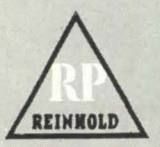
PROGRESSIVE
ARCHITECTURE
PENCIL POINTS]



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NO EASY ANSWERS

The various structures designed for multiple family living which are illustrated, discussed, and criticized in this issue indicate pretty clearly the variety of solutions possible within this field. They range from completely efficient, thoroughly economical "housing projects" through comfortable, still efficient apartment houses in a higher economic bracket to more individual, more space-consuming but more friendly semidetached and two-family dwellings.

When a representative of any part of the building economy proclaims the need for rental housing in this continuing emergency, he states an obvious truth, but by no means narrows the field to one type of structure. The architects and their clients, as the work in this issue indicates, are going to translate the requirements in many individual ways.

We have no intention of editorializing or quoting statistics regarding the "housing problem"; others are doing this well. There is an obvious economic interplay of construction costs, rentals, wages, and legitimate profits which affects the architect's commission and influences his solution. These matters, at the present time, boil down to one simple fact: there is need for imaginative, even inspired, designing in this field where costs must be kept to a minimum without sacrifice of pleasant environment.

It is also clear that no building or small group of buildings can in themselves create a completely satisfactory environment. Any architect seriously interested in a dwelling project must be concerned with town planning, with the larger environs of the families he is providing for, with transportation and schools, and health facilities and shops. And yet again, the single individual commission seldom allows the designer to do more than worry about these matters. He can advise his client; he can work on a broader scale for over-all planning through various organizations; his particular assignment will usually be to find the best solution within given limitations.

With our sights thus lowered, the guest critics and the editors of this issue, another in the series of PROGRESSIVE ARCHITECTURE Critiques, found many signs of progress. Some of the structures are notable for study of construction methods, some for a smart use of materials, some for ingenious planning, some for that intangible desirable, amenity. None of them have been designed as routine or tedious commissions; in each case the architect believes, excitedly, that he is offering an important, carefully studied solution to a difficult social problem. We agree. There are no easy answers any more.

The Editors

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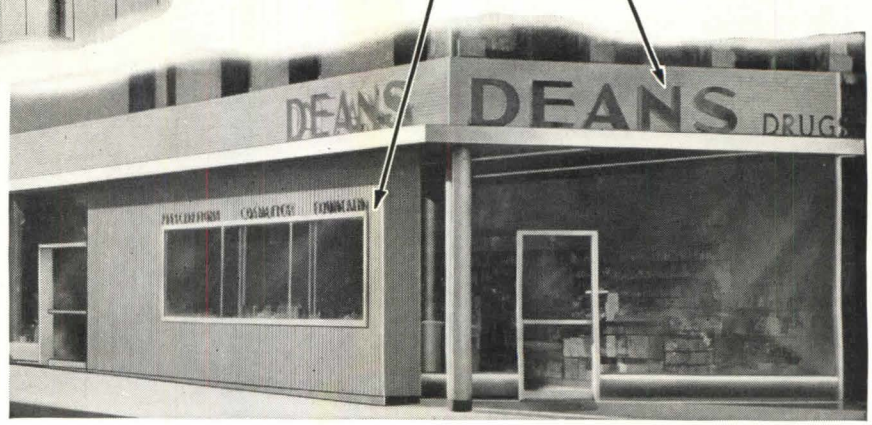

BEFORE

These "Before" and "After" pictures of Smith's Store in Oakland, California, show how successfully Zourite can transform an out-of-date building into a striking, modern store. No major alterations were made to the face of the structure.

AFTER

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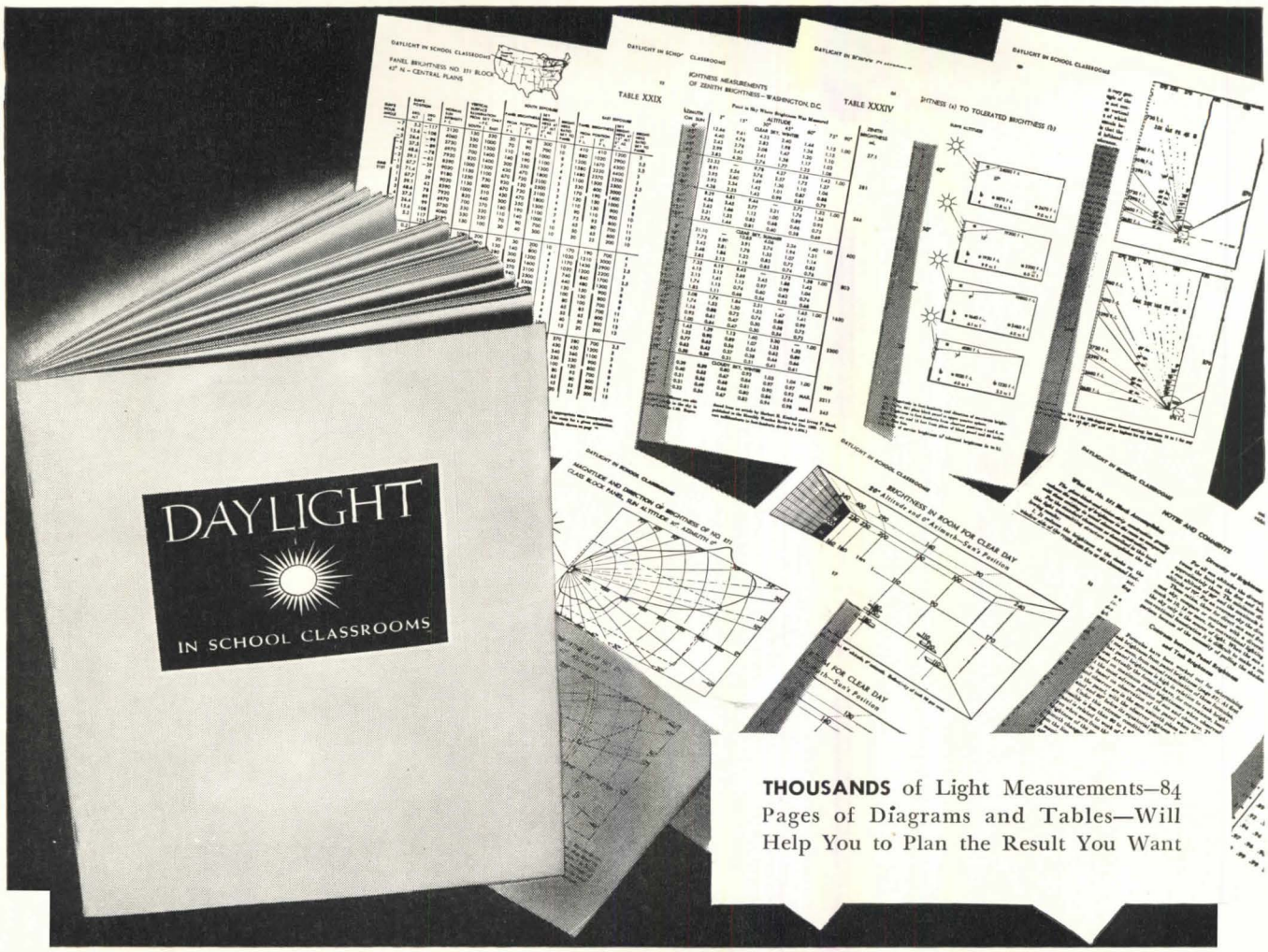

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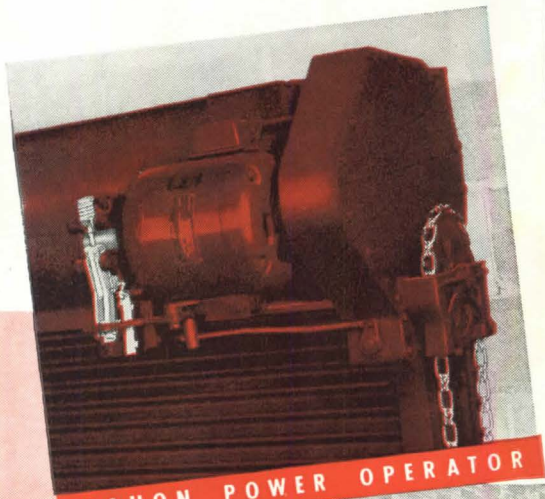

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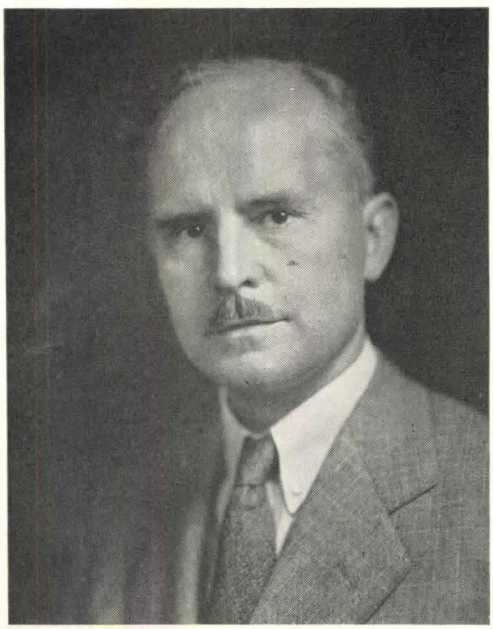

J. Floyd Yewell, of New York, is well-known both as an architect and an architectural renderer. Among outstanding industrial jobs with which his name is associated are the new plant for Walter Kidde and Company in Belleville, New Jersey; the New York, Susquehanna and Western Railroad Station in Paterson, New Jersey; and the plant for Ciba Pharmaceutical Products in Summit, New Jersey

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VIEWS

TO PROVE THEIR WORTH

Dear Editor: As a returned veteran back to school to complete my education in architecture, I find myself going through many changes—changes due to added years, years of army experience, added marital responsibilities, academic adjustments, new design approaches, and new materials. These changes are naturally quite common to some of my fellow students.

There are so many types of us. Some have ambitions to change the entire philosophy in the approach to architecture, and others want merely to get the minimum requirements to pass the Architectural State Board. Some apply what they have learned in school and in the armed service, and they wish to perform a real social need, while others are completely indifferent. Without a doubt, we do present a problem to all concerned.

Established architectural firms and the more experienced architects seem to understand our problem, and do not look upon us as a serious contagious disease to be avoided. The newer firms, however, established by young men who were fortunate enough to complete their education uninterrupted by the war, are not so understanding nor so confident. We welcome an opportunity to prove our worth to these men. We are young but our experiences are wide and varied. Mistakes will occur, but advice is desired. We are an extremely aware, ambitious, and inquisitive group.

And gentlemen, why should this not be the case? We fought a war so that our schools, their faculties, and students could study architecture with the freedom so necessary for this art. Had we failed, who could guess the consequences.

So now as we enter the profession, we would like to know that you understand our problem and we believe you may expect good things of us. Out of the history of the past, the experience of today, we plan for tomorrow.

WM. F. JONES
School of Architecture
Columbia University

WEIDLINGER'S "WELDING"

Dear Editor: In reading the article, "Welding: Its Implications and Applications," rather thoroughly I find very little upon which to comment. It is carefully written and appears to state conditions about as they exist, although it has been several years since I was actively engaged in the field of structural welding.

I believe the author might well make a distinction between the different types of rigid frames. Those which are essentially of the arch type are quite widely used in some industrial building and in auditoriums or gymnasiums. These are not too difficult to analyze. The office building type composed largely of columns and beams is much more difficult and, doubtless, it is true that engineers have avoided the additional work involved in making the calculations. Full continuity involves a very considerable amount of field welding which, in general, is more expensive than shop welding. I am not in a position to evaluate the difference in cost, but in the earlier years of development we endeavored to keep the field welding to a minimum.

I believe it would be well for the author to include AC welding, since it is also widely used. I trust these few comments may be of some assistance to you in evaluating this discussion.

H. M. PRIEST, Manager
Railroad Research Bureau
United States Steel Corp. Subsidiaries

Author's Note: *Your remarks regarding the use of AC welding were incorporated in the article. There are—as you have pointed out—various degrees of "difficulties" in the analysis of rigid frames. Simple bents are sometimes easier to design than multistory frames; however, both require more calculations than simple beams and columns. Since the article is written for the architect, whose knowledge of these matters is, unfortunately, somewhat limited, I felt not justified in going into the discussion of various types of rigid frames. Apologies to the structural engineers, from whose point of view these distinctions are quite essential.*

PAUL WEIDLINGER

FURTHER APPROVAL

Dear Editor: I think that Mr. Weidlinger's article is timely. Structural welding needs a boost. Mr. Weidlinger has reviewed the past, sized up the present, and pointed the way to the future. Welding progress in the making of metal containers for gases and liquids has been extremely rapid; there has been no comparable advance in the construction of buildings and bridges.

Mr. Weidlinger's article is centered around building construction although his table of the possible metal savings by welding instead of riveting includes data for bridges quoted from Mr. La-Motte Grover.

In my opinion, lack of simple but effective assembly devices has slowed up welded building construction more than any other physical factor. Such devices adapted to field assembled, welded tanks have been used for years. Their design for buildings is more difficult because of the necessity of locating them accurately with little cost, and in such a way that they will not interfere with the welding of the main joint.

In the case of welded bridges the main physical difficulty appears to be one of material. ASTM-A7 steel has long been widely used for riveted bridges and the designs have been based on a strength of 60,000 psi. To maintain this strength throughout the entire range of thickness, it is necessary to vary the carbon content. The welding engineer insists that the carbon be kept to a maximum of .25%; the steelmakers are equally insistent that this cannot be done *unless* the strength is varied, being less for the greater thicknesses; the bridge builders and users refuse to adopt and use a design strength varying with thickness because, if they did, welded bridges couldn't compete with

"Fifi is not the kind of French curve I sent you out for, Smedley!"

(Continued on page 10)

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VIEWS

(Continued from page 8)

riveted bridges. Thus there is an impasse for large bridges.

Furthermore, fatigue tests on fillet welded joints, such as would now be considered essential for welded bridges, indicate very low fatigue strength. This, also, in the minds of many men accustomed to conventional riveted bridge construction is good reason for continuing to make riveted bridges. A fatigue test program on riveted joints which is in the offing may change this viewpoint by proving that the riveted joints are just as poor, in fatigue strength, as the fillet welded joints have been shown to be.

The solution for welded bridges probably lies in radically new designs, using ASTM-A7 tubular members thin enough to have good welding properties and 60,000 psi. strength without excessive carbon. Therefore, I agree with Mr. Weidlinger's favorable appraisal of tubular members.

As to testing: with present radiographing technique, I think it would be practically impossible to radiograph structural girder-to-column welds, so unless new techniques are developed, of which I have seen no indication, reliance must be placed upon good design, good assembly, well trained operators, proper supervision during welding, and visual inspection aided by magnafluxing and trepanning or otherwise removing weld samples to get good work. I think that radiographing will never, of itself, "completely remove uncertainty from welded structures."

The next to last sentence of the last paragraph under "The Role of Building Codes" I do not understand, for it appears to me that prequalified procedures greatly simplify the work *for everybody* concerned. The provision that procedures other than the ones prequalified may be used, provided the user qualifies them by prescribed tests, encourages the development of new procedures. I cannot imagine a more simple and yet more flexible set of safe rules for welding procedure.

I cannot see the propriety of comparing the irregularities of welds to the "formidable complexity of welding equipment." Furthermore, probably because I am not an artist, I do not understand the antecedent of the expression, "such an approach," which appears in the next sentence. Certainly the weld ripples are insignificant as compared with a building and its structural parts.

This article is excellent and will do much good.

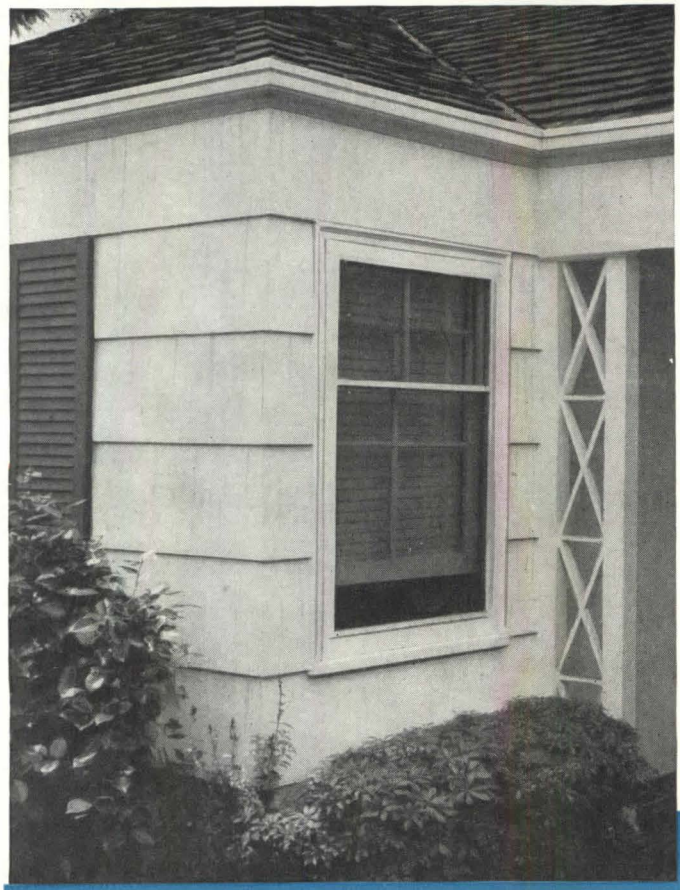
H. C. BOARDMAN
Chicago Bridge and Iron Co.
Chicago, Illinois

Author's Note: *I would like to express my appreciation for the thoroughness and thoughtfulness of your remarks. I agree, indeed, with all your general comments. I hope that the editors of* PROGRESSIVE ARCHITECTURE *will print them, since they will effectively contribute to the purpose of the article, although it was necessarily restricted to the discussion of building construction. The problems which you have pointed out about welded bridges are very pertinent and should be of interest to the reader. In my article I have not discussed the use of assembly devices, partly for the lack of space and partly because, as far as I know, most such devices (like the Sachs Erection System) are patented and used by individual companies only. However, I believe your remarks on this point are correct and important.*

I agree also, in general, with your remark that "reliance must be placed upon good design, good assembly, well trained operators, proper supervision, etc.," but I do hope that alternately radiographic inspection will advance sufficiently to be used on a large scale. In some instances this has been done already. Of course, it will not remove "completely" the element of uncertainty, since this element will exist in all man-made instruments and in nature itself. The word "completely," therefore, cannot be taken literally.

The paragraph about building codes is open to a different interpretation. Codes,

(Continued on page 12)



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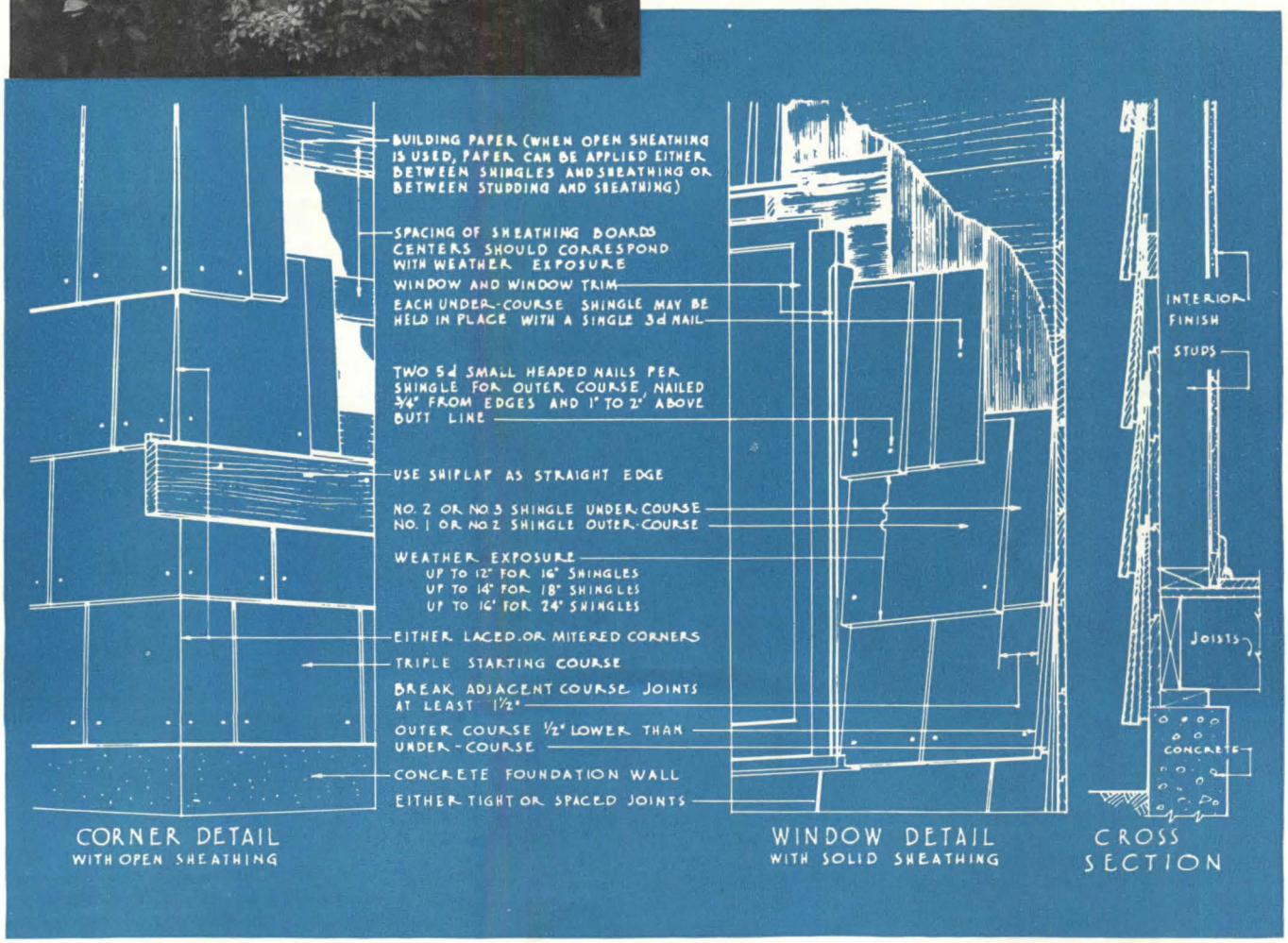

SPECIFY CERTIGRADE CEDAR SHINGLES AND SHAKES

VIEWS

(Continued from page 10)

as such, are inherently restrictive. This is a necessary evil and, I believe, it is a matter of natural inertia to use prequalified procedures instead of new ones, even though the code does not forbid their use. I admit—as I have also expressed in the article—that with the above qualification the code, at present, is as satisfactory as it can be.

The paragraph on "Architectural Expression of Welded Structures" of course expresses my subjective opinion. It is not trying to give any artistic advice on the adaptation of this process, but rather to point out a potential approach which might lead the architect to think about ways and means of clearer formal, i.e., architectural, expression.

I want to thank you for your interesting letter and your encouraging remarks.

PAUL WEIDLINGER

STORE THINKING

Dear Editor: I have just had the opportunity to do a thorough reading of your May edition on Retail Stores. It is a good job, stimulating and provocative.

It is interesting to note that two times in the Critique, which accompanies the articles, the word "lure" is used, and that, in a word, is what sums up the kind of thinking that accompanies much of the current store planning. Many designers are becoming just a little too glib about the merchandise angle of store planning, and are trying to make that their major contribution, rather than just one part of the general program.

If more designers would think of stores as essentially public buildings which must be designed with a responsibility for public convenience, the merchant would, in the long run, benefit. The "lure," if any, would derive from the general style and quality of the goods and the store's general merchandise policy.

In any store of more than moderate size, many hundreds of thousands of dollars per year are paid for executive merchandising talent. It seems ridiculous for them to buy that advice as the major contribution of their designers, whose principal concern should be the preparation of a sound program with proper regard for circulation, efficiency of operation, sound structure, appropriateness of materials, and stimulating merchandise backgrounds all carried out in accordance with the most progressive design principles.

DANIEL SCHWARTZMAN
New York, N. Y.

THANKS, ANYWAY

Dear Editor: Let me congratulate you on the nice presentation of the Brasilian material, in the April issue. On second thought, though, I think *we* are the ones to be congratulated.

HENRIQUE E. MINDLIN
Rio de Janeiro, Brasil

NOTICES

NEW PARTNERSHIPS, PRACTICES

VICTOR B. SPECTOR and H. EUGENE MONTGOMERY have opened new offices at 1057 W. Broad St., Falls Church, Va.

E. J. CAPPELLO has announced the opening of a new practice at 164-01 Northern Blvd., Flushing, N. Y.

RAY-SHIELD PRODUCTS MFG. CO., designers, fabricators, and constructors of lighting products, have established New York offices at 200 W. 34th St., with agents in principal cities.

LAURENCE P. JOHNSTON has opened offices to specialize in hospital planning, located at 1515 Sherman Ave., Evanston, Ill.

EDWARD K. SCHADE has become an associate member of the firm of Mitchell & Ritchey, 524 Fourth Ave., Pittsburgh, Pa.

JOSEPH DI STEFANO, JR., has opened an office for architectural practice at 230 Boylston St., Boston, Mass.

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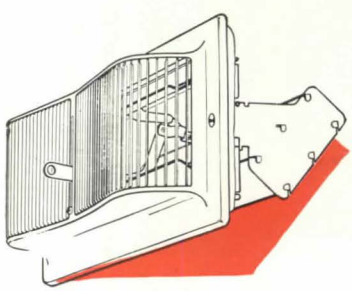

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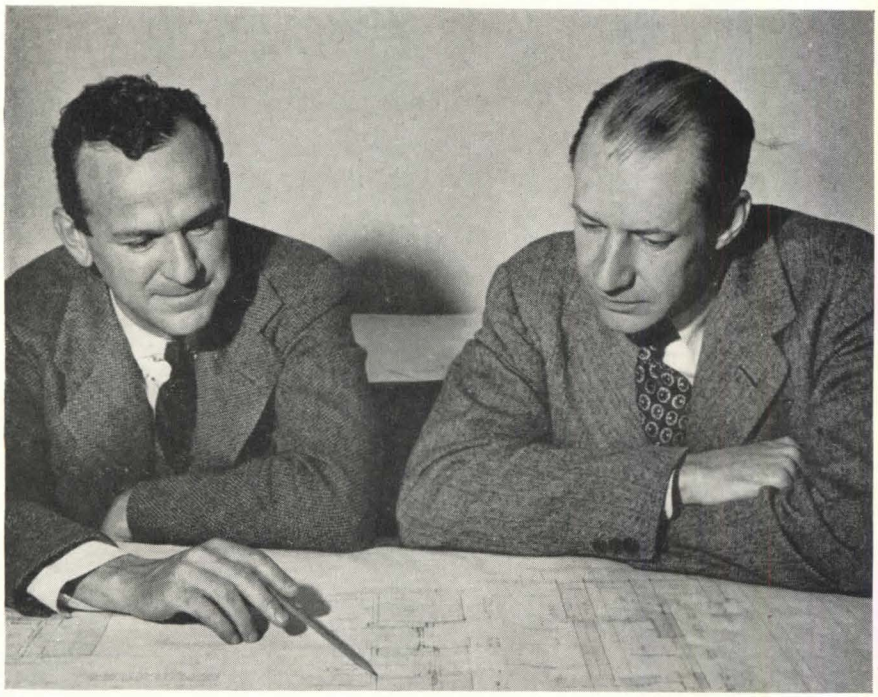
CONTROL SYSTEMS

THIS MONTH

Gordon Drake's home in Los Angeles, California, the first of the 1946 PROGRESSIVE ARCHITECTURE Award winners to be presented fully for our readers, appears on page 45 of this issue. (For photograph of Mr. Drake see June 1947 PROGRESSIVE ARCHITECTURE.) It was during wartime service as a Marine, although his "assigned tasks were not those of an architect," that **Gordon Drake** came to the conclusion that to have work constructed as it has been designed, the architect and craftsman must work in complete accord. With the end of the war he returned to Los Angeles and formed a group of veterans who felt responsible for more than the labor they were performing. But, says the young designer, "The sad truth is that it takes much more than willingness to construct our drawings," and, accordingly, the group was disbanded last November and replaced by two experienced contracting firms. The work of the firm of Gordon Drake Associates has been mainly residential, so far, but they expect to enter other design fields in the near future.

Following two successful Critique studies on Hospitals (November 1946) and Retail Stores (May 1947), we present in this issue a critical analysis of Multi-Family Housing. The first project discussed is the Housing Campus for the Illinois Institute of Technology, Chicago, Illinois (p. 54), which comes from the office of Skidmore, Owings & Merrill. While Mr. Owings and Mr. Merrill took an active part in the development of the project, John Lord King and William T. Priestley were the principals in working it out. **John Lord King** received his B.S. in civil engineering from Yale University, and then went on to study architecture at Yale's School of Fine Arts. After research in Europe as holder of an English Traveling Fellowship, he worked in the office of Holabird & Root, architects of Chicago, 1934-1942, where he became chief of their architectural department and took part in the development of many large Chicago housing projects. After war service, he joined the staff of Skidmore, Owings & Merrill (1945), and was the project manager for the Illinois Tech Housing Campus. **William T. Priestley** was the chief designer on this project, having also joined the Skidmore, Owings & Merrill staff in 1945 after war duty. His architectural education was received at Princeton; the Bauhaus (Dessau) and Berlin, Germany; and at Columbia University. He was a partner in the firm of Rodgers & Priestley of New York and, subsequently, Chicago, from 1935-1942; also teaching architecture at Cooper Union, New York, N. Y., and at Illinois Institute of Technology.



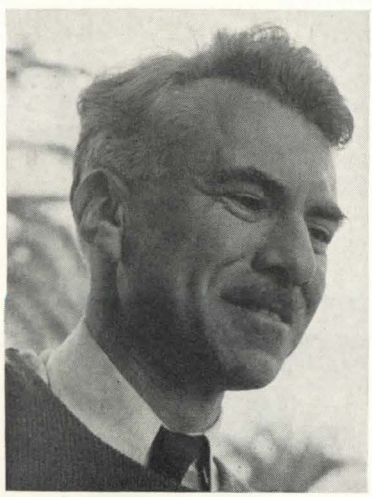
WILLIAM T. PRIESTLEY

JOHN LORD KING

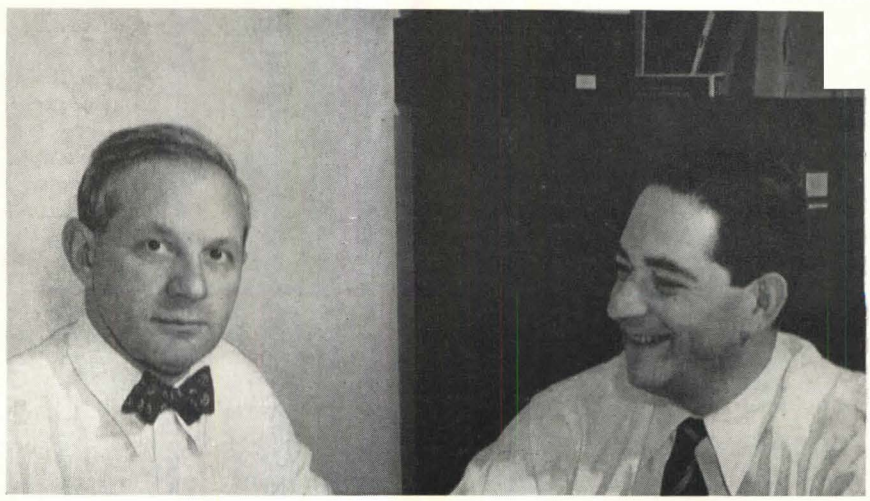
Synonomous with advanced apartment house design in Washington, D. C., are the names of Berla & Abel, architects of the President and Phillips Apartments on pages 59 and 62. **Julian E. Berla** received his B.S. from Massachusetts Institute of Technology, and is a registered architect in the District of Columbia, Maryland, Virginia, and New York. He is now president of the Washington Chapter, A.I.A. His partner, **Joseph H. Abel**, is a B. Arch. from George Washington University and also is registered in several states. A member of the A.I.A., Washington Building Congress, and Board of Trade, Abel is at present working on the design section of *Apartment Houses*, soon to be published by Reinhold Publishing Corporation as the second book of the PROGRESSIVE ARCHITECTURE series.

Park Planned Homes, Altadena, California (p. 66), and Garden Apartments, Hollywood, California (p. 64), the next projects considered in the Critique, are the work of **Gregory Ain**, architect of Los Angeles. Ain studied mathematics

(Continued on page 16)



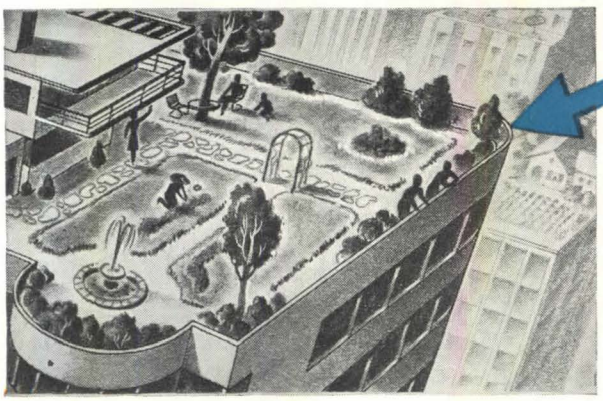
GREGORY AIN



JULIAN E. BERLA

JOSEPH H. ABEL

PHOTO BY FAIRCHILD AERIAL SURVEYS



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THIS MONTH

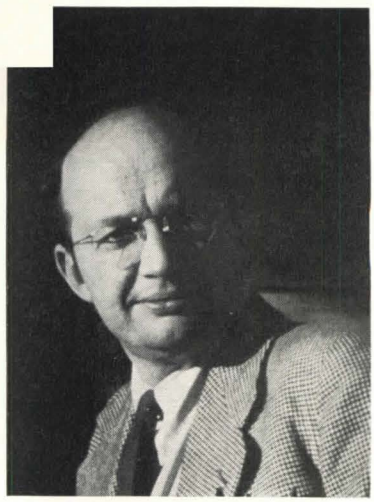
(Continued from page 14)

and physics at U.C.L.A. and architecture at U.S.C. From 1933-1935 he was associated with Richard Neutra. He has done much work in the housing field and in 1940 was the recipient of the Guggenheim Fellowship for research in low-cost housing.

Last of the Critique subjects is a Six-Family Project in Seattle, Washington *(p. 70)*, the work of **Paul Hayden Kirk** of the office of Chiarelli & Kirk. A graduate of University of Washington School of Architecture in 1937, Kirk started his own practice in 1939. The partnership of Chiarelli & Kirk was established in 1944. Summing up the firm's design theories, he says, "We are both interested in using the local building materials in their most simple and straightforward manner."

The Materials and Methods section features this month an article on Row House Construction (p. 73) which is closely allied to the Critique study, written by Bauer and Swinburne, Newark, New Jersey, architects. **Charles H. Bauer, Jr.**, studied civil engineering at Lehigh University and architecture in the Newark Atelier of the Beaux Arts, University of Pennsylvania, New York University, and the American School at Fontainebleau. His experience includes work in the offices of Guilbert & Betelle, Newark, New Jersey; and Crow, Lewis & Wick, Eggers & Higgins,

(Continued on page 18)



PAUL HAYDEN KIRK

HERBERT H. SWINBURNE

CHARLES H. BAUER, JR.

The PLANNING BOARD

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The Allied Electric Supply Company in Pittsburgh, Pa., needed a new building in a hurry—needed a big floor area to meet present business requirements and also had to plan for future upward expansion of the structure.

Truscon Open Truss Steel Joists and Truscon

The underslung design of the bearing permits maximum head-room under the supporting girders. The open web allows the passage of pipes and conduits in any direction. In practical use, Truscon "O-T" Open Truss Steel Joists are very simple to install, being completely shop fabricated and reaching the job ready for placing. Each joist is marked to correspond with the erection diagram, thus greatly simplifying and speeding construction work.

Allied Electric Supply Company, Pittsburgh, Pa., M. Vе-Shancey, Architect. Branna Construction Co., Contractor.

Truscon Open Truss Steel Joist

Truscon Open Truss Nailer Joist

Open Truss Nailer Joists were designed into the building to assure the rigid, fire-resistant, economical and light weight construction required. The Open Truss Steel Joists were used for the first floor, and the Nailer Joists were used for roof construction. The front bay of the Allied Electric Supply Company structure is designed for a future second floor, and the Truscon Steel Joists used assure this expansion without alterations.

Advantages of the Truscon "O-T" types of steel joists are many. Fundamentally, the Truscon "O-T" Open Truss Steel Joist is a Warren truss having top and bottom chords of wide tee-shaped members and a plain round continuous web member. The bottom chord is continuous from end to end of joists and bent up at the ends to form the bearings. Steel joists are fabricated by means of electric machine welding under pressure, making positive connections at all joints.

Other features include fire-and-vermin-resistance, sound resistance, ease of installing pipes and conduit within the floor depth, and several more important advantages.

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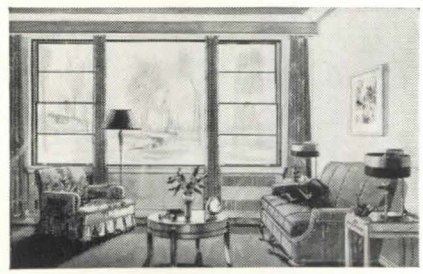

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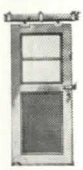

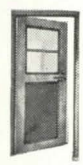

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New Literature

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THIS MONTH

(Continued from page 16)

and Gibbs & Hill, all of New York, N. Y. He opened his Newark office after three years' service in the armed forces, and is a member of the A.I.A. His associate, **Herbert H. Swinburne,** is a native of Nevada. After graduating from University of Pennsylvania he returned home, and in 1935 was appointed architect for the State of Nevada. In this capacity he handled the design and construction of public works for the state and was a member of the State Planning Board and National Resources Committee. He was also the architect of Nevada's exhibits at the San Francisco and New York World's Fairs. He went back to New York in 1941 to work on various military projects, and after war service formed the association with Bauer in Newark.

The second and concluding part of "Welding," by Paul Weidlinger, appears on page 78 of the Materials and Methods section. Biographical data about the consulting engineer-author can be found in the June 1946 PROGRESSIVE ARCHITECTURE.

NEXT MONTH

● Turning on the rebels against traditional design the searching light of their own critical attitude toward eclecticism, Milton Frederick Kirchman, architect of New York, N. Y., uncovers new fields for sharp evaluation in irrationalism in modern architecture, to be a feature of our August issue. If pulses are stirred, heads are hit, we will welcome readers' letters of dissension or comment.

● Structures to be presented in the issue will include two handsome Swedish museums, one at Norrkoping designed by Kurt von Schmalensee, and another at Linkoping designed by Nils Ahrbom and Helge Zimdahl. We will also show two branch airline terminals in California designed for United Airlines by Ernest J. Kump Company, of San Francisco. Supplementing these presentations will be two proposed projects—All Saints' Episcopal Church, Riverside, California, designed by Ralph C. Flewelling & Associates, and a church and shelter designed by Pietro Belluschi for the Church of the People, Seattle, Washington. The residential example selected by the editors for the August issue is an inviting California home in Berkeley, designed by John Ekin Dinwiddie, architect; Albert Henry Hill and the late Phillip Joseph, associates.

● A discussion of the characteristics of "Cavity Wall Construction"—with suggestion of its many design possibilities illustrated by structures where the principle has been successfully used—will be the concluding feature of the issue. It has been prepared for the magazine by Ben John Small.

NOTICES

APPOINTMENTS

E. E. MICHAELIS has been appointed Sales Director at Gordon Obrig Associates, Inc., in charge of product design and commercial interiors.

MAX W. SULLIVAN has been elected president of the corporation of Rhode Island School of Design, succeeding MRS. MURRAY S. DANFORTH who has been named chairman of the board of trustees.

NEW ADDRESSES

FRIEDMAN, ALSCHULER & SINCERE, Brooks Bldg., 223 W. Jackson Blvd., Chicago 6, Ill.

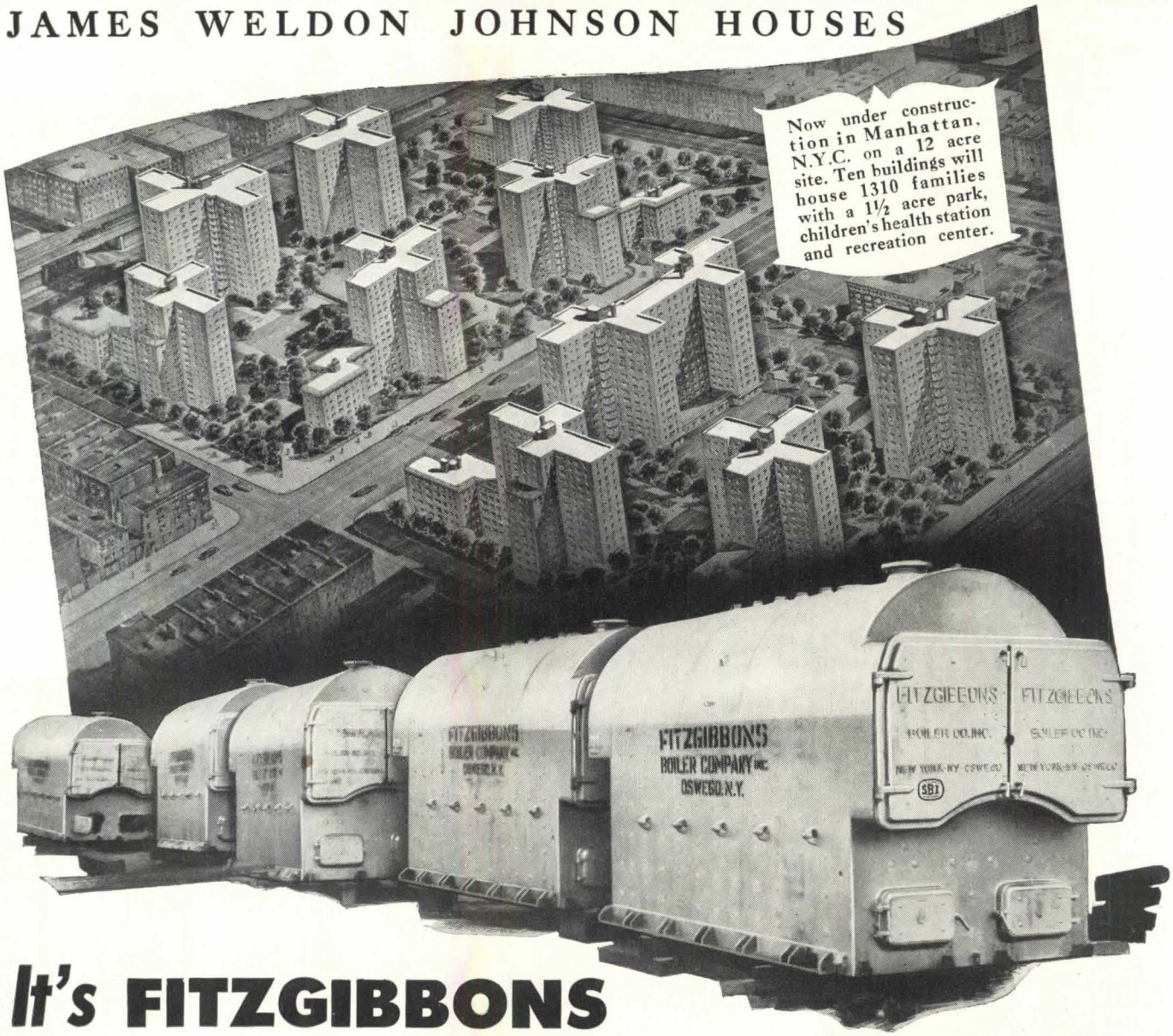
THE FRANCIS CO., engineers and designers, 222 N. Michigan Ave., Chicago 1, Ill.

CHESTER NAGEL (summer address), 3215 Churchill Dr., Austin 21, Tex.

PHILIP A. KESSLER, Route #5, Box A-167, West Bend, Wis.

BOYD JOSSY, Menlo Hotel, Box 643, Redmond, Ore.

JAMES WELDON JOHNSON HOUSES



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Architects: Julian Whittlesey, Harry M. Prince and Robert J. Reiley. General Contractor: Wilaka Construction Co. Consulting Engineer: Alexander D. Crosett. Heating Contractor: Heating Maintenance Corp. Photo courtesy of New York City Housing Authority.

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PROGRESS REPORT

Several conventions of architects and planners held within recent months have indicated increased interest in social, as well as professional, responsibilities. The A.I.A., meeting in Grand Rapids early in May, devoted a large part of the convention time to seminars and "contemporary trends." The pre-convention weekend was given over to meetings on hospital planning, school planning, and town planning. Reactions of those who attended varied from warm enthusiasm to a tepid remark that "it's all in the books, if anyone would ever read; what's all the shouting about?" Certainly the *idea* of seminars on professional subjects is to be applauded; the convention agreed to continue them in other years. The quality of the discussion in the future will depend on the ability, knowledge, and imagination of those who arrange them. They can be a rehash of available material—adult education?—or an outlet for new ideas and original research. Perhaps the A.I.A. should move slowly; perhaps it is not ready to have erudite papers read at its convention, in the manner of other professional societies.

Highlight of the afternoon devoted to contemporary trends was a purposely controversial talk by Carl Koch, architect and teacher at M.I.T., representing "the attitude of the young practitioner." Koch spoke for the young man who has not joined the Institute because he feels that it stands for a static point of view. He minced no words in assailing the lack of a constructive, positive program toward planning and particularly the housing problem. Replies ranged from unfriendly ("what woman having a baby would go to a *young* doctor; she'd go to a well established man") through patronizing ("we'll be *glad* to have young men come into the Institute and take their proper place") to the constructive (John Bolles: "It is the *duty* of these people to enter the Institute and work toward its liberalization").

Eliel Saarinen (right) receives from James R. Edmunds, retiring president of the A.I.A., the Gold Medal of The Institute at the close of the recent convention in Grand Rapids.

The usual contradiction in attitude appeared when resolutions were introduced. The Taft-Ellender-Wagner omnibus housing bill was approved with reservations. A resolution from the New York Chapter was adopted which pledges the Institute to decide by "an expression from the Chapters" whether its policy should emphasize "the architectural profession as an integral part of the construction industry" or "as a servant of society as a whole by securing the best possible physical environment from the construction industry."

And then, with quite some objection, the convention decided that "Whereas, the architectural profession is an integral part of the construction industry," it should be resolved that "the A.I.A. . . . is opposed to the principle of the closed shop in the construction industry."

Confusion and inconsistency remain, but an increasingly important undercurrent of sober professional responsibility appears. The Institute must stand for progress in this period of rapid change; apparently that fact is becoming recognized.

Douglas Orr of Connecticut, a fine architect and a respected professional, was elected president. A three-way contest for vice-president was won by Searle von Storch, also an excellent designer and a responsible worker for the good of the profession. The convention ended on a very happy note, with Eliel Saarinen receiving the Institute's Gold Medal.

•

The annual conferences of two major planning organizations, the American Planning and Civic Association and the American Society of Planning Officials, were held April 28 through May 8 in Milwaukee and Cincinnati, respectively. The A.P.C.A.'s *Citizens' Conference on Planning*, meeting in Milwaukee's Hotel Pfister, did not differ significantly from preceding years. However, the A.S.P.O.'s *National Planning Conference*, which met in the Netherland Plaza Hotel in Cincinnati, and the Association of State Planning and Development Agencies (formed at last year's A.S.P.O. meeting) proved unusually spirited.

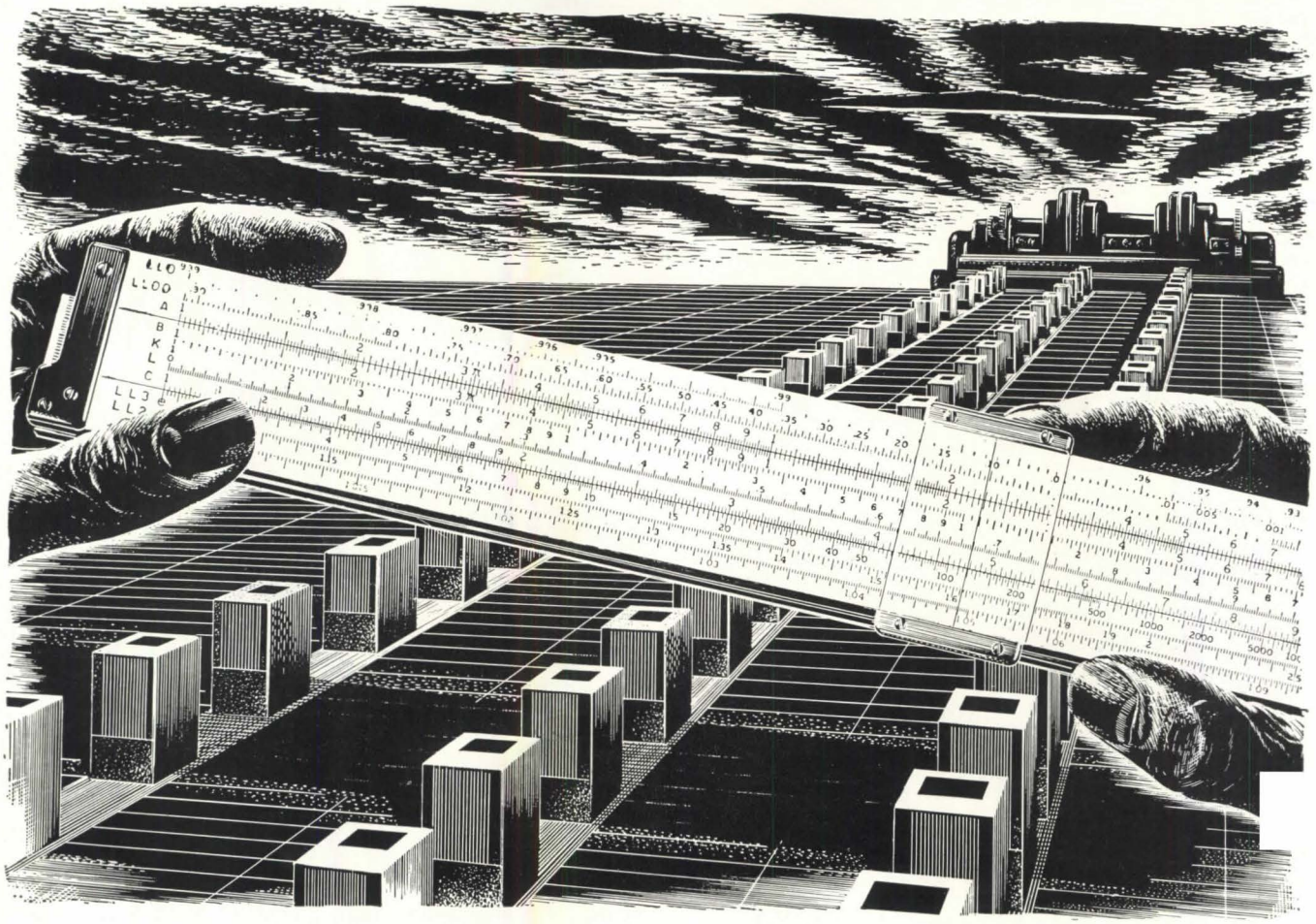
The two planning organizations exist avowedly for different purposes: A.P.C.A. claims to serve citizen groups primarily, while A.S.P.O. draws its membership largely from the planning officials. Actually there was quite a dearth of representatives from the various citizen groups at Milwaukee and attendance in both cities seemed to draw the same (or same type of) planners. The programs were quite similar and each included the usual sessions on planning standards and zoning, urban redevelopment, transportation, and the planning problems of the small community. Milwaukee and Cincinnati sent along exhibits which enhanced the sessions held on the problems of the host areas. There were also exhibits from related planning programs, and of particular note was a comprehensive show put on by state planning and development agencies in Cincinnati. The visiting planners were taken on tours of Milwaukee and Cincinnati in order to study the significant physical planning, housing, and public works projects in each area.

The "young planners movement," which had its organizational beginnings at last year's A.S.P.O. meeting in New York City, added considerable life to the National Planning Conference. These young (or progressive) planning groups have maintained a loose, decentralized structure nationally and in their individual development have proceeded autonomously and, consequently, differently in each area. They did, however, attract considerable attention for their energetic ideas, among them that the various conferences consolidate their annual meetings in one city, avoiding the duplication and overlapping work covered by two or more separate meetings.

In addition, the "young planners" put forth a resolution calling for improved administrative practices in cities and urging the adoption of municipal land acquisition policies. The resolution also protested the sprawling fringe developments "now going on" and gave support to the Taft-Ellender-Wagner bill.

It is interesting to note that at the planners' meetings and at the A.I.A. convention, "young" professionals—young in attitude, rather than years—held the center of the stage.

Louis Wirth, professor of sociology at the University of Chicago, keynoted the A.S.P.O. conference with a significant talk on the social responsibility of planning. Stressing the importance of planning in a democracy, Professor Wirth pointed out that administrative planning need not mean regimentation but rather a rational approach to freedom.



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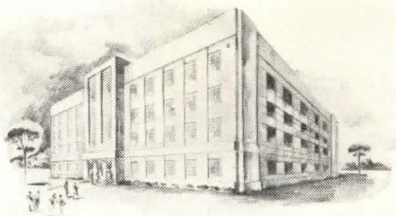

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1. It's a Visual Front. Note how the center section is open to full view through large windows of plate glass. This makes the store look more inviting — brings customers in. Daylight brightens the sales floor — and at night, the lighted interior makes the whole store a showcase.

2. The second floor is "opened" with a glass front. Merchandise displays can be seen from the street. This floor, too, is brightened by daylight.

3. The *Tuf-flex** tempered plate glass doors lend a modern note to the entire front and accentuate the openness.

4. Display windows in the "wings" permit excellent model room displays. Low bulkheads make the prospect feel almost as though he were in the room.

5. The roof extension keeps direct rays of the high summer sun out of the store. And at night, lights this in canopy flood the front and the sidewalk.

6. Patterned Glass in second floor windows provides privacy where it is wanted — without sacrifice of daylight. Day and night, the glass adds a decorative note.

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a Great Name in **GLASS**

WHEN PLANNING HOSPITAL MATERNITY DEPARTMENTS

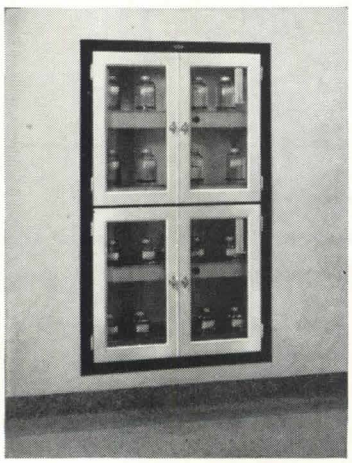
...Get SCANLAN-MORRIS Technical Information and Layout Assistance

• Competent planning for the practice of strict techniques of asepsis in maternity departments (as well as surgeries) calls for comprehensive knowledge of hospital requirements and equipment.

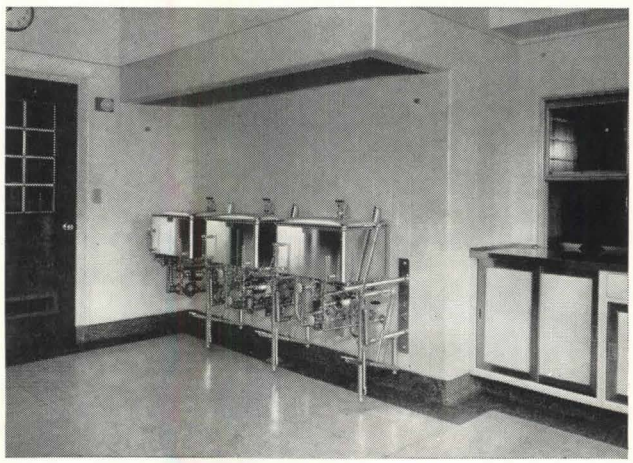
As designers and manufacturers, for more than 40 years, of major hospital equipment including sterilizers, surgical lights and tables, and recessed custom-built metal cabinets, Scanlan-Morris is qualified to give valuable assistance and authentic guidance in hospital planning installation of suitable equipment.

Our Technical Sales Service Department will be glad to supply specific information, suggested layouts, and recommendations for efficient, economical installations. This service is available to hospital architects, without obligation. Mail the coupon for detailed information.

SCANLAN-MORRIS
Recessed Water Sterilizers and Autoclave



SCANLAN-MORRIS
Recessed Solution Warming Cabinet



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SCANLAN-ORBIT
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Send information on ☐ Scanlan-Morris Sterilizers
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(Please attach professional card or letterhead)

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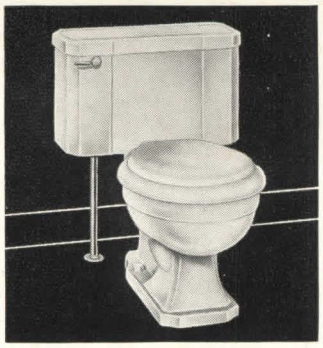
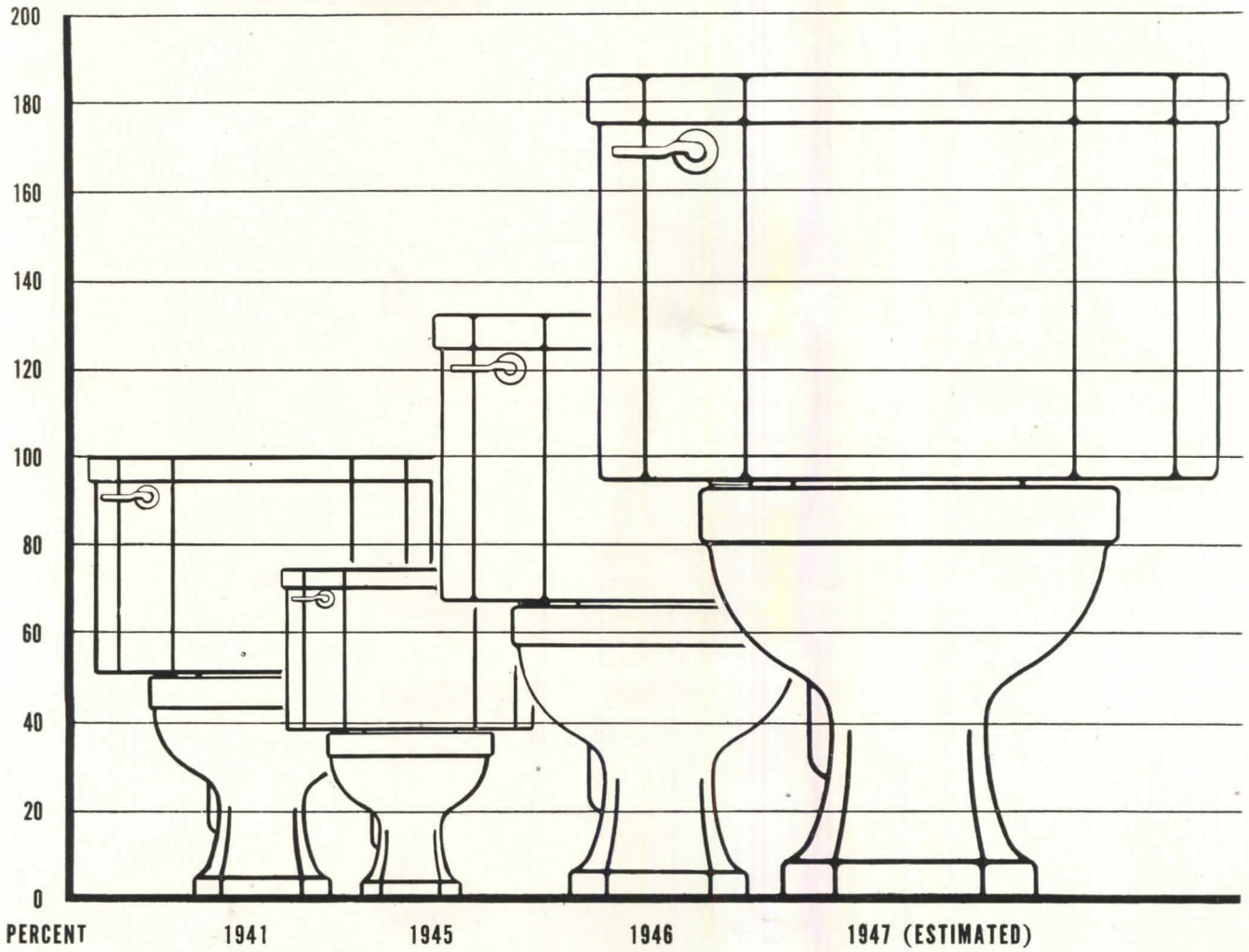


STILL GROWING



Here's enough "CAMELS" for a WHALE of a lot of houses.

We know it's still hard to get enough of the right plumbing fixtures. But here are the facts—in a graph showing what we've been doing to meet the huge demands for just one—the Camel *Water-Saver** Closet. And as a reward for waiting, you and your customers are getting a better-than-ever Camel: a fine vitreous china fixture, free-standing, adaptable to restricted areas, quiet in action, built for dependable performance. W. A. Case & Son Mfg. Co., Buffalo 3, N. Y. Founded 1853.

*PATENTED

Case *Vitreous China*

ANDERSEN *Windowalls* . . . . LOOKOUT POINT FOR BEAUTY

These windows that are walls . . . these walls that are windows . . . are a perfect expression of a design trend that has been accepted universally by progressive architects and designers.

Here ANDERSEN Wood Casement Units are arranged on either side of an expansive picture window—and, beyond, a corner installation is formed by a combination of the same outswinging casements.

Note the emphasis placed on operating sash—providing ample ventilation for this lakeside home. This is the way to combine view, sunshine, ventilation and weather-tight comfort. It's the ANDERSEN WINDOWALL way.

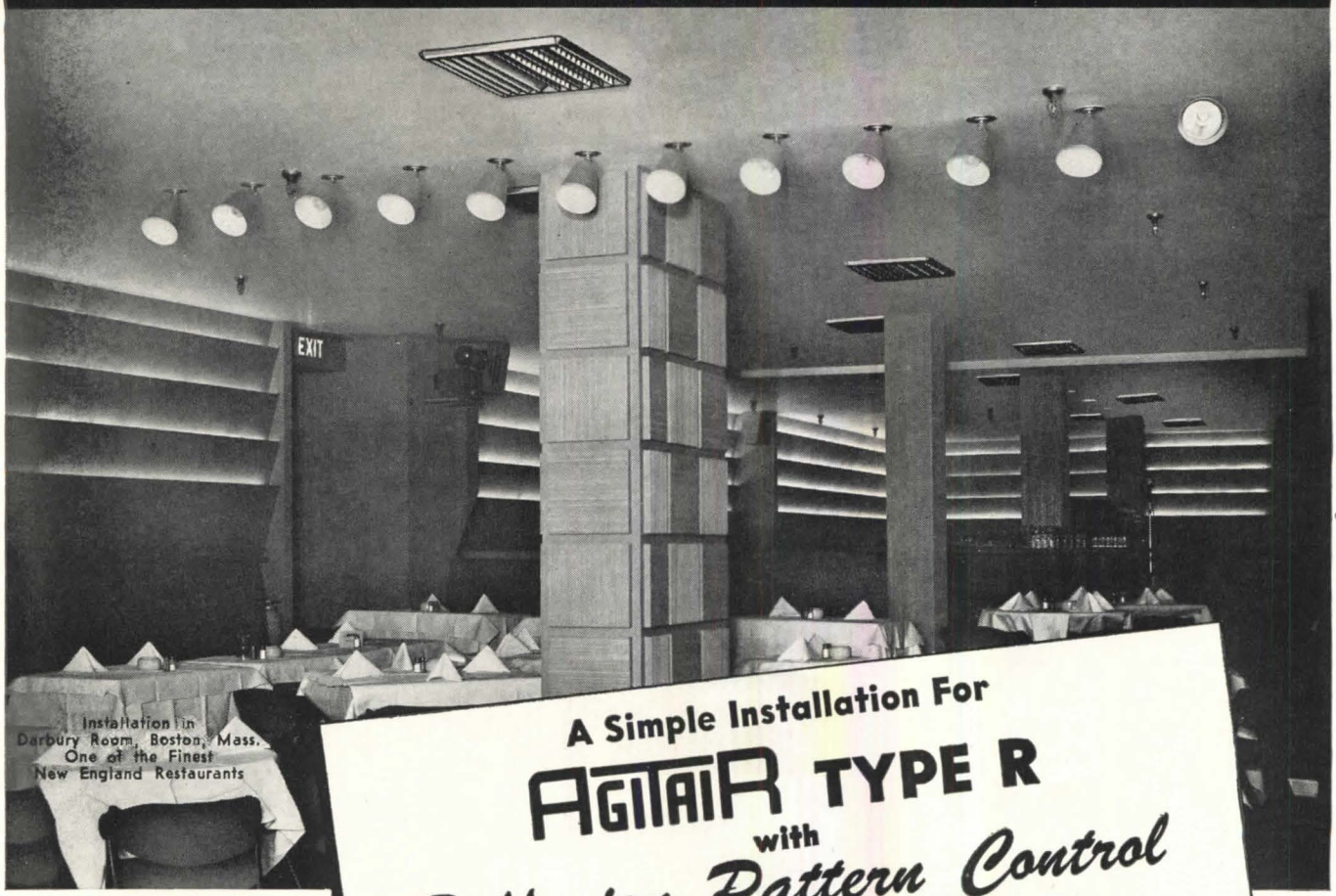
McEnary and Krafft, architects, designed this installation, and specified ANDERSEN Complete Window Units to bring their inspiration into reality.

See details in Sweet's—or write Andersen directly.

Andersen Corporation

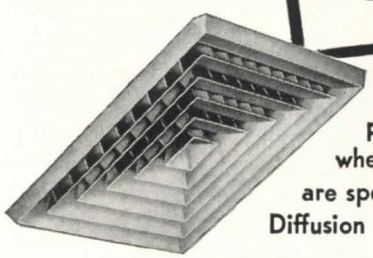
BAYPORT • MINNESOTA

Problems for Ordinary Diffusers . . .



Installation in Darbury Room, Boston, Mass. One of the Finest New England Restaurants

A Simple Installation For AGITAIR TYPE R with *Diffusion Pattern Control*



Air distribution problems vanish when Agitair Type R's are specified. The reason? Diffusion Pattern Control.

Look at these air distribution problems offered by the job pictured above: large bays and pillars . . . odd-shaped areas . . . no ceiling center.

Look at the solution: Agitair Type R with Diffusion Pattern Control. It's the only diffuser that gives 100% air distribution in any shape area, from any location—with no drafts, no blank corners, no hot spots, no cold spots. That's because Patented Construction permits it to be assembled into numerous patterns which divide the air and distribute it noiselessly in one, two, three, or four directions in proportion to the area served.

Assembled from standard parts, even the most complicated shapes are economical.

Remember—on the next job that calls for 100% control of air distribution, complete freedom of design, and beauty that blends with attractive interiors—problems vanish when you specify Agitair Type R.

Write today for Complete Data

AT KEY POINTS IN AIR CONDITIONING—AGITAIR SERVES BEST

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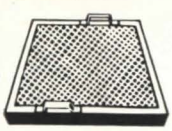
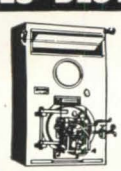


2 DIFFUSERS

3 EXHAUSTERS

DIRECT-FIRED HOT GAS GENERATING FURNACES



AIR DEVICES, INC. · 17 EAST 42nd STREET · NEW YORK 17, N. Y.

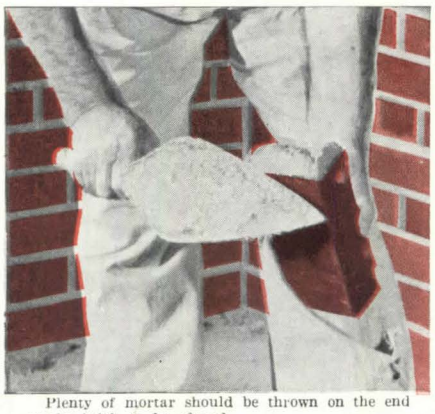
GOOD WORKMANSHIP is EASY with BRIXMENT!

Study the pictures below and you'll see the contrast between the *usual* head joint and a *full* head joint. . . . It is hard to get full head joints, of uniform width, unless the mortar is so soft and workable that it will ooze up out of the head joint. Brixment mortar is so rich and plastic that the bricklayer can use *more* than enough mortar to fill the head joint, and still "place" the brick easily and accurately.

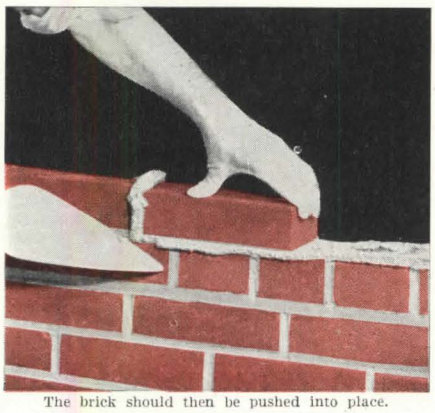
Brixment mortar has greater plasticity, higher water-retaining capacity and bonding quality, greater resistance to freezing and thawing, and freedom from efflorescence. Because of this combination of advantages, Brixment is the leading masonry cement on the market. Louisville Cement Company, *Incorporated*, Louisville, Ky.

No. 3 OF A SERIES—

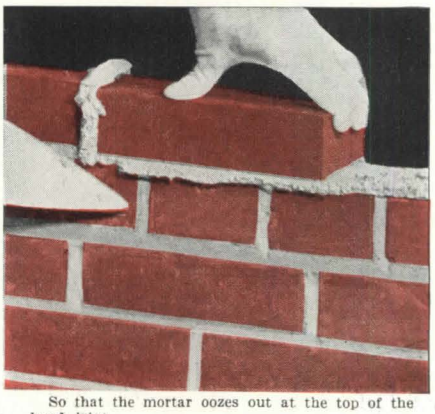
THE RIGHT WAY AND THE WRONG WAY—IN HEAD JOINTS



Plenty of mortar should be thrown on the end of the brick to be placed.

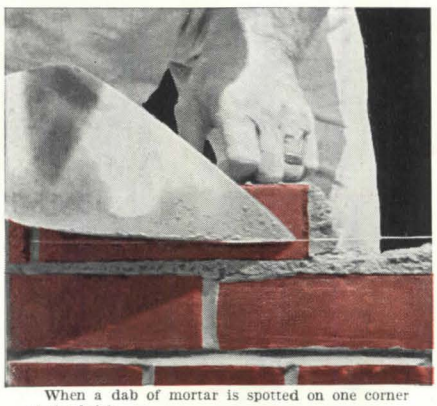


The brick should then be pushed into place.

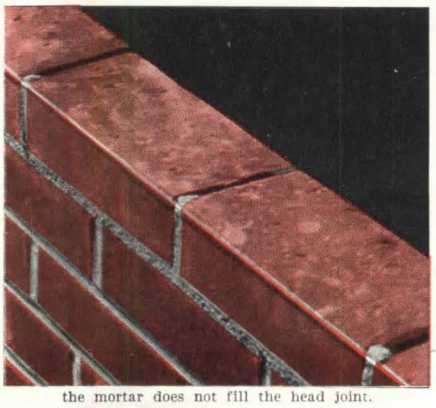


So that the mortar oozes out at the top of the head joint.

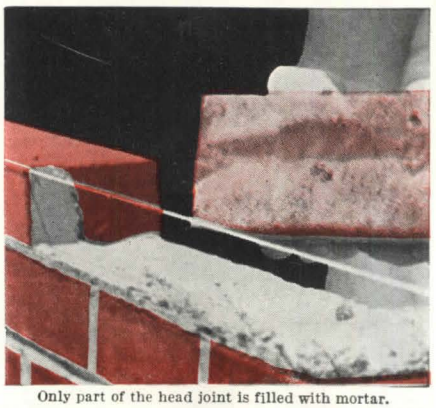
All head joints in both face brick and back-up work should be completely filled with mortar. One good method for doing this is to throw plenty of mortar on the end of the brick to be placed. (This should be done in such a way that the mortar is scraped off the trowel by the bottom edge of the end of the brick.) Then push the brick into place so that the mortar oozes out at the top of the head joint.



When a dab of mortar is spotted on one corner of the brick,



the mortar does not fill the head joint.



Only part of the head joint is filled with mortar.

If the head joints are not completely filled with mortar, in both face brick and back-up work, water may penetrate to the inside of the wall through openings in the joints.

A dab of mortar spotted on one corner of the brick is not nearly enough to fill the head joint.

ARCHITECTS!

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SYLVANIA'S *NEW* TROFFERED FLUORESCENT FIXTURES ARE IN GREAT DEMAND

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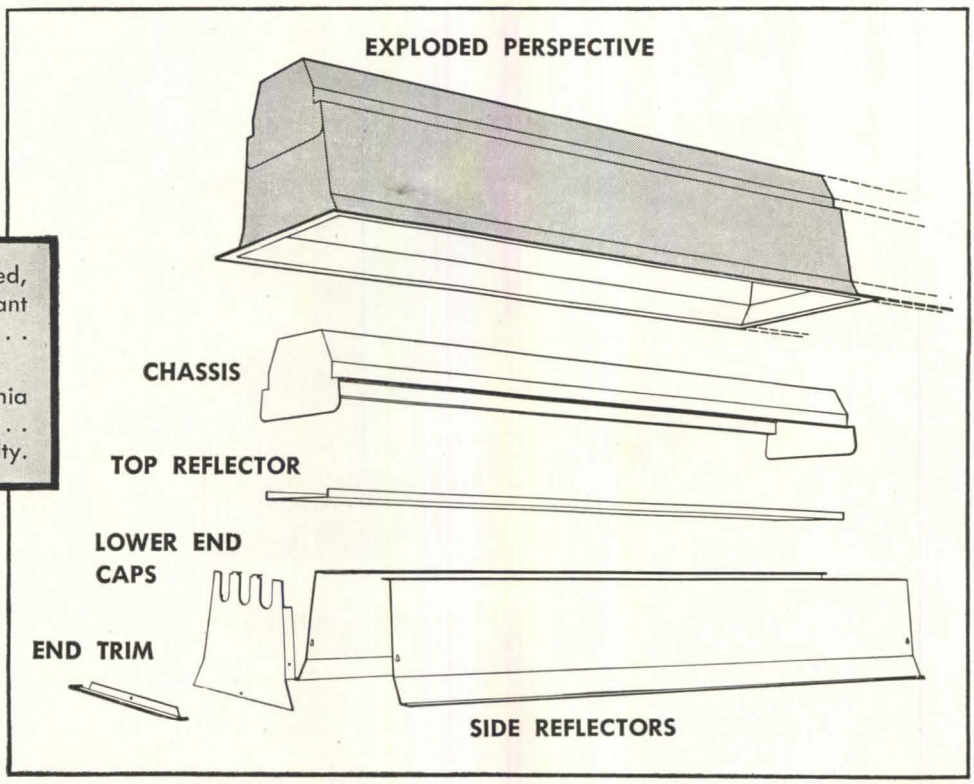
THE CTR-340, the CTR-140 (one 40-watt lamp), CTR-240 (two 40-watt lamps) are the ruggedly built, trouble-free fixtures that your customers want — perfectly engineered, built of heavy gauge steel, giving unobstructed vision in modern low ceilings, recessed for cleanliness and streamlined appearance.

Now, a Sylvania *troffered* lighting fixture to suit your customer's needs. And because it's Sylvania they're easiest to install and maintain! *Sylvania Electric Products Inc., Fixture Division, Ipswich, Mass.*

Easy to Install . . . self-contained, complete unit — ready for instant installation. Easy to Maintain . . . saves time and money!

Remember all lamps in Sylvania fixtures are Sylvania-made . . . therefore of the highest quality.

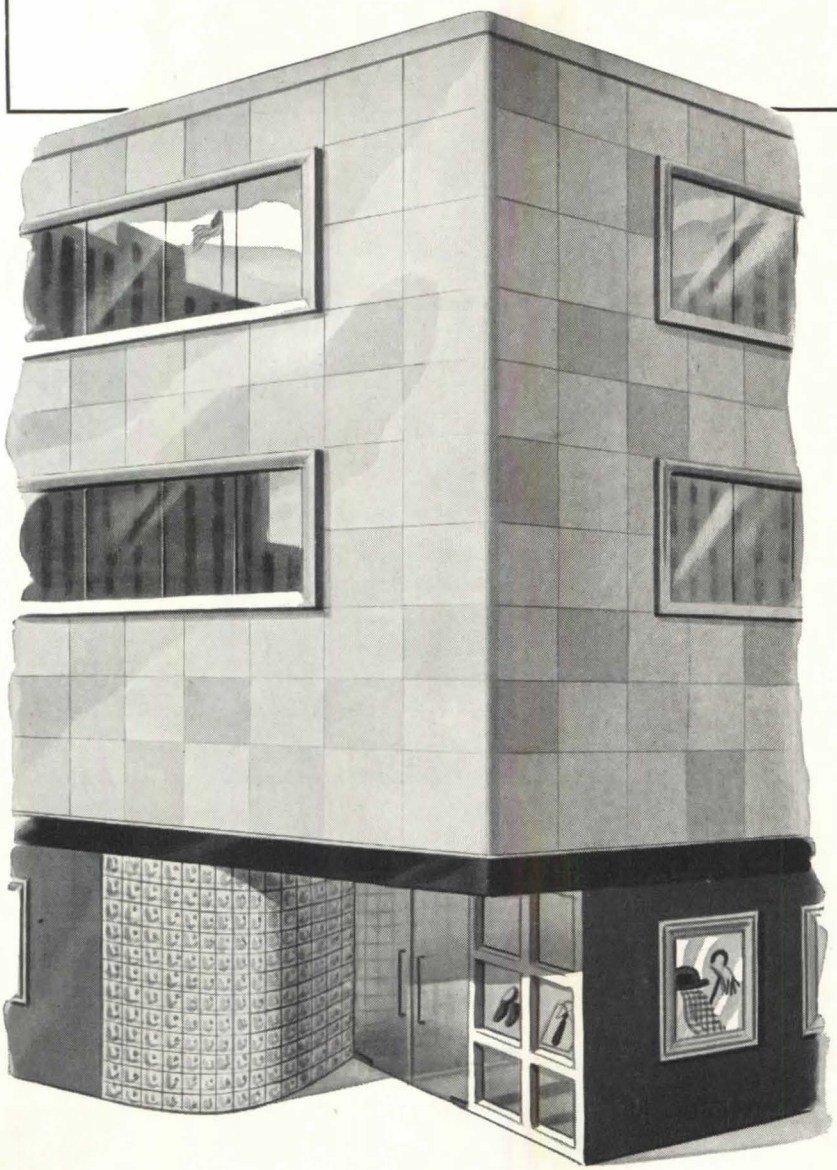
For detailed information write for descriptive troffer booklet or contact your Sylvania Distributor



"Fluorescent at its Finest!" **FOR OFFICE, STORE, FACTORY, HOME**

SYLVANIA ELECTRIC

The Original Specification Was Right!



THE building was a thing of beauty inside and out. It was ideally suited for its purposes in every respect—except one.

That deficiency made the building a disappointment to owner and tenants. The rooms and corridors were reverberant. Working quarters were noisy.

When the owner complained, the architect pointed out that unfortunately his original specification for sound conditioning had been eliminated in a penny-wise effort to cut costs. The only remedy—sound conditioning as originally specified, but installed at added expense because the building is now finished and occupied. This time, the recommendation was not over-ruled.

Architects know that in most buildings sound conditioning is necessary for human comfort and efficiency. Even when every possible cost saving must be made, specifying sound conditioning is good practice—and good insurance of client satisfaction.

Acousti-Celotex* sound conditioning accounts for only a negligible part of the total cost of a structure.

When planning a building in which an atmosphere of quiet comfort is wanted, remember this—more sound conditioning has been done with Acousti-Celotex than with any other material. That is significant evidence of Acousti-Celotex excellence.

The Celotex Corporation line of acoustical materials is complete and up-to-date, as pictured and described in your Sweet's Architectural File. For the latest data on availability of any Acousti-Celotex materials in the quantities your specifications may require, consult the local Acousti-Celotex distributor. Or address your question to The Celotex Corporation, Dept. PA-477, Chicago 3, Illinois.

Sound Conditioning with

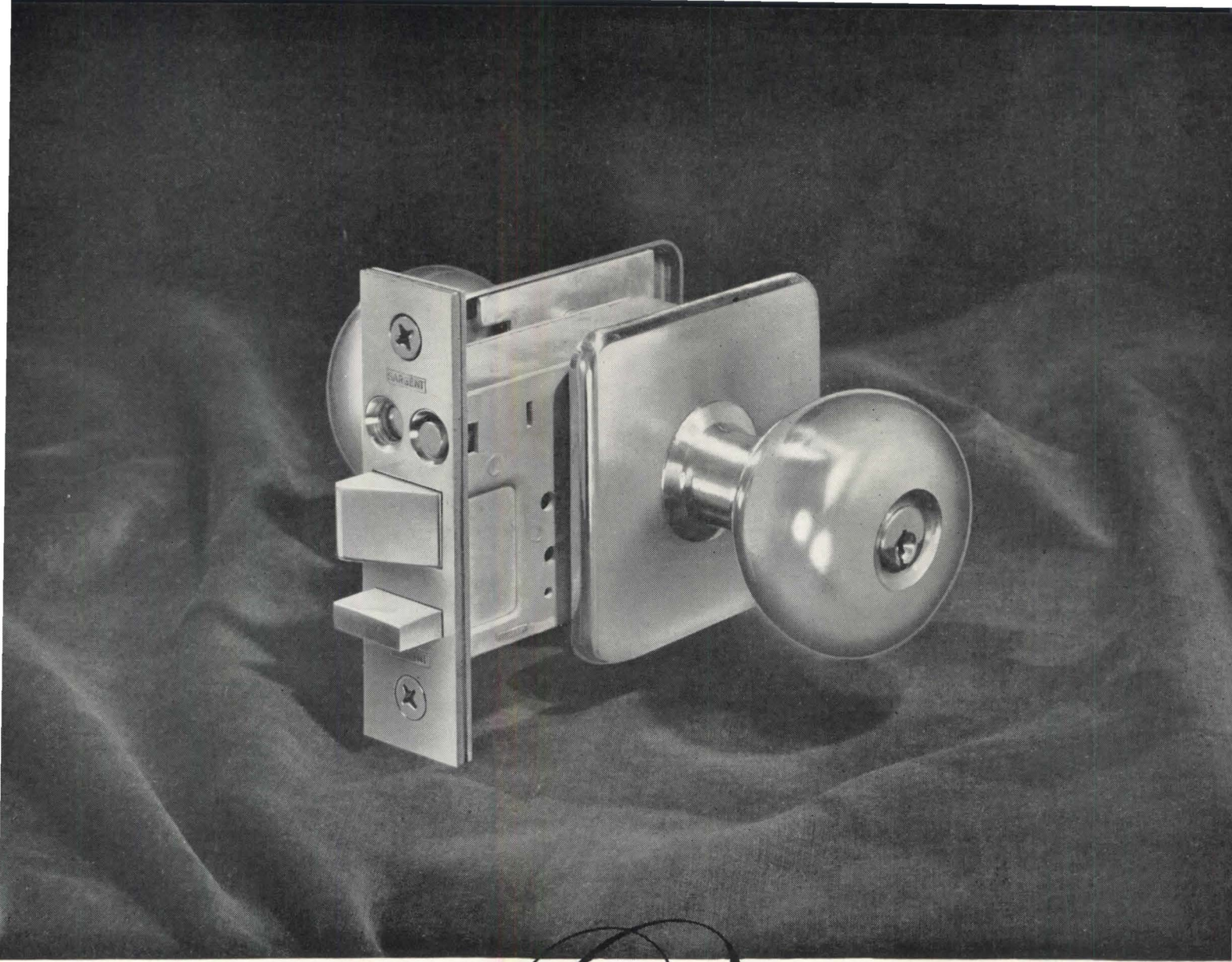
ACOUSTI-CELOTEX

REG. U. S. PAT. OFF.

* *Perforated Fibre Tile* SINCE 1923

Sold by Acousti-Celotex Distributors Everywhere • In Canada: Dominion Sound Equipments, Ltd.

A PRODUCT OF THE CELOTEX CORPORATION, CHICAGO 3, ILLINOIS



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The man who specifies quality merchandise is the man whom customers will patronize again and again. Quality is the one firm foundation upon which a successful business can be built. The name SARGENT on any product you specify is a guarantee to you *and* to your customer of unsurpassed quality. That customer is *sure* to be satisfied, for Sargent & Company has never refused a reasonable claim for the replacement of a faulty product. Illustrated is the Sargent Integralock*, a completely new type of lock which provides maximum security, fool-proof installation and years of maintenance-free service.

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Special to Architects... Forehanded provision of materials and machinery makes it possible for us to assure early delivery for large or small projects. Call your Sargent distributor or write us direct.

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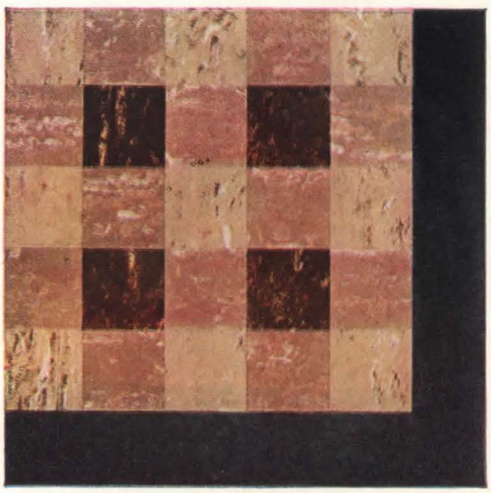
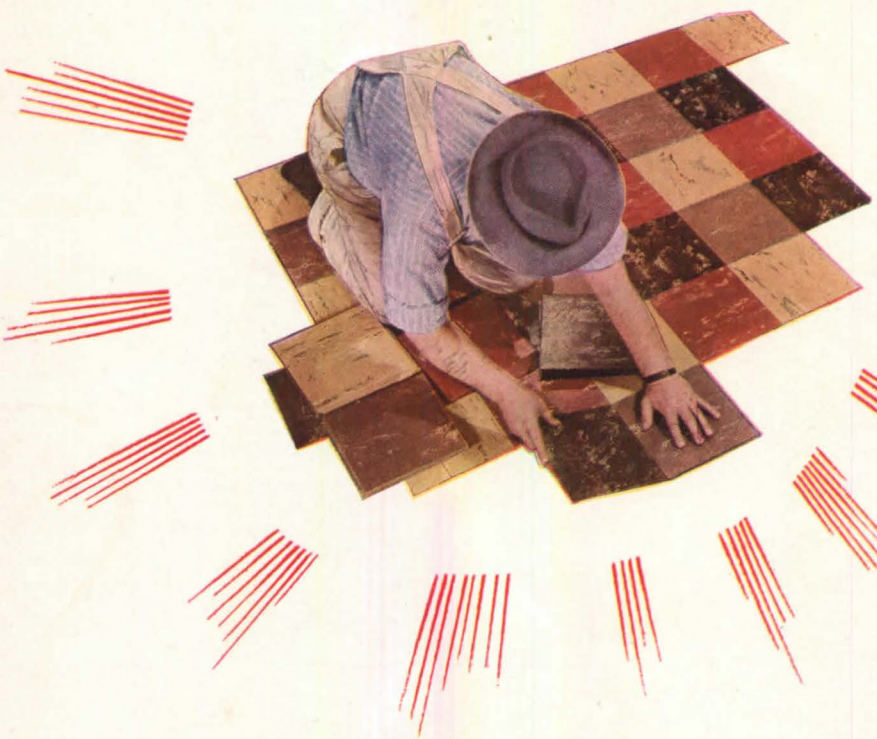
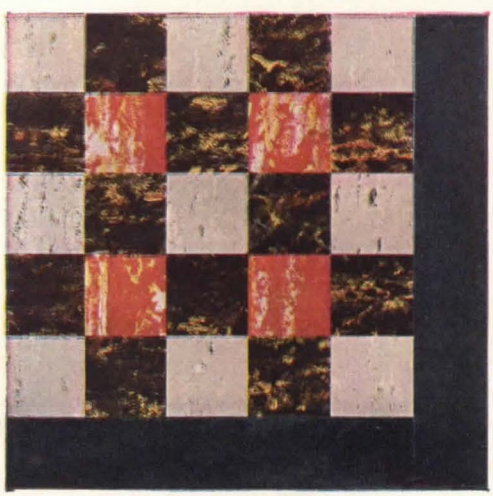
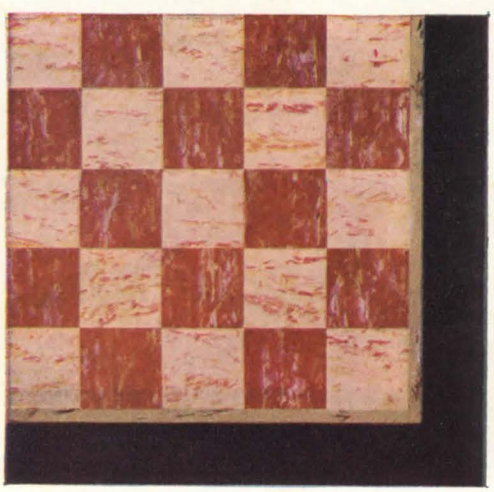
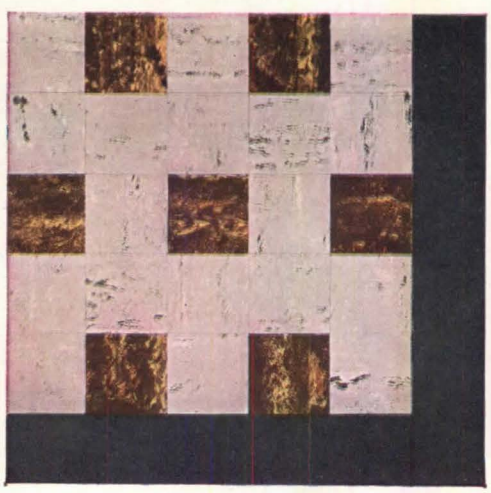
Colorful floors.



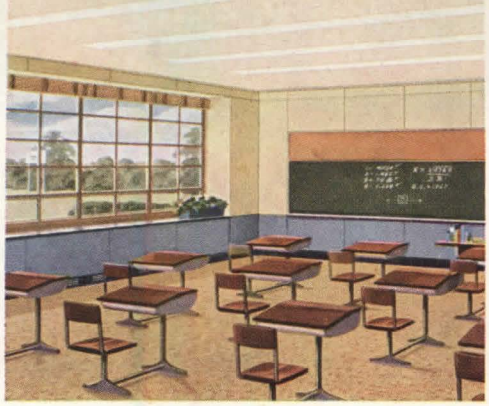








. . . for Institutions and Hospitals



. . . for Schools

. . . for Factory Areas

. . . longer-wearing, low in cost!

Picture what a marvelous difference Johns-Manville Asphalt Tile can make on *your* floor. Here's a resilient, attractively modern flooring with an iron constitution.

• Nowadays, it costs you no more to have *quality* floors like these—with cheerful colors, attractiveness, extra-long life.

That's the kind of flooring you get with Johns-Manville Asphalt Tile. It's easy on the eyes, easy on the feet, and easy on the budget, too.

Yes, you'll like *everything* that this flooring means in looks, in cost, in upkeep. And you'll like the unlimited range of color combinations—from striking patterns with strong contrasts to solid fields of marbleized colors.

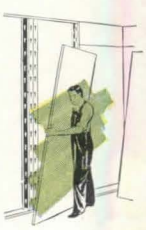
Also, you'll find advantages in the easy way units can be arranged in functional designs—such as traffic directing lines, or islands of color to set off activities in special areas. What's more, the individual units permit easy alterations or extension of patterns. Reinforced with fibers of indestructible asbestos, J-M Asphalt Tile resists scuffing under the *heaviest* foot traffic. Does not originate dust. Stays fresh and unmarred with practically no maintenance. Even a carelessly dropped cigarette won't harm its built-in beauty.

For areas exposed to oil or grease, use J-M *Greaseproof* Asphalt Tile. Send for our full-color brochure, "Ideas for Decorative Floors." Johns-Manville, Box 290, New York 16, N. Y.

Because of unprecedented demands, supply continues to be short despite greatly increased output. So please anticipate your requirements as far in advance as possible.

Johns-Manville *Asphalt Tile* Flooring

Johns-Manville Asphalt Tile Floors can be combined with J-M Walls and Ceilings for UNIT CONSTRUCTION



J-M Movable Transite Walls

Using these Johns-Manville products together in a system of Unit Construction, you can provide your interiors with such important advantages as *structural flexibility* to meet changing needs . . . greater architectural beauty . . . increased comfort.

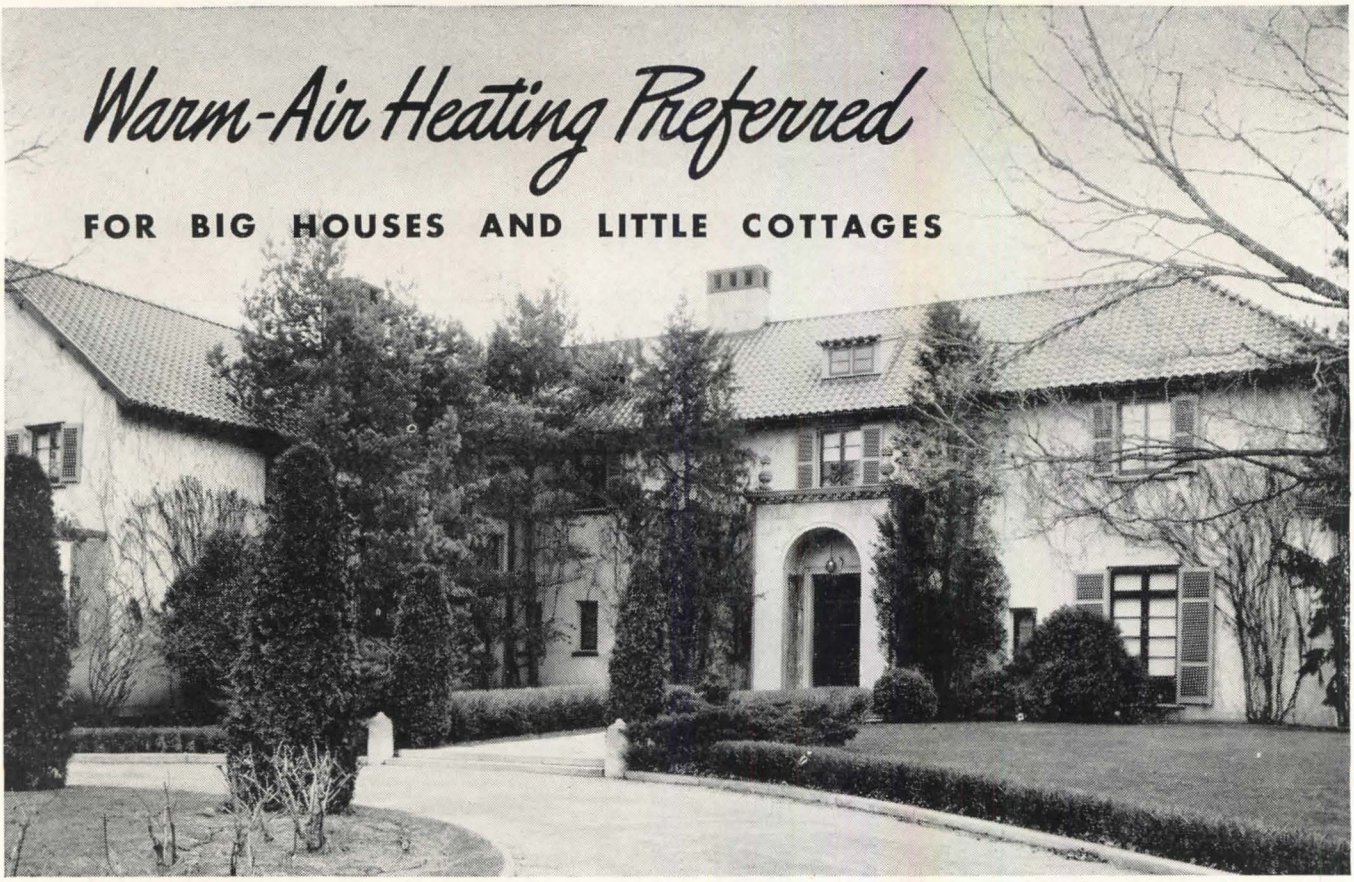
J-M Unit Construction combines resilient Asphalt Tile Floors, demountable Acoustical Ceilings, and movable Transite Walls—in other words, the *complete interior*, under *one* specification, *one* manufacturer's responsibility.

Get the full details on this development. Write for colorful brochure, "J-M Unit Construction."

J-M Acoustical Materials

Warm-Air Heating Preferred

FOR BIG HOUSES AND LITTLE COTTAGES



Home of Mrs. Charles S. Pillsbury, Ferndale, Lake Minnetonka, Minnesota. *Heating Contractor—Waterbury Company, Minneapolis, Minnesota.*

• The advantages of warm-air heating are obtained in residences of nearly every size and type. That's why homeowners, by the thousands, have expressed their preference for it. Several recent surveys prove that more people know about and want the "extra values" warm-air heating gives in comfort, convenience and economy.

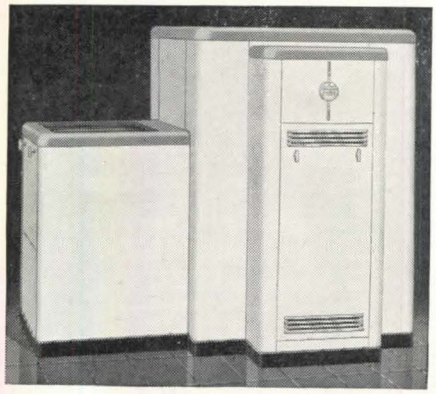
Today's winter air-conditioning systems give this exclusive combination of values:

1. **WARM AIR,** with room temperatures quickly responding to automatic controls.
2. **CLEAN AIR.** Filtered at the heating unit, all heat delivered throughout the warm-air duct system is free of nuisance dusts, lint and most air-borne bacteria. Housekeeping burdens are lighter because walls and furnishings *stay* clean longer.
3. **MECHANICALLY-CIRCULATED AIR** keeps warm air fresh and clean while providing the proper number of air changes per hour.
4. **HUMIDIFIED AIR** affords greater physical comfort at lower room temperatures.

Architects, builders and contractors who specify and provide modern warm-air heat know that circulating air will be cleaned efficiently. For DUST-STOP* Filters, a Fiberglas** product, are the choice of most manufacturers as original equipment. They're the homeowner's choice, too, for replacement DUST-STOPS are readily available at low cost through suppliers in every community.

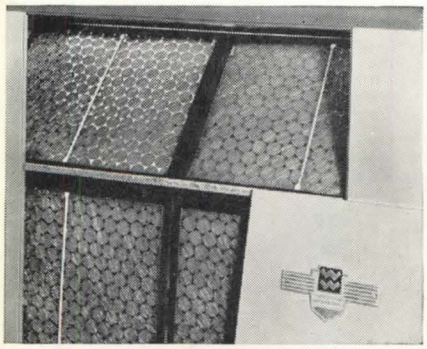
For complete information, see Sweet's Files or write: Owens-Corning Fiberglas Corporation, Dept. 827, Toledo 1, Ohio. Branches in principal cities.

In Canada: Fiberglas Canada Ltd., Toronto 1, Ontario.



Waterbury Furnace #1336-24 manufactured by The Waterman-Waterbury Company, Minneapolis, Minnesota.

Below: the blower cabinet of this Waterbury Furnace is equipped with six 20″ x 25″ x 2″ DUST-STOP Filters.



OWENS-CORNING
FIBERGLAS
T.M. REG. U.S. PAT. OFF.

MEMBER
NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSOCIATION
INDOOR COMFORT

*T. M. Reg. U. S. Pat. Off.
**Fiberglas is the trade name (Reg. U. S. Pat. Off.) of a variety of products made of or with glass fibers by Owens-Corning Fiberglas Corporation.

A survey taken among workers in 400 manufacturing plants showed that good washrooms are one of the four most important factors in good working conditions.

"There's no excuse for a sloppy washroom!"

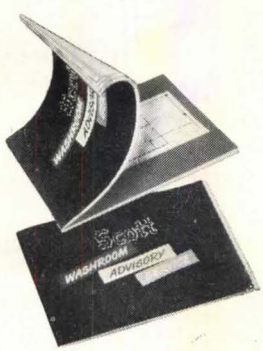
RALPH: *"You can tell a lot about a company by the way they look after the employees' washrooms. Our management here sure knows how much we appreciate a nice place to clean up in."*

WYNN: *"You bet—a good clean washroom—equipped right—doesn't cost a lot of money but it surely makes a big difference!"*

EMPLOYEES judge a company a great deal by its washrooms. In a survey of men and women workers at more than 400 plants, they named these factors as the ones they considered most important in good working conditions: *good washrooms, adequate lighting, safety devices* and *proper ventilation.*

Besides helping morale, sanitary, well-equipped washrooms, with plenty of soap, hot water and good quality individual tissue towels, help reduce the number of absences due to colds and their complications. For they encourage frequent and thorough washing that helps prevent germs from spreading.

Haven't you yourself been irritated by a neglected washroom? Then check up . . . make sure your washrooms are "Health Zones," not "Germ Exchanges"—"morale-boosters," not "temper-testers."



NEW FREE BOOKLET
Helps plan better washrooms

Send for your free copy—illustrated with floor plans and details—issued by Scott "Washroom Advisory Service." A partial list of contents: Planning for Personal Services; Controlled Traffic Flow; Plant Locker and Washrooms; School Washrooms; Recreation Rooms; Fixture Locations; etc. Write Washroom Advisory Service, Dept. C, Scott Paper Co., Chester, Pa.

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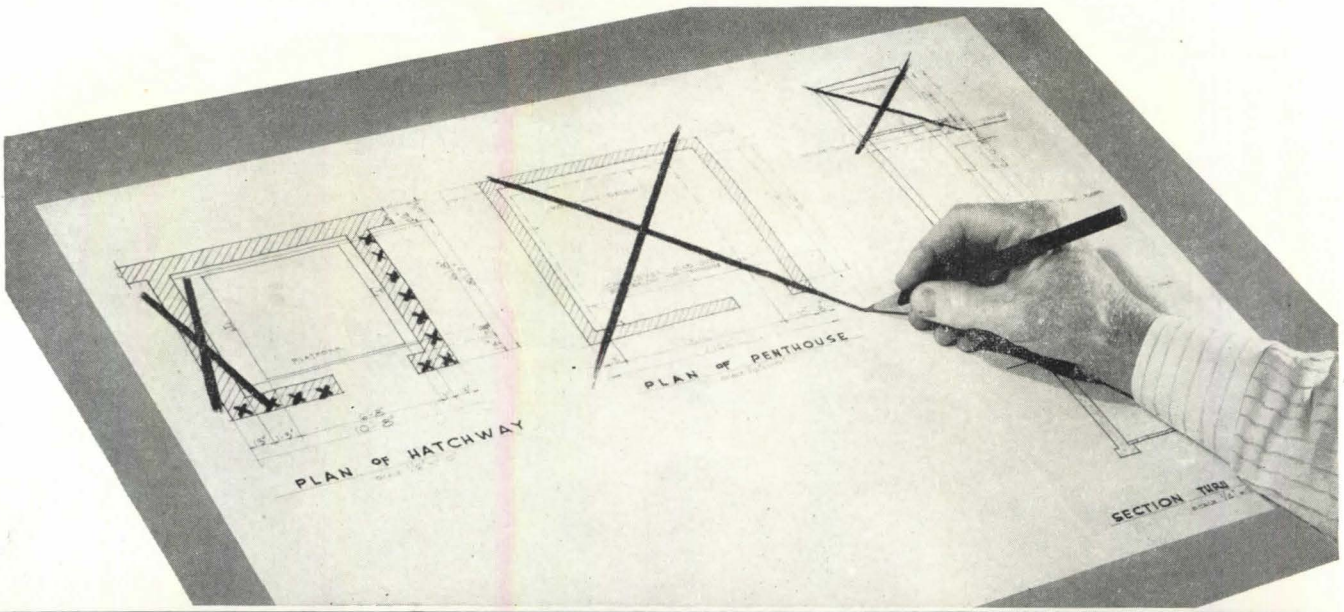
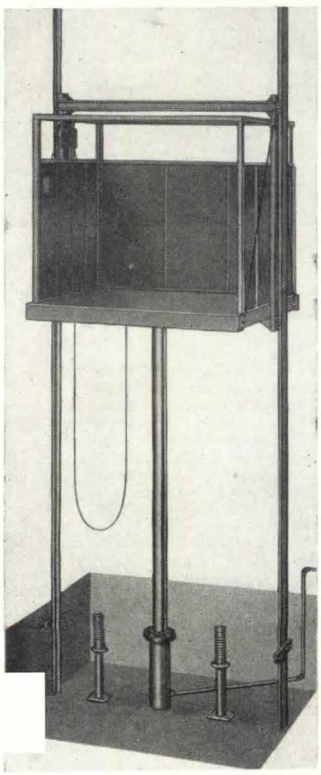
Largest selling tissue towels in America!

Thirsty Fibre

Trade Marks "ScotTissue," "Washroom Advisory Service," "Duralose" Reg. U. S. Pat. Off.



You can "X out" the penthouse and heavy sidewalls!



Elevator That's Pushed Up Cuts Construction Costs and Streamlines Designs

Yes, you can take your pencil and cross off the penthouse and heavy hatchway sidewalls on the plans for that new building . . . by specifying Oildraulic Elevators.

It's Done by Hydraulic Power

This modern elevator reduces load lifting to simple fundamentals. Loads are **pushed up** from the ground hydraulically instead of pulled from above by mechanism which requires the building structure to support the entire weight of the elevator and contents. This eliminates the unsightly penthouse and heavy load-bearing sidewalls. The compact power unit can be located in any convenient space on any landing. Result: lowered construction costs and streamlined building designs.

Accurate Landing Stops

The Oildraulic Elevator is raised by an oil-hydraulic jack, electrically powered. Operation is hydraulically smooth . . . no abrupt starts or stops. Landing stops are very accurate, which is extremely important where power vehicles are to be used in loading and unloading.

For 2, 3 or 4-Stories

Operating cost is low . . . power used only on rise, descent by gravity. Maintenance expense is low, too. Thousands of architects, engineers and owners say that Oildraulic Elevators are the most practical and economical type for rises up to 40 ft.

Send for data to help solve elevator problems

ROTARY LIFT CO.
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Send Catalog RE-301 (AIA File 33) to:

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Rotary OILDRAULIC ELEVATORS

ROTARY ALSO MAKES OILDRAULIC LEVELATORS • LUMBER LIFTS • AUTO AND TRUCK LIFTS

There's a lot of unselfish thinking back of this campaign!

Of course, we hope this big full-color ad in the Gold Bond Saturday Evening Post *series will sell more Gold Bond Building Products. But we hope, too, that it will get more folks—young couples especially—steamed up about owning a better-built home of their own, and soon! In other words, this campaign is doing a promotional job for the whole building industry. Thousands of people write us for details of the charming homes pictured in this series, and as usual our answer is "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!

Closer to heaven than you may think . . .

"Through all the long hard war years, when Ted was overseas, we dreamed about a heaven all our own. Our own house in our own yard. With a funny little garden out back . . . and a funny little toddler out in front selling mud pies . . . "

That's more or less the way thousands of couples have felt and we know from our mail that it's been hard at times keeping your chin up. But if a home of your own is your idea of heaven we can assure you that you are a lot closer to it now.

Materials are flowing again. Not all you want, but more and better materials than have been available for years. Products developed by research to make your new house superior to any you could have built before. You'll say it was worth waiting for!

For instance, you can build sturdier, weatherproof, more firesafe walls with Gold Bond gypsum sheathing under the clapboards, brick or other outside finish. Costs no more than old-style sheathing!

You can keep summer heat out and furnace heat in with National Gypsum Company's new high efficiency, fireproof home insulation . . . Gold Bond Rock Wool. Pays for itself by cutting fuel bills as much as 40%. If you own your home now, you can have this same modern efficient insulation "blown" right into outside walls and top floor ceiling.

You'll have inside walls of lasting beauty if your architect specifies Gold Bond gypsum lath and plaster. And you'll have something new and beautiful in room decoration if you use quick-drying Gold Bond Sunflex paint. Comes in a wide range of colors.

Your Gold Bond lumber and building material dealer is headquarters for over 150 Gold Bond building products, each researched and engineered by National Gypsum Company, to build better value into your new home or to make your remodeling job easier. For suggestions see your Gold Bond dealer.

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, sheathing, wall paint, insulation, metal and sound control products.

DEMAND THESE SIX GOLD BOND FEATURES IN YOUR NEW HOUSE

GOLD BOND FIREPROOF GYPSUM SHEATHING

Big, weatherproofed panels of Gold Bond Storm Sealed Gypsum Sheathing add structural strength and built-in fire protection. Costs less than old-style sheathing.

GOLD BOND FIREPROOF GYPSUM LATH

Gold Bond Gypsum Lath is the perfect plaster base. Can't warp, expand or contract. Adds fire protection and structural strength for better wall and ceiling construction.

GOLD BOND FIREPROOF GYPSUM PLASTER

Gold Bond Gypsum Plaster is especially processed to bond perfectly with gypsum lath. Builds firesafe, rock-like walls and ceilings with greater durability and beauty.

GOLD BOND FIREPROOF FINISH LIME

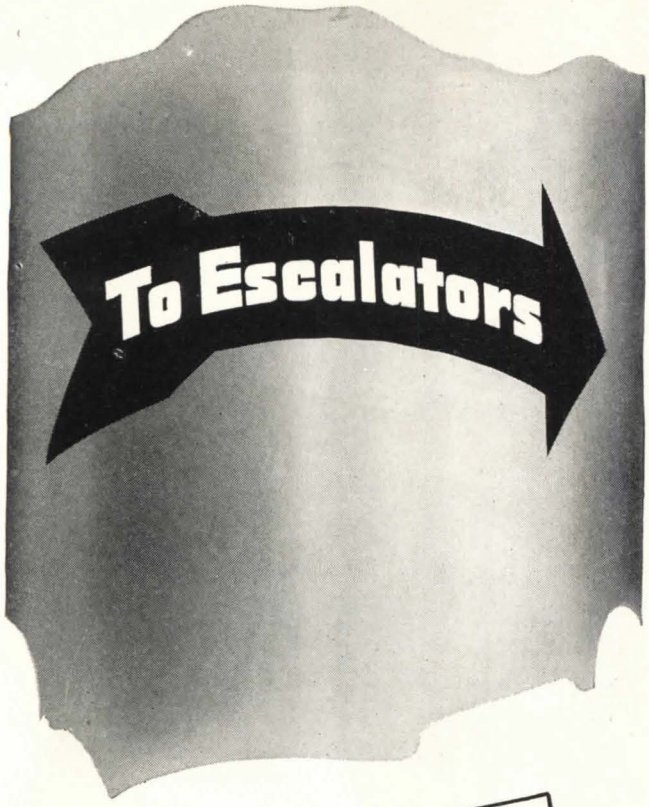
Over the plaster, goes a coat of Gold Bond Finish Lime. This is the smooth white finish that you see in a new house before the wallpaper or paint is applied.

GOLD BOND FIREPROOF ROCK WOOL INSULATION

Builds a fireproof blanket of insulation around the house for greater year 'round comfort, family health, and fuel savings up to 40%. Available for new or old homes.

GOLD BOND SUNFLEX 1-HOUR WALL PAINTS

Dries in one hour with no objectional painty, after-odor. Easier to apply. This modern decoration is now available at your dealer's in a full range of colorful tones.



SIGN
of a progressive store

Here are some typical outstanding stores in which Otis Escalators have recently been installed:

STONE & THOMAS
Wheeling, W. Va.

THE MAY COMPANY (Crenshaw Store)
Los Angeles, Calif.

SEARS, ROEBUCK and CO.
Salt Lake City, Utah

R. H. WHITE CO.
Boston, Mass.

D. H. HOLMES CO., Ltd.
New Orleans, La.

L. S. DONALDSON CO.
Minneapolis, Minn.

B. ALTMAN & COMPANY
New York, N. Y.

Why have 44 more of the nation's most progressive stores recently decided to install Otis Escalators . . . and why are 23 others extending their present Escalator service to higher floors?

- Because Escalators induce customers to visit *every sales floor* in the store.
- And because Escalators give upper floors *main-floor convenience.*

The Otis representative in your city will be glad to give you the facts on Escalators for *your* store.

"Escalator" is a registered trademark of the Otis Elevator Company. Only Otis makes Escalators.

Otis
ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

"LIKE CLIPPING COUPONS

THESE EXTRA YEARS OF TROUBLE FREE SERVICE"

PIPING SERVICE

WHEN YOU SPECIFY

STREAMLINE

COPPER PIPE AND FITTINGS

The piping system is one of most vitally important factors in the home or building as it is the actual nerve center upon which the livability of the dwelling depends. This fact becomes more and more apparent as the years go by.

The installation of efficient and trouble-free Streamline Copper Pipe and Solder Fittings will bring extra dividends to your clients through added livability to the home in additional years of reliable plumbing and heating service.

Practically any piping material may be satisfactory for a limited time—but the question is — How good will it be after five or ten years under actual service conditions? Then comes the test of a piping system and that is when copper piping proves its worth beyond question—and goes on proving it with year after year of efficient trouble-free service.

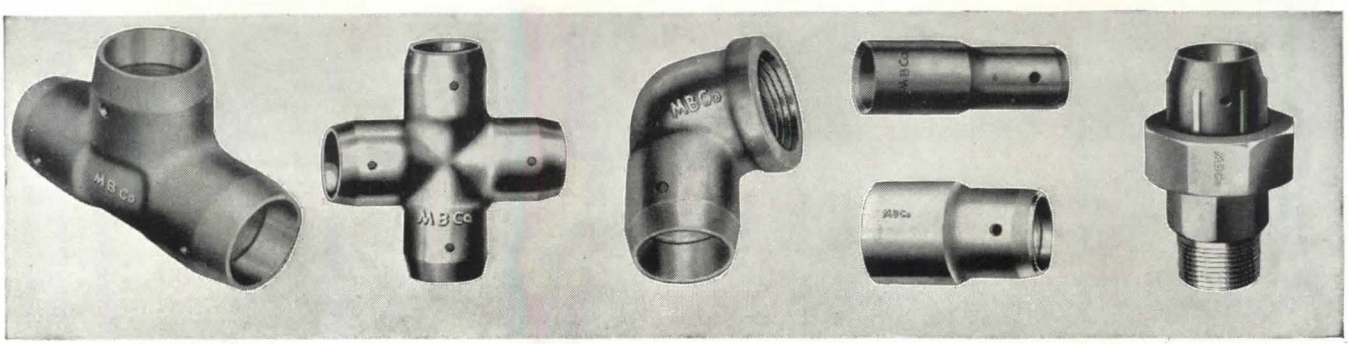
Streamline Copper Pipe connected with Streamline Solder Fittings assures a piping installation that incorporates tremendous resistance to rust, clogging and vibration. More than that, its cost is little, if any, higher than materials that corrode and leak after a few short years of service. But taken over a period of years its cost will be immeasurably less.

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
PIPE AND FITTING DIVISION

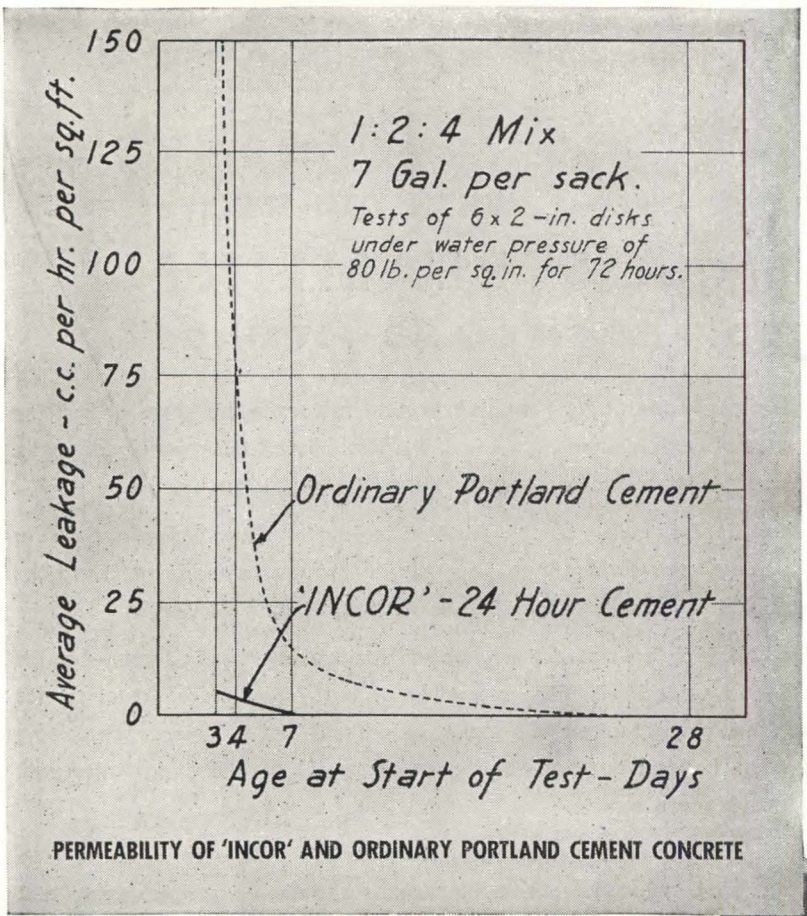
•

MUELLER BRASS CO.
PORT HURON, MICHIGAN



"WHEN IT'S 'INCOR' IT'S —

Watertight"

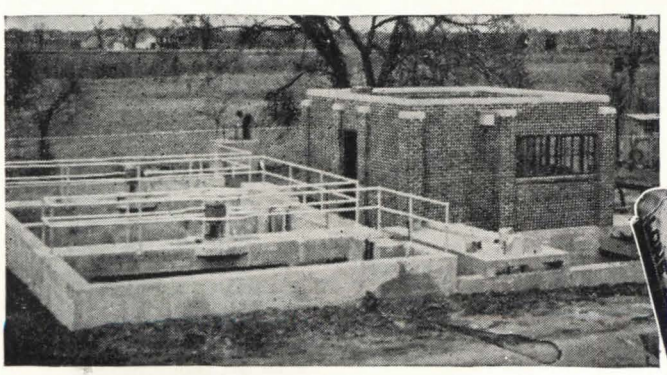


PERMEABILITY OF 'INCOR' AND ORDINARY PORTLAND CEMENT CONCRETE

GOOD concrete is watertight, of itself and by itself. Use a well-designed mix, place carefully, CURE THOROUGHLY. With ordinary cement, thorough curing means keeping concrete wet a week or longer . . . next to impossible on most jobs. 'INCOR' 24-HOUR CEMENT solves this problem, by curing THOROUGHLY in 24-48 hours instead of 6-8 days. Tests in Lone Star Cement Research Laboratory, summarized in graph, show practically no leakage with 3-day-old 'Incor' concrete . . . ten days to equal this with ordinary cement.

"When it's 'Incor'*, it's watertight" — 20 years' performance in swimming pools, tanks, water works and other structures, proves it! Use America's FIRST high early strength Portland Cement — get added assurance of watertightness and durability —cut curing time and costs. *Reg. U. S. Pat. Off.

(Below) Water Purification Plant, Albany, Mo., concreted with 'Incor'. Contractor, Don Pray, Monett, Mo.; Engineers, E. T. Archer & Co., Kansas City, Mo.



LONE STAR CEMENT CORPORATION

Offices: ALBANY • BETHLEHEM, PA. • BIRMINGHAM • BOSTON • CHICAGO • DALLAS • HOUSTON • INDIANAPOLIS • JACKSON, MISS. KANSAS CITY, MO. • NEW ORLEANS • NEW YORK • NORFOLK • PHILADELPHIA • ST. LOUIS • WASHINGTON, D. C.

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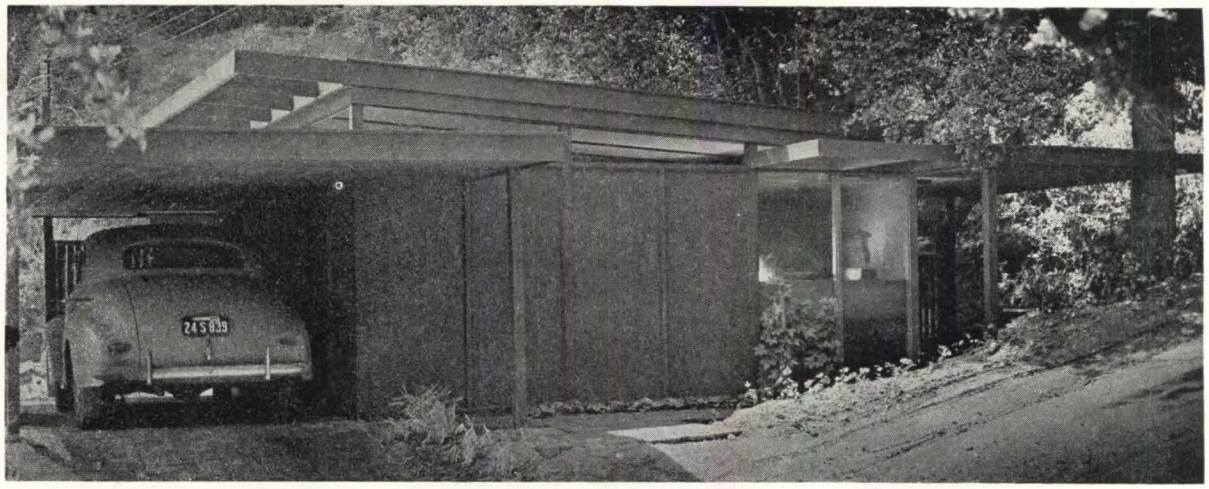
Julius Shulman Photos

DESIGNER'S OWN HOUSE, LOS ANGELES, CALIFORNIA

GORDON DRAKE, Designer



1. VIEW FROM THE ROAD. The site was cut into a steep hillside. Car shelter at left; entry at right.

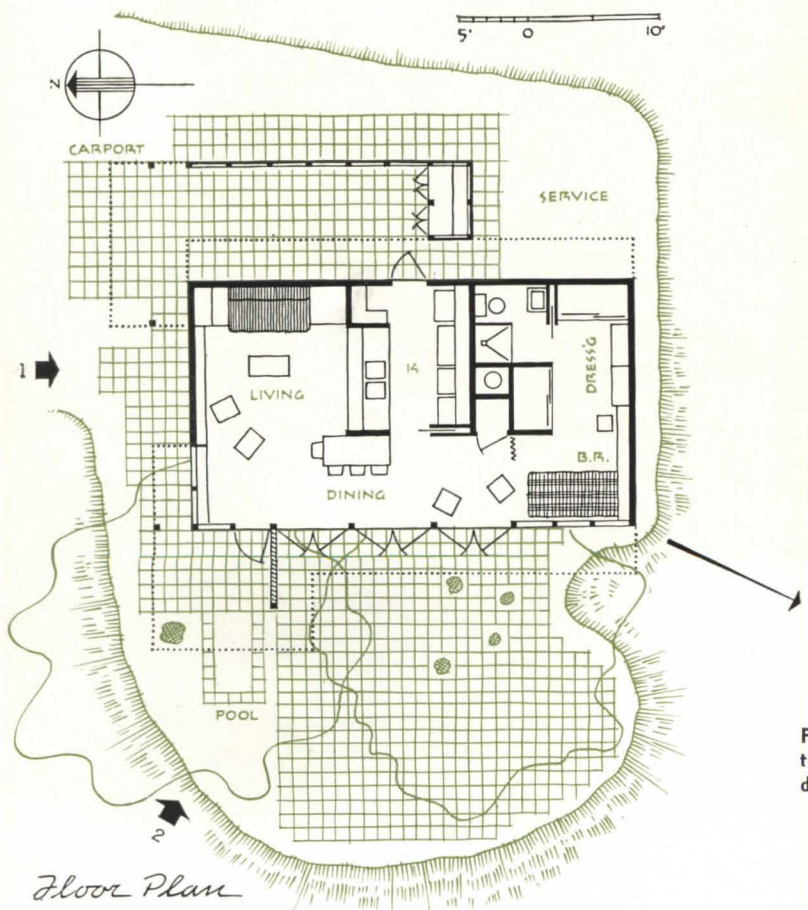
DESIGNER'S OWN HOUSE, LOS ANGELES, CALIFORNIA

GORDON DRAKE, Designer

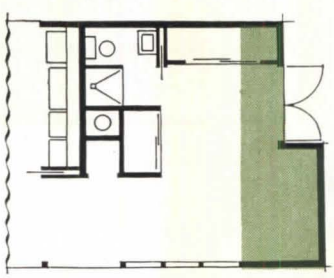
A winner of the PROGRESSIVE ARCHITECTURE Award* for private residences, completed during 1946, that best exemplify sound design progress, this engaging small house was cited for its imaginative contribution as an architectural concept as well as for its brilliant plan. The house is a minimum home—hardly more than a single room, with space partitioned off for the kitchen and bath. Yet within these modest confines, plus the nicely schemed outside living terrace, it achieves the living amenity of a house many times its size, quite apart from the factor of cost, where it also scores a triumph.

** For full report of the Award, see June 1947 PROGRESSIVE ARCHITECTURE.*

The design of this prize-winning house started when Gordon Drake was in the Marines. When the war was over, he wanted to build a house for himself and, as he heard other servicemen talk about the houses they planned to build, he realized that high postwar costs would likely explode many a dream—unless somebody did something about it. So, he determined to work out a basic unit, high in livability and as low in cost as possible, that might meet the needs and budgets of average young couples. The house shown on these pages was the result. Cost, incredibly, was kept to 8 dollars a square foot.

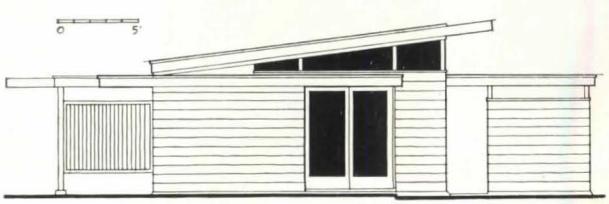


Floor Plan

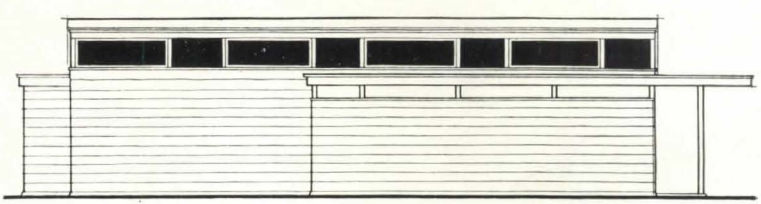


FOR A DEEPER LOT, Mr. Drake feels that the plan would be improved if the sleeping-dressing area were a little larger, as above.

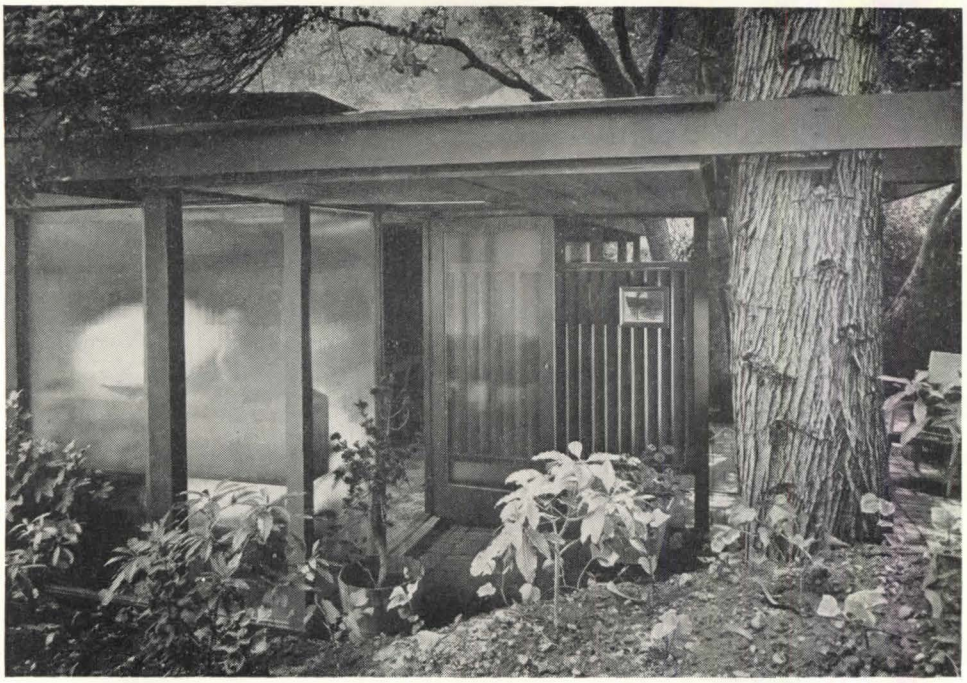
2. THE TERRACE, toward the west, is shaded by trees and screened from the road by a louvered wall beside the front door.

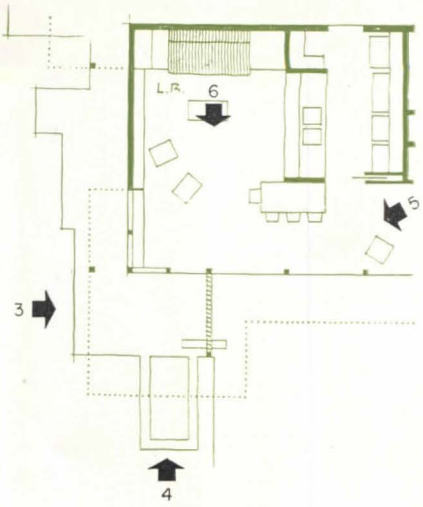


South Elevation EXTENDED VERSION



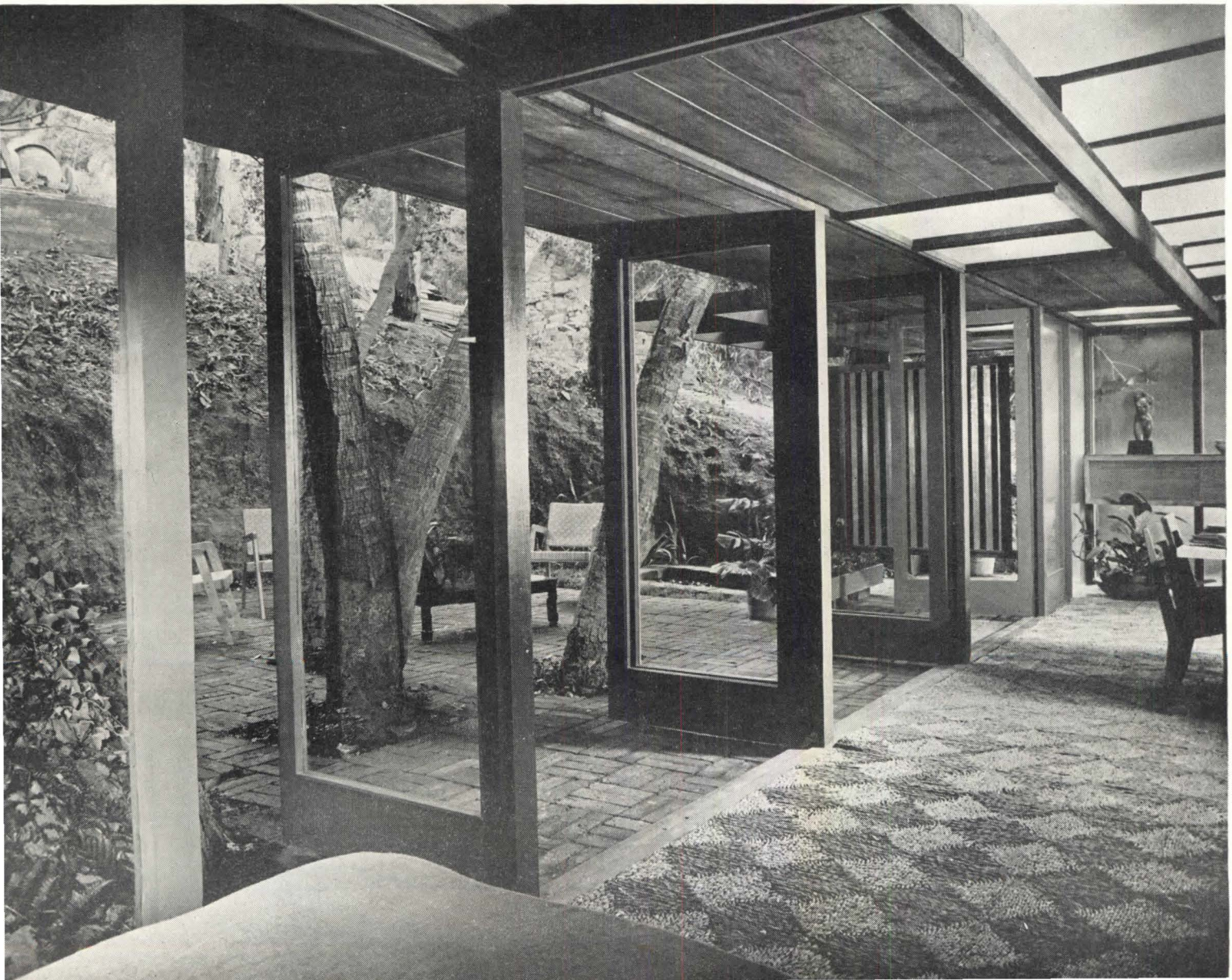
East Elevation EXTENDED VERSION





3. FRONT DOOR SHELTER. Note the obscure glass panels, and roof extension embracing the tree.

5. THE BRICK-PAVED TERRACE doubles the living space of the house.



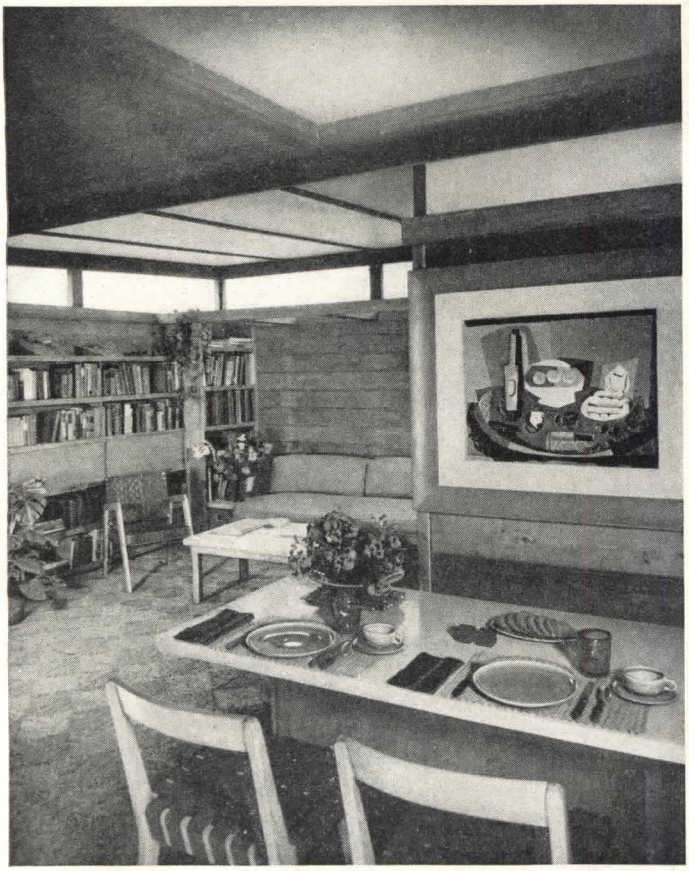
DESIGNER'S OWN HOUSE, LOS ANGELES, CALIFORNIA

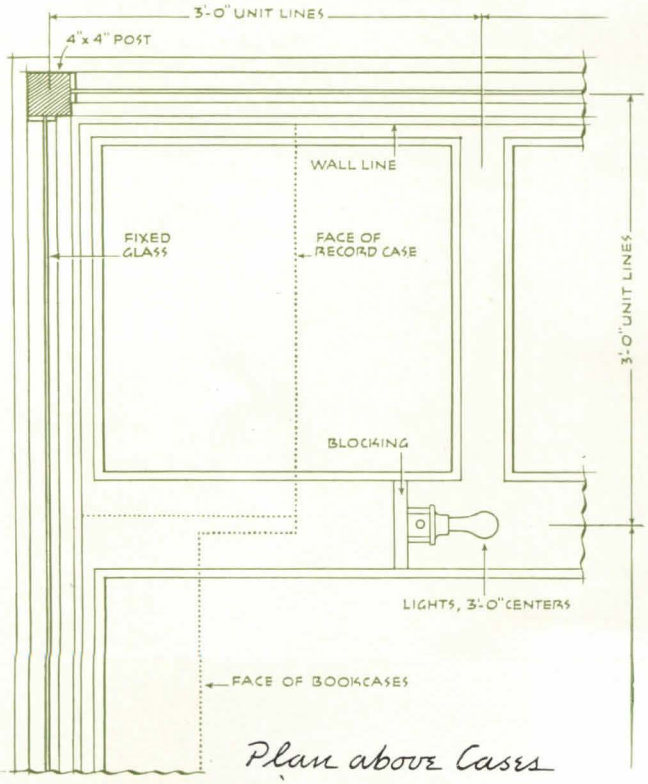
GORDON DRAKE, Designer

One wall of the house opens onto the landscaped terrace which, in mild weather, with pairs of wide, glazed doors opened, becomes part of the living area. A good proportion of the terrace is paved, with special planting occurring only around the pool near the entrance and at the base of trees—a factor planned for ease of maintenance. The indoor-outdoor space relationship is further carried out by the extension of the roof soffit into the house, forming a trough for concealed lighting. The house is framed with 4″ x 4″ posts, 6 feet on center, with redwood plywood used as the exterior surface, and 1″ x 8″ shiplap siding, placed horizontally, on interiors. In certain sections, panels of either clear or diffused glass take the place of the wood. Floors, except in the kitchen and bath (where floor tile is used), are surfaced with Chinese matting.

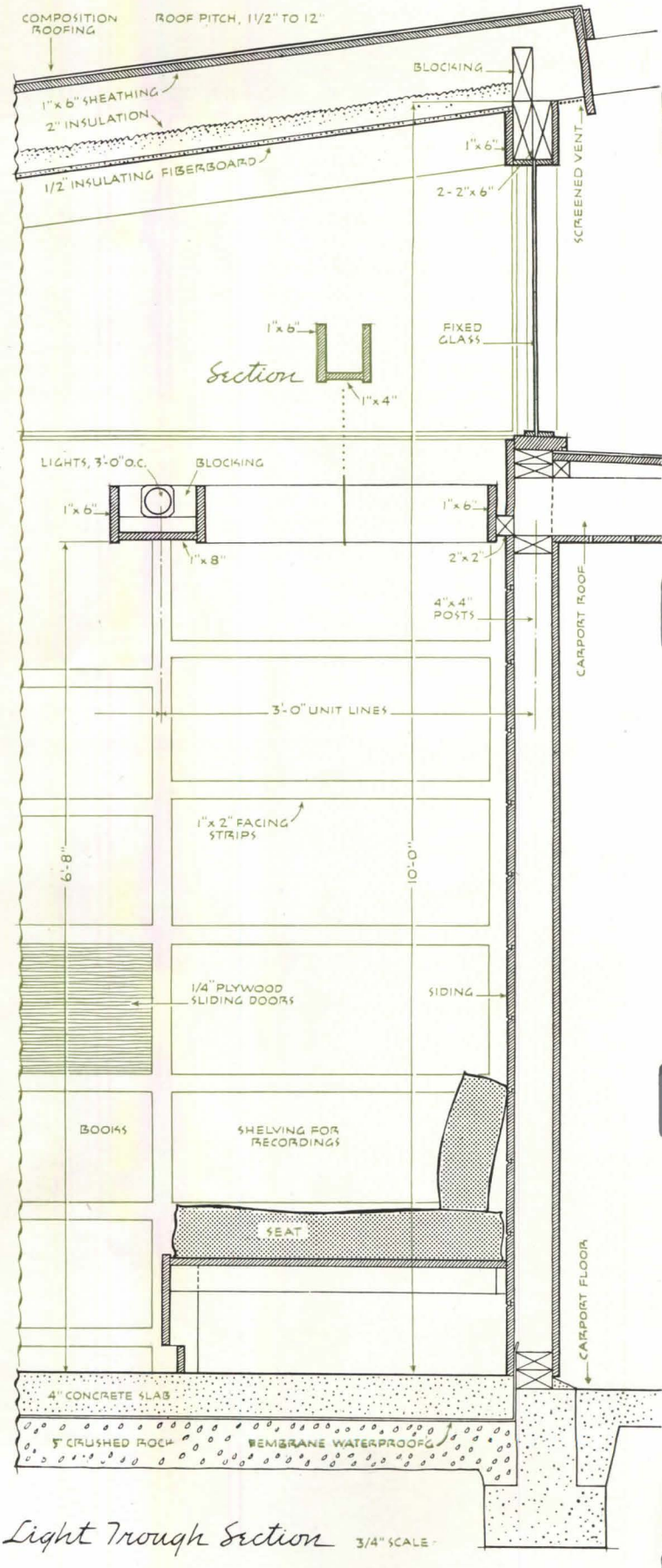
4. FRONT DOOR; screen at right shields the terrace.

6. TOTAL INTEGRATION: indoors and out; plan, structure, light, and even storage units; finished design.





Plan above Cases



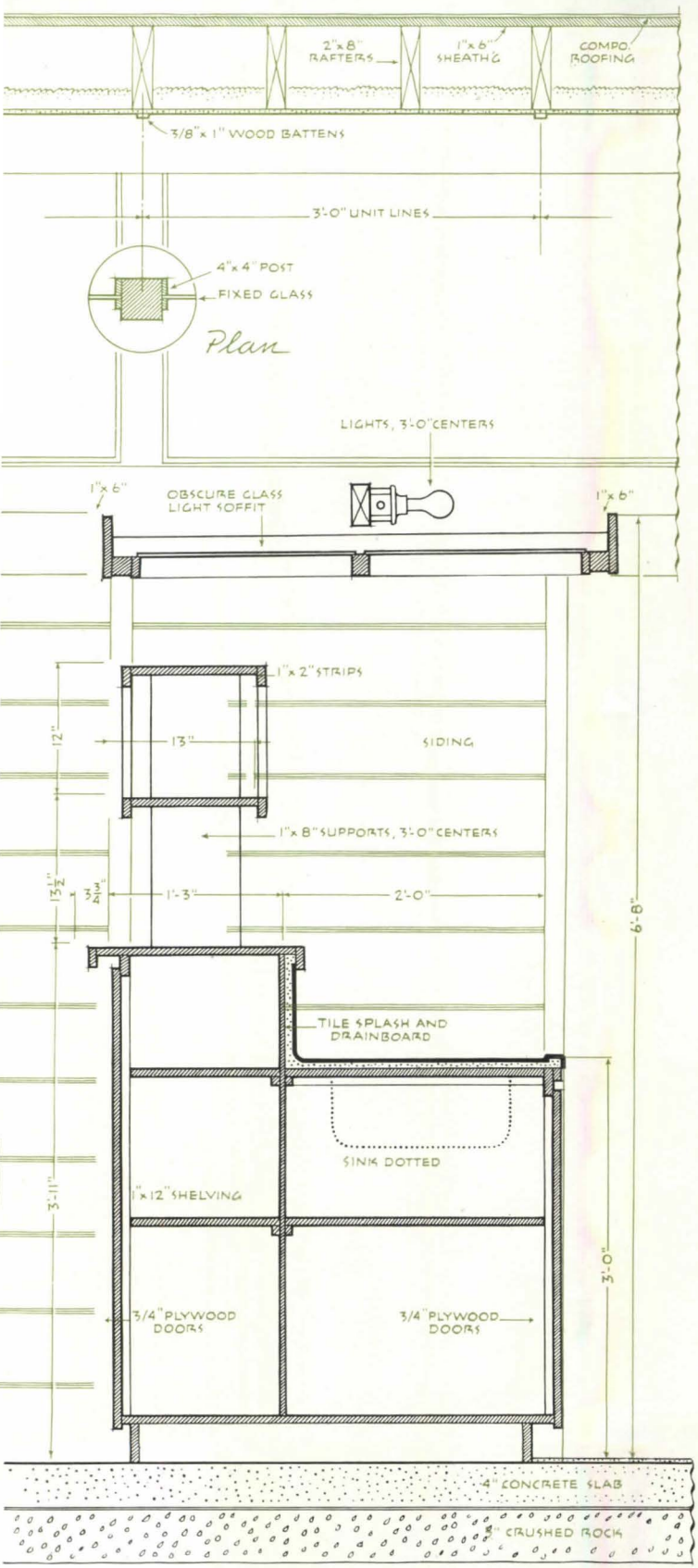
Light Trough Section 3/4" SCALE

DESIGNER'S OWN HOUSE

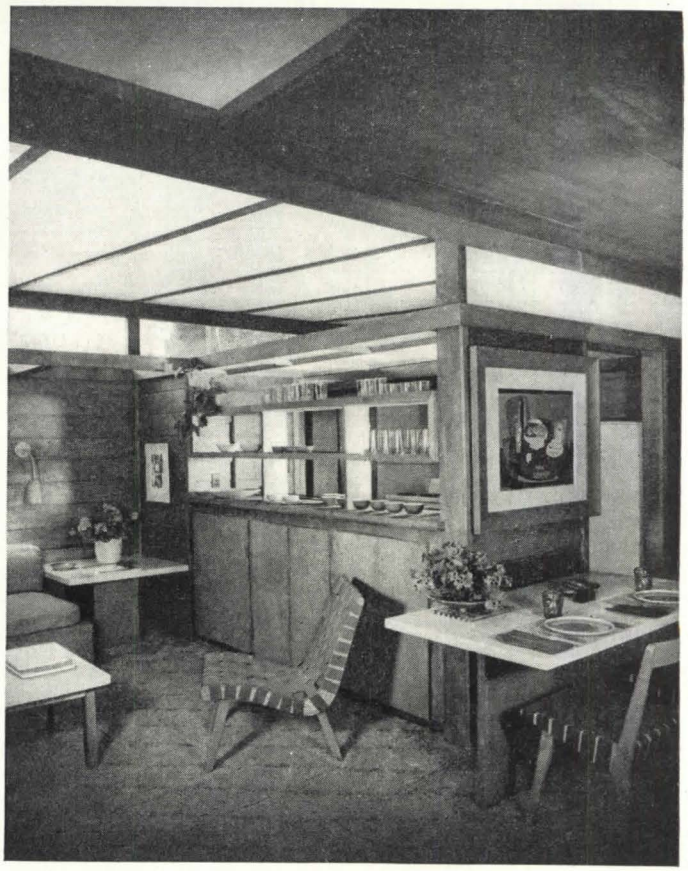
LOS ANGELES, CALIFORNIA

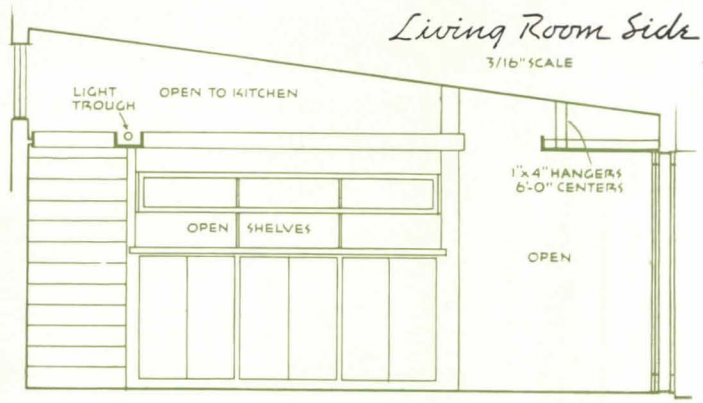
GORDON DRAKE

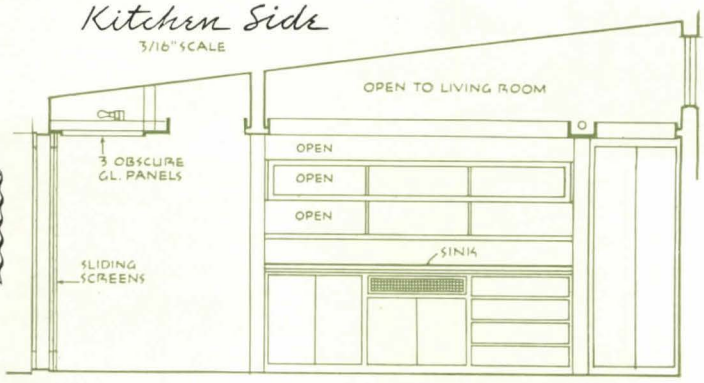
Designer



Sink Cabinet Section 3/4" SCALE







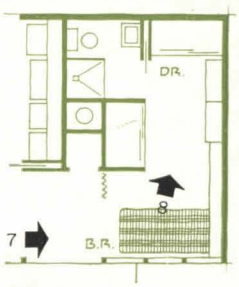
DESIGNER'S OWN HOUSE

LOS ANGELES, CALIFORNIA

GORDON DRAKE

Designer

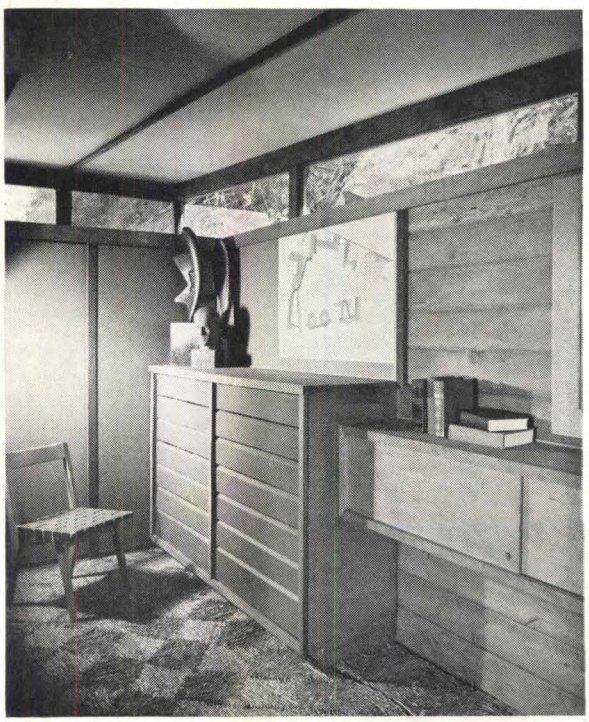
7. SLEEPING CORNER. The designer prefers a more spacious scheme (see p. 46).



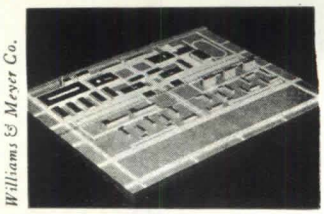
DESIGNER'S OWN HOUSE
LOS ANGELES, CALIFORNIA

GORDON DRAKE, Designer

Much of the furniture, in the form of storage shelves and drawers, is built into the house, so that only a minimum of portable furniture is required—another economical feature of the design. Provision is made for a radiant warm-air heating system, in which heated air is carried through a grid of ducts in the concrete floor slab and, as it cools, automatically returned to the centrally located furnace for reheating.



8. STORAGE CORNER. Clerestories provide cross light.



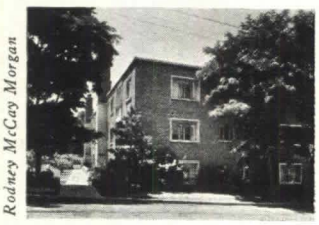
Williams & Meyer Co.

ILLINOIS

A Critique

MULTI-FAMILY HOUSING

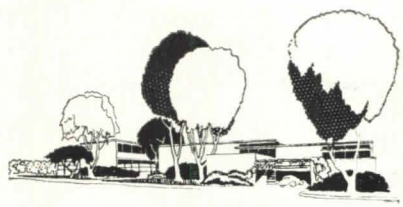
Last fall we launched our series of critical studies of a particular building type, with a comparative analysis of several outstanding hospitals. In May of this year, the same technique was applied to retail stores. Now, in this issue we consider the current status of design of several categories of private, multi-family housing. As with the previous Critiques, we are indebted to a panel of experts who assisted us in assaying the work shown. Three distinct areas of specialization were represented on the panel. From the field of private practice, there was Simon Breines of the firm of Pomerance & Breines; representing investment and project development aspects was George D. Brown, Jr., architect and housing consultant for The Mutual Life Insurance Company of New York; and finally—but hardly least—we had the specialized knowledge and experience of John Dean, sociologist and housing economist.

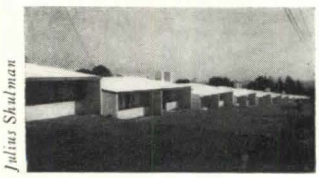


Rodney McCay Morgan

DISTRICT OF COLUMBIA

Although only six projects are shown in the group, they represent the widest range of types of group housing. The housing campus developed by Skidmore, Owings & Merrill for the Illinois Institute of Technology is a large-scale project that includes ten-story apartment buildings, three-story, walk-up apartment houses, and four-story dormitory structures. Independent apartment houses, both of the elevator type and walk-ups, are represented in the two Washington, D. C., buildings by Berla & Abel. Gregory Ain's work in California includes both single-family row houses and a group of semidetached individual homes, and the project in Seattle by Paul Hayden Kirk consists of but six dwelling units arranged in three adjoining structures.





Julius Shulman

CALIFORNIA

In developing the study, the following process was followed. In joint session, the editors and panel of consultants used a fine-tooth comb on the jobs selected for publication. Whatever was questioned or in any way criticized was then forwarded to the architect or designer for rebuttal or additional comment. The editors then weighed the finished jobs in the light of the experts' critical comments balanced by the explanations sent in by the architects. Thus we hope—and correspondence increasingly supports this hope—that we are presenting a useful evaluation of a building type that no one person, professional or otherwise, or any one editorial group could hope to produce independently.

The Editors

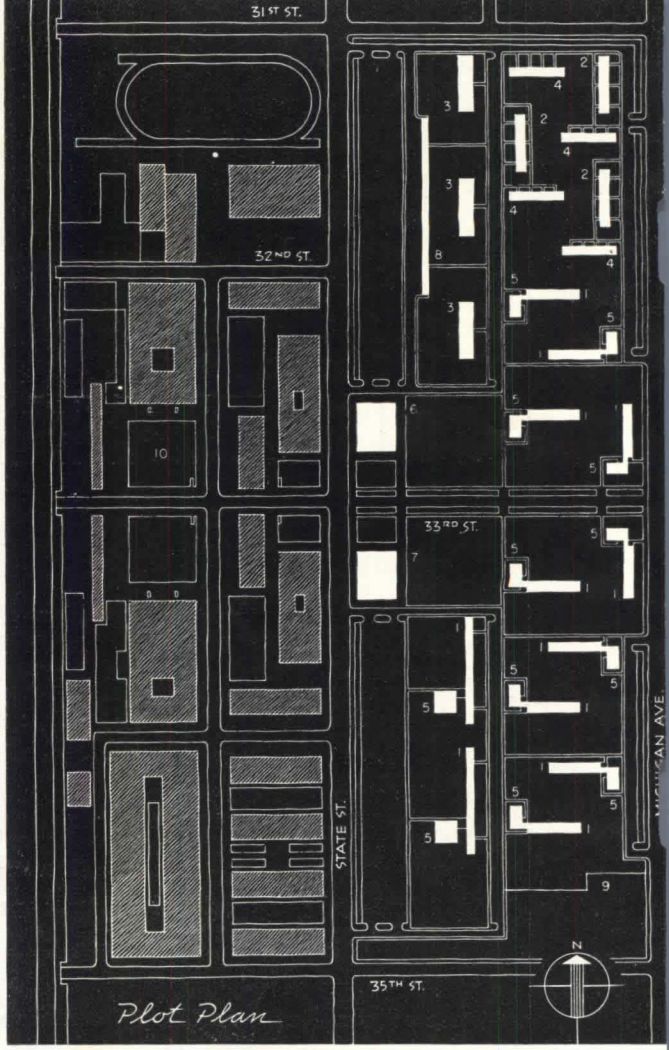
P. A. Dearborn

WASHINGTON

HOUSING CAMPUS, ILLINOIS INSTITUTE OF TECHNOLOGY

SKIDMORE, OWINGS & MERRILL, Architects

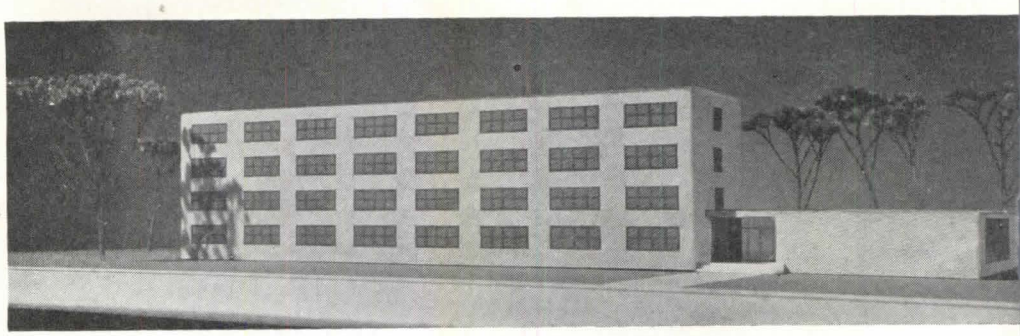
A 42-acre project, this housing campus for students and faculty is just east of State Street from the Institute's academic campus, planned by Mies van der Rohe. Eventually, there will be three 10-story apartment buildings (360 apartments); three 3-story, walk-up buildings (18 apartments each); and ten 4-story dormitories (each accommodating 93 students). The openness of the scheme brings light and air into an area of Chicago that has been notably overbuilt in the past. Nor is the campus being developed in a vacuum. One large housing project is in the immediate neighborhood, and insurance companies are considering additional low cost housing for the area. The panel's one critical observation on the site plan was to question its rectangularity and axial arrangement across 33rd Street. This parti is explained by the architects: "It seemed logical to open up the 33rd Street entrance to the campus as much as possible—to set off the principal entrance . . . to create an inside mall between the housing and academic groups."



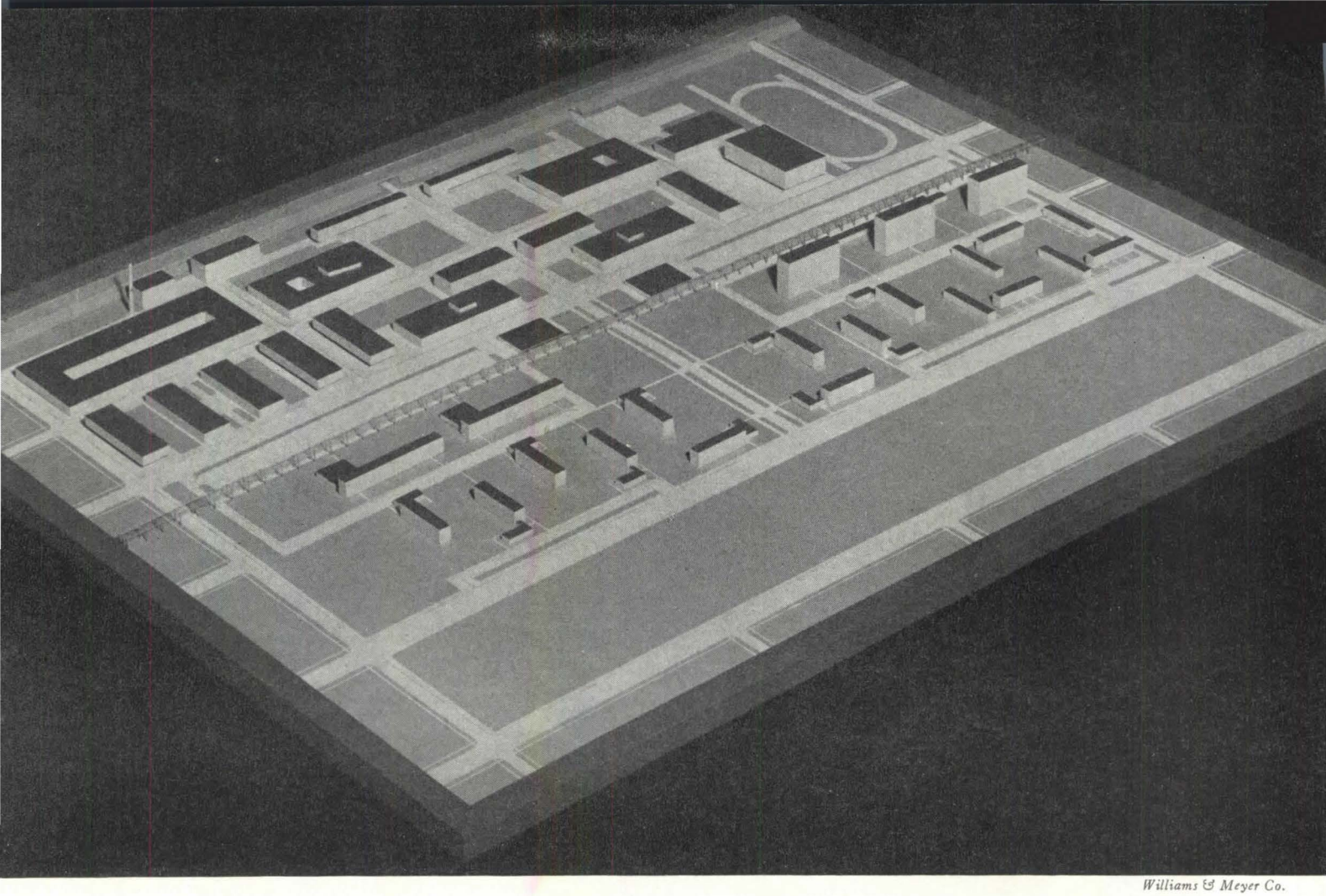
1. Dormitories 2. Three-Story Apartments 3. Ten-Story Apartments

1. FOUR-FLOOR DORMITORY

The consulting panel applauded the plan layout and east-west orientation of most of the dormitory buildings, since this avoids western sun in single-exposure rooms. Chief discussion raged around the arrangement of the individual double rooms. The jury felt that things might work out better with a parallel symmetrical scheme, with beds at either side, giving each student identical accommodations. The architects gave much study to this but developed the present scheme because, as with the other campus buildings, minimums were required to meet the budget, and the adopted plan locates all doors, closets, bureaus, entrances, etc., together, leaving a maximum of uninterrupted wall space—"we felt it better to make one good unsymmetrical room, of more general use to the students, than two 'half rooms' that would be entirely cut up by furniture or doors."

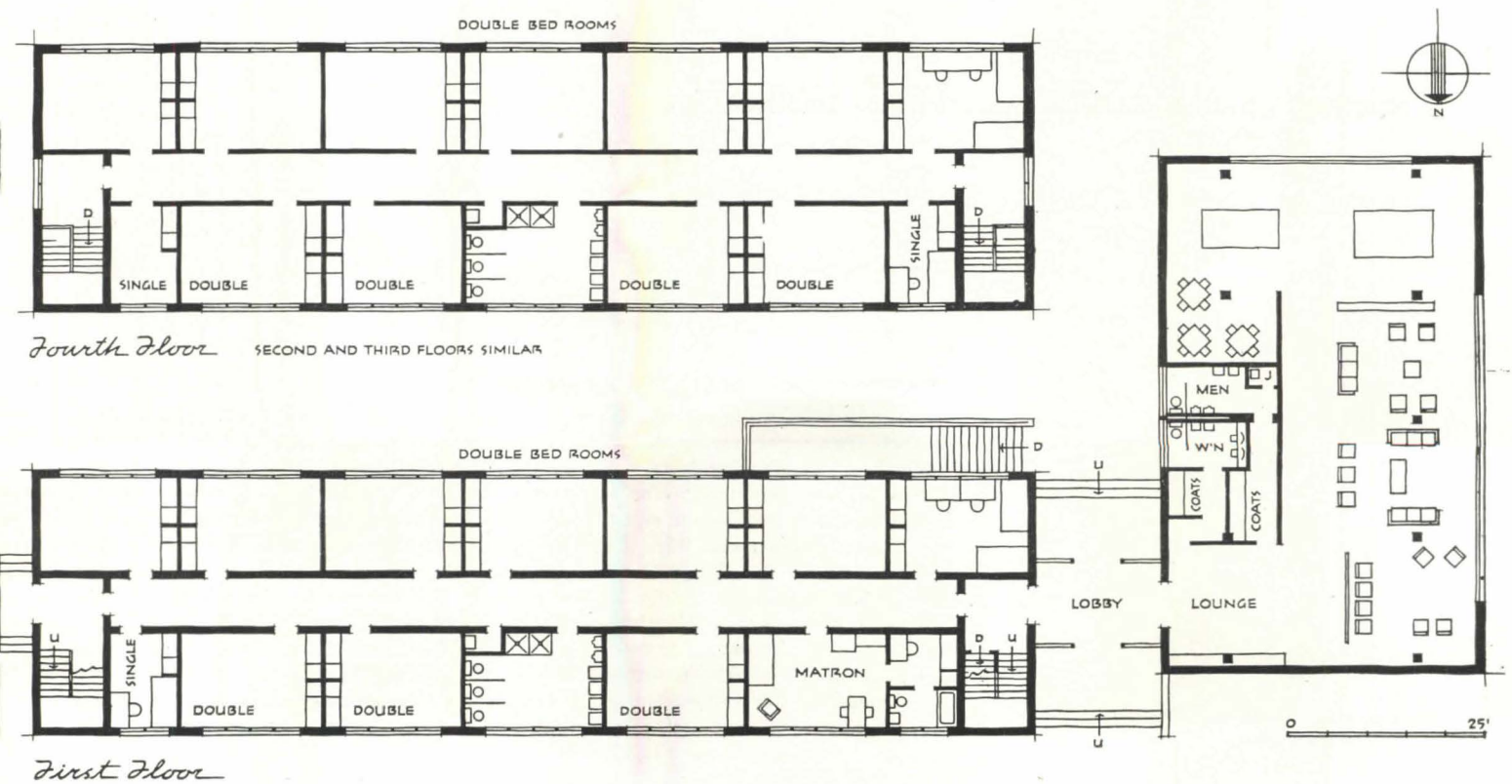


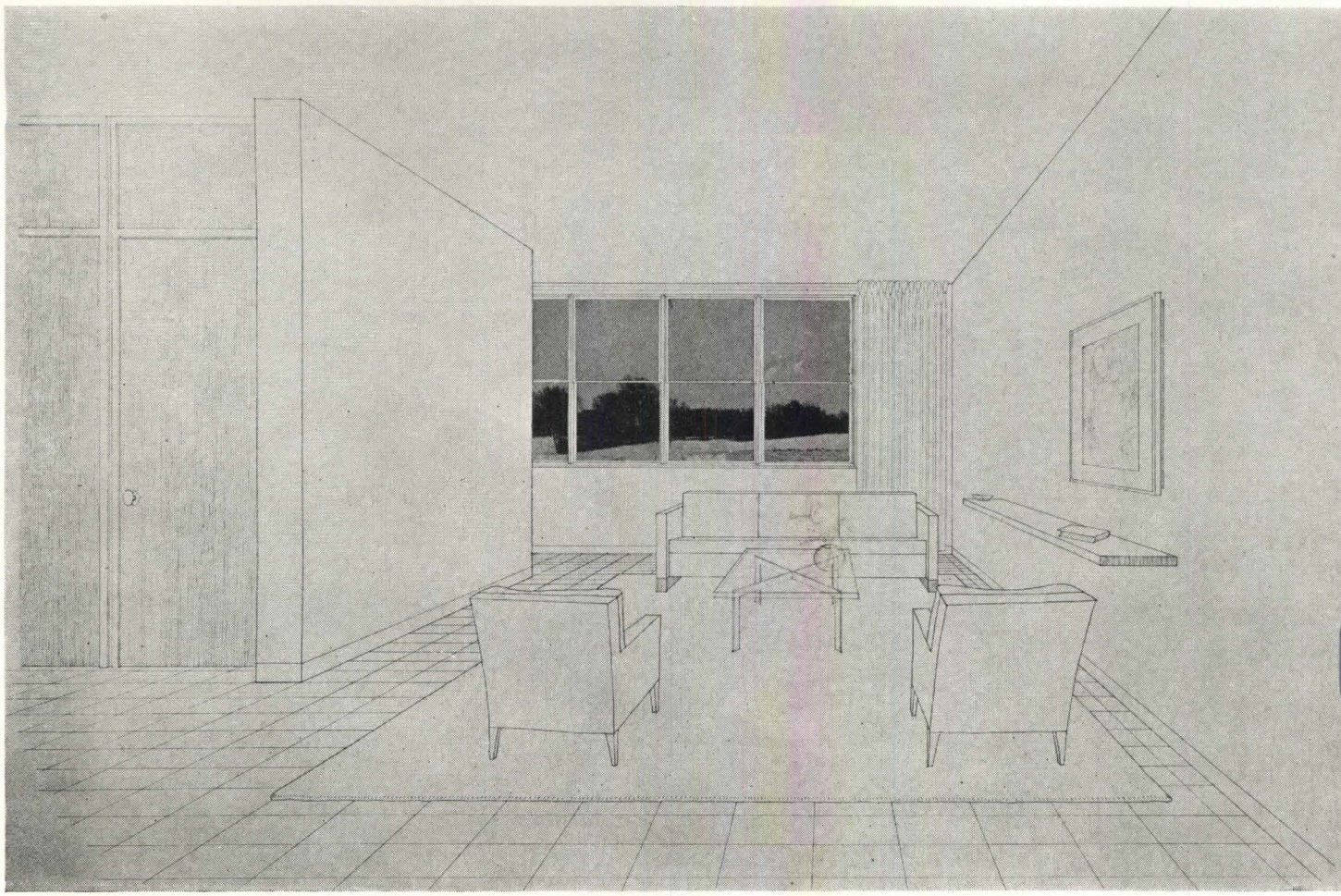
Hedrich-Blessing



Williams & Meyer Co.

4. Row Houses 5. Recreation Rooms 6. Community Building 7. Dining Hall 8. Garage 9. Existing School 10. Academic Campus by Mies van der Rohe





Williams & Meyer Co.

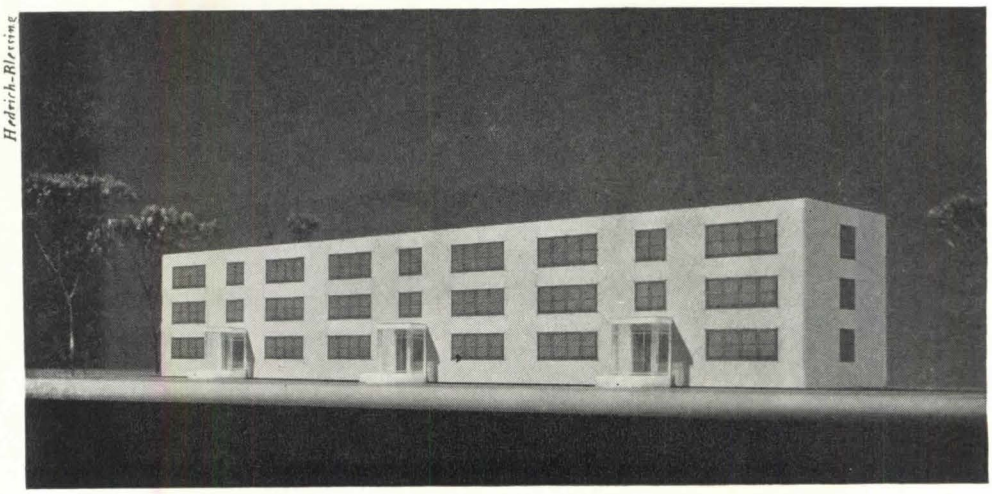
Sketch of TYPICAL LIVING ROOM. Entrance hall at left.

HOUSING CAMPUS, ILLINOIS INSTITUTE OF TECHNOLOGY

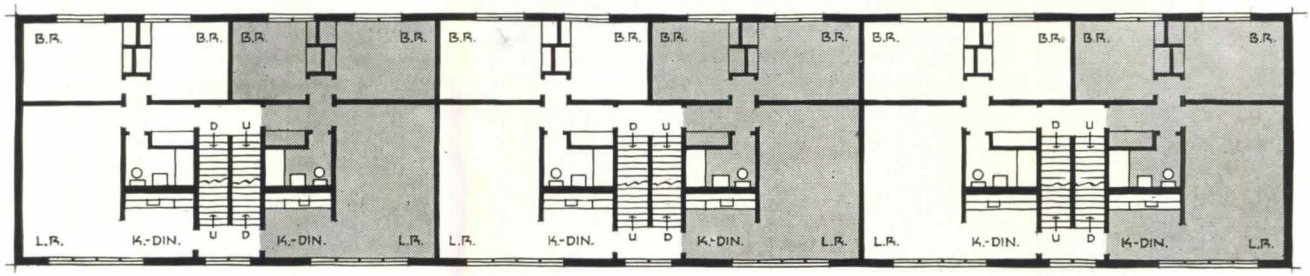
SKIDMORE, OWINGS & MERRILL, Architects

2. THREE-STORY, WALK-UP APARTMENT

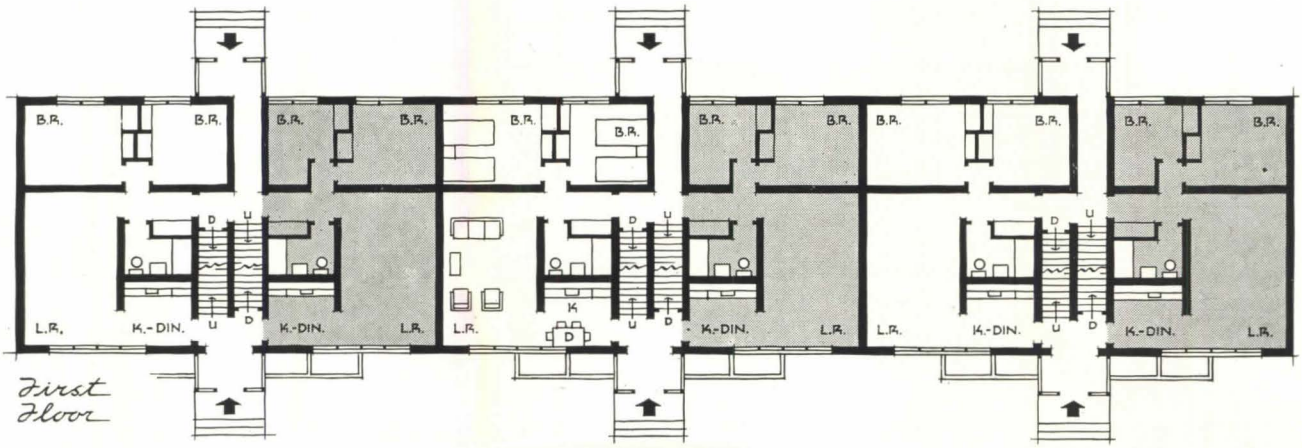
Of the three main building types, the jury found the three-story walk-ups the most successful. The ingenuity of the scissors type stairway, providing the two exits (and incidentally a service stair) required by the Chicago ordinance, without adding much cubage, was much admired; also the arrangement of the typical apartment plan for privacy and cross ventilation and the economy of back-to-back placement of bath and kitchen. Two of the panel missed storage space for baby carriages, etc., pointing out that the basement storage, while a good thing, is not adaptable to such uses. This problem is admittedly not solved at the moment, but the current idea is to make one ground floor apartment in each entry into a one-room unit, utilizing the space gained for bulk storage. Another juror felt that it should be possible to close off the kitchen. With the minimum square footage available, the architects comment, opening up the dining alcove into the living room gives considerably greater apparent size to the room. Also, with any sensible furniture arrangement, there would be no point from which any seated person would see the kitchen unit.



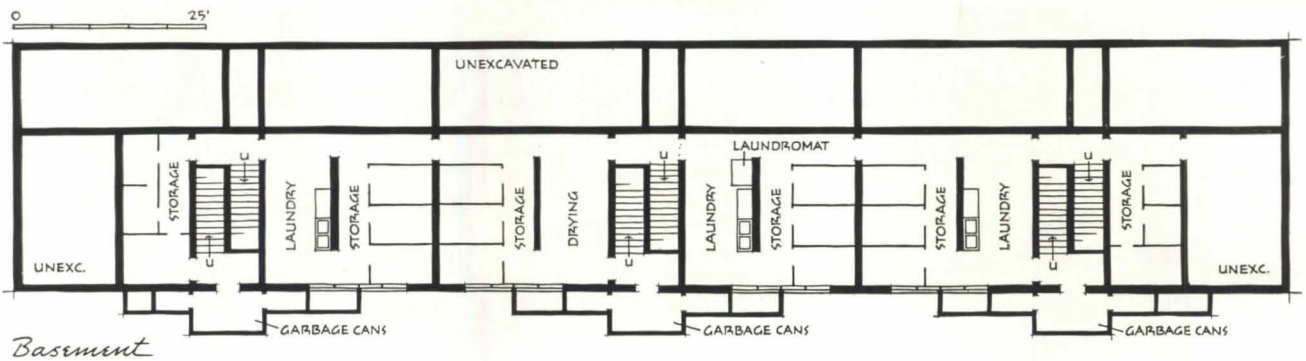
MODEL. Like the dormitories, the three-story walk-ups are of wall-bearing brick and tile construction, with reinforced flat-slab floors.



Second and Third Floors

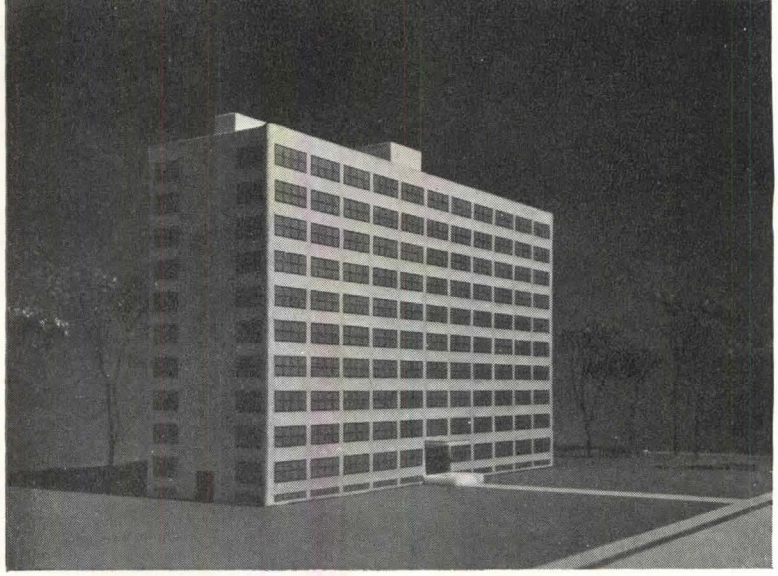


First Floor



Basement

REINFORCED CONCRETE FRAME; flat-slab floor system; brick exterior, with tile or concrete block backup.



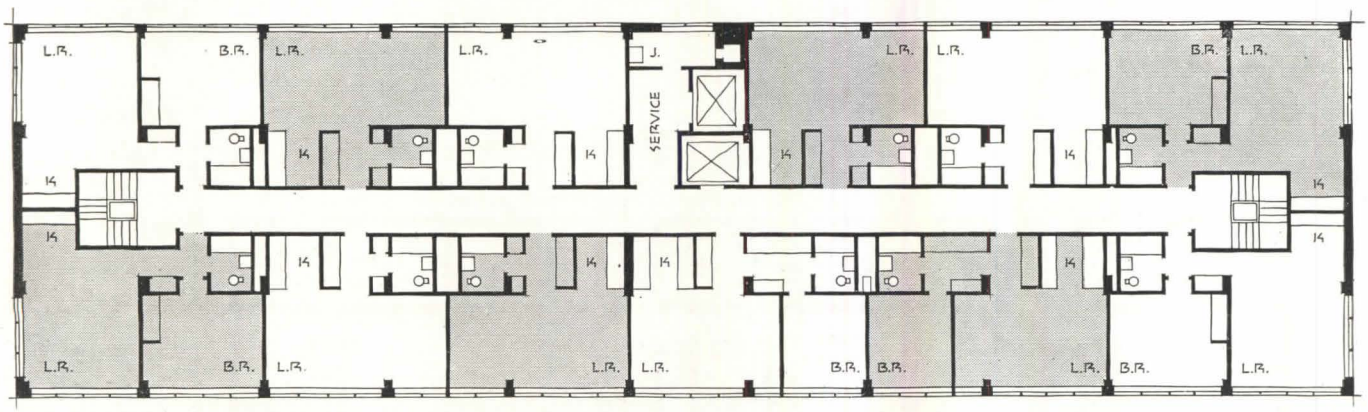
Hedrich-Blessing

HOUSING CAMPUS, ILLINOIS INSTITUTE OF TECHNOLOGY

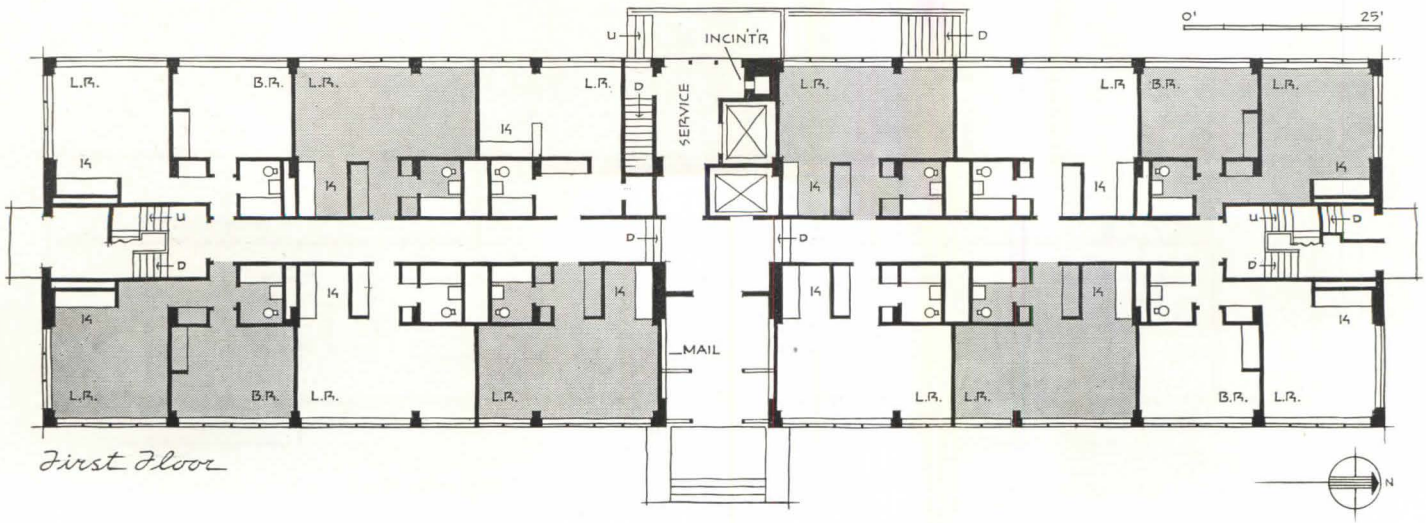
SKIDMORE, OWINGS & MERRILL
Architects

3. TEN-STORY ELEVATOR APARTMENTS

The critics were concerned with the orientation of the buildings themselves, with the long axis north-south. One contended that if you must choose but one exposure, north is preferable to the heat and glare of west. The architects answer that it is desirable to have sun in every apartment and that, due to the prevailing summer southwest wind, the problem of unbearable heat is not too pertinent. One critic thought the kitchen unit would be more cheerful if moved up front. True, the architects say, but this would sacrifice the nice shape of the living room with its 21 feet of window and substitute a hotel-room-like affair. Furthermore, they point out, placement near the entrance simplifies handling of garbage and trash.



Typical Floor



First Floor

Critique: MULTI-FAMILY HOUSING

It is quite a jump in building type from a housing campus to the speculatively built house of apartments for rent in a large city. The former has sufficient design restrictions —the budget, the limits of site, and so on. But compared with the commercial, competitive, "for rent" apartment house, these seem slight. For, with the built-up city situation, there is not only the budget, but zoning restrictions dictating maximum plot coverage; height and depth of setbacks; usually, local restrictions on placement of kitchens or bathrooms; the need (so that they will rent readily in normal times) to make the apartments themselves as attractive as (preferably more attractive than) the nearest competitor; and the owner's sole objective—to make money. Not one cent for amenity or beauty (unless it will clearly pay off). Not the remotest interest in architecture, except insofar as the building will constitute a better than average investment. Maximum rental space at minimum cost. Period.

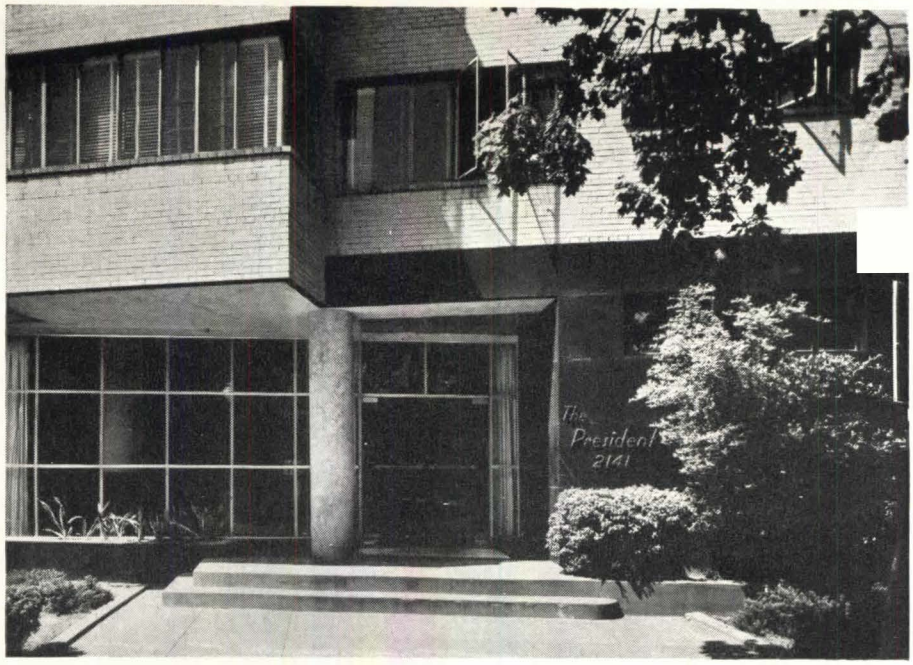
So, what can the progressive-minded architect do about it? In a great many instances, damn little. Come to think of it, perhaps that is one of the reasons why so few top-flight progressives in this country are distinguished for city apartment work. But here and there evidence proves that, even with the restrictions and stupidity, the apartment house planner can push on and find better ways of doing things and produce better architecture in that category. We think the firm of Berla & Abel in Washington, D. C., deserves special mention in this regard.

Two projects from this firm are shown on the following pages.

THE PRESIDENT
APARTMENTS
WASHINGTON, D. C.

BERLA & ABEL
Architects

Rodney McCay Morgan Photos



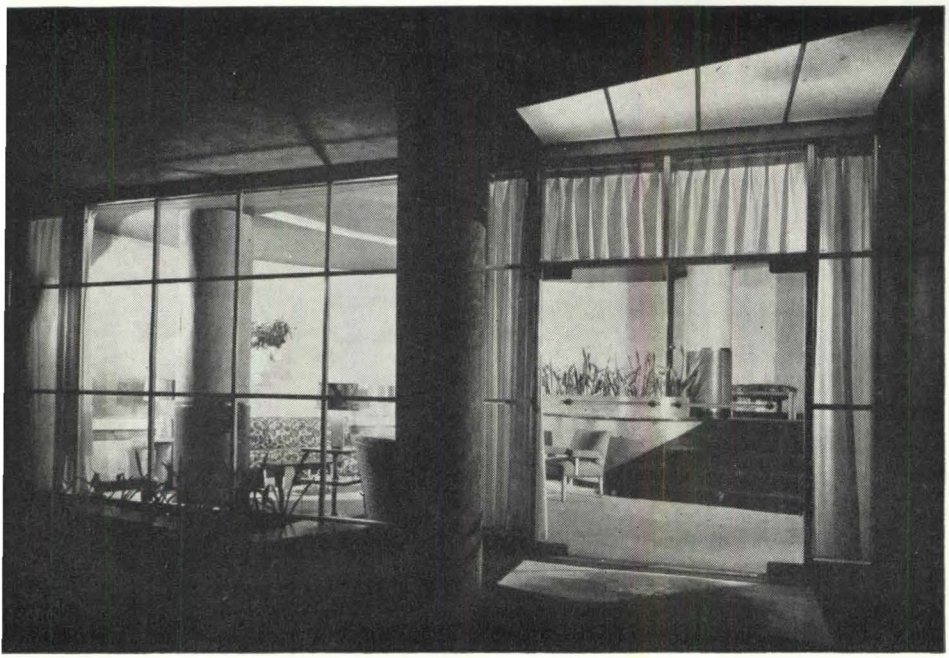
REINFORCED CONCRETE frame, with 8-inch masonry walls surfaced with buff brick.

PRESIDENT APARTMENTS, WASHINGTON, D. C.

Located near numerous Government departments, this apartment house is the home (primarily) of young married couples, both of whom work, or Government employees who team up to share an apartment. Hence, most of the units are of the so-called "efficiency" type. Land in this locality is very expensive and therefore the lot had to be developed to maximum potentials. From a lobby with an angled glass wall toward the street, a few steps lead up to the elevator corridor. The typical floor plan consists of a T-shaped corridor (with an offset extension in the rear portion) with one-room apartments opening off at both sides. At the rear is a pair of apartments with separate bedrooms.

Most of the jury discussion was around whether the same

SOME TENANTS use the solaria as bedrooms; others, as dining bays.

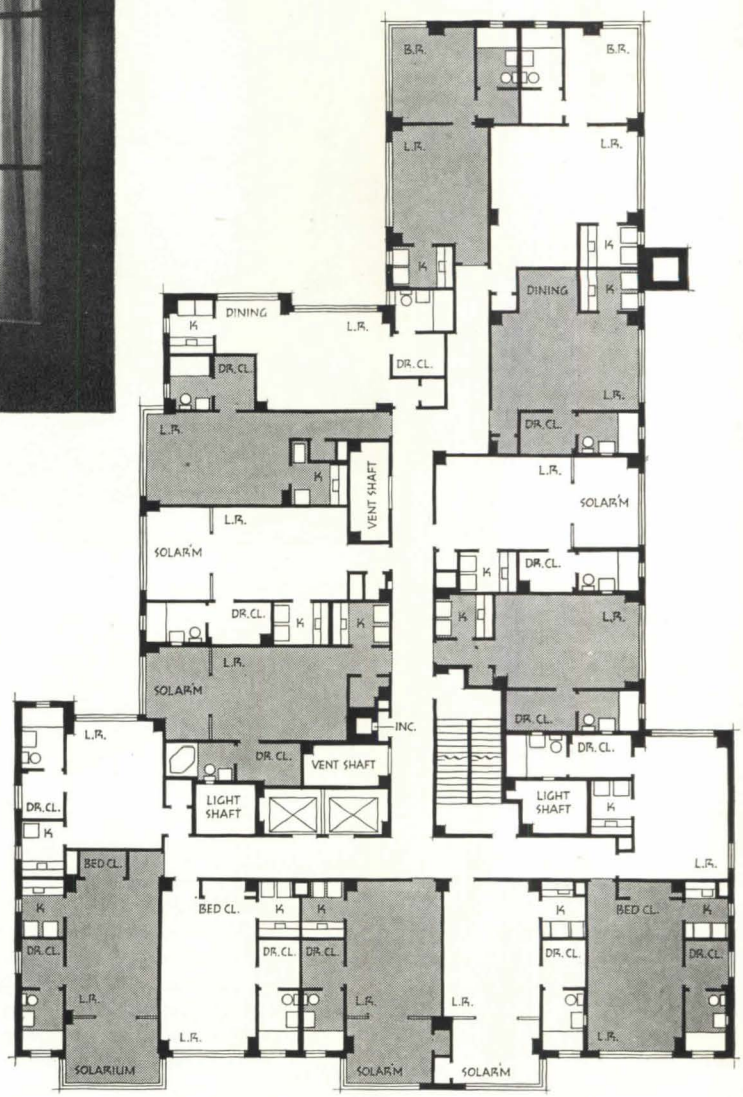


ALUMINUM-FRAMED glass wall.

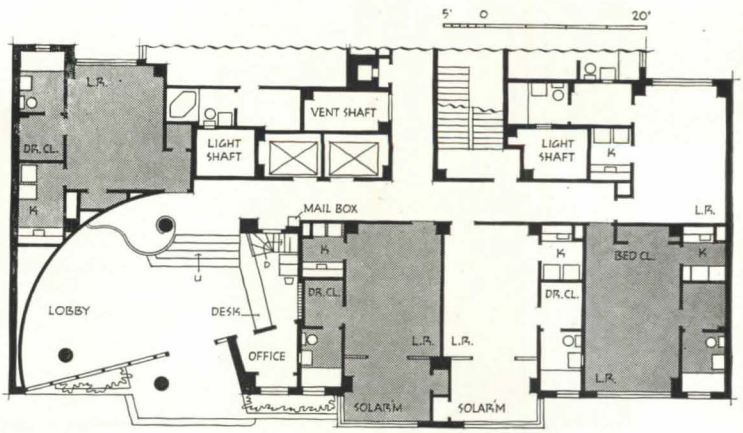
BERLA & ABEL, Architects

number of units might not have worked out even more happily had the bathrooms and kitchens both had interior locations (either side of an entrance passage) leaving the whole outside wall for the living room. This brings into sharp focus the conflict between design ideals and what is possible. Very likely, the architects agree, but the Washington building code (at the time this apartment was built) required that bathrooms be outside rooms, while mechanically ventilated inside kitchens were allowed. Granted, then, that the baths had to be on the perimeter and kitchens could go inside, the architects developed the plan (with kitchens, dressing closets, and bathrooms in rows wherever possible) to give all possible remaining exterior wall space to the living rooms. While this produces deep rooms, with windows at one end, this is not at all a bad plan for the torrid Washington summers. Another curious Washington idiosyncrasy allows solarium-like extensions beyond the legal building line. This accounts for the windowed extensions at the *front* of the building, which are used either as dining bays or bedrooms, although tenants pay for only one-room apartments. Large ventilating shafts provide cross ventilation for all interior apartments.

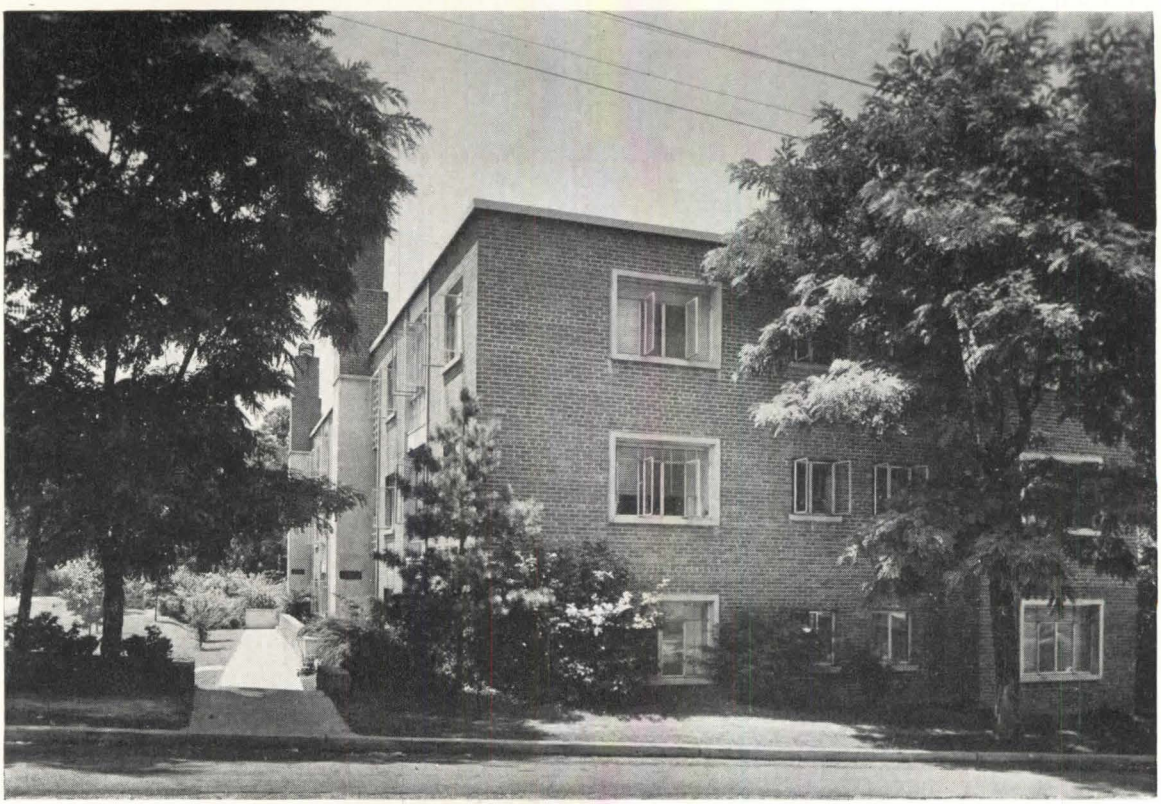
The jury challenged the big dressing closets outside the bathrooms, feeling that, people's habits being what they are, these would present a disarray; also that steam from the bathroom would not be too good for clothes hung there. This is frankly a choice and a matter of opinion. It would have been possible to provide separate entrances to the closet and bathroom, but "most tenants prefer having the bath open into the closet rather than directly into the living space, as this arrangement provides more privacy."



Typical floor



Partial first floor REMAINDER SIMILAR TO ABOVE

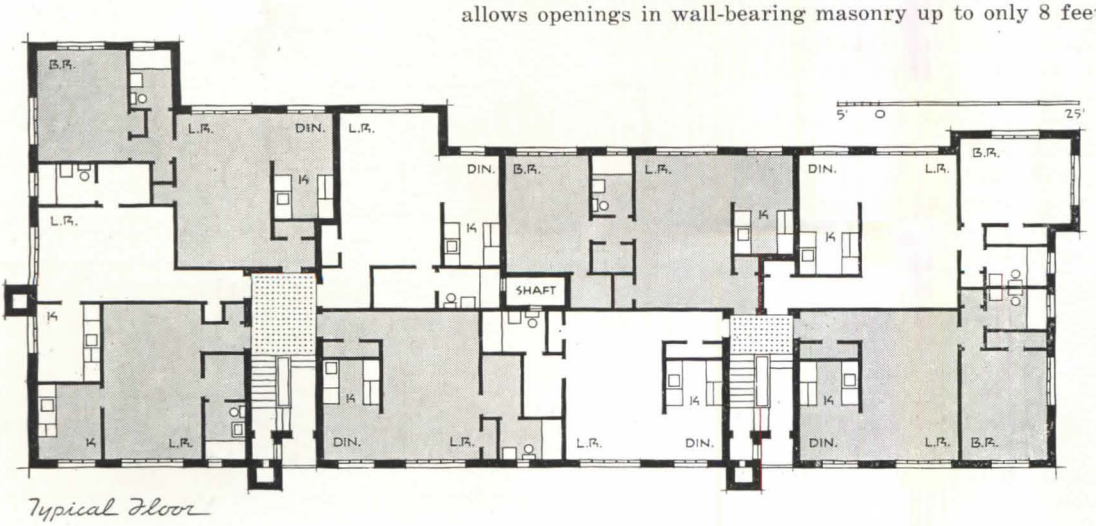


Rodney McCay Morgan Photos

PHILLIPS APARTMENTS, WASHINGTON, D. C.

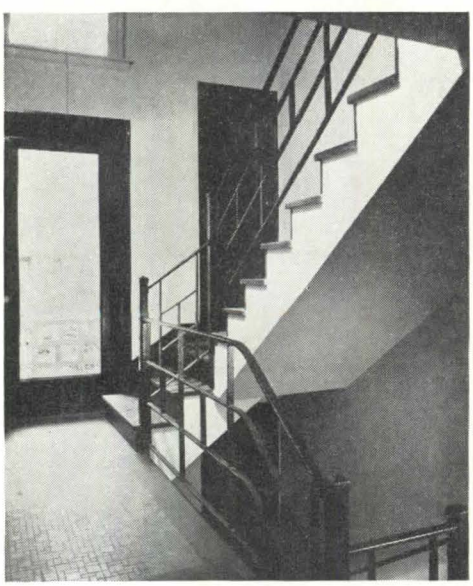
BERLA & ABEL
Architects

The deep lot suggested the basic arrangement of the building, with a sidewalk leading to side entrances. Among plan points discussed were difficulties implicit in entrance to four apartments on each landing and the fact that in many units there are numerous openings and traffic-ways in living rooms. The architects' answer is that both these matters stem from the realty necessity of making every square foot of rental space count. Had landings been larger, the space would have had to come from the apartments. As to cross-circulation, "this fault is common to this type of grouped-plan building. Any arrangement with better circulation would use much more floor area, and the economy resulting from use of a grouped plan would disappear." The unusual exterior incinerator stacks were used because (1) the D. C. zoning law allows them without counting against the building area, and (2) if located inside, they would have used some available rental space. In answer to a juror's question why continuous fenestration was not employed, the architects explain that, without fireproofed lintels, the local code allows openings in wall-bearing masonry up to only 8 feet.

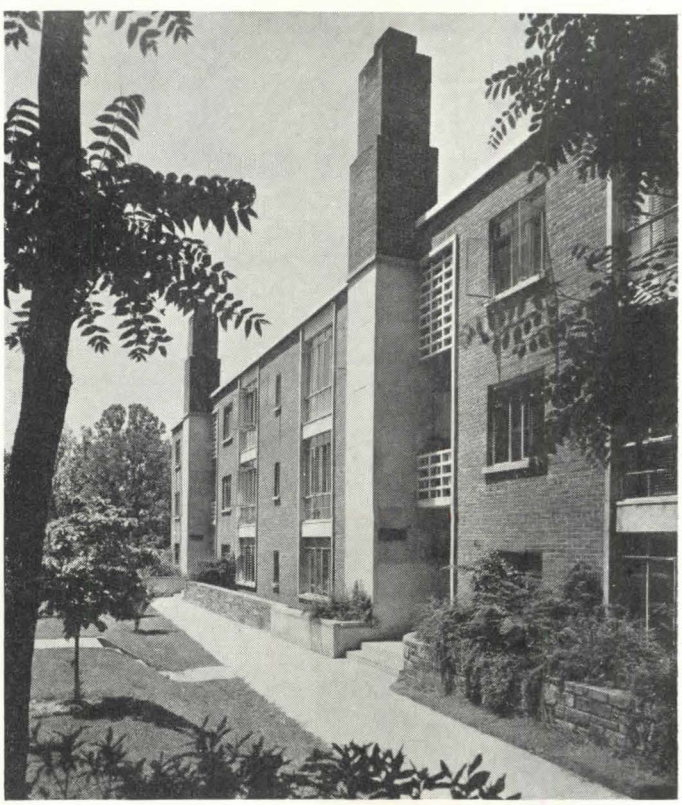


Typical Floor

"Where are baby carriages, etc., stored?" asked the jury. *"In the basement reached by a rear drive,"* the architects replied.



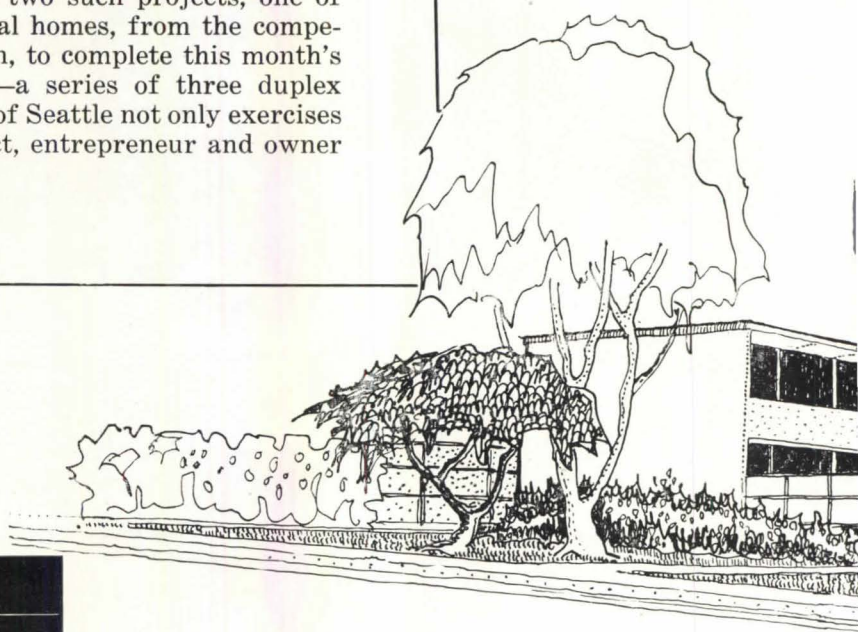
PLASTERED HALLWAYS raised the question of damage by movers. Access to incinerators is directly off stair landings.

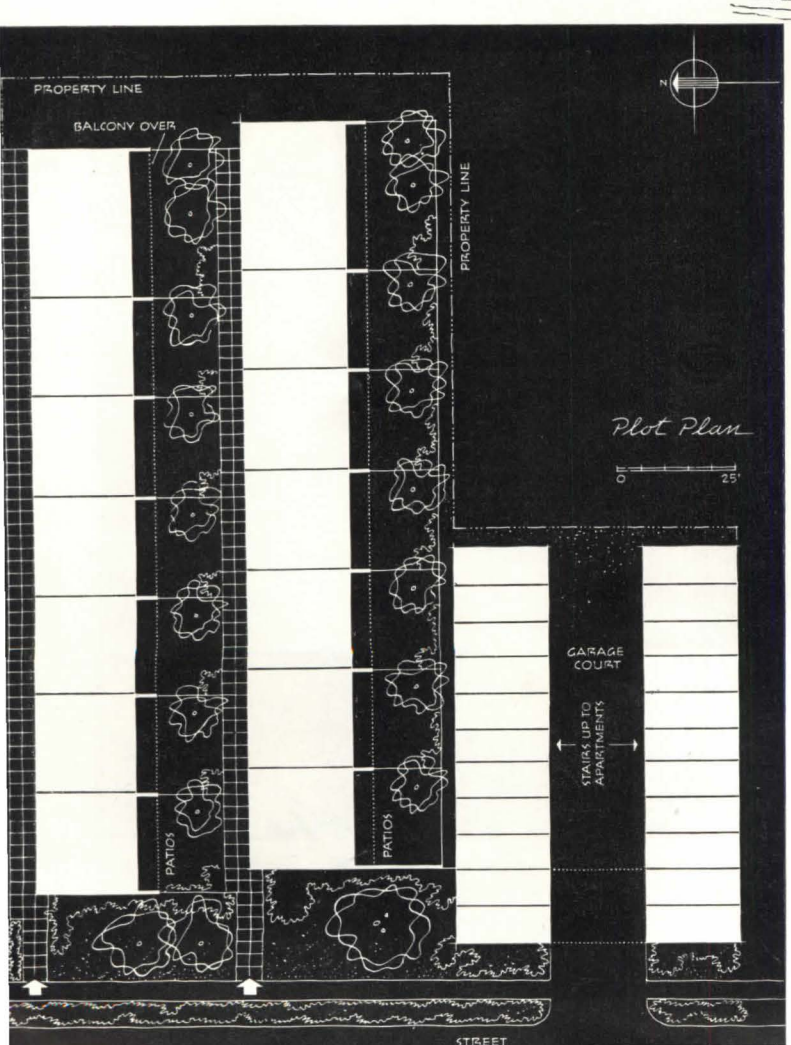


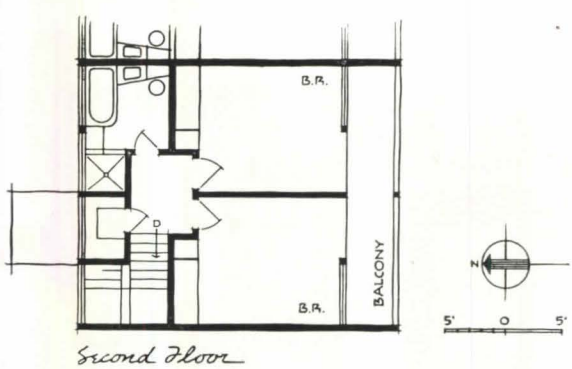
RESTRICTIONS limited ground coverage to 40 percent; height to three floors.

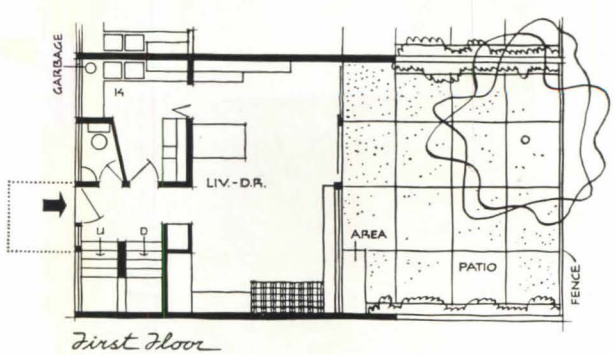
Critique: MULTI-FAMILY HOUSING

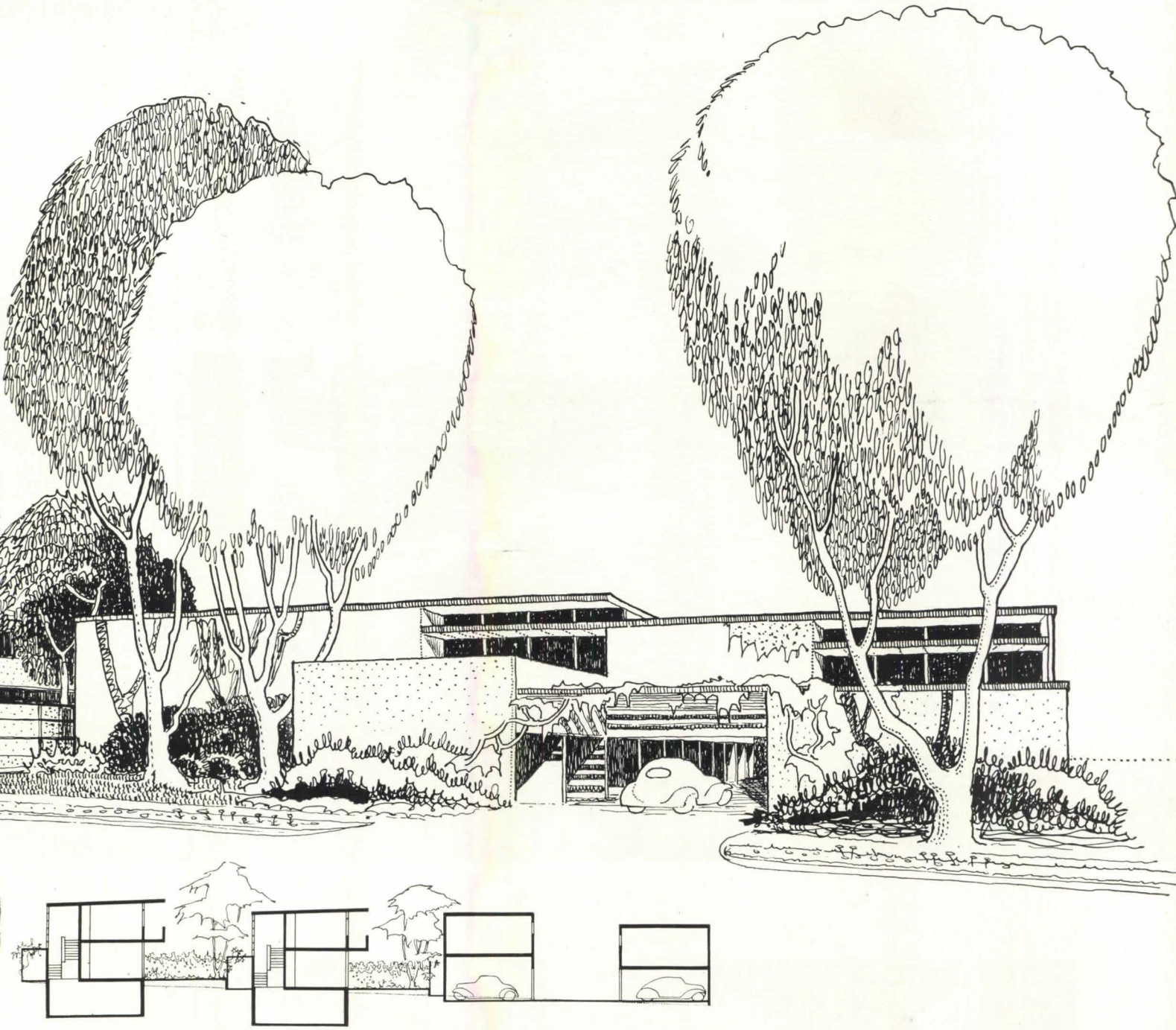
Somewhere between the apartment house speculatively built on an acquired site in a part of town where the real estate gamble is highest, and well considered neighborhood planning, lies the occasionally enlightened development of group housing—individual houses in rows or semidetached, planned in conjunction with landscaped walkways, gardens, and other genial amenities. While it is neither as fragmentary as the isolated apartment building—speaking in a design sense—nor as inclusive as the completely planned neighborhood, it has real importance to those concerned with more healthy community development. For, if well done, this in-between type of multi-family housing can act like the proverbial pebble dropped in the middle of a pond. Its influence is felt in the immediate neighborhood and, in time, the standard over a wide area may be measurably affected. We are pleased to be able to present two such projects, one of row houses, the other of semidetached individual homes, from the competent hand of Gregory Ain of Los Angeles. Then, to complete this month's Critique, we present a most unusual project—a series of three duplex apartment buildings wherein Paul Hayden Kirk of Seattle not only exercises his highly individual design talent but is, in fact, entrepreneur and owner of the group.







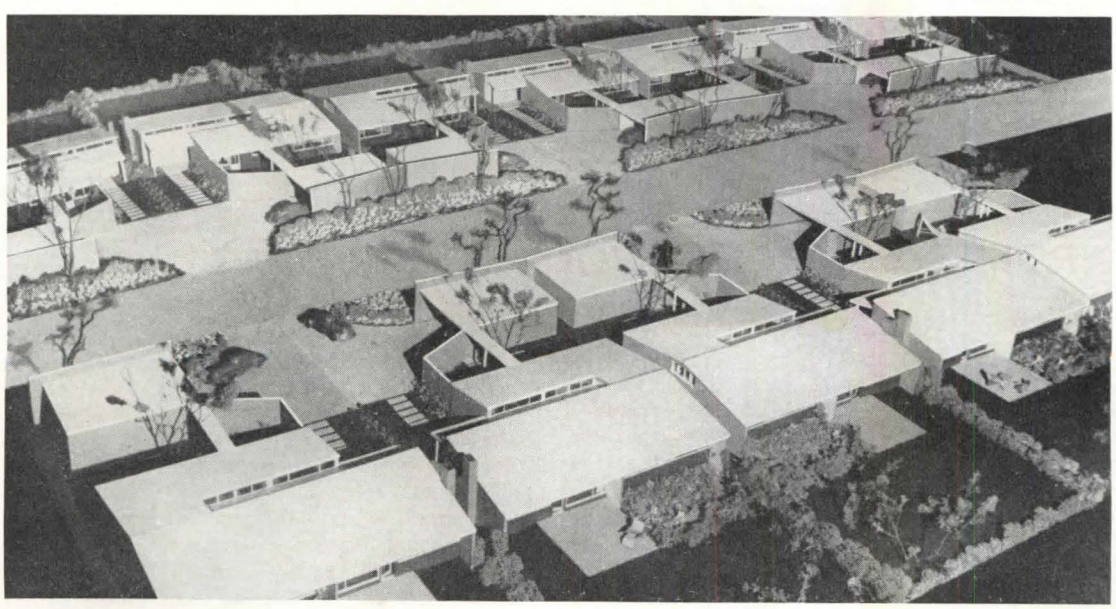




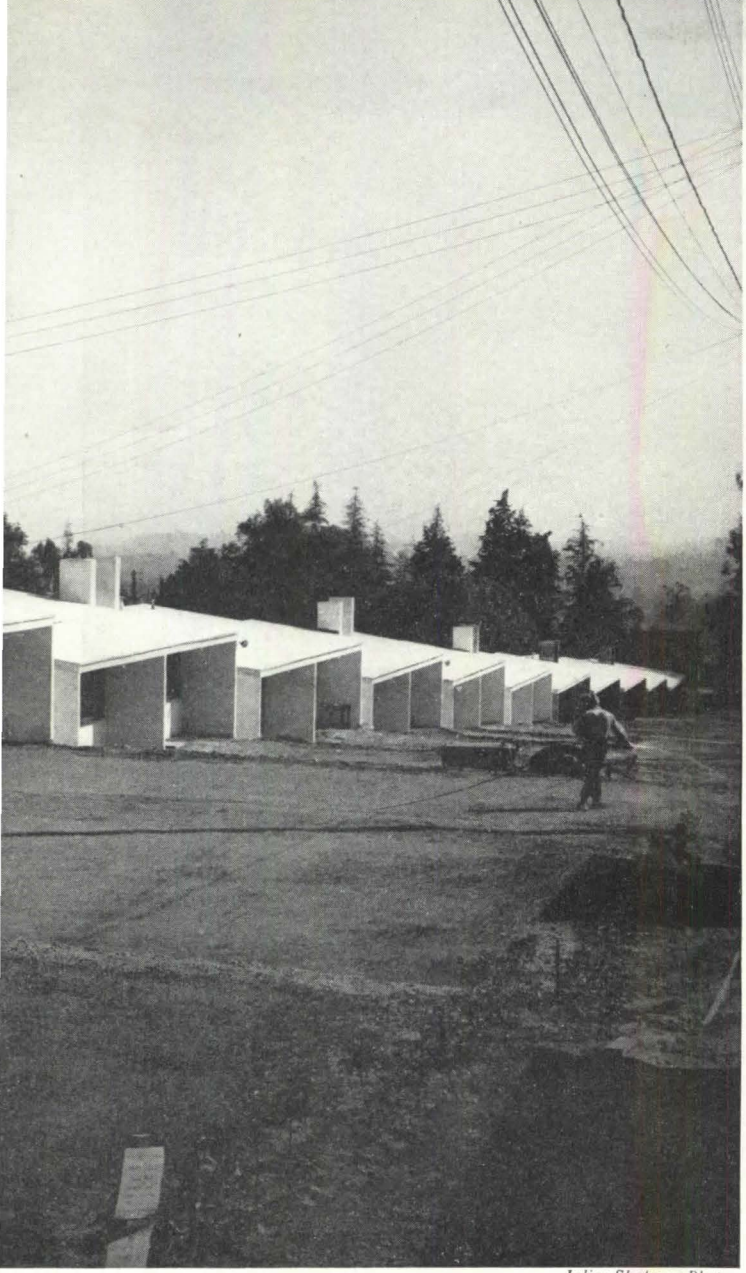
GARDEN APARTMENTS, HOLLYWOOD, CALIFORNIA

GREGORY AIN, Architect

Built on two adjoining lots, this row house project consists of 20 dwelling units arranged with the ends toward the street. Between the rows of two-story, two-bedroom units (plus an end unit with one 1-bedroom apartment on each floor) is an access walk, bordered on one side by a high wall enclosing the southern patios provided for each home. Above each of the garage blocks are two 1-room apartments, each with a big outside deck. Our consulting jury had little but praise for the scheme—the cross ventilation; entrance next to stair and separated from living room; centralization of plumbing stacks; and the privacy provided. One juror thought that from the upper row one could look directly into bathrooms of the lower; the architect explains that windows of bath, closet, and stair are of obscure glass. Another felt that kitchen smells would travel readily through the house; all kitchens, however, may be closed off by doors or sliding panels.



MODEL. The houses are at either side of a street running north and south; thus, main living rooms face either east or west. For those houses with living rooms to the west, Garrett Eckbo's planting scheme (not shown in model) places tall trees at the back of the garden to shade out late afternoon sunlight. Paired garages along the street provide privacy for each house, as well as form the central service and children's play yard. A dropped clerestory runs three quarters the length of each house, bringing cross light and air to all rooms.

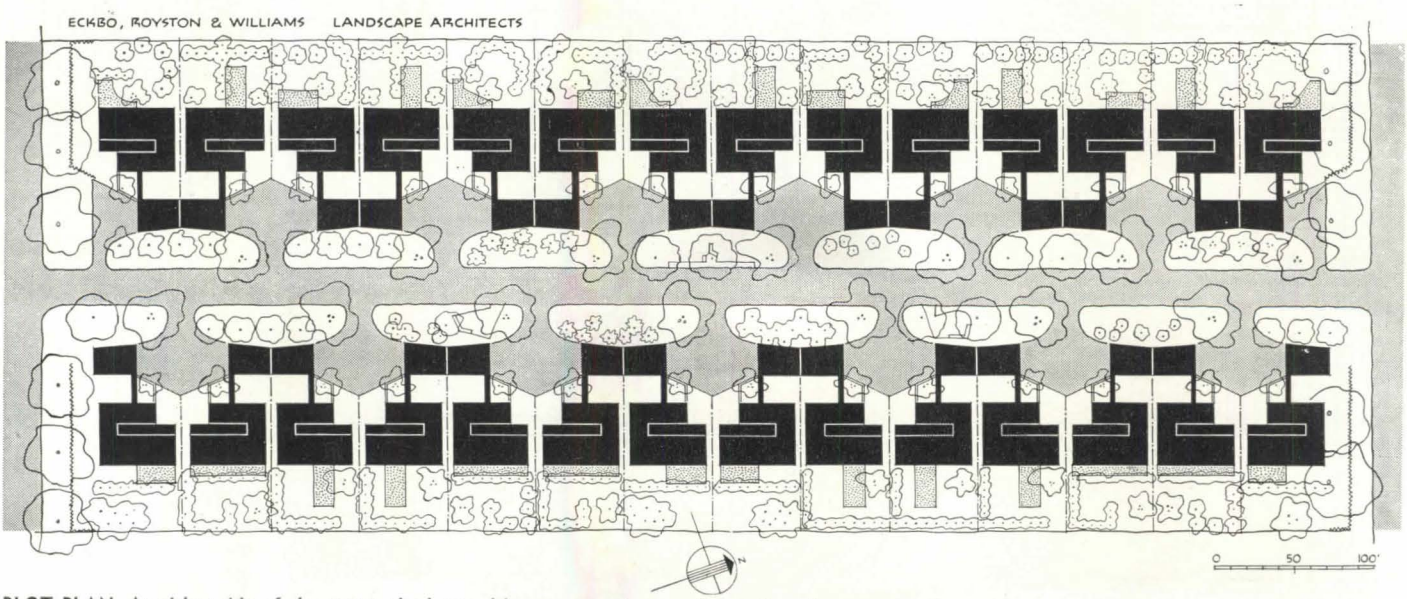


Julius Shulman Photos

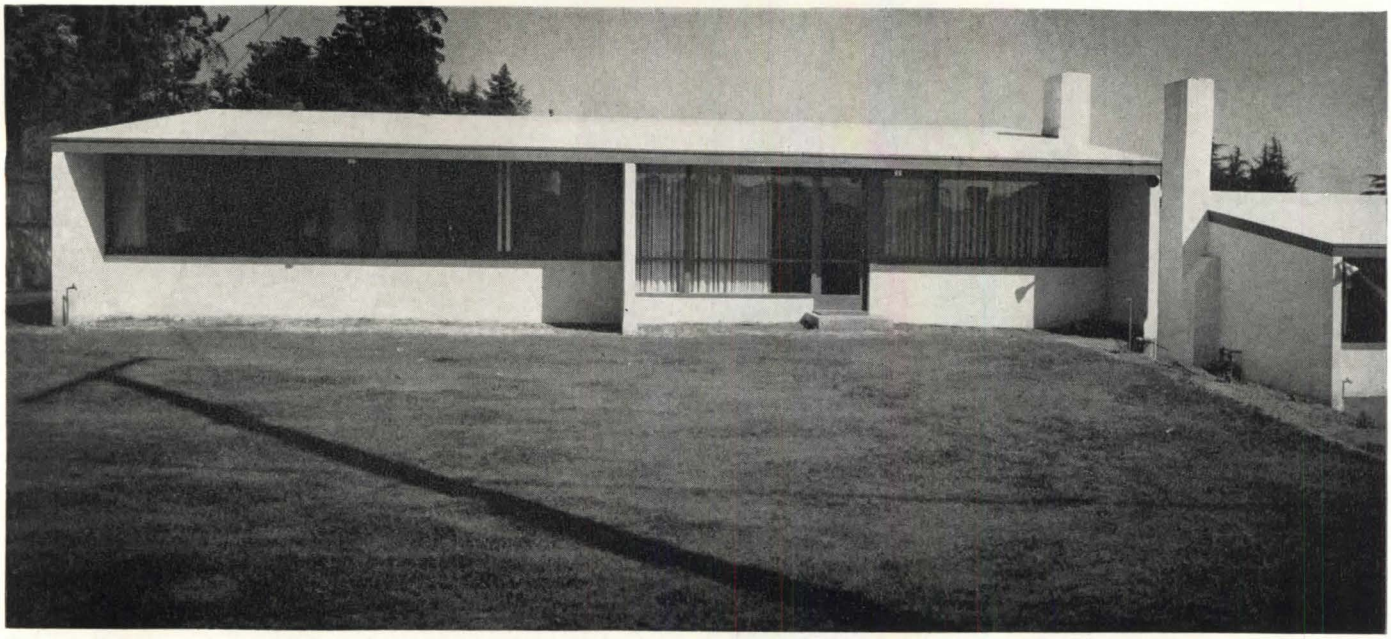
PARK PLANNED HOMES ALTADENA, CALIFORNIA

GREGORY AIN, Architect

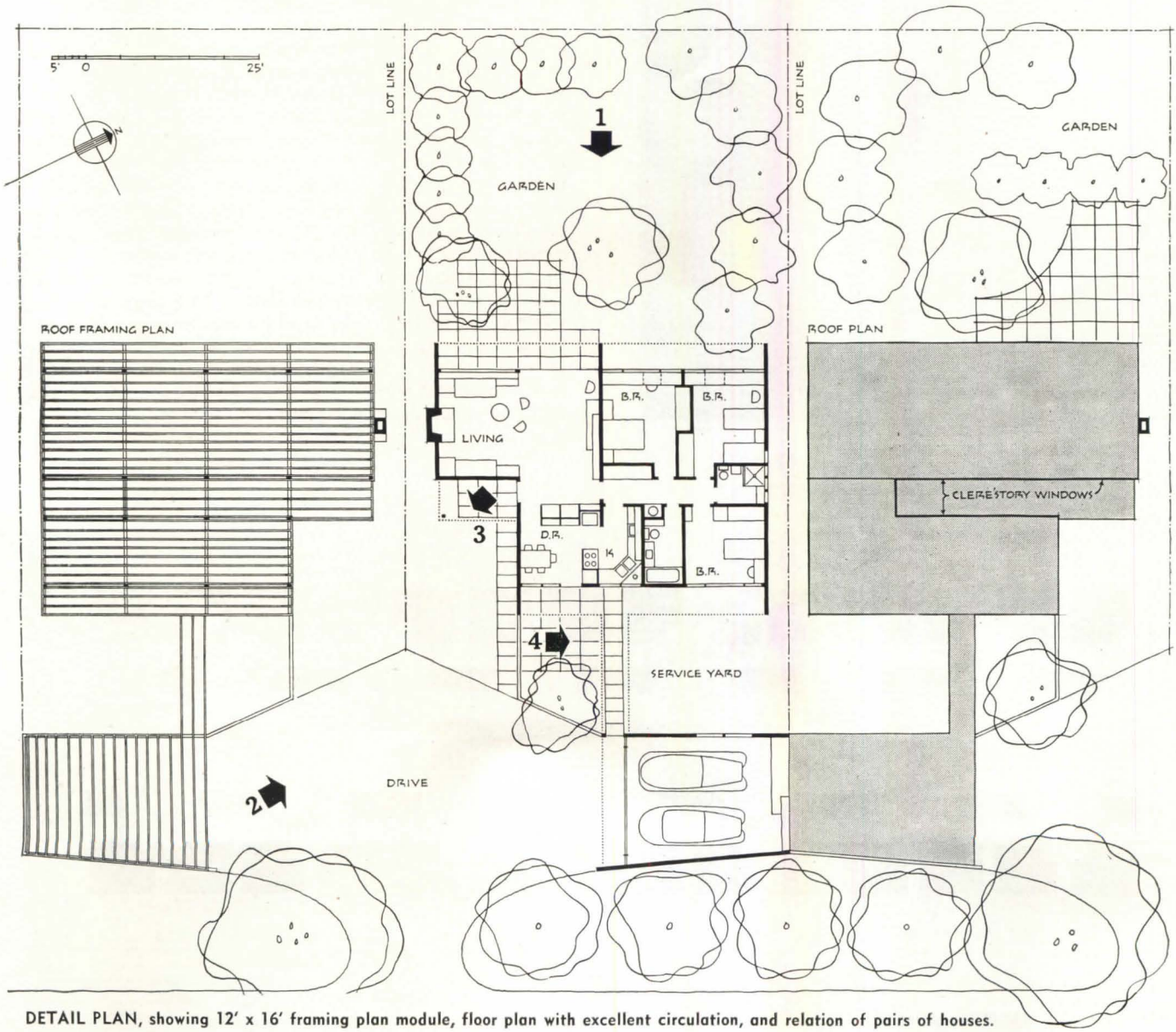
A remarkable project, this 28-house subdivision demonstrates what can be done within the severe limitations of speculative building, real estate custom, and the unintegrated building "industry." By careful planning the architect has achieved some of the economies of prefabrication, although the houses are built piece by piece as usual. For the plans are worked out on an assembly of standard 12′ x 16′ plan modules, each including two walls and the roof; and while the plumbing lines do not constitute a prefabricated "core," arrangement of fixtures requiring water is closely coordinated. He has further managed to provide each family with privacy, both in a service and play yard and in the garden, and through the collaboration of Garrett Eckbo, landscape architect, insured natural beauty and amenity to the residents of Park Planned Homes. In fact, top priority has been given to the privacy of the individual family, this being chosen in favor of facing living rooms of all houses south. But, with the site plan organized along a north-south axis, he has provided sunlight in every room and (by introduction of an inset clerestory) windows on two sides; hence, cross ventilation and added light in every room.



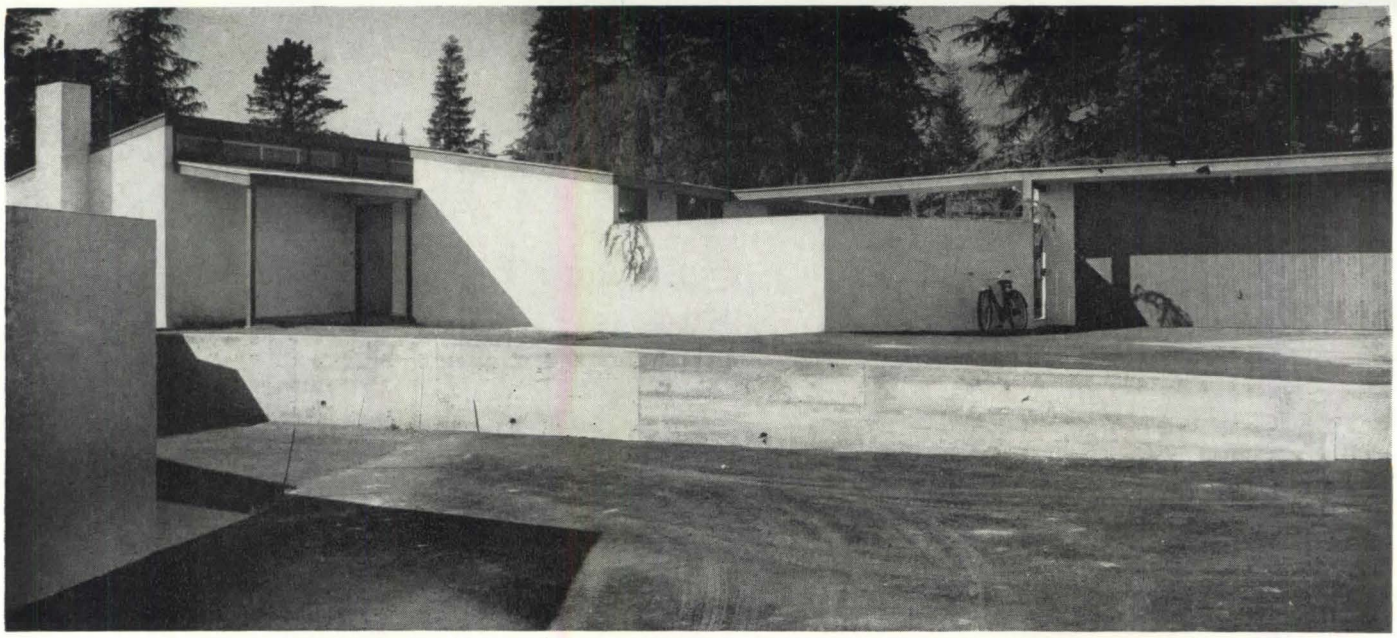
PLOT PLAN. At either side of the street, the house driveways are staggered—another element of variety within a standard scheme.



1. TYPICAL GARDEN FRONT. The landscaping is yet to be done.



DETAIL PLAN, showing 12' x 16' framing plan module, floor plan with excellent circulation, and relation of pairs of houses.



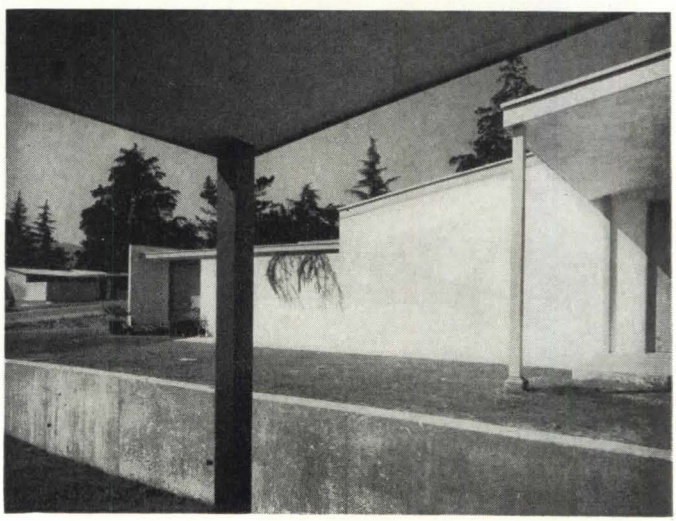
2. STREET FRONT, showing how garage and service yard wall give the living quarters almost complete protection.

PARK PLANNED HOMES
ALTADENA, CALIFORNIA

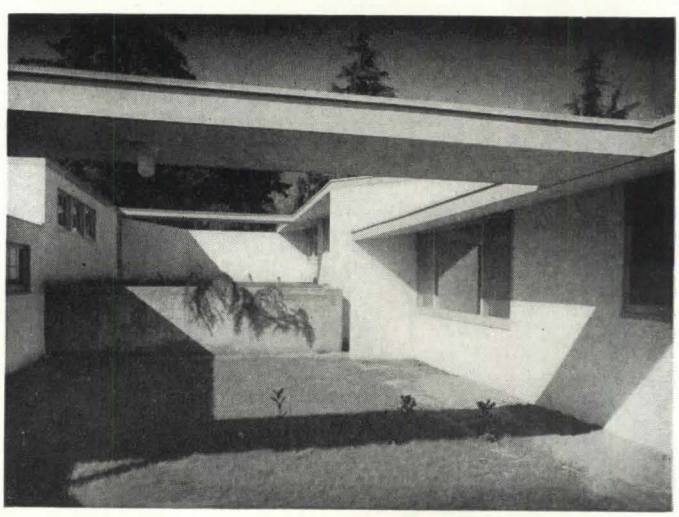
GREGORY AIN, Architect

One of the jurors questioned whether the clerestory wouldn't be difficult to maintain and keep clean. Mr. Ain thinks that at most this would require a good washing twice a year. Clerestories, like the framing elements, are built in 12-foot units, with outer 3-foot sections sliding (by means of cord and pully) across the fixed central 6-foot unit. Actually, the architect planned the houses so that they would be satisfactory in any orientation. The Altadena site is on a slope, hence retaining walls step down in the center of each paired driveway. The frame houses are stuccoed and have white heat-reflective roofing, as well as aluminum foil insulation in the ceilings.

SECTION. Light and air throughout.

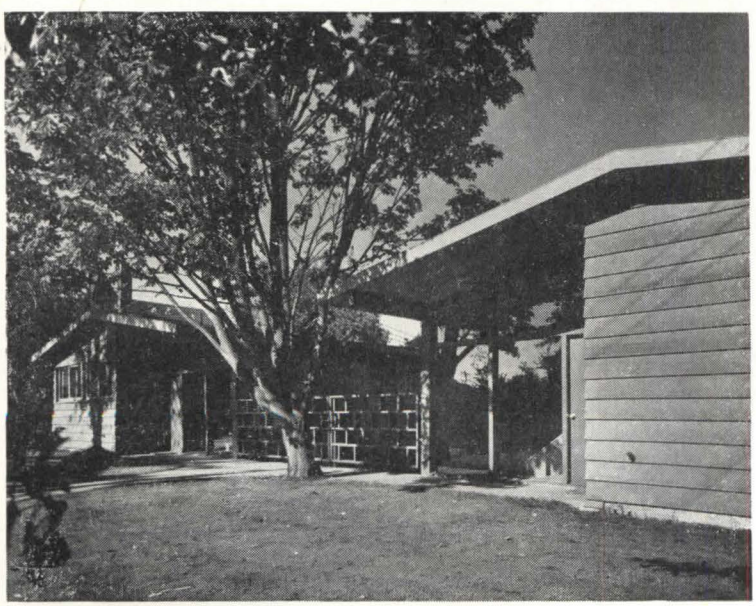


3. FROM A FRONT PORCH to the house next door.



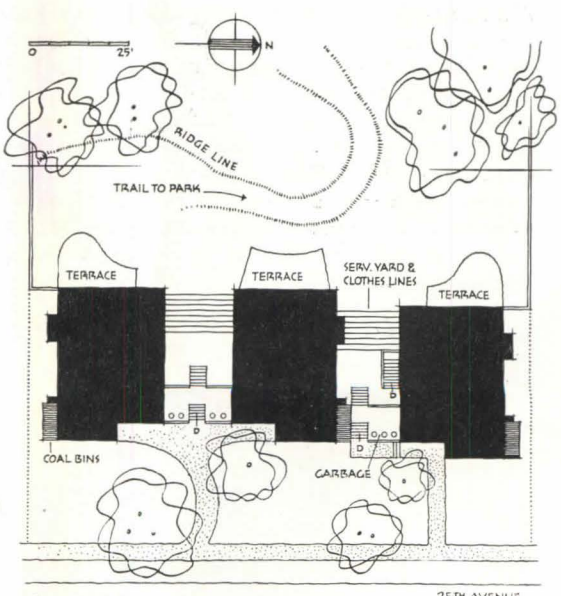
4. LOOKING THROUGH SERVICE YARDS. *Note overhead shelter* from garage to house.

FROM THE STREET, the duplexes appear to be one-story buildings.



P. A. Dearborn Photos

CEDAR SIDING is stained gray; trim is chartreuse or vermilion.



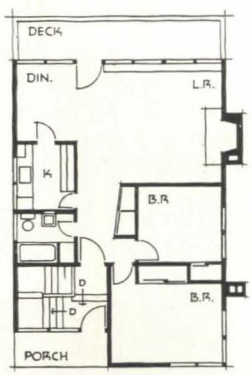
Plot Plan

ON THE GARDEN SIDE, lower apartments open out to the lawn—and park beyond.

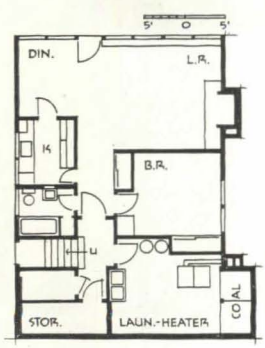
GROUP OF THREE 2-FAMILY UNITS SEATTLE, WASHINGTON

PAUL HAYDEN KIRK, Architect-Owner
(of Chiarelli & Kirk)

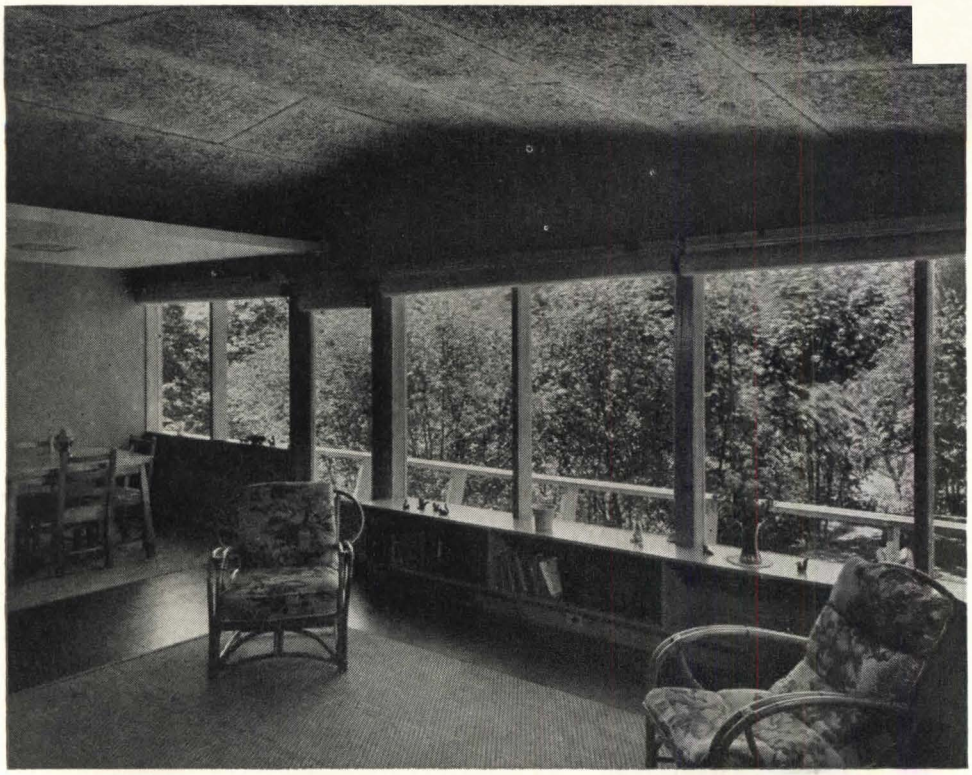
When the architect is also the entrepreneur, something particularly interesting should result; and the three 2-family rental units shown here are a good instance. All three buildings were built from the same plan, though one is exactly the reverse of the other two. The site is 125 feet along the street, with the depth of 90 feet sloping abruptly back to an adjoining wooded public park. Separate placement of the three structures provides service yards between them; front yards are simply entry areas, and the rear gardens (and balconies of upstairs units) overlook the park. Each of the three buildings has (on the street level floor) an apartment of two bedrooms, while garden-level apartments are one-bedroom units. Our consulting panel with one minor exception were enthusiastic about the entire job, the site plan, and the plan of the individual apartments. The one minor exception was to question whether the design of the balcony railing wasn't too open to be safe for children. The answer is: undoubtedly, but the apartments are at present rented to people without children; if the problem comes up, "another railing could be added."



First floor



Lower floor



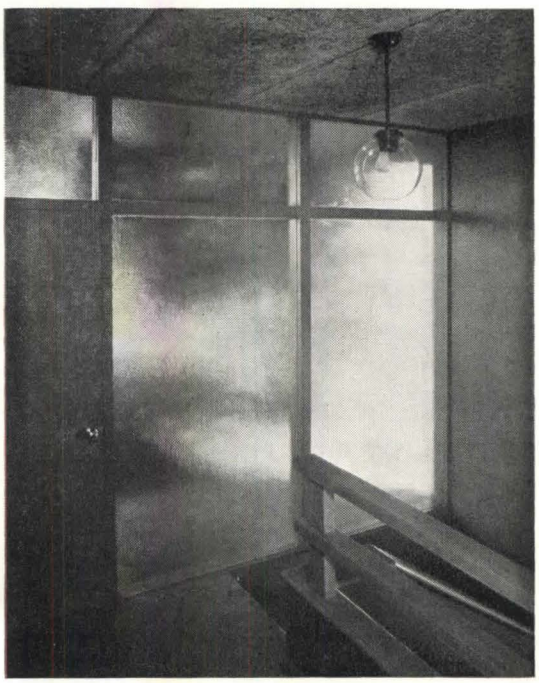
IN UPPER APARTMENTS, continuous windows and a door adjoin the balcony.

THREE 2-FAMILY UNITS
SEATTLE, WASHINGTON

PAUL HAYDEN KIRK, Architect-Owner

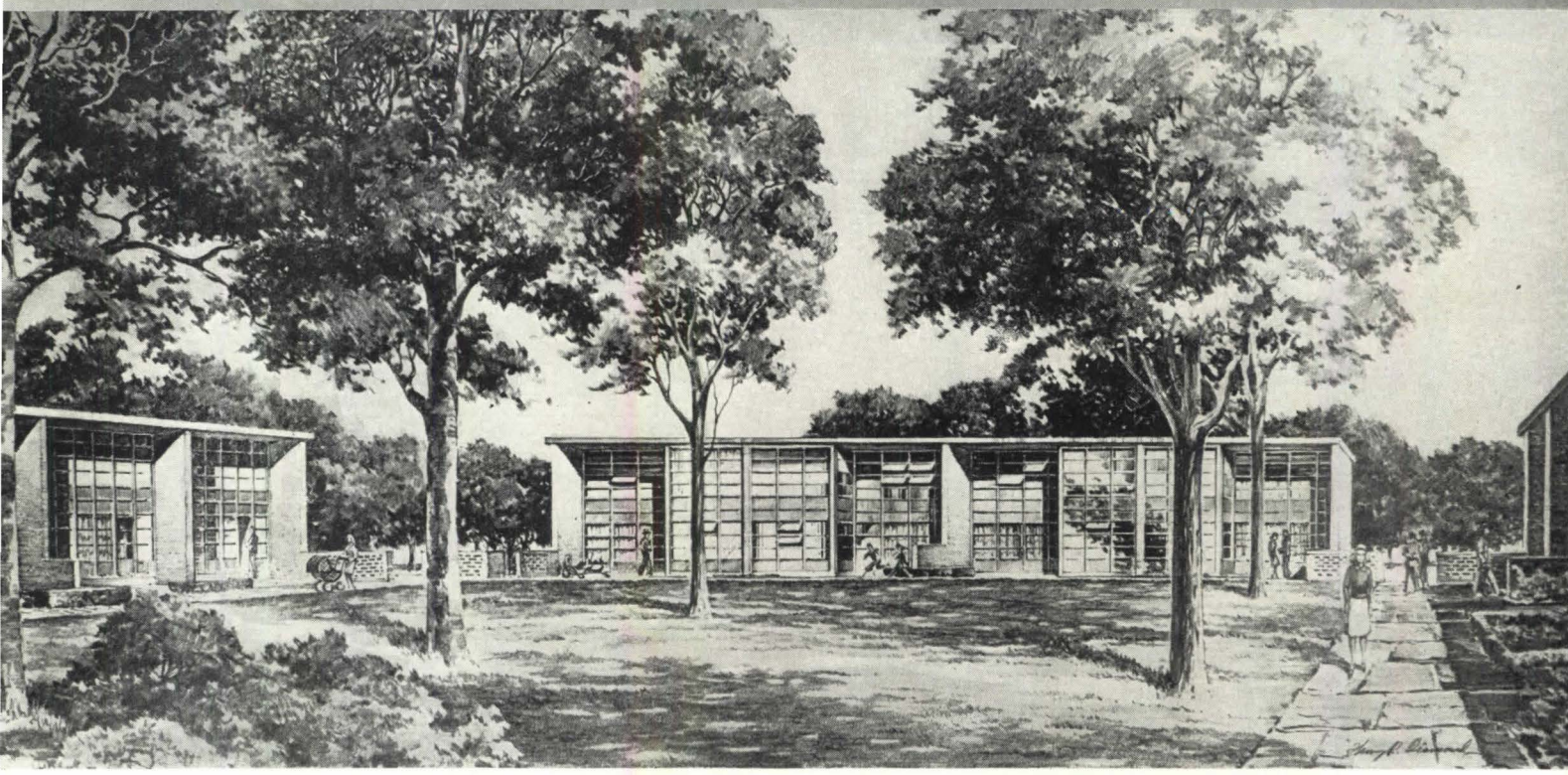
(of Chiarelli & Kirk)

As one of the panel put it: "The plan is excellent, providing a maximum of open space for entertainment and living purposes and, at the same time, privacy for bedrooms." Interior walls are plastered; the ceilings surfaced with acoustical insulation material; floor surfaces are hard-board squares. Each unit has its own oil-fired, warm-air furnace, located on the lower floor.



ENTRANCE HALLS are well lighted through large panels of obscure glass.

VIEW OF LIVING ROOM from balcony.



ROW HOUSE CONSTRUCTION

MATERIALS AVAILABLE DETERMINE A STRUCTURAL SYSTEM

CHARLES H. BAUER, Jr., Architect; HERBERT H. SWINBURNE, Associate

Originally conceived as an answer to the veterans' housing problem, the structural system here presented was at first accepted by the National Housing Agency as a basis for further research. After the change in that Agency's administration it was politely dropped. There is too much value for designers in the scheme, however, to let it pass without comment.

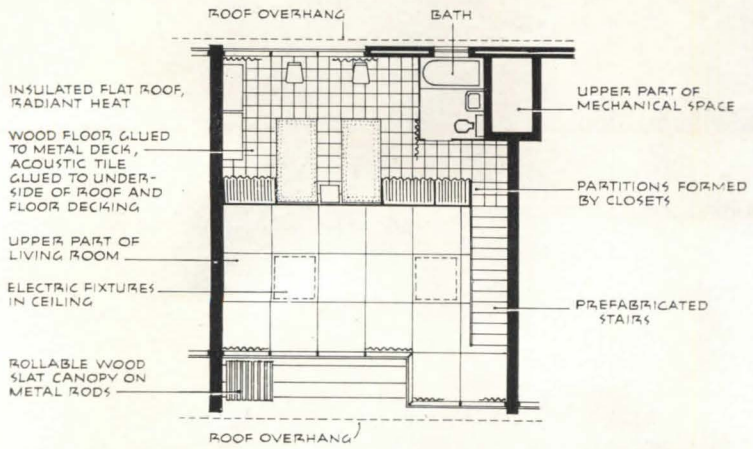
This is one of the few instances in which planning of multi-family housing is thoroughly integrated with the construction system. Its simplicity and extreme flexibility are indicated by the fact that units can be arranged for one-, two-, or three-bedroom layouts; they may have central heat, laundry, and storage facilities, or they may be detached or repeating duplex garden apartments with individual laundry, heating, and garage. Another advantage is that these schemes provide a substantial volume of flexible living space.

Construction is based on several premises: use of conventional materials now in production; establishment of a site production line utilizing labor in a manner familiar to the building industry; elimination of any overlapping of building trades; elimination of cutting and patching (and consequent waste); employment of inert, permanent building products which are both structural and finished. Materials used are not the cheapest available, but the designers believe that direct labor costs, simplicity of material and detail, easy scheduling, reduction in number of trades, and speed of erection will produce economies that will result in lower cost per unit than conventional construction. Considered as a whole, the system requires a minimum of materials which, though in production, are still relatively scarce; and it permits use of materials readily available locally.

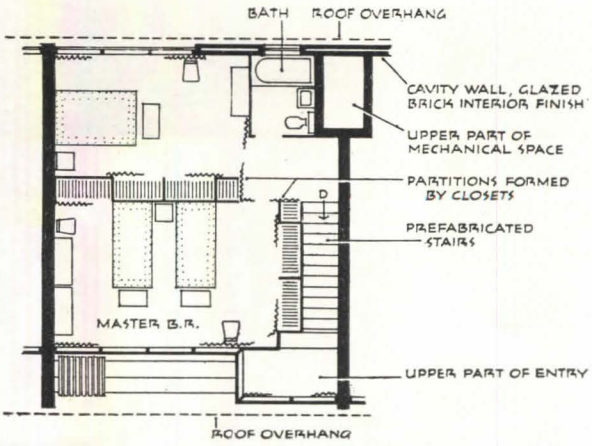
The system, fully illustrated on the following pages, is set up in eight successive operations. The first, grade preparation and foundation construction, is quite conventional except that foundations are less extensive than usual. The second employs any available masonry to form dividing walls (including supports for floor and roof systems) which are bearing walls, fire walls, and finished walls; second floors and roofs span between them. The third step is laying the first floor slab, directly on grade; fourth comes installation of second floor and roof panels, of steel, concrete, aluminum, or any other material suitable for the span, capable of being fabricated to size at the factory, and having top and bottom surfaces suitable for applying the necessary finishes.

Fifth is installation of the prefabricated stairs and glazed exterior wall panels. The latter extend from first floor to underside of the roof and are entirely self-supporting. With the structure thus enclosed, step six is the installation of mechanical services; seven, application of finishes, equipment, and prebuilt closets which form most of the partitions. Step eight is simply moving in.

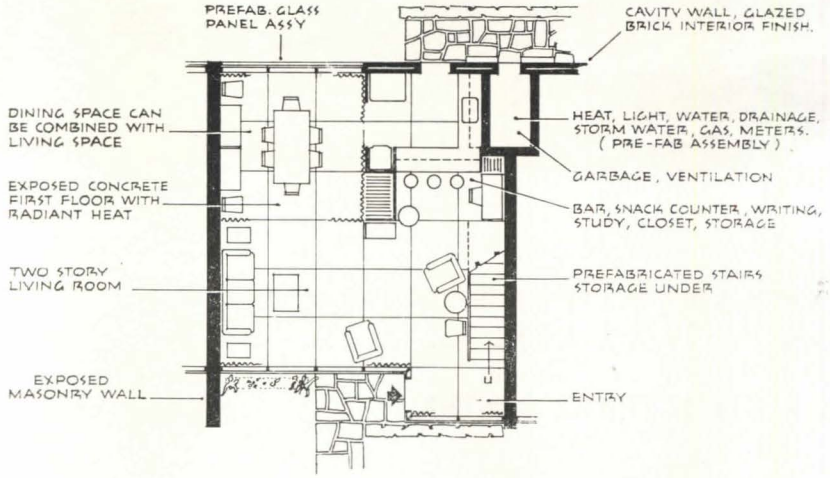
Such a procedure, since it follows customary building practices, alleviates many grievances of labor with respect to unfamiliar techniques. Extremely important is the high degree of job control possible, with its attendant advantages of scheduling, speed, reduced labor costs, reduction of number of subcontracts, and exact quantity surveys. The permanent materials employed reduce maintenance and depreciation and provide a relatively fireproof and verminproof structure.



BASIC SECOND FLOOR



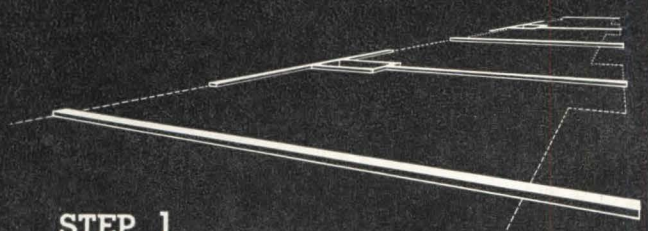
ALTERNATE (two-bedroom) SECOND FLOOR



BASIC FIRST FLOOR

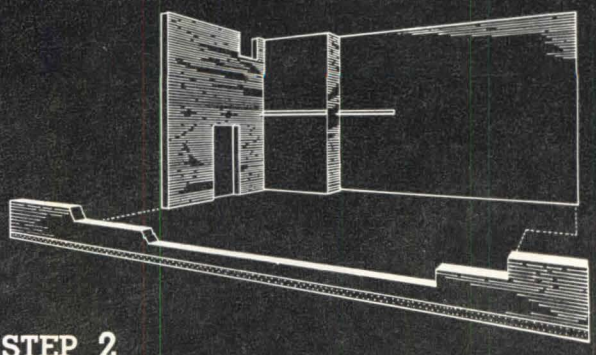
Plans on this page show the basic strip scheme, which has a studio living room, dining alcove, kitchen, and study corner on the first floor. Second floor may have one or two bedrooms. Mechanical services, installed in a trench below the first floor slab, branch at each of the mechanical spaces shown in the plan to serve two adjacent units. Variations in planning appear on the following pages.

EIGHT STEPS IN CONSTRUCTION



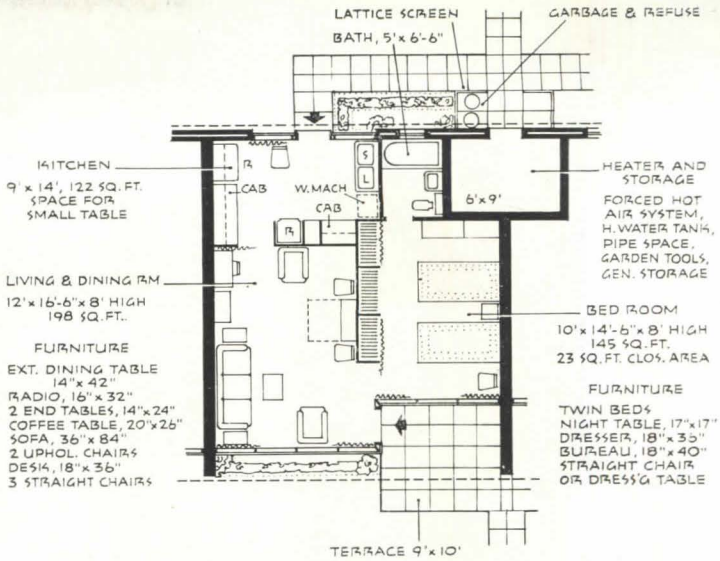
STEP 1

PREPARE GRADE AND POUR FOUNDATIONS



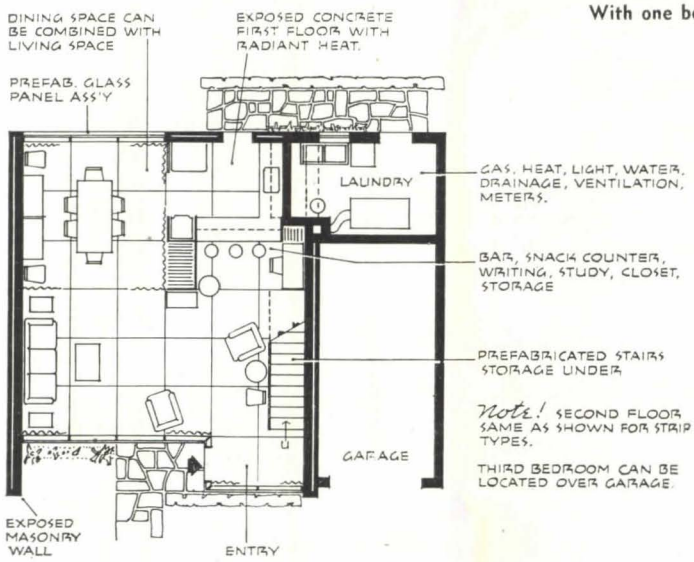
STEP 2

ERECT ALL MASONRY WALLS



ALTERNATE ONE-FLOOR SCHEME

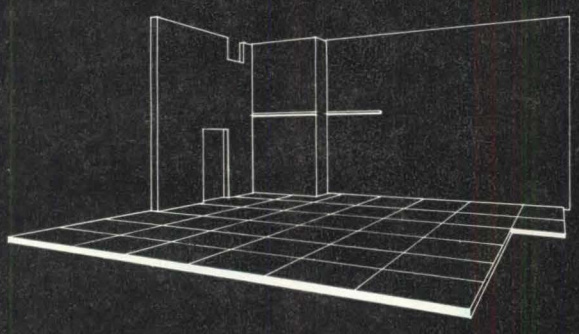
With one bedroom, individual heater.



ALTERNATE FIRST FLOOR

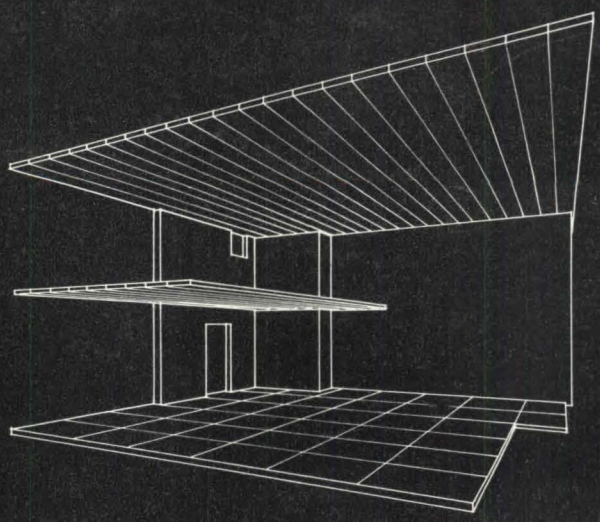
Showing individual heater, garage. Second floor can have three bedrooms.

Scale for all plans, 1/16" = 1'-0"



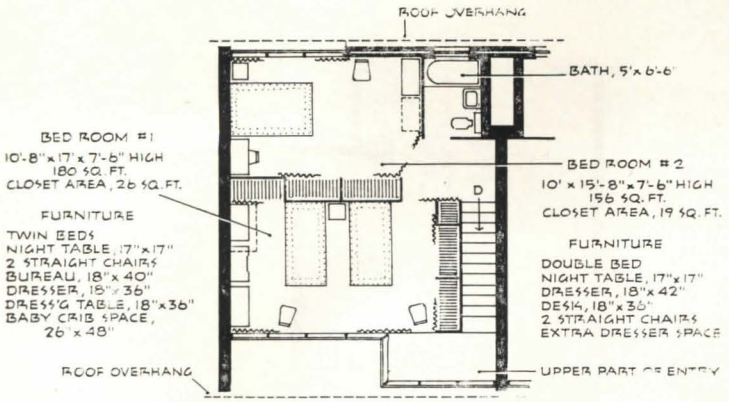
STEP 3

POUR CONCRETE FLOOR

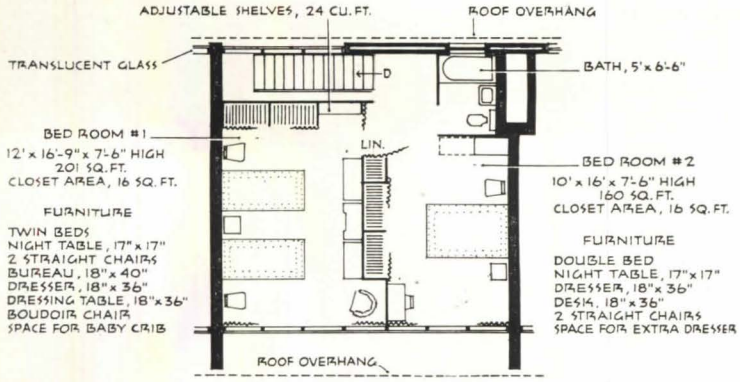


STEP 4

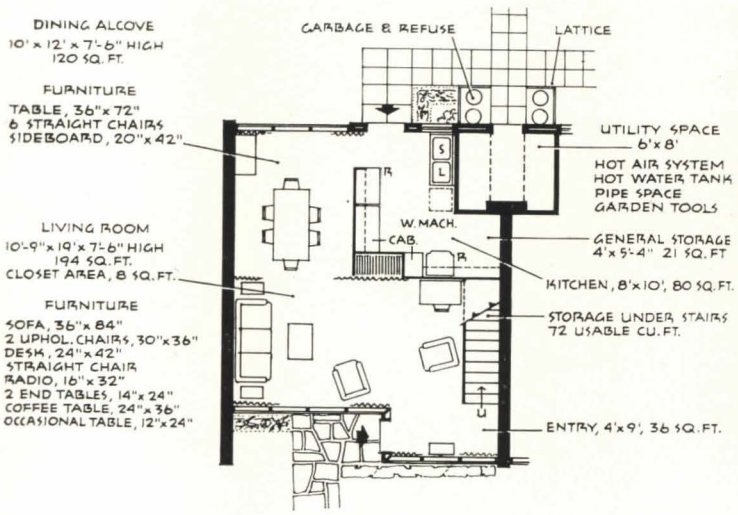
INSTALL FLOOR AND ROOF PANELS



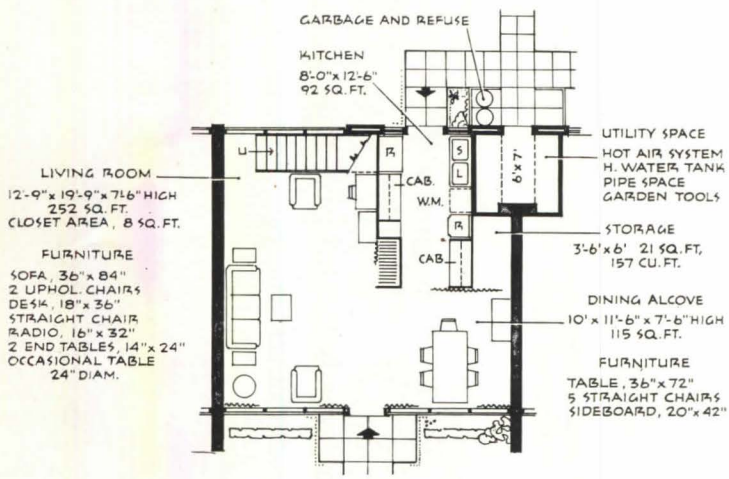
ALTERNATE (two-bedroom) SECOND FLOOR



ALTERNATE (two-bedroom) SECOND FLOOR

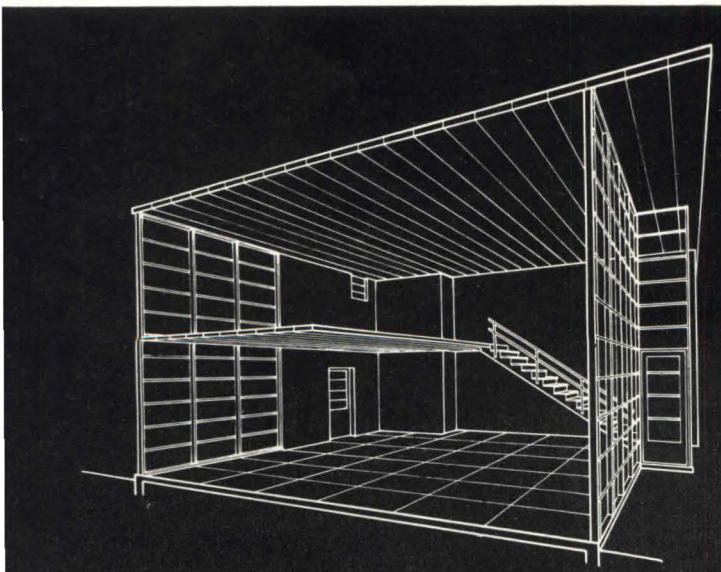


ALTERNATE FIRST FLOOR
Strip type with individual heating systems.



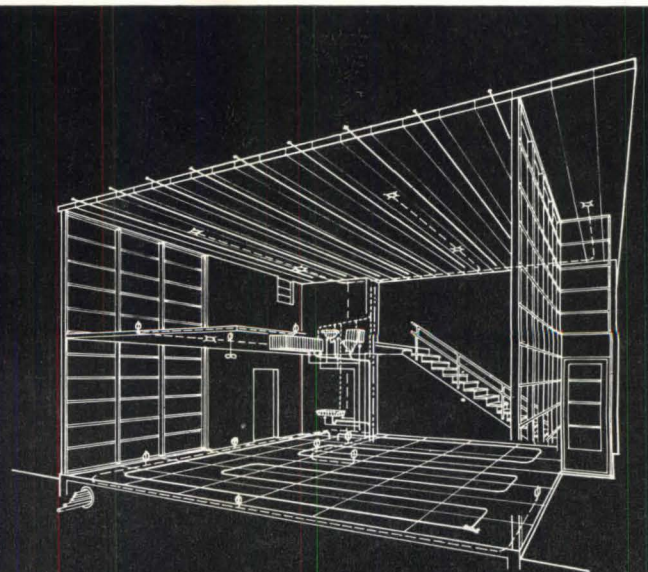
ALTERNATE FIRST FLOOR
Slightly more spacious, with individual heating.

Scale for all plans, 1/16" = 1'-0"



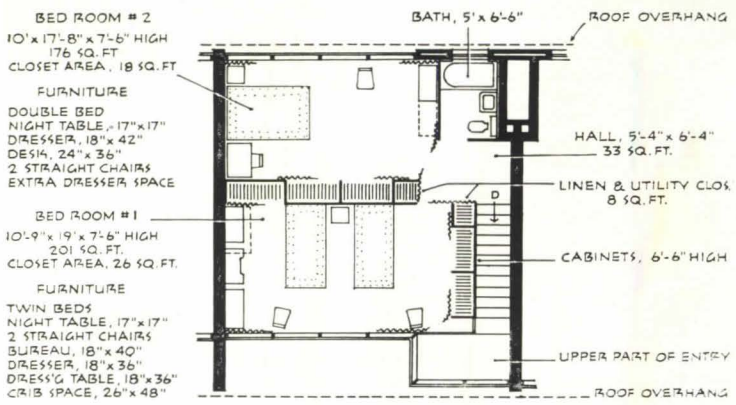
STEP 5

ERECT PREFABRICATED STAIR AND GLASS PANELS

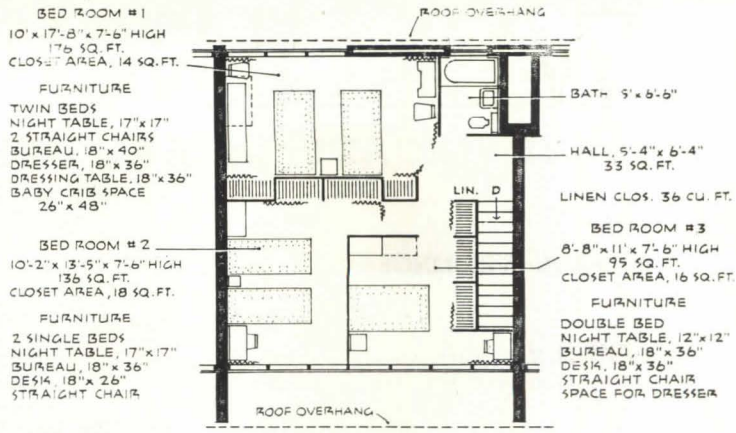


STEP 6

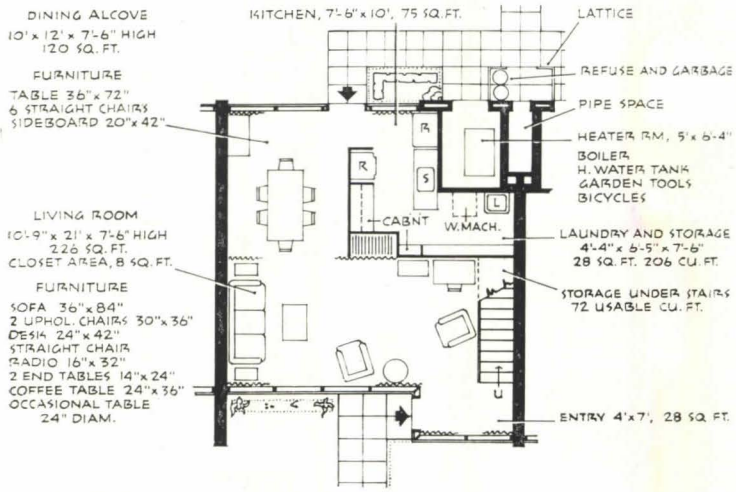
INSTALL MECHANICAL SERVICES



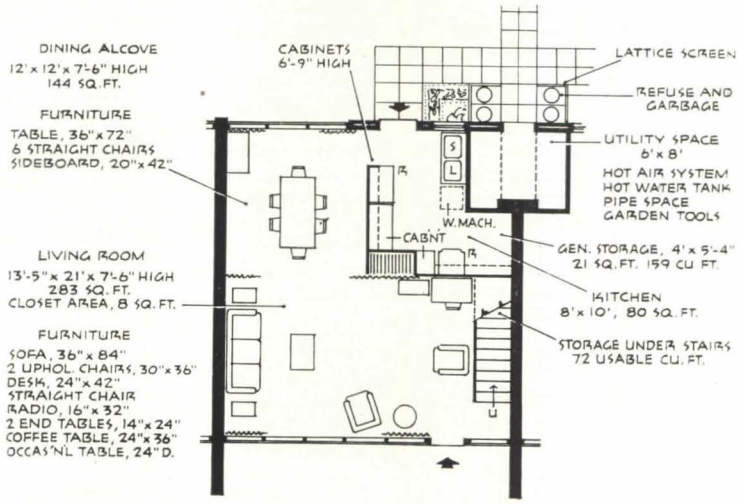
ALTERNATE (two-bedroom) SECOND FLOOR



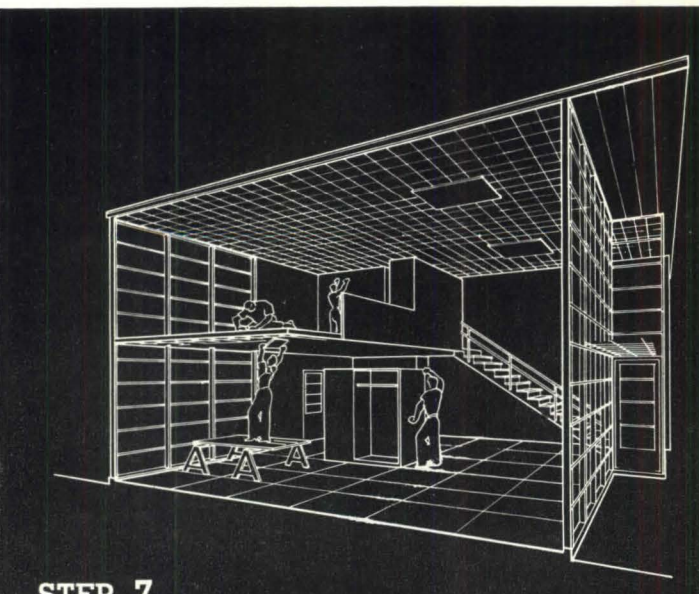
ALTERNATE (three-bedroom) SECOND FLOOR



ALTERNATE FIRST FLOOR
With separate heater room, other services grouped.

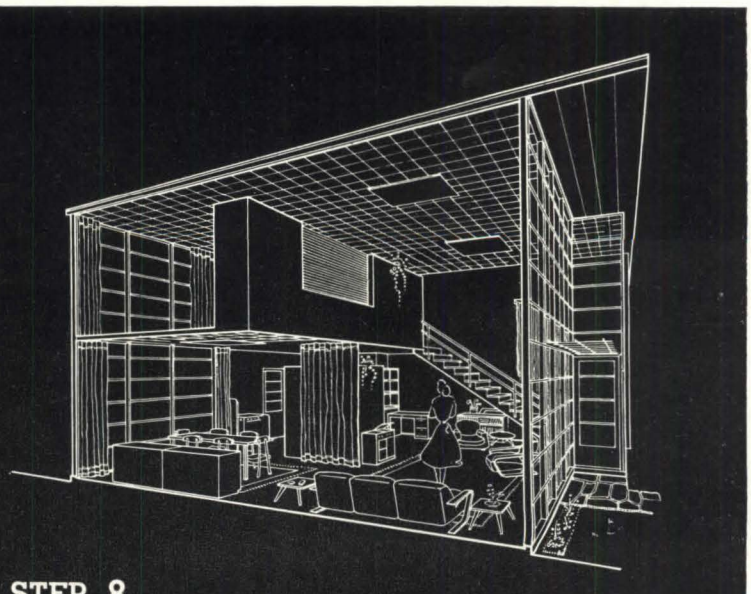


ALTERNATE FIRST FLOOR



STEP 7

INSTALL FINISHES AND EQUIPMENT



STEP 8

MOVE IN

WELDING:
ITS IMPLICATIONS AND APPLICATIONS

By PAUL WEIDLINGER

PART II. *This is the concluding portion of an article of great importance to designers, engineering and architectural.*

First Applications and Development History

Fabrication of all-welded building frames started in 1920. Welding itself is not new: when two pieces of metal are brought into such close contact that their adjoining surfaces are held within the mutual atomic field of attraction, they will be completely joined. This can be accomplished by pressing two pieces of soft metals (gold or lead) together at room temperature. Iron must be heated nearly to the melting point before such joining takes place; for years this has been done with wrought iron. The same results are accomplished today with more efficient methods.

Only 14 years after the invention of the airplane the first aircraft with welded framing appeared; it took about twice as much time to adapt welding to steel building construction. All-welded bridges were first constructed in 1928. Welding was applied to certain portions of steel building for various purposes even before World War I; that war, like the more recent one, brought about a more widespread use and radical development of welding in shipbuilding and other industrial fields.

Between construction of the first one-story, all-welded buildings in 1920 and erection of the now (from the point of view of welding) historic Westinghouse factory in Sharon, Pa., six years went by. The factory was the first heavy, five-story, all-welded structure; it required 790 tons of steel (in comparison with the alternate riveted design requiring about 900 tons); while in the earliest buildings welding was simply substituted for riveted joints, this building was designed especially for *welded* joints—its beams and girders were continuous and its plate girders welded. Before construction, full-size models of the more important joints in the Westinghouse plant were tested to destruction. From this date (1926) on, welded structures were built each year at an increasing rate. In 1928 the first welded railway truss bridge was erected at Chicopee Falls, Mass.; it had a span of 135 ft. The first gas-welded construction (Union Carbide Research Laboratories) was built in 1929.[6]

Although most of these examples showed a varying amount of savings in steel as compared to riveted construction, this fact alone did not necessarily result in a reduction of over-all costs. Quite often the reduction of materials has been offset by increased cost due to unfamiliar operations, lack of experience, etc. Later examples, however, show over-all savings of considerable magnitude.

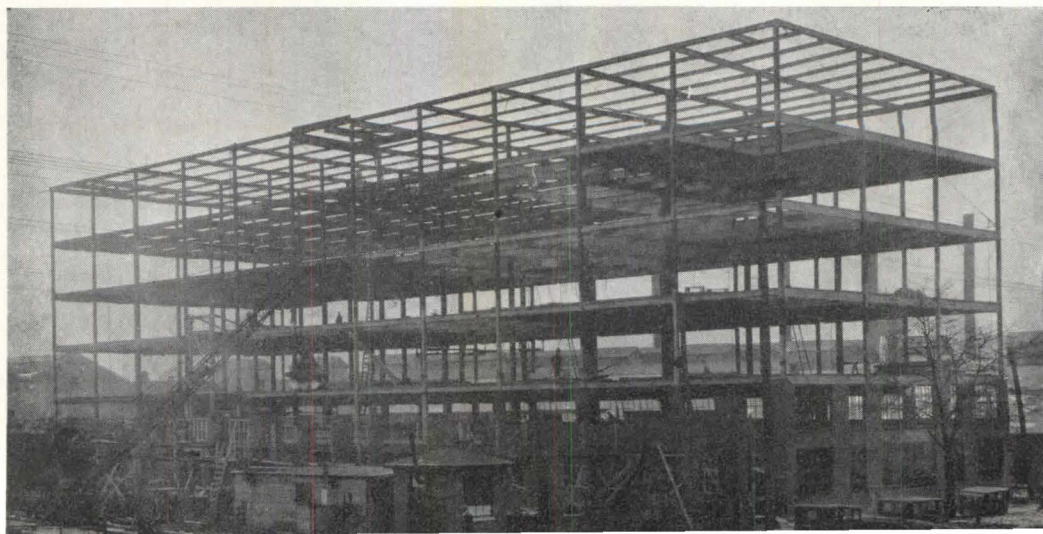
[6] *A detailed account of the first American welded structures from 1920 to 1932 may be found in* Arc Welded Steel Frame Structures *by Gilbert D. Fish, McGraw-Hill Book Co., New York.*

Resistance to Its Acceptance

Although it was thus demonstrated that as the process gained familiarity its potential economies became tangible, welding has nevertheless encountered all the resistances one would expect. Any innovation meets opposition; we need not review in detail a story familiar to all who have followed the development of new materials and processes. Welding, which presupposes use of a familiar material, has probably encountered fewer difficulties than, for instance, reinforced concrete, in which both the materials and the techniques were once unfamiliar.

But this semi-familiarity is also a drawback; for this very reason welding is not always recognized as a process important enough to command special attention. Consider a late edition (1943) of a well known 639-page textbook on structural members and connections, in which welded connections are disposed of in a summary two pages. This tendency, to consider welding merely a substitute for riveting, is not only a disadvantage to the process. At the very least it is a limitation on progress in structural design; and even if the approach could have been considered justifiable early in the technique's history, today it is indefensible.

Photos left and below (courtesy Westinghouse Electric Corp.) show the first multistory building designed to be all-welded: Westinghouse Plant, Sharon, Pa., built 1926. About 110 tons of steel were saved by using welding rather than riveting. Bridges at right (photos courtesy Lincoln Electric Co.) are typical of many all-welded secondary road structures in the Middle West. Building at extreme right (photo courtesy Lincoln Electric Co.), a 13-story addition to the Chamber of Commerce Building, Houston, Tex., shows a combination of riveting and welding. Framing was shop-riveted, but assemblies were field-welded for noiseless construction.



Resistance to full exploitation of welding due to the complexity of stress calculation has been discussed. Recently there has been some standardization of welding details, which is contributing to a wider acceptance by structural engineers (see Grover, *Manual of Design for Arc Welded Steel Structures*).

If World War I gave the initial impetus to welding, the second war laid down fundamentals for further advancement and general acceptance. During the war the steel saving aspects of welded structures became of vital importance. At the same time, a number of structural steel fabricating shops converted to the fabrication of barges, various parts of ships, and other military construction, all requiring welding equipment and skills. Despite the reluctance of some larger fabricators to reorganize their plants for welding operations, there are now a sufficient number of smaller shops well organized and equipped to undertake structural steel welding economically and reliably. This makes it possible to execute large portions of welded structures in the shop, thereby increasing the savings which can be achieved. The accelerated training and wide use of personnel during the war will also provide sufficient trained, experienced operators and inspectors.

The attitude of the architect has much to do with the acceptance and use of welding. If structures are initially conceived as welded, they will be more likely to succeed practically and esthetically than the ones in which the decision to use welding or riveting is left almost to chance.

This 223-ft welded truss was shop-fabricated by the Duffin Iron Co. for the Chicago, Rock Island, & Pacific Railroad coach repair building.

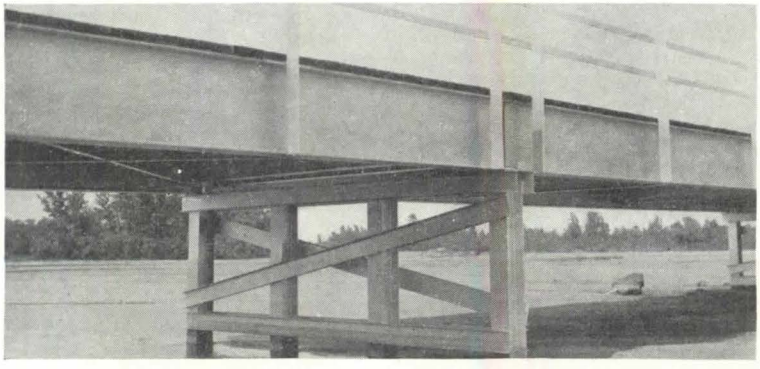
The Role of Building Codes

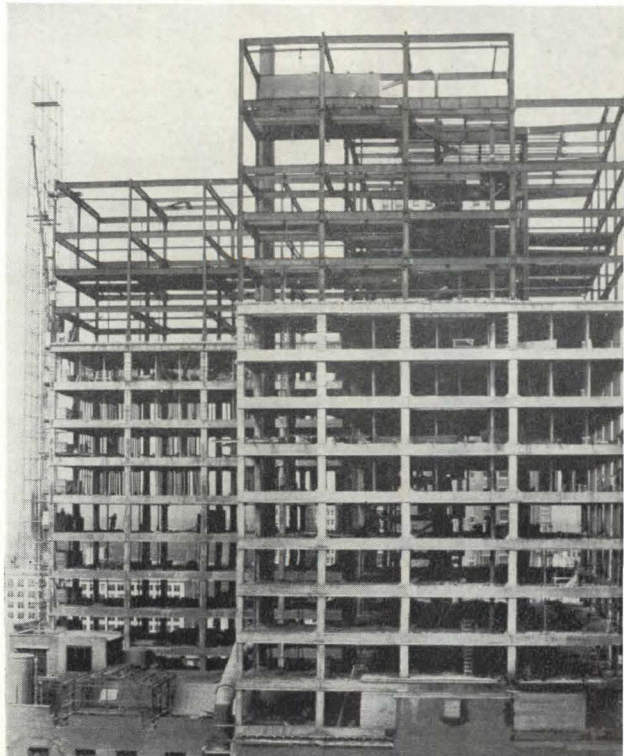
Before 1940, welding of structural steel in buildings was not generally permitted in city building ordinances, although some notable exceptions had been made. New York allowed, in 1920, the erection of its first welded structure; Chicago permitted the construction of a shop-welded parking garage in 1931. At present about one hundred larger cities have provisions in their codes for welding. However, a number of large cities still require special permits, as for instance, Boston, Mass.; Dallas, Tex.; Los Angeles and San Francisco, Calif. Welding of steel buildings is approved by the U. S. Government and was usually required as a steel-conservation measure during the war. For the control of welding in fabricating steel frame buildings the American Welding Society adopted and issued a code for *Arc and Gas Welding in Building Construction*, which has just been revised and reissued.[7] This code deals with the welding process itself. The American Institute of Steel Construction has adopted *Specifications for the Design, Fabrication and Erection of Structural Steel for Buildings*.[8] These specifications accept the provisions of the AWS code. The quality of the structural steel and of welding electrodes is specified by reference to standards of the American Society for Testing Materials; the AWS code provides for allowable weld unit stresses equal to those allowed for the steel being welded.

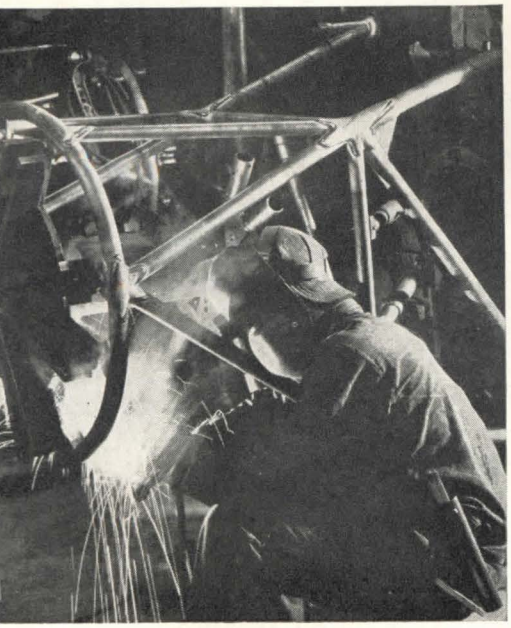
Worthwhile noting is the fact that sufficient experience has accumulated to permit both metal arc and gas welding to be given prequalified status in the AWS code and AISC specifications, provided the familiar procedures are adhered to. Certain types of joints are equally prequalified. Whenever such prequalified joints and processes are used, in view of the established record of satisfactory performance, no further evidence is required as to their performance. The *Code* states, ". . . it is not presumed that these are the only procedures that might be employed . . . When other procedures are proposed they are subject to qualifying tests. . . ." These provisions greatly simplify the work of the designer, but on the other hand, of course, do not encourage the practicing engineer to look toward their adaptation, nor toward new developments. One must admit that it is difficult to avoid such clauses, and their positive effect is probably important today.

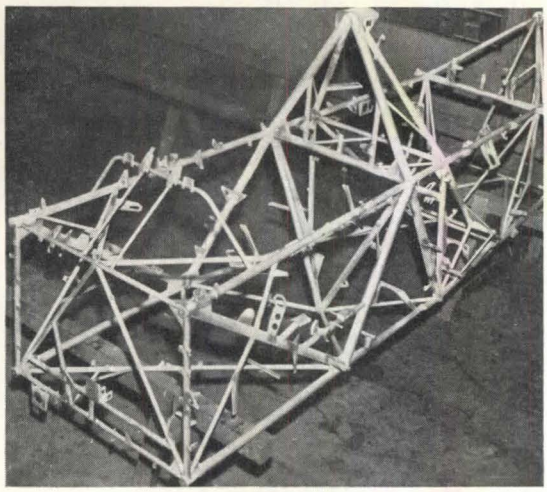
[7] Standard Code for Arc and Gas Welding in Building Construction, *American Welding Society, New York, 1946. 50c.*

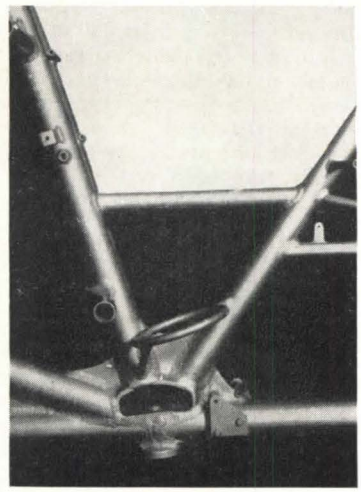
[8] *American Institute of Steel Construction, New York.*











Photos show, left to right, welding an aircraft engine mount, welded airplane fuselage frame, relatively simple welded tubing joint—all vastly more complex rigid-frame design problems than are commonly met in building construction, all taking full advantage of the structural properties of tubular members (two photos at left, courtesy Lincoln Electric Co.; at right, Summerill Tubing Co., Div. of Columbia Steel & Shafting).

Architectural Expression of Welded Structures: Potentialities

In light of present-day practice, code restrictions, and welding techniques, there is no doubt that the opportunity for full expression of welding's characteristics is limited. The multistory frame building, the skyscraper, reflects only the basic characteristics of structural steel—large spans, slender columns, etc. Although continuous girders, cantilevers, and the like (which, if properly applied, will increase the structure's efficiency) are characteristic of welded structures, their advantages can also be obtained with riveting. Cantilevers do not necessarily result from welding. Over-all savings in steel do result in added lightness, but such reductions in dimensions may not be appreciable in a finished building whose framing is embedded in "fireproofing" or otherwise camouflaged. The airiness of the steel skeleton is usually lost in the finished skyscraper—and with it the ingenuity of the engineer.

Exposed framing—rigid frames and other structural members—affords more opportunity to exploit welding's characteristics. The simple appearance of the welded joint, in which only the essentials are apparent; the straightforwardness of column-girder connections; truss-member connections in which the heavy gusset plates of riveted construction have no part—these characteristics can be emphasized and are safe to expose, not only because they possess distinctive qualities of form but also because they are less susceptible to corrosion.

The typically handicraft nature of the man-made weld, and even the less irregular automatically welded joint, reflect the characteristics of the process just as the marks of the chisel are visible in stonework. The typical formations of the hardened melted metal are as much visible as the grain on a piece of lumber. This irregularity is in strange contrast to the machine-like exactitude of the pieces joined, and to the complexity of welding equipment. Yet the irregular weld is minute in comparison to the large geometric shapes of the structural framework, which might indicate that such an approach is an unnecessary refinement. I do not know of any technical-esthetic experiments of this kind, either in architecture or in the field of industrial design of smaller objects; but might not such an approach be profitable?

The fact that welded steel structures have not yet found their individual forms of expression might be ascribed to these objective limitations. If this is the case it is not deplorable, nor does it need to be remedied. But the subject need not be so summarily dismissed; other structural technics than welding, and other industrial developments, have benefited from the technics and experiences of unrelated fields; an investigation of the applications of welding in fields other than structural may be beneficial. Immediately the discussion is thus broadened there arise such possibilities as the use of other than arc or gas welding technics, applications of structural shapes specifically designed for welding, use of sheet metals, etc.

Standard structural shapes have been developed especially for use in riveted steel buildings. Without going too far into this question, it is safe to assume that some shapes used in welded structures should be different. As an example, the desirability of special shapes for chord members in welded trusses can be cited. At the chord several members are joined, which requires a flat surface to accommodate a sufficient length of weld. At present this is usually accomplished in one of two ways: either a gusset plate is used, which means additional weight; or standard I-beams, split lengthwise along the center of the web, which of course requires the additional cutting operation. The special shape would be a Tee section with a web sufficiently long to accommodate the members to be connected.

Whether such differences will be expressed in new forms to such a degree as to merit architectural attention is difficult to predict; a noticeable difference would seem unlikely since the form of the structural shape is governed to a great degree by requirements of the statically efficient cross-section. Then, too, there are manufacturing difficulties, some due to the nature of the material, others to the economics involved; but our economic history is one of production of the "impossible" when the demand has become urgent.

An important exception to such a statement might be more widespread use of tubular shapes. The tube section is highly efficient in compression and offers equal resistance to bending in all directions. Efficient connection of such elements is possible only by welding. This fact was recognized in aircraft structures, where most motor mounts consist of welded tubular members. The lightness and rigidity of the motor mount suggests many possibilities for other structures. (Incidentally, analysis of these statically indeterminate structures is considerably more complex than the analysis of the even "so difficult" multistory rigid frame.)

In connection with special shapes, the use of metals other than steel should be considered, especially aluminum. Welding of this metal has progressed rapidly in recent years, and its application to structures, even bridges, is now being explored. The different characteristics of the metal itself and its adaptability to extrusion, in conjunction with the special requirements of welding design and operation, might lead to structural shapes of quite different design than steel requires.

The use of sheet steel is an equally stimulating subject for investigation. The design of stiffened thin sheet constructions has also advanced during the war through the necessity of designing large, rigid aircraft structures. Although such structures, when built of aluminum, have usually been riveted, a comparable application of steel in various forms suggests high-speed spot and seam welding. Sheet metals have already been employed architecturally—functionally and structurally—in some steel and aluminum prefab houses. Sheet metal in welded stiffened plates, or non-rigid shells, for larger constructions is only one step removed from existing small metal houses.

Comparison with cylindrical or spherical welded pressure-vessels, tanks, or containers suggests welded sheet metal as the ideal combination of material and process for an architecture which would exploit the potentialities of large unbroken curved surfaces.

The road starting from the "column-girder" structure (which is basically one-dimensional) and leading through the two-dimensional rigid welded frame to the three-dimensionally conceived and designed welded sheet-metal structure, is certainly logical. Whether the pattern of development will traverse this straight road is unpredictable. For the immediate future it would seem desirable to focus our attention on clean structural solution and honest expression of the rigid welded frame. Development rarely follows cold logic. The structure combining the rigid frame with special structural shapes, emphasizing and exposing the texture of the arc weld, a product of the human hand, and contrasting it with the regularity of the automatically produced stitches of the spot weld on the three-dimensionally-curved sheet-metal surface, may eventually emerge. It will certainly present a startling new architecture, a true expression of our mechanized and complex civilization.

BIBLIOGRAPHY

Gilbert D. Fish, **Arc Welded Steel Frame Structures,** McGraw-Hill Book Co., New York, N. Y.

La Motte Grover, **Manual of Design for Arc Welded Steel Structures,** Air Reduction Sales Co., New York, N. Y.

Welding Handbook, American Welding Society, New York, N. Y.

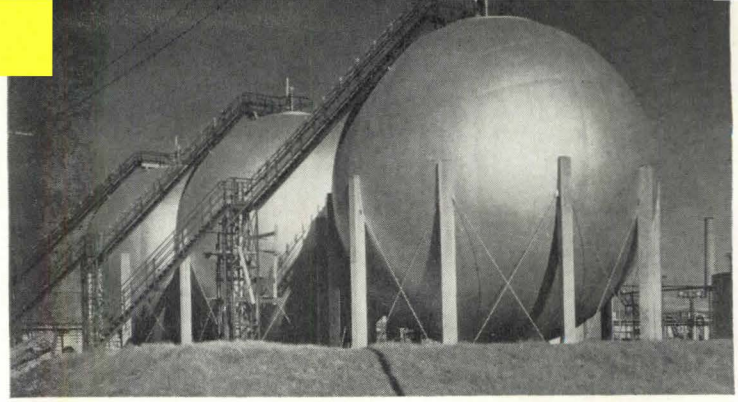
L. B. Mackenzie, **Welding Encyclopedia,** The Welding Engineer Publishing Co., Chicago, Ill.

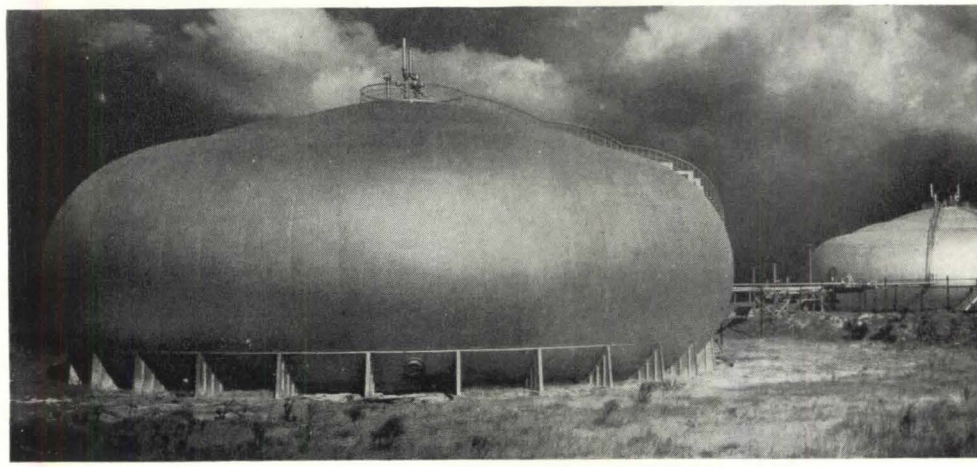
Procedure Handbook of Arc Welding Design and Practice, The Lincoln Electric Co., Cleveland, Ohio.

Boniface E. Rossi, **Welding and Its Application,** McGraw-Hill Book Co., New York, N. Y.

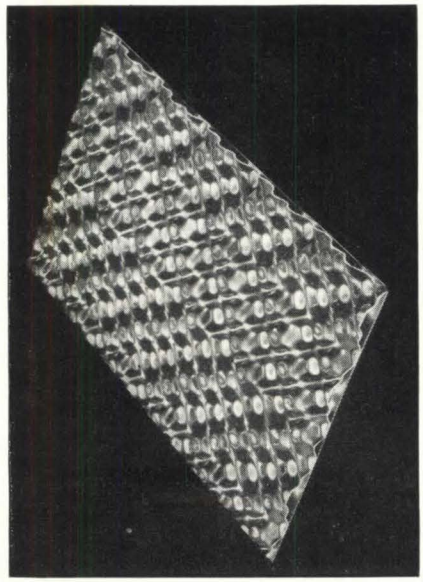
Standard Code for Arc and Gas Welding in Building Construction, American Welding Society, New York, N. Y.

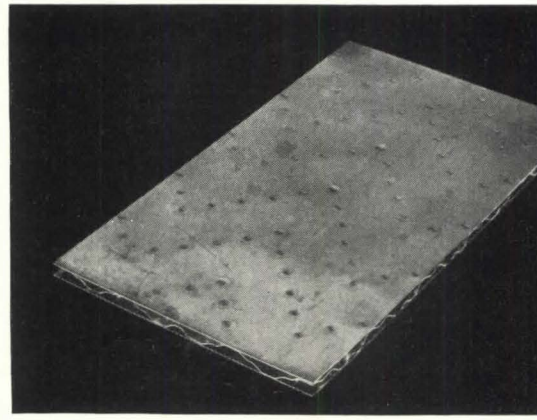
Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings. 1946. American Institute of Steel Construction, New York, N. Y. (Includes welding.)

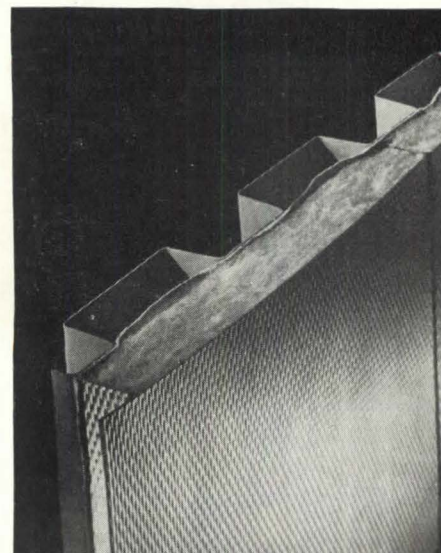




Such structures as these spheroids demonstrate the possibility, not yet realized in building construction, of employing welded sheet metal structurally. The curved shape imparts rigidity to the sheets. Upper left, 12,500 bbl Hortonsphere; lower photo, 80,000 bbl Hortonspheroid, both in Texas oil fields (photos courtesy Lincoln Electric Co.). Upper right, an early "atom-smasher," of all-welded construction (photo courtesy Westinghouse Electric Corp.).





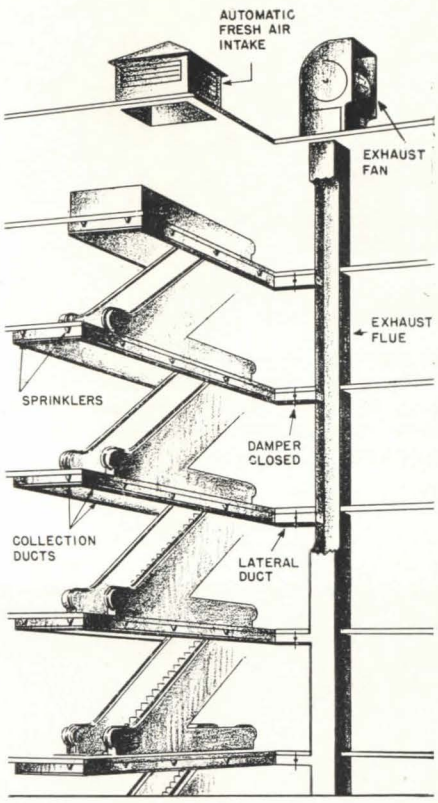


"Rigidizing," a process developed by the Rigid-Tex Corp., may be applied to any type of sheet metal in a variety of patterns, and in a wide range of sheet sizes. Buckling and waves in the sheet are minimized, some structural strength is imparted, and the product is easily combined with other structural and non-structural materials. Photos (courtesy Rigid-Tex Corp.) show, top, a rigidized sheet surfaced one or both sides with flat sheet material; note surface pattern of spot-welded assembly. Right, rigidized metal combined with structural decking and insulation, the whole forming a building unit suitable for walls, roofs, etc., and capable of becoming, when assembled by welding, an integral part of the structure.

Adjusting duct openings of the new Exhaust-Water Spray Fire Protective System.

System in operation: smoke and gases from the roaring fire below, instead of entering the stairwell, are cooled and drawn out of the test building.

System not operating: with exhaust fan shut off, smoke and gases begin to pour up the well.



Elements of the Exhaust-Water Spray Fire Protective System: sprinklers to curtain the well with water; exhaust ducts and flue through which combustion products are drawn by the roof fan; fresh air intake over the well.

FIRE-PROTECTION SYSTEM

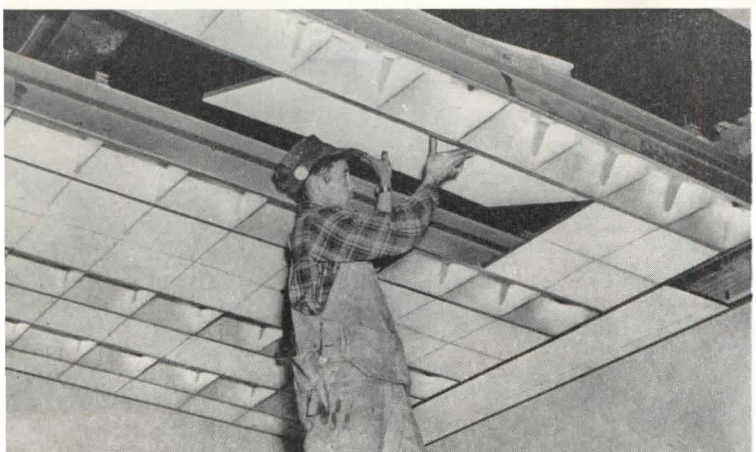
DEVELOPED JOINTLY BY OTIS, WESTINGHOUSE, GRINNELL

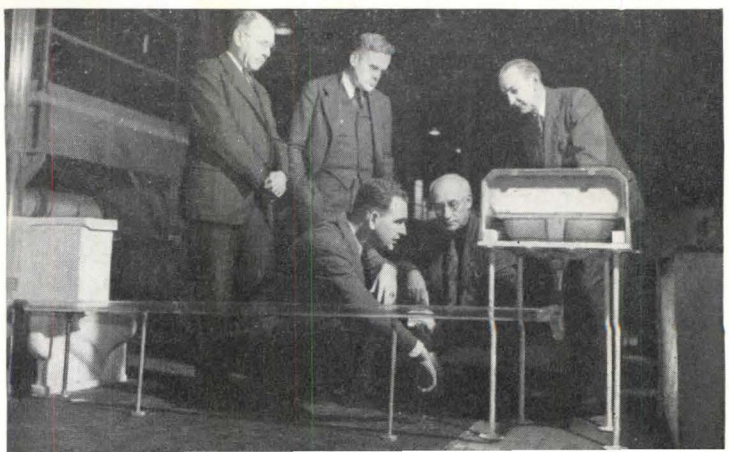
Loss of life in the recent series of disastrous hotel fires has apparently been due in great part to toxic smoke, combustion gases, and heat sweeping up flue-like stairwells and other openings to upper floors of buildings. An obvious answer might seem to be completely enclosing such well-ways; in fact, some building and fire codes now require this. But there is hot debate on the value of the enclosed shaft, which becomes, so some experts say, a perfect flue when a lower-floor door is opened. With an enclosed stair, people seeking escape from fire would have to open a door to the shaft, and not only might a panic develop at the entrance, but also toxic gases would be admitted to the shaft.

Otis Elevator Company and Westinghouse Electric Corporation, manufacturers of elevators and moving stairways (Westinghouse also makes ventilating equipment), and the Grinnell Company, Inc., fire-protection equipment manufacturers, have pooled their facilities to devise a means of protecting *open* wells against these two hazards. Illustrated at the left, the system they have jointly developed draws off the products of combustion and exhausts them to the roof through insulated ducts; at the same time, the open well is curtained off by a wall of water at whatever floors are necessary, and the exhaust suction draws fresh air down the shaft from an intake located directly above it. This reverses the natural flow of air, inhibiting the updraft or flue action which might otherwise spread poisonous smoke through the building.

The system also operates automatically and instantaneously in several other ways. The sprinkler system applies water to the seat of the fire and to new areas to which fire may spread. The fire department is called and Escalators are stopped and made useful as emergency exists. If a flash-fire should develop, causing flames and gases to penetrate the water curtain, a reserve set of high-velocity waterspray projectors comes into operation to seal the well against further penetration. In addition, the system prevents the building

Left: New Fiberglas acoustical board is so light it can be simply laid on the flanges of lighting troffers to form the finished ceiling. *Right:* Uniform Plumbing Code under development. Observing trap action in transparent piping are (l. to r.) Henry Blank, National Association of Master Plumbers; G. N. Thompson, National Bureau of Standards; Lt. M. C. Hope, U. S. Public Health Service; H. L. Schaller, plumbing journeymen and apprentices' representative; V. T. Manas, NHA.





up of explosive pressures in the area where the fire starts; dissipates heat from the fire and cools the gases; shuts down the air conditioning system, preventing recirculation of fire gases and smoke; isolates the fire; and provides ventilation to assist firemen in entering the fire area and fighting the fire.

Any one or more of several available devices may be employed to operate the system. The opening of the first sprinkler head near the fire may put the whole system into action, or it may be started by thermostats, photoelectric smoke detectors, or heat-sensitive rate-of-rise devices. These should be supplemented by a manual push button for testing and for emergencies.

None of the three companies who undertook to solve this problem plans to offer the system as a packaged unit. It is contemplated that installations will be made under the direction of consulting or designing engineers. The companies' engineers, however, will cooperate with others in designing projected installations to insure their proper functioning. Essential performance characteristics will be made available so that applications can be individually designed to meet any given set of conditions.

Convincing demonstrations of the new system have been made privately to such official and semi-official organizations as the National Board of Fire Underwriters, New York Board of Standards and Appeals, insurance company laboratories, National Fire Protection Association, National Bureau of Standards, and others. A public showing and series of demonstrations are being held. Tests have been made in a steel-framed, tar-paper-covered building at the Grinnell laboratories, in which mock-up Escalators were installed, one over another. Large pans of alcohol and other combustibles were set afire on the first floor around the well. Photos, left, above, show how well the system operated. Further information may be obtained from Grinnell Company, Providence 1, Rhode Island; from Otis Elevator Company, 260 Eleventh Avenue, New York, New York; and from Westinghouse Electric Corporation, 40 Wall Street, New York, New York.

THIS MONTH'S PRODUCTS

AIR AND TEMPERATURE CONTROL

Splend-Aire. Portable electric window ventilator, supplies 12 air changes hourly. Fits windows—22" to 27", 24" to 31", and 27" to 36" wide. Installation does not interfere with window operation. Metal-Tex Corp., 1600 Junction Ave., Racine, Wis.

Ject-O-Valve. A "straight-through" powered roof ventilator with a propeller fan to exhaust heat, fumes, smoke, etc., through a divided top that opens and closes automatically. Made in five sizes. The Swartwout Co., Cleveland, Ohio.

DOORS AND WINDOWS

Hines Windows. A new window featuring removable panes for cleaning. Set in aluminum and stainless steel frames with small mullions; affords 33% more ventilation as top and bottom panes open entire area. May be used individually or in tandem; simple to install in concrete, masonry, frame, or metal walls. Hines-Frederick Corp., Inc., 1026 17th St., N.W., Washington, D. C.

Glidaway. Sliding door unit without rollers, designed for standard 4" walls, available for both single and double pocket openings. Frames also available in stock sizes to fit various door widths and heights; door of any design may be adapted to a frame if not more than 1⅜" thick. U. S. Plywood Corp., 55 W. 44th St., New York, N. Y.

ELECTRICAL EQUIPMENT AND LIGHTING

Tulox Fluorescent Diffusers. Tulox tubing of Tenite extruded in transparent colors for diffusing fluorescent lighting. Installed by slipping tubes over standard fluorescent lamps. Extruded Plastics, Inc., Norwalk, Conn.

Hinged-Glass Aristolite. Luminaire with hinged-glass diffusers that swing open, for ease of cleaning and relamping. Available in 2-, 3-, or 4-40 Watt sizes, can be mounted individually or in continuous rows. Edwin F. Guth Co., 2615 Washington Ave., St. Louis, Mo.

MATERIALS OF INSTALLATION

Prolyt. An aluminum solder used to solder aluminum to aluminum without a flux or flux substitute. Resisted shearing after 250-hr salt spray corrosion test. Also showed excellent fusing and electrical properties. Aluminum Solder Corp., 10 E. 52nd St., New York, N. Y.

Chromedge Trims. Metal trims of channel strip; also threshold weather strips. Channel strips available in three sizes for all standard gages of plate glass. Weather strips designed to fit door bottoms of any size or thickness. Are drilled and counter-sunk assuring flush installations. Available in 32, 36, 42, and 48" lengths. B & T Metals Co., 425 W. Town St., Columbus 6, Ohio.

NON-LOAD-BEARING STRUCTURES

Welchboard. Plywood with a smooth, relatively hard, durable surface in the color of the wood from which it is made but without grain pattern; suitable for outdoor or indoor use. Will be available to the public within the year. Douglas Fir Plywood Assn., Tacoma 2, Wash.

SPECIALIZED EQUIPMENT

Tip Toe Iron. A lightweight electric automatic iron with a hinged sole plate at tip for ironing gathers, ruffles, pleats, etc., has its own cast-in tubular heating element. For regular ironing tip connects with rest of iron making a total of 29 sq. in. sole plate. Has a ten thousand cycle reversible cord. Yale & Towne Mfg. Co., Empire State Bldg., New York 1, N. Y.

SURFACING MATERIALS

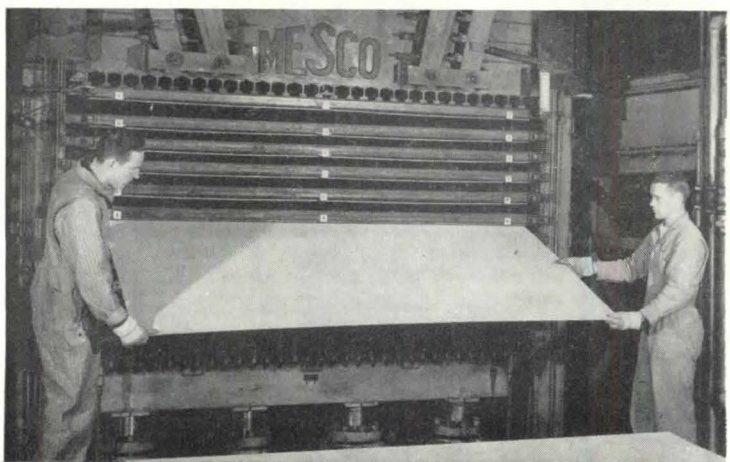
Styron Tile. Thin, lightweight plastic wall tile in variety of colors. Said to be non-warping, non-checking; color is all the way through. Can be installed on new or old walls. Dow Chemical Co., Midland, Mich.

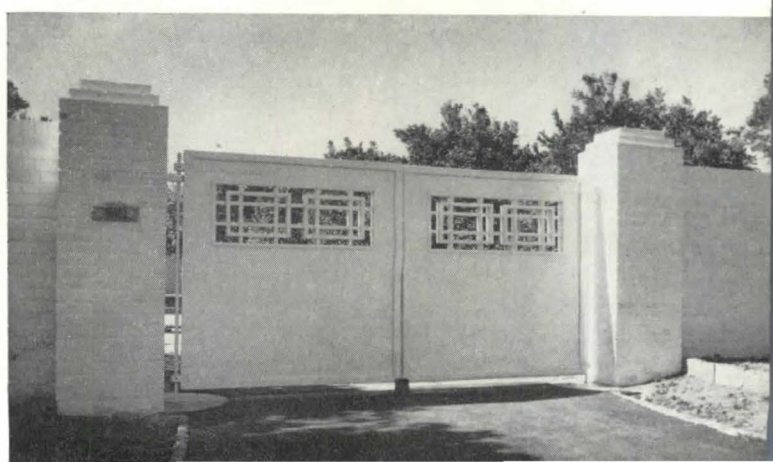
Hardwood Flooring. Three-ply, cross-laminated hardwood flooring available 12" wide and in any length. Made in a continuous glue press from small-size, cull-type hardwood logs. Best part is used as top layer, remainder as other two layers. Laminated Wood Products Co., Knoxville, Tenn.

TRAFFIC EQUIPMENT

Lockstep. A permanent, fireproof, sectional steel stair unit of fourteen treads. Can be erected in about 90 minutes. The HomeOla Corp., 9 South Clinton St., Chicago 6, Ill.

Left: **Production of Welchboard, new plywood product of the West Coast Plywood Co. Waterproof exterior-grade plywood is surfaced with a layer of ground wood waste and resin binder to make it suitable for the finest of finishes.** ***Right:*** **Welded wood construction. A pair of motorized gates to an estate in Bel Air, Calif., designed by Paul Robinson Hunter, architect, are made of ½" plywood bonded to a wood frame with waterproof glue (also used to assemble the grille); the entire assembly was cured with the high-frequency Woodwelder perfected by Jack Cunningham of the Short Wave Plastics Forming Co., Burbank, Calif. No nails were used.**





MANUFACTURERS' LITERATURE

★ *Editors' Note: Items starred are particularly noteworthy, due to immediate and widespread interest in their contents, to the conciseness and clarity with which information is presented, to announcement of a new, important product, or to some other factor which makes them especially valuable.*

Air and Temperature Control

1-115. *Open for Inspection (Bul. AE-247)*, Bell & Gossett Co. Reviewed June.

1-116. *Dravo Counterflo, AIA 30-C-43 (Bul. 516)*, Dravo Corp. Reviewed June.

1-118. *Emerson-Electric Fans for 1947 (Unit X5749)*, 26-p. illus. catalog on desk and ceiling fans, air circulators, exhaust and cooler fans. Design and construction specifications, dimensional details of exhaust and ventilating fans and accessories. Emerson-Electric Mfg. Co.

1-119. *Night Cooling of Industrial Buildings (Form 1404W)*, 4-p. illus. booklet on cooling plants at night by using self-cooled motor propeller fans to draw cool air in and exhaust foul air. To be installed in windows, walls, skylights, etc. Ilg Electric Ventilating Co.

1-117. *Radiant 'Sun Warmth' in Every Room (Form 3089)*, International Heater Co. (25 cents per copy—make check or money order payable to International Heater Co.) Reviewed June.

1-120. *Enjoy Better Living With Radiant Sunny Warmth*, 21-p. illus. booklet on four applications of radiant heating for houses. Essentials of good heating, selection of heating system, and principles of radiant heat. Operating data and characteristics. Institute of Boiler and Radiator Mfrs.

★ **1-122.** *Tri-Flex Grilles and Registers (Bul. 47TF), AIA 30-J*, 20-p. illus. catalog on 26 standardized size grilles, double deflection units, and multi-shutter registers. Detailed engineering data, and drawings. List prices. Tuttle & Bailey, Inc.

1-114. *Automatic Control*, White-Rodgers Electric Co. Reviewed June.

Doors and Windows

4-93. *How To Make The Most of Your Cellar*, The Bilco Co. Reviewed June.

4-88. *Prestomatic Industrial Doors*, Clark Door Co., Inc. Reviewed June.

4-95. *Aluminum Windows of Alcoa Aluminum*, 6-p. illus. booklet on aluminum double hung and picture windows in stock sizes; four different muntin arrangements. Full-sized details, installation data, and specifications. Cupples Products Corp.

★ **4-96.** *Something New in Windows*, 6-p. illus. folder on a window featuring removable panes set in aluminum and stainless steel frames with small mullions. Top and bottom panels open entire areas providing 33% more ventilation. Details for installing in concrete, masonry, frame or metal walls. Hines-Frederick Corp., Inc.

4-94. *Space-Saver Kennatrack for Interior Sliding Doors*, Jay G. McKenna, Inc. Reviewed June.

Electrical Equipment and Lighting

5-73 *The Story of Certified Ballasts*, Certified Ballast Mfrs. Reviewed June.

5-74. *Processing Cold-Cathode Fluorescent Tubes*, Fluorescent Lighting Assn. Reviewed June.

5-75. *Number "44"-A Catalog, AIA 31-F-28, 2-1-47*, Edwin F. Guth Co. Reviewed June.

5-80. *Leader Modern Lighting*, 36-p. illus. folder on line of fluorescent luminaires for commercial or industrial use. Can be mounted individually or in continuous rows, suspended or direct on ceiling. Installation details, specifications, price list. Leader Electric Mfg. Corp.

5-81. *A Miracle of Light (Form 107)*, 4-p. illus. folder on fluorescent lamps, describing the four shades of fluorescent light available and recommending use for proper balance for display and interior store illumination. Lustra Corp. of America.

Four booklets from Stromberg-Carlson. Reviewed June:

5-76. *Sound Systems for Churches.*
5-77. *Sound Systems for Hospitals.*
5-78. *Sound Systems for Industrial Plants.*
5-79. *Sound Equipment for Schools.*

★ **5-82.** *A Reference Manual on Electric Home Appliances, Reference Handbook No. 1, 1946 Edition*, 36-p. illus. booklet on the selection, operating, care, and use of electrical appliances; principles of planning a modern kitchen and laundry, and essentials of modern wiring, including a layout of control centers, feeders, and circuits for a house. Westinghouse Electric Corp.

Two booklets on efficiently planning a complete modern electric wiring system for a farm in accordance with National Electrical Code. Wiring design for interiors and exteriors of farm houses and farm buildings. Westinghouse Electric Corp.:

5-83. *Farmstead Wiring (B-3874)*, (25 cents per copy—make check or money order payable to Westinghouse Electric Corp.)
5-84. *Putting Electricity to Work On Your Farm (B-3524).*

Finishers and Protectors

Two booklets from Pittsburgh Plate Glass Co. Reviewed June:

6-94. *Pittsburgh Color Dynamics for The Home.*
6-95. *Pittsburgh Color Dynamics in Industry.*

6-97. *Prufcoat Protective Coatings*, 4-p. illus. booklet on a protective coating against corrosion from weather, acid, water, etc. Can be applied by brush or spray to masonry, metal, or wood. Application directions. Prufcoat Laboratories, Inc.

6-96. *Hydrocide Colorless (BP-3007)*, L. Sonneborn Sons, Inc. Reviewed June.

6-98. *Tamms Agraseal*, 4-p. illus. folder (3½x6¼) on a new waterproof brush coating for exterior or interior application to cinder blocks, lightweight aggregate, and concrete blocks. Application and mixing data; advantages, colors available. Tamms Silica Co.

Insulation (Thermal, Acoustic)

9-67. *Acoustical Units and Plaster*, 8-p. illus. booklet on a plastic thermal insulation material and acoustical plaster and units, for use in residential, commercial, or industrial buildings. Application specifications, structural details. American Acoustics, Inc.

9-66. *Armstrong's Industrial Insulations*, Armstrong Cork Co. Reviewed June.

9-68. *Building Insulation (A-129)*, 7-p. illus. booklet on pneumatically applied mineral wool building insulation for residential and commercial buildings. Installation data. General and application specifications. The Eagle-Picher Co., Insulation Div.

Load-Bearing Structures

12-116. *Facts You Should Know About Prefabricated Houses*, 10-p. illus. booklet (5¼ x 10) providing a brief summary of available information on prefab houses to aid consumers in considering their choice of a house. A check list on selection of a prefab house. Better Business Bureau, Educational Div.

12-112. *Glued Prefabricated Houses*, Casein Co. of America, Div. of The Borden Co. Reviewed June.

12-113. *Some Facts About Mankato Stone*, T. R. Coughlan Co. Reviewed June.

Two booklets on steel floor, wall and slab forms for concrete construction. Forms are light-weight, need no joists or nails, are easily stripped and moved. Said to cut construction costs; can be bought or rented. Typical layouts, erection data. Irvington Form & Tank Corp.:

12-117. *Atlas Labor Saving Speed Floor Forms.*
12-118. *Atlas Labor Saving Speed Forms for Walls and Slabs.*

12-114. *Production Line Structures*, Production Line Structures, Inc. Reviewed June.

★ **12-119.** *Rigidized Metals (Bul. 447)*, 12-p. illus. booklet explaining a process that redistributes metal throughout sheets of stainless steel, aluminum, copper, brass, etc., thus strengthening, rigidizing, and producing a textured pattern on the metal. Use eliminates "waving," etc. Designs and uses of Rigidized metals. Rigid-Tex Corp.

12-120. *Rilco Glued Laminated Wood Arches, AIA 19-B-3*, 7-p. illus. booklet on the construction and use of glued laminated wood structural framing members, arches, trusses, and beams. Details and dimensions, specifications. Rilco Laminated Products, Inc.

12-115. *Building Code Requirements for New Dwelling Construction (BMS-107, supersedes BMS-88), Jan. 1, 1947.* U. S. Dept. of Commerce, National Bureau of Standards. (20 cents per copy; make check or money order payable to Supt. of Documents.) Reviewed June.

Materials of Installation

13-53. *The Use of Radio Frequency Heating for Gluing Wood (Tech. Bul. 106)*, Casein Co. of America, Div. of The Borden Co. Reviewed June.

13-54. *Lignotite Casein Glues, No. 1034 and No. 4156*, Paisley Products, Inc. Reviewed June.

13-55. *Spartan Adhesives*, 4-p. illus. booklet on four types of glues for setting floor, wall, and acoustical tile, plastics, and veneers. Directions for use. Sparta Ceramic Co.

MANUFACTURERS' LITERATURE

PROGRESSIVE ARCHITECTURE—330 West 42nd Street, New York 18, N. Y.
I should like a copy of each piece of Manufacturers' Literature listed.

We request students to send their inquiries directly to the manufacturers.

No.	No.	No.	No.
No.	No.	No.	No.
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Non-Load Bearing Structures

14-27. *Gunite Buildings,* Johnson Western Co. Reviewed June.

14-34. *Insulux Glass Block, AIA 10-F, 1947 Catalog,* 27-p. illus. booklet on use of glass block in residential, commercial, and industrial use. Can be set in mortar or wood, available in three standard modular sizes. Construction details, specifications, technical data. Owens-Illinois Glass Co., Insulux Products Div.

14-35. *Glass Blocks (G-41171),* 27-p. illus. booklet on the use of glass blocks in commercial and industrial buildings. Sizes and shapes available, technical data, installation details, closed specifications. Pittsburgh Corning Corp.

14-36. *Rambusch Block de Cor,* 4-p. illus. booklet on decorated glass blocks. Designs and color in any pattern is applied to standard glass bricks. Said not to fade, can be washed, light is transmitted, colored and diffused. Rambusch Craftsmen.

Two books from Reynolds Metals Co., Inc. ($2.00 for both sections—make check or money order payable to Reynolds Metals Co., Inc.) Reviewed June.
14-31. *Finishes for Aluminum, Section I.*
14-32. *Finishes for Aluminum, Section II.*

★ **14-37.** *Q-Panels, AIA 13-1 (Q-22),* 10-p. illus. booklet on the use of prefab Q-panels for modern, insulated sidewall construction for use in industrial buildings. Available in Galbestos, aluminum, stainless steel, galvanized and black steel. Technical data, structural details. H. H. Robertson Co.

14-33. *The Vermont Marble Front, AIA 8-B-1 (Producers' Council Bul. 50),* Vermont Marble Co. Reviewed June.

Sanitary Equipment, Water Supply & Drainage

19-122. *B. J. Hydropress Pump (Bul. 46-600C),* Byron Jackson Co. Reviewed June.

19-123. *Delany Flush Valves,* Coyne & Delany Co. Reviewed June.

19-112. *The Modern Automatic Electric Water Heater,* Electric Water Heater Section, National Electric Mfrs. Assn. Reviewed June.

19-124. *Powers Water Temperature Control (Cat. 3035),* Powers Regulator Co. Reviewed June.

★ **19-132.** *Prefabricated Insulated Pipe Units (Form 4626),* 14-p. illus. pamphlet of specifications for underground steam and hot water distribution piping with prefab pipe conduit. Tables and dimensions for one or more conduits in a trench, details and dimension charts for loop expansion and maximum conduit capacities of wrought iron and steel pipe sizes. The Ric-Wil Co.

19-133. *Toilet Compartments and Toilet Room Environments (Cat. 85, 1947 Edition), AIA 35-11-6,* 18-p. illus. catalog on latest structural and design improvements of toilet compartments, shower stalls, cabinets, and wainscoting. Construction and installation details, specifications. Sanymetal Products Co., Inc.

19-125. *Sperzel Sanitary Toilet Seats,* Sperzel Co. Reviewed June.

19-134. *Sizing the Job in Electric Water Heater Sales,* 6-p. illus. pamphlet on selecting proper sizes of hot water heating equipment for residences. Selection tables, construction details, specifications. D. W. Whitehead.

19-135. *Zurn Walls Closet Fittings Supplement No. 46-3, AIA 29C,* 10-p. illus. booklet on four types of wall fittings. Typical layouts, diagrams, dimensions, and specifications. J. A. Zurn Mfg. Co., Plumbing Div.

Specialized Equipment

19-126. *Architects Handbook, AIA 35-D,* Bendix Home Appliances, Inc. ($2.00 per copy—make check or money order payable to Bendix Home Appliances, Inc.) Reviewed June.

19-137. *Rex-Weld,* 4-p. illus. folder on flexible bronze gas range connections that allow ranges to be moved close to wall; painting and cleaning can be done without disconnecting gas. Installation data, specifications. Chicago Metal Hose Corp.

19-115. *Elkay Lustertone Cabinet Sinks,* Elkay Mfg. Co. Reviewed June.

19-127. *Gemaco Freezer (F-47-1),* General Machine Co. Reviewed June.

19-128. *Portable Tile Saw (Model CR),* Hyatt Lapidary Equipment Co. Reviewed June.

19-138. *Kaiser Dishwasher,* folder on operating characteristics of the Kaiser Dishwasher which employs the "venturi-jet-propelled" principle, multiplying the hot water pressure to four times natural force as it sprays the china and whirls dishbasket. Kaiser Fleetwings, Inc.

19-139. *Youngstown Kitchens, AIA 35-C-1,* 6-p. illus. booklet on arranging wall, base, and sink cabinets for efficient kitchen plans. Typical layouts, dimensional details, and specifications. Mullins Mfg. Corp.

Surfacing Materials

19-129. *Built-Up Roofs Built Cold,* Flintkote Co., Building Materials Div. Reviewed June.

19-140. *Marlite for Interiors,* 8-p. illus. booklet on factory-finished wall and ceiling panels of Masonite tempered Presdwood base with a hard flexible plastic surface. Installation details, general specifications, color chips and patterns available. Marsh Wall Products, Inc.

★ **19-141.** *What You Should Know About Modern Lathing and Plastering,* 15-p. illus. pamphlet by Erwin M. Lurie on modern lathing and plastering of walls in houses. Discusses the advantages of plastered walls—cleanliness, decorating possibilities, fire-resistance, etc., points of plastering at building site, and painting suggestions. National Foundation for Lathing and Plastering, Inc.

19-142. *Vitrolite Glass Facing (V-126),* 10-p. illus. booklet on Vitrolite—opaque structural glass 11/32" or more in thickness for use on walls, storefronts, and other vertical or horizontal areas. Colors, thickness, and finishes available. Installation data. Also Glastone, a glass-faced lightweight masonry unit. Libbey-Owens-Ford Glass Co.

19-130. *Concrete Floors Designed for Comfort, Research Study 13,* John B. Pierce Foundation. (35 cents per copy—make check or money order payable to John B. Pierce Foundation.) Reviewed June.

19-131. *Plasteel Roofing and Siding,* Protected Steel Products. Reviewed June.

★ **14-37.** *Q-Panels, AIA 13-1, (Q-22),* H. H. Robertson Co. (See No. 14-37 under "Non-Load Bearing Structures.")

Traffic Equipment

20-40. *Electravator,* 4-p. illus. brochure on modern electric dumbwaiters for use in commercial and industrial installations. Powered by 1 hp 1750 rpm motor providing a lift speed of 35 ft per min. Installation and operating data, specifications. Electravator Corp.

20-41. *Lamson Conveyors (Form 746),* 4-p. illus. booklet on conveyor systems for use in industrial buildings. Brief operating and dimensional data. Lamson Corp.

20-38. *Montgomery Hydraulic Elevators,* Montgomery Elevator Co. Reviewed June.

20-39. *Otis Escalators,* Otis Elevator Co. Reviewed June.

FROM THE TECHNICAL PRESS

JOHN RANNELLS

FROM OTHER PUBLICATIONS

Noise and the New Planning. *Hope Bagenol. Paper read at a meeting of the R.I.B.A. Architectural Science Board.* Journal of the Royal Institute of British Architects, *66 Portland Place, London W. 1, England. Mar. 1947.*

The author gives a picture of the problem of noise reduction as it exists now. A subject that "creates its own myths," its importance is generally either overestimated or underestimated but not generally understood. The major risk likely to be run in new planning is the introduction of loud noise sources into a relatively quiet background.

"Background noise" is illustrated by three empirical "acoustic climates": (1) urban, having sustained traffic noise; (2) quiet rural or suburban, exposed to aircraft noise; (3) industrial, having traffic plus factory noise. A loud, familiar, nonirritating background may be a blessing in disguise, cutting out a great deal of intruding noise which would otherwise be a nuisance. In architectural practice a comparatively lightweight partition will serve in city offices and will not do at all in the home. In town planning the noise menace is noise which is intrusive relative to the background. In regional planning the aim is to alter the background.

An assessment is made of noise nuisance from various sources in defense not only of loudness but also of frequency or irregularity and pitch make-up. Suggestions for planning include consideration of zoning distances of housing from main traffic arteries, railroads, etc., city super-blocks with offices and workrooms planned *away* from the surrounding streets, etc. Again the British architects are tackling a problem broadly and telling each other about it.

Housing: Planning for Amenity. *Edward Armstrong.* Journal of the Royal Institute of British Architects, *66 Portland Place, London W. 1, England. Mar. 1947.*

This paper enumerates the various considerations that arise in planning urban dwellings under the British Housing Acts; discusses variations in plan forms resulting from considerations of orientation, methods of heating, use of elevators, *etc.;* refers to questions of refuse disposal and clothes washing, provisions of clubrooms, workshops, etc.; and suggests some solutions.

Separate space heating of apartments still predominates, with separate hot water systems for each apartment a general practice. However, the need for stringent economy in fuel is rapidly bringing about the use of central heating.

The author is not too enthusiastic about the changes in plan type which will be brought about by subsidized lifts. The greater number of apartments per lift will be poorer apartments than "the twin-flat type with its acknowledged superior virtues" of sunlight, through ventilation, and comparative privacy.

The British are tackling their housing problem seriously and this report and subsequent discussion give a good overall view of housing in urban areas in England.

HEATING

Panel and Radiant Heating Forum. *Reported as part of the Proceedings of the 53rd Annual Meeting of the American Society of Heating and Ventilating Engineers.* Heating, Piping and Air Conditioning, *6 N. Michigan Ave., Chicago 2, Ill. Apr. 1947.*

This is the report of a session called "to bring out useful information and to clarify Society (ASHVE) thinking on the subject of panel and radiant heating." To the interested architect it gives a lively "inside" look at this fascinating development.

The distinction is not too finely drawn, but in *panel heating* both radiation and convection are taken into account, while in *radiant heating* only the heat radiated from panels is effective. Yet the term *radiant heating* is frequently used to include both. The British term is *panel-warming.*

The engineers were concerned with temperatures of floor and ceiling panels, controls and time lag, fuel economy (there isn't any except with high ceilings), etc. They left their technical lingo in the office so any layman can read this report with pleasure.

The Solar House. *F. W. Hutchinson.* Heating and Ventilating, *148 Lafayette St., New York 13, N. Y. Mar. 1947.*

Similar houses, differing only in window area, were studied together in terms of economy of heating. In mild weather the "solar" house showed a saving, in severe weather a loss. Final data for the entire season have not been reported and it was not then possible to predict which will have the least seasonal heating cost. (See also PROGRESSIVE ARCHITECTURE, May 1947.)

Temperature Distribution in a Test Bungalow with Various Heating Devices. *Building Materials and Structures Report, BMS108. U. S. Department of Commerce, National Bureau of Standards, 14 pp., illus., 8½" x 11", tables. Available from Superintendent of Documents, Washington, D. C. 10 cents*

This report (which was reprinted in the February and March issues of *Heating and Ventilating*) gives thorough data on air temperatures at various levels in the various rooms of a four-room bungalow built to test temperature distribution obtainable from various types of heaters. No cost data are reported, so the uniformity of temperatures obtained by some systems cannot be evaluated intelligently. There are no conclusions drawn from the results and it is exasperating to try to dig sense out of the various tables. Perhaps later reports will combine with this one into something useful.

MANUALS, PAMPHLETS

Daylight in School Classrooms. *Hugh Paul. Owens-Illinois Glass Co., Ohio Building, Toledo 1, Ohio. 72 pp., 8½" x 11", diagrams, tables, index. Free*

This study is based on data from a special lighting laboratory set up at the University of Michigan. Starting with examination of existing methods of daylight transmission, distribution, and measurement, the study proceeds to examine all-over interior illumination under various outdoor light conditions. The goal of full daylight utilization with low brightness contrast seems to have been met with the use of prismatic block in the upper portion of the window wall.

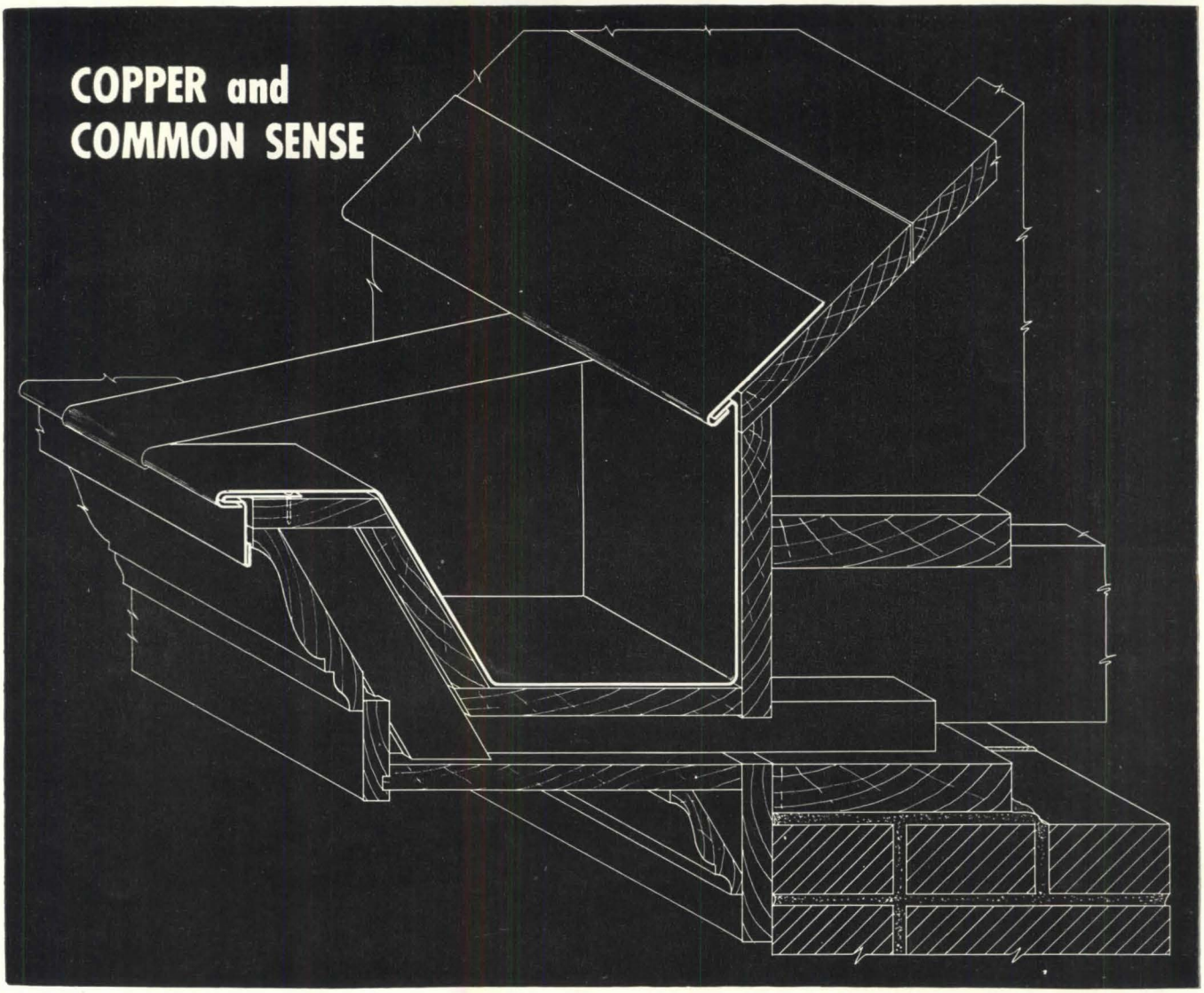
The bulk of this publication is concerned with the results of an installation of Owens-Illinois No. 351 (prismatic) blocks above a strip of clear windows. Detailed performance data and a simple formula and tables are given for calculating task brightness in any part of a sample classroom for any hour and any sky condition for various orientations and for any latitude in the United States. The same data could be used equally well for an office or workroom. This book (or inflated booklet) seems a rather large handling for just one somewhat limited solution of the daylighting problem. The solution, by the way, is not as recent as the author intimates (10 years). Prismatic glazing for throwing daylight into deep stores was on the market at least 35 years ago.

The presentation of material in this study is a beautiful job of graphics making it a pleasure to work with.

Grid Lines. *Published Monthly by Modular Service Assn., 110 Arlington St., Boston 16, Mass. 8 pp., 8½" x 11", illus. Requests accepted for placement on the mailing list.*

(Continued on page 90)

COPPER and COMMON SENSE



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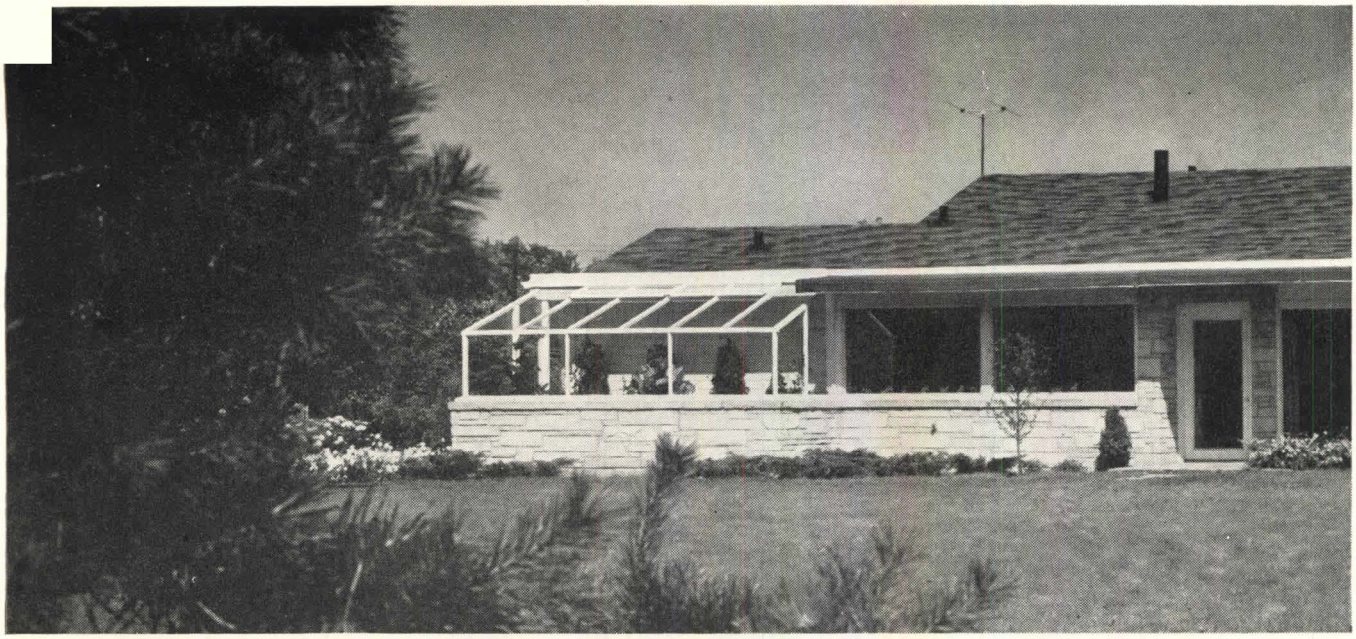

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TO INSURE maximum physical and psychological comfort in America's first all-sealed house, Howard M. Sloan and his architect, David S. Barrow, used solar heating and Servel *All-Year* Gas Air Conditioning. This unique combination not only provided a "new quality of living" the year round; it also made possible more efficient and economical design and construction.

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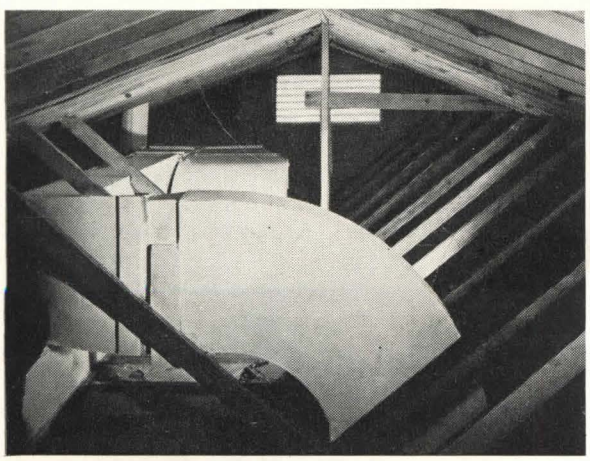
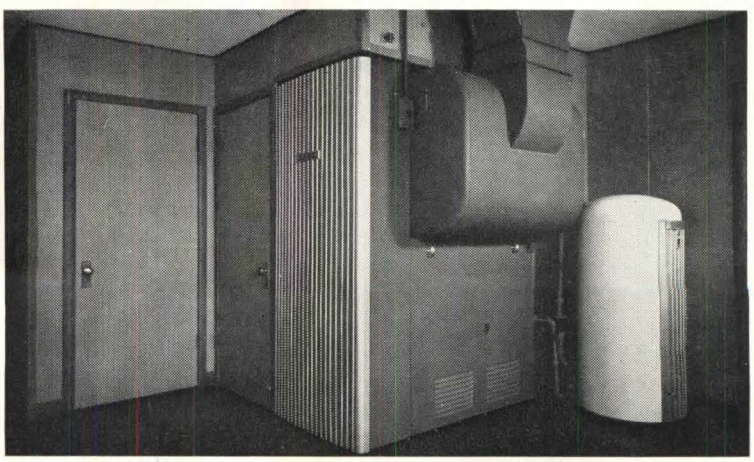


Air returns to the Servel *All-Year* Gas Air Conditioning unit are conveniently placed in the attic.



Heart of the solar-radiant heated Sloan house is the Servel Conditioner. At right is Servel *Ball-Type* Gas Water Heater.

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ant heating panel. Six separate ducts bring air from the Servel Conditioner to six plenum chambers under the various rooms. Openings under windows allow conditioned air to circulate from bottom to top of glass areas. It returns through openings in the ceilings. Outside air for ventilation is taken through unit, where it is cleaned and conditioned before being delivered to rooms.

The air supply ducts for the six zones in the house are equipped with splitter dampers where air leaves the Servel *All-Year* Gas Air Conditioner. Thus the flow of air to zones can be adjusted to provide the most desirable year-round temperatures in each room. What's more, distribution of heat generated by the sun is assured by the fan operating continuously in the Servel unit. In this way all rooms are kept at uniform ideal temperature and humidity, in winter as in summer.

Comprehensive tests on typical days show that there is almost no stratification of air in the rooms. Findings reveal a maximum variation of one degree between floor and ceiling levels. And there is no overshooting of temperatures during normal heating operations.

In addition, the use of fixed windows eliminates window screens, window hardware, weather stripping as well as the need for a screen porch. Mr. Sloan states that "the economies in design and construction made possible by the Servel *All-Year* Gas Air Conditioner actually made it cost little, if any, more than an ordinary heating system!"

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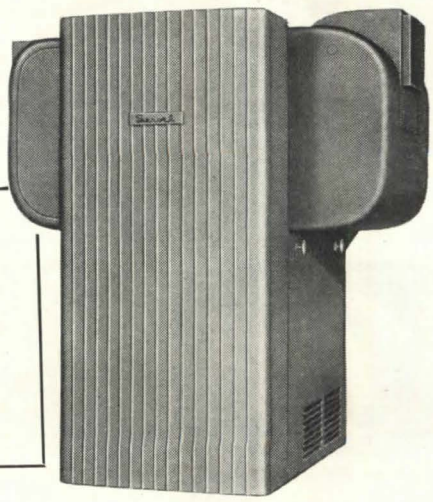

Servel

All-Year GAS AIR CONDITIONER

REVIEWS

(Continued from page 86)

Beginning with the April number this circular is being distributed to architects and the building industry to further the American Standards Association project A62. It is published with the cooperation of the Department of Commerce. Continuing development of modular products will be reprinted and modular details used in actual construction projects will be reproduced.

This monthly bulletin promises to be a most effective means of spreading the gospel of modular coordination. It will certainly be the best means of keeping architects and builders informed as to the continuing development of modular products.

The first issues are attractive and rich in information.

Prefabricators and Prefabricating Systems. *The Housing Institute, Inc., 350 Fifth Ave., New York, N. Y., 1947. 25 pp., 6" x 9". $1.00*

A listing of a hundred or more companies throughout the country which are supplying prefabricated material or complete houses, with a brief description of each company's contribution.

BOOKS

PLANNING FOR HUMANITY

COMMUNITAS: Means of Livelihood and Ways of Life. *Percival and Paul Goodman. University of Chicago Press, 5750 Ellis St., Chicago, Ill., 1947. 141 pp., illus. $6.00*

Most books on city planning seem to consider a plan as an autonomous, almost unconditioned fact existing in a human vacuum. They aim at efficiency without asking "efficiency for what?" or at amenity without defining amenity in life terms. *Communitas* is a superb antidote to such thinking, for its authors have seen, as Geddes and Mumford have seen, that, since life quality is the end in view, all plans—architectural, municipal, or regional—must be criticized according to the kind of human lives they will engender.

Such a book can be no mere analysis of the mechanics of building or transportation or land subdivision, for it must cut relentlessly through means to ends. Since it is the quality of human living that is at stake, planning is necessarily as political and ethical an activity as voting or education, and any basic political and ethical decisions will conversely determine city and building forms. The Goodmans have given this general theory exciting and definite form.

On this basis they criticize many existing plans, both practical (that is, merely ameliorative, merely crystallizing still further present evil trends) and impractical (that is, working out certain ideals to their logical conclusions). They start with the basic assumption that we are in a surplus economy and that this fact gives us an opportunity to change; it makes society plastic. And they seize upon the relation of industrial production to human lives as the most important unsolved question of the day. They show how Le Corbusier's Ville Radieuse brilliantly diagrams a world of high capitalism; how suburbanism and the garden suburb alike are dependent on the basic concept that factory work is intolerable though necessary (something to flee from in loathing); how Buckminster Fuller's daringly consistent utopia ends up in a concept of isolated, unsocial individuals making more and more things for no true social use. Similarly they assay the Moscow Plan, the Collective Farm system of Russia, the Kvutzahs of Palestine, and the TVA. Only in the last three is there apparent that true inventiveness, that careful subordination of means to an ideal of more creative individual living, which alone can better the lives of men.

But this historical and critical background serves only as the preface to the most exciting portion of the book—

(Continued on page 92)

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REVIEWS

(Continued from page 90)

the attempt to define the kind of plan which would result from the intelligent adaptation of basic economic and ethical systems to the aims of fuller human living. The authors show three such schemes, based on three concepts: one, the development of "Efficient Consumption," based on mass production and distribution; the second, "The Elimination of the Difference between Production and Consumption" (that is, the humanization of production itself); and the third, "Planned Security with Minimum Regulation." In all the aim has been to minimize nonproductive work, and all of them aim at a basic efficiency in the relation of production and "satisfaction." They differ in their concept of wherein satisfaction lies.

The first is the world of things, of goods, of the department store gigantic, of the most rapid and even wasteful consumption. It is naturally a world of concentration, of extraordinarily centralized great cities, where all the work is done in one circular building 20 stories high and a mile in diameter, and people live in standardized apartments around communal gardened areas. It is a world of speed and spending, with mass amusements, mass education, and mass advertising to establish mass fashions and the mass mind. The individual exists for consumption; his value is as consumer only.

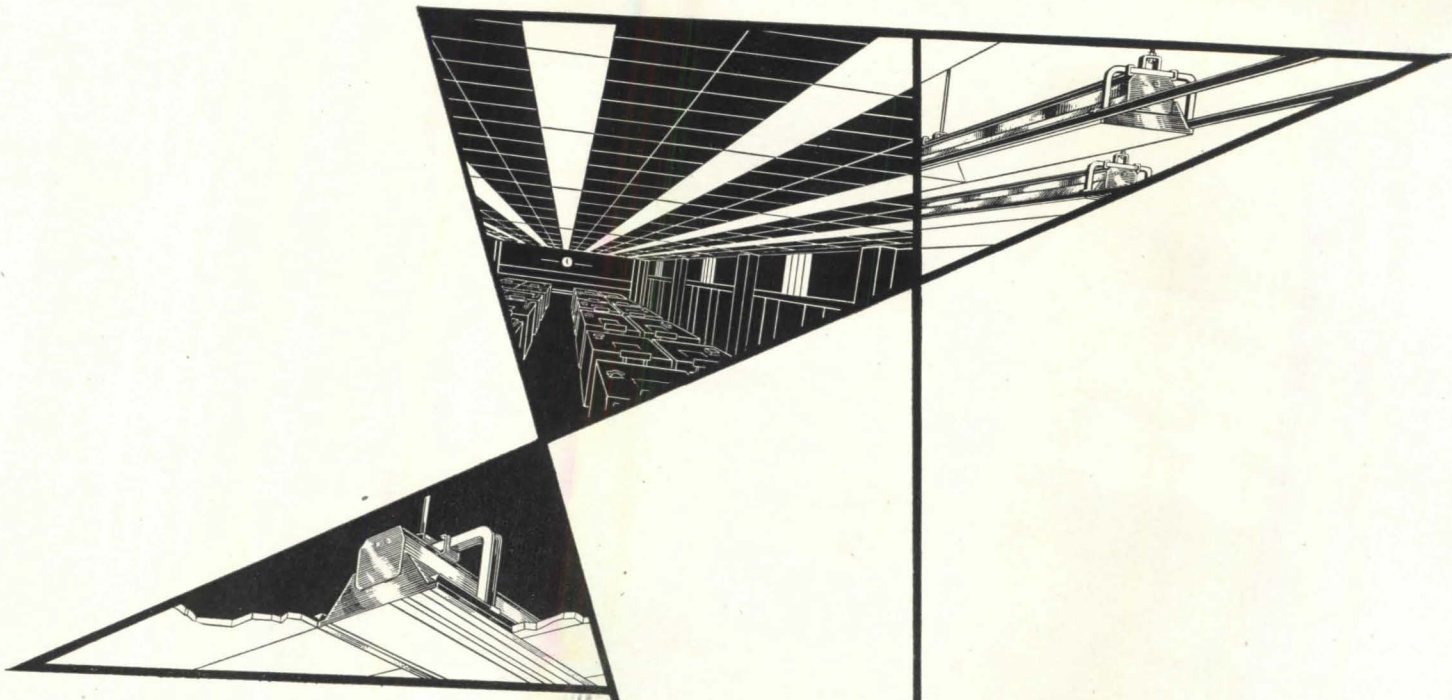
The second world is based on the ideal that satisfaction lies in other matters than things; that work itself becomes a satisfaction when the worker knows, plans, and, at least to some extent, controls his products; that work and leisure and family life can be a unit. It is a world of human scale; of small plants incorporated closely with housing; of cooperatives; of small city squares that are surrounded by factory, church, community hall, and recreation facilities—squares that are symbols of the oneness of an integrated life. And it is a world in which country and city, agriculture and industry, and cultural activities are functionally as well as physically related.

The third scheme is based on direct, rather than indirect, security insurance —that is, on the idea that each individual should be guaranteed *minimum* security by *minimum* hours of work in factories producing the *minimum* material— minimum shelters, standardized food products, and clothing. Everything else is left completely free for such development and exploitation as the society and the individual may decide upon. Thus no one starves, and the ambitious man can become rich, and the man who wishes to use his time for art or learning or contemplation can still do so, and neither starve nor be dependent on the vagaries of a patron. Yet in the minimum areas the effect is bound to be drab and even brutal; one wonders if crime would not flourish there, fed on boredom and frustration and "leisure". . . .

Communitas is not always easy reading; it is too packed with profound and pregnant ideas to be absorbed in one hurried conning. It is tightly written, but occasionally elliptical—where a phrase, innocent enough at first acquaintance, suddenly flowers with suggestion for further thought. It is bitterly critical of the thoughtless emotions generally current as ideals today, but its real savagery is often veiled in the simplest of statements. It is therefore a book to read at least twice, and then to ponder over.

There is one serious criticism to be made—the authors' apparent misunderstanding of the ideals both of the "garden city" and of the "satellite town." Neither was conceived as a mere dormitory suburb. The entire concept of the garden city depends on integrating industry, agriculture, and residence, and both Letchworth and Welwyn were designed to be self-supported by means of local industries. It was only an accident of the monstrous growth of London that Welwyn, despite its flourishing industries, became also a dormitory suburb. And the new satellite towns proposed by the present British Government are similarly supposed to be *complete* with their own means of livelihood, though with close business and administrative

(Continued on page 94)



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REVIEWS

(Continued from page 92)

ties to a central metropolis. This misunderstanding, however, does not seriously hamper the main argument of the book.

The text is illustrated with line drawings of great brilliance. We may or may not like the particular types of design chosen to embody the schemes shown, but as illustrations of schematic ideas they are compelling. And all the illustrations—some of them whimsical, some of them approaching the surrealist—are tightly combined with the text. They are modern in the best sense of the word, economical, sharply pointed. Their creator has been aware of both Picasso and of Le Corbusier, but he has parroted neither. The whole forms a single, individual work of art in form as in content, and like all valuable works of art demands the reader's attention and cooperation. But, once this is given, the reader is bound to carry away new and valuable attitudes and thoughts on planning, on politics, on the ends of living, for this is a profound and searching book. It should be a "must" for planners, architects, sociologists, and all those interested in the future of Western culture.

TALBOT HAMLIN

BEFORE THE PRESENT

The Story of Architecture in Mexico. *Trent Elwood Sanford. W. W. Norton & Co., Inc., 101 Fifth Ave., New York, N. Y., 1947. 363 pp., illus. $6.00*

Most English histories of architecture in their preoccupation with its European phases have neglected the story of architecture in Mexico—a story well worth telling and creditably told in this book. The work is divided according to the general chronological pattern of architectural growth, which was the same in all the Latin American countries—pre-Columbian, Spanish Colonial, Republican, and Modern.

The magnificent pyramids, temples, and cities of the Toltecs, Mayans, Aztecs, and the other peoples of the area gave to the pre-Columbian period in Mexico a distinctive architectural greatness. The photographs of this section of the book permit partial appreciation of the artistic vitality, force, and beauty of that glorious epoch. The architecture of the Hispanic period is among the richest of all the world, surpassing that of the mother country Spain in the ornate luxuriance of its Plateresque, Mudejar, Churriguerésque, Baroque, Rococo churches and monasteries. Later work did not reach such high levels, as Mexican architecture and art during the chaotic days of rebellion and tempestuous attempts at self-government were

(Continued on page 96)

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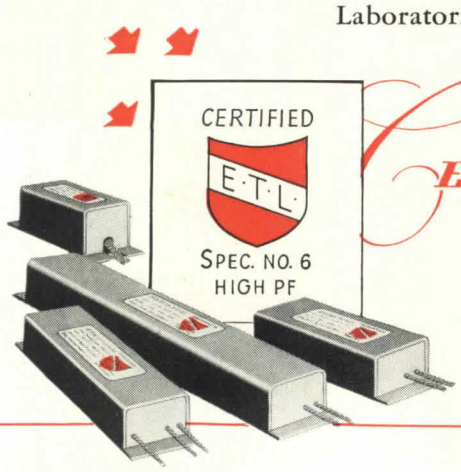

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REVIEWS

(Continued from page 94)

at the low ebb typical of such strenuous eras. Unfortunately, the striking modern architectural achievements of recent years and the vigorous murals of Orozco, Rivera, Siqueiros, Charlot, and others do not receive adequate recognition and attention—a serious deficiency in this book.

A list of the Cathedral Cities of Mexico, a working glossary of Spanish and Mexican architectural terms and of Mexican place names, a lengthy bibliography, and extensive index are helpfully given in the appendix. Good photographs enrich all sections of the book. Written for a wide circle of readers, particularly for the tourist, the survey of historical, social, geographical, geological, religious factors which have affected and molded Mexican architecture will seem wordy and tedious to the average architectural reader. However, such a reader can profit much from the architect-author's comments on the architectural features of the structures studied. Employment of conversational expressions, possibly in an attempt to popularize, appears out of character with the importance of the subject, even though this work was not intended to be and is not monumental.

LAWRENCE E. MAWN

HOT-WATER HEATING, RADIANT HEATING, AND RADIANT COOLING

F. E. Giesecke. Technical Book Co., Austin, Tex., 1946. 262 pp., illus., 6" x 9", diagrams. $4.00 (10% discount for two or more copies ordered at one time)

The author has assembled in easily usable form the "knowledge relating to hot-water heating, radiant heating, and radiant cooling which he has acquired during more than fifty years of study, teaching, research, and professional practice." The bulk of the book deals with the design of different types of hot-water systems, giving step-by-step examples. The presentation is so clear and easily read that anyone can follow the development of each system with ease.

The section on radiant heating gives a brief history as well as full theoretical discussion and chapters on design. The chapters on radiant cooling (which is largely a Swiss development) should give us some new ideas on attaining comfort more simply than with full air conditioning.

It is amazing that such an excellently well organized book should have no index.

JOHN RANNELLS

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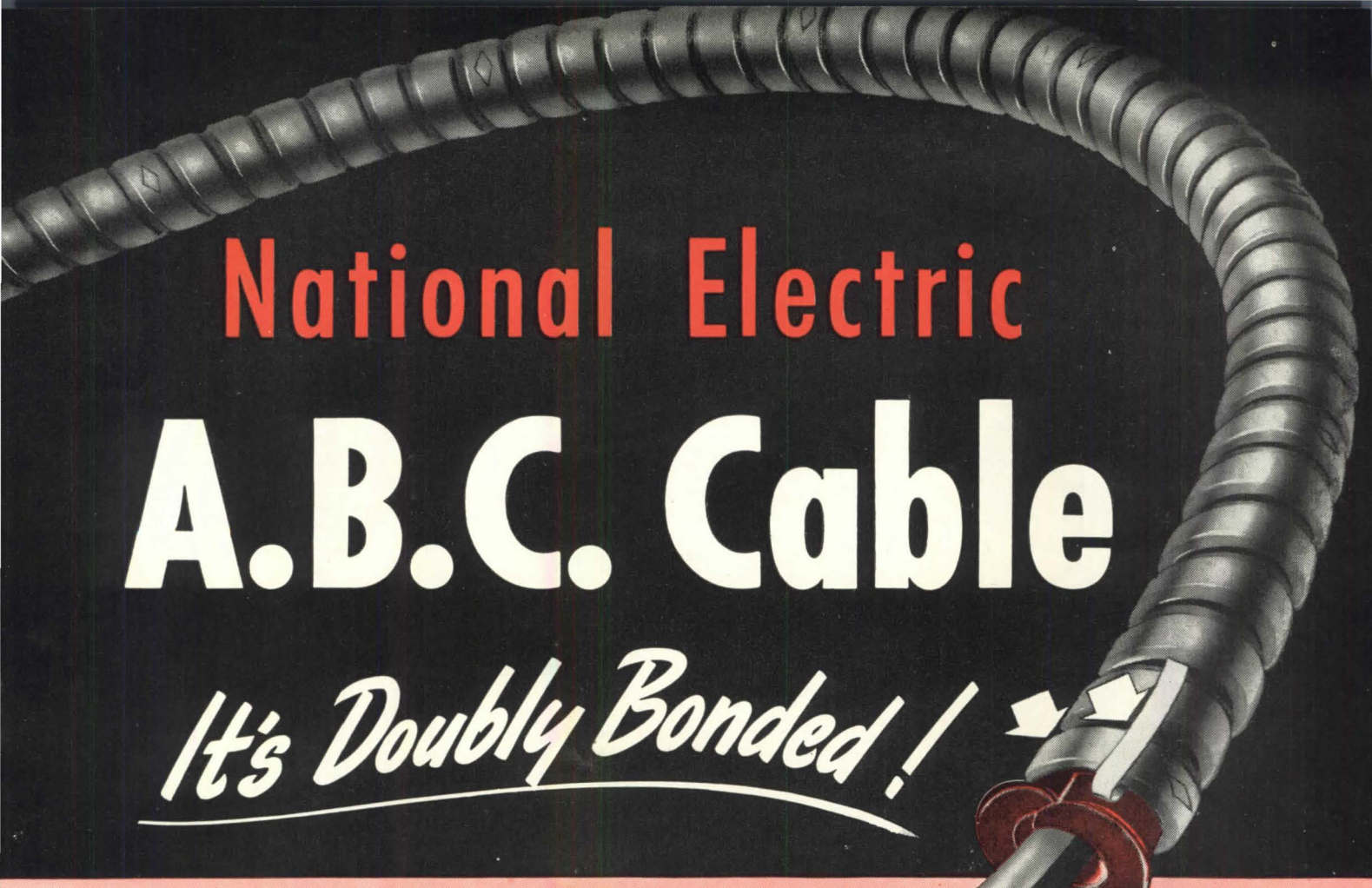
(Continued on page 100)



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JOBS AND MEN

(Continued from page 98)

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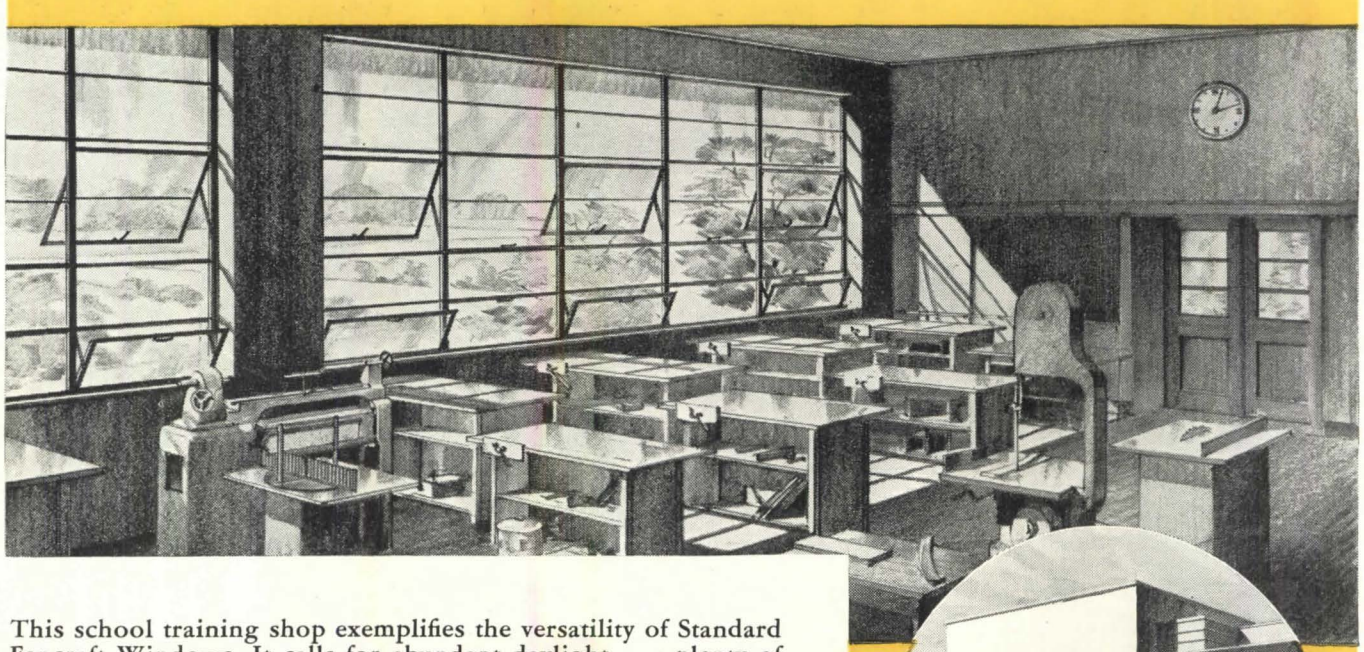

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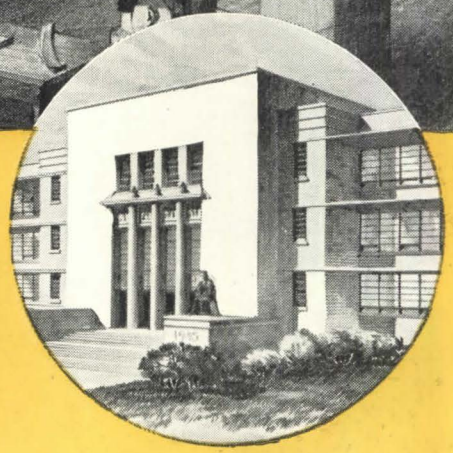

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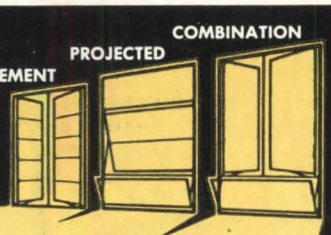

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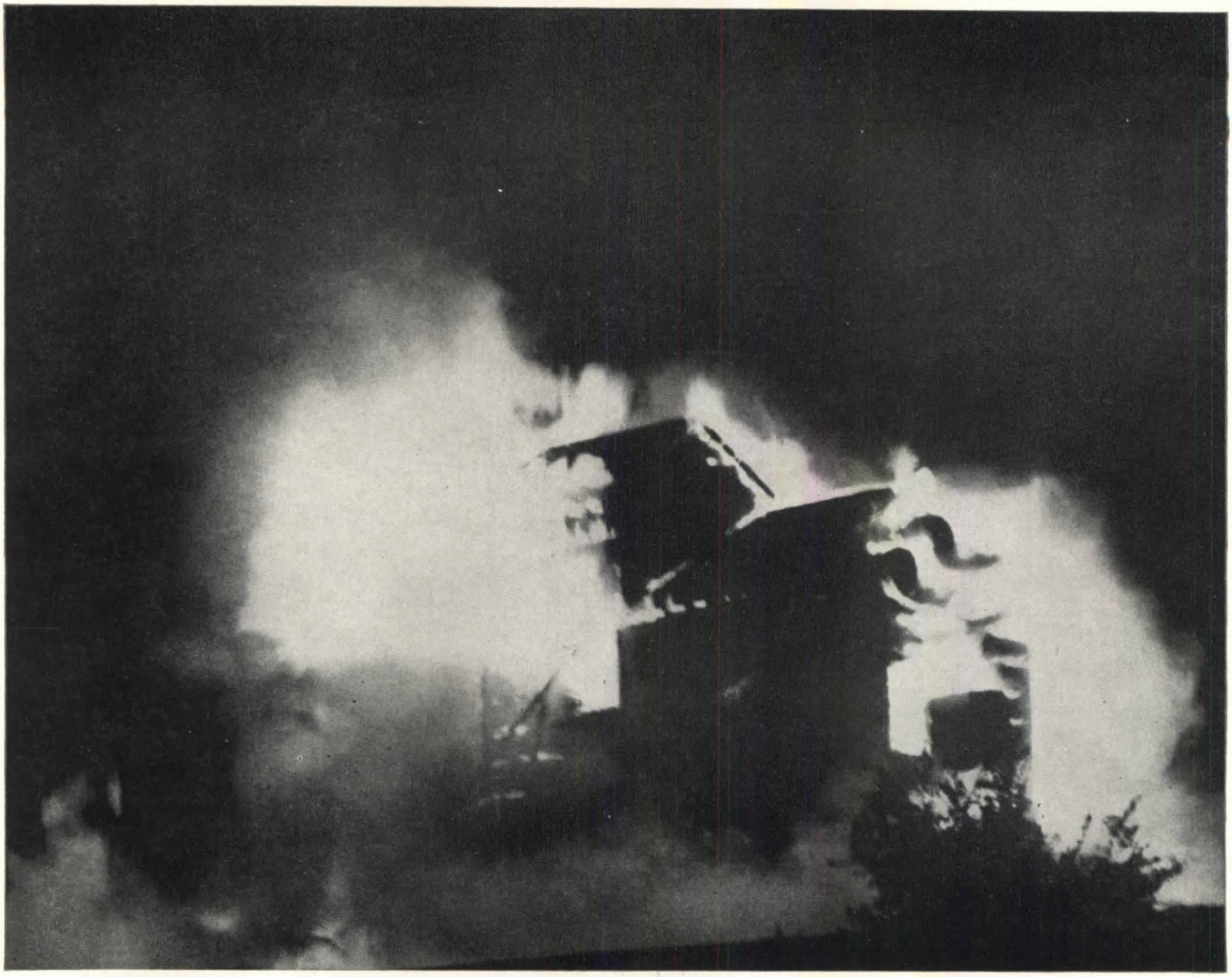

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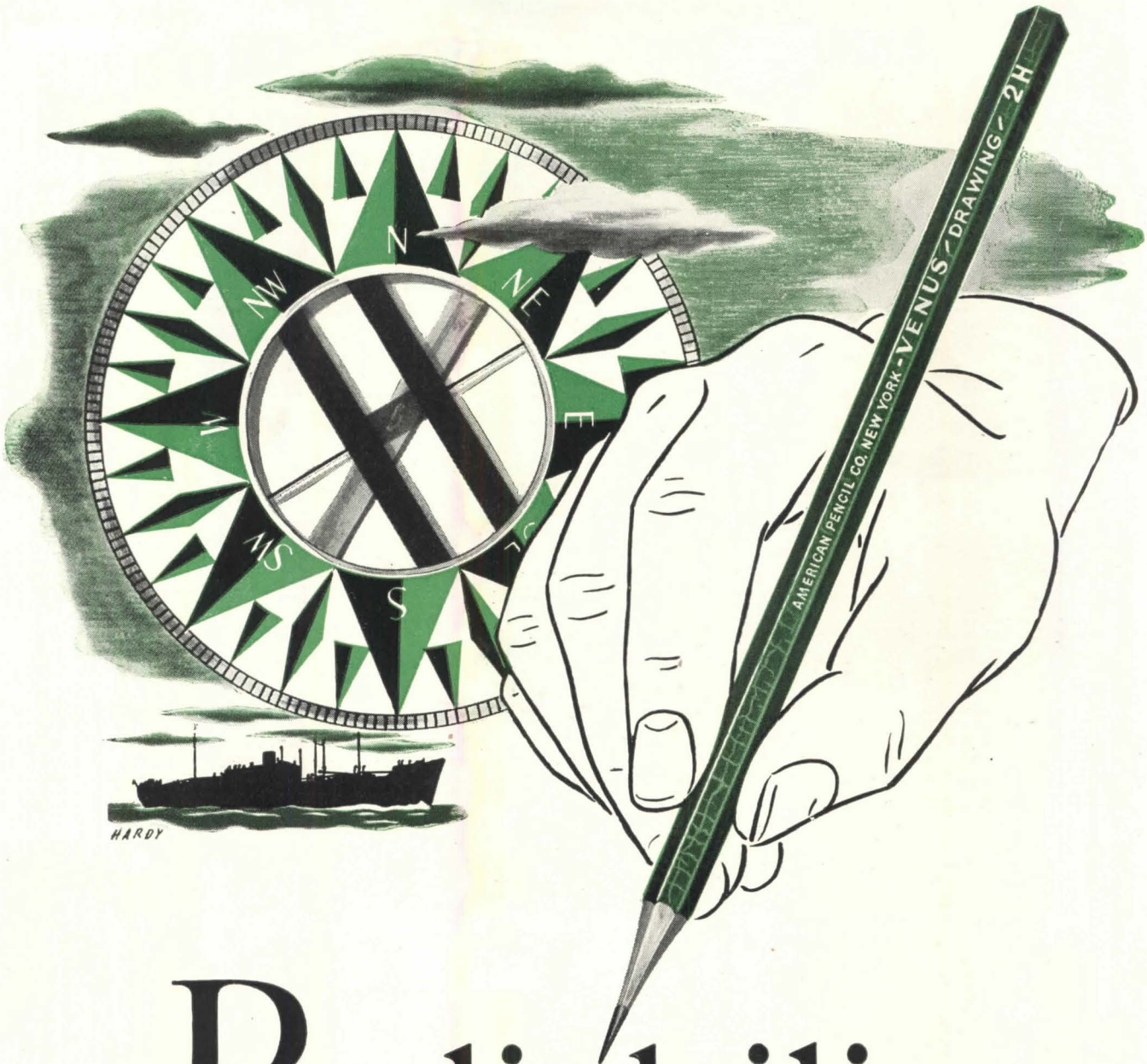

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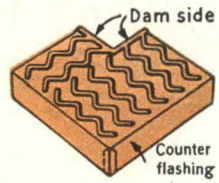

Standard inside corner flashing unit. Dam on inside, drains out.

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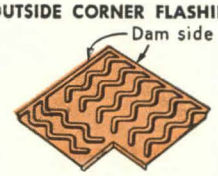

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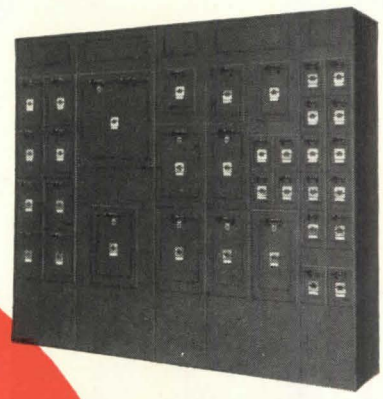

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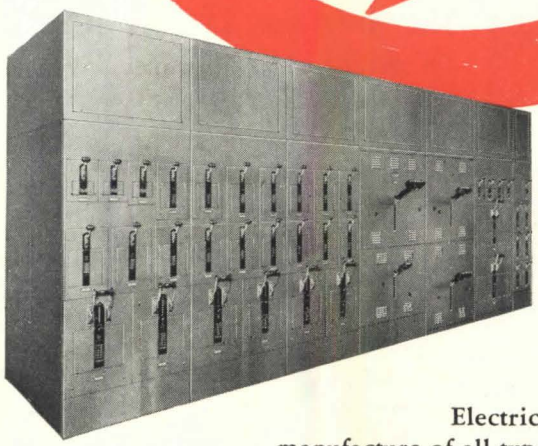

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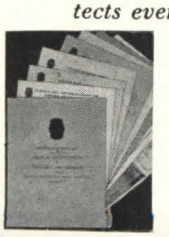

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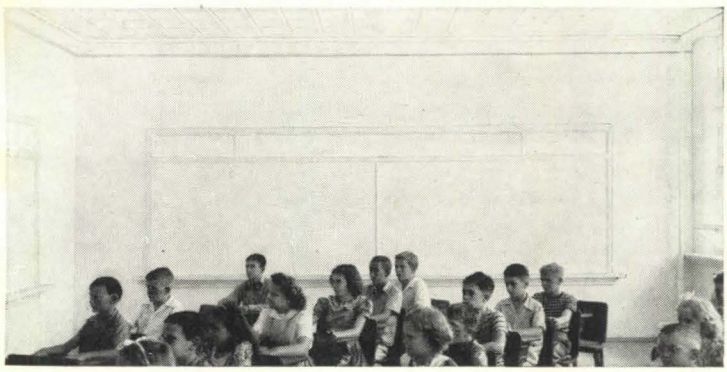

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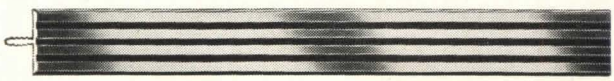

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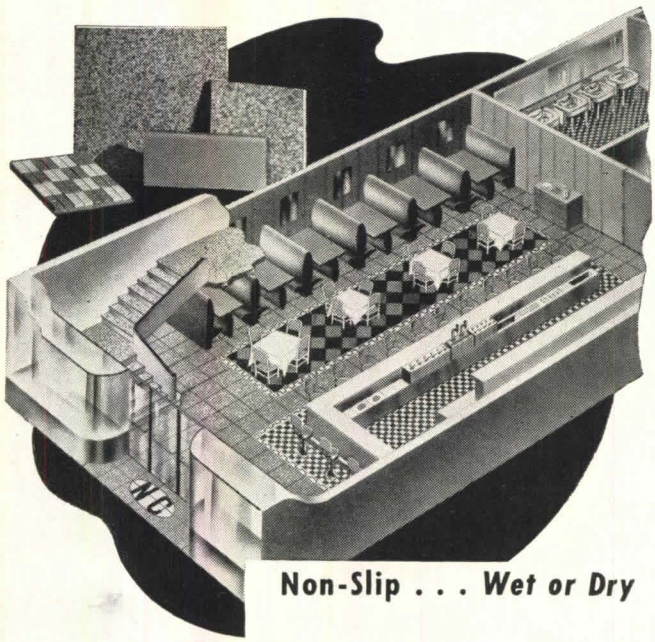

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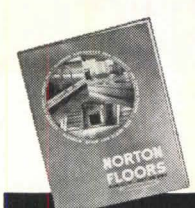

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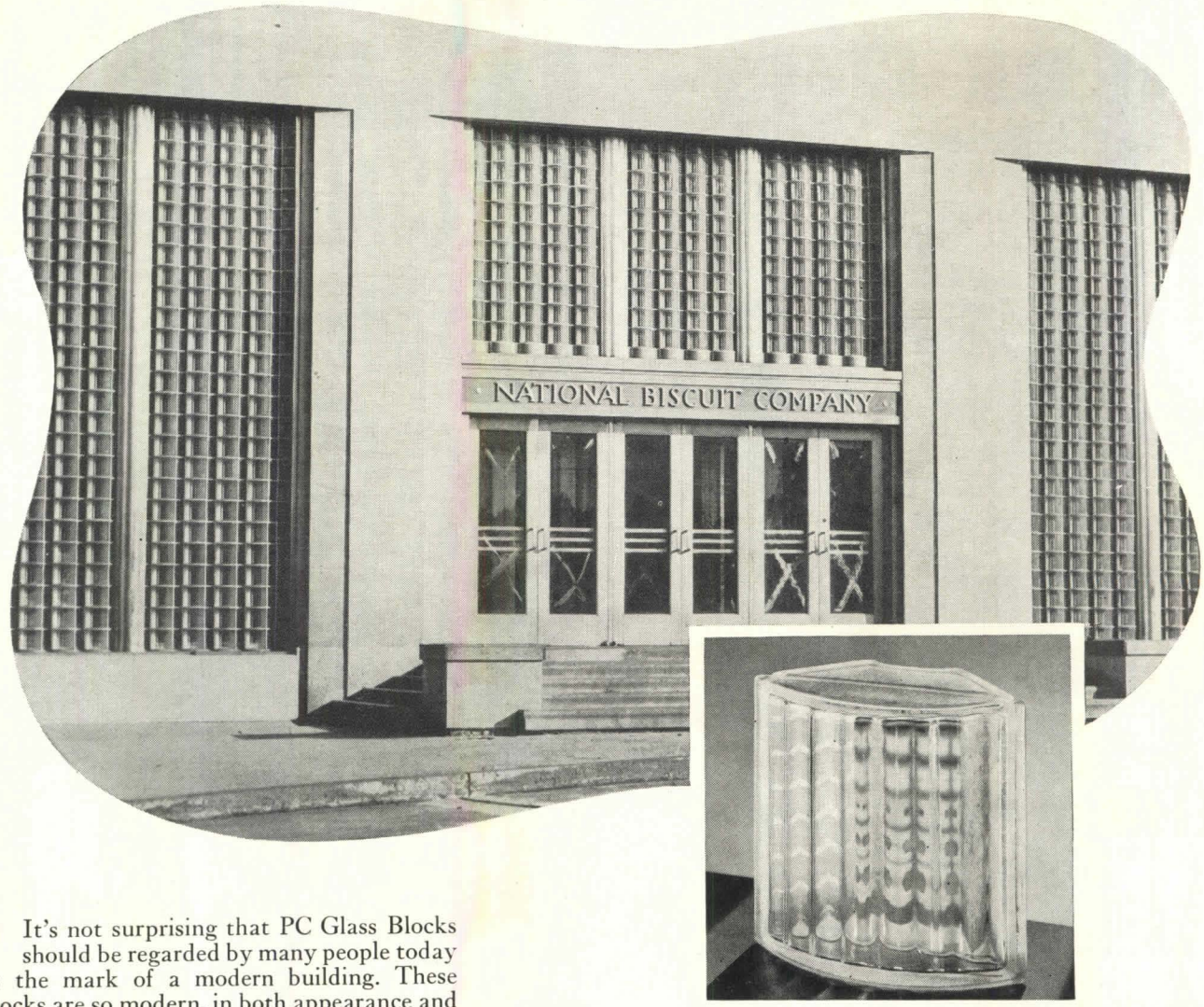

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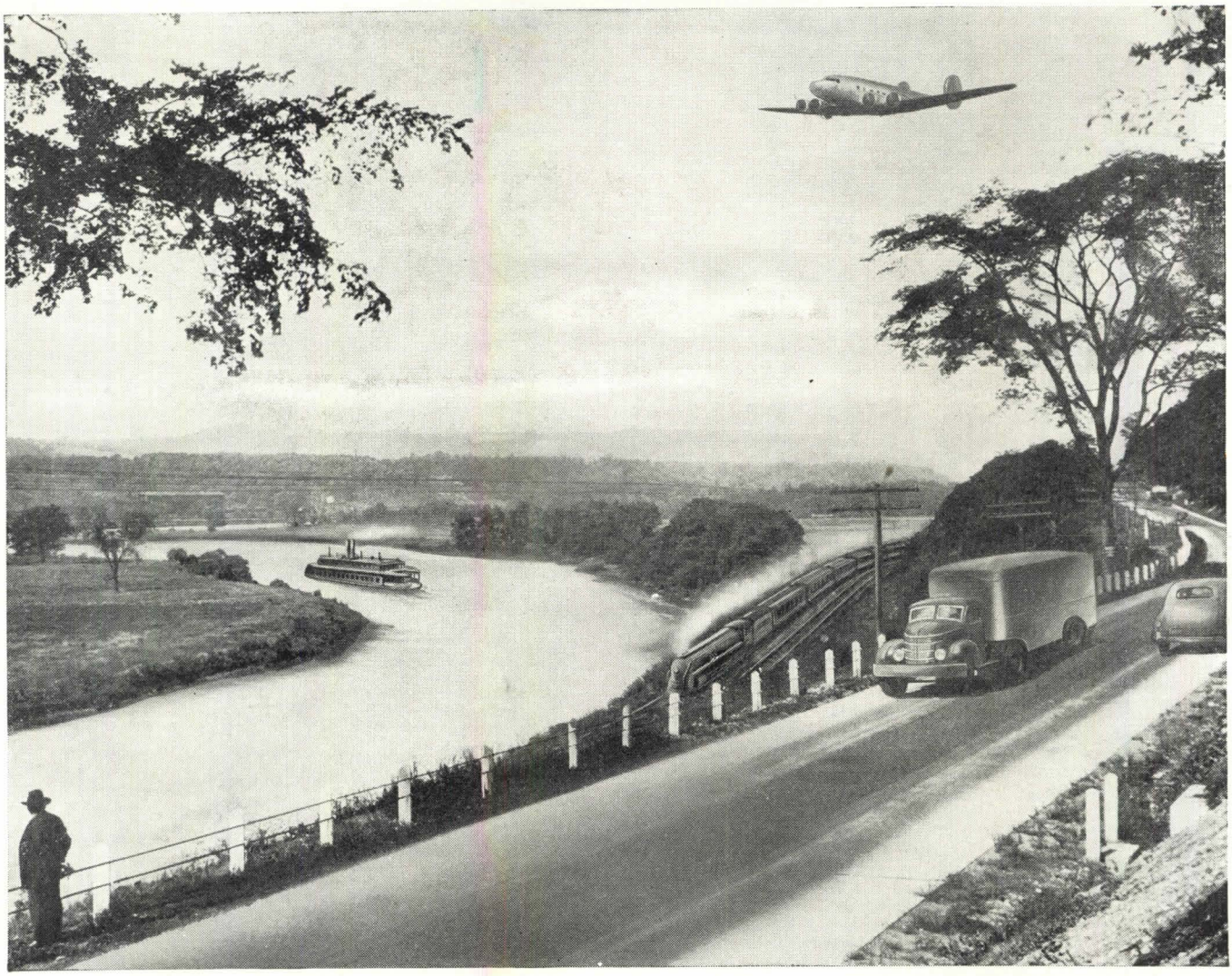

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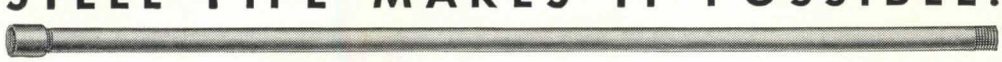

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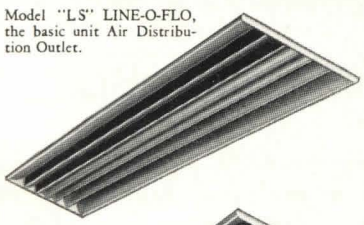

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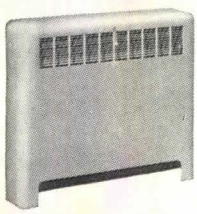

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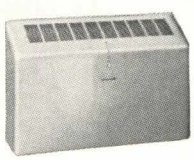

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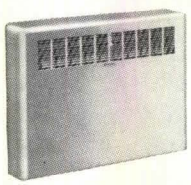

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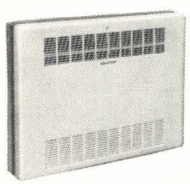

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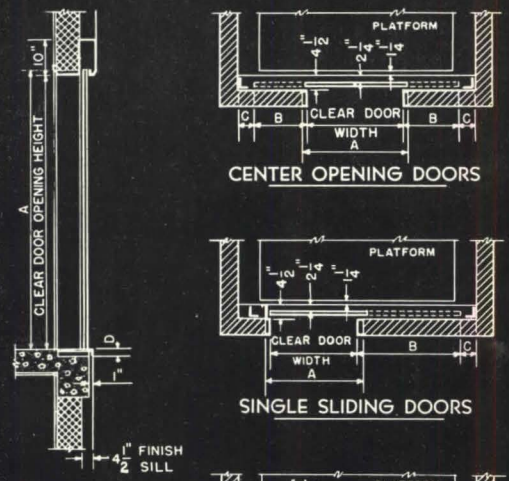
Dimensions on these details based on 1⅜" door thickness



DIMENSION KEY

A Rough opening size for standard unit type frame, finish width plus 8" on each side, finish height plus 8" on top. Contractor to fill in around frames after they are set.

B ½ landing door opening + ¾".

C 5" Power operated doors. 3" Manual operated doors.

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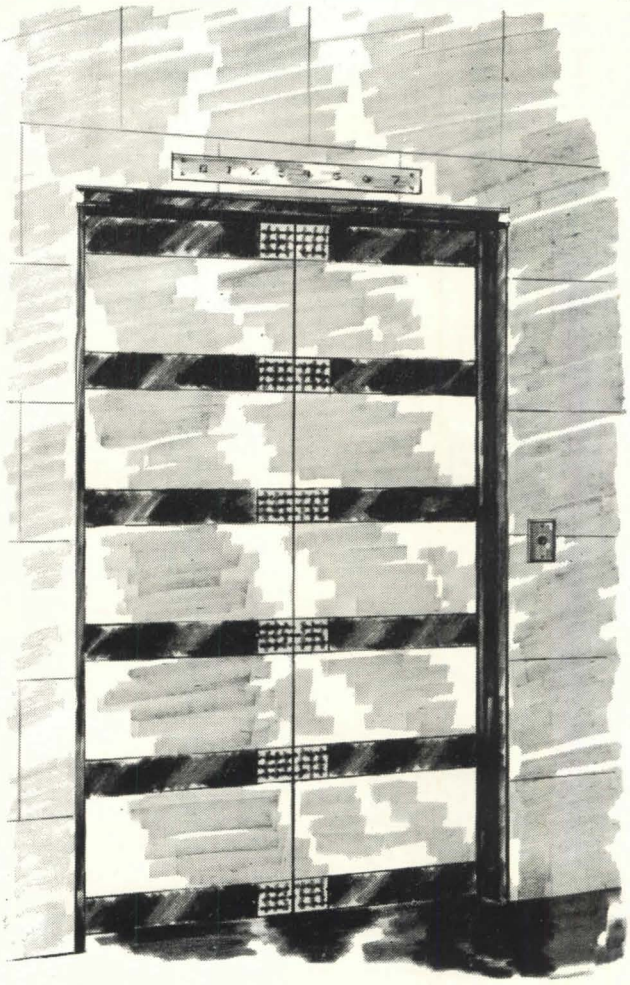

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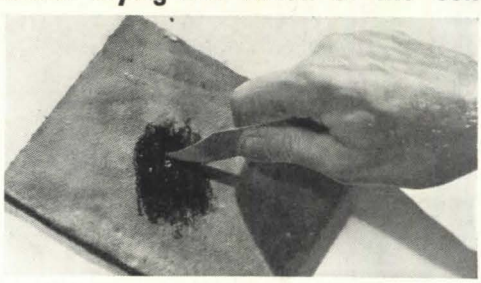

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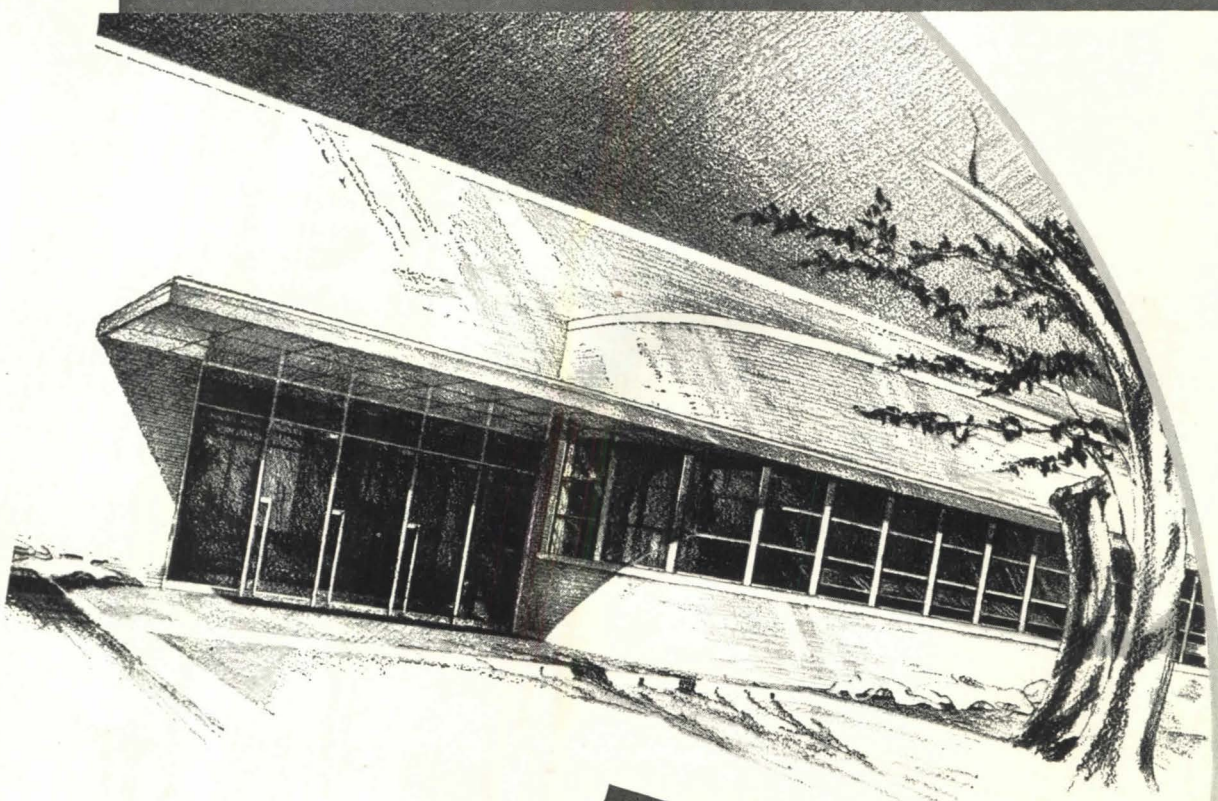

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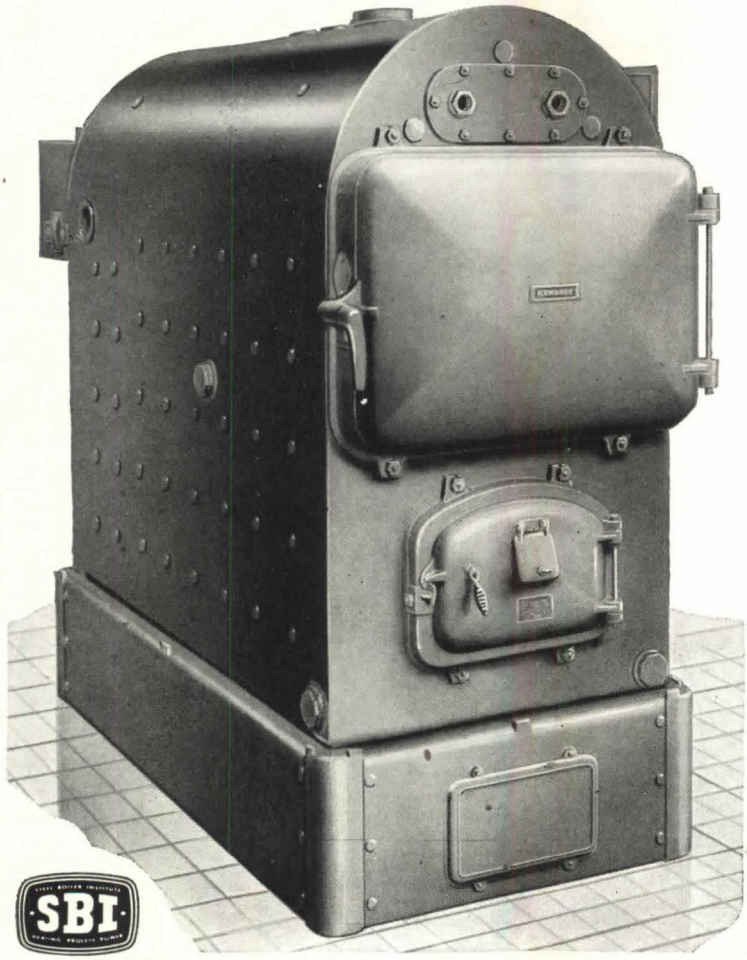

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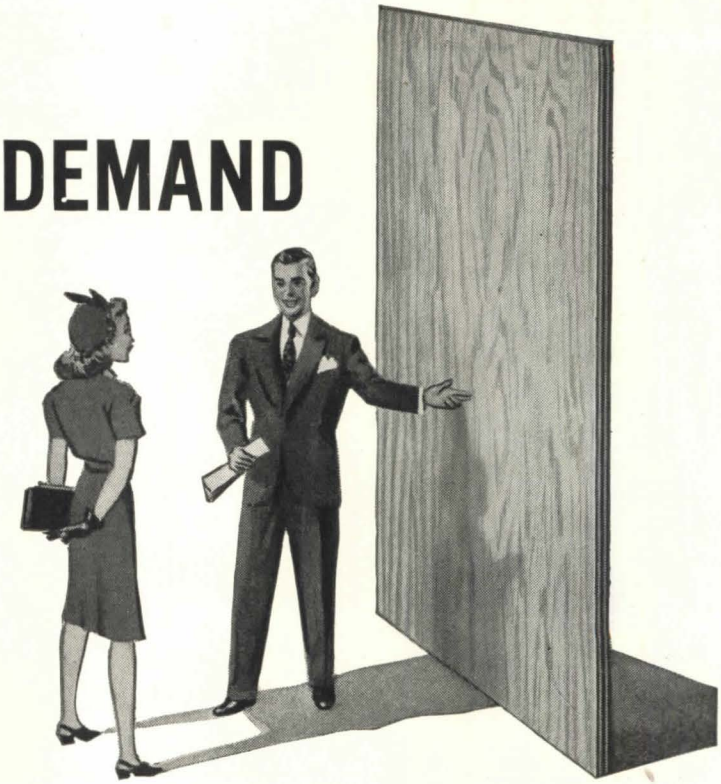

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Betty Barc

FOOTPRINTS IN SANDS OF TIME

What is the world coming to? This picture was snapped surreptitiously at *AN ARCHITECTURAL SCHOOL*. Have we lost all respect for *THE CLASSICS?* Is the younger generation completely *OUT OF HAND?*

OBSERVATIONS

ERNEST KUMP CLAIMS THAT ARCHITECTURAL EDUCATION SHOULD BEGIN IN FIRST GRADE. I'm inclined to agree with him that only by some such drastic move can the general public be made aware of the meaning of architecture and accept readily—even insist upon—good design. However, the question remains, *what* is going to be taught? Who would determine the point of view to be followed? How many local school boards would consider familiarity with the Greek orders an understanding of architecture?

Many intelligent, well educated adults can discuss music and painting and the theater with perspicacity and discrimination, but judge architecture by superficial standards. I have had two instances recently. In the town next to mine a bank was built on a prominent corner. Space was limited, and it hurt me to see much of it wasted in a formal, symmetrical approach. The other evening a neighbor commented on the building and complained bitterly about the crowded plan, poor customer circulation, and inadequate lighting. "But I like it architecturally," she said.

Apparently just a few esthetic trade marks are needed to denote "architecture" to most people. The other instance I mentioned was in an airport building in a Midwest city. A fellow traveler and I were griping about the smoky, stuffy, interior waiting room. Our flight was called and we finally found the circuitous way out to the field. As we got on the plane, my friend looked back at the cast-stone pilasters fastened to the yellow brick facade and said, "It's nice architecture, though, isn't it?"

I agree that early, general education in the elements of architecture is needed, but it might be a dangerous move until there is a much larger body of potential teachers who understand what goes on in the design process. The architectural schools themselves can't find enough qualified teachers.

•

ARCHITECTURE THRIVES WHEN IT IS A DEMOCRATIC PROCESS, becomes introspective and sere when it has no relation to the people it is meant for. That's a pretty obvious fact, but it's one that is too often overlooked both in a historical and a contemporary sense. The history books blandly say, "Architecture reflects its times." That isn't true, except in the periods when architects understood and were a part of the "times" they were presumably expressing. It is possible for architecture to *deny* its times; I think the airport building I mentioned is an example.

This is leading up to a profound observation: The important native contemporary architecture in this country is beginning to show up in those regions with no strong cultural prejudices, designed by men who are in close touch with the *users* of their architecture. An architect working in a small town in Texas may never become rich, but he has a double likelihood of producing important work; he is not apt to be deterred by local tradition, and he has the opportunity to be close to the people of the region.

On the other hand, a practitioner in a large city in New England has a double handicap; he meets face to face the remains of Early American culture, and he designs largely for clients who represent business rather than people. I know that at the moment—even in the pages of PROGRESSIVE ARCHITECTURE—the end products we publish seem to deny this. Yet I'd be willing to bet that in the next decade the well known big city firms will be less important (architecturally, not profit-wise) than a multitude of designers you've never heard of, all over the country.

That isn't a blind bet. We've seen work from many sources which is crude, stumbling, unpublishable, but which shows native expression and understanding. I've seen buildings—in Minnesota, Tennessee, Oklahoma, Indiana—which aren't nearly as *good architecture* as almost any shop on Fifth Avenue, but which come from a sincere attempt to provide appropriate structures for good neighbors, not from a flashy, impersonal design ability.

Give these boys time to season, add to them some of the recent school graduates, shake well and let simmer through a stable period of building activity, and you'll have the beginnings of that U. S. architectural expression that Sullivan and Wright hinted at back before the turn of the century. It got lost somewhere in the last fifty years, but it'll be along any generation now. Sometimes it's hard to be patient.

•

ENTHUSIASM DOESN'T NECESSARILY PRODUCE GOOD ARCHITECTURE, but it's astonishing to see how often a designer who is simply bubbling over with excitement about his work has good reason to be proud of the product. Conversely, when I go in an office and find principals dour and drafting room bored, I can be fairly sure that run-of-the-mill architecture is being turned out. I could mention many instances, but two come quickly to mind. Long & Thorshov's office in Minneapolis, doing some of the finest work in that region, is a hive of excited, enthusiastic activity. In Louis Justement's drafting room, in Washington, D. C., the whole staff stops work to help explain the features of a model of a veterans' hospital—one of the best in that program that I've seen. For obvious reasons I would prefer not to give examples of the reverse attitude.

Thomas H. Creighton