CONSUMER ACCEPTANCE

From every part of the United States we hear from the architects, “Of course you know that this is the most conservative part of the country. The design progress that is being made everywhere else will have to come very slowly here.” The South looks enviously at New England; Vermont eyes the Middle West; Indiana casts longing glances at the West Coast; Oregon thinks Florida has greater advantages. You’d suppose that the situation was hopeless everywhere; yet the fact is that from each one of these regions come constant indications of a trend toward design in today’s idiom.

“Lack of acceptance” of architecture that is not copied from previous styles is the usual complaint. We have several theories about this lack of consumer understanding. One is that too many architects still approach a client with the question, “What style do you want?” instead of “What are your needs?” At the same time, it is perfectly true that consumer education in what constitutes good design has been very limited. Many clients who actually want homes think they must ask for styles. “Acceptance” comes slowly because there has not yet been enough indication of what is acceptable. It’s a vicious circle.

Your editors are normally concerned with professional exchange, information, and inspiration. However, late into many a night we have been working on a book—Homes, Selected by the Editors of Progressive Architecture—which is intended for the general public. It is our hope that the architects (many of whom helped make the book possible) will find it a useful tool to prove to clients that today’s architecture is not only appropriate for today but can be charming and beautiful and livable.

We now step back into our normal role and give you in this issue another in the series of Critiques, for professional reading. Our usual board of outside critics has been replaced this month by ourselves (we’ve lived with Homes for so long, we must be experts) and the owners of the houses presented. These are people who “accepted” a fitting design, have lived with it, and are candidly critical of some features. None of them long for the stately homes of England, however.
The complete line of "Pittsburgh" glasses includes a quality glazing material for every conceivable need. Pittsburgh Polished Plate Glass has been famous for almost 70 years for its clarity, polished beauty, and absolute transparency. Pennvernon Window Glass is eminently satisfactory to meet all sheet glass requirements. And where insulated transparent windows are desired, Twindow, the window with built-in insulation, is unexcelled. Architects: W. A. Ganster & A. Hennighausen.

Twindow—"Pittsburgh's" new window with built-in insulation—when made with 2 panes of glass has nearly twice the insulating efficiency of ordinary windows. It has even greater insulating efficiency when made with additional panes. It cuts heating and air-conditioning costs...facilitates proper temperature maintenance.

Many attractive and practical bathrooms and kitchens have been designed with walls or wainscots of Carrara Structural Glass. This reflective polished glass is impervious to moisture and chemicals and is very easy to clean. The bath above has Carrara shelves and a large built-in mirror, as well as Carrara walls. Carrara is available in 10 smart colors. Architects: Walter T. Karcher & Livingston Smith.
Pittsburgh Mirrors can be used in countless ways to enhance the attractiveness of any interior. A large, structural mirror over the dining room buffet, as shown here, is one of the most popular applications. Other attractive and practical uses of mirrors: over the mantel; on bedroom and dressing room doors; on the back walls of the tub recess in the bathroom. Made from blue, flesh-tinted or green Plate Glass, polished Plate Glass and with silver, gold or gunmetal backing.

PC Glass Blocks offer numerous interesting possibilities in residences of both traditional and modern architecture—above work surfaces in kitchens . . . around front entrances . . . in stairwell walls, and for semi-partitions as shown here. These blocks transmit daylight generously yet provide privacy. They make rooms brighter, smarter, more cheerful. Their insulating properties cut heating costs.

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SEPTEMBER, 1947 3
For convenience, p/l/f/s is used as an abbreviation of “painting, lighting, fenestration and seating as coordinated according to the Dr. Darell B. Harmon Technique.”

When schoolrooms are modernized according to this technique, a profound improvement is noted in the educational progress of students as well as improvements in their physical well-being. The cost of p/l/f/s modernizing an old schoolroom has been as low as $40 in some areas. This type of modernization is applicable to many factories, workrooms and offices.

Luminall paint is ideal for painting walls and ceilings in a p/l/f/s job. It is highly light-reflective—up to 90.6% for white. It maintains this reflectivity because it does not “yellow” or discolor from age and exposure. It diffuses reflected light thoroughly. Luminall paint was used in the Mexia, Texas, Rosedale (Austin, Texas) schools which played such an important part in the development and testing of p/l/f/s.

Ask for a copy of Dr. Harmon’s “LIGHT ON GROWING CHILDREN,” reprinted from Architectural Record. On receipt of sketches showing dimensions and details of schoolroom, specifications will be furnished according to the Harmon Technique without cost or obligation. NATIONAL CHEMICAL & MFG. CO., 3617 S. May Street, Chicago 9.

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ln sulux Glass Block is a functional building material, designed to do many things other materials cannot do. Investigate!

Designed by Architects Holabird and Root, this 11-story unit of Illinois Bell Telephone Co.'s long distance switching center (already the world's largest) will house intricate, costly equipment. Insulux will provide daylight, the insulation necessary for economical air conditioning, and help block out dust and dirt in this structure planned to be built at Clark and Congress Streets, Chicago, Illinois.

Glass block daylights unique building

With an ease approaching magic, myriad calls from all parts of the world will pass through this unit of Illinois Bell Telephone Co.'s long distance switching center.

The building and its equipment—representing ten million dollars—have been carefully designed for smooth operation and economical maintenance. One note-worthy bit of planning by Architects Holabird and Root was the selection of Insulux Glass Block.

Insulux panels will not only bring in light, but provide good insulation. The result is lower cost air conditioning and heating operations.

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Frequently Insulux Glass Block can make important contributions to efficiency while protecting processes and equipment in industrial and commercial buildings. For complete information write Insulux Products Division, Owens-Illinois Glass Company, Dept. D-32, Toledo 1, Ohio.
This, too, is America. For true character is no better symbolized than by the fundamental goodness of the soil.

And the more than six million fertile farmsteads, peopled with the earthy, land-wise sons and daughters of the country, who multiply the talents of nature to feed and clothe their fellow men. Nowhere does the "nobility of man" find kinder expression!

On the farm, as in industry and commerce, imagination and determination have always mixed freely to achieve our highest aims. But the painful transition from tilling earth with sharpened sticks to rolling the furrows of soil with multiple plows was no harder for the farmer to affect than the change from the sweep well to the automatic water system.

Only the invention and mass production of steel pipe finally banished the old oaken bucket and made fresh, pure water under pressure available at the turn of a tap in the house, the barn or the "north forty."

Today America is the "bread basket of the world" largely because steel pipe . . . for irrigation, stock watering, spraying, labor saving, sanitation and just plain convenience . . . has made farming a modern industry. It is the medium by which and through which the energies of water, gas, steam, oil and other resources of America are made the servants of Americans. Yes, steel pipe makes it possible!

The interesting story of "Pipe in American Life" will be sent upon request.

Committee on Steel Pipe Research
OF AMERICAN IRON AND STEEL INSTITUTE
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THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS
ARCHITECTS TELL US MORE ABOUT V. A. HOSPITALS

BASIC CONCEPTION WRONG

Dear Editor: We hasten to acknowledge your progress report on the V. A. program. This is an excellent and courageous move on your part and should have the enthusiastic support of the entire architectural profession.

The basic conception of the entire program is wrong and good results cannot be obtained until these fundamentals are corrected. The architect is almost completely isolated from the Medical Division of the V. A. which is equivalent to the client in private work. The program assumes that the architect is incompetent to produce plans and specifications without every move he makes being checked and rechecked.

The architects that have been selected to do these buildings are in large capable of designing these projects without all the advice, supervision, detail checking, and reports, etc., from various branches of the Corps and V. A. The architects render satisfactory service to their clients on their own and can do the same for the Government. Buildings of reasonable cost produced in a minimum time can only be obtained if this unnecessary red tape is removed. The procedure to accomplish this is simple:

1. Provide the architect with the design criteria.
2. Provide the architect with access to the Medical Section of V. A.
3. Submit Phase A to a joint committee of Medical Section of V. A. and Engineer Corps. Submit Phase C to joint committee of Medical Section of V. A. and Corps.
4. From this point on, the planning should be under the control of the District Engineer, who alone would be responsible for seeing that the design criteria and suggestions from the various reviews were carried out, thus terminating the unbelievable delay and confusion caused by endless checking in Washington, which among other things prevents the architect from using his judgment on methods of keeping the building cost down. In other words, the Engineer Corps is partially responsible for the unhappy plight of the architects on this program.

Adopting a program as suggested, thus cutting out much of the red tape, would have these beneficial effects to speed up the program—reduce the cost of architectural services, reduce the cost of the Corps' administrative expenses, produce better hospitals at low cost.

The spirit of the personnel of the Engineer Corps has been most cooperative and we appreciate this no end. Our criticism is entirely of the unfortunate incredibly involved red tape inherent in this system.

We believe that more emphasis should be given in your article on the ability of the private architect to produce practical functional designs, rather than emphasizing the inspirational and esthetic in comparison with the very poor planning done by V. A.

THINKS DANGER PASSED

Dear Editor: This is to thank you for your article dealing with the Veterans Hospital Program. I have read it with great interest and think it is a very fair statement of the case.

One of my chief concerns during my tour of duty with the Institute was that the profession might be ground between the millstones of the V. A. and U. S. Engineers, who since the inception of this program have not always worked in complete sympathy with each other. However, I believe now that this situation has been largely clarified and the danger is passed.

I note by this morning's paper that the recommendations of some of the consultants to the Army Engineers and of some of the architects commissioned under this program have been adopted by General Bradley.

They are in effect to remove from the requirements of the V. A. hospitals most of the space not essential to hospitalization. This is indeed a healthy sign, although it will impose on the designing architects almost complete restudy of the lower floors.

JAMES R. EDMUNDS, JR.
Baltimore, Md.

COMPLETE UNDERSTANDING

Dear Editor: Your article is well written, it presents the facts fairly, and the general situation was about as you have stated at the time the article was written.

I understand, now, that the Office of Chief of Engineers, and the Veterans Administration have come together on a complete understanding, to the extent that no further delays are anticipated from the insistence of the Construction Department of the Veterans Administration to check the drawings of private architects during each step of their performance.

JOHN R. FUGARD
Fugard, Olsen, Urban & Neller
Chicago, Ill.

DESIGN SECTION FAILURE

Dear Editor: We have read with interest the August "Progress Report," The Veterans Hospital Program, and wish to congratulate you both on the accuracy of the reporting and your analysis of problems which have recently developed and which have been seriously impeding progress.

As stated in your article, the attempt to set up a Civil Service direct design section in the Veterans Administration was a dismal failure. General Omar Bradley, who accepted command of the V. A. only because he felt keenly an obligation to help his beloved veterans, took exactly the right step when he entrusted the Corps of Engineers with complete responsibility for procuring design and construction of the remaining 67 hospitals. There could be little doubt that if the V. A. Board of Review had confined its effort, as originally intended, to assuring itself that preliminary plan solutions would accommodate the functional requirements stipulated in the original directive, all projects would now be under construction with many nearing completion.

However, several conscientious former members of the V. A. design staff could not refrain from requesting retroactive changes in requirements which caused many months' delay and insisting on

(Continued on page 10)
includes every recognized type of pile foundation—concrete, composite, precast, steel, pipe and wood. Also caissons, underpinning, construction involving shore protection, shipbuilding facilities, harbor and river improvements and borings for soil investigation.

The Raymond Method provides piles of uniform bearing capacity regardless of length of pile required. Adequate equipment and shells in sections 4 feet and 8 feet long permit driving each pile to uniform resistance with minimum shell waste.

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The principal purpose of a pile foundation is to obtain uniformity of bearing over the area occupied by the structure to be supported. The complete flexibility of Raymond Concrete Piles as to length assures attaining this result with varying subsoil conditions. This is how Raymond produces foundations of the highest possible quality and uniformity.

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certain features in design solutions which involved extravagant cost. We have seen no evidence to support the charge that these tactics were deliberately employed by several V. A. officials in the hope of sabotaging the collaboration between the Corps of Engineers and private firms and regaining complete control of the program. Every member of the Board of Review with whom we came in direct contact appeared more than anxious to be helpful, and they were extremely helpful in explaining the desires of the V. A. hospital administrators. Nevertheless, requests for retroactive changes in functional requirements and insistence on costly features of design retarded progress and influenced cost. Hence, the recent impasse which we understand has just been overcome by returning complete authority for design supervision to the Corps of Engineers.

FRANK W. BAIL
Bail, Horton & Associates
Fort Myers, Fla.

A COSTLY VENTURE

Dear Editor: As one of the architectural firms trying to design a Veterans Administration Hospital, we want to thank you for describing the situation with regard to the designing of veterans hospitals.

This is a clear, concise, and accurate statement of the whole matter, and to the architect employed a very costly venture. The trouble is that the Veterans Administration has not and never will agree to the design of veterans hospitals being taken out of their hands, and with General Bradley leaving, as we understand he is contemplating, we fear for the worst. We appreciate your frank statement of facts and the more publicity given this matter, the more chance the general public has of realizing that the fault does not lie on the shoulders of the private architects who, from what I have seen, are doing an excellent job.

W. H. TUSLER
Magney, Tusler & Setter
Minneapolis, Minn.

HAD NO PRESSURE

Dear Editor: We have just received your August editorial on the Veterans Hospital Program. As architects for the Chattanooga Veterans Hospital, we can state that the general information and review of what has happened is, as far as we know, substantially correct as explained in your editorial. In our own case we have not experienced pressure from either the Army or the Veterans Administration to force any preconceived ideas of architectural design or period style. Except for the delays in Washington which you mentioned, and the consequent inconvenience and hardship, the program has been handled to our entire satisfaction and, as far as we know, the Government agencies feel the same way about our handling of the planning and designing of the Chattanooga project.

GILL & BIANCULLI
Chattanooga, Tenn.

Thus the response to our "Progress Report" in the August issue—reinforced by as many more letters from architects designing V. A. hospitals who thought it impolitic to permit us to quote them. One writer explained, "While there are some rather spicy comments which I should like to make, I believe it would be unwise to make them at the present time."

WELL NAMED!

Dear Editor: When you changed from Pencil Points to PROGRESSIVE ARCHITECTURE, I criticized the new name. Your courteous acknowledgment and invitation to continue to express opinions prompts this letter.

Now I must apologize and accept the fact that the change of name was prophetic of a change of character. Gone are the glorified forms of classic design evolved from Scythian culture
Here is an outstanding record of economy and performance that speaks for itself. The use of Bruce Finished Floors in 948 units saves $45,000 and 3,792 working days! The reason—the elimination of costly, time-consuming sanding and finishing on the job.

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Gentlemen:
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(1) Since 1942, we have installed Bruce Finished Floors in a total of 948 individual houses in our projects at Racine, Ill., and Elgin, Franklin Park, Ivarhine and Elwood Park, Ill.
(2) On these four and five room units we have realized a saving in flooring costs averaging $40 to $50 per unit through the elimination of "on-the-job" finishing. This totals more than $45,000 on all units completed to date.
(3) In addition to the actual dollar savings mentioned above, we have gained many valuable days' working time ordinarily required for sanding and finishing. It is sufficient to point out that at a minimum average of four days per unit, this amounts to 3,792 working days. Of course, Bruce Finished Floors have many other advantages, but I think that the above is sufficient to tell you why Mills and Sons have been and will continue to be enthusiastic boosters for these fine floors.

Also, I want to take this opportunity to congratulate E. L. Bruce Co. on their stabilized list price policy. I was surprised in looking over my lists the other day to find that the unfinished strip floorings is actually less in many cases than that of some

Sincerely yours,

MILLS AND SONS

President

SEPTEMBER, 1947
through Greece and Rome. Not even a Tuscan order remains. This can be accepted in commercial buildings where utility is the controlling factor. But the "Progressive" residential exteriors featured in many recent issues as prize-winners, I am not alone, and one of my associates dignified the designs as "chicken coops."

J. C. RUNYON
Falls Church, Va.

MORE LOGIC? . . . OR MORE ESTHETICS?

Dear Editor: The article of Mr. Kirchman has my interest. My comments on this are as follows:

Design is an emotional as well as an intellectual process. It is the intuition of the designer which gives direction whereas his intellect controls and reasons. The functional approach is therefore only a subordinated part of the creative act of designing as necessary it is.

Since 28 years I have tried to clarify this basic conception of contemporary architectural design by writing, teaching, lecturing. Through the first 10 years of development of the Bauhaus this twofold aspect of design has been the topic of lively discussion between faculty and students, apparent from all their publications. In spite of that, critics and opponents of the movement, here and abroad, have often emphasized the bare, rational, or functional aspect only, disregarding the more important emotional background of modern architectural design. Any new attempts to further clarify its inherent philosophy should be welcomed therefore.

But for heaven's sake, let's abolish the misleading designation, "International Style." It is true that the achievements of science and technique employed in modern architecture are international in character, but the tendency of the architectural spirit is to derive expression from regional conditions, from indigenous elements. Slowly but surely we shall depart from what I like to call "The International Style," those classical colonnades borrowed from the Greeks which adorn the town halls, bank buildings, museums, and ministries of the world from Moscow to Washington.

WALTER GROPIUS
Cambridge, Mass.

Dear Editor: I can only repeat what I said in 1939, it still applies—too much of our present-day design is "a passing fashion." It became eclectic, intolerant, ossified, especially in the hands of large commercial fellow travelers.

I wish that "modern" would mean to the public and architects a serious return to fundamental principles of good design of all times. A safe approach to good design is the elimination process leading to the simplest, most direct, and most economical solution of the problem.

ANTONIN RAYMOND
New York, N. Y.

Dear Editor: I thought the Kirchman statement extremely interesting because it puts so clearly those qualities which, to me, express the so-called international style, i.e., its "anti" determinations. I gather this movement is anti-gravity, anti-rational, anti-irrational, anti-functional, anti-scientific, atechnic, and so on to "geometric abstraction bleached white of sociocultural entity" and therefore, if it so continues, it will probably fail, philosophically, to be other than a ball balanced unnaturally on the nose of an intellectual performing seal. Its greatest failure, it seems to me, lies in its inability to develop common, vulgar, human reactions, these qualities so splendidly inherent in the two great Western creative periods—Hellenic and Gothic—and which have led in the past to several strong rebirths of the former. I do not despair, however, but that finally modern architecture will become adult and definitely "pro" human.

RALPH WALKER
New York, N. Y.
For fast, low-cost construction of insulated buildings . . . specify **Cemesto**

Shown here are only a few of the many commercial and industrial buildings built better and faster with Celotex Cemesto Board.

Cemesto is perfect for speedy, low-cost construction of insulated buildings. It offers thermal insulation, weather resistance inside and out, structural strength and siding . . . all at one low cost. In addition, Cemesto core is Ferox-treated to resist dry rot, fungus growth and termites.

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**The Celotex Corporation • Chicago 3, Illinois**
We present this month a Critique of homes, the fourth in the series of critical studies instituted by PROGRESSIVE ARCHITECTURE last year. A Philadelphia architect, Robert Montgomery Brown, designed the house in Wellesley, Massachusetts, which is first of the five houses in the Critique. Although he tells us he was a "backward child," Brown "somehow got through" Hotchkiss in 1926, Princeton in 1930, majoring in architecture, and New York University in 1933 for a B. Arch. in Construction. He started practice in Philadelphia in 1936, working in association with George Howe and Douglas Braik. During the years until 1942, when he joined the Navy, he claims never to have designed a "traditional" house or other building, and maintains he wouldn't know how to start. In February 1946 he returned to civilian life, although he says he has been wondering ever since why he wanted to get out!

The team of Campbell & Wong, designers of the Quonset cabin at Fallen Leaf Lake, California, was formed while both were working for another firm. Worley K. Wong is a graduate of the School of Architecture at the University of California, while John Carden Campbell received his training principally at the Rudolph Schaeffer School of Design. The designers, who have their office in San Francisco, include interior design and color consultation as a part of services rendered; and believe that the establishment of their own firm has enabled them to do the work they really want to do.

The house in Greensboro, North Carolina, the third house in the Critique, is a product of the 1938-1942 period when Jack P. Coble, architect, maintained his own office in the same city. A graduate of Cornell's College of Architecture in 1934, he spent the next two years "in the usual depression occupation," working for the Department of the Interior Park Service in South Carolina. 1936-1938 found the architect in New York, working mostly in the offices of Walker & Gillette and Fordyce & Hamby. Army service followed the years of independent practice in Greensboro, and he is at present affiliated with Raymond Loewy Associates of New York.

The offices architects design for themselves offer an informal index to the range of their interests and professional inclinations. The editors have brought together for our readers photographs and plans of the "workshops" of architects E. Gunnar Peterson, Falmouth, Massachusetts; Donald Dwight Williams, Seattle, Washington; Parkinson, Powelson, Briney, Bernard & Woodford, Los Angeles, California; and Ralph C. Flewelling & Associates, of the same city.

A clue to Harold Burris-Meyer's approach to the problem of theater acoustics may be found in the title of the article, "The Audience Hears," prepared for our technical section by this professor of physics at Stevens Institute of Technology, Hoboken, New Jersey. Also offered next month will be the concluding divisions of the Plant List started in this issue by James C. Rose, landscape architect, of New York, N. Y.

CONTINUED ON PAGE 16
Here are the facts: Double-duty INSULITE SEALED LOK-JOINT LATH performs two functions for inside walls—

(1st) Plaster Base  

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Two values for the price of one. A distinct advantage, quickly understood and appreciated by your clients. The reasons—You need a plaster base anyway—so why not have one that insulates at the same time... in addition it provides vapor control. Double for the money! This is smart, modern, progressive construction procedure—functional and economical. Specify double-duty Insulite Sealed Lok-Joint Lath.
represented in this month's Critique by the house on San Francisco Bay in Marin County. Mayhew studied at the Universities of Colorado, Illinois, and California, and then worked for three years with the firm of Miller & Pfleuger in San Francisco. In 1932 he opened his own office in Oakland, and then in 1938 moved across the bay to San Francisco, where he has been practicing ever since except for the war years. Completing the study of private residences is the house in Princeton, New Jersey, designed by Kenneth Kassler, architect, of that city. Biographical notes on the architect were published in September 1946 Progressive Architecture.

From Oslo, Norway, comes the recently completed Radiohus, the new home of the Norwegian State Broadcasting Corporation, shown in this issue. The design by Nils Holter, architect, was chosen as the result of a competition held in 1935.

The Materials and Methods section this month offers interesting data on "Modular Gardens" by James C. Rose, landscape architect, of New York. After studying at Cornell and the Harvard Graduate School of Design, Rose went out to the West Coast to start his practice. With the advent of war he returned to New York, where he worked on site plans for Camps Kilmer, Upton, Dix, and Shanks in the metropolitan area, as chief site planner in the office of Antonin Raymond. He was then in the Navy with construction troops in the Pacific. On his return to New York, he opened his own office for the general practice of landscape design.

HOW WOULD YOU LIKE TO
CLEAN A SCHOOL with a broom?

Just in case you are toying with the idea of saving a few cents a square foot on that new school, why not face the false economy of such a move? Here are a few facts you can substantiate from schools near you and the reports of educational authorities.

1. There is only one way to clean a school properly—that is with a powerful mechanical vacuum and vacuum tools suitable for every surface.
2. Brooms and dry mops spread dust and germs, weaken the control of epidemics, injure paint, draperies, rugs—and everything in the building.
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SMART APPEARANCE marks the complete new 100, 200, 300 and 400 Series National HEAT EXTRACTORS. Jackets are in colorful flame-red (crinkle finish) contrasting with the jet black crinkle finish cast into base and platework.

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CONVERTIBILITY from hand firing to fully automatic firing is a feature of the HEAT EXTRACTOR line. Conversion may be easily accomplished after installation.

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Leading equipment manufacturers are experienced in the fabrication of Everdur and will gladly quote on storage water heating and heat transfer requirements.
THE MODULAR SAVINGS PLAN

The would-be home buyers of America are about to be subjected to another high-pressure campaign—one loaded with ideas about cheaper ways to build. In the next few months, if Producers' Council and National Retail Lumber Dealers Association have their way, most of us will become thoroughly familiar with The Industry Engineered House.

Essentially, the "engineering" consists of determined application of the principles of modular design to house building. This part of the program promises to improve common building practice. Some possibilities beyond the design stage also are indicated. Certain sound changes in construction methods; the incorporation of as many standard units as possible (wood joists, masonry elements, sheet surfacing materials, etc.) in sizes now being produced by manufacturers; pre-cutting of other units as possible (wood joists, masonry elements of modular design to house building.

Two years ago, the Technical Committee of Producers' Council undertook to demonstrate the basic principles of modular coordination through application to actual home building. Chapman & Evans, New York architects with considerable experience in dealing with operative builders, were commissioned to produce some "typical" schematic plans. Then, A. Gordon Lorimer, A.I.A., former Chief Architect of Department of Public Works, New York City, and now a private consultant to Producers' Council, went to work on the full application of modular principles to designs compassing all the elements thought essential for the average small house. He is known as an ardent protagonist of the module, but it is easy to imagine the difficulties that he encountered in re tailoring, say, a 12'-8" living room to accommodate the four-foot planning module that accommodates the four-inch structural module advocated by A.S.A.'s A-62 Modular Coordination program. Then he faced the necessity of winning approval of the program from the interested committees and the Producers' Council members, many of them with ordinarily divergent interests. Agreement was finally reached, under the forceful leadership of Tyler S. Rogers, president of the Council; although on close analysis one can detect in the results some signs of having been watered down! The lumber dealers were called on to work out the distribution problems.

The houses themselves, of six basic types having one to four bedrooms and one to three baths, have pretty good circulation, employ such recognized economies as efficient plumbing layouts, and introduce various structural devices to permit maximum use of the module. Their wood frame details, being modular, are readily adapted to masonry construction. No claim is made that any of these are new developments; they are noteworthy instead for adherence to the tried-and-true methods and materials.

One scheme has a modern look, but some sacrifices to the usual concept of "public taste" are apparent. The plans are a considerable advance over the usual builder job. They utilize a basic unit of 16'x24' (or 28') singly and in several combinations. Standard 2"x10" joists cut exactly 16' are used.

Examples of unfamiliar structural details are the floor and roof framing. Roofs are supported on wood trusses, 2' on centers, assembled from pre-cut members: 2"x6" rafters and 2"x4" ceiling ties supported at center of the span by a drop hanger to eliminate deflection. In usual floor construction employing 16-foot joists and 2"x10" headers at the sill, a clear span of exactly 16 feet inside would not be left to accommodate the standard four-foot panels of interior wall and ceiling surfacing materials. In order to make the dimensions "come out even," Lorimer has added short headers or blocks so that the joists need not extend under the studs, thus insuring the desired 16-foot clear span. This device

1 "We describe these houses as 'small homes of quality materials—planned for adequate living and designed for minimum cost.' They are not intended to be the smallest or cheapest houses that could be built, because few people would want such houses." L. C. Hart, Co-chairman of Manufacturer-Dealer Coordinating Committee, presenting The Industry Engineered House to editors convened June 5, 1947, in Washington, D. C.

(Continued on page 22)
BEHIND TRANE HEATING AND AIR CONDITIONING--

The Most Complete Line of Products in the Industry

Whatever the problem—whether heating an apartment—dehumidifying the air in a blast furnace—attracting mid-summer business to a restaurant—preventing ether explosions in a hospital operating room—Trane Heating and Air Conditioning Systems offer the correct solution. To make this versatility in heating and air conditioning possible, Trane furnishes the most complete line of products in the industry.

Trane products are developed, tested, and built to the highest engineering standards...with the added advantage that every Trane product is designed to match every other Trane unit. Thus Trane systems give the performance that is only possible when every component is operating in complete harmony with every other.

The completeness of the Trane line makes it possible for the architect, engineer, and contractor to specify from one source in planning Trane Heating and Air Conditioning Systems. Trane field offices in 85 principal cities co-operate with them.

* * *

The Convector-radiator—modern successor to the old-fashioned cast iron radiator—has been engineered by Trane for universal application to steam and hot water heating systems, and is being produced in quantity so you can now secure it from local distributors' stocks.

TRANE
Manufacturing Engineers of Equipment for
HEATING AND AIR CONDITIONING
THE TRANE COMPANY, LA CROSSE, WISCONSIN • Also TRANE COMPANY OF CANADA, LTD., TORONTO, ONTARIO
is described as "a possible organized use of scrap" so we infer that there will be scrap even in modular construction! There are other such adaptations, but these serve to explain the approach.

The hundreds of hours of hard work that went into planning and "engineering" these houses received a substantial reward in June when the Office of Technical Services, U. S. Department of Commerce, approved a contract with University of Illinois Small Homes Council and a $45,000 grant for the construction of six Industry Engineered Houses in succession. The purpose is intensive investigation of ways to reduce cost of house construction, each finding to be checked by time and motion experiments during construction of the succeeding houses.

While all these factors—pre-cutting, standard sizing, packaging to permit economies in job organization, better construction techniques—have been practiced by many of the large building concerns, the research, purchasing, and distribution involved have been too much for the average small builder. He couldn't afford the first or do much about the others. This program will make the experience and study of the sponsors available to those men responsible for a great percentage of the nation's houses, and might be expected to lift the quality of the average house, per building dollar spent.

This constitutes a pretty persuasive argument but there are one or two holes which must be mentioned. First, The Industry Engineered House is not, and is not intended to be, a house for the man of minimum income. Thus it doesn't prove that Government should leave to private industry the problem of housing those who can pay least. Second, despite the Council's laudable intention of merely dramatizing the advantages of modular coordination in home construction, it has set itself up in the stock plan business because dealers and small builders will be furnished "the blueprints" promptly or the whole program will fall flat. Too much money and effort have been spent to permit that fate.

Schlage lock trim offers a flexibility that ranges from stately, conservative locks to modern, contemporary designs. Knobs can be placed anywhere on the door. There is a Schlage design to effectively complement any scheme of decoration or architecture. For information on Schlage lock trim, see your builders' hardware man, or write direct to Schlage Lock Company, P. O. Box 3324, San Francisco.

Since our report here last month on the Veterans Administration hospital program, the difficulties we described have been fairly well straightened out. The Army engineers, once V.A. has approved preliminary designs, are to have complete charge of administration of the program. Some hospitals, for which at least the foundation contracts have been let, will go ahead as planned. Other plans will be revised to reduce costs (additional architect-engineer fees for this work will have to be negotiated) while V.A. will take over design of some of the previously unassigned jobs.

The problem of architect-Government relationships will arise again in other instances, however, and we were reassured that there was an alert, intelligent, and cooperative response of the profession when this particular program threatened to flounder. Incidentally, criticism of the V.A. design staff last month in our Progress Report was our own; officers of the Corps of Engineers had merely emphasized the need to get an important job done as efficiently as possible—in the shortest time.

NOTICES

NEW ADDRESSES
Ferrenz & Taylor, 152 W. 42nd St., New York 18, N. Y.
Norman B. Entwistle, 56 N. Hill Ave., Suite #9, Pasadena 4, Calif.
Simons & Lapham, 2nd Floor, 17 Broad St., Charleston, S. C.
FOR SKILLED HANDS
... a powerful tool!

The technical and artistic achievements of our modern world have this in common—they are born of the pencil point.

Engineer, artist, architect, draftsman, designer and student—all rely upon the drawing pencil to transfer their ideas onto paper, their visions into reality.

VENUS Drawing Pencils are engineered to give you drawing and drafting perfection. They are accurately graded to assure uniformity in all 17 degrees... strong in performance... smooth and clean in action.
Worthington Pump & Machinery Corporation, Harrison, New Jersey

**SAVE 90% WATER COST**

NEW EVAPORATIVE CONDENSERS WITH MANY FEATURES FOR EFFICIENCY

**Corrosion Minimized** — Greatly improved protective treatment guards against costly corrosion. All parts exposed to moisture are of zinc-coated steel, bonderized and coated with a rubber-base enamel containing special rust-inhibiting powder.

**Easy to Clean, Stays Clean Longer** — Prime surface, with no fins to clog. Accessibility through panel construction to every part makes cleaning simple and fast.

**Water Treatment Device** — Available for use where water is unusually hard or where corrosives are present.

Made in five sizes, Worthington Series ECZ Evaporative Condensers combine practicability with heavy-duty durability to join the long list of Worthington "firsts" for efficient, low-cost refrigeration. Worthington Pump and Machinery Corp., Harrison, N.J. Specialists in air conditioning and refrigeration for more than 50 years.

Before It's "Southern Fried" It's "Worthington Refrigerated"  
Typical of many up-to-the-minute firms supplying the nation's food, the Jewell Poultry Company of Gainesville, Ga., makes Worthington refrigeration an important factor in its processing. Above is the main processing room, where 100,000 lbs. of chicken are prepared daily.

A part of the Jewell Company's storage space, with cartons of chickens ready for shipment. The workers' heavy clothing and the iced-up pipes indicate the low temperature that must be permanently maintained by Worthington equipment to prevent spoilage.

Refrigeration equipment at the Jewell Company. In the right foreground is a Worthington Freon-12 Condensing Unit. In the upper rear are three Worthington Vertical Ammonia Compressors. Worthington units of these types are widely used throughout industry.

**Why Integration?**  
You get refrigeration and air conditioning at its best when all parts of a system "pull together" smoothly. And remember that Worthington, as makers of so many "inner vitals" — compressors, condensers, turbines, pumps, valves, fittings, etc. — is better able to integrate these essential parts into a trouble-free, economical refrigeration or air conditioning system . . . It's another reason why there's more worth in Worthington. See your nearby Worthington Distributor for details.
Modern electrical systems for every requirement

Since 1905, National Electric has been a leader in meeting the ever-changing demands of the Electrical Industry.

Today National Electric enjoys an enviable reputation as a trustworthy source of supply for complete wiring systems and fittings for every conceivable electrical requirement.

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National Electric Products Corporation
Pittsburgh 30, Pa.
ANOTHER ad in the Gold Bond Campaign. Designed to rekindle the desire that should be first in the hearts of every American family...to own their own home. Judging from previous ads, hundreds of folks will request plans of this house and as usual the answer will be “Consult your local architect!”

National Gypsum Company, Buffalo 2, New York.

You can start building sooner if you start planning now. See your local Gold Bond Dealer!

We call it "Outside Inn"

What? Build an open ranch house in cold Vermont? It sounded crazy until our architect suggested this clever idea. Now we just slide a panel and presto! We have a living room open to the summer breeze. Yet in winter we have a home as snug and easy to heat as any home in all New England...

There are a lot of good ideas for you here if you're planning to build or remodel. But some of the best ones aren't visible in this picture. For example, under the outside finish are wide panels of fireproof Gold Bond Gypsum Sheathing. They give the house greater structural strength and weather-protection because there are fewer joints. And thanks to modern building research, this better Gold Bond sheathing costs even less than old-style inflammable shantung!

Inside the sheathing, in between the wall studs, is another big idea for you. It's fireproof Gold Bond Rock Wool insulation that keeps the house warmer in winter and cooler in summer. Cuts heating bills by as much as 40%. Can be "blown" right into the walls and top ceiling of the house you're living in now.

Whether you're building a ranch house or a Cape Cod cottage, the inside walls will be stronger and better-looking if they're built of Gold Bond Gypsum Lath and Plaster, and painted with Gold Bond Sheath. This wonderful new one-hour wall paint comes in eleven fresh new colors that help to make any home bright and gay all year round.

Your Gold Bond lumber and building material dealer can now offer you over 150 Gold Bond building products all designed and engineered to help you build or remodel better. Each product is the best you can buy...and it will cost you no more than other materials. The surest way to have those long-lasting materials used in your new home is to ask your architect to specify Gold Bond by name. Your local Gold Bond dealer will be glad to discuss your plans with you. See him first!

NATIONAL GYPSUM COMPANY
BUFFALO 2, NEW YORK

Over 150 tested Gold Bond Building Products for new construction or remodeling add greater permanency, beauty and fire protection. These include wallboard, lath, plaster, lime, shantung, wall paint, insulation, metal and wood control products.
Thanks to a far-sighted architect who specified "oversize" pipe

It's cleanup time in this happy home, and that means right now, for everybody! No standing around to wait your turn at the bath. No distressing dribble at Dad's shower while the tub runs for Junior.

It was a far-sighted architect who set the stage for this happy scene--an architect who installed adequately sized steel piping--pipe that some people might call "oversize," big enough to supply all the water all the members of the family want all the time.

Every architect and builder can contribute to situations like this in America's homes, new and remodeled ones alike. A few dollars more, invested in larger diameter steel pipe, will provide amply for the extra shower to go in later, the automatic laundry equipment, the garbage disposal unit, the lawn sprinkler, and those other modern home conveniences that make far more pleasant living.

So do your bit for happier, healthier homes--specify steel piping adequate for tomorrow's needs.
you get good lighting
plus ceilings unlimited
with miller fluorescent
lighting systems

For new construction or relighting of
stores, offices, schools, factories, and public buildings, MILLER Fluorescent Troffer
Lighting Systems offer new flexibility of application. The MILLER Furring Hanger
(patented) makes possible the arranging of Troffer light units in blocks, light strips, or
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FURTHER . . . installation is simplified . . . 50 to 75% fewer supports from structural
ceiling are needed . . . wiring costs are cut up to 50% . . . and conduit and conduit
fitting costs cut up to 80%.

miller lighting service is all-inclusive
MILLER 50 and 100 FOOT CANDLERS (Continuous Wireway Fluorescent Lighting
Systems) have been established as standard for general factory lighting. And
MILLER incandescent and mercury vapor reflector equipment has broad factory
and commercial application.

MILLER field engineers and distributors, conveniently located, are at your call.
Many factory-built homes are on the drawing boards but here’s one that is being delivered. The Butler Mfg. Co. prefits this home with patented key-lock aluminum panels so that it can be erected in about two weeks . . . and expanded, as desired, with little trouble.

Such a modern home should have modern conveniences . . . so along with other features of safety and comfort, the builders have selected Trumbull Multi-Breakers for simplified protection of electrical circuits, thereby eliminating the old fashioned bother of replacing blown fuses.

For further information contact your local Trumbull Distributor.

THE TRUMBULL ELECTRIC MANUFACTURING COMPANY
PLAINVILLE, CONNECTICUT

Other Factories at Norwood, Ohio, Seattle, San Francisco, North Hollywood
In metropolitan New York, for example, there are 26,188 Otis elevators—more than all other makes combined. So it goes in all the cities of America, and many abroad. Creator of skylines? It would certainly seem so!

**Fitted for Kings** — East meets West and new meets old in an unusual elevator recently delivered to a Middle East potentate. As oriental in its satin and silk appointments as it is modern in its smooth operation and automatic control, this job is just another example of Otis ability to supply vertical transportation for any requirement.

**Long Waits and Short Tempers** — How long do you wait after pressing the "down" button before you hit it again? Seventeen seconds is average, according to Otis experts. Yes, cutting down waiting time is a big concern of Otis design engineers. They've been responsible for every major step in the development of safe and speedy elevator operation.

**The Light Tells Him When** — Did you know that modern big-building elevators have a light which automatically signals the operator when to start? It's the visible part of an ingenious system developed by Otis to dispatch cars on a scientific basis, timed to the needs of the building and the hour. During rush hours it helps get heavy one-way traffic up or down without annoying delays. During off-peak hours it eliminates excessive waits caused by car movements getting out of balance due to hit-or-miss scheduling.

Have you a vertical transportation problem — in an office building, a factory, an apartment house, a store? If so, there is an Otis man in your city who will be glad to give you the benefit of our 94 years' experience.
Subject . . . lighting plan . . . and control of light sources—are the three elements of dramatic lighting.

The first two are illustrated by these photographs of one plaster cast, each conveying a different message in response to varying lighting and arrangement.

The third element—control of light sources—is a matter which the architect can turn over to Ward Leonard's "result-engineering".


CONTROL BY ELECTRONICS—You will be interested in recent Ward Leonard developments in Hysterset electronic control of reactance type dimmers, using small values of current and miniature control devices. Dimming and switching controls for an entire theatre are compacted into a small unit for control by one person.

*Your A.I.A. File should contain Bulletins 71 on Non-Interlocking Dimmers, 72 on Interlocking Dimmers, 74 on Reactance Dimmers, 76 on Autostat Dimmers, 78 on Cycle Dimmers.
ARCHITECTURAL CONCRETE

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ARCHITECTURAL concrete permits casting both the structural and ornamental parts of your building in one operation. That promotes economy. It's a fact to remember in planning hospitals, hotels, schools, apartment houses and industrial plants. Architectural concrete is adaptable to a wide range of decorative treatments.

Moderate first cost, low maintenance expense, long life, fire-safety and low annual cost are advantages of architectural concrete to remember in planning any new building. Architects and engineers are invited to make full use of our services to secure maximum advantages of architectural concrete. See our catalog in Sweet's.

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Central Heating Made it Possible!

Thousands of people in downtown Atlanta enjoy the benefits of the district's central heating system. Buildings with clean, bright exteriors and well-lit, well-heated interiors do a great deal to make their standard of living comfortable and pleasant. Few of them, however, are aware that below the ground is a veritable "blood stream"—48,486 feet of pipe mains distributing steam throughout the area from three boiler plants.

Among the 465 customers of the Georgia Power Company's steam distribution system are two United States Post Offices, the State Capitol, City Hall, Municipal Auditorium and other municipal buildings, as well as three housing projects. Commercial customers include 20 out of 26 office buildings, 6 out of 7 leading hotels, and practically all of the department stores and other retail establishments. Separate boiler plants previously maintained by many of these users have now been abandoned.

Central heating is not new to this progressive city. Operations were started in 1901, with about 50 customers, and have steadily expanded to the present impressive status. The operation is consistently profitable even though Atlanta's record of 2,865 normal degree days is only approximately 55% of the number for a representative northern city like Pittsburgh. Since 1924 the Georgia Power Company has purchased all excess steam generated by the City's incinerator plant. This amounts to approximately 30% of the system's total annual requirements, and about 80% of its needs during the summer months.

The system offers many advantages to the numerous private and public buildings and the housing projects which it serves—gives them maximum functional use of their space, eliminates all the problems connected with individual boiler plant operation, fuel deliveries and ash disposal.

To assure high thermal efficiency and dependable, trouble-free operation, as well as ease and speed of installations, Atlanta's steam system includes a considerable footage of Ric-wiL prefabricated insulated pipe units.

Want help on Central Heating problems? Ric-wiL case histories, project studies, other helpful literature available upon request.
Von Duprin Self-Releasing Fire and Panic Exit Devices are made for just one purpose—to let people out of buildings easily, quickly, surely. They do their work supremely well, whether in daily operation or under the terrific strain of emergency action. They provide the safest, surest, fastest way out.

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Identified with architects for 50 years

Roddiscraft quality has been recognized by the architectural profession for more than fifty years. The Roddiscraft hardwood doors and plywood installed in buildings from coast to coast in accordance with architects specifications is a testimony to the reputation of Roddiscraft.

Roddiscraft has earned its reputation — by putting quality first — by never permitting production needs to become paramount.

Today's Roddiscraft solid core flush veneer doors and hardwood plywood are still a craftsman's product—a blending of fine workmanship and fine materials.

Remember — Roddiscraft beauty is more than veneer deep.
VISIBILITY OF THE ENTIRE SHOWROOM is made easy by large plate glass windows on front and side. The showroom is flooded with daylight—and at night exhibits the autos in a brilliantly-lighted, giant showcase.

Design

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... FOR PRACTICALITY
WITH Glass

Count on glass to provide the benefits your clients want in new storefronts. Beauty that catches attention... impressive display of merchandise day and night... and the practical matter of easy maintenance.

This dealer showroom in Salt Lake City takes advantage of the many benefits of glass. Transparency for visibility and light transmission. A hard, gleaming, weatherproof surface that always looks new and that doesn’t need refinishing.

A Visual Front lets people see in. This principle of displaying the entire store to potential customers is being applied to stores of many types. Our colorful Visual Fronts book includes many ideas that you’ll find helpful in your storefront planning. Write for it. Libbey-Owens-Ford Glass Company, 7197 Nicholas Building, Toledo 3, Ohio.

THE BEAUTY OF GLASS is an important element in building design. Here, lustrous black Vitrolite* glass facing over the solid area “dresses up” the front. Vitrolite is available in a range of colors. They permit wide latitude in decorative effects. Tufflex* tempered plate glass doors enhance the beauty of the front.

A FEELING OF SPACIOUSNESS is achieved in the showroom, and the display appears to be doubled by the use of plate glass mirrors on the end wall. In addition, Vitrolite is used here for attractive facing on the counter. Note the recessed ceiling lighting through panels of Reglex patterned glass.

Architect: Young and Hansen, Salt Lake City.
With American-Standard

- more room for work

A trim trio of American-Standard products makes this combination kitchen and utility room for small homes unusually convenient, attractive, and sanitary. The ROYAL HOSTESS Sink is of rigid cast iron with a heavy coating of acid-resisting enameled steel. The ALDEN Laundry Tray, also made of sturdy cast iron enamelware, is of one-piece construction. The gas-fired BUDGET Water Heater in its gleaming white enameled jacket completes the picture and provides plenty of hot water.

- more room for play

The streamlined Placid Two-Tone Blue jacket of the SENeca Winter Air Conditioner harmonizes perfectly with the attractive setting of this basement playroom and protects valves and controls. The Seneca, with its durable copper bearing steel heating element, provides the dual benefits of clean, conditioned air, and carefree, automatic heating. Burns natural, manufactured, mixed, or liquefied petroleum gas. In five sizes for small to medium sized homes.

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Modern design in apartment house planning demands the functional beauty of Lupton Metal Windows. Narrow frames and mullions assure maximum daylight, lending a feeling of spaciousness and luxury to each dwelling unit. Lupton Metal Windows offer controlled, draft-free ventilation. Outswinging ventilators catch and gently deflect air currents into the room. Extended hinges permit cleaning all glass from the inside. Metal frame screens for Lupton Metal Casements are easily attached on the inside of the window. There is a Lupton Metal Window for every type of building. Write for our new 1947 Catalog or see it in Sweet's.

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Member of the Metal Window Institute
PRESS THUMB
it's open
RELEASE.... and the lead is locked tight!

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which makes it 7 ways better
than any refill pencil you ever used.....

Clean
One hand operation. No need to touch the lead. Hold lead to paper, press button release and adjust length you desire by quick upward or downward movement of your hand. Thus you avoid getting graphite on your fingers to smudge your drawing.

No Breakage
An exclusive collet, machined to a thousandth of an inch tolerance, supports the graded lead all around. Prevents breaking or snapping even when you bear down hard.

Sturdy
Fine quality plastic and metal used in every part. Exposed metal parts are gold-plated. All expertly assembled.

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Guaranteed
If your LOCKTITE fails to give you perfect performance, return it to your Dealer or to us for immediate exchange.

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The same precision collet holds the lead in a building grip. The lead positively cannot slide back into the holder.

Quick
Just press your thumb on the button to release clutch. Does away with two-handed screwing or turning operation.
The elevator that's PUSHED UP offers these special advantages

YOU SIMPLIFY CONSTRUCTION AND CUT BUILDING COSTS

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Penthouses interfere with modern, streamlined designs. The Oildraulic Elevator requires no penthouse because it's pushed up from below by a powerful hydraulic jack...not pulled from above.

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YOU GIVE OWNERS EXCEPTIONAL ELEVATOR SERVICE

Economical Oildraulic operation

This modern elevator reduces load lifting to simplest fundamentals. Car rises as oil is electrically pumped into hydraulic jack or jacks. Descent by gravity. Less power required. More economical.

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Guided by the highly efficient "Oildraulic Controller," this elevator operates smoothly and stops at floor landings with accuracy. Very important where loading and unloading is by power vehicle.

Data for architects

Perkins & Will design a factory...

Mesker Steel Windows

"Modern manufacturing plants owe much of their attractive appearance to intelligent handling of metal windows. As elements of industrial design, their possibilities are unlimited."

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TIME-PROVED ELECTRUNITE COMBINES E.M.T. CONVENIENCE WITH POSITIVE DEPENDABILITY

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3. ELECTRUNITE E.M.T. meets Underwriters' Laboratories requirements for adequate mechanical and electrical protection...and is approved by the National Electrical Code for use in exposed, concealed and concrete slab construction.

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PIONEERING again

Certain names in industry have a distinguished reputation for superiority. They symbolize leadership — a prestige earned through their pioneering work, the high quality of their product and the long and progressive service they have rendered to the professions and the trade.

We enjoy this distinction. We are proud of the public's confidence in our product which we have so painstakingly built up during our thirty-four years of service.

- WE PIONEERED the introduction of the washable, sunfast and sanitary decorative wall coverings.
- WE PIONEERED the introduction of wall coverings which, in addition to the above properties, combined valuable wall protective features to prevent plaster cracks and to afford years of uninterrupted service.
- WE PIONEERED the incorporation of color therapy principles in decorative wall coverings for hospital and institutional usage.

In keeping with this leadership we are now pioneering again. We are pleased to announce that, in addition to its many other advantages,

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SERVES AS A FIRE SPREAD PREVENTIVE

As a result of recent tests, FABRON is now listed by the Underwriters' Laboratories, Inc., sponsored by the National Board of Fire Underwriters, and its label of approval is affixed to each FABRON roll.

FABRON is the only wall covering that combines fire spread prevention with decorative, structural, practical and economical advantages.

FABRON is by far the most desirable treatment for walls and ceilings. FABRON is a real investment. It yields annual cumulative dividends in the savings it effects. Its superiority is unquestioned.

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Each ply is a flexible covering of stone—made of asbestos

Protect your building from the hazard of flying sparks and burning embers. Insist on a Johns-Manville Flexstone Roof. It will not support combustion. That's because the felts in a J-M Flexstone Built-Up Roof are made of the magic mineral asbestos—fireproof, rotproof, long-lasting.

Flexstone Roofs are smooth-surfaced, too—permitting thorough drainage, eliminating the weight of slag or gravel, and making any damage easy to locate and repair. Need no periodic coating. Felts are perforated to insure smooth application.

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SEPTEMBER, 1947 47
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In this study of residential architecture, the fourth in our series of Critiques of particular building types, the editors themselves served as the jury to select the work for presentation, to study the drawings and photographs, question whatever was uncertain, and challenge whatever seemed a compromise. In addition to sending these proddings to the designers for their rebuttal, we also turned for information and comment to the highest court of all—the owners themselves. We asked them how the houses worked out as homes, what they particularly liked, and what they might prefer otherwise—their livability, in short. Thus, the discussion with each house is a brew of several ingredients—the architect’s initial description, the editors’ observations, the architect’s rebuttal, and the owners’ opinion. Below, we state in simple terms our basis for judging design progress in the residential category. These standards, incidentally, are the same ones we used in choosing the houses for the book, “HOMES—Selected By The Editors of Progressive Architecture,” soon to be off the press. The five houses that constitute this Critique are among the nearly 100 that appear in the book.

A CRITIQUE OF 5 HOMES

• CRITERIA FOR JUDGING

PROGRESSIVE RESIDENTIAL ARCHITECTURE

Houses do not lend themselves readily to generalizations against which to measure the success of the design. For in the house, the architecture is provided for a very small unit—the individual family—and, as is well known, people are funny. Once this factor is accepted as the Wild Jack that it is, however, there are certain basic criteria which may be established.

BASIS FOR JUDGING THE PLAN

The plan should provide appropriate spaces for the necessities and pleasures of the family, with these spaces well interrelated and oriented for their several purposes. Whether the plan is “open” or the separate functions are thoroughly partitioned, the degree to which privacy is provided, whether the plan scheme is formal or informal—all these are matters of the particular family’s preferences. They are good if the family wants them; bad if they are unwanted or inappropriate to the family’s way of living.

MATERIALS AND STRUCTURAL METHODS

The materials should be appropriate to the purpose and economically employed. It doesn’t matter whether they are newly developed products or time-honored; all of them constitute the raw materials with which the designer has to work. But we look for the logical, direct use of whatever materials are selected; we shall be critical where they are either falsely or extravagantly employed, and—since we are charting the course of architectural progress—we shall be on the watch for the intelligent use of newer materials that do a job better than could be done with older ones. So, with structural concepts. They must analyze well and be suitable to the use made of them and the place where they occur.

So far as possible, inasmuch as we accept simplicity and unity as valid basic criteria for judging the design of anything, we look for the integration of structure, materials, and equipment with plan, rather than any one of these pasted or otherwise applied to the others.

FINISHED DESIGN

We don’t care a hoot whether the final design employs a one-pitch roof, a two-pitch roof, or one that’s flat as your hat, so long as it performs its shelter duties well and is an appropriate part of a coordinated design. Window walls or small, separated windows? Either, if they provide good light and the degree of relation to the out-of-doors that the family wants, and if they are elements of a consistent design.

On the aesthetic side, the criteria that have always been valid still apply—good scale, good proportions, pleasing relationships, a satisfying sense of materials, contrast and color, and a final design unity. Fortunately, in our constant search for total advance, we are finding more and more work that checks not only on these aesthetic bases, but that is also clearly progressive in plan, in use of materials, in structural imaginativeness, integration of all these, and general amenity.

THE FAMILY’S PERSONAL NEEDS

We leave to the last perhaps the major criterion of all in assaying successful, progressive design—the satisfying of the personal needs of the family for whom the house is provided.

We assume that a house that is easier to housekeep and maintain, informal in plan (if this makes the plan work better), and simple and unpretentious in design, is a proper home for persons well adjusted to today’s living. We scorn both monuments and those who build themselves monuments to impress others. We look for indications of individual livability rather than conventionality or impressiveness. This seems also the democratic approach wherein citizens are part of something more than their own small worlds, where they have nothing to hide or fear, and where the concept of an integrated one world quite literally can begin at home.
HOUSE IN WELLESLEY, MASSACHUSETTS

ROBERT MONTGOMERY BROWN, Architect

CRITIQUE: Main points admired: Unpretentious design approach to the large house; its adaptation to and orientation on a wonderful island site; forthright provision for the needs of a family with five children; excellent circulation throughout. Main points questioned: Use of the northeast deck upstairs; the stone wall enclosure of the service yard; whether the big basement space is all useful; and the almost institutional standardization of the children’s rooms.
The design problem involved in this remarkable home of Mr. and Mrs. William Guernsey and their family was, according to the architect, "unusually simple, since they had no design 'fixations.' " Also, since Mrs. Guernsey is the architect's sister, he was well acquainted with the family's living habits and needs.

We had asked about the use of the upstairs deck on the driveway side of the house. The answer: "Its primary purpose is to keep rain out of the children's room beneath and to provide shelter at the front door. It is also a pleasant place to take a morning sun bath or sit in the shade in one's underwear in the afternoon. I have always liked bedroom-level decks for early morning 'weather feeling.' "

"What about the high masonry wall enclosing the service yard?" we queried. Someone thought it seemed a little heavy and questioned the use of stone, since this material is not used elsewhere. Direct questions received direct answers: "I feel it tends to reduce the apparent height of the house and render it lighter in effect . . . The stone has a much more pleasing color range than the photo indicates . . . It is an effective separation of service sights and sounds from the main approach . . . We all like it very much."
ADULT LIVING ROOM

PLANS. The rows of standard bedrooms, the divided main living room, the breakfast room with stools at a counter, the all-wood wall finishes throughout (to be nicked and bruised during growing-up period, later to be sanded and maybe painted) are all answers to the basic requirements.
HOUSE IN WELLESLEY, MASSACHUSETTS

ROBERT MONTGOMERY BROWN
Architect

The only definite plan requirements were: separate bedrooms for three existing and two proposed children; separate living rooms for the children; and low maintenance.

As to the big basement space, the architect stilled our questioning: "It will all be used just as shown on plan... Incidentally, I am a great believer in basements. The space always ends up being used for something, and in ordinary soil conditions it is the cheapest space in the building and requires virtually no maintenance."

The standardization of the children’s rooms was "a basic idea before any planning was done." The idea is somewhere between simple efficiency and enlightened military discipline: "It eliminates a whole raft of frictions over who has the best room, etc., etc."

FRONT HALL. "Nerve Center" (keys, gloves, bills, etc.) at left.

DINING ROOM. All furniture except chairs designed by the architect.

CHILDREN’S LIVING ROOM. Note plain redwood finishes in all rooms.
NORTH. The house is of frame, built on a concrete slab; exterior finish is gray-stained cypress with white trim.

HOUSE IN GREENSBORO, NORTH CAROLINA

CRITIQUE: Main points admired: General plan organization; entrance hall serving all areas of house independently; undercover passage from storage room and garage to kitchen door; the apart, upstairs study-bedroom (the owner is a college professor); flexibility of children's bedrooms, with sliding partition between. Main points questioned: Orientation (service rooms, bedrooms facing west); change in level on ground floor; distance involved in party serving from kitchen to living room; guest bedroom above kitchen and opening into two bathrooms.

WEST. Covered passage to kitchen door at right.

FIREPLACE. "We like the arrangement extremely," says Mrs. Friedlaender.
This is the home of Prof. Marc Friedlaender, his musician wife, and their two small boys. In discussing the main questioned points with both the architect and the owners, it appears that all were agreed about the placement of the house on the site; there is a delightful view of a lake to the north; hence the living room with its porch on this side. The western exposure of kitchen and bedrooms does, Mrs. Friedlaender reports, submit them to late afternoon sun and glare, but Mr. Coble points out that the prevailing breeze is from the west, and, because the house is in the woods, the western sunlight is considerably filtered. The separate levels for dining and living rooms accomplishes seclusion for the latter which is desirable for the privacy of musicales, but the stairs do make it a bit risky toting food for living room entertaining.

As to the placement of the guest bedroom above the kitchen, the architect says: "The location . . . is obviously open to criticism from the noise angle . . . but I understand that insulation has made service noises inoffensive." A separate bathroom for this bedroom would undoubtedly have been a plan improvement, but since the budget was exceeded in any case, "there was, of course, a stopping point."
APPROACH. In his landscape plan, Mr. Kiley has provided a cool orchard through which the drive will pass.

CRITIQUE: Main points admired: The floor plan as a whole; the sensible placement of main entrance alongside garage entrance; the good separation between sleeping and living quarters, but both directly accessible from the hall; the cross light and ventilation gained by the clerestory band. Main points questioned: The rather large space at the west end of the living room, well placed for its corridor use, but a bit difficult to use otherwise; what struck some as a rather arbitrary use of wall materials, such as the projecting masonry at the northeast corner and on the west end; a certain barren appearance, which was recognized as chiefly due to the fact that the house was photographed before the landscaping was in place (a point amply supported by the landscape plan indicated at left).
The Walker Bleakneys have lived in a number of homes in the past 15 years and when they came to build this one, on a site above Lake Carnegie, they report, "We felt pretty confident of what we really wanted. Living in this house has confirmed those ideas." Their particular pleasures are having all the main living quarters on one level and the arrangement of the kitchen-dining-workroom.

The western utility-hobby room takes care not only of the laundry, but their chief hobbies—sewing, plant care, writing, and radio work. They also like the many windows provided to welcome the lake view, while the house offers privacy toward the west. Taking advantage of the site slope, the architect has included a basement playroom, with outside door, to serve swimming or skating parties directly.

Regarding the use of materials—combined cinder block and standard frame—in which the editors felt a certain degree of arbitrariness, Mr. Kassler grants that this may be so, considered from the structural standpoint, but in this case, the use was based "entirely on a design consideration."

SOUTH. The corner porch, accessible from both living and dining spaces, may be screened for summer use.

SOUTHEAST. Eventually, terraces at this corner will receive you, turn you around, and start you down again.
Inside, the house is openly planned, as the owners do most of their own housework and there are no children. Easily maintained, waxed fir boards and battens constitute the wall surfaces throughout. Concerning the rather sizable area at the west end of the living room which serves as a corridor, Mr. Kassler says: “The space is also used for a chair group and incidental furniture. It is not the best possible solution.”
ON SAN FRANCISCO BAY, MARIN COUNTY, CALIFORNIA

CRITIQUE: Main points admired: Extraordinary adaptation in plan and design to an extraordinarily scenic site; making a veritable show window of the house at the corner where the widespread view is at its most dramatic; in plan (see next page): ingenious use of a drive-through garage spanning the entrance driveway; good separation of main functions, so that bedrooms and main living rooms may be entered independently from the entry hall. Main points questioned: Apparent difficulty of access to the sitting terraces and outdoor viewing lawns; the problem of what happens when guests arrive and find both doors of the garage "porte-cochere" shut; the extremely odd shape of the combined living-dining room.

CLARENCE W. W. MAYHEW
Architect
A PROTECTED CORNER of the west terrace.

HOUSE ON SAN FRANCISCO BAY
MARIN COUNTY, CALIFORNIA

DRIVE-through garage "porte-cochere."
Access to the terraces is indeed roundabout; but it is nobody’s mistake that there are no sliding or hinged doors out from the big glass areas toward the Bay. And neither Mr. and Mrs. Fred Shingle who own the house or Mr. Mayhew would change this. For it is the architect’s experience that for any site facing the frequently terrific winds off the Bay, there is simply no method of weatherproofing except to seal everything tight. Mrs. Shingle says: “We have experienced no inconvenience in going through the kitchen or around the house to reach the patio and lawn.” As to what happens when guests find garage doors at both ends of the “porte-cochere” closed, it can be confusing, but Mr. Mayhew claims that “if you are a good driver, you can turn around!”
THE LIVING ROOM commands the view from the east-bay shoreline (left) to the islands to the south, and so on around to Marin County’s Mount Tamalpais.

CLARENCE W. W. MAYHEW, Architect

The odd shape of the living-dining room results directly from bending the house plan to fit the bluff-top site and to obtain the full arc of the marvelous view. The break back, at the fireplace corner, defines the dining space inside the house and provides a relatively sheltered corner for outdoor sitting, although the architect feels it might have been just as well to have continued the wall line without this setback, thus avoiding one complication of an already complicated shape.

EVEN WITH A DEEP ROOF OVERHANG, the problem of glare from the water is aggravating at times. A partial expedient is the use of woven reed roller blinds which, when lowered, soften the glare without making the room gloomy.

TOWARD THE NORTH, the house opens out to a cool wooded hillside, so that it is usually possible to choose between sun and shade, wind protection, or full exposure for outdoor sitting.
QUONSET CABIN, FALLEN LEAF LAKE, CALIFORNIA

JOHN CARDEN CAMPBELL
Designer

& WORLEY K. WONG
Architect

CRITIQUE: Main points admired: The imagination that found in the serviceable Quonset a new architectural potential (for more complete discussion, see article on p. 00); that, while enhancing the basic element in both plan and design, still respected the fundamental Quonset form rather than disguising it or attempting to make it look like something more conventional; the rationale of the Quonset itself which makes it almost impossible to point to something and say, “Here is a wall,” and to something else and say, “Here is a roof”—a shelter, simply, and one that has stood the fire of the most severe tests in all sorts of climates; the straightforward and workable plan which the designers worked out within the defined space (see next page); ingenious details that capitalize on things inherent in the Quonset. Main points questioned: The fact that dropping the vertical wall within the curve necessarily cuts down on floor space, and the question whether this treatment is invariably to be preferred to allowing new construction to project out beyond the curve; the odd, almost pie-shaped porch; bringing the steps up to the porch way around at the back corner, which seems indirect and also partially cancels out this rear corner as a secluded sitting area.
COMING UP the stair to the porch, the visitor has the whole drama of the view burst upon him as he reaches the top of the steps.

THE QUONSET SHAPE has been likened to a giant fallen tree.
The designers feel very strongly about the undesirability of allowing anything like dormers with orthodox roofs, or other things unrelated in form or structure to project from and compete with the basic, continuous curved form of the Quonset. Hence the dropped vertical wall within the curve. As for the projecting trellis above these windows: “Cutting the curved Quonset form with a plane in the medium of an eave or trellis is a subordinate entity and does not overpower the structure as dormers do.” If more space is needed within the house, “add another rib and keep within the simple medium.” The odd-shaped porch is explained by the fact that this angle parallels the access road beneath the house; had the porch been rectangular, it would have been both too near and too high off the road.

THE END WALL is mostly glass. Note the light trough above the windows that, in combination with the Quonset curve, forms an excellent lighting fixture. Above work counters, as in the kitchen, down light pierces the trough. The exterior ribs will eventually support vines.
QUONSET CABIN, FALLEN LEAF LAKE, CALIFORNIA

INTERIOR WALLS are surfaced with plywood.

JOHN CARDEN CAMPBELL, Designer, & WORLEY K. WONG, Architect

How do the owners, Dr. and Mrs. Morris Felton of San Francisco, feel about the house? "At first," they tell us, "we were afraid that its strange form would not fit in with the surroundings . . . but we were very agreeably surprised that the cabin, painted green outside, with the wooden portions stained brown, fits in wonderfully—not only in our opinion, but also in that of our neighbors . . . It is just what we wanted for our vacation home."

KITCHEN at left. Ventilating louvers occur under the windows.

The owners mention "the feeling of enormous space" within the 10-foot-high arch.

THE CURVES AND PLANES of the house provide an ever-changing series of frames for the splendid views of mountains and lake.
In the design of the studios in this Norwegian radio center, materials have been so chosen, organized, and applied that the rooms achieve a genuine architectural quality. Of all rooms, however, broadcasting studios can least afford to be judged on the basis of pure design. But when in addition to constituting convincing architecture, they also produce excellent sound conditions for broadcasting—for which we take the word of our correspondent—then a noteworthy contribution has been made to the field of progressive design.

The home of the Norwegian State Broadcasting Corporation, this great building, the winner of an architectural design competition, was only partly finished when the Nazis took it over in 1940. At Norwegian expense, the Germans pushed construction to the point where they could use the technical facilities. Since, many of the refinements of the original design have been included. In this presentation, we focus on the ground floor of the South Wing, where all of the studios are located. Offices, workshops, laboratories, etc., occupy the remainder of the building.
The studios and accommodations for the performers and guest artists occupy the entire ground floor of the South Wing. Except for the large concert hall, designed to seat 200, all of the studios are grouped in a single block, with control rooms so centralized that one of them oversees four studios at once. Double, sometimes triple walls occur between adjoining studios, and each room, constructed on its own concrete foundation, "floats" on rubber cushioning. The great concert hall is in a wing of its own, and the roof is a continuous curve from high above the stage down almost to ground level at the rear of the auditorium. Walls are of concrete, and the roof surface is copper. Each studio has its own special shape, and broken wall and ceiling lines have been developed in a variety of sound-conditioning materials. Doors to the corridor are placed at an oblique angle, and exactly parallel planes are avoided wherever possible to kill reverberations before they are born. The accompanying photographs clearly show some of the more interesting studio treatments. Lounges and waiting rooms for musicians and other performers are located just across a corridor from the studio block; outside window walls provide a pleasing outlook over the open, landscaped site.
INTERVIEWS. Carpeting, draperies, perforated wood ceiling.

TALKS originate in this small, wood-paneled room.

SOUTH WING. Concert hall at right.
FOLK MUSIC STUDIO. The sawtooth wall and ceiling are all of wood. A twin turntable broadcasts musical recordings.

SMALL ORCHESTRAS are accommodated in this clean-cut room.

CHAMBER MUSIC STUDIO is similar in treatment to the small orchestra room; bent-section ceilings; walls of perforated acoustical panels.
The Gory Grover house at Acolanes, Calif. (Campbell & Wong, architects), can be discussed on the basis of its success as a residence, quite apart from its satisfying adaptation of the mass-produced, light steel Quonset. Beautifully related to the site, the round form recalling rounded hills, its glazed walls are an entirely natural means of emphasizing the delicate yet strong curve of the arch. The shape of the living porch was determined by a large tree which has since been cut down.

MASS PRODUCTION + LIGHT STEEL
THE QUONSET PROVIDES A WORKING EXAMPLE OF TWO INTERESTING DEVELOPMENTS.

By FRANK G. LOPEZ

To a certain extent interest in mass-produced buildings has continued since the recent war, and the search for rational ways of using the less familiar materials has intensified. The wood, heavy steel, masonry, and reinforced concrete upon which we principally depend are all high in cost; perhaps we can get as good—or better—buildings at less cost by using something else.

Some months ago the American Iron and Steel Institute published specifications for design in light steel shapes. Now the average designer has a reliable basis for checking his work in this unfamiliar medium. The effect upon American building could be substantial. Light steel construction would seem more suitable for industrialized production than for custom tailoring at the job because the material is less easy to work by hand in our traditional manner than, for instance, wood; and because substantially larger units than, say, masonry can be shipped economically.

Mass production, industrialized production, prefabrication—what do such phrases really mean in relation to building construction? "Prefab," the most familiar term, has acquired a host of different connotations, from precutting of framing members to assembly of building units in factories either centralized and permanent or set up temporarily at the building site. The term has been limited almost entirely to housing. Most of our building materials are mass-produced by industrial methods, and are mass-distributed. Wood, clay, stone, metallic ores, sand, etc., are processed in centralized plants into standard shapes, sizes, or small assemblies suitable for handling in distribution and on the job, and are then shipped in quantity to local distribution points. How far can these industrial methods be applied to complete structures?

The Quonset building, manufactured by the Stran-Steel Division of Great Lakes Steel Corporation, is a structurally complete unit produced by industrial methods; it is mass-distributed. To the...
Further details of the Grover house: the standard Quonset "20" is modified at the longitudinal glass wall by omitting several normal framing members, a deviation for which the designers take structural responsibility (see text). Note the living room light troughs, which make the most of the curved "ceiling" as a light reflector without rendering it obtrusive. Heating: hot water from the utility room tank circulates through radiant tubing laid between rough floor boards above, to heat both upstairs and down. The round holes of the perforated metal hood, which reduces sky glare and will act eventually as a vine trellis, cast shadows which harmonize with the curved form. Corrugated steel is painted grayed moss green; sash trim and metal trellis, golden yellow; exposed wood, dark green stain.

Bishop house, Phoenix, Ariz. (T. Lawrence Milligan, architect), has three bedrooms. Two Quonset "24"s are used in a T-plan.
best of our knowledge it is the only premanufactured structure that is at present obtainable with reasonable ease anywhere in the country. As an example of what a truly industrialized segment of the building industry can provide, it merits close examination. What does the Quonset do to design? What can we get out of it? What is likely to be its future?

Familiar to all of us, the Quonset resulted from restudy of the British Nissen Hut, in the course of which Stran-Steel's nailable light steel structural members were incorporated in the building. Its semicircular framing members are shipped in sections; these and the bracing, corrugated sheet steel covering, standard openings, accessories, lugs, etc., are "packaged," so that the buyer receives the complete structural frame and exterior surfacing in units as large as can be handled satisfactorily, ready for job-assembly with nails, screws, and bolts. Along with the materials come standard assembly drawings. Foundations, insulation, interior surfacing, special trim and openings, equipment of any kind, all must be supplied by others. As long as the standard form is adhered to, the manufacturer is prepared to guarantee his product in any reasonable way. As soon as the basic form is substantially altered, the structural guarantee becomes the responsibility of the individual designer or builder.

The manufacturer encourages experimentation; he will furnish complete structural data, for instance, to those who wish to make some unorthodox adaptation and must have load tables, stress diagrams, etc., in order to engineer the adaptation soundly. Certain deviations which do not unduly affect the structure are considered standard; for example, wider-than-normal openings in the curved side walls if they do not necessitate cutting off more than two of the arched Stran-Steel studs. Since these are 4 ft on centers, the normal maximum width of clear side opening is a nominal 12 ft. The buildings are available in four models: Quonset "20" (20 ft wide by 24 ft long, increasing in length by multiples of 12 ft); the "24" (24 ft wide with one vertical side wall, same lengths as the "20"); the "36" (36 ft wide, same lengths as the "40"); and the "40" (40 ft wide, semicircular in section, in any multiple of a 20-ft length). Another type, the "Multiple," has repeating arched roof sections supported on interior columns and beams.

So far there has been only one recorded difficulty with labor, and that rather foolish. In a single case the builder encountered a situation in which ceilings could be sprayed though walls must be brush-painted. (Nobody could tell where walls stopped and ceiling began!) Wide experience has not yet revealed materials which cannot be used in conjunction with Quonsets. It is feasible to employ with them foundations, floors, insulation, interior finish, heating, lighting, and other equipment of any type desired. Dry interior surfacing (plywood, wallboards, etc.) has been successfully used; so have tile or lath and plaster. In discussing costs one must remember their wide variation from place to place, and even in the same community under different circumstances, particularly in today's situation; and also the fact that the building frame and shell together constitute only a fraction of the
First National Bank, Uptown Branch, Portland, Ore. (Barrett & Logan, architects), is a 40 x 140 ft Quonset. Shell was erected in 4 days, building completed in a few weeks at a total cost of about $31,400. Interior finish: rubber tile floors over concrete; walls, asbestos board to 8 ft, acoustic board above. Insulation: 2-in. glass wool. Exterior: exposed steel painted in eye-catching stripes, henna, peach, and lime.

Nursery school near Detroit, Mich., has a classroom at either end; entry, office, etc., in the center.

Adapted from standard Quonset details, these drawings show how a 12-ft sliding door is attached to the Quonset's curved side wall. Two adjoining arched ribs are cut for this—the maximum structural deviation for which the manufacturer assumes responsibility. Note that structural potentialities of the corrugated steel skin are not fully exploited; structurally the ribs carry the principal load.
total building operation. Stran-Steel has available several "packaged" standard residential models; one of these, known as the Brighton, was the subject of a detailed cost breakdown by a reliable contractor in the Detroit area. The Brighton is 20 x 36 ft, and is a two-bedroom house with living room, bath, and a utility kitchen containing the heating plant; it has no basement. In March, 1947, for that building erected in that locality, the total cost of a single Quonset ready for occupancy was under $4,700; for projects of 25 or more, under $4,400 per house. Of this, $884.00 per house was the cost of the Quonset shell in both cases. The remainder was accounted for by all the usual items, ranging from permits, surveys, and grading to foundations, flooring, interior finish, heating plant, etc. Cost of land was not included, nor was any profit or overhead; these were rock-bottom figures.

A glance at the accompanying illustrations will reveal only a few of the many different uses to which Quonsets have been put. It is difficult to estimate to what extent their apparent popularity is due to availability and reasonable cost in a time of great demand. However, we know personally of many cases of great enthusiasm, enough at least to balance the indifference of others.

Thus far we have discussed only the practical problems this particular mass-produced light steel building introduces. Esthetically the form is as old as the hills; any student knows the history of the barrel vault which, developed from the simple arch, flowered into the traditional Romanesque. Some know that the indigenous American buildings, at least along the Atlantic Coast, were framed of saplings, brought together and tied at the top, and covered with bark or thatch—the whole very much like a modern Quonset set up on vertical walls. How many know that the British, after they first landed here, lived for years in huts of wattles and thatch, of almost the same design? (The log house came much later, with Scandinavian immigration.)

The firm of Campbell & Wong, architects of two houses shown in this issue, prefer not to apply dormers to Quonsets, in order to retain all the simplicity of the barrel form. They are not averse to vertical walls inside the curved plane, and they freely use light horizontal trelliswork and other devices to blend the form with its surroundings, or to accent it without overwhelming it. Theirs is not the only approach; Professor Bruce Goff, now of the University of Oklahoma, combined the Quonset barrel freely with masonry masses, expanses of glass, and delicate horizontals in his famous chapel for the Sea Bees. He has other Quonset projects under way; in one he proposes to join the rib sections so that, instead of continuing the arch to the ground, the roof sweeps upward in an S-curve whose high point, almost twice the usual Quonset height, is held up by mullions that also support a wall of glass.

Between such imaginative concepts and thoughtless slapping up of false fronts to conceal the barrel form there can be all the degrees of excellence one would expect from any architectural material. Thorough knowledge of it, respect for its limitations, and imagination should produce good architecture from the Quonset.
MODULAR
GARDENS

JAMES C. ROSE, Landscape Architect

The drawings on these and the next two pages show three gardens (and the units of which they are composed) that are designed for the most limited spaces. The largest is approximately 36 x 24 ft, the smallest 24 x 15 ft. For all practical purposes it is impossible to achieve an effective garden in less space. Yet these projects are not cramped, or stuffed into their restricted areas. They have been developed freely and liberally; each is capable of expansion or even some contraction. They are carefully planned to link with garden areas beyond, and with the houses of which they are parts. This does not mean that they are any the less effective as separate entities.

(Continued on page 78)
These simple units compose the pool garden.

POOL GARDEN. This is the largest of these three “incidents,” 36 x 24 ft; more than 50 of them could be fitted into one acre, or one could be adapted to the smallest suburban lot. The pool garden is designed as a casual garden opening directly from the kitchen, living room, or bedroom. A complete list of its standard parts:

Architectural Materials
- 3 sections angular trellis with louvers
- 5 six-ft sections of 4-ft-high basket-weave fence
- 4 precast, colored, paving units each 3 ft square
- 4 three-ft pool sections
- 1 sculptured mobile

Planting
- 9 three-ft squares of flowers
- 8 white birches, 18 ft
- 3 flowering dogwood, 12 ft
- 3 Cryptomeria, 20 ft
- 2 Japanese maples, 3 ft
- 10 yews in hedges, 18 in.

More complex assembly of the standard trellis.

WALL GARDEN. From an existing 12-ft wood wall, one trellis is suspended and anchored behind the wall as shown by dotted lines. The face of this trellis, in turn, supports the arm of a cantilevered curtain track. An exotic effect is created by using as a curtain a fish net woven in a free pattern of earth colors. With the trellis louvers extended and interlocked with slender uprights, this arrangement emphasizes the dramatics of tension; the parts are interdependent for support. All flowers and vines are annuals chosen for their hot-climate colors.
Each of these garden “incidents” is composed of precisely the same parts in varying arrangements. Basic to each is the angular trellis, which may be assembled in great variety to suit a particular garden. Paving throughout is of standard 3-ft square blocks, of precast and colored concrete. The standard reflecting pool is likewise assembled in 3-ft modular units. Around the pool the planting beds can be varied for seasonal effect by lifting paving sections and setting in their place plants just about to come into bloom. When the effect is past, the flowers can be removed and the paving restored.

This is only one of several possibilities within each garden. One might decide on a permanent paving and flower bed pattern; the limits of the beds, being small and well defined by the paving, assure a well kept appearance. Similarly, one might decide to eliminate flowers, or to employ annuals only, or to grow only certain types, as iris and peonies in June and chrysanthemums in the autumn. With modular paving that can thus be left in place or rearranged as needed, it is hard to imagine a more flexible garden scheme, or one more suited to the gardener with a yen for experimentation.

Planting
All planting is similarly done. Each plant is chosen for its height, spread, and form at maturity, and these dimensions become a definite module so that plants may be set and spaced with almost the same precision as trellis sections, paving, and pool. Even the smaller, less determinate plants (perennials, ground cover, bulbs) may be planted in a like modular relationship of single or multiple 3-ft squares. On the following pages is the first portion of a plant list schemed to aid in selecting materials. The second and concluding portion will appear next month.

Using a single shape and size of precast reinforced concrete cribbing and modular paving squares, it is possible to obtain several dimensional variations. The secret lies in the dimensioning of the cribbing units used to support the slabs. Set on one side, the triangular cribbing produces steps 5 in. high; on another, 4½ in.; on the other, 4 in. This adds to the preceding modular elements—trellis, paving, planting beds, pool, fence, and shoji—a seventh standardized item.
MORNING-GLORY GARDEN. The smallest garden shown, an “incident” in a larger landscape, links itself with other parts of the garden (house, orchard, terrace, etc.) by a free-flowing system of paths. Here is introduced another modular element, the shoji, a true curtain-wall of white spun-glass fabric (which will not rot) stretched across a hardwood frame. It is constructed in 3-ft modules for use within the 3-ft trellis interval. One special angular type is devised to fit into the trellis arch. The shojis can be removed, stored, and replaced like window screens. They are translucent, to prevent through vision yet transmit the silhouette of the shadowed plant form. This shelter is designed specifically to exploit blue morning-glories, which bloom in the morning but close after an hour of full sunlight. Morning-glories require good light to open by; the same light causes them to close. This shelter can trick the blossoms into remaining open all day; the shelter is faced just north of east, with a wide projecting roof sloping up toward the morning sun. The early light penetrates to the morning-glory bed and the flowers open. After a short exposure to the sun they are protected from it by the roof and shojis, yet the late afternoon sun may sparkle on the pool surface; being protected, the morning-glory blooms remain open.

PLANT LIST

TREES: Tracery

<table>
<thead>
<tr>
<th>HEIGHT PLUS</th>
<th>SCIENTIFIC AND COMMON NAMES</th>
<th>CHARACTERISTICS, REMARKS, SPECIAL REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acer pseudoplatanus Planetree Maple</td>
<td>Apr., May: yellow-green flowers in clusters 2 to 5” long. June, July: brownish-green winged seeds in showy clusters.</td>
</tr>
<tr>
<td></td>
<td>Ginkgo biloba Ginkgo (Gingko)</td>
<td>Oct., Nov.: yellow coloring.</td>
</tr>
<tr>
<td></td>
<td>Nyssa sylvatica Black Tupelo</td>
<td>Oct., Nov.: deep red to orange color.</td>
</tr>
<tr>
<td></td>
<td>Quercus borealis Northern Red Oak</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Robinia pseudoacacia Black Locust</td>
<td></td>
</tr>
</tbody>
</table>
### TREE LIST

#### TREES: Tracery

<table>
<thead>
<tr>
<th>HEIGHT</th>
<th>SCIENTIFIC AND COMMON NAMES</th>
<th>CHARACTERISTICS, REMARKS, SPECIAL REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 TO 40 FT</td>
<td>Acer pennsylvanicum</td>
<td>Striped Maple</td>
</tr>
<tr>
<td></td>
<td>Betula alba</td>
<td>White Birch</td>
</tr>
<tr>
<td></td>
<td>Betula lenta</td>
<td>Sweet Birch</td>
</tr>
<tr>
<td></td>
<td>Betula papyrifera</td>
<td>Paper Birch</td>
</tr>
<tr>
<td></td>
<td>Betula populifolia</td>
<td>Gray Birch</td>
</tr>
<tr>
<td></td>
<td>Carpinus betulus</td>
<td>European Hornbeam</td>
</tr>
<tr>
<td></td>
<td>Populus tremuloides</td>
<td>Quaking Aspen</td>
</tr>
<tr>
<td></td>
<td>Sassafras albidum</td>
<td>Common Sassafras</td>
</tr>
<tr>
<td>12 TO 20 FT</td>
<td>Amelanchier canadensis</td>
<td>Shadblow Serviceberry</td>
</tr>
<tr>
<td></td>
<td>Betula lenta</td>
<td>Sweet Birch</td>
</tr>
<tr>
<td></td>
<td>Betula populifolia</td>
<td>Gray Birch</td>
</tr>
<tr>
<td></td>
<td>Cercis canadensis</td>
<td>Eastern Redbud</td>
</tr>
<tr>
<td></td>
<td>Laburnum alpinum</td>
<td>Scotch Laburnum</td>
</tr>
<tr>
<td></td>
<td>Sassafras albidum</td>
<td>Common Sassafras</td>
</tr>
</tbody>
</table>

#### GROUND COVERS

<table>
<thead>
<tr>
<th>Height</th>
<th>SCIENTIFIC NAME</th>
<th>COMMON NAME</th>
<th>CHARACTERISTICS, REMARKS, SPECIAL REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ajuga reptans</td>
<td>Carpet Bugle</td>
<td>(See above.)</td>
</tr>
<tr>
<td></td>
<td>Arctostaphylos uva-ursi</td>
<td>Bearberry</td>
<td>(See above.)</td>
</tr>
<tr>
<td></td>
<td>Convallaria majalis</td>
<td>Lily-of-the-Valley</td>
<td>May, June: yellow flowers in long, drooping clusters.</td>
</tr>
<tr>
<td></td>
<td>Cornus canadensis</td>
<td>Bunchberry</td>
<td>(See above.)</td>
</tr>
<tr>
<td></td>
<td>Epigaea repens</td>
<td>Trailing Arbutus</td>
<td>May, June: deep blue flowers in spikes. Sun or shade.</td>
</tr>
<tr>
<td></td>
<td>Euonymus fortunei kewensis</td>
<td>Kew Wintercreeper Euonymus</td>
<td>May, June: blue flowers in spikes. Sun or shade.</td>
</tr>
<tr>
<td></td>
<td>Gaultheria procumbens</td>
<td>Checkerberry Wintergreen</td>
<td>May, June: fragrant white spikes. Sun, light shade.</td>
</tr>
<tr>
<td></td>
<td>Hedera helix baltica</td>
<td>English Ivy</td>
<td>May, June: white flowers. Light shade.</td>
</tr>
<tr>
<td></td>
<td>Maianthemum canadensis</td>
<td>Canada Beadruby</td>
<td>Apr., May: fragrant pink-white flowers. Full shade.</td>
</tr>
<tr>
<td></td>
<td>Mazus japonicus</td>
<td>(none)</td>
<td>Evergreen. Sun or shade.</td>
</tr>
<tr>
<td></td>
<td>Mitchella repens</td>
<td>Partridgeberry</td>
<td>Evergreen. Sun or shade.</td>
</tr>
<tr>
<td></td>
<td>Vinca minor</td>
<td>Common Periwinkle</td>
<td>Evergreen. Sun or shade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Evergreen. Light or full shade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sept.: pink flower sprays. Full sun.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Apr., May: blue flowers in clusters. Light or full shade.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Evergreen. May, June: solitary blue flowers. Sun or shade.</td>
</tr>
</tbody>
</table>
Air and Temperature Control

1-123. Thermolier, Catalog 6-E, Grinnell Co., Inc. Reviewed August.

1-126. Pressure Controllers, External-Pilot-Operated (Bul. 482), 19-p. illus. booklet of engineering, operating, and maintenance data on pressure controllers, diaphragm regulating valves, and control pilots. Capacity tables, installation details and data. Leslie Co.


1-171. How To Live In June All Winter (Bul. S-380-A), The Trane Co. Reviewed August.


1-128. Base-Ray Taco Radiant Heating Systems (BT-147), 6-p. folder on installation of "Base-Ray" radiant baseboards of cast iron units; 3 systems of circulation. Typical layouts, recommended pipe connection data for both copper and steel tubing. Taco Heaters, Inc.

1-125. USAIRCO Water Coils (Bul. 67), AIA 30-E, U. S. Air Conditioning Corp. Reviewed August.

1-129. Refrigeration Units (C-1100-B12), 4-p. illus. folder on Freon-12 refrigerating units with air-cooled condensers. Selection tables, specifications. Worthington Pump & Machinery Corp.

Doors and Windows

4-98. Storm Panels and Screens (Bul. 2005), Ceco Steel Products Corp. Reviewed August.

4-99. Clark Over Head Doors, Clark Door Co., Inc. Reviewed August.

4-101. The Window of the Future Today! 4-p. illus. booklet on wooden awning windows in three tiers for commercial, residential, and institutional buildings; each tier is individually operated. Installation details, specifications. (Available in standard and special sizes.) Gate City Sash & Door Co.

4-102. Golly! It's Magic (Bul. 2077), 4-p. illus. folder on removable double-hung window unit designed to facilitate easy washing. Casing holds screen and storm sash, has pivot-ventilators. Installation and operating instructions. Marquart Millwork Co.

4-97. Hollow Metal Doors, Frames and Trims, Trusbuilt, Div. of Siems Bros., Inc. Reviewed August.

4-103. Orange Metal Doors, AIA 16-A, 4-p. illus. folder on all-steel interior door frames; reversible for right and left hand; fire- and sound-retarding. Installation details. Virginia Metal Products Corp.

4-100. Venetian Screen, Warp Bros. Reviewed August.

4-104. Design Into Your New Construction, 4-p. illus. booklet on Dura-seal weatherstrip and sash balance which eliminates pulleys, cords, and weights on wood double-hung windows. Sash slide in aluminum tracks. Zegers, Inc.

Electrical Equipment and Lighting


5-89. Tuboz Fluorescent Diffusers, 4-p. illus. booklet on one-piece tubular transparent plastic diffusers that fit directly over fluorescent tubes to reduce glare. Available in clear and five basic colors. Installation and ordering data. Price list. Extruded Plastics, Inc.


5-86. Surface-Attached Holoflux, Holophane Co., Inc. Reviewed August.

5-87. Are You Going to Build, Modernize, or Repair? (Form 2522), Pass & Seymour, Inc. Reviewed August.


Finishers and Protectors


6-100. Suggestions from an Interior Decorator (F-85), National Chemical & Mfg. Co. Reviewed August.

6-102. 101 Useful Luminescent Applications, 20-p. illus. booklet (3½x6) on the use of phosphorescent pigments in the house on light switches, stair treads, doorknobs, etc. Also fluorescent "black light" pigments for interior decoration in restaurants, theaters, etc. The New Jersey Zinc Sales Co.


Insulation (Thermal, Acoustic)


9-70. Styrofoam (Form PL-51), The Dow Chemical Co. Reviewed August.

9-74. Insulating Varnishes (CDR-13), 42-p. illus. data book on insulating varnishes as finishers on coils, metal cast-
Load-Bearing Structures

12-121. Arketex for Modern Homes, Arketex Ceramic Corp. Reviewed August.


12-123. Fletcher Granite, AIA 8-3-3, H. E. Fletcher Co. Reviewed August.


12-128. Western Concrete Piles and Caissons, 6-p. illus. pamphlet on the installation of concrete piles and caisson foundations. Types of piles available, characteristics, advantages, and specifications. Western Foundation Co. & Western Concrete Pile Corp.

Materials of Installation


13-58. Chromtrim Aluminum Mouldings, 25-p. illus. catalog on aluminum trim for commercial and domestic uses. Illustrated on available trim, such as corner edgings, edgings for floor, drainingboard, and sink frame installations; stair nosings; cove sections; panel dividers; inside and outside corners. Instructions on installation; tables on sizes; ordering data. R. D. Werner Co., Inc.

13-59. Champion Light-Duty C"Clamps (Bul. 478), a sheet on light-duty "C" clamps with lightweight alloy holder designed to provide maximum strength at points of greatest stress. Specifications, price list. The Western Tool & Mfg. Co., Inc.

Non-Load-Bearing Structures


14-41. Magnesium Alloys (Form No. DM 76C-75-C-746), 24-p. illus. booklet on magnesium and its many purposes, including characteristics, mechanical properties (tension, compression, etc.) of magnesium bars, rods, shapes, plates and sheets, strip suitable for structural purposes. The Dow Chemical Co.

14-42. Textolite Laminated Plastics (CDP-518), 64-p. illus. booklet on the manufacture and application of sheets, rods, and rectangular tubing from laminated plastics. Engineering data; tables of electrical, physical, and mechanical properties; sizes and tolerances. Grades available, methods for fabricating laminates, and suggestions for ordering. General Electric Co.


Sanitary Equipment. Water Supply and Drainage


19-143. Waste King, Incentor Products Co. Reviewed August.

Two booklets from Rheim Mfg. Co., Appliance Div. Reviewed August:


Surfacing Materials


19-164. Weldtex Striated Plywood, 10-p. illus. booklet on plywood for walls, ceilings, furniture in residential and commercial buildings. Also Weldtex Exterior Grade Striated Plywood. Finish is an application methods. U. S. Plywood Corp.


Specialized Equipment


19-162. How to Get the Most Value with Ozalid, primarily an instruction manual, telling how to use Ozalid printing and developing machines, with special instructions for each of 16 types of Ozalid paper, cloth, film, plastic, and color reproduction materials. Contains a minimum of the usual advertising. Operating data, specifications, Ozalid, Div. of General Aniline and Film Corp.


Two booklets from Visual-Equipment Mfrs. Council, Reviewed August:


Tread Equipment

20-42. Elevator Door Details (Form 667), Montgomery Elevator Co. Reviewed August.
EFFICIENT NEW HEAT CONTROL

The three units shown above, plus wiring designed to simplify installation, compose a remarkably sensitive and efficient heat control for large installations such as apartment houses. Known as the "Fuel Watchman" (manufactured by Fuel Watchman, 77-29 138th St., Flushing, N. Y.), it is not yet in quantity production although it has been thoroughly tested on a few local installations for several years with remarkably improved operation of heating systems and considerable savings of both fuel and manpower.

The roof control, preset at the factory, is located where it will receive direct sunshine for the greatest number of hours per day. It determines the amount of solar radiation being absorbed by the building, in order to prevent the system from overheating on mild, sunny days. The outside thermostatic control, mounted preferably on the north side of the building away from direct sunshine, operates selectors in the main panel at any of six predetermined temperature settings, which range from 60° F. to below freezing. The main panel is mounted in the boiler room and requires an electrical supply.

Inside the main panel are synchronous clocks on each of which are mounted six plastic schedule discs or dials (see illustration), one corresponding to each temperature setting. At 60° F. outside, one disc controls the boilers; at 55° F., another; and so on down to 30° F. or below. Relays, actuated by the discs to furnish the actual motive power for operating the boilers, are well oversized; the entire assembly is notable for its ruggedness, simplicity, and accuracy. Very little servicing has been necessary on units installed to date. The "Watchman" keeps the boilers in operation as long as there is a call for heat; when the design pressure builds up in the boiler the assumption is that the heat demand is satisfied and the boiler shuts off. This presupposes good design, installation, and maintenance of the heating system itself. Of course, a change in outside temperature will cause the controls to activate the boilers again. For morning "pickup," the control operates the boilers continuously on pressure in order to reach the desired building temperature quickly. The above applies to steam systems. For hot water systems, the control operates the circulating pump in a corresponding manner.

Three units comprise the new Fuel Watchman heat control: above, left, main control panel; center, outside thermostat; right, roof control. At left, main panel, opened, reveals the simplicity and ruggedness of the mechanism. At top of the main panel are the two sets of plastic dials referred to in the text.

FIRE-RETARDANT PAINT

"Albi-R" (Albi Chemical Corp., New York, N. Y.) is a fire-retardant paint which, when exposed to direct flames as shown below, bubbles up into a charred mass of blisters that reportedly prevents the penetration of heat to any substance beneath. The new protective coating is easily applied by brush or spray. It is said to exceed the requirements of the 20-minute burning test (Fed. Spec. SS-A-118) and accelerated aging tests conducted at Purdue University showed no failure after the equivalent of 20 years' weathering. The product was recently dramatically pictured in Life Magazine. It is the only fire-retardant coating listed by the Underwriters' Labs, and it has been approved by the N. Y. City Board of Standards and Appeals for use on combustible materials.

units (griddle, cooking unit, ovens, and wall heater), any or all of which may be installed together in any sequence or location desired. Called the "Thermador," the range's griddle unit can be installed flush with any counter top, as can the cooking unit which has three "burners" and a deep-well cooker for which switches provide five heating levels. The ovens can be built into any vertical cabinet at whatever height the housewife wants; the primary oven (there are two) has automatic time and temperature control, interior light, baking and broiling units, is large and well insulated. Secondary oven, nearly identical, lacks only the clock and "minute minder." Somebody should give this manufacturer a medal.


ELECTRIC RANGE FOR BUILDING IN

At last one range manufacturer (Thermador Electrical Mfg. Co., Los Angeles 22, Calif.) has produced a series of units which can be built into any kitchen design. There are four types of
10 in. of concrete is poured to make a reinforced slab over radiant heating pipes in the quarter-mile-long warehouse being built by United States Steel's pipe-making subsidiary National Tube Co., at its Lorain, Ohio, plant. 25 miles of 1-in. steel pipe, grouped in 481 coils (one shown in foreground), are embraced in the closed 3-acre system, which will heat more than 7 million cu ft of space.

**THIS MONTH'S PRODUCTS**

**AIR AND TEMPERATURE CONTROL**

**Fuel Watchman.** Heat control for large installations which keeps boilers in operation until pressure indicates heat demand is satisfied, then shuts off automatically. Features a roof control which determines amount of sun radiation absorbed; relates this to actual heat produced, thereby preventing overheating. Fuel Watchman, 77-29 138th St., Flushing, N. Y.

**Alnor Dewpointer.** A humidity control instrument, eliminates need for external coolants. Built to instrument standards, available in two ranges—dew point minus 20°F and room temperature, and minus 100°F to 0°F, Illinois Testing Laboratories, Inc., 420 N. La Salle St., Chicago 10, Ill.

**Trion Electric Filter.** Electrostatic precipitation, attached to warm air furnace or air conditioning system, cleanses air in homes. Two sizes available, Model 100 for houses up to 7 rooms, Model 200 up to 11 rooms. Operating cost equals 40 watt. Trion, Inc., 1000 Island Ave., McKees Rocks, Pa.

**DOORS AND WINDOWS**

**Ceco Storm Window and Screen Unit.** All aluminum, bottom sash "stored" by raising and locking in place. Ceco Steel Products Corp., 5701 W. 26th St., Chicago, Ill.

**Bakewell-Hydro-Hinges.** Built like a hinge, for residential, commercial, and industrial use; eliminates all visible door closing mechanisms such as springs and hydraulic units. Adjusts to varying speeds; tamper-proof and non-leakage. Bakewell Products, 1201 Riv Vista Ave., Los Angeles 23, Calif.

**ELECTRICAL EQUIPMENT AND LIGHTING**

**Counter, Accent, and General Lighting Fixtures.** Designed to illuminate without glare at low brightness; answers specific lighting problems. Downlight projects from inconspicuous source; blends into slightly illuminated ceilings; provides nearly shadowless illumination. Directional lighting is very flexible; used in downlight or angular accent light. Counter downlight projects long, narrow beam conforming to outline of counter top. Century Lighting, Inc., 419 W. 55th St., New York 19, N. Y.

"Circline.** Fluorescent Fixture. Takes 32-watt lamp which banishes shadows; sends evenly diffused "daylight" in every corner of kitchen, bath, basement, hall, or workshop. Easy to install; holds new spring-type knockout button for pull-chain or drop cord. 13" width; 41/2" height. Homecraft Electronic Products, 1208 S. Kedzie Ave., Chicago 22, Ill.

**FINISHERS AND PROTECTORS**

**Plastiglaze.** A new plastic coating which hardens, toughens, and preserves paper, plywood, lumber, and plaster against water, salt air, and most mild acid solutions. Also affords high surface glaze. Colrexin Corp., Culver City, Calif.


**MATERIALS OF INSTALLATION**

**Thermopane Glazing.** Metal clip for glazing Thermopane units in standard steel sash when double Thermopane units of slight thickness are used. Also applicable with Thermopane units of increased thickness, with specially punched sash. Libbey-Owens-Ford Glass Co., Nicholas Bldg., Toledo, Ohio.

**Clip-Grip Steel Studs, Clips, and Runners.** Fireproof, clip-grip system of partition construction. Clip-grip studs are notched at ceilings and floor lines to accommodate facing material from 1/8" to 1/2" thick. Steel floor and ceiling runners, when bolted to floors and ceilings, serve as track for partitions. Nesco Mfg. Corp., 516 5th Ave., New York 18, N. Y.


**SANITARY EQUIPMENT**

**Chrome-Plated Faucet Handle.** Fits all diameter valve stems, for standard sinks, baths, and lavatory fixtures. Eliminates need of replacing entire fixture when only handle is needed. Sturgis Plating & Mfg. Co., Sturgis, Mich.

**Watrous Flush Valve with Bedpan Drip Receptor.** Flush valve with drip receptor for use with bedpan fittings in hospitals. adjustable for any height above bowl. Protected against backspillage and spilling while valve is being flushed. Imperial Brass Mfg. Co., 1200 W. Harrison St., Chicago, Ill.

**Germ Killing Light.** Germicidal unit used as protector against bacterial and mold contamination; applies ultraviolet rays. Lustra Corp. of America, 40 W. 25th St., New York 10, N. Y.

**SPECIALIZED EQUIPMENT**


**SURFACING**

**Fiberglas Roofing Material.** Glass fiber bonded into a uniform felted mat used as a carrying and reinforcing agent for bitumen in roofing. Unaffected by high temperature applications of bitumen. Owens-Corning Fiberglas Corp., Toledo, Ohio.

"Flor-Ever" Plastic Floor Covering. Plastic floor covering which eliminates need of waxing and polishing. Felt-backed Vinylyte flooring, applied exactly like linoleum. Does not chip or crack; unaffected by alkalies, does not support combustion, and resists staining by water and grease. Available in wide range of excellent colors and patterns. Delaware Floor Products, Wilmington, Del.
TROUBLE always costs more than REVERE COPPER

FROM the start of your plans throughout the life of the house, Revere Copper and Brass Incorporated works with you to insure your client's lasting satisfaction.

- Revere Literature helps you convey to your clients a better understanding of the part copper plays in protecting a home.
- Revere Research is constantly at work to develop the new data you need to design ever-finer copper construction.
- Revere's Technical Advisory Service, Architectural, is always ready to help you solve new or difficult problems.

It is because of this all-around cooperation—in addition to the consistently fine quality of Revere copper and brass building products—that trouble always costs more than Revere Copper.

Revere products include: Copper Water Tube for use with soldered fittings for hot and cold water lines and heating lines; Red-Brass Pipe; Sheet Copper and Herculoy for tanks, pans, ducts and trays; Copper oil burner, heat control and capillary tubes . . . and, of course, Sheet Copper for roofing, flashing and other sheet metal construction. They are handled by leading distributors in all parts of the country.

Revere COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York
Here's

How to save money 3 ways

WINDOWS
No repair costs
Rot proof

SCREENS
Cost less than
old style screens

BASEMENT WINDOWS
No repair costs
Termite proof

In construction products CECO ENGINEERING
a Way to Reduce Home Building Costs!

Have you ever asked yourself "How can home building costs be reduced?" Now, that's a practical question—and here at Ceco we have an answer. Certain Ceco products will reduce home building costs. Take steel windows for example: They cost less installed, because there are no hidden costs to overlook, such as hardware, prime coat, accessories, additional labor costs. Then, too, steel windows last, and last, and last. There is no need for repair—they cannot rot... they are bonderized and painted for protection against rust. And that goes for steel basement windows, too. Another way to save is provided by Ceco metal frame screens. Installed, they actually cost less than old-style screens, are factory finished—need no on-the-job painting, trimming or fitting. So, to reduce home building costs, recommend Ceco metal casements, basement windows, and metal frame screens.

WHY SPECIFY CECO?

Ceco does more than design and manufacture fine construction products. Besides their wealth of technical engineering skill there is available construction knowledge gained by 35 years of experience on the job. In 23 offices strategically located from coast to coast, Ceco stands ready to help you reduce home building costs. Call on Ceco today!

CECO STEEL PRODUCTS CORPORATION
GENERAL OFFICES: 5701 West 26th Street, Chicago 50, Illinois
Offices, warehouses and fabricating plants in principal cities

Partial list of other Ceco Products
Combination All-Aluminum Storm-Panel-and-Screen for Wood Windows • Meyer Steelforms • Reinforcing Steel • Steel Joists • Roof Deck • Metal Lath and Accessories • Highway Products • Corrugated Roofing
Gain Light... through Walls as well as Windows

To diffuse light generously... to borrow light from one room for another... designers and decorators choose Patterned Glass.

Clear or Satinol-finished, this fine glass lets light filter through freely... yet its distinctive patterns obscure the view, making Patterned Glass completely practical for light-transmitting panels, partitions, or entire walls.

Blue Ridge Patterned Glass is available in a wide range of linear, square or all-over patterns to add a sparkling look of luxury to modern or period settings. Consult your nearby L·O·F Glass Distributor. Write for our Patterned Glass Modernization book. Blue Ridge Sales Division, Libbey·Owens·Ford Glass Company, 1097-A Nicholas Building, Toledo 3, Ohio.
Architectural Extruded Shapes

When design problems call for distinctive appearance and low upkeep, turn to Alcoa Architectural Extruded Shapes. Here you may find the answer, and at reasonable cost.

Alcoa Extrusions, produced in standard or special designs, can eliminate the need to build up sections from formed plate and sheet and rolled shapes such as angles, channels and tees. First cost is reasonable. Assembly time and labor costs are reduced. Rust-proof, corrosion-resistant, Alcoa Aluminum, available in a variety of finishes, provides distinctive appearance.

Alcoa's years of experience in the design and production of extruded shapes is available to all architects. For information, write for a copy of the Alcoa Architectural Extruded Shapes Booklet (A.L.A. File No. 15 J), or call your nearby Alcoa sales office. ALUMINUM COMPANY OF AMERICA, 1868 Gulf Building, Pittsburgh 19, Pennsylvania.
Hampton Village—located in the midst of one of St. Louis' most fashionable urban and suburban areas—is not only one of the largest drive-in shopping centers in America, but it's the only one that will be completely air conditioned. This $11,000,000 project covers an area equal to 14 city blocks...and will include 110 retail stores.

What's more, every Hampton Village shopper, salesman, and worker will enjoy the comforts and health-giving benefits of Servel All-Year Gas Air Conditioning.

From snack bar to florist shop, Hampton Village's stores will be equipped with Servel All-Year Gas Air Conditioning.
Servel, Inc. is a member of the Producers' Council, and is engineering its products to conform with accepted practices in modular planning.

in St. Louis

All-Year Air Conditioned

Each of the 22 stores now completed has its own self-contained Servel unit. Each tenant has complete control over the temperature in his store by simply using the Servel Selectrol. In summer, Servel circulates air that's refreshingly cool and free from humidity. In winter, the same unit provides comfortable, properly humidified warmth. All year long, Servel keeps the air clean and draft-free.

It's easy to see why Hampton Village chose Servel in preference to other kinds of air conditioning equipment. No other type provides the simplicity of control and flexibility of service. This is especially important in a super shopping center, where the air conditioning must satisfy the practical and comfort requirements of several different kinds of retail businesses.

For complete information on all the advantages and conveniences of Servel All-Year Gas Air Conditioning, see your local Gas Company ... or write to Servel, Inc., 4709 Morton Avenue, Evansville 20, Indiana.

TRIED ... PROVED ... SUCCESSFUL
(From Boston to San Diego ... From Bismarck to Miami)

The Servel All-Year Gas Air Conditioner is already operating successfully in hundreds of installations from coast to coast. Some have been running for more than seven years. The equipment is tried, tested ... and approved by users everywhere.
Home owners brighten up at first sight of this new Crane Sunnyday Sink. Here is beauty—sparkling vitreous enamel that wipes clean in a flash. Here is convenience—an extra deep basin... two generous drainboards. And here is Dial-ease, the amazing Crane faucet that harnesses water pressure to aid in closing, yet opens at the barest touch of a finger!

Features like these carry through a wide range of Crane sinks, embracing a style for every taste and a price for every building budget. And the quality that goes with them—always associated with this best-known name in plumbing—you'll find that kind of quality in beautiful Crane bathrooms, too. You'll see it again in heating, whether for hot water, steam, or warm air... for coal, coke, oil, or gas.

The Crane line now in production is in your copy of "Crane Service for Architects." If you do not have a copy, ask your Crane Branch for one.
An entire hospital that radiates warmth, cheerfulness, comfort. Patients' rooms and wards whose colors hasten recovery. Operating rooms that reduce eye fatigue. Nurses' stations that promote alertness and efficiency. Corridors and solaria that are cheerful at all times.

That's the kind of institution you can plan, too, if you use Pittsburgh's system of COLOR DYNAMICS in its decoration.

Working with medical men and psychologists, Pittsburgh's color experts and technicians have based this new painting method upon the reactions of human beings to color.

In many hospitals and sanatoriums, COLOR DYNAMICS has transformed drab and uninviting institutions into charming and attractive establishments in which patients have made speedier recoveries and entire staffs have done their work more pleasantly and efficiently.

You will find the story of COLOR DYNAMICS as an aid to Color Therapy explained in our new book on this subject. Send for your free copy today. Pittsburgh Plate Glass Company, Paint Division, Dept. PA-97, Pittsburgh 22, Pennsylvania.

Paint RIGHT With Color Dynamics
Paint BEST With Pittsburgh Paints!

The benefits of COLOR DYNAMICS are made more enduring when you use Pittsburgh's long-lasting quality paints. There's a PITTSBURGH PAINT for every need!

WALLHIDE—in three types: PBX—extra durable finish which can be washed repeatedly without streaking or spotting. SEMI-GLOSS—for higher sheen. FLAT—velvet-like finish for offices, libraries, dining rooms. These paints are enriched with "Vitolized Oils" for live-paint protection.

WATERSPAR ENAMEL—for furniture, woodwork, metal trim—its rich gloss resists marring and abrasion.

FLORHIDE—for floor surfaces. Quick-drying, tough, can be scrubbed frequently with soap solutions.
THE DIVIDING LINE BETWEEN
TRUE AND FALSE
ECONOMY...

Low initial cost should never be the only reason for specifying or recommending a product. True economy considers the service rendered and its replacement cost. A piping system should render efficient and long-lasting service to be a true economy for your client.

Streamline Copper Pipe and Solder Type Fittings are made from copper and bronze which have long been recognized as the most durable of metals for piping and a multitude of other purposes. There are many cases on record where copper has lasted for hundreds of years and, with the exception of a slight tarnish, remain just as serviceable as when first installed.

Streamline Copper Pipe connected with Streamline Solder Fittings cannot rust and is unaffected by vibration. Streamline affords a permanently reliable conducting system with the first cost little, if any, higher than materials that corrode and leak a few years after installation.

In the plans which are on your board now, provide efficiency and long life in the piping system by writing in Streamline Copper Pipe and Solder Fittings.

STREAMLINE
TRADE MARK REG. U. S. PAT. OFFICE
COPPER PIPE AND FITTINGS
MUELLER BRASS CO.
PORT HURON, MICHIGAN
Modern appearance, modern efficiency, modern economy—those are the main advantages your clients get when you specify PC Glass Blocks.

Panels of gleaming glass blocks make any plant a thing of beauty. Spacious interiors, with plenty of cheery clear daylight, are pleasant places to turn out good work. And the light can be directed to where it is needed most, even to areas remote from light openings.

PC Glass Blocks are hollow, have definite insulating properties. Heat losses through light transmitting areas are reduced to the minimum. Desired temperatures are easier to maintain and condensation is minimized. Infiltration of destructive dust and grit is prevented.

These are some of the reasons why many architects are specifying PC Glass Blocks for new construction and for modernizing projects. You will want to know all the advantages your clients get with PC Glass Blocks. Send the convenient coupon today for our authoritative booklet. The Pittsburgh Corning Corporation also makes PC Foamglas Insulation.

PC GLASS BLOCKS... the mark of a modern building

FOR ADDITIONAL INFORMATION SEE OUR INSERTS IN SWEET'S CATALOGS
4 WAYS TO SOLVE THIS STORE FRONT PROBLEM

Out-of-Date Appearance
Poor Display Facilities
Inadequate Identification

These 4 designs illustrate the many uses of Kawneer store front materials

1. All four of these store fronts feature an inviting entrance, a Kawneer Full-Vision Door, and a row of shadow-boxes which direct eyes and feet inside. Clean-lined design below uses aluminum Zourite to face the ceiling above the show window.

2. This entire store has the unified appearance and display value of a big frame shadow-box. This effect has been gained by treating the top and sides of the front with the same stock framing member. The right wall has been covered with Zourite.
Modern store designing is a challenge for new ideas—and Kawneer materials make these ideas practical by offering a complete range in members and assemblies which answer every store front requirement.

Each of the four store fronts above does an outstanding selling job. Each attracts customers, shows them merchandise, and then pulls them inside to buy.

Yet different interpretations of the problem and the varied use of Kawneer metals result in four unique designs.

With Kawneer materials you can make full use of floor-to-ceiling lights of glass, flush glazing, full vision doors, and many other striking elements of modern design. You can create a limitless variety of store fronts because these materials have been styled and engineered to meet the demands of contemporary architecture.

Write for the booklets which detail, describe and picture the K-47 line, Zourite, and Kawneer entrances. The Kawneer Company, 770 N. Front St., Niles, Mich.
SCHOOLS
LIGHTING, COLOR, FURNISHING.
"Portfolio" of articles in the May 1947
The Nation's Schools, 919 N. Michigan Ave., Chicago 11, Ill.


Gathered in these articles is a good summary of the modern approach to classroom design, centered particularly around the work of D. B. Harmon, who has built a new theory and technique of classroom planning. As director of school services in the Texas State Department of Health, his studies led to the conclusion that the whole body is involved in the process of seeing; that strain resulting from trying to see in a poor visual environment can distort the whole child, his eyes, his muscles, his body structure, his learning. The results of the Texas experiments are familiar and stimulating. They are in line with recent work of the illuminating engineers regarding "brightness distribution" for visual tasks but, fortunately for us architects, Dr. Harmon's thinking takes a lot more territory than one field of engineering.

The material of these articles has largely been published before in more technical journals. Harmon's all-over approach is being followed in fields other than schools and may bring about great improvements in office and factory working conditions.


Nine brief articles, all illustrated by views and floor plans, cover several types of school cafeterias, serving from nine average days of solar energy should be sufficient.


A brief account of concrete shells, both designs and structures. Only uniformly distributed loads can be considered, of course. Great accuracy is required in formwork. The great advantage is conservation of steel and concrete and the light loads resulting with long spans. Architects should find many uses for this type of construction with its distinctive shapes.


The tremendous hazard of open stairways and (in older buildings) open elevator shafts makes the elimination of such conditions a "must." And the closures are not so costly; they are rendered ineffective most frequently because they are inconvenient. The other basic requirements for fire-safety are reduction of combustible material, adequate exit facilities, and detection and extinguishing devices. And it's up to the architect to insist on his commercial client building up to safety requirements when building codes do not cover.


All-welded trusses of 40 to 50 ft span for the roof of General Electric Company's new electronic devices research and manufacturing center were connected to columns one above the other in pairs and tested by jacking them apart and observing deflections. Joints were whitewashed to show up any cracks which might develop. The trusses performed satisfactorily under test loads, measured deflections conforming closely with computed ones. After these tests general production welding for the entire project was started. The trusses were all flush-bottomed, made up of H-sections, allowing piping and air conditioning ducts to fit into the truss framing. The building is about 300 ft by 730 ft, with most bays 40 ft by 50 ft.


It is shown that the principal factors determining the time lag of a floor panel heating system are the amount of mass below the ducts or pipes carrying the heating medium which respond to changes in temperature of the heating medium, and the temperature of this mass at the beginning of a daily heating cycle.

The characteristics of the operation of the radiant floor panel heating system indicate the desirability of continuous operations to maintain constant temperature of the lower mass. Also the use of massive radiant floor panels in "solar construction" is undesirable, since the heating system does not operate during the day, thus permitting cooling of the lower mass.

(Continued on page 100)
HONEYWELL CLOCK THERMOSTAT

are here again!

NEW DESIGN
NEW APPEARANCE
NEW FEATURES
NEW PERFORMANCE

THE NEW Chronotherm

Check these ten outstanding DESIGN FEATURES

2. New bimetal element assures more accurate temperature control, yet sturdy and dependable.
3. Fingertip external adjustment for day-night temperature settings.
4. Gradual morning pickup insures accurate temperature being restored to the daytime setting without overshooting.
5. Ease of time settings for day and night operation.
6. External fingertip wheel for setting clock hands may be set as easily as a watch.
7. Low speed clock motor the ultimate in quiet, accurate clock operation.
8. Clock motor provides 30 times more power than required.
10. Separable wall plate for easy mounting.

Here's BIG news and it's opportune.

Once again Honeywell leads the way—this time with the entirely new Chronotherm, the finest electric clock thermostat ever built.

Coming at this time in the face of a possible fuel shortage, the Chronotherm has special, added significance because it saves fuel. This feature alone creates an immediate demand. Your clients will be quick to appreciate the advantage of extended fuel supplies, lower heating costs.

You'll want to specify this control as a mark of the newest and most modern improvements in the homes you're designing. And don't overlook the Chronotherm as part of every home remodeling and modernizing project. When you explain how the new Chronotherm saves fuel by automatically lowering temperatures during the night and providing more accurate control at all times, it's a matter of timely interest to every home owner. And they'll recognize the advantages of increased comfort and convenience. Call the Honeywell branch in or near your city or write for complete information at once.

Minneapolis-Honeywell, Minneapolis 8, Minnesota. In Canada: Toronto 12, Ontario.

The new British housing, so admirably researched and engineered, consists predominantly of 3-bedroom dwellings, yet the predominant family size requires researched and engineered, consists predominantly of 3-bedroom dwellings, yet the predominant family size requires some variation in size. From this paper, it appears that the British housing program is getting off-balance in a very important particular.


The tremendous interest in the use of aluminum in building in England since the war suggested this resume of its present status in terms of: (1) characteristics of aluminum and aluminum alloys of special interest to architects; (2) some existing applications of aluminum in building; (3) the present position of new and experimental uses of aluminum in building; (4) points requiring attention when designing in aluminum.

The architectural status of this metal in Britain seems to be much the same as here, with, however, a freer use structurally where the light weight is advantageous. The paper and the subsequent discussion bring out that aluminum must be used structurally in terms of its own properties; that its design is not analogous to steel.

HANDBOOKS, MANUALS

Here is a much-needed comprehensive manual on architectural metal published by the industry as a standard handbook. The information given is remarkably complete, yet so well arranged that information on any particular item is concise and clear. A couple of chapters cover descriptions and properties of the various metals and alloys together with metal working techniques. Then the bulk of the book (about 200 pages) is taken up with drawings and descriptions of architectural metal products; mostly drawings, for the descriptions are brief. Most of the drawings carry a note on what should be specified or shown on details and what is to be considered architectural metal and what is to be covered by other trades. In fact, one of the great benefits of this book is its clarity in defining the boundaries between related trades. Its greatest merit is the great range of items on which precise information is given.

The remainder of the book is taken up with richly informative chapters on metal products related to architectural metal, paints and finishes, specifications, Ornamental Metal Code of Standard Practice, classification of materials, tables of material data, and glossary and index.

Conspicuously lacking is any real discussion of corrosion and electrolysis. Also lacking is any indication of whose products are being illustrated. The book does not replace manufacturers’ literature but rather gives the designer a background for the best utilization of manufacturers’ literature.


Very thorough treatise on termite damage and means of prevention and treatment. The many photographs and diagrams apply to termite control anywhere in this country. It is a tricky subject, not to be dismissed by a couple of metal shield details, although adequate detailing and supervision of new construction is the best preventive.

(Continued on page 102)
Surprisingly Versatile

Red Cedar Shingles for roofs and sidewalls offer the architect, builder and contractor surprising versatility in one standard material. Available as natural “Certigrade” shingles, or as processed shakes, either stained or unstained, cedar shingles are adaptable to homes of all sizes.

Surprisingly Economical

Sidewalls double-coursed with cedar shingles or cedar shakes are economical because the double application allows wider weather exposures. The under layer is completely concealed—permits the use of low grade, economical shingles. Result is a warm, tight, attractive side-wall.

RED CEDAR SHINGLE BUREAU
5510-A White Building, Seattle 1, Washington
or Metropolitan Building, Vancouver, B. C., Canada

Send for Complete Blueprint

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Please send me free blueprints detailing various applications of Red Cedar Shingles.

NAME _____________________________
ADDRESS ____________________________
CITY and ZONE _______________________
STATE ______________________________

SEPTEMBER, 1947 101
**REVIEWs**

(Continued from page 100)


Each section (kitchen planning, heating, etc.) of this bulky collection of catalog sheets has an excellent general discussion with data on design, installation, types of system, etc. In this setup the catalog material and text complement each other. It is a method which should be used more generally in presenting technical material.

**BOOKS**


Pursuant to the provisions in Public Law 725 (Federal Hospital Survey and Construction Act) the Surgeon General of the U. S. Public Health Service promulgated regulations under which the Act will be administered. Any architect planning or having the prospect of planning a hospital, whose client desires to benefit under this law, should familiarize himself thoroughly with these regulations.

Of particular interest to the architect is Appendix A, which sets forth the standards for planning, construction, and equipment. The Appendix gives both the minimal and desirable standards to insure that the taxpayer’s money will be properly employed. The standards do not prevent a community from planning on a higher standard of medical and nursing care if it should desire it.

Appendix A consists of four sections. The first is introductory in nature, while the second deals with site survey and soil investigation. Section III is the most extensive and important, as it deals with the standards of planning and construction. It sets forth in considerable detail programs for general, tuberculosis, mental, psychiatric, and chronic disease hospitals; and or also programs for nurses’ homes schools of nursing, public health centers, and public health laboratories. It further deals with finishes, structural codes, and structural, mechanical, electrical, elevator, refrigeration, kitchen, and laundry installations. The last part of this section deals with the preparation of plans, specifications, and estimates. This is most important to the architect as it recommends for his guidance the desirable submissions and the degree of development and content of the documents at each submission, so as to standardize procedures for the benefit of all concerned.

The fourth section deals with equipment under three headings. Under the first heading comes built-in equipment to be included in construction contracts. The other two take up movable, depreciable, and non-depreciable equipment. The architect will, of course, be primarily concerned with the built-in equipment.

The above standards were worked out with great care and with the advice of public bodies like the American Hospital Association, National Tuberculosis Association, American Psychiatric Association, etc. Nevertheless, it should be observed that the standards are seldom mandates. Quite often they are “desirable but not mandatory,” and frequently latitude is afforded in their application to the end of providing adequate medical services, economical operation, and maintenance.

The above should dispel any fears that the standards are just another stifling instrumentality. They are not a Congressional act, correspondingly difficult to budge. They are the creation of an agency (under the law) which has long enjoyed the respect of most people—the United States Public Health Service. It is already evident that when necessary they can be amended without moving heavy artillery. Extensive amendments are even now in preparation. From personal experience I can

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(Continued on page 104)
Add to the Comfort, Convenience and Value of the Home!

Frank Adam Electric Quikheters provide that "Extra" which adds so much to the value, comfort, convenience and enjoyment of the home. Quick-acting, requiring only the flip of a conveniently located switch to send forth a flood of warm air into the room, these attractive, economical and long-lasting units afford substantial savings in fuel and add greatly to the beauty and utility of the home.

Install one of these units in your home today. Your electrical contractor can give you complete details or write for Bulletin No. 77.

Frank Adam Electric Co.
ST. LOUIS 13, MISSOURI

- BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER
say that anyone finding the standards unreasonable or oppressive in any respect will obtain sympathetic consideration from the Office of Technical Services of the Division of Hospital Facilities in USPHS in Washington.

Looking at the standards and the law under which they were created from the installations where three or more landings are to be served. Widespread use of this equipment contributes to convenience, efficiency and economy in hospitals, hotels, restaurants, clubs, libraries, schools and other commercial, institutional and industrial buildings.

The machine consists of single speed elevator-type high torque, low starting current motor, with worm gear reduction built as one unit and an electric brake. The worm is special alloy steel, machine finished. Worm shaft is provided with ball or roller bearings designed to take both radial and thrust loads. Worm gear is special analysis cast bronze with teeth accurately hobbed and smoothly finished. Gear is mounted on alloy steel sheave shaft provided with roller bearings. Worm gearing operates in a sealed case, filled with special lubricant, providing automatic lubrication to all parts. The electromagnetic brake is adjustable to provide accurate floor stops with all loads and to compensate for wear of brake lining.

The control is fully automatic with a bank of buttons at each opening, permitting car to be called and dispatched from any landing. Combination door locks and switches are provided for the hoistway doors to prevent operation of any door except when car is at the door.

**ELECTRIC TRACTION DUMB WAITERS**

*by Sedgwick*

**FOR MORE THAN 54 YEARS** Sedgwick Machine Works has specialized in the design and manufacture of elevators and dumb waiters. The improved Sedgwick Electric Traction Dumb Waiters are the result of this specialized knowledge and experience, and are generally used for installations where three or more landings are to serve. Widespread use of this equipment contributes to convenience, efficiency and economy in hospitals, hotels, restaurants, clubs, libraries, schools and other commercial, institutional and industrial buildings.

The machine consists of single speed elevator-type high torque, low starting current motor, with worm gear reduction built as one unit and an electric brake. The worm is special alloy steel, machine finished. Worm shaft is provided with ball or roller bearings designed to take both radial and thrust loads. Worm gear is special analysis cast bronze with teeth accurately hobbed and smoothly finished. Gear is mounted on alloy steel sheave shaft provided with roller bearings. Worm gearing operates in a sealed case, filled with special lubricant, providing automatic lubrication to all parts. The electromagnetic brake is adjustable to provide accurate floor stops with all loads and to compensate for wear of brake lining.

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<td>Clear Headroom, Height</td>
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<td>Clear Side Dimensions</td>
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For additional information and prices, for data on Sedgwick dumb waiter doors, and for specific recommendations—address

SEDGWICK MACHINE WORKS, 150 West 15th Street, New York 11, N. Y.

**ELECTRIC AND HAND POWER ELEVATORS AND DUMB WAITERS**

**PRECISE, RESTRAINED**

*Ung Dansk Arkitektur (Young Danish Architecture) 1930-1945. Helge Finsen. Schoenhagenske Publishers, 3 Landemakert, Copenhagen, Denmark, 1947. 211 pp., Danish text; 17 pp., English summary; illus.*

A vital architectural movement was inaugurated in Denmark following the 1930 Stockholm exhibition at which the functionalism of Le Corbusier was formally introduced into the Scandinavian countries. This movement manifested many of the features of the International School. "Nevertheless, some specific Danish features can easily be discerned, the most conspicuous being a certain mental equilibrium, a distaste for the high flown, even embarrassment in the expression of emotion, responsiveness combined with independence. This characteristic balance of mind is at once the nation's strength and its weakness, combining a gift for simplicity and clarity with a lack of imagination and of a sense of the sublime." The photographs of Danish work reproduced emphasize clean, precise, restrained architectural effects, generally characteristic of Scandinavian work. Insofar as the single photographs at small scale permit judgment, some of the outstanding anywhere: house at Rungsted by Frits Schlegel; house at Anchersvej and apartment house Ordrupvej 70 by Mogens Lassen; Town Hall at Aarhus by Arne Jacobsen and Erik Moeller; Town Hall for Soellerod Kommune, Holte, by Arne Jacobsen and Fleming Lassen; Town Hall and Sportshall at Gladsaxe and Radiohuset, Roosenorns Allé, Copenhagen, by Vilhelm Lauritzen; apartment house, Vesterosegade, Copenhagen, by Kay Fisker and C. F. Moeller; and the interiors of Biografteater, Skive, by H. Toft-Hansen, and Council Chamber in Town Hall, Holte, by Jacobsen and Lassen.

Such design factors as function, composition, rhythm of facade are briefly discussed in the English summary; also building materials, residential town planning, terraces, flats, detached houses, schools, auditoriums, public buildings, and structures for industry, business, agriculture. In the Danish text these subjects are considered more fully and more information of a general nature is offered for nontechnical readers.

English legends for the pictures, in addition to the Danish, would be helpful. The literary style of the English summary merits commendation.

**LAWRENCE E. MAWN**

**RECENT ENGLISH ARCHITECTURE. 1920-1940**

Published by Country Life Ltd., 2-19 Tavistock St., London W.C. 2, England, for the Architecture Club, 1947. (To be republished later this year by Charles Scribner's Sons, 587 Fifth Ave., New York, N. Y.)

This is an exhibition in book form of photogenic buildings selected for conservativeness. It is much less like the Museum of Modern Art's recent Built in U. S. A. than Town and Country's One Hundredth Anniversary Issue (there are three large country houses by Sir Edwin Lutyens which show his sensitive and reticent handling of traditional forms). It is an English counterpart to something the National Acad-
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REVIEWS

(Continued from page 104)

emy of Design might have sponsored in this country; that is, Coolidge, Shep­
ley, Bullfinch & Abbot would be more conspicuous than Skidmore, Owings & Merrill. Hence we have Sir Giles Gilbert Scott and E. Grey Wornum well repre­
sented, but only one or two buildings by Tecton, Nicholson, and Fry.

We in this country are more familiar with English domestic than public building, so it comes as a surprise to see distinguished public buildings such as the Greenwich Town Hall. The eccle­siastical buildings range from the fam­iliar Liverpool Cathedral to the dra­matic Church of St. Saviour at Eltham.

Schools, stations, banks, and some flats are also shown.

Two large buildings, the London Pas­senger Transport Building the Uni­versity of London, both by Adams, Holden & Pearson, in which the multi­tory masses are derived from Amer­i­can skyscrapers, lack decision, clarity, and life. There is perhaps too great an effort to be monumental at an unfa­miliar scale. This is a criticism which non-Britons have always leveled at English efforts to design large public buildings. The compensating virtue of John Bull's architecture is the finely­wrought, thoughtfully studied detail of most of the examples illustrated here. We seem by comparison to have never had time for such meticulous refinement in texture and scale.

The medium-sized houses illustrated are inferior to the equivalent American product, since they tend to be stiff, blank, and angular, which qualities are emphasized by the lack of even minimal planting.

With the single exception of Laughing Water, a roadhouse at Cobham by Clough Williams-Ellis, there are no playful or light touches such as Tecton has done so brilliantly in zoos. The Com­et Roadhouse near Barnet by Mus­man is described as "carrying on the Pickwickian tradition of the coaching inn, cheerful and solid." I beg to dis­agree; it is too, too solid, like the ad­ministration building of a large in­dustrial plant.

There is a consistent attempt to support the emphasis on national tradition stressed in the introduction. I wonder what the national tradition really is, medieval or Georgian? Does it include Albi (plate 38) and cubism (plate 58)? Perhaps it is a more fundamental at­titude such as sound scholarship, or excellence of workmanship. Bows to tradition are made by the misuse of porticoes, as in the Town Hall at Dag­enham and the City Hall at Norwich. In both the porticoes appear irrele­vant, in­adequate, and artificial. We have come a long way in the last decade and even

(Continued on page 108)
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REVIEWS

(Continued from page 106)

a layman must smile at the feebleness of these genuflections toward the academy. In one case the main block of the building slides along behind the columns without so much as a molding to show that the portico has come to rest somewhere in front of it. In the other, the columns, imported from Gothenburg, suggest that the scaffolding has not yet been cleared away.

Since portable exhibitions of this kind may become more numerous, it is worth while considering whether this one will accomplish the purpose intended. People will look at these pictures as they look at LIFE, but they will not be "using their eyes, understanding what they see . . . " or "able to criticize intelligently" unless more guidance and stimulation are provided. There is very little text, exceedingly brief captions, no dates, no plans, no drawings, no information (Did this building survive the blitz?)—merely fifty-odd photographs of exteriors and ten of interiors. Such captions as the following will not breed up a race of critics: Plate 1, "A successful application of modern idiom to a public building conceived in the classical manner"; Plate 5, "An interior producing an impressive effect largely by simple treatment and good proportions" (What are good proportions?); Plate 22, "A free handling of Georgian suavity for a building essentially modern and utilitarian in purpose." This might be considered a suave way to beg the question, but are we out to make fun or to influence people?

C. L. V. MEICKS

PATRICK GEDDES IN INDIA


It has become commonplace to refer to Patrick Geddes as a planner and as a social critic; it is uncommon to find someone who has actually read anything Geddes wrote. This attractive little book, in presenting portions of the many reports on towns in India principally prepared between 1914 and 1919, makes it possible to discover his main contributions to the thinking about city planning as well as his prejudices.

The argument for the "diagnostic survey," now so generally accepted, is presented as simply as it has ever been done. (In these reports Geddes was writing for groups and individuals who had to be educated from the ground up.) It is interesting to note that his defense of "conservative surgery"—demolition of the worst structures, open-
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REVIEWs

(Continued from page 108)

Geddes detested "planners" of the Robert Moses type: he mentions a case where a city engineer reported to him that "as both water and drainage schemes are in contemplation, the city must deny itself the luxury of city planning." He concludes that "the policy of sweeping clearances should be recognized for what I believe it is: one of the most disastrous and pernicious blunders in the chequered history of sanitation."

Geddes believed firmly in maintaining regional and even local character and accommodating natural customs. Yet he realized that "there must be no mere sentimental renewals of village customs now obsolete, or of artistic embellishments now outworn." Thirty years later, that lesson has still not been learned.

T. H. C.

THE PREFABRICATED HOUSE

Raymond K. Graff, Rudolph A. Matern, Henry Lionel Williams. Doubleday & Co., Inc., Garden City, N.Y., 1947. 7" x 10", 132 pp., illus., index. $2.75

Aimed at the consumer, this book calls itself, "A Practical Guide for the Prospective Buyer." Written in an easy, diffuse style, it contains a lot of information about houses in general and how to approach their planning (from the owner's point of view) and gives, at least by implication, a great many more reasons for hiring an architect than for buying a prefab. The book is full of warnings, particularly as to what the customer is getting for his money and how much has to be done before delivery and after assembly on the site.

For one seeking specific guidance, the information given is general to the point of exasperation. According to the jacket blurbs all the buyer's basic questions are answered, whereas the book mainly poses questions (and poses them very well, we must admit). If it were titled, "An Introduction to The Prefabricated House," we could recommend it. Perhaps the publishers insisted on the authoritative subtitle?

The format and illustrations (drawings and photographs) are attractive, and some 200 manufacturers of prefabricated houses are listed.

John Rannels

NOTICE

Richard M. Bennett, former chairman of the Department of Architecture, Yale University, has been made a partner in the firm of Loeb & Schlossman, architects-engineers, Chicago, Ill.
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(Continued from page 112)

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Here's the book. Working through many a spring and summer evening and top of the morning, they've come up with a collection of HOMES selected for their livability, their friendliness, and intimacy, their invitation to informal attractive living. They've done this for only one reason—to give you a useful book that will help you interest your clients in good residential architecture; to promote design progress yet further; to show in page after page what all of us know anyway—that today's architecture can be charming and beautiful and livable.

The book is cloth-bound with a cover designed by Stamo Papadaki. There are 287 handsome architectural photographs and 116 plan drawings by Elmer Bennett. All regions are represented, and many, many architects. There is just enough text to explain—in easily understood terms—what the trends are in home design, and why these houses are good, in planning, use of materials, and in many details of design and construction.
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WHO SAYS ARCHITECTS CAN'T TAKE CRITICISM? I saw a student project from V.P.I. judged by a group of Virginia architects, and then was astonished to see the architects offer a sampling of their work to be criticized by the students. I think this may be more than an amusing idea. It should be profitable to both masters and tyros; certainly the students in this case took the job very seriously.

I WISH MORE ARCHITECTS COULD MAKE THE PROPER DISTINCTION AMONG (A) PUBLICITY, (B) PUBLIC RELATIONS, (C) PUBLIC EDUCATION. AND (D) PROFESSIONAL EXCHANGE OF INFORMATION.

The confusion about the purpose of these various activities does a lot of harm, and stands in the way of much good that might be accomplished.

Publicity is a business activity. By definition, it is information appearing in public print, to advance the interests of a given person. It is made difficult, but by no means impossible, because of the antipathy to professional advertising. It is usually an individual matter, but at times proper ethical publicity, to gain more business, may be done by professional societies. Various newspapers and magazines directed toward client groups will accept stories, if they are properly prepared, which over a period of time will result in more commissions.

Public relations activities have a long-range value in a business sense, but in their immediate application should simply raise architects as a group (and architecture as a product) in the public esteem. Serving on civic committees, participation in community activities, professional activities which don't pay off today or tomorrow and may help fellow architects as much as yourself—these things are for the purpose of establishing a friendly, understanding relationship with the public.

PUBLIC EDUCATION IS MUCH MORE TRICKY. Frankly, I don't know many architects I'd trust with the job, until they had prepared themselves carefully. It's a matter of understanding completely what architecture is, forgetting the technical and professional jargon, and transmitting this knowledge to generally uninterested lay people. It is a dangerous activity because few of us are trained teachers; explaining residential design to the Thursday Afternoon Women's Club is just as difficult as a schoolmarm's job in teaching plane geometry to high school kids. The wrong approach can do irreparable harm, and yet the job is very important. There must be more speaking, more writing in popular magazines, and more "appreciation" courses in the schools, by architects, for lay people. If public relations activity is long-term publicity, public education is long-term public relations. One architect I know traces several of his most interesting commissions to the spreading influence of a one-semester course he gave in the local high school on architecture and town planning.

Russel Guerne de Lappe, of Berkeley, California, writes of another interesting experience. After speaking before a high school class on the subject of architecture, he asked each student to write him a letter telling what his conception of an architect had been before the talk, and what his revised estimate was.

A number of students gained knowledge of the social responsibility of an architect. One wrote: "Previous to your talk I thought an architect just designed houses and went ahead and built them (with the help of carpenters). But after your talk I had a different idea. He not only designs houses, but buildings that are to be used by the public. He plans how certain things will help people and communities and also tries to keep things that hinder communities away from them."

Many at least gained understanding of the amount of work involved in design. For instance, a student wrote: "At first I thought that all an architect did was to draw up plans and sell them. Now I see that besides that you must go through so much more work, and some of the work needs so much research and detail. I now realize that an architect's life is really a hard one."

THESE THINGS—PUBLICITY, PUBLIC RELATIONS, PUBLIC EDUCATION—ARE ALL BASED ON CONTACT WITH THE PUBLIC.

The fourth activity is (or should be) intra-professional. As an architect, I hate to see public contact muffed. As an editor, it annoys me to find architects confusing publicity with their own professional growth. In the medical profession, the discoverer or the developer of a new therapy is anxious to spread word of it, in a technical sense, to his colleagues, for the good of the practice of medicine. What publicity he may get, in the popular press, is something else again.

In architecture this distinction is, unfortunately, seldom true. We on PROGRESSIVE ARCHITECTURE write, edit, and publish for those engaged in the practice of architecture. That's why we've been able to develop the Critique, as a professional analysis of outstanding work. Yet we get work submitted with a covering letter reading, "My client and I would like publicity on the enclosed job. Can you publish it in an early issue?" Whereupon we yawn and go back to reading Astragal's column in The Architects' Journal. We aren't interested. If the architect concerned wants publicity, we'll advise him on how to go about getting it, ethically and efficiently—if his work deserves it. On the other hand, if he wants professional publication, if he's filled with the warm feeling of pride that comes when you've done something you're so proud of that you want to show it and tell about it to your fellow designers, all over the United States and Possessions, Canada, and Pan American Union ($2.00 extra for each year in all other countries), then we'll put away our marbles and talk seriously about publication. I think that is the role of the technical press, as distinguished from the consumer press. A surprisingly large number of architects fail to make the distinction.

If anyone wants, I can recommend several good publicity agents. On the other hand, I can recommend a good professional magazine. Don't press me; we're very shy here.

IN THIS BUSINESS WE HAVE A CLOSE CONTACT WITH THE ARCHITECTURAL PHOTOGRAPHERS. By and large they are a group of fine people, competent, interested, and good fun to work with. We applaud and wish success to the professional guild they have just formed.

Sometimes, however, a photographer will do some peculiar things (perhaps, as in the case of some architects, because of client desires). For example, we've just seen two sets of photographs of an inferior alteration. One set is honest; the other, by retouching, shows the design the way the architect wishes it had come out, don't quite know who is fooling whom.

And then we have a statement of prices from another photographer which reads, "If clouds are desired in the print... $1.50 extra." I'm not sure whether that quotation is per cloud or for a whole bank.

Thomas D. Uihlein