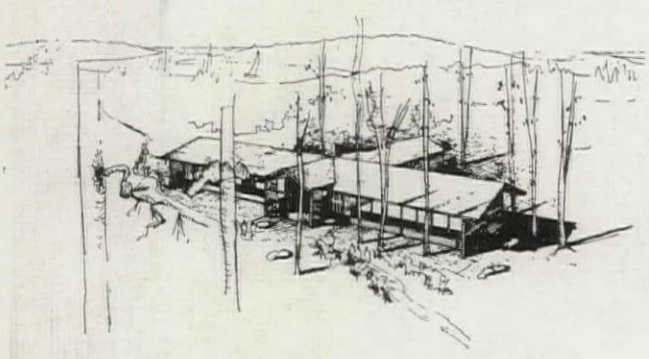
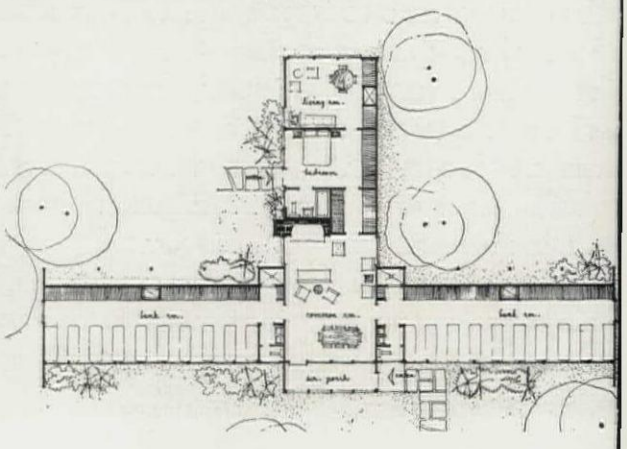
* *prelim material for a new book a committee of American Associ tion for Health, Physical Educati & Recreation (NEA) under cha manship of Julian W. Smith, 195 $2.50.*





A bus trip thru a farm area can lustrate problems faced by Ameri- an farmers. Eroded fields and uddy streams can point up social nportance of one of America's great roblems—wise use of our natural esources.

Secondary schools which have ccess to a camp are fortunate. In amp, social science teachers can ctually build the kind of social en- ironment he is teaching about. Stu- ents can plan and "live" a pioneer ay or can, in day-to-day scheme of amp living, practice pure democ- acy, representative democracy, or— illustrate its disadvantages—pos- bly anarchy or dictatorship!

hysical education:

Physical education with its allied elds of recreation and health prob- bly has more opportunities outdoors an any other curriculum area. Whether its immediate objective is at of healthful exercise and fun r its present value or that of pro- ding students with life-long recrea- onal skills, outdoor activities pro- de a simple and economical answer.

A number of secondary schools ve approached outdoor education ru rather simple device of adding struction in skills of casting and ooting. These activities are al- ost ideal in that they fit neatly into isting administrative structures and e not prohibitively expensive. mple instructional procedures in hing and hunting can enable ungsters to begin, safely and effi- ciently, recreational activities which are life-long in value.

Outing clubs in junior and senior highschools appear to offer other great values. Such clubs, long a valuable addition to college scene, have been largely ignored in public schools. In outing clubs youngsters could learn simple skills of hiking, outdoor cookery, and general comfort and "at-homeness" outdoors. Family camping, while almost totally unorganized and, by its very independent nature, a poor subject for systematic, scholarly study, appears to be major recreational development of our age. Outing clubs could provide skills so sadly lacking among too many family campers.

A real puzzle to observers of the physical education field has been almost total lack of attention by physical educators to that one physical activity in which almost everyone engages almost every day of his life —walking. Possibly hiking clubs— or simply walking some place while in physical education classes—promise an answer. Americans, emotionally tied to automobiles as they are, don't walk enough. They are missing one of the most relaxing and best conditioning exercises.

arts and crafts:

Secondary school art pupils will find outdoors, in class-hour excursions or on extended trips, a wealth of visual impressions. Translation of these impressions into various art forms could readily become the very center of instruction in the graphic arts.

Materials found outdoors—clay, grasses, interesting forms in knots or driftwood, dried flowers or seed pods —the list is endless—can add breadth and depth to secondary art courses which have too often been simply offerings in drawing and painting. Discovery of beauty everywhere and creation of beauty from even the unbeautiful might well be objectives of taking art outdoors.

mathematics:

Geometry, that branch of mathematics which had its beginnings in an outdoor problem—re-surveying Nile Delta after yearly floods—probably provides most meaningful relationship between mathematics and outdoors. Actual use of geometric principles in surveying, measuring and estimating can add life and reality to a sometimes dull subject. Mathematics is one of mankind's most thrilling achievements. By taking pupils back where problems existed—on the land—creative teachers can share the heroic past with today's students. As a bonus, he will get meaningful insights impossible with regular textbook instruction.

Modern youngsters, reared away from land, have but hazy notions of our common measures such as yard, rod, mile or acre. These are real problems outdoors. Pupils learning to use map and compass deal with them in situations charged with reality. Estimates begin to come easy when there is real need for them.

natural geography:

Most children and teachers think of geography in terms of political or economic geography concerned with maps of states or countries. Very few children ever learn about the terrain in the vicinity where they live—how the ground drains, which crops and trees grow best, or how roads and railroads developed and are adjusted to meet conditions of natural terrain. This is important knowledge and how many who later purchase houses or sites would benefit if they understood it.

homemaking:

Homemaking cuts across a number of subject areas when it deals with the outdoors. Simple example of that great American pursuit—backyard cookery—illustrates the point. If a family wants to be creative about it, it can add zest by experimenting with outdoor dishes of other lands and times, projections into geography and history. It can design and build its own barbeque pit or smoke-oven, thus impinging upon industrial arts.

If homemaking teacher is interested, as she should be, in providing instruction in wise and healthful family use of outdoors, she will deal with problems of proper shoes and clothing, bedding and shelter for hikes, picnics or family camping trips.

One of homemaking's major objectives is that of "fostering better family relations." What better way than that of helping the family to better ways of family recreation thru outings, picnics, backyard cookery, or even family camping trips.

core curriculum:

All of above has assumed traditional subject-matter organization of highschool curriculum. In those schools which have departed from such organization, initiation of outdoor education should prove easy. Broad-area organization of subject matter which is characteristic of core curriculum, as well as its large time-block scheduling, are both favorable to outdoor activities.

Outdoor problems seldom fall neatly into a given subject-matter area. Most often they cut across two or more areas. Curriculum organization which is problem-centered can deal with such multi-subject problems with much more facility than can more generally known subject-matter organization. It is probably for this reason that outdoor education and school camping have been more warmly received by core curriculum schools than by others.

co-curricular activities:

In addition to various curriculum areas cited above, attention should be directed to that area of secondary education which is least bound by traditions, as time and space problems, co-curricular (or extra curricular activities. Conceived originally as a broadening or enrichment feature of school offering, this area lends itself most readily to expansion and development of outdoor activities. Very fact that many co-curricular activities are scheduled outside school buildings and after school time makes for much wanted flexibility. A partial list of possible organizations follows:

hiking club
outing club
bird watchers
outdoor chefs
astronomy club
telescope builders
gardeners

summer activities:

Projection of secondary school programs into summer vacation periods opens up a whole new area to outdoor education. Already a number of highschools are sponsoring work-camps. Farm labor is recruited, transported, supervised and chaperoned by members of faculty. In addition to offering extremely valuable working-earning-saving experience for highschool youth, it can provide for them most of the fine social learnings of any other camp. With adequate safeguards against exploitation, many highschools should move into this area.

There is no good reason wh highschools in economically favore areas cannot approximate ope hearted beneficence so well illu trated by the Quaker Work Camp where adolescent youth actually pa to help a war or disaster-damage community heal its wounds or to im prove community health and recre tion in less-favored communitie These youngsters pay their ow room, board and transportation an joyfully give the work of their bodi to help less fortunate people buil say, a community swimming po or a playground.

Travel camping, such as th sponsored a number of years ago b Atlanta, Georgia, schools is anoth fruitful extension of secondary scho into summer and outdoors.

One thoughtful highschool pri cipal tells of plans to offer, durin summer months, regular for-cred course in biology, basing entire c fering upon daily field work. Mo vation and initiation would com from field experiences. Follow-u extension and consolidation of lear ing would follow in classroom an laboratory. From such creati thinking can come profitable use outdoors as a learning laboratory.

teacher-pupil relationships:

A significant benefit whi comes to teachers and pupils wh share in vivid and adventurous ou door experiences is that of bett understanding of each other. A too often, teacher is viewed by pup as a bookish, sedentary person. teacher who sees his pupils only classrooms can just as readily co ceive of them in a single-faceted ma ner. The many sides of personal which are almost automatica drawn out when teacher and childr share a real experience may never seen in more restricted atmosphe of classrooms. Homeroom teach and guidance counselors, as well pupils' subject-matter teachers, co benefit from such relations.

MODULAR

GRID LINES

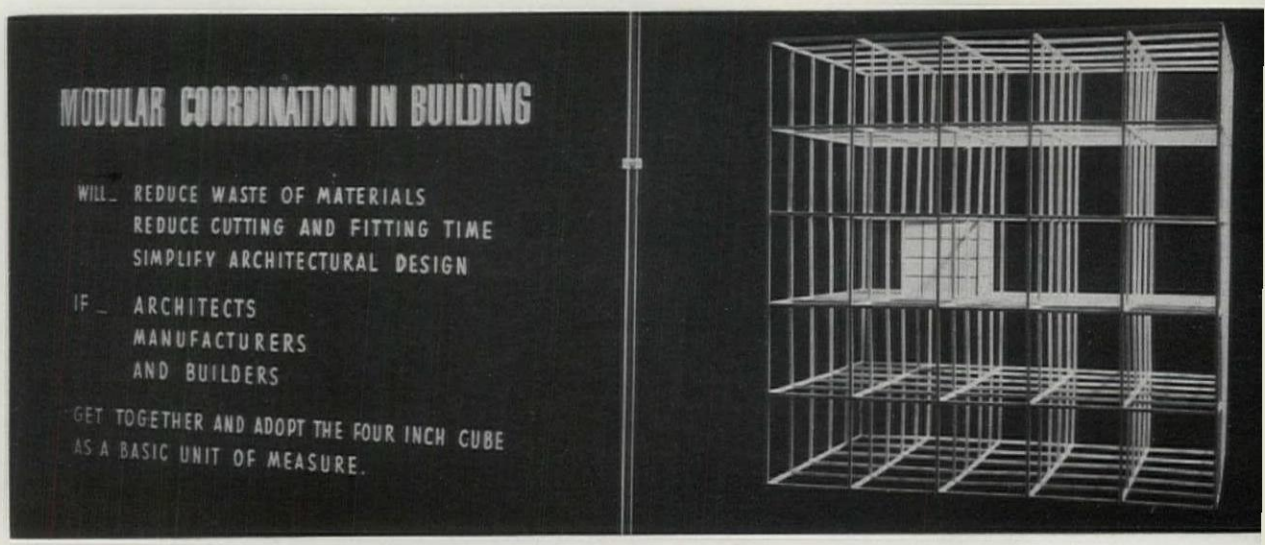
MODULAR COORDINATION BEGINS WITH THE ARCHITECT

"THE SEMINAR ON MODULAR MEASURE at the Ontario Association of Architects' Convention was exceedingly interesting to a great many architects present, and I feel many of them are fired with enthusiasm for this system of drafting and may be expected to adopt it in their own offices. The OAA Modular Measure Committee will continue to the best of its ability to keep interest alive, and (the National Research) Council will take whatever steps are necessary toward this end. I feel that its general adoption in architects' offices and in manufacturing is imminent, but it will take continued pressure and dissemination of information in order that present interest may not be allowed to die."

E. C. S. Cox, MRAIC
President, Ontario Association of Architects

The 1957 Convention and Annual Meeting of the ntario Association of Architects was held in mid-ebruary at the Royal York Hotel in Toronto, and had odular Measure as its main theme. An audience of ore than 250 attended the two-and-a-half-hour-long incipal technical session at which architects Frank J. ll, Aeck Associates, Atlanta, Georgia, and C. E. ling, FAIA, Charleston, West Virginia, and general ntractor James E. Coombs, President of Baker & oombs, Inc., Morgantown, West Virginia, described their own successful application of Modular Measure to major buildings in the United States. Panel Chairman was S. A. Gitterman, architect and advisor on housing design for the Central Mortgage & Housing Corporation. Canadian architects' interest in the new technique was corroborated vividly by the questions which followed, and the close attention paid an exhibit of Modular drawings and a demonstration of Modular drafting. Excerpts of conference proceedings commence in this issue, and will be carried in future "Grid Lines."

NEL DISCUSSING MODULAR MEASURE AT ONTARIO ARCHITECTS' CONVENTION. *All photos by Trussler of Ken Bell*



MR. GITTERMAN:

We are here to discuss Modular Measure and find out what it means. I also hope that perhaps you will further look into it and possibly use it. The unfortunate part of the word "modular," to me, is that architects have a preconceived idea of what "modular" means. Many of you who have studied the Grecian orders will understand the word "modular." In fact, it was a module of design and proportion—it was to permit any dumb-cluck to design. But it was nothing more than setting down a technique. It is a way of measuring, and that is where the trouble begins from that point of view. Recently, we had a grid set down on a structural base. This grid has caused some trouble, and it had some features of Modular Measure within which you can make any dimensions you wish. If you can imagine the grid with a four-inch pattern, which is more or less accepted throughout the world, and if you can accept this grid on a horizontal and vertical plane and in cube form, considering them the control lines, or lines such as gridlines on a football field, you will see how it can be used.

I was very interested, before the meeting started, to hear an architect mention that something must be done in his office about dimensioning. After listening to these speakers, I think you will see there is a possibility of reducing all these fractions. Just for a moment, consider that in the United States a chap by the name of Albert Bemis tried all sizes and all types, and he finally came forward with a four-inch module. It gave a very great flexibility, and still gave some chance of standardization. He then tried to get some acceptance of Modular Measure and the manufacturers got together in 1939 and sponsored Project A62. That was the attempt to adopt modular coordination amongst the manufacturers. Canada was represented on that Committee by F. W. Nicolls. That Committee carried on, and after the war Bill Demarest set up a Modular Measure program. Some buildings were tried in Canada, a few of the very large, about 180 feet long, two stories in heigh and within three months were ready for occupancy. 1951, we had a meeting, and for various reasons didn proceed too far with building. Then last year there w a committee set up in Canada. Meanwhile, there h been similar work going on in various countries.

I am just giving this background against which hope these gentlemen will develop their themes. M Bull will speak from the point of view of design; M Silling will speak on working drawings; and Mr. Coom from the point of view of general contractors.

ADDRESS BY

FRANK J. BULL:

If I were here today to sell a machine that was proven money-saver, and if only a small amount time was required to learn to use it, I believe I cou make a sale. I sometimes pause, then, to wonder w it is that all of us have not reached out for Modu Measure. It is better than a machine, for the long you use it, the better it works. The same answer alwa comes to me—it can only be because of lack understanding.

About a month ago, part of one day was spent w William Tatton Brown, Deputy County Architect County Hale, Hertford, England. Mr. Brown was a fellowship touring the United States to see what w being done on school buildings. Mr. Brown has a been quite active in England with Modular Measure. visited 20 of the leading firms in our country and ea time, he asked if the firm used Modular Measure. T

nswer was a unanimous "No." Not one of them had ver tried it; and yet they each gave multiple reasons hy Modular was unworkable. Mr. Brown repeated me of these comments to me, and it was apparent, gain, that the *real* reason Modular was not being used as lack of understanding of the few basic principles.

There is one good proof of this contention: Lack f understanding is the major road-block. Most always, hen an issue is controversial, speakers will rise and ke sides; papers will be published pro and con. Yet, cannot recall reading one article nor hearing one lec- re on the evils of Modular Measure. In order to speak to write on some subject, you must first understand Those who take time to understand Modular Meas- e are speaking and writing in favor of it.

What is the use of Modular Measure in architec- ral design? My designing friends who are not con- rts will reword that question this way: What is the e of architectural design in Modular Measure? For me reason, they feel that Modular will restrict or ctate the design. If we can clear up some of that mis- derstanding today, then our purpose will be well- rved.

First, let's put a limit on what is meant by archi- ctural design. Since this panel is divided into three rts—design, working drawings and construction— ay I use the broad sense of design as that which goes prior to the beginning of working drawings. The eliminary planning, then, is the design operation meant my discussion. This can also be extended, if you sh, to include all decisions that affect the appearance the work.

Next, I must spend just a bit of time on what odular Measure *is,* and is not. Modular Measure is t a mystery, not a demon, not a dictator. It means ly that a uniform method of sizing and locating the tures of a building is followed by the designer, the tailer, the manufacturer and the mechanic who puts parts together on the job site. It means that there a system of coordinate lines, called gridlines, which u can use as reference points to locate accurately erything your imagination puts in the building; and u can do this so easily, it will seem ridiculous not to ve thought of it before. It means that materials can manufactured in sizes which acknowledge the fact t they must be joined to other materials. That is ere the word coordination enters. The materials are ordinated in size with each other.

Now, a mason can clip a Modular brick just as ily as any other. The window manufacturer can ke special-size windows as he always could. The lwork can be built to any detail you desire. It is you to decide to what extent this custom work is itively required to obtain a useful and beautiful lding. To the extent you require it, you will use it. making the decision, you just may have your eye the budget. You may find that, with stock materials ich are coordinated in size, there will be many places u can eliminate extra charge, waste, extra labor and ure a better building for your client. And that will Modular Measure.

ADDRESS BY

C. E. SILLING, FAIA:

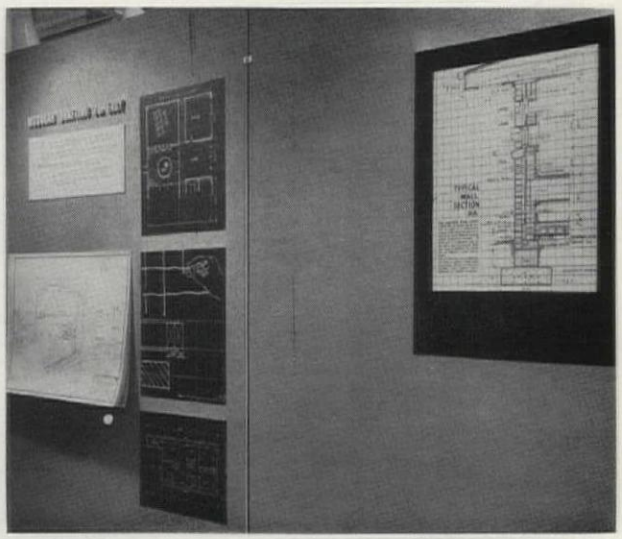
I would like to say I believe that our conference investigations here on Modular Measure can be of a high order. I think it is a matter of good business for every component of the building industry to constantly seek ways and means to deliver to the building public a better building for less money. In my opinion, the system of Modular Measure does just that.

Today's pace for distribution of penalty and reward has never been faster in Western World economy. If the system of Modular Measure is of increasing importance as a factor in our construction practices under that economy, consider some of the propelling elements to that end.

As an architect practicing in this interesting, utopian welter, I am frantically in need of a time bracket to withdraw and think, if my architecture is to measure the day and meet its larger aesthetic challenge. I believe Modular Measure orders my day to afford that added time bracket. In our changing, churning building industry, I *must* insist that architects are its leaders, else I perish as an independent professional. I think Modular Measure aids my assertion of leadership and affirms that heritage.

If building-site labor rates develop uneconomic results, and if manufacturers produce unrelated, uneconomic materials that do not fit together in size and detail, except with tailored handicraft at inordinate prices, from whom will come the needed integration? Who else, other than the professional architect, can stand aloof from the market place to bring order, dispatch and economy from the chaos of profit seeking? At one fell swoop, Modular Measure lays hold on these limitations and confusions. It is a tool of leadership for the architect. As its exponents, the architect and the builder offer the owner more and better building for his construction dollar.

Modular Measure, when fully integrated into our building industry, is a system that fits all building materials together in an automatic, uninhibited manner. rapidly and economically with a minimum of cutting and



fitting. It utilizes, for the building industry, the qualities, quantities, and economies derived from the industrial methods of mass production. It is a system of prefabrication and interchangeability of parts that minimizes the amount of high-salaried, skilled labor needed for assembly purposes at the building site.

From *Time* magazine I re-design in effect an architectural editorial.— I hope architects will be progressive enough to understand the inevitability of change, and conservative enough to understand the need for continuity of principle, so that we may help to restore to mankind the tension between these two poles which constitutes order. As architects and as citizens, let our message to the world about order and freedom lay emphasis upon coherence and consistency.

ADDRESS BY

JAMES E. COOMBS, AGC:

It's certainly an honor for me, representing a general contractor, to be invited here to Toronto today by your organization to participate in this panel discussion on Modular Measure. Very little can be said by me on the subject of Modular Measure that you gentlemen have not heard or read about before this time. Since I do feel, however, that any delay in wider and more universal acceptance of the system will be detrimental the construction industry, I would like to review some the reasons, from a contractor's viewpoint, of wh Modular Measure is good for all of us.

This is not going to be a lesson in Modular Mea ure, but I'd like you gentlemen to do a little ment arithmetic for me. This is the same kind of proble that comes up in our estimating room, or in our fie work, each and every day. I'd like you to mental add up the following figures:

4″ plus 1′-4″, plus 8″. Now, add

3⅝″ plus 1′-5¾″, plus 9-3/16″.

Without paper and pencil, I am sure you found t last problem difficult, if not impossible, to do, wh the first was comparatively easy. The first set of figu represents Modular Measure, while the second typif measurements used on all architects' drawings that not employ Modular Measure.

My company's first experience with a Modu building occurred almost ten years ago, and since th time, we have seen an expanded use of this system our section of the country. Since 1946, we have erec four buildings in the million-dollar category at W Virginia University, each of these buildings employ Modular Measure.

Letters to the Editor

EDITOR, JOURNAL OF THE AIA:

As of April 1, 1957, Commissioner McMurray appointed me Chief of the Bureau of Architectural Research of the Division of Housing, State of New York, 270 Broadway, New York City.

The continuous rise in construction cost necessitates a thorough study of and search for new materials, new methods of construction as well as new concepts of planning.

In pursuing these objectives we propose to harness the construction industry, the architectural and engineering professions and the various schools of architecture.

I am writing this in hope that you may find an appropriate place in your publications to state that we would welcome constructive thoughts on the subject from the profession at large.

JOSHUA D. LOWENFISH, AIA
NEW YORK CITY

EDITOR, JOURNAL OF THE AIA:

The letter in the April JOURNAL by Mr. Samuel M. Kurtz of New York was well written although the criticism is a few years too late.

In the 1953 Convention of the National Council of Architectural Registration Boards, the question of whether or not two certificates were necessary v introduced, the main argument being that holdin Junior Certificate was sometimes embarrassing.

Although the titles Junior and Senior w proper, it appeared to be necessary to keep expla ing to office visitors when the Junior would rece his Senior status.

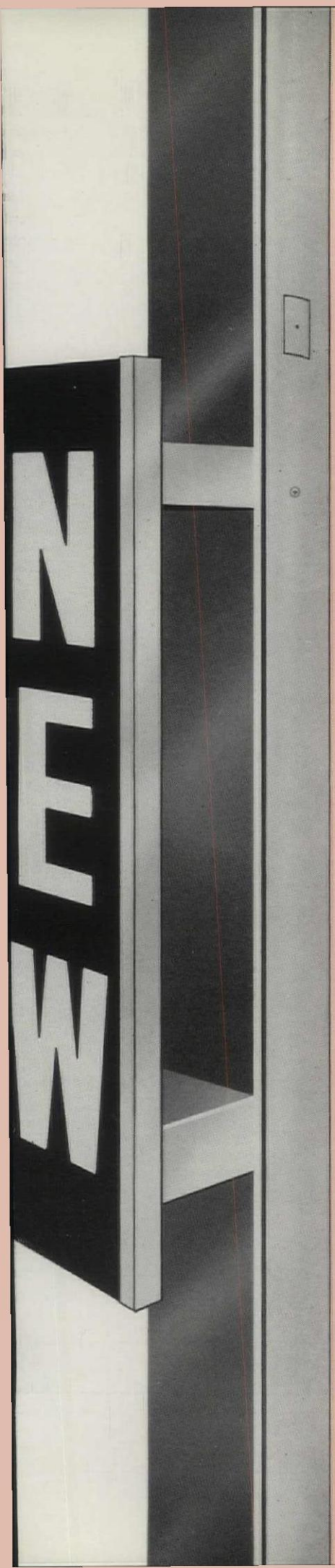
The discussion continued at the annual meeti and, when action was taken in 1954, the decis was to dispense with the idea of having two ce ficates and issue only one design which would without designation of the type of examination un which the holder was registered.

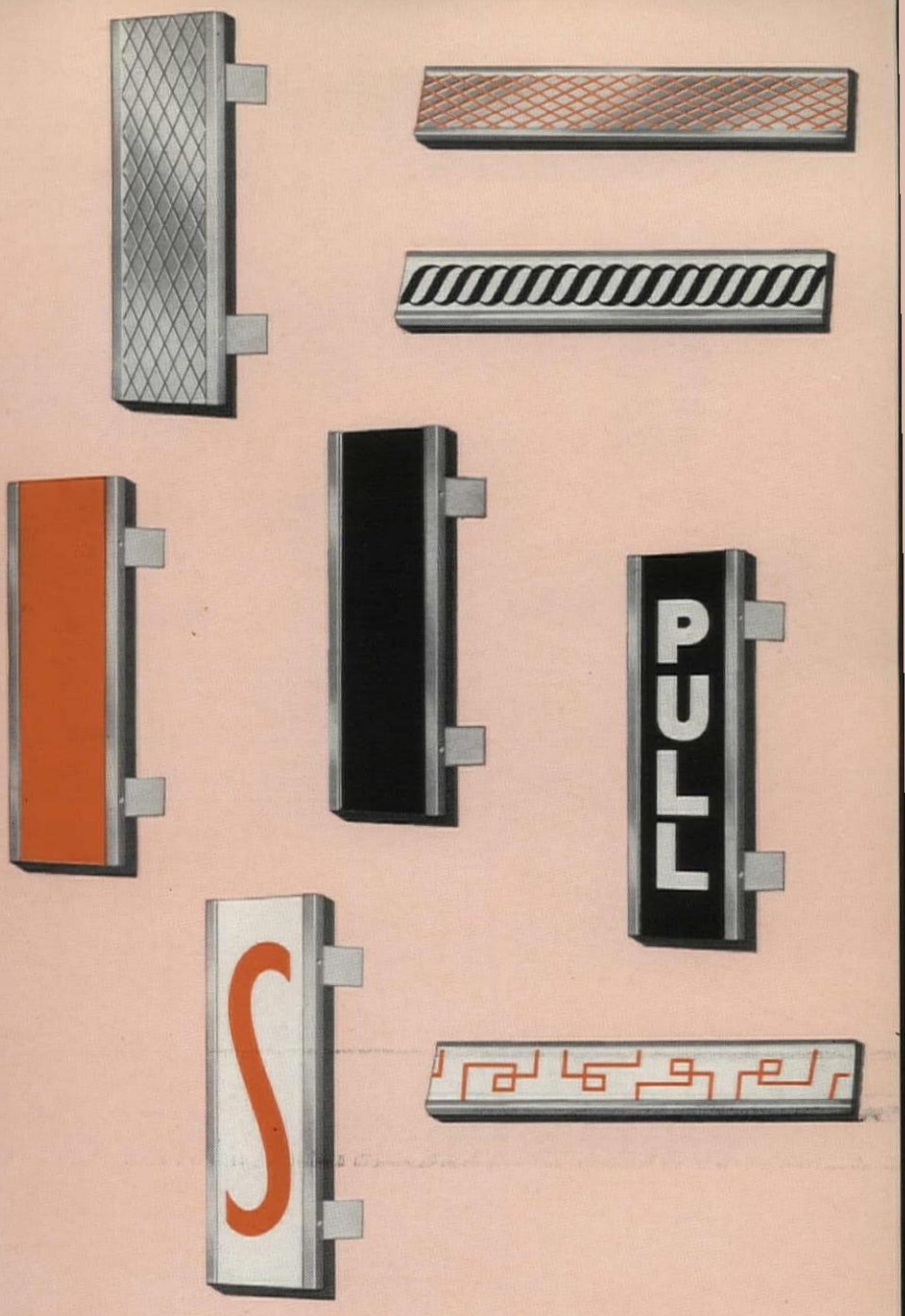
As the NCARB had about three thousand bl certificates on hand, the Secretary was directed continue issuing same until new plates could be p pared and the new type certificates printed.

This work was finally completed and new ce ficates were delivered to the Council office in Ma 1956. Since May, 1956, all certificates issued h been only of one design.

The new design of certificates has been well ceived by registrants throughout the nation.

WILLIAM L. PERR
CHARITON, IOWA





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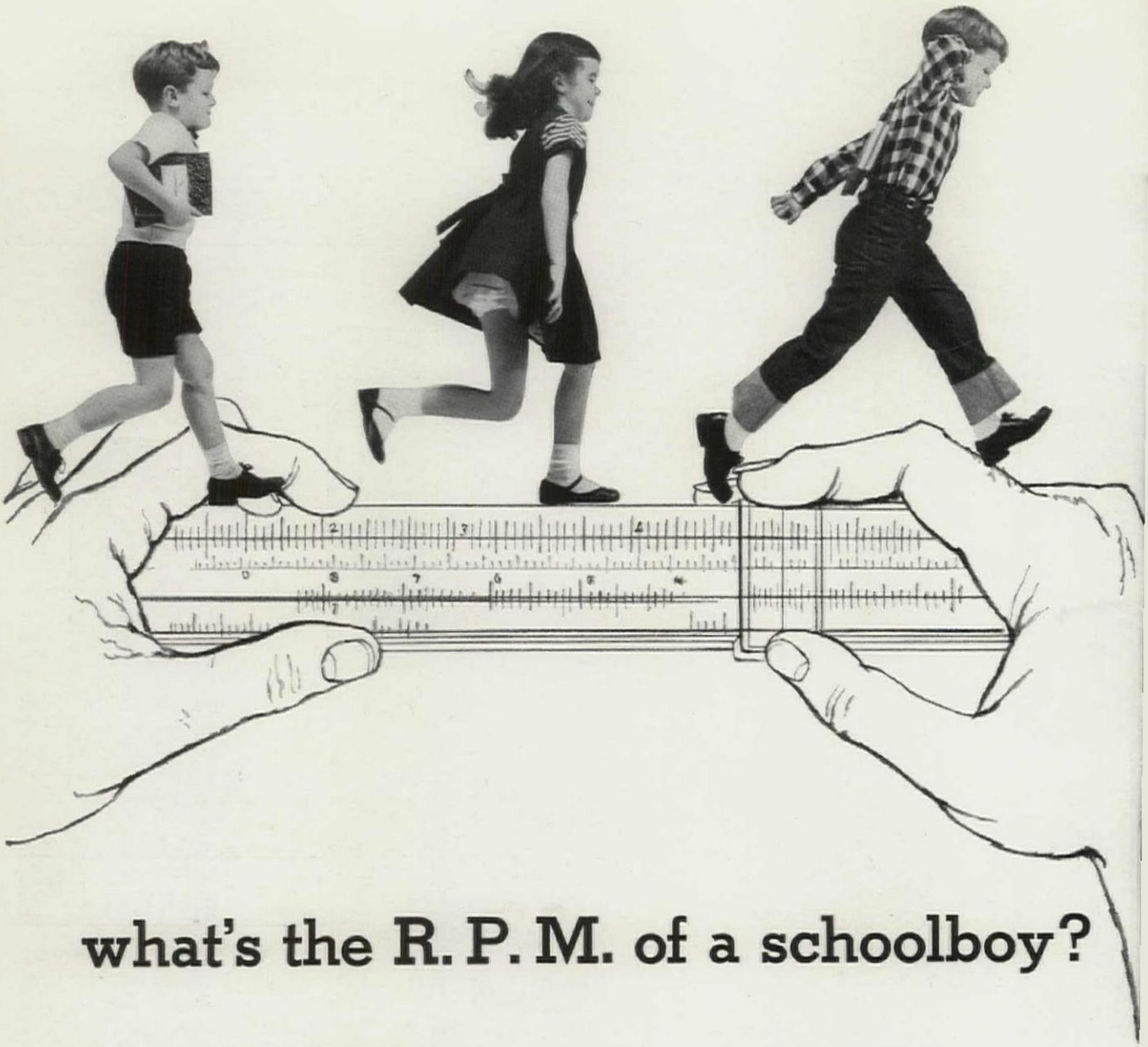

what's the R. P. M. of a schoolboy?

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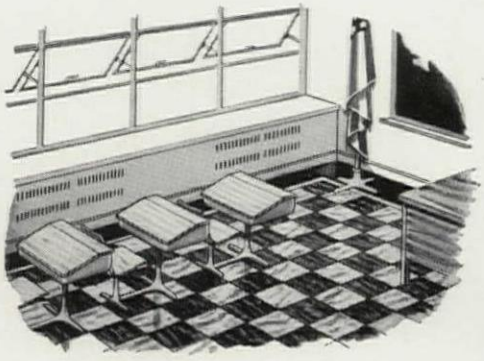

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The Big Dome

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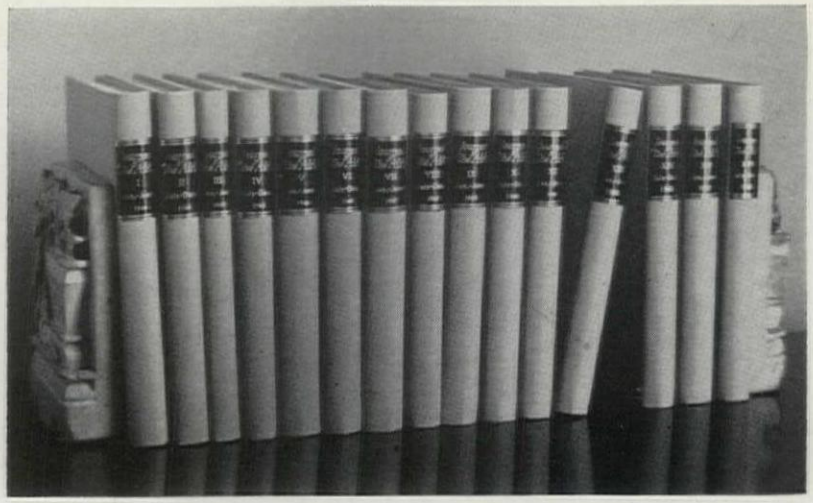

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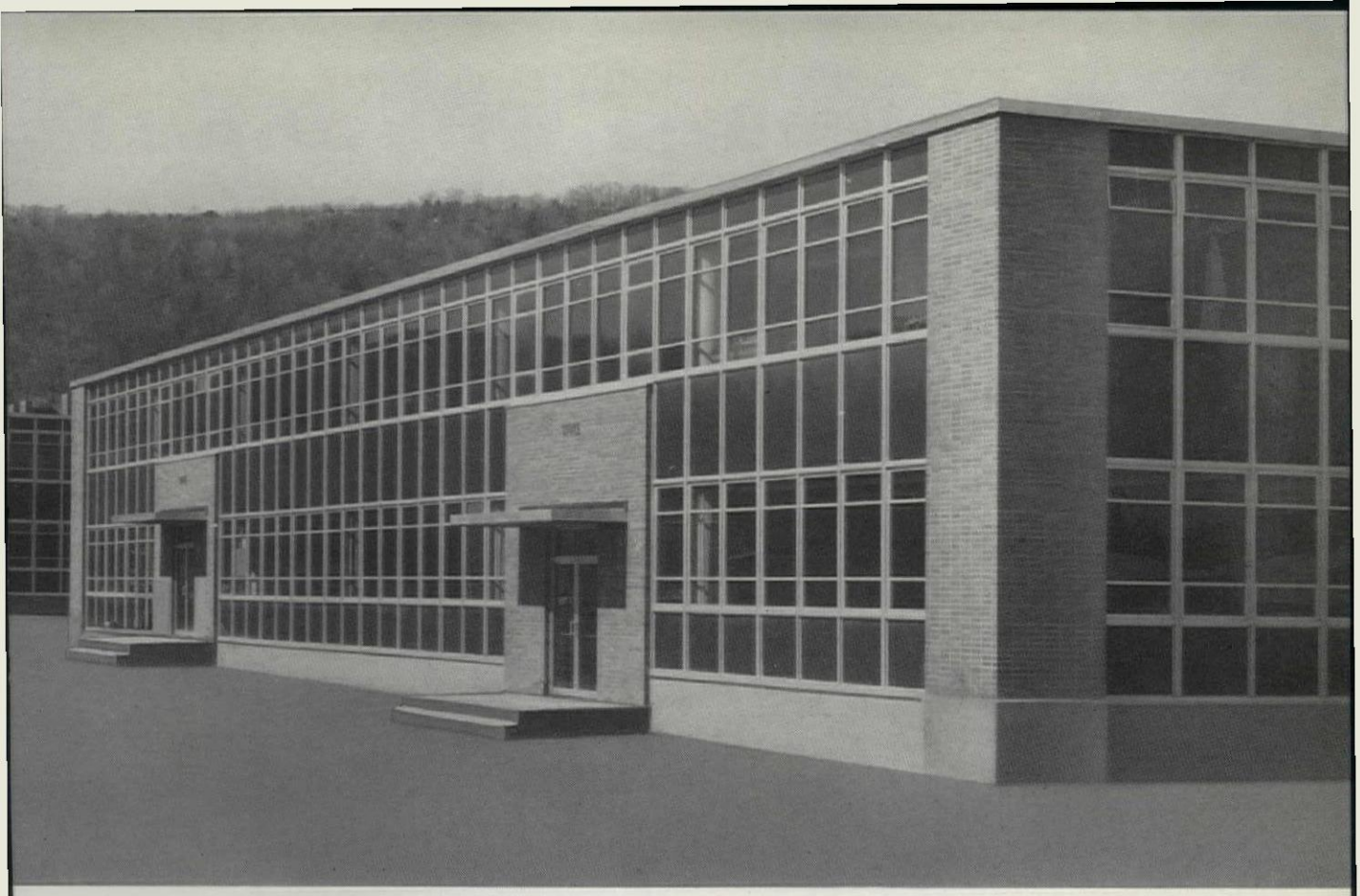

OME COUNTY TECHNICAL INSTITUTE
ghamton, New York
tain Wall with Projected Windows
itect: A. T. Lacey & Sons, Binghamton, N.Y.
tractor: Nikula Construction Co., Inc., Binghamton, N.Y.

the architect's vision sets the pace for the future . . .

by Lawrence Field

plans an architect draws today may well rmine the architecture of the future.

n an architect does project the future is plans, he must find the materials with h to implement that vision.

example, within very recent years, cur- walls have introduced new dimensions eedom in design and given the architect w fluidity of line, and a cleanness of tural concept and mobility.

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Little Rock, Arkansas

Architect: Wittenberg, Delony, & Davidson
Little Rock, Arkansas

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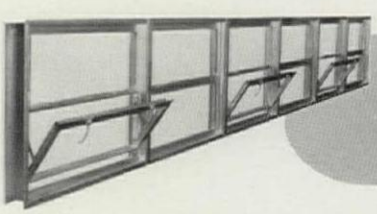
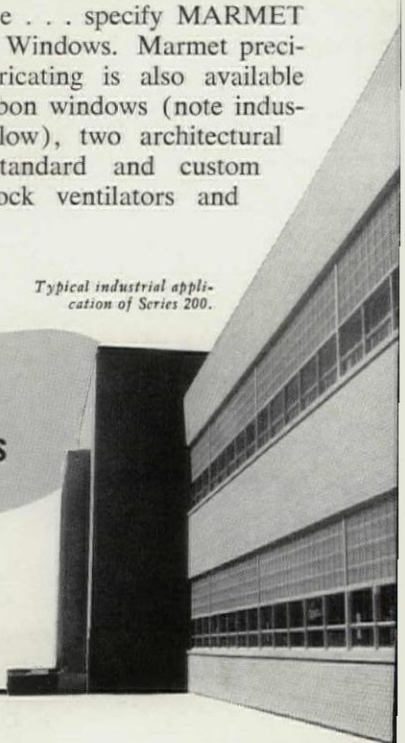


*** SERIES 200 ribbon windows**



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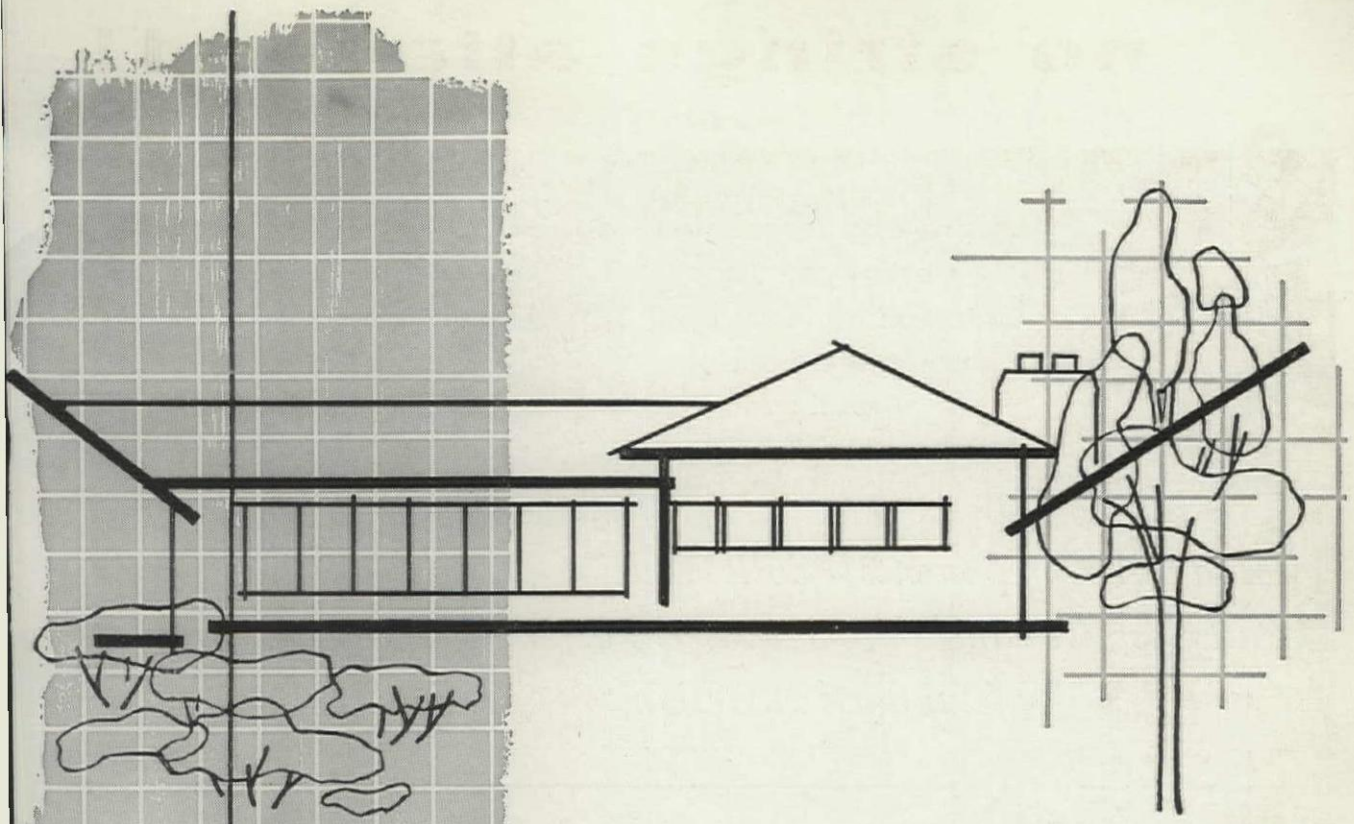

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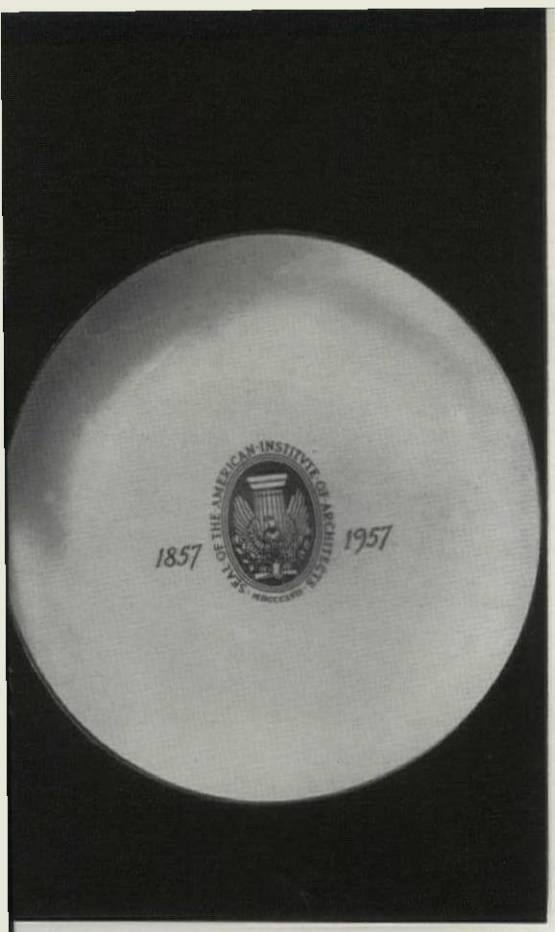

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