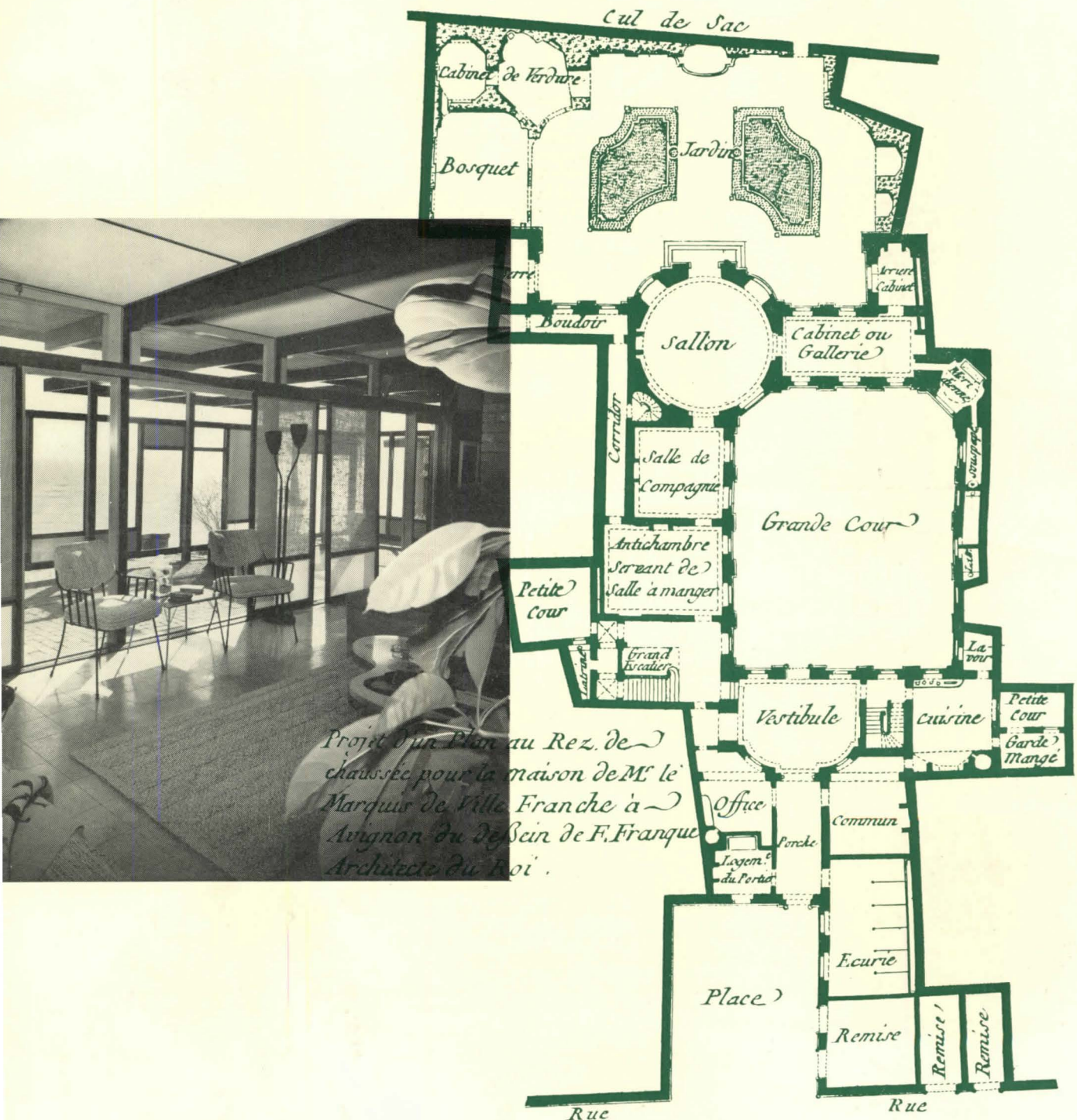


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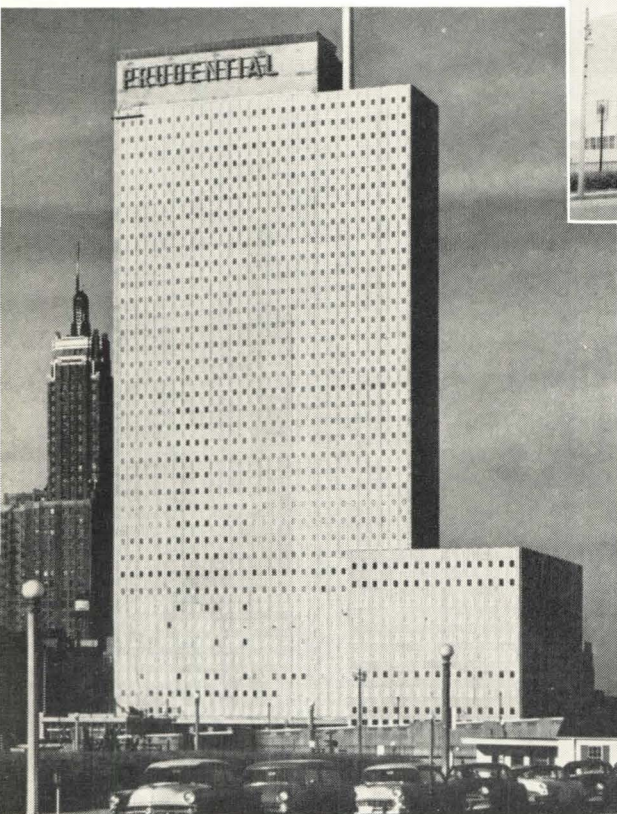
PRUDENTIAL

INSURANCE COMPANY OF AMERICA



Left—Prudential Insurance Bldg., Jacksonville, Fla. Archt.—Kemp, Bunch & Jackson; Engr.—Reynolds, Smith & Hills; Contr.—Daniel Construction Co. Pozzolith Ready-Mixed Concrete supplied by Capitol Concrete Co.—all of Jacksonville.

Below—Prudential Office Building, Minneapolis, Minn. Archt. and Engr.—Magney, Tusler & Setter; Contr.—C.F. Haglin & Sons Co. Pozzolith Ready-Mixed Concrete supplied by Ready-Mixed Concrete Co.—all of Minneapolis.



Left—Prudential Building, Chicago, Illinois. Archt.—Eng.—Naess & Murphy; Contr.—Geo. A. Fuller Co.; Pozzolith Ready-Mixed Concrete supplied by Material Service Corp.—all of Chicago.

Right—Prudential Insurance Co., Los Angeles, Calif. Archts.—Walter Wurdeman and Welton Becket; Engr.—Murray Erick Associates; Gen. Contr.—Wm. Simpson Co.—all of Los Angeles. Pozzolith Ready-Mixed Concrete supplied by Transit Mixed Concrete Co., Pasadena.



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It's the Law by Bernard Tomson

P/A Office Practice article continuing discussion of Arbitration and the Architect's Role as Arbitrator.

It was pointed out in last month's column that, under the Owner-Contractor agreements issued by the American Institute of Architects, the role of the Architect as arbitrator is severely limited. The question was asked "would it be in the interest of all to expand the architect's function as arbitrator and make his decisions final?" If the answer is "yes," the AIA forms require revision.

The "General Conditions" of the Contract of the AIA provide that the Architect shall make a decision on all claims of the Owner or Contractor "relating to the execution and progress of the work or the interpretation of the contract documents." It is further provided that all of the architect's decisions, except those relating to artistic effect, are subject to arbitration. Due to the fact that the courts, in construing the "General Conditions" of the AIA Contract have held that the Architect's right to make decisions in respect to disputes between Owner and Contractor is confined to a narrow area, a revision intended to expand the Architect's function as arbitrator must be broadly written. If the Architect's decisions are to be conclusive and final, any further arbitration must be excluded from the contract. The following clauses are suggested in order to accomplish these purposes:

"Any dispute, claim, or question concerning the execution of and the performance under this contract, including, but not limited to, any matters relating to quantity, quality and artistic effect, extras, and payments to the contractor or subcontractors, shall be submitted to the Architect for arbitration and his decision shall be final, binding and conclusive.

"Any dispute, claim or question concerning the interpretation, construction or meaning of the contract documents, the plans or specifications, or concerning a breach of the contract, shall be submitted to the Architect for arbitra-

tion and his decision shall be final, binding and conclusive."

If the Architect's role as arbitrator is expanded and his decisions made final, it is certainly of importance that a procedure be provided in the event that the Architect no longer furnishes services to the project because of incapacitation, discharge, or other reason. The "General Conditions" do not provide for this contingency. If the Architect is discharged by the Owner and a new one selected, it would be manifestly unfair to permit the new Architect to substitute as arbitrator, as the reason for the removal of the original Architect may have been related to a dispute between Owner and Contractor. If, on the other hand, a new Architect has been designated by his predecessor, then there is no reason why he should not have the same status. The following suggested clause is drawn to provide for these contingencies:

"In the case of the termination of the employment of the Architect, the Owner shall appoint a capable and reputable Architect whose status under the contract shall be that of the former Architect, except that in the event of such termination, any dispute, claim, or question which is subject to the arbitration of the former Architect as heretofore provided shall be submitted for arbitration to the American Arbitration Association, pursuant to the rules of said Association then obtaining and the laws of the State of _____. The foregoing exception, however, shall not apply to a successor of the Architect created or designated by him, or to an assignee of the Architect. Such successor or assignee shall have the same status under the contract as the named Architect herein."

In the event that it is considered advisable to submit certain disputes between Owner and Contractor to arbitration by some person or body other than the Architect, the question was asked in last month's column "would it not be a better procedure for the American Institute of Architects to provide arbitration

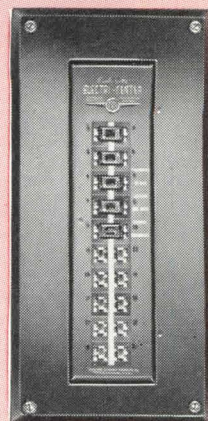
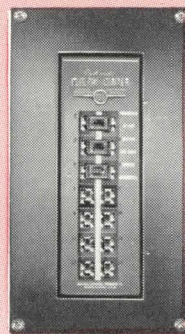
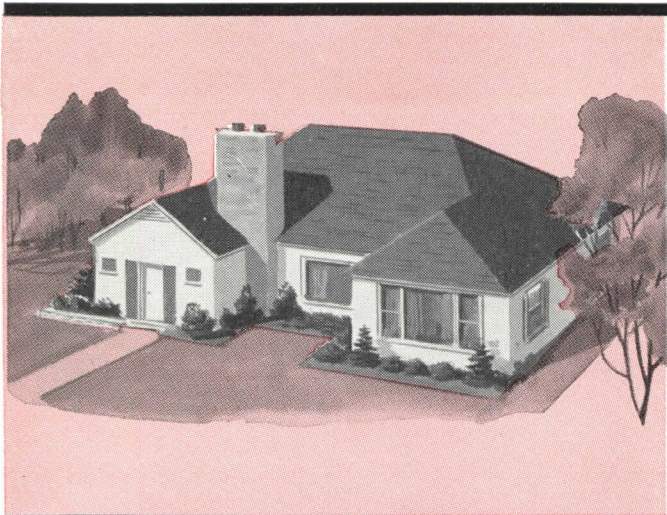
panels consisting of architects from which to select the arbitrator or arbitration tribunal?"

As pointed out, the standard procedure of the AIA is neither realistic nor effective, as it requires the parties to a dispute to agree upon an arbitrator. Failing such agreement the arbitration is to be conducted by the American Arbitration Association. However, the arbitration panels of the American Arbitration Association contain many members who would not be particularly qualified to determine disputes arising between Owner and Contractor. Of perhaps more importance, they also contain attorneys and members of the construction industry who because of their background might be biased in favor of one party or the other.

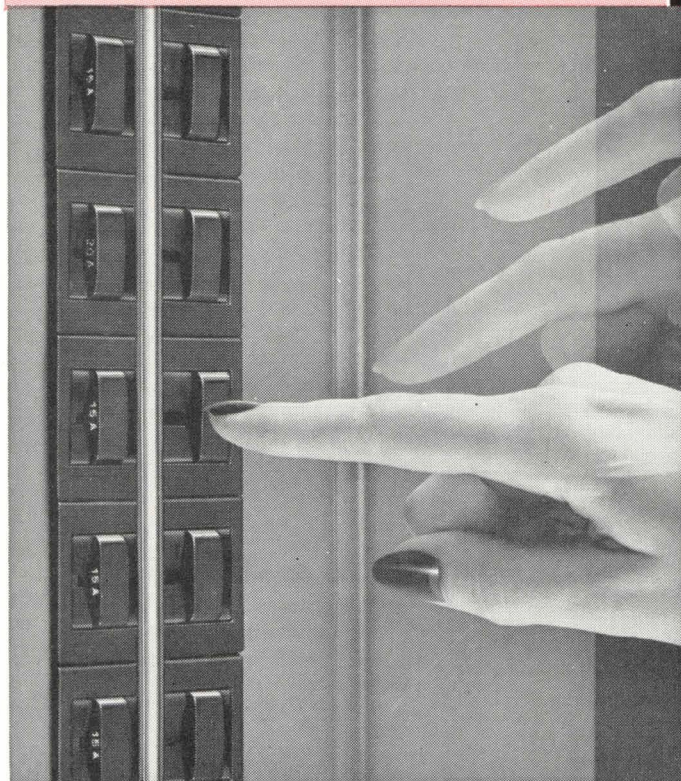
The Architect knows the problems of both Owner and Contractor. He is an expert in the field in which the dispute arises and is certainly the most competent and qualified person to determine disputes between Contractor and Owner. There is no reason why the American Institute of Architects cannot under its standard procedure provide an arbitration panel consisting of architects, from which the parties to a dispute are required to select the arbitrator or arbitration tribunal.

A suggested procedure is for the Institute to furnish both parties to a dispute with a list of architects from which the arbitrator must be selected. Each party would select three names from said list. If there was any agreement in the selection, the Institute would appoint that architect as the arbitrator. If no agreement, the Institute would appoint an arbitrator from the panel.

A standard arbitration procedure as described above, is desirable from the viewpoint of the Owner and Contractor as it would insure competent and unbiased determination of disputes. Further, from the Architect's point of view, it would be desirable as a factor in aiding the Architect to achieve the role of leader in the construction industry, which is his appropriate status.



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Mechanical Engineering Critique

by William J. McGuinness

P/A Office Practice column on mechanical and electrical design in architecture is devoted this month to Preplanned Adequate Residential Wiring.

In the professions of Architecture and Engineering we have all subscribed to the importance of good electrical planning, the use of electrical labor-saving devices, and the design of adequate wiring. Yet, somehow, in practice these good resolutions have largely been lost in the shuffle. Within the past decade, many houses have been built with 120-v, 2-wire service of 30 amp capacity and not more than four circuits. In some instances, slightly better wiring has been 3-wire, 120/240-v of 60 amp capacity and five or six circuits. A brief look at the *Residential Wiring Handbook* of the Industry Committee on Interior Wiring Design, or even a cursory glance at the amperages suggested below will make the inadequacy of such houses quite dramatic.

Before seeking the reasons and possible correction of this shortcoming, let us consider an industry that has solved the problem we are still trying to lick. Have you ever heard a motorist say, "Before I install a heater in my car I must have larger wiring put in," or, "Every time I turn on my new radio or cigar lighter I blow a fuse"? Most motorists do not even know that an automobile has a fuse! In spite of the fact that almost all cars can be purchased stripped of electrical devices, they are always wired to receive and serve them at a later date. In this highly competitive industry, manufacturers have found a way to include the cost of good wiring and sell it to the public. Perhaps the reputation of the company is important, since you will buy a new car 15 years before you will buy a new house—if, indeed, you ever buy a second house. Your next car purchase may well be from the same manufacturer, but the chance that you will buy a second house from the same builder or plan it with the same architect is very slim.

The consumer who expects his car to have wiring suitable for additional equipment, however, seems quite satisfied to install a larger electrical service in his house if he purchases a central air conditioner, an electric range, or a clothes dryer. Having bought the larger service wiring, sized only to serve one additional piece of equipment, he may have to increase the wiring again when the next device is contemplated. Thus in this era of efficiency where one can, for instance, shop for two weeks' provisions instead of shopping daily, vision is lacking in the simple matter of planning for a reasonable expansion of electric service.

It is not unusual for an owner to have to pay \$175 to replace the service-entrance wiring because of a new piece of equipment, even to pay this amount many times over for the addition of various circuits within the house. The investment of \$175 (or less) once, when the house was built, might have saved these charges and the makeshift wiring added to a completed house. Labor is the big item; at the time of installation, a small additional investment in copper will provide much greater capacity. Further evidence of the fact that we are talking about a small initial expense is seen when we consider that electrical equipment is usually the smallest item of cost of the mechanical trades in a house. Of the total cost of the house, approximate costs of mechanical equipment, expressed as percentages of total house cost, might be:

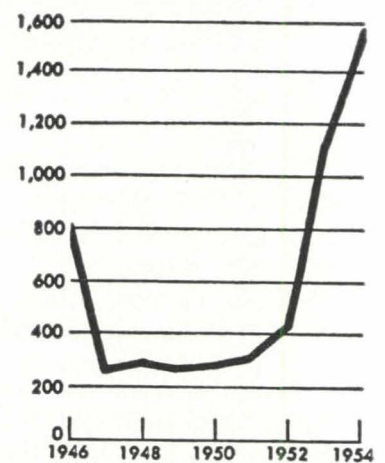
heating and air conditioning	10 to 15%
plumbing	7%
electrical	3%

The difference between adequate and inadequate wiring is a small part of a small item.

It may be thought that this is quite a private matter to be handled by the owner and even the architect, as they choose, and indeed it is. Yet the tendency to overload circuits, resulting in great inefficiency, eventually causes hazardous conditions which are a civic responsibility. However lightly the in-

Broilers

Thousands of Units

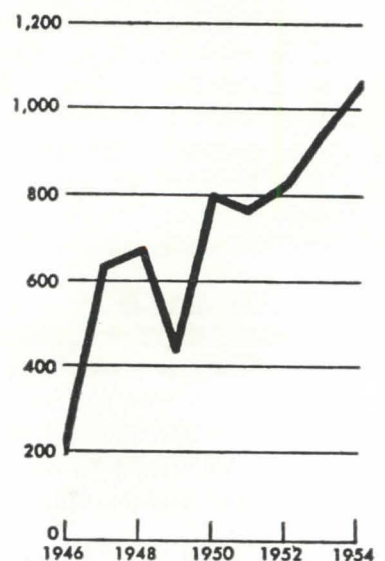


Figures 1 and 2—charts illustrate rapid growth of appliances manufacturers' sales.

Data: Courtesy of Electrical Merchandising

Electric Bed Covering

Thousands of Units





The summer sun pours down as much as 250,000 Btu's of heat per hour on a 1,000 sq. ft. roof of a house at noon on a clear day. Some white shingles can reflect, OUTDOORS, about 55% of the sun's rays; yellow shingles 35%, green 15%, red 14%, blue 5%, black 4%.

White shingles won't always stay white, don't always harmonize with the color-scheme, easily look soiled. So despite the greater efficiency of white (which is true only OUTDOORS), roofs may nevertheless be ANY color; and the house will still be considerably cooler than the outside; IF MULTIPLE REFLECTIVE spaces and reflective surfaces are installed beneath the roof.

The comfort and efficiency of this scientific combination, produced by multiple sheets of aluminum and fiber, air-spaced apart, is remarkable for its effectiveness in repelling radiation, which is responsible for about 93% of all heat in-flow down from the roof to living quarters. The surfaces of the aluminum reflect radiation with a 97% rate, and absorb and emit radiation at a rate of only 3%.

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ALSO RETARDS WINTER HEAT LOSS

In winter too, this form of insulation is effective, because 55% to 70% of heat flow upwards

through air space is by radiation. Convection, ranging to 45%, is retarded by the multiple aluminum sheets. In up heat flow, conduction is also slight because of air's low density.

The best shingles or most beautiful paint job on the exterior or interior, will not protect against peeling paint, timber rot, and crumbling plaster caused by destructive condensation.... The multiple aluminum, almost impervious to water vapor, minimizes condensation formation on or within it by its scientific construction.

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Mechanical Engineering Critique

dividual may take this matter, there are those who consider it a major national problem. The list includes: American Home Lighting Institute; Edison Electric Institute; International Association of Electrical Inspectors; National Association of Home Builders; National Association of Electrical Distributors; National Electrical Contractors Association; National Electric Manufacturers Association; Radio, Electronics and Television Manufacturers Association; American Institute of Electrical Engineers; American Society of Agricultural Engineers; Illuminating Engineering Society.

These organizations sponsor or endorse widespread plans for better wiring. In this project, utility companies in all parts of the country are also participants. It would seem that equipment is available and power obtainable, but that owners just refuse to provide the channels through which the two can effectively operate together.

It is interesting to observe that those closest to the problem, namely the owner and the architect, are not on the above list. It is not always correct to assume that the builder and electrical contractor are members of these associations or possessed of the interest or energy to sell this campaign. So, in the long run, it depends on the owner and the architect to call for the proper wiring for present and future equipment.

Putting the convenience outlets in the proper places so that devices may be plugged in is no great problem. This kind of planning has improved greatly; yet, too often we still see the octopus-like fixture leads that are a sure sign of overload. It is necessary to go beyond this and find out how the outlets are to be served.

A basic specification is suggested from which to build. Consider whether this is not a minimum standard.

Service: 120/240 v, 100 amp or more as required. In many cases 200 amp is not excessive.

Distribution: More than one load center is a convenience and is frequently an economy because this shortens long runs from the service entrance to remote circuits.

Direct Connections to Equipment: These should be served directly and controlled from the main switchboard or from a convenient local panel box.

Recommended circuit capacities:

	Amp
range	50
washer	20
clothes dryer	30
furnace	20
dishwasher and waste disposal	20

140

A second group might easily be considered:

	Amp
attic fan	20
conditioner	20
freezer	20
bathroom heater	20
workshop	20

100

Appliance circuits: To kitchen, laundry, and utility room:

	Amp
grill	7
egg cooker	5
hand iron	9
roaster	12
coffee maker	8
toaster	9

50

General-purpose circuits: Lights and minor devices, 5 circuits @ 15 amp = 75 amp. In addition to lights the following group of items may be plugged in:

	Amp
television	2
3 radios	3
sewing machine	1
razor	2
5 clocks	10

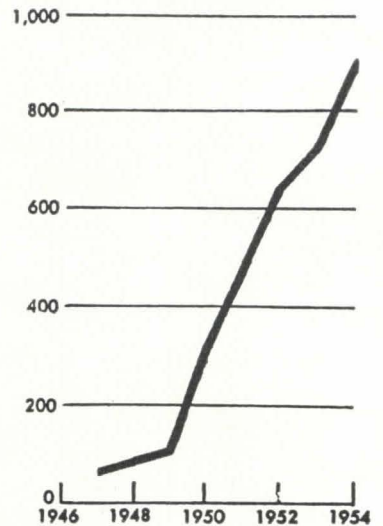
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The owner is advised to make his own list. There are more than 100 items that can be connected to appliance and general-purpose circuits. It is fortunate that not all of the equipment is in use at once, so that the entrance wiring does not have to be as large in capacity as the sum of the branch circuit loads. Beyond the provision for all these items, most far-seeing planners recommend an additional 30 or 40 percent reserve for electrical devices as yet unknown.

The effect of the increased production of four major appliances in a recent eight-year period on the national power demand may help us judge the rate of increase for future planning.

Clothes Driers

Thousands of Units

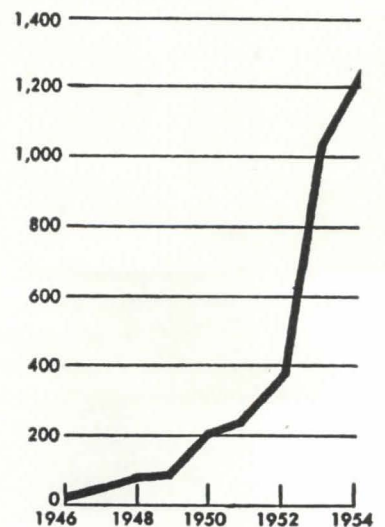


Figures 3 and 4—charts illustrate rapid growth of appliances manufacturers' sales.

Data: Courtesy of Electrical Merchandising

Room Air Conditioners

Thousands of Units

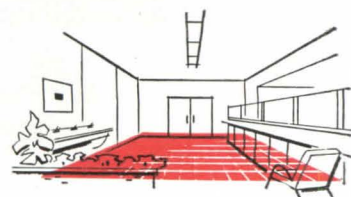
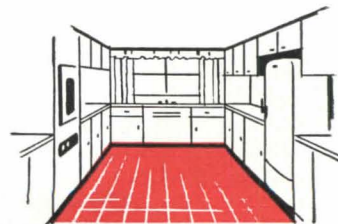
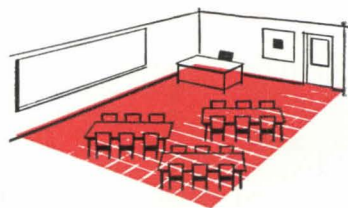
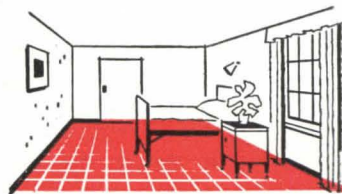


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Characters in Search of An Architect by Edwin Gilbert

Being the confessions and revelations of a novelist whose recent book about the architectural profession has provoked a most unexpected avalanche of interest from the public.

Now that *Native Stone*, the new novel about architects, has become something of a national success, the Author, nudged by the Editors of P/A, can undertake to reveal certain discoveries he has made about what the general public thinks of architects.

It is no secret that most architects are inclined to believe that people are not interested in them or their profession. In fact, when I finished my novel, a Connecticut architect said to me: "You only made one mistake: you wrote about architecture." Another man of similar lugubrious cast, remarked: "The public, when it comes to architects, couldn't care less!"

Early comments like these did not fill me with exaltation. And when the novel was finally published, I still could detect nothing of the true nature of public opinion. At first it was the literary critics-architects who voiced their sentiments, but these reactions only managed to confuse me further by their very inconsistencies. A Boston architect wrote: "I was so many times carried away in retrospect by your astutely keen observations. I had lived so many of the experiences in reality. Every architect will enjoy reading your excellent novel; firstly though—I hope a million laymen read it." I could only glow with satisfaction. Yet, in the next day's mail another architect more cynically observed: "If I encountered in my practice as many amorous females as those in your novel, I would gladly lower my fee. And, I would like to add, that it was hard for me to believe that people can be as fascinated with the profession as you suggest. . . ."

My confusion was further aggravated by the complaint of one critic who lamented that the book contained so much "erotic entertainment" while another stated that "the author does not dwell extensively enough on realistic architectural problems"; while yet a third said: "Bless you, Mr. Gilbert, for investing your story with a human element that will, I hope, bring about a new attitude toward architects who are too often regarded as stern and unrelenting

robots at the drafting board." A case of acute vertigo afflicted me when I heard that one officer of the AIA "objected to the language" in the book, while another officer of the AIA wrote to me saying that after reading the book he had given it to his son with the knowledge that "it might help him become a finer architect."

I remained in darkness.

Slowly, then, the letters from the reading public began to fill my mail box. It is this reaction which helped resolve my doubts. Did these readers write about eroticism or love or the struggles of young architects? Did they praise me for the drama of the narrative or did they challenge me about the philosophy of architecture inherent in the book? No, nothing like it! What, then, was the public's reaction?

It can best be shown by quoting excerpts from among the countless letters I have received.

From a Detroit housewife: "After hunting for a house for over a year, we were especially impressed by your hero's tirade on Drearyville U.S.A. (the name given for contractor-designed, picture-window, jerry-built developments). Anyway we are now seriously looking for a good architect who can build us a house we won't be ashamed of. Thank you for not only a very entertaining story, but also for opening our eyes."

From the owner of a large lumber company in Connecticut: ". . . to back up my remarks about *Native Stone*, I have ordered 10 more copies, which I am sending as gifts to friends of mine who are giving birth to a lot of bad ideas about houses and buildings they are proposing for the near future. This book hits the nail squarely on a lot of heads that need hitting."

Another letter, this one from a veterinarian in New York State, concludes by saying: ". . . reading your book when we did was a lucky coincidence. We are planning a new home and quarters for my practice. A contractor friend of mine convinced us that we'd be sparing ourselves headaches and money if we went ahead without an architect. Frankly, we were sold on the idea. But we must admit *Native Stone* got us so steamed up and stimulated about architecture that we finally consulted an architect who is now preparing designs and plans, and we hope to be able to move in by early summer."

From a junior executive in a San Francisco suburb: ". . . for more than two years I have put off action on the building of an extensive addition to our house. Within less than a week after reading your absorbing novel, we called our architect and gave him the green light."

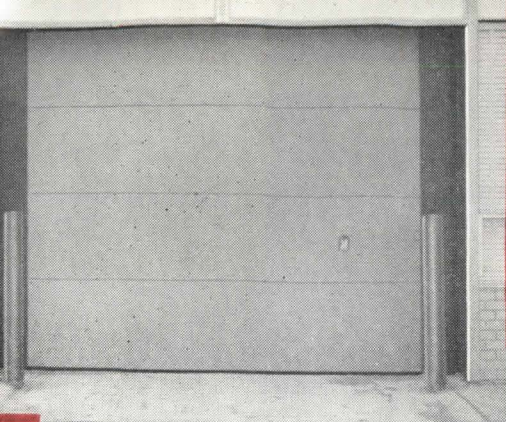
A similar reaction is expressed by a prominent New York attorney: "We have been reluctant and at cross purposes about proceeding with the building of a house in the country. It did not occur to us until we read your enjoyable and informative novel that we could build a contemporary house that did not have to look like a glass match-box to be handsome or livable."

Bankers, ostensibly a flint-hearted group of citizens, can apparently become tender on occasion, as this letter testifies, coming as it does from one of the directors of a Massachusetts bank: "I finished *Native Stone* this past weekend, and allow me to say that I found it so inspiring that my entire outlook on architecture has been revised."

From the chairman of the building committee of a school in southern Texas, I received this communication: "Your book could not have come to my attention at a more timely moment. At least, it has surely unified our board once and for all, and our search for the right kind of architect has taken a new and constructive course."

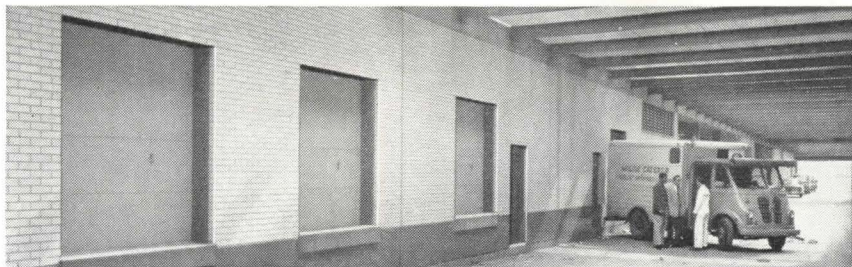
And lastly, this engaging letter from the wife of the owner of a wholesale plumbing and heating company in Long Island: ". . . you might be interested to know that my husband, for reasons of his own, has gone around the house for years complaining about architects. I gave him *Native Stone* to read after I'd finished it. It's a long book and he doesn't have much time to read. But he went through it from cover to cover. After living the education and experiences of the architects in your story, he only said one thing: 'Well, from now on I take my hat off to those guys!'"

Thus it goes. The mail from the reading public grows daily, and the telephone calls become more frequent. Most recently I have even been asked by a number of people to recommend an architect to them; doing so would prove to be a most unexpected and pleasurable therapy for a novelist who was warned that the world was quite indifferent to architects and architecture.



LAMBERT-ST. LOUIS MUNICIPAL AIR TERMINAL

uses 16 Crawford Industrial Doors to aid in free flow of baggage, freight and catering service to planes



Among the most important and socially significant new buildings going up throughout the world today are air terminals and one of the most interesting of these is the Lambert-St. Louis Air Terminal in which function and brilliant design are so effectively combined.

The building is of steel and masonry construction, 412 feet long and 120 feet wide and is crowned by a dramatic "floating dome" which shelters approximately a quarter million square feet of this "Grand Central of the Air".

Inherent in the design of the terminal, of course, are facilities to assure the rapid flow of all kinds of traffic . . . passenger, luggage, express, freight and catering. Included in these facilities, at key locations, are Crawford Industrial Doors, chosen for their good design, good engineering, stout construction and for their quarter-century reputation for delivering top service.

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New Terminal Building Lambert-St. Louis Municipal Airport

Architect and Engineer
Hellmuth, Yamasaki & Leinweber, Architects
Detroit, St. Louis

Structural Engineer
William C. Becker, St. Louis

Mechanical Engineer
Ferris & Hamig, St. Louis

Contractors
L & R Construction Company, St. Louis

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M. R. ZUMWALT,
President,
Crawford Door Sales Co.
of St. Louis

Crawford *MARVEL-LIFT* Doors

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Delco-matic GARAGE DOOR OPERATORS



Capitol east front

That eternal vigilance demanded of all who would preserve our architectural heritage dictates more letters! Those who have already appealed to Congressmen to oppose tampering with the east front of the Capitol in Washington now are urged to write at once to Arthur Brown, Jr., San Francisco; John F. Harbeson, Philadelphia; Henry R. Shepley, Boston; Roscoe De Witt and Fred L. Hardison, Dallas; Alfred E. Poor and Albert H. Swanke, New York; Jesse M. Shelton and Alan G. Stanford of Robert & Company Associates, Atlanta. These architects and engineers are announced as consultants to "The Commission For Extension of the U.S. Capitol"—and may yet be persuaded to advise leaving it alone.

C. M.

miss Cook's Tour of duty

Dear Editor: Do Architects read and write? The AIA publishes each month in its *Journal* carefully selected excerpts from letters, talks, and publications which the Institute believes shows erudition, at least, for two of the three R's, among Architects.

If you would direct this same question to Miss Ruth Cook, Librarian of the Department of Architecture in the Harvard Graduate School of Design, she would point to some thousands of books, pamphlets, and folios as proof that the Architects write. (The extent to which they read, she may admit, is debatable.) The major portion of this library has grown under her continuous direction since 1919, to where it now rivals the best; perhaps second only to the famed Avery Collection at Columbia. Loyally, Miss Cook believes that Harvard's architectural graduates have distinguished themselves beyond comparison—and doesn't this mean, in part, a superior library?

After 36 years, Miss Cook is re-

tiring from her guardianship. No one else in the Department has witnessed over so long a period the tumultuous changes in the profession, programs, policies, faculty, and deans. She has survived innumerable *fêtes charrettes*, the advent of girls (!) as students, a domestic faculty as well as an international one, classic architecture and contemporary work. Her library and catalogs reveal that change alone remains constant as the denominator of architecture.

According to the *Architectural Alumni Catalog* of 1932, Miss Cook's opportunity for a "grand tour" of the Continent in 1914 was frustrated by outbreak of World War I, so, on her retirement, several hundred alumni of every Class of the past 36 years have reached into their pockets to provide a suitable gift. Her tour of duty at Robinson Hall being completed, Miss Cook now begins her own Cook's Tour around the world, provided by the Harvard architectural alumni. Perhaps she will wish to see *en situ* the architecture and places so well documented in her Library—perhaps she will want to avoid them (and architects) for a while.

It is not known whether this will be a Busman's Holiday with an architectural guidebook in hand. How Ruth Cook may escape architecture and (her) graduates in every corner of the globe is not known. Alumni all over the world *will* be alerted!

In addition to the tour, Miss Cook has been presented by the architectural alumni with a purse of \$1000, to make certain that no pages need be skipped in her guidebooks.

REGINALD R. ISAACS
Cambridge, Mass.

welcome approval

Dear Editor: For me, the April issue is the most interesting I have received.

(Continued on page 14)

PROGRESSIVE ARCHITECTURE published monthly by REINHOLD PUBLISHING CORPORATION, 430 Park Avenue, New York 22, N. Y. Ralph W. Reinhold, Chairman of the Board; Philip H. Hubbard, President and Treasurer; Fred P. Peters, Vice-President and Secretary; Alfred E. Fountain, H. Burton Lowe, Merold F. Lue, D. Bradford Wilkin, William P. Winsor, Vice-Presidents; Kathleen Starke, Assistant Treasurer. Executive and Editorial offices: 430 Park Avenue, New York 22, N. Y. Subscriptions payable in advance. Subscription prices to those who, by title, are architects, engineers, specification writers, designers or draftsmen, or employees of architectural and engineering firms, and to government departments, trade associations, members of the armed forces, college libraries, college students, publishers, advertisers, prospective advertisers and their employees—\$5.00 for one year, \$8.00 for two years, \$10.00 for three years. Above prices are applicable in U. S., U. S. Possessions and Canada. Latin America and Philippine Republic—\$10.00 for one year, \$16.00 for two years, \$20.00 for three years. All other foreign subscriptions—\$15.00 for one year, \$25.00 for two years, \$30.00 for three years. Single copy—\$1.00; special issues—\$2.00 per copy. Printed by Publishers Printing Co., New York, N. Y. Copyright 1956, Reinhold Publishing Corp. Trade Mark Reg. All rights reserved. Indexed in Art Index, Architectural Index.



REINHOLD

(Continued from page 13)

If for no other reason, I would write to commend you for the Scandinavian Design Cavalcade, especially the addresses (INTERIOR DESIGN DATA).

I enjoyed your comments on criticism (P.S.). As an American, it appears to me that Americans are

singularly averse to criticism and that they are impeding their progress in every area. SALLY HUNTER
Bloomfield Hills, Mich.

for general contract

Dear Editor: Our attention has been called to an article in February 1956 P/A, page 11, wherein the author advocates the awarding of separate contracts for the various portions of

the work to be done as compared with awarding the entire construction project under one general contract.

It should be obvious to those familiar with construction that experiences of the industry have demonstrated that maximum efficiency in the construction of a project, which requires interlocking operations, is secured when undivided responsibility for its execution is placed upon an experienced and competent general contractor, through the award of one general contract.

Undivided responsibility on the job will produce the lowest ultimate cost to the owner, insure completion of the project on schedule, permit the general contractor to exercise fully his primary function of creative management, assure quality construction, maximum efficiency, a uniform labor policy, co-ordinated construction safety measures, and protect the owner from suits.

It appears to us that the advantages of the all-inclusive general contract outweigh by far those alleged to accrue under the separate-contract system.

JAMES D. MARSHALL
Executive Director,
The Associated General
Contractors of America

plea seconded

Dear Editor: A cheer for Ray Harvey, whose letter appears in February 1956 P/A (pages 13-14).

His words needed saying!

I have often wondered how many prospective clients have found themselves hopelessly at odds with an architect, due to his disregard of budgets and his insistence on nurturing his own ego, rather than concentrating his design efforts toward interpreting his clients' expressed desires.


These are the people who are left with a sour opinion of architects, and no choice but to buy a builder's stock split-level.

Could this explain in part the depressing record that architects have made in the field of residential design?

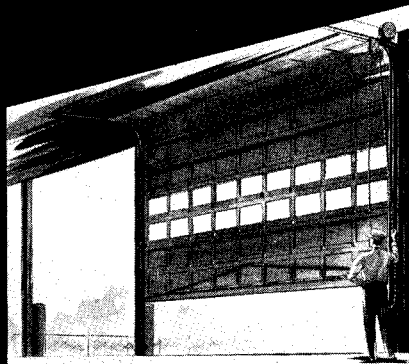
FIELDING L. BOWMAN
New Canaan, Conn.

(Continued on page 16)

KNOW THIS MARK OF QUALITY



Quality...
IS A PARADOX



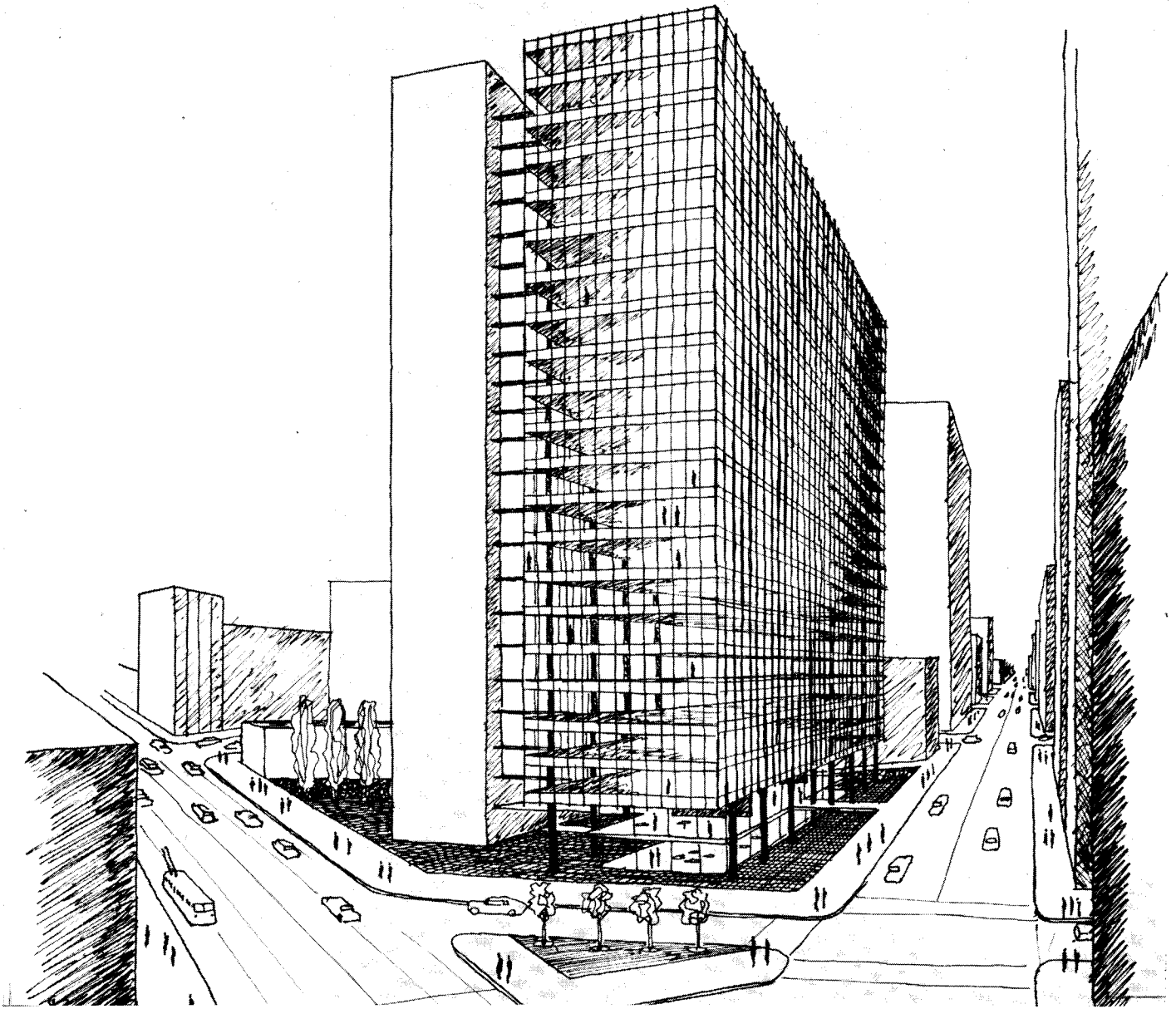
It is automatically guaranteed though the need of warranty has evaporated. Guarantee is of value only where serviceability is uncertain—and then it is no longer given. Raynor adherence to quality—in materials from which Raynor Doors are fashioned; in graceful strength of design; in skilled and careful manufacture; and in responsible distribution—means a product guaranteed in service. This is at once an assurance of trouble-free operation. Raynor is proud to identify their doors with an easily recognized "mark of quality".

Check your telephone directory for the name of your nearest representative or write direct.

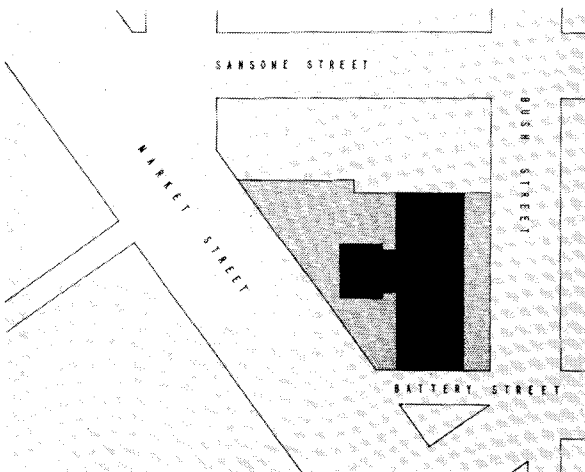
RAYNOR

SEE OUR CATALOG IN SWEET'S

RAYNOR MANUFACTURING CO.
Dept. 1 Dixon, Illinois



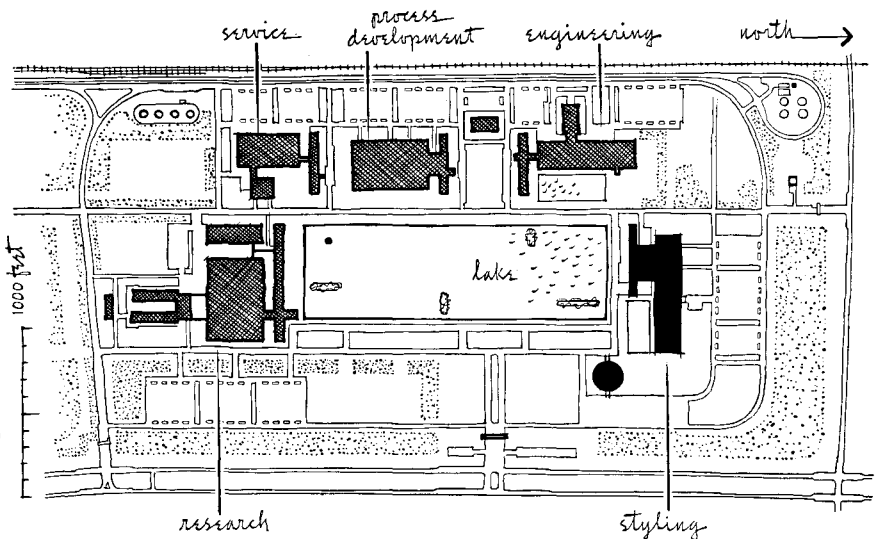
GLASS TOWER PLANNED FOR SAN FRANCISCO



SAN FRANCISCO, CALIF., May 18—Crown Zellerbach, paper-manufacturing corporation, today announced plans for its new 22-floor headquarters to be erected in the downtown area here (*plan, left*). Designed to accommodate 2000 people, Crown Zellerbach plans to occupy 40% of the structure's 230,000 sq ft by mid-1958. Plan of steel framing provides open floor space free of all columns, other obstructions; services will be housed in tower adjoining main building (*see sketch*). Movable partitions will enclose modular space units, each having its own light, air conditioning, telephones, and power. Landscaped gardens, below street level, surround building. An underground garage will contain more than 200 cars. Hertzka & Knowles and Skidmore, Owings & Merrill, Associated Architects, developed the plans.



GM TECHNICAL CENTER DEDICATED



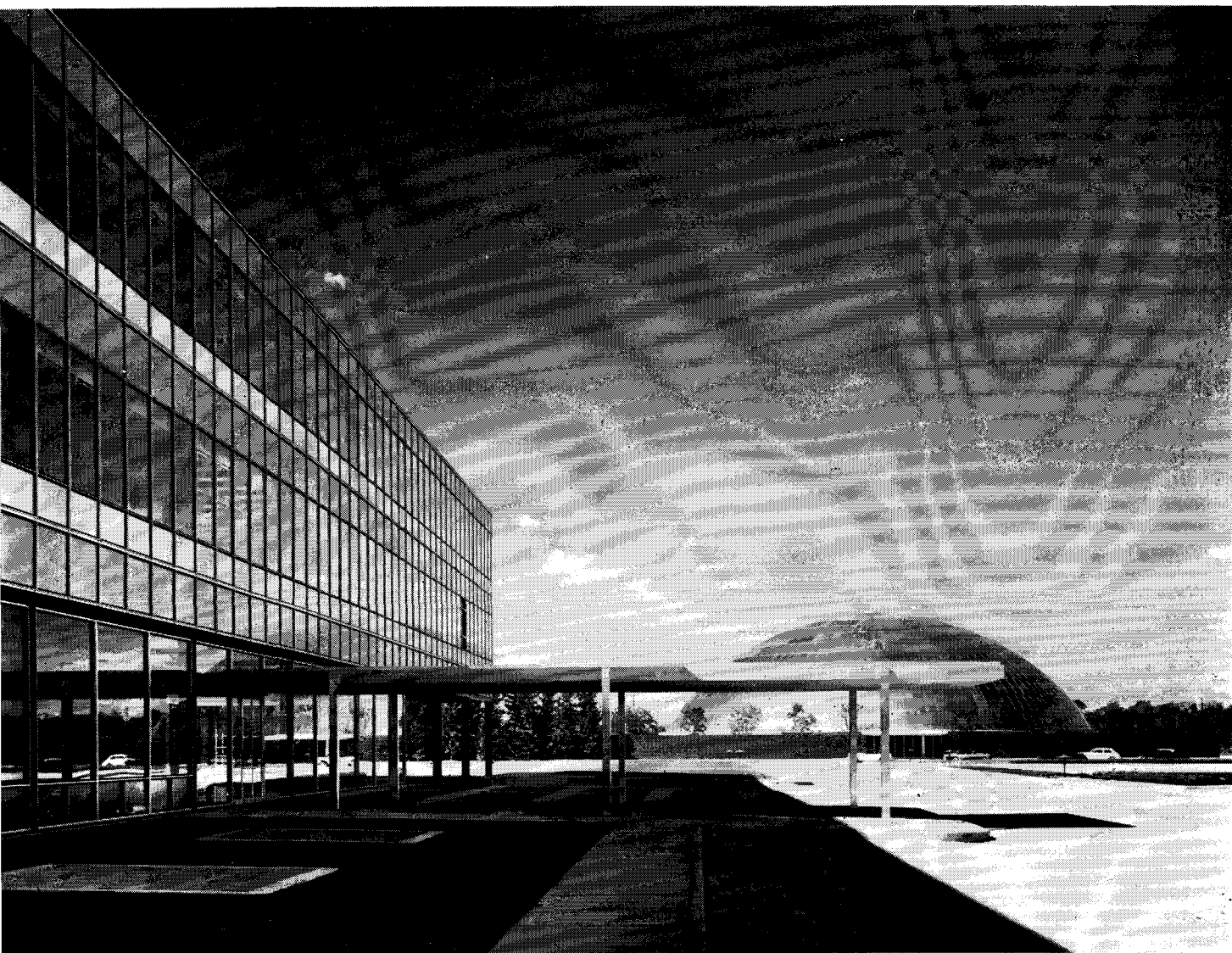
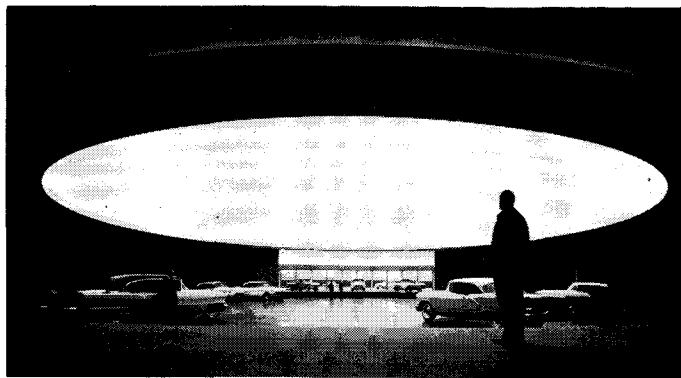
DETROIT, MICH., May 16—With completion of the Styling Administration Building and domed Auditorium (*photos acrosspage and stair detail above*) General Motors has put finishing touches to its \$150-million Technical Center (*top of page*). Five thousand leaders of science and industry attended formal dedication ceremonies held today. The Technical Center occupies 320 acres in

Warren, Michigan. Its 25 buildings—housing the Research, Engineering, Process Development, Styling, and Service sections—are adeptly disposed around a 22-acre artificial lake. Distinguished architecture, closely related works of art, lavish fountains, and landscaping provide an inspiring and tranquil atmosphere for the 4000 designers, technicians, and office workers employed at the Cen-

ter. This may deservedly rate as the prototype of the secluded industrial environment of the future. Architectural and site planning—ranging from gatehouses, laboratories, office buildings, and shops, to the total scheme—is the accomplishment of Eero Saarinen & Associates, Architects, Bloomfield Hills, and Smith, Hinchman & Grylls, Incorporated, Architects-Engineers, Detroit.

Styling Section of General Motor's Technical Center consists of Administration Building and domed Auditorium (below). Luminous ceiling of 88-ft Auditorium (right) provides shadowless lighting for technicians of research staff. Automotive-design studio (right) receives natural light through glass curtain walls, as well as artificial light supplying 95 ft-c intensity at desk height.

Photos: GM Photographic



News Bulletins

• New AIA officers elected at last month's Convention in Los Angeles are: President, Leon Chatelain, Jr.; First Vice-President, John Noble Richards; Second Vice-President, Philip Will, Jr.; Secretary, Edward L. Wilson; Treasurer, Raymond S. Kastendieck.

• Additional Convention news: Resolution urging more competitions for design of public works, whenever feasible, was passed. . . . Resolution recommending change in voting methods for national officers has been referred to Institute's Board of Directors for further study. . . . Seminar sessions covered wide range of subjects, from integration of the arts to office-practice and specifications problems.

• AIA Honorary Memberships—for distinguished service to architecture and allied professions—were awarded at Convention to: Thomas S. Holden, Vice-Chairman of F. W. Dodge Corporation; Brig. Gen. Thomas North, Secretary of American Battle Monuments Commission; Leon Zach, President of American Society of Landscape Architects; and John F. Lewis, Jr., President of Pennsylvania Academy of Fine Arts. . . . Honorary Fellowships were presented to Jean Maunoury, Architect for Chartres Cathedral; Gustavo Wallis, Past President of IX Pan American Congress; Ernesto N. Rogers, Italian Architect and Editor; and Edmundo G. Lucero, President of Philippine Institute of Architects.

• Competition for design of Home for the Aged (including infirmary and rehabilitation facilities) has been announced by National Committee on the Aging, National Social Welfare Assembly. Competition closes October 1, 1956; prizes total \$10,000. For details write: Edward H. Noakes, White, Noakes & Neubauer, 1145 19th St., N. W., Washington 6, D. C., Architectural Consultant for competition.

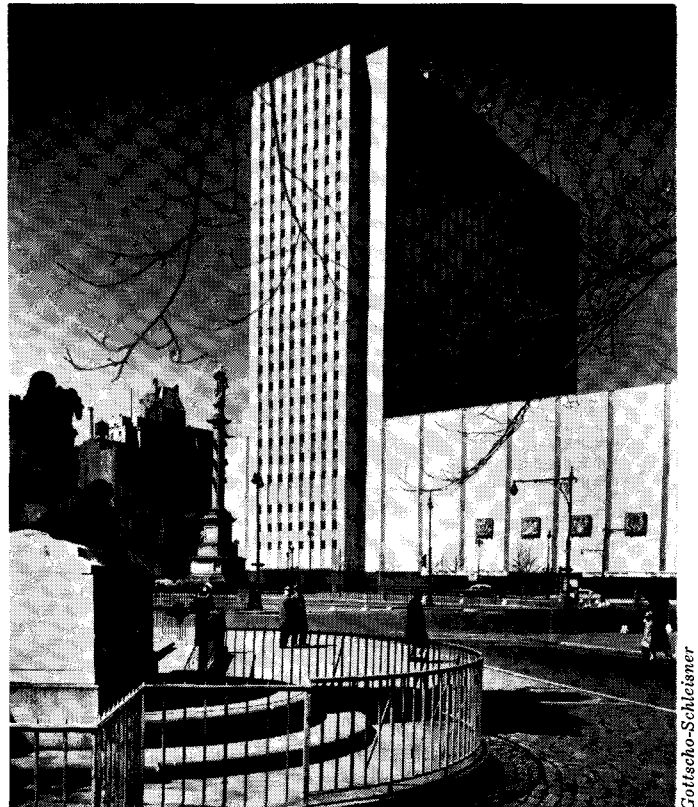
• Birch Burdette Long Memorial Prize Competition, an annual event at The Architectural League of New York, took place this past month. First Prize, in competition for architectural renderings, went to George Cooper Rudolph for three drawings of 30-story Chase Manhattan Bank Building (see May P/A News Survey). Honorable mentions: A. Jimenez, for rendering of Canada House; Pierre Lutz, for drawing of P.S. 175, Manhattan; and Robert E. Schwartz, for drawing of a proposed school.

• Five top winners in The School Executive's Fifth Annual Competition for better school design are: Warren H. Ashley, for Wilbert Snow Elementary School, Middletown, Conn.; Caudill-Rowland-Scott with Bruce & Russell, for J. R. Moore Junior High School, Tyler, Tex.; Hellmuth, Obata & Kassabaum, Inc., for Bristol Primary School, Webster Groves, Mo.; Vincent G. Kling, for Kissam Lane School, Sea Cliff, N. Y.; and Jay C. Van Nuys & Associates, for Hanover Park Regional High School, East Hanover Township, N. J.

• American Standards Association recently honored three men "who have contributed most toward the advancement of modular measure as a means of benefiting the national economy." Trophies were presented to: Leonard G. Haeger, Technical Director for Levitt & Sons, Inc.; Fred M. Hauserman, President of The E. F. Hauserman Company; and H. B. Zackrisson, Chief, Engineering Department, U. S. Army Corps of Engineers. . . . Modular measure received a big boost last month when Associated General Contractors of America announced its official endorsement.

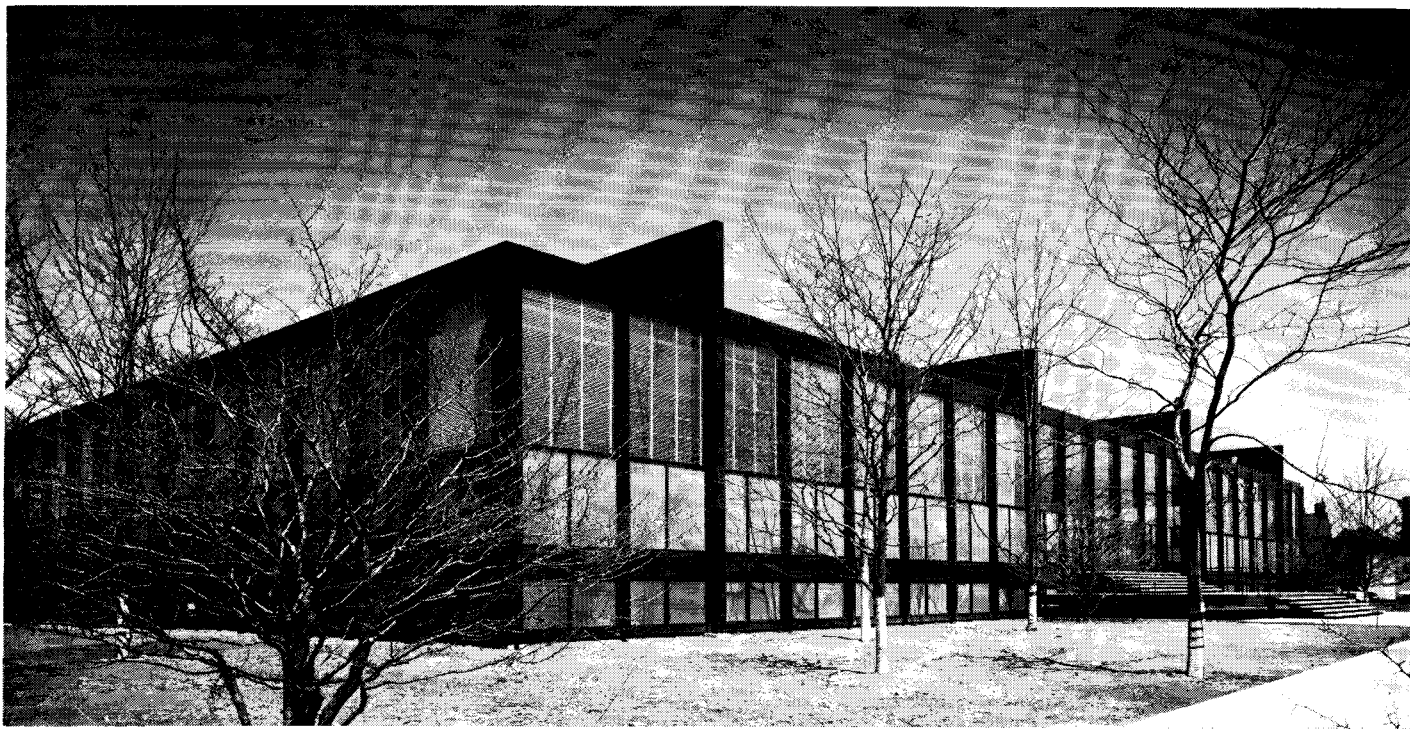
• Lewis Mumford, Author and Professor of City Planning, University of Pennsylvania, has been awarded a Fellowship for his "studies of the development of cities as an aspect of modern civilization" by John Simon Guggenheim Memorial Foundation.

• Paul Schweikher has been appointed Professional Advisor for competition to design \$1-million Fine Arts Center for City of Memphis, Tenn. Philip C. Johnson, Paul Rudolph, and Thomas H. Creighton will judge entries in competition open to local architects only.



• New York City Coliseum (above)—world's largest exhibition hall—was formally opened to public on April 28. Twenty-two major trade shows and public expositions have already been scheduled for 1956 in the four-floor, air-conditioned exhibition space. Entire Columbus-Circle project, erected by Triborough Bridge and Tunnel Authority at cost of \$35 millions, also includes 20-story office tower and basement-level parking for 850 cars. Architects for the Coliseum were Leon and Lionel Levy; John B. Peterkin, Aymar Embury, 2nd, and Eggers & Higgins, Consulting Architects. Dr. Jacob Feld was Structural Engineer; Guy B. Panero served as Mechanical Engineer.

Gottschalk-Schleisner



Bill Engdahl—Hedrich-Blessing

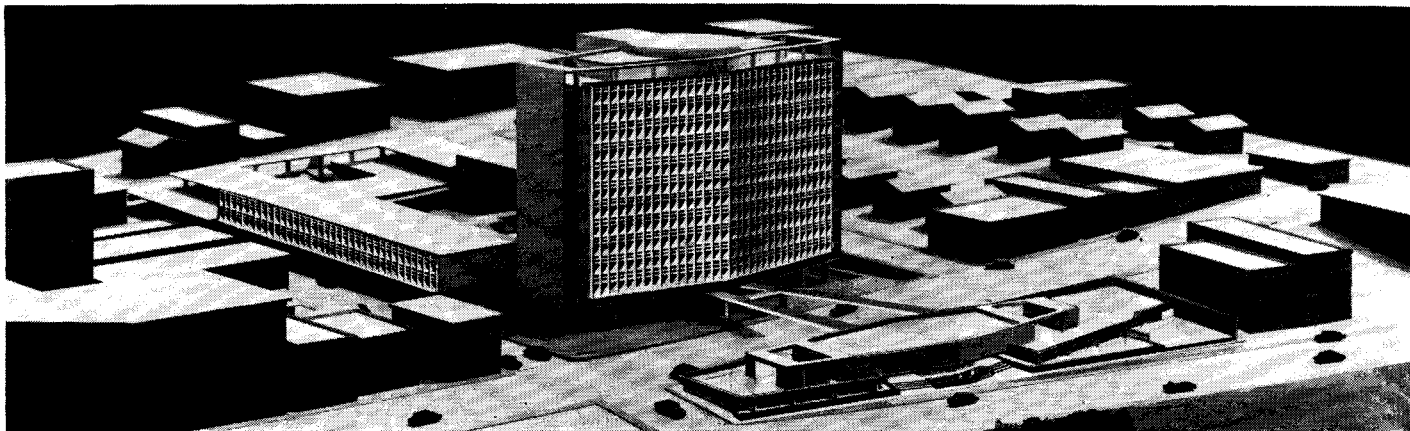
• Newest addition to Illinois Institute of Technology's Chicago campus—S. R. Crown Hall (above)—has been named for co-founder of Materials Service Corporation, producer of prime building materials. Designed by Ludwig Mies van der Rohe to house Institute of Design and Departments of Architecture and City & Regional Planning, welded-steel and plate-glass structure features column-free interior space. Drafting areas flank center core containing administrative offices, library, and exhibition hall; studios, lecture rooms, storage, and mechanical facilities for air-conditioned building are located in basement.

• Los Angeles Headquarters Center for Union Oil Company of California—designed by Architects Pereira & Luckman—will cost more than \$16 millions when completed. Interior of diamond-shaped Main Building (center, below) will be protected from east-west orientation by vertical and horizontal aluminum fins; Fifth Street Building (left) and Maryland Building will provide additional office space; and Beaudry Building (foreground) will house auditorium and cafeteria facilities. Underground parking garage will accommodate 1350 cars.

• Winners of competition for new design and construction ideas for aluminum curtain walls—sponsored by National Association of Metal Manufacturers and Aluminum Company of America—were announced last month. First award of \$10,000 went to Alfred Clauss, partner in firm of Bel-lante & Clauss, Philadelphia; second prize—George W. Qualls and William E. Cox, both of Philadelphia; and third prize—Robert P. Darlington, Champaign, Ill.

• Internationally known designers, architects, and artists will convene at Sixth Annual Design Conference at Aspen, Colo., June 23-July 1, to discuss "Ideas on the Future of Man and Design."

• 19th Ceramic National—exhibition open to architects, sculptors, enamelists, and potters—will be held at Syracuse Museum of Fine Arts, Nov. 4-Dec. 2. Prizes totaling \$3200 are offered, with special awards for ceramic sculpture and for ceramic sculpture used as integral part of an architectural plan; entries are due Aug. 30-Sept. 8 in regional centers. For information write: 19th Ceramic National, Syracuse Museum of Fine Arts, Syracuse 3, N. Y.



Graphic Films Corp.

Washington Report

by Frederick Gutheim



The most diverting item of architectural interest here in recent weeks was certainly the Women's Housing Congress. At first blush, nothing could have appeared less promising. The idea sprang straight from the brow of Zeus, so to speak—right from Housing and Home Finance Agency Administrator Albert M. Cole, himself. It was executed by Miss Annabelle Heath, who recently moved from relative obscurity of a confidential assistant to Cole into the position of a full-fledged Assistant Administrator, but who is without much specific housing experience. From here on out, she is clearly an influence to be reckoned with.

The experts in HHFA, and especially in FHA, clearly loathed the idea of the conference. But what has emerged shows once again that the expert is often wrong, particularly in his own field; and it has shown that when it comes to their own specialty—that of political leadership—Cole and Miss Heath do not need instruction from anyone. From the first announcement—through the amazing press they got on the release of over 2000 letters received from women in all parts of the country who had been asked to express their views on the design of builders' housing—to the triumphant

conclusion, the meeting proceeded with authority. The final assessment is still being made, but changes in FHA's minimum-property regulations and a substantial response from building industry groups is a sure bet. The first positive industry reaction was from the Plumbing Fixture Manufacturers Association, who called a special press conference, announced a bathroom survey, issued an impressive 26-page press kit—but managed to show their total lack of understanding of what women mean when they say you can't bathe a baby in the modern bathroom. This remark was dropped by Mrs. W. J. Moore of Pelham Manor, New York, who added that from her housewife's point of view the bathroom was in pretty much the same state it was "when my ancestors were beating clothes on the rocks." She added that "nobody ever built a towel rack that you could dry a towel on." The Congress was spiced with comments of substantially this degree of independent insight. And a dozen FHA architects, each assigned to one of the round tables into which the meeting was divided, were reeling at the end (one actually collapsed). The final reports bear a strong resemblance to what the household press has been printing in recent years (and what the architectural press printed a decade before). But this kind of feedback is somewhat more powerful.

Financial News

by William Hurd Hillyer



Summer this year arrives with less than usual opulence, for money is tight and the construction outlook is uncertain. Contrary winds—inflationary and deflationary—tug at the economic fabric. The Federal Reserve System, evidently fearing inflation rather than recession, has raised the price paid for money by the banks to a 23-year record high of $2\frac{3}{4}$ –3%. As a result the System has come in for criticism from many business sections. "Trying to bring on a depression!" is the accusing cry. In point of fact, say well informed bankers, the situation is simpler than at first appears.

Paced by residential housing, the so-called "boom" has spawned expansion programs of unprecedented size in a great variety of industries. Since the first of the year, these programs have required more and faster financing than current earnings or security flotations have permitted. In addition, the earnings themselves drew Government fire in the shape of super-seasonal tax demands. Industry and business consequently borrowed from the banks some \$5½ billions, a total 24% higher than last year's and now rising \$30 millions weekly. The banks, having exhausted their own reserves, borrowed, during the period, considerably more

than \$1 billion from the Federal Reserve System, which in turn raised the rates to discourage further borrowing and head off inflation.

This picture, though thought-provoking, need not cause alarm. It is predicated upon tremendous production and proper shelter for homeseekers. What does breed concern is the rocketing of nonrealty consumer debt now exceeding \$34.3 billions, of which about \$27 billions is repayable monthly. This ties up money and credit that should go into houses. It is out of line with the production curve, whereof the upward trend has leveled off. As one large Southern bank told its stockholders: "Proper respect for debt cannot be expressed by a formula. It is observed by thinking people who are willing to forego something today for a more secure tomorrow." In like spirit is a leading Wisconsin bank's approval of the Federal Reserve Board's efforts to control inflationary tendencies. On the other hand, bankers of equally high standing declare that consumer credit is "not excessive" in proportion to personal income.

• "How to finance expansion without inflation" was the hefty assignment of a distinguished five-panel discussion last month at the Pennsylvania Bankers Association annual convention. No definite formula was forthcoming, but Dr. Lester V. Chandler, a director of the Federal Reserve Bank of Philadelphia, made clear that in the months ahead we cannot possibly increase production "output" at anywhere near the 1955 rate. He also stated that we cannot achieve the \$40-billions, 11% increase of the past 18 months, no

- Civil Aeronautics Administrator Charles J. Lowen has recently indicated some changes in airport terminal buildings that will be needed with the advent of jet transports. His recent talk to the Airport Operators Council was salted with references to "architects with the touch of genius" and the responsibilities of airlines and others in the terminal planning picture. Two problems identified were the larger peak loads to be handled when jets unload 150 passengers at a ticket or baggage counter; and the ground distances that separate many airport activities (in Chicago it's a half-mile walk from United to Capital's counter).

- The death of F. Stuart Fitzpatrick has removed from Washington construction world one of its most influential figures. A self-effacing man, his achievement was welding together the many diverse elements in the building industry, and directing their joint efforts to projects of industrywide benefit. Public works, highways, housing, building industry stabilization, labor, controls—these were some of the areas in which his influence was most widely felt. He represented an enlightened voice pleading for city planning and zoning. Few of his accomplishments were realized through manipulating the direct influence of the U. S. Chamber of Commerce, of whose Construction and Civic Development Department

he was manager. More were attained through the Construction Industry Advisory Council, which served as a sounding board, and is probably to be credited with the establishment of the Building Research Advisory Board. But when the hatchet was really swung, it tended to be in the still more amorphous luncheon and round-table group to which he attracted the most informed and powerful figures in Washington who concerned themselves with building. These trade association executives, many of them as passionately anonymous as Fitzpatrick himself, merged their political power to influence appointments, appropriations, regulations, reorganizations, legislation, and administrative decisions. As in any local chamber of commerce, this pooling of influence was accomplished only by blunting the keen edge of self-interest and finding broader and industrywide objectives. There were times when, as in the termination of building industry controls after the war, a narrow and positive objective was sought; but longer-range programs of research, building industry stabilization, urban redevelopment and planning were the more typical outcome. At the time of his death, one was startled to reflect upon how many of the gains that building has made derived from the influence and leadership of a single man; and dismayed to realize the magnitude of the task of continuing his effort.

matter how rapidly demand may rise. Furthermore, it was maintained, increases in real output can come only slowly and at rising cost. Contrast is obvious between this difficult accretion and the effortless ground swell of short-term debt.

- Distinction is drawn between "construction" and non-construction debt by such keen analysts as the Federal Reserve Bank of Chicago. Though residential construction was at a new record high last year (in 1947-49 dollar and physical volume) it was well behind the 1920's in relation to total national output, that institution reveals. The gap is still widening in 1956. As for mortgage debt, its \$13-billions rise in 1955 was partly counterbalanced by the little-noted \$15 billions of repayments and refinancing. Meanwhile, moneymen are impressed by a Morgan suggestion at the recent Eastern Mortgage Conference that a fiduciary corporation be organized to buy VA and FHA loans, raising the cash through sale of its own debentures to pension and trust funds as well as private investors. In any event, such informed sources as the Federal Reserve Bank of Chicago voice the belief that the large-scale demand for long-term credit may beget higher interest rates on mortgages in the near future.

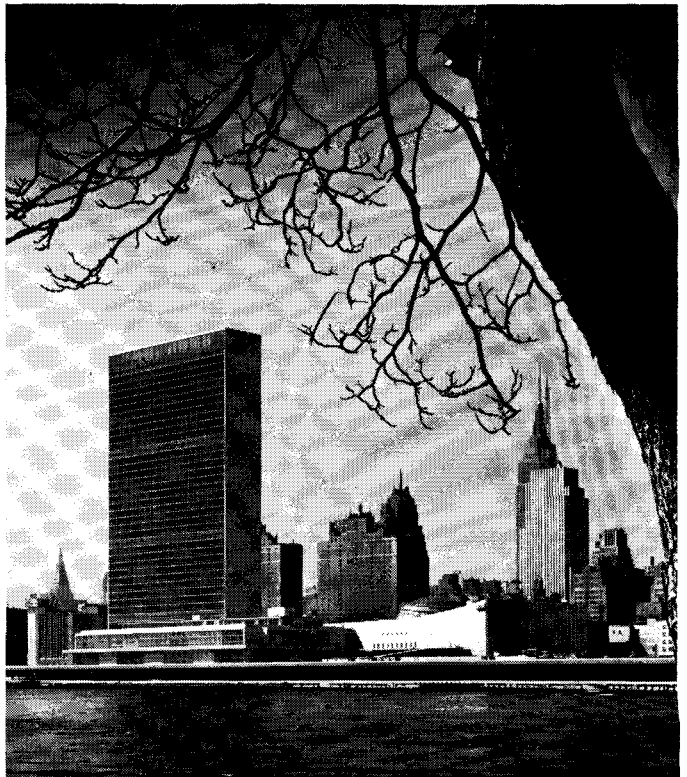
- The Chicago Federal Reserve reveals a major "soft spot" in our over-rapidly built present economy. Many communities, comprising at least 70 labor market areas, are in the grip of "chronic unemployment." The high-efficiency changes that have meant higher living standards for most Americans have led to distress in isolated sectors, particu-

larly in the Middle Atlantic and Southeastern states. Manifestly, residential and other construction will falter in these communities until normal conditions are restored. Countrywide, New York's largest national bank sees little reason to doubt the firmness of expansion plans, but local readjustments will have to be made.

- Alleged unwillingness of lenders to finance "advanced designs" in homes which project the architect's philosophies of creating the new way of life is reported by American Bankers Association's official publication. When this feeling was voiced at a recent round table sponsored by associations, respectively, of architects and homebuilders, the lenders invoked the well known principle that good design and good construction are integral in a sound loan. Echo retorted with the question implied editorially (P.S., April 1956 P/A)—who shall decide what is and is not "good" design?

New England banking circles note a difference of opinion among residential buyers, themselves, as to what constitutes practical worth. Some want more rooms; some, more equipment. All are discriminating, with the accent on quality. To harmonize sound design with these demands, the architect's services will be increasingly sought.

- Architects and bankers have common interest in a new Federally sponsored plan to help finance college housing, which will enable colleges to proceed at once with construction, pending disposal of long-time bonds.



20 YEARS OF ARCHITECTURAL PHOTOGRAPHY REVIEWED

The architectural photography of Samuel H. Gottscho & William H. Schleisner, New York, will be on view at the Museum of the City of New York, from June 5th through the summer, to commemorate the 20th anniversary of their combined photographic activities. Photos on display will include St. Paul's Chapel, the New York Stock Exchange, and the United Nations (above).

a new p/a feature:

PROGRESSIVE ARCHITECTURE IN AMERICA

historic contributions to contemporary architecture

A NEW AND UNIQUE FEATURE for our Readers will begin in SEPTEMBER 1956 P/A when we present the first of a series of historic structures in America that have made significant contributions to the development of our architecture. This feature will be titled PROGRESSIVE ARCHITECTURE IN AMERICA. The illustrations, with accompanying descriptions and notes on the importance of each example, will be prepared by Ada Louise Huxtable, architectural historian and experienced researcher, with the advice and assistance of The Society of Architectural Historians. The object is to offer our Readers authoritative documentation of those buildings that exemplify achievements to date in structural design, in utilization of new materials, in planning principles, in functional uses—and in visual results.

“The story of PROGRESSIVE ARCHITECTURE IN AMERICA is not a story of isolated monuments,” explains Mrs. Huxtable. “It is not concerned with the ‘first,’ or the ‘greatest,’ or the ‘latest’ example of structure or style. Some of these landmarks are familiar: a small group of celebrated buildings of the past has been well publicized as signposts to the future. Others, less well known, are equally indispensable to a coherent account of our architectural advance. At best, Progress is an ambiguous word. Progress in architecture suggests technological and structural advance, new types of buildings to meet new socio-economic needs, new esthetic forms to express changing philosophies and ideals. In American architecture, the word Progress has a special character and meaning. The growth of the United States as a nation reflects a period of transition unparalleled in the history of man, unprecedented in its influence on his environment and way of life. PROGRESSIVE ARCHITECTURE IN AMERICA is not a series to record accidental phenomena, but to document a tradition that began with the ingenious and practical work of the Colonial builders. It has quite a lot to do with the renowned Yankee belief that nothing is unattainable—that the world can always be made a little better place to live in.”

It is in just this spirit that Ada Louise Huxtable has been assembling and documenting the examples, and we hope that in this spirit P/A Readers will welcome the new series when the first example appears in September. We are making this announcement well in advance of the starting date in the belief that many P/A Readers will wish to join SAH members in calling attention to buildings of their own localities which merit consideration for inclusion in this continuing documentation of progressive experiments in design and structure.

THE EDITORS

Pontiac City Hall, Pontiac, Michigan
Architect: Leo J. Heenan, A. I. A.
General Contractor: J. A. Fredman, Inc.
Equipped with Adlake Double Hung Windows



Another **Adlake** aluminum window installation

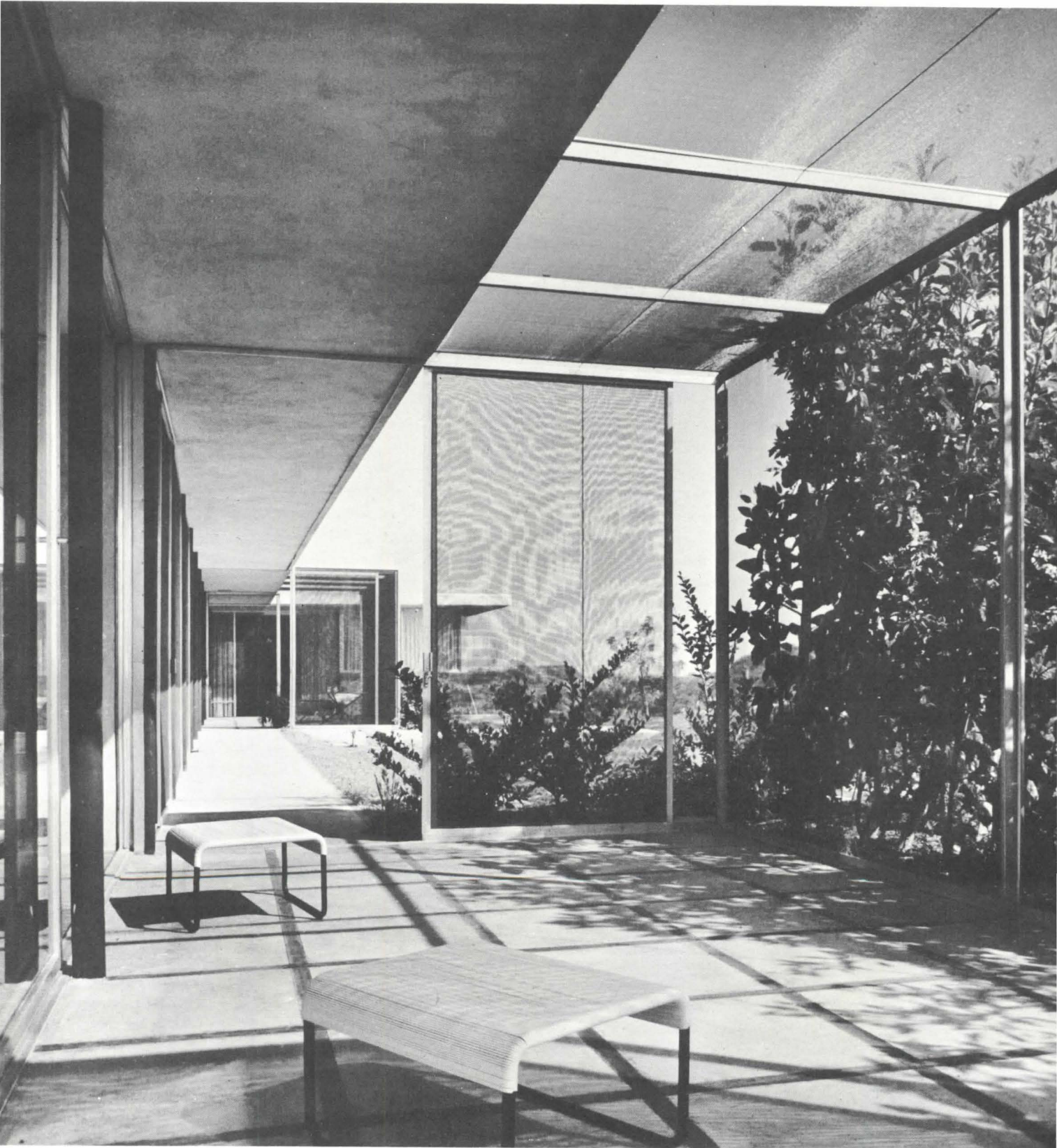


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The New House-to-Site Transition



Julius Shulman

a p/a study

The New House-to-Site Transition

introduction

No contemporary principle of house planning has become more shopworn than what is variously and vaguely referred to as the indoor/outdoor relationship: bringing the outdoors in, or extending the indoors out. Depending on what magazine you read, this highly respectable concept has degenerated to the point where it may mean nothing more than a "picture window" or a few rubber plants arranged in a corner of a living room.

Many have been—and are still—intrigued with the use of a window wall, the lawn, or the planting bed immediately outside the building line. Not a few have contrived to continue exterior planting areas or pools right into the rooms of a house. And here and there, magazine readers have come across an outcropping of rock in the middle of a room, as a result of the architect's attempt to erase the line between indoors and outdoors. All of these things, when done by sensitive designers—not merely as conversation pieces or perhaps a *tour*

de force—have produced agreeable new dimensions for the living environment.

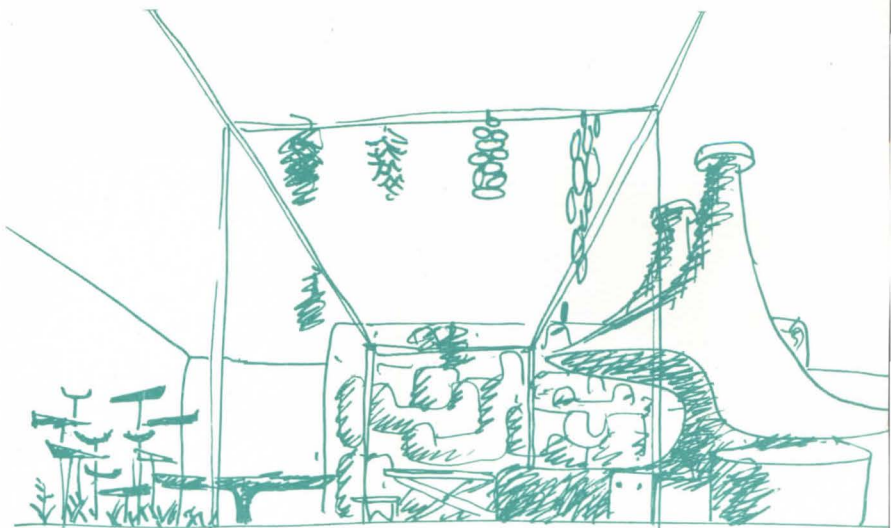
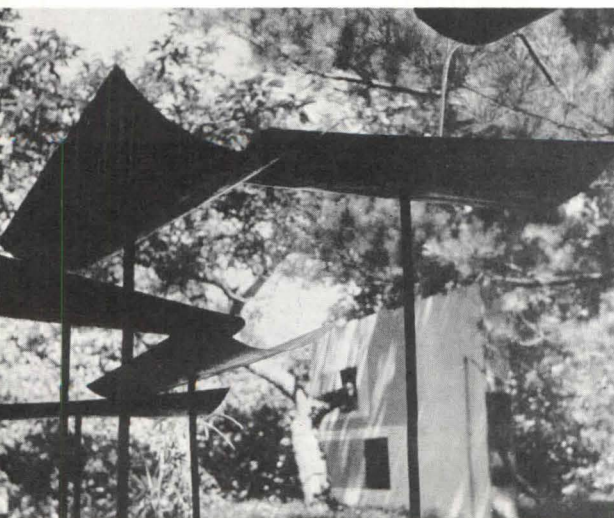
Recent efforts, however—and the distinguished houses on the following pages are all important instances—indicate that many architects now believe the immediate juxtaposition of natural and architectural elements to be too abrupt or disquieting. And they have concerned themselves with providing interim zones, or areas of transition. These, while still joining indoor/outdoor elements, do so gradually, as a succession of visual and environmental experiences.

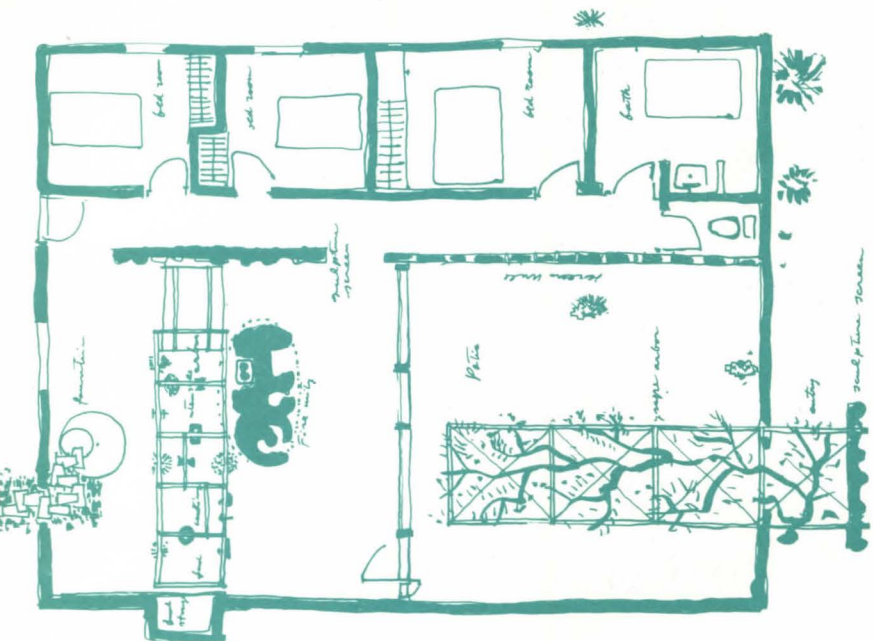
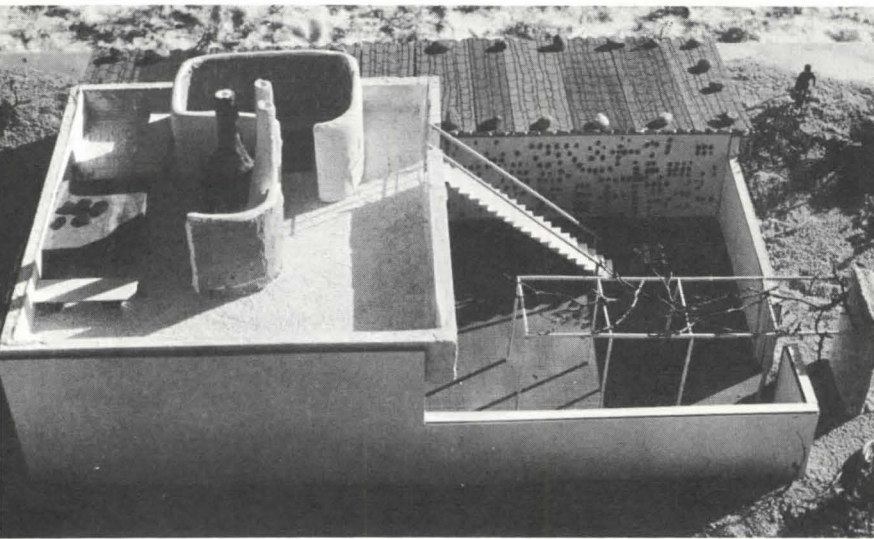
One will find houses where screened porches or terraces are the intermediate steps from the armchair to the flower bed; where care in site, planting, and fencing arrangements define the limits of outdoor space to be seen and used; where interior spaces are extended outward through the time-honored device of usable, covered porches; where a very small house is immeasurably enlarged by painstaking study of site/house transition; and where the condi-

tion of a plunging slope with a view beyond has been exploited and enhanced by a visual progression from mezzanine, to living-room windowed wall, to a tree-top, wind-sheltered, cantilevered balcony.

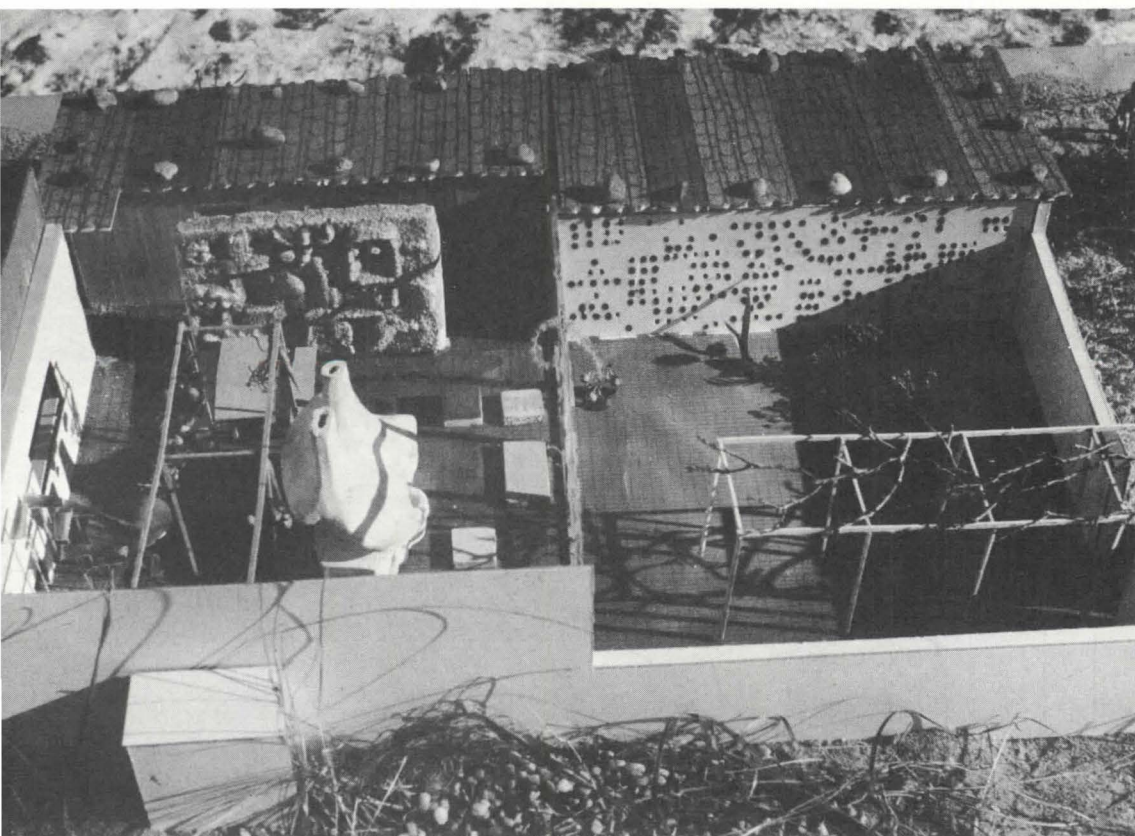
It seems to us that the late Gordon Drake (one of whose few unpublished houses is shown) admirably summed up this new approach to the indoor/outdoor desideratum. In designing the house presented in this issue, his stated wish was to achieve an easy transition "from open sky to complete enclosure"; and "to give one a choice" of degrees of enclosure.

This, then, is the theme of the issue—which, incidentally, through its variety, re-emphasizes the testing-ground-research-laboratory aspect of residential design that we explored in detail in March 1953 P/A. All, one may assume, agree that it is desirable for house and site to be wedded. This issue will have served its purpose if it inspires designers to find ways and means of making this union as happy as possible.





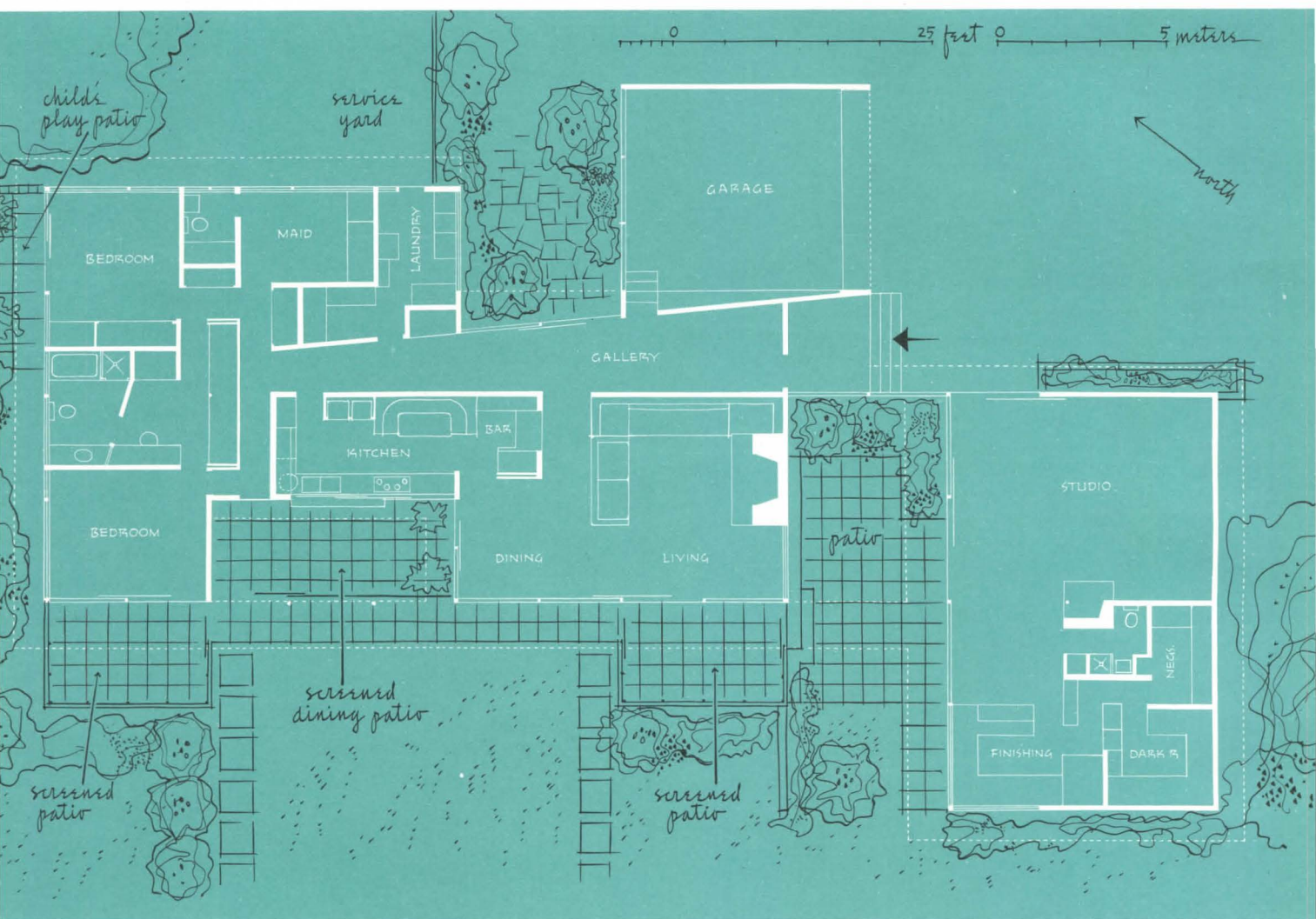
Sculptor Costantino Nivola's solution for the house-to-site transition is suggested by these sketches and model photos of his own summer house, to be built in East Hampton, Long Island. The walled patio provides intimate privacy and also serves as foil to the dominant element of the interior, the sculptured fireplace. The limited visual perspectives within this enclosed area—and in the even more closely confined spaces of the sleeping cubicles—focus attention on sculptures and other objects of interest. In contrast, an easily accessible roof terrace offers practically limitless vistas of the country outside. A grape arbor and fountain are links connecting this simple, rectangular, almost introverted structure to the outer landscape.



The New House-to-Site Transition

Los Angeles, California. Raphael S. Soriano, Architect; Eckbo, Royston & Williams, Landscape Architects; William Porush, Structural Engineer; Merrill Nibley, General Contractor.

Photos: Julius Shulman



screened patios provide the link

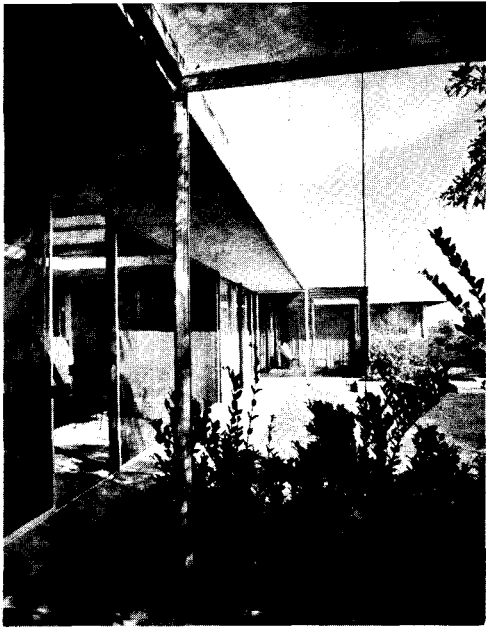
Particularly pertinent to a discussion of new solutions for the problem of integrating a house with its site by means of intermediate areas that are not wholly indoors nor yet fully *en plein air*, this house is exceptional in several other respects as well. Not only was it designed by one of the vanguard of progressive residential architects and landscaped by a leading firm of landscape architects, but also it is the home and studio of Julius Shulman, Los Angeles photographer whose skilful interpretations of architecture have long been admired.

Architect and client worked in closest collaboration in developing the design. "The clients helped contribute as much

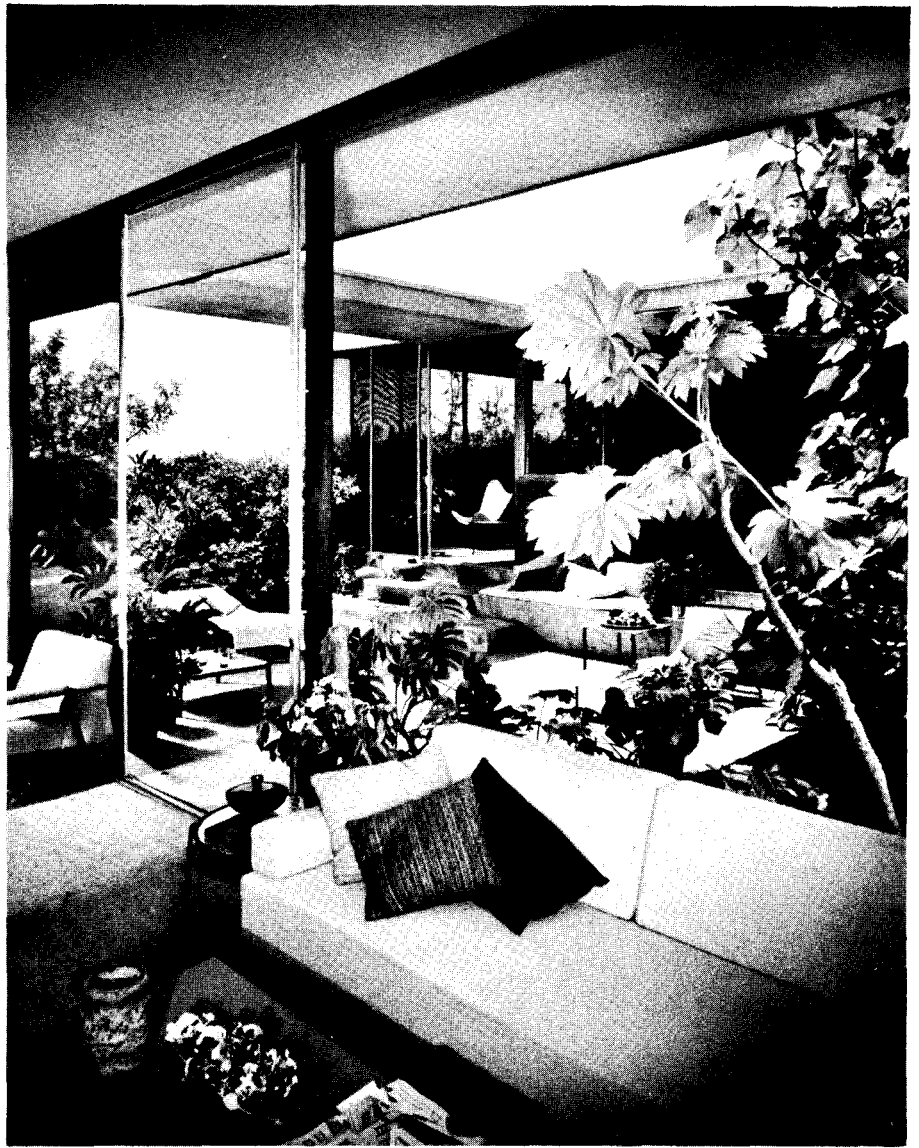
to the performance of the house as the architect," says Soriano. "This is the way it should be. This is the way to architecture." Shulman comments: "Our site, extending in an east to westerly direction, offered an extensive view of ranges of hills to the south. This outlook, most desirable and satisfying to us, was the basis of Soriano's house orientation and plan development. . . . We feel profound gratitude for and appreciation of the architecture.

A major client contribution was Shulman's program requirement of screened areas immediately off rooms which would have sliding doors: "My personal feeling is that the extension of architectural space by this device makes the differ-

ence between being able to use sliding doors readily in almost all types of weather and the situation when sliding doors open directly to an adjacent outdoor area. . . . Not only do screened areas provide insect control but also, perhaps more important, they extend room areas outward and create a feeling of enclosure that psychologically as well as visually conveys comfort and protection. I feel strongly that one of the most adverse reactions that people have to modern houses is the lack of a transitional area between indoors and outdoors." He further points out that such screened areas, particularly along a sunny south wall, reduce glare by almost 50 percent.



In addition to the two projecting screened patios—off the living room and the master bedroom—indoor/outdoor links include a recessed, screened dining patio and a landscaped court between house and studio (right) which are joined by a covered walk. The photograph on page 103 is a view along the south wall, taken from the screened patio adjoining the master bedroom.

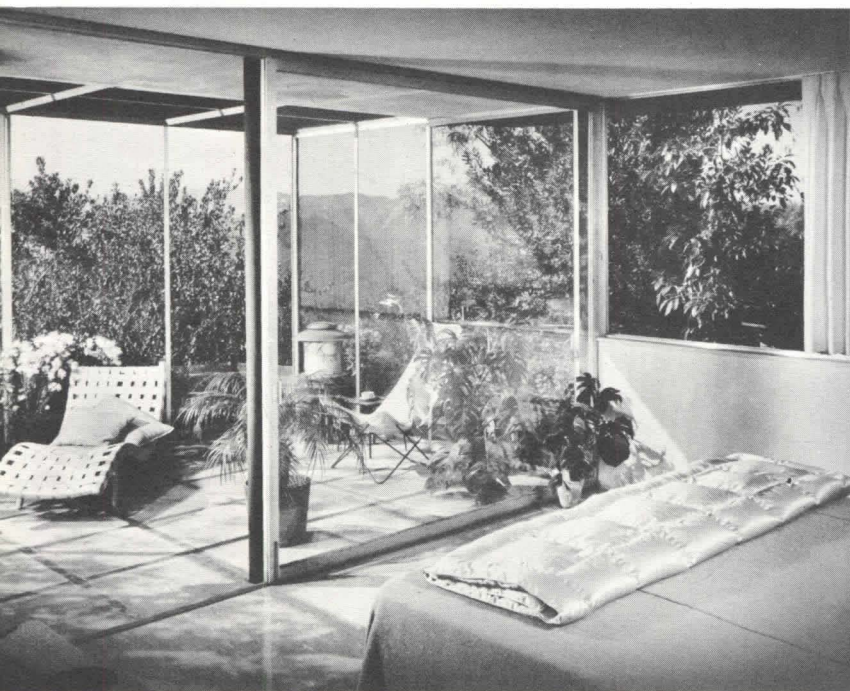
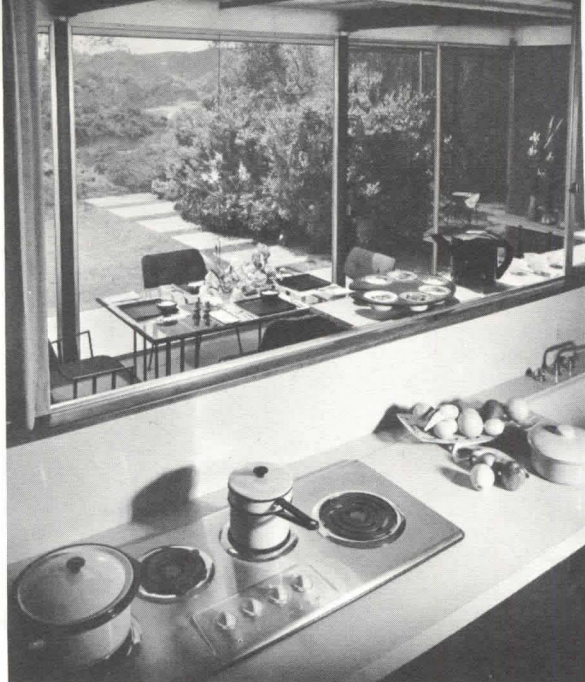


The New House-to-Site Transition

The centrally located kitchen (right) opens through to a recessed, screened, dining patio that serves as the interlude to the outdoors.

A screened patio occurs between master bedroom (below left) and the landscaped site. The plastic screening is green, which "blends so perfectly with the landscaping that one is hardly conscious of its presence."

A small-scale, low-walled play garden outside the child's bedroom (below right) is the intermediate step to complete outdoors.



In designing a house, Soriano strives toward the dual goal of "the most useful house for a client" and "the most successful house for an architect." A "useful" house he defines as "a performing house; a house that well serves its occupants, from the unified point of view of his total sense experiences." One of the contributory functions of the architect, he feels, is to distinguish between the arbitrary wishes of a client (which may be no more than preconceived notions or personal whims) and objective requirements and needs—for example, the screened living extensions that the Shulmans knew they wanted. "In

objective reasoning there are involved constant evaluation and integration of the relations of the constructive elements for performance," he remarks. "The smallest semblance of a mere personal feeling, trick, or whim inflicted upon the work can destroy the natural concept." How successfully he analyzed the problem in the design of the house shown here is indicated in Shulman's statement: "The entire development, orientation, and plan have worked out to our complete satisfaction."

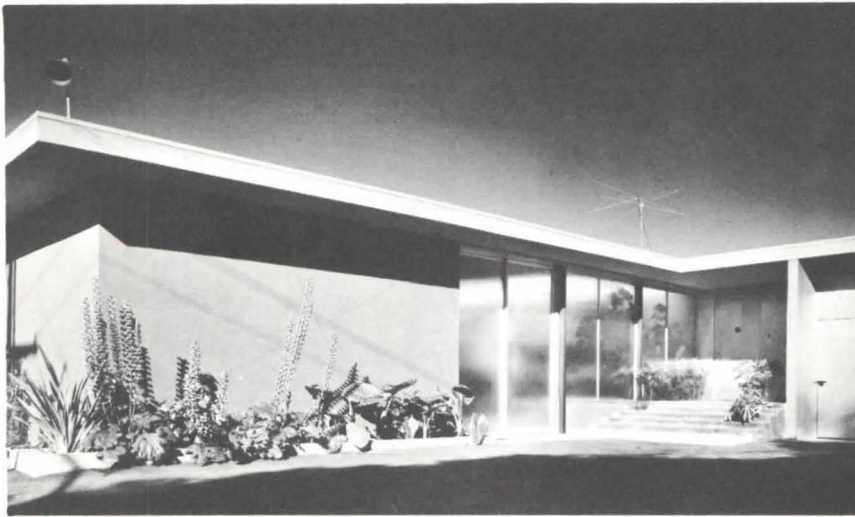
Built on a concrete slab, with integral radiant-heating system, the house is framed in steel—6-in.-wide-flange I

beams, modularly spaced and supported on 3-in. round steel columns. Transparent walls consist of aluminum-framed, sliding glass panels. Wall at the back of the garage and wall of the studio patio are both translucent glass. Exterior curtain walls are painted cement plaster, while the garage and entrance doors are corrugated aluminum. For floorings, asphalt tile (service areas), cork (entry), carpet (living/dining), rubber tile (kitchen and bedroom/dressing areas) and a resin-base, synthetic, sprayed-on material (bathrooms) are all used. Ceilings throughout have a plaster sand finish.

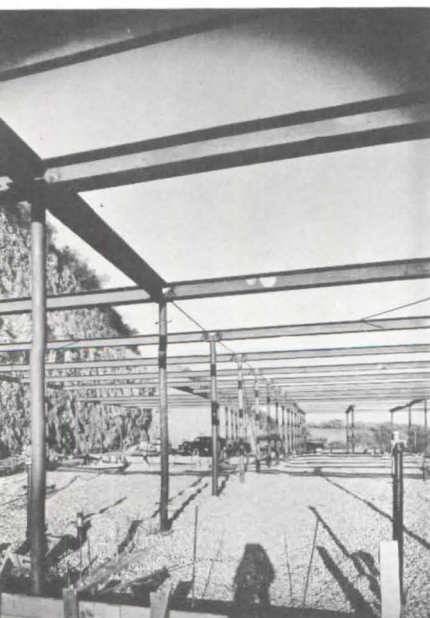


In warm weather, when all the sliding doors are open—as on the north wall of the gallery (beyond storage wall, top photo) and out to the south-facing screened patios (above)—Shulman reports that “the house becomes one large, pavilionlike area, permitting a ready flow of traffic as well as inducing a breezeway flow of air.”

The New House-to-Site Transition

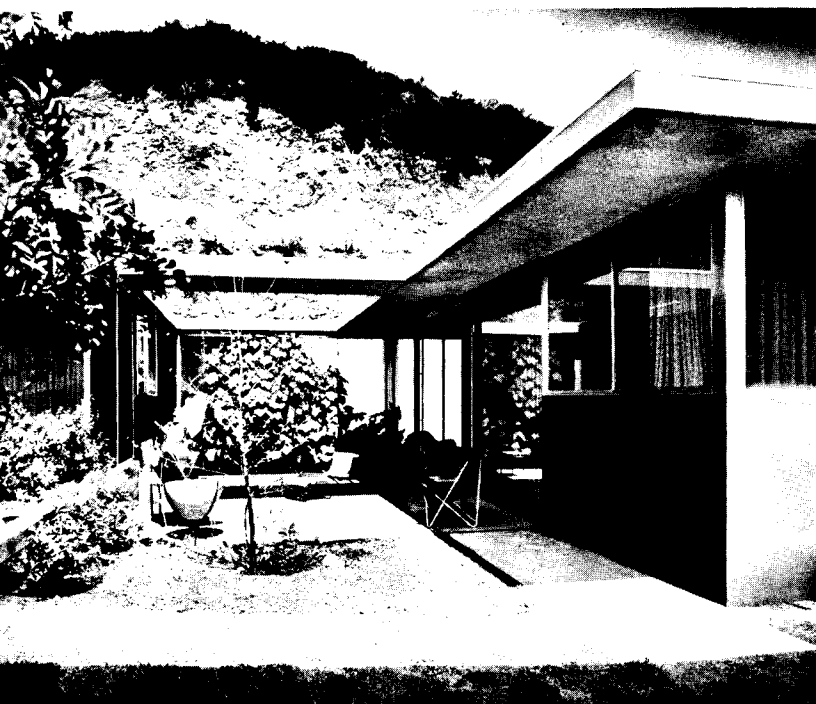


At the left of the main entrance (left), a full-height, sliding, translucent-glass door opens directly to the studio (below), from which one looks back across a landscaped patio to the house proper.



Use of steel for framing—although about 5 percent more costly than wood—provided lightness, thinness, and optimum freedom in placement of partitioning.

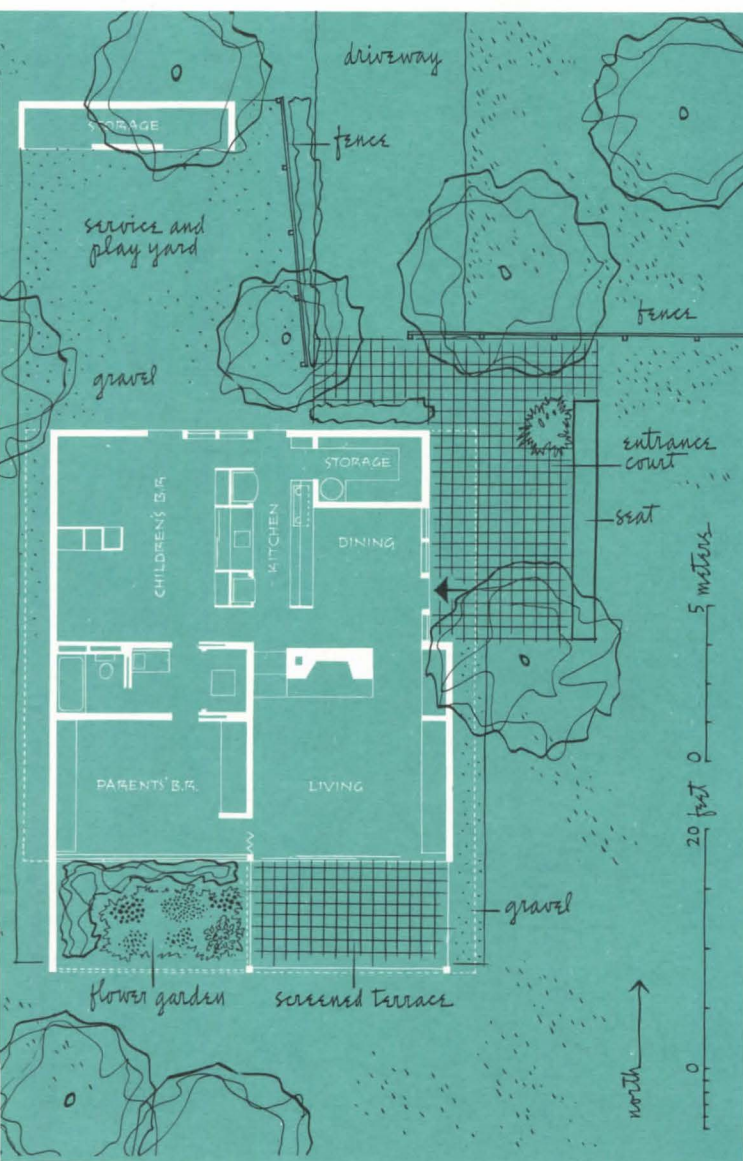
Shulman is not wholly sold on the dead-level roof, though adequate drainage was provided around the perimeter and there has never been a leak. Occasionally, however, a high wind has blown rainwater away from the drains and over the edge, causing slight wall streaking. The answer? Perhaps a slight roof pitch, he suggests, or a higher gravel stop or baffle of some kind.



In the genial Southern California climate, one wishes to be outdoors as often as in, and in this house there is a truly remarkable series of choices of type of surroundings—from being completely in the open, as in the landscaped studio patio (left), to the semishelter of the screened enclosures (below, background), to the total protection of the indoor fireside.



The New House-to-Site Transition



*planned site
enlarges the small house*

Lexington, Massachusetts. Frank Schlesinger, Designer; Jeanne Schlesinger, Landscape Architect.

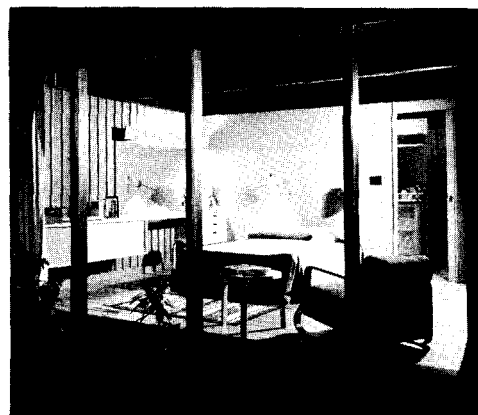
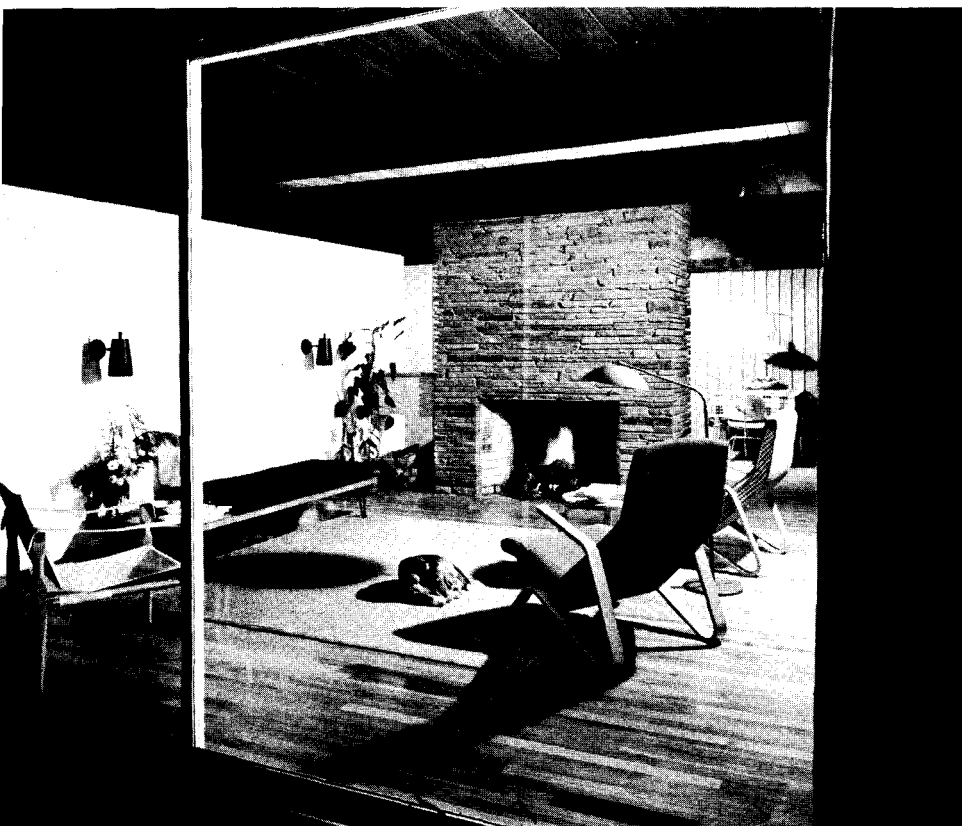
Photos: Peter Nyholm



Well-planned transitional areas on three sides of this compact little house aid constructively in enlarging it visually as well as physically. A roofed and screened terrace serves as extension for the living room during the greater part of the year, and an adjoining flower garden links the parents' bedroom with lawn and trees beyond. Kitchen and children's room open directly onto a well-protected and graveled service and play yard. And an entry court on the east—strongly defined by brick paving, wood bench, and fence—helps to estab-

lish the pleasant character of the house. Views from each of the rooms are thus as varied as possible and provide pleasant spatial sequences for persons moving from one part of the house to another. Diverse spatial sequences are further emphasized by varied light intensities—achieved by roof overhangs, skylights, and by contrasting pools of artificial light at night. Another major consideration in the arrangement of this house for the designer's own use was the provision of generous and practical space for two young children. "Too

often," explains Schlesinger, "the design of a small house becomes a mere 'shrinking' process wherein schemes suitable for larger homes are scaled down to size in order to produce the 'standard' number of rooms and facilities. The practice of assigning one or two small bedrooms to the children generally results in turmoil—to the dismay of the parents, the living room and kitchen become their playground. I have attempted to meet this condition by turning over approximately 25 percent of the total area to the children."



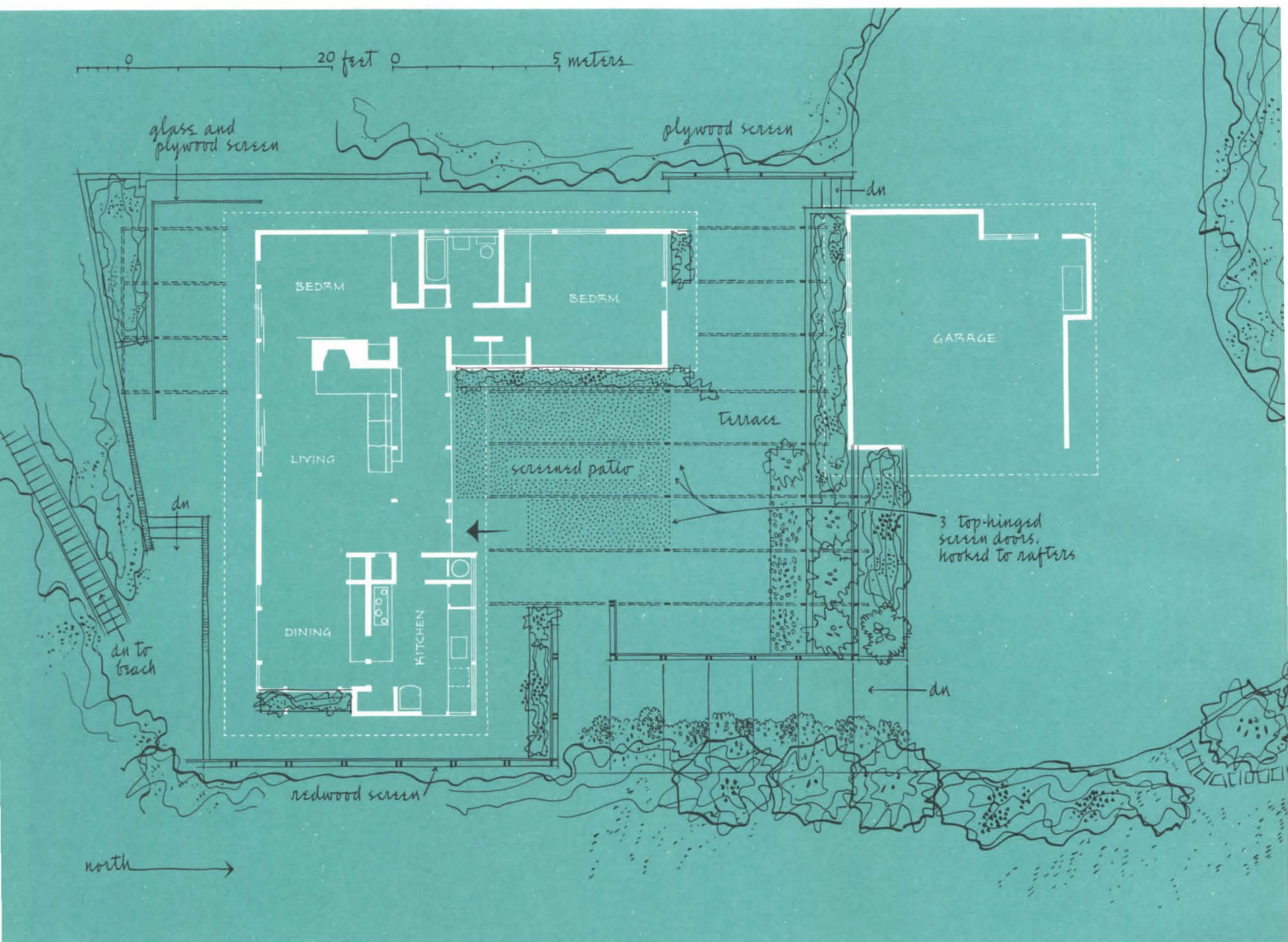
Foundations are of poured concrete, the structural frame is of wood. Roof members are 4"x14" beams set 6'-0" o.c. and 6'-11" from the finished floor. Roof surfacing is of 2" T&G wood planking topped with 5-ply built-up roofing. Exterior wall surfacing is of redwood board and battens. Heating is by forced hot air through ducts in the crawl space.



The New House-to-Site Transition

Malibu Encinal, California. Gordon Drake, Designer; William Stimmel, Associate; Douglas Baylis, Landscape Architect; Fred Harrison, General Contractor.

Photos: Julius Shulman



subtle transitions provide degrees of enclosure

"Wouldn't it be wonderful," said Gordon Drake on one occasion, "if, when you entered a highway tunnel you first passed under a long, more-open type of enclosure to ease the shock of light to dark?" This concern with the transition from open sky to complete enclosure which was the basis of his design approach and is, incidentally, the theme of this issue, is remarkably well illustrated in this house, completed shortly before his untimely death. William Stimmel, a former student of his and associate, describes the sequence of enclosures on approaching this house from the street above: "First one passes

vertical plant and structural screens; then into a garden area, enclosed by screens; then under open beams, partially covered by vines; then under the roof overhang, into the main living area; and then to the den or bedroom, which are closeable to give one a feeling of the cave—in this subtle transition one is almost unable to separate house from landscaping." In order to gain a view of the sea from the main living areas, the house was set well forward on a cliff about 40 ft above the beach. To protect house and beachside terrace from high winds and severe weather conditions, a partial glass-and-plywood screen

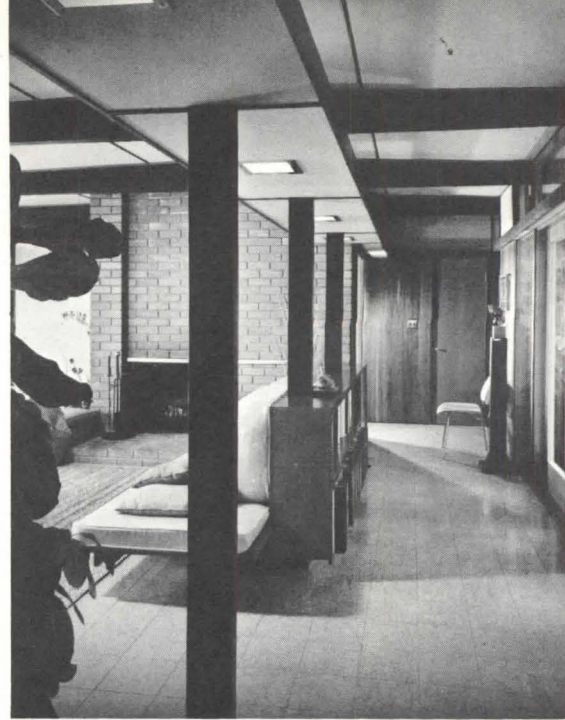
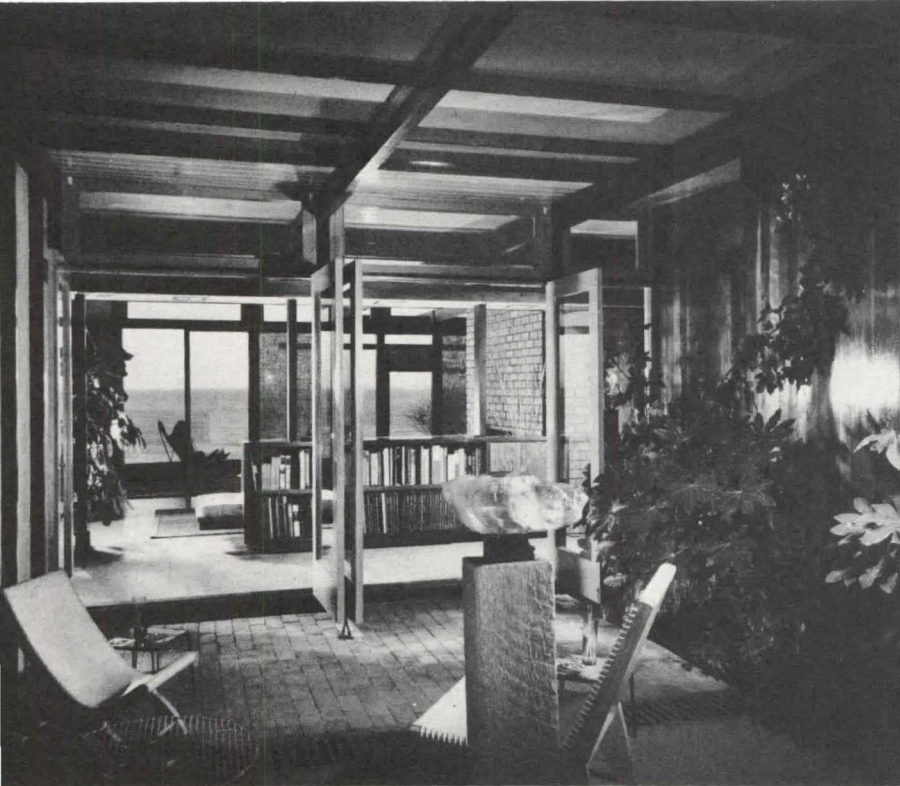
has been erected. For outdoor living completely protected from the sea breezes, a screened patio, nestled in the angle of the house, has been provided. Paving of these terraces is mostly common brick, laid mortarless on 2" of sand. Terrace retaining walls are of a pink-tinted concrete block, each course lapping the next by $\frac{1}{2}$ ". Outdoor screens are for the most part of natural-finish redwood. Structurally, the house was arranged on a 5'-4" module using post-and-beam construction. Walls, light soffits, and other elements were detailed at one-half or one-quarter of this module, in both directions.



Approach to the house is from garage level along stepped walk (above) to entrance court 4 ft below. Space between garage and bedroom wing forms secluded, wind-protected terrace (left). Set far forward to take advantage of sweeping sea views, house (below) gains protection from strong winds by strategic placement of plant material and structural, redwood screens.



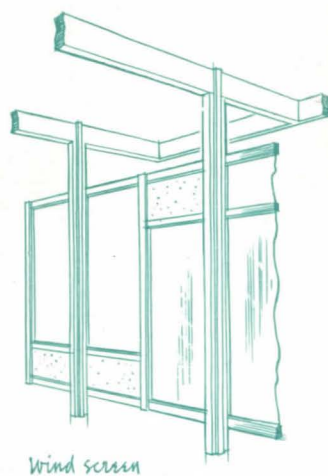
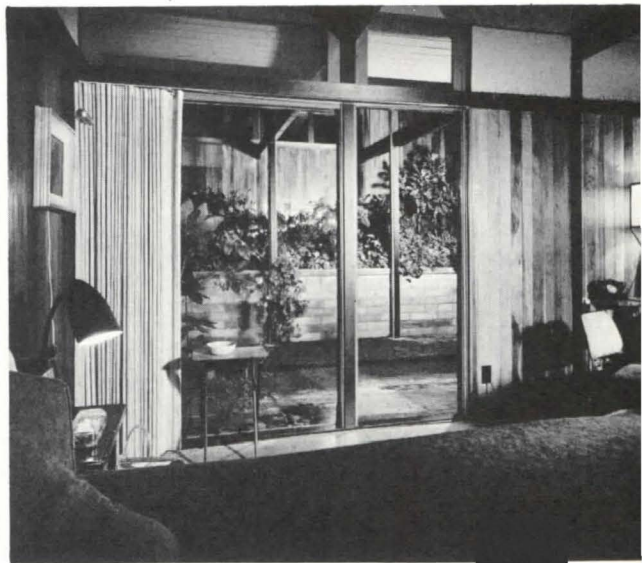
The New House-to-Site Transition



Lighting throughout the house is carried in continuous soffits of various widths, mounted at door height. Soffits are also subtly used to define living areas without the use of floor to ceiling enclosures, as for example between entrance hall and living room (above), living and dining room (below). Screened patio (left), though oriented away from the ocean side, offers wide sea views through living room.



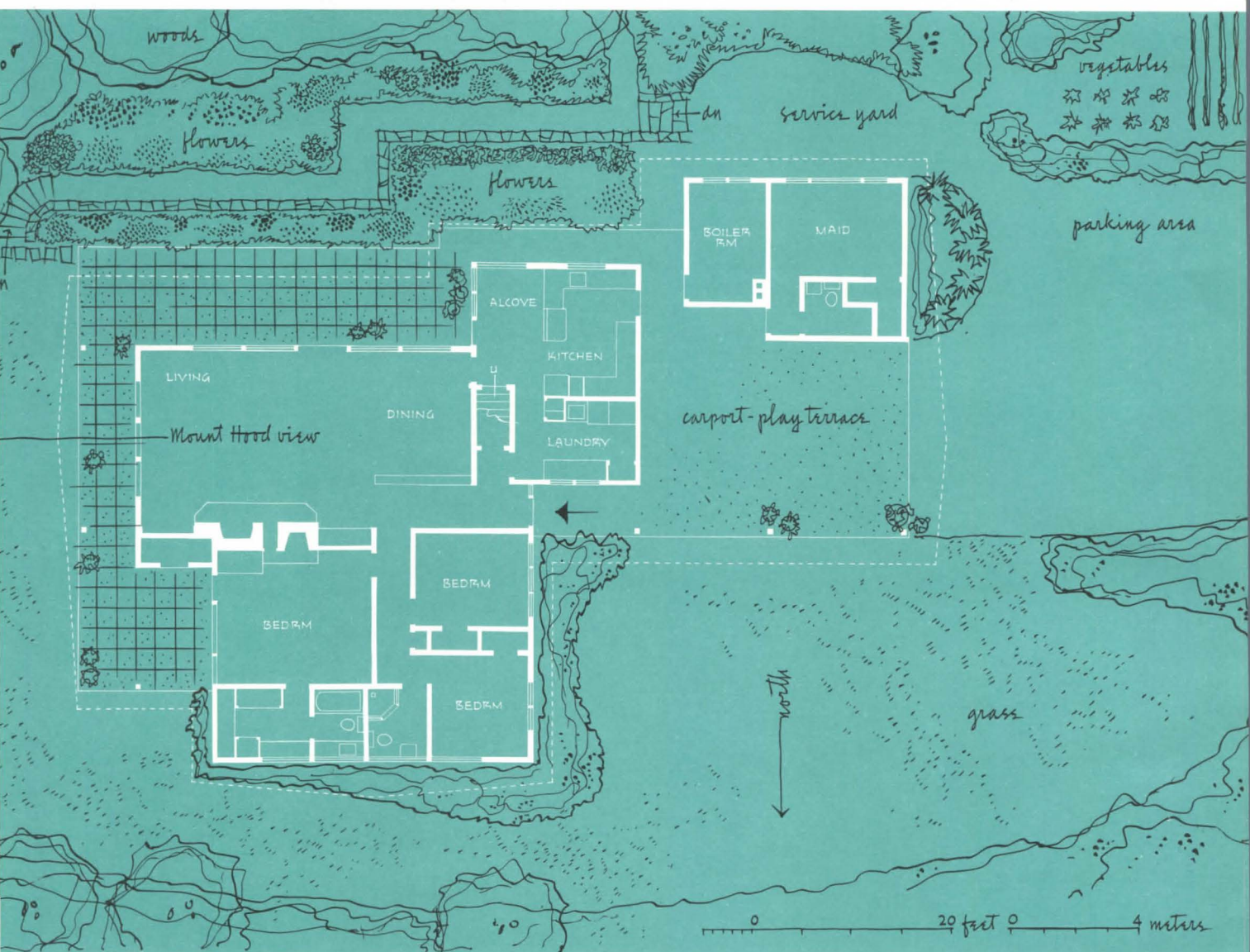
Colors follow the structural organization of the house —beams and posts are painted black-green; sash and doors, gray-green; ceilings, sand color; interior and exterior walls are of natural-finish redwood. Flooring is of cork. Shoji screens at glass line of living-dining room (below) employ Japanese rice paper on stretched muslin and natural burlap. Diagram (below) is of wind screen at edge of terrace.



The New House-to-Site Transition

Portland, Oregon. Van Evera Bailey, Architect;
Walter & Florence Gerke, Landscape Architects;
James H. Miller, General Contractor.

Photos: Hedrich-Blessing



sheltered terraces extend interior space

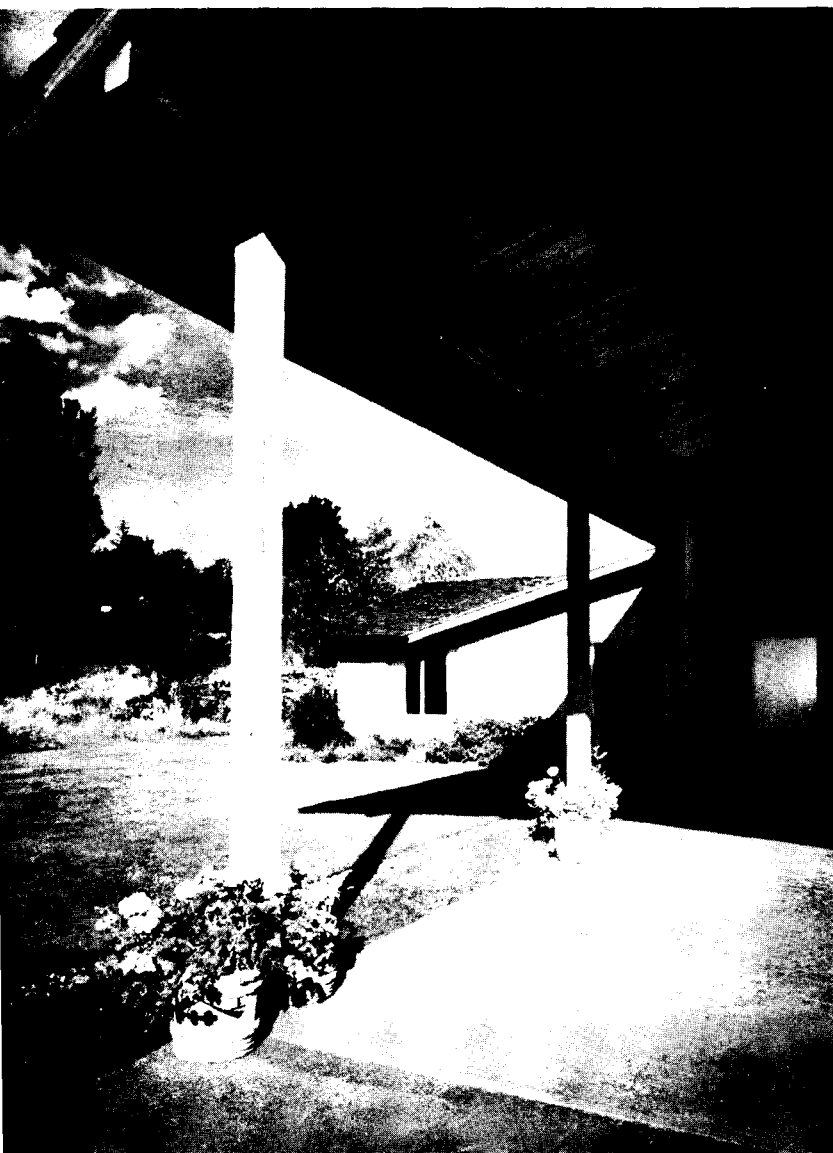
The promontory-like site made a harmonious wedding of land and living rooms almost obligatory. To the east is a dazzling, straight-on view of snow-capped Mt. Hood and, to the south, the land falls away into a rich, heavily timbered valley. Buffer zones between rooms and lawn and garden consist of deep, sheltered, paved porches which may be furnished for dining and lounging. These frame and set off the views beyond. The full-height window at the

east end of the living room brings the drama of the site inside the house.

Structurally, the house is remarkable in its use of woods. Especially in the laminated-roof construction which has no ridge beam and is solid 4-in.-thick rough-sawn fir consisting of alternating 1'x4', 2'x4', and 3'x4' members that interlock, like the fingers of both hands, at the ridge. Members of the longer run (from north wall of master bedroom to ridge) are 28 ft in length. Outside,

inclined struts above the south porch resist hinging tendencies at the plate. Hand-split cedar shakes over 45# roofing complete the construction. Exterior walls of the house are alternating 1'x2', 1'x3' and 1'x4' rough-sawn, vertical cedar.

The house rests on a concrete slab, in which hot-water coils for a radiant-heating system are embedded. Much of the glazing is fixed and stopped in place; vented windows are metal casements.



On the north (entrance) side of the house (left), the paved, covered passage and ample, recessed carport/play-terrace introduce a secondary theme between house and greensward.

Morning sun floods the re-entrant terrace space adjoining the master bedroom (below).

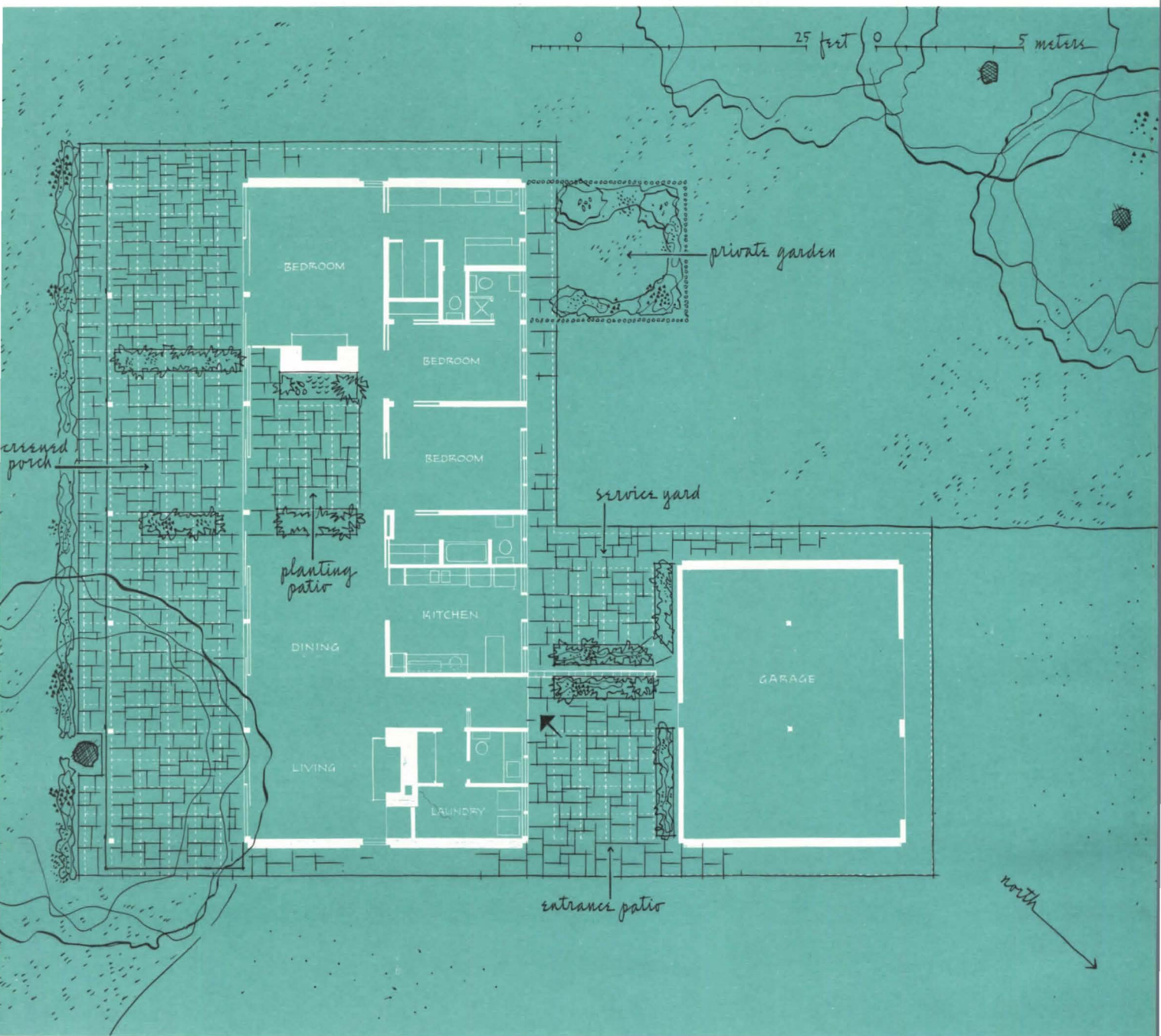
Note the up-sloping, paired struts over the south terrace (below left) that help stabilize the remarkable roof construction.



The New House-to-Site Transition

Old Westbury, Long Island, New York.
Richard W. Snibbe, Architect; Peter W. Bruder,
Structural-Mechanical Engineer; Jose Campo-
franco, Owner-General Contractor.

Photos: Lionel Freedman



screened terrace facilitates outdoor living

A number of pleasant and useful spaces make the transition from this house to its beautiful site—a corner section of an old estate, rich with magnificent trees and rhododendrons. Entrance to the house is through a spacious patio between garage and house proper. A fully enclosed private garden has been

designed as part of the elaborate bath/dressing area of the master bedroom. Most important transitional element, however, is a screened and plastic-roofed porch extending along the entire 72 ft south front of the house. Well suited for everyday use as extension to all of the major rooms, the porch is

especially practical for large social gatherings. Since partitions and corridors between living room, dining room, and interior patio are merely indicated by plant screens and furniture placement rather than permanent partitions, the entire area can be used as one unit. Two bedrooms, occasionally occupied by

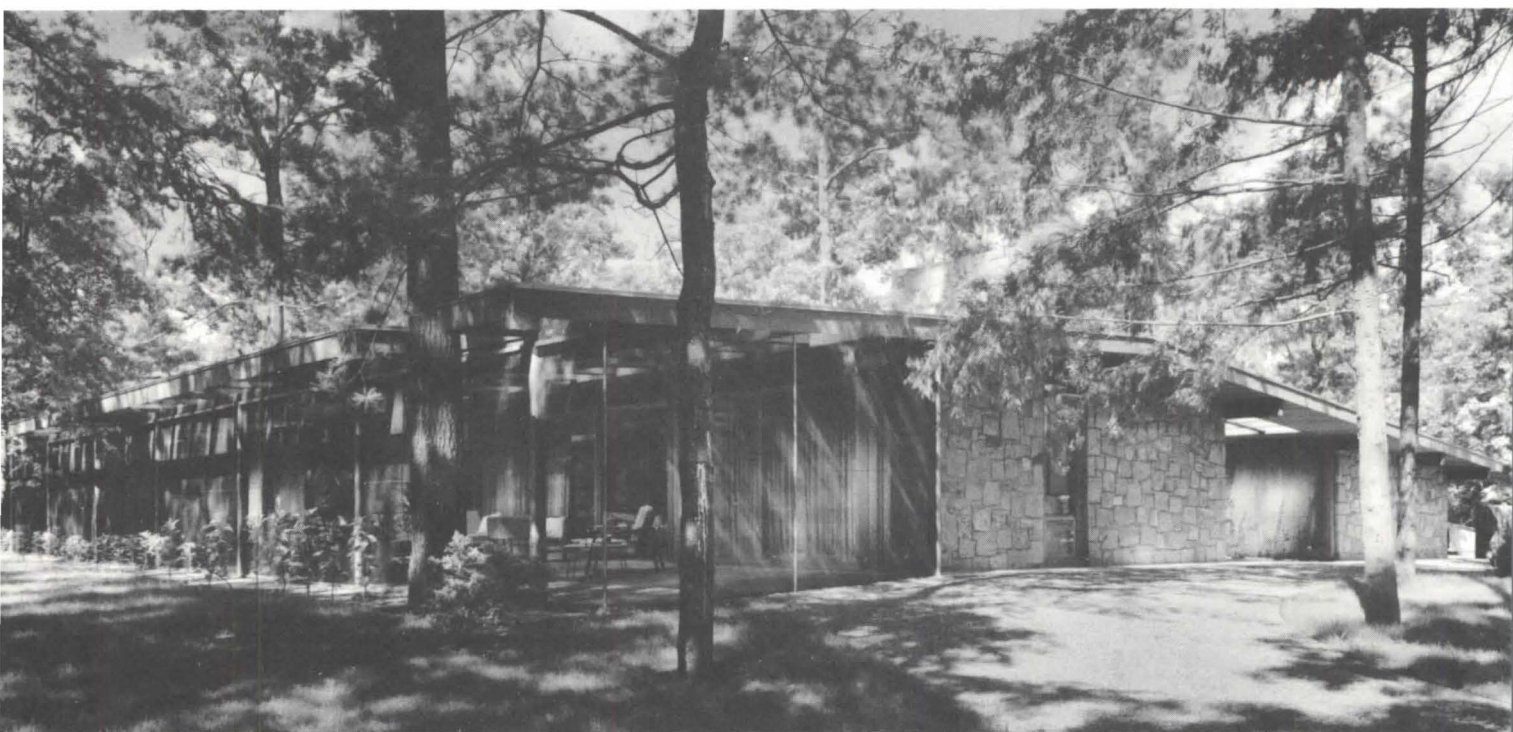


members of the family or guests, may also be added to this main living area by adjusting sliding wall partitions. Center of this entire complex is a skylighted planting patio which introduces light and color into the interior of the house. Warm earth colors predominate throughout the rooms, since most of the

materials are left in their natural hues. The foundations of this house are of concrete; structural framing is of wood, employing posts and beams. Floor construction over crawl space and partial basement (required by local code) is of 3"x8" joists, surfaced with teak flooring. Stone veneer and fir siding are the

prominent exterior materials; fabric wall covering, marble, tiles on plasterboard, the major interior materials. Important lighting fixtures have dimmers, and electric outlets are provided every 4 ft. o.c. along the floor. The house is completely air conditioned and heated by an oil-fired warm-air system.

The New House-to-Site Transition



House (above) was carefully sited to avoid losing beautiful existing trees—only two had to be sacrificed. Planting bed (left) in center of house helps to tie in with landscape beyond. Room in foreground is guest bedroom. Kitchen (below) has large window wall as well as skylight.



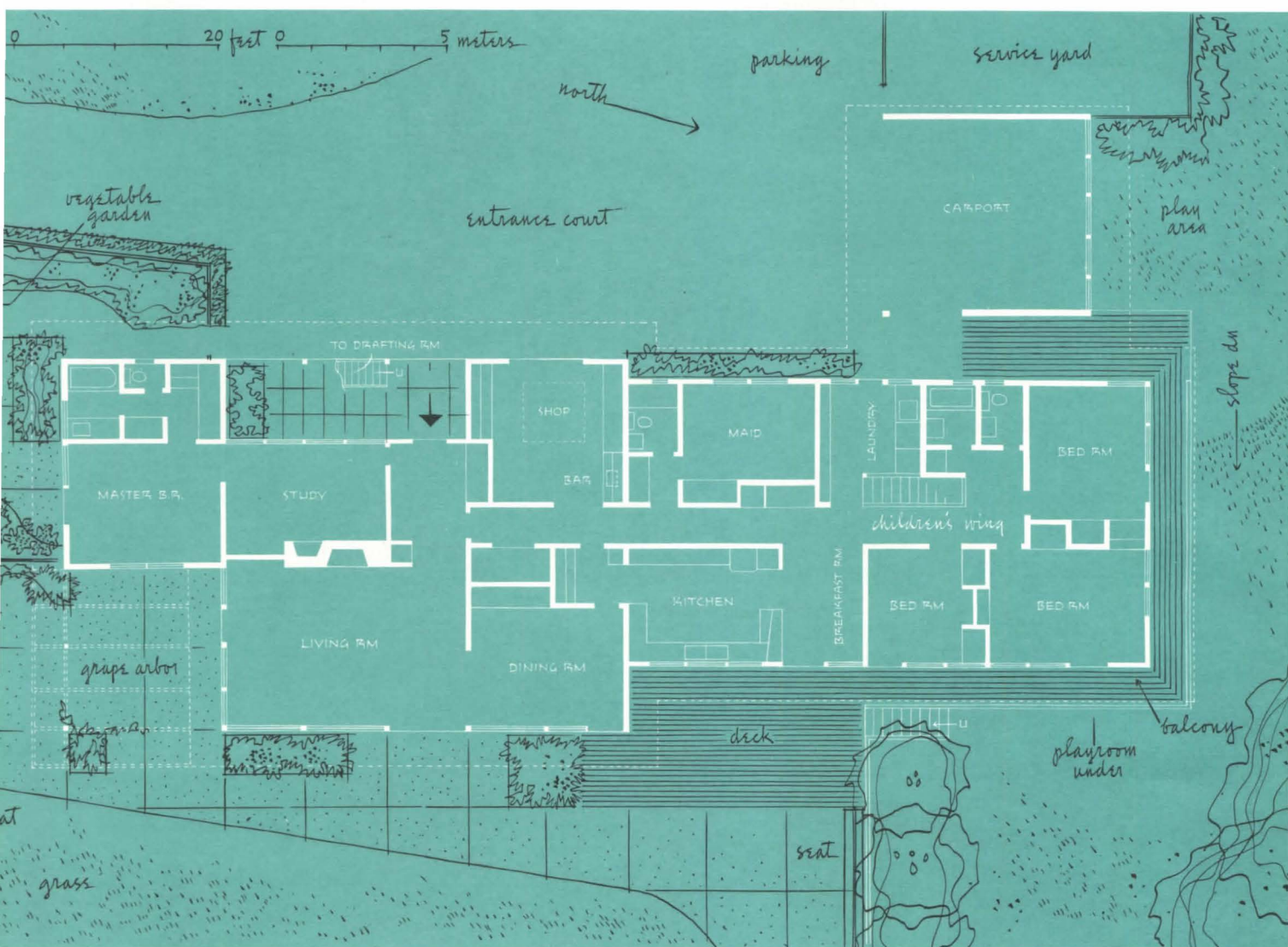


Service yard (top) is separated from entrance patio by 4" thick free-standing stone wall. Roof of 14'x72' screened porch is of plastic material, flooring of slate.

The New House-to-Site Transition

Kentfield, California. Rebecca Wood Esherick, Architect; Joseph Esherick, Consulting Architect; Lawrence Halprin, Landscape Architect; Farré Bros., General Contractor.

Photos: Ernest Braun



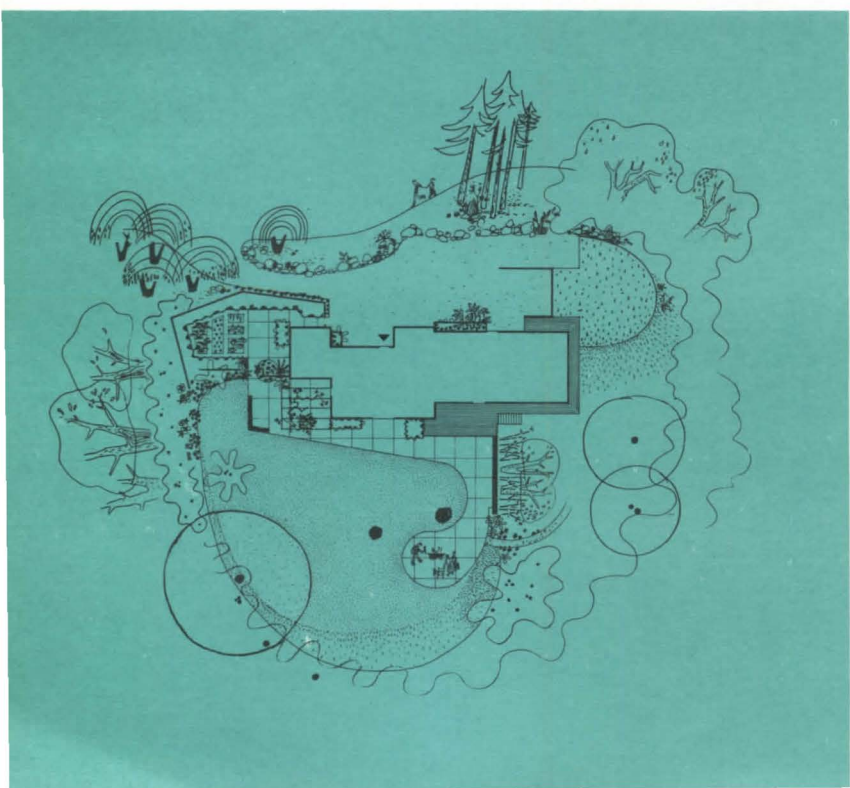
landscaped for privacy and useful living extensions

This house, which turns its back to the road, the entrance drive, neighbors' houses, winter storms, and western summer sun, opens on the opposite side toward a huge oak tree in the foreground, a natural border of woodland, and a mountaintop in the distance. Plant screens and fences on the remaining exposures complete the house's privacy. Interior planning for this family of architects and three children falls into place logically with the parents' quarters toward the south, while a shop, maid's quarters, kitchen, and dining room form a buffer separating the two-story children's section to the north. Great variety has been achieved in the treatment of

transitional areas, in every case appropriate to the adjoining interior spaces. Living room and master bedroom share a quiet corner porch partially covered by a grape arbor. To the south of the living room the large oak provides shade for the extensive glass area, yet permits penetration of the winter sun. It also forms a link between the house and a barbecue terrace. A wooden deck off the kitchen offers a convenient outdoor dining space and provides access to balcony serving all of the children's rooms. To the northwest, the same balcony connects with a play and service yard. An entry porch on the west, gives access to the main living quarters and

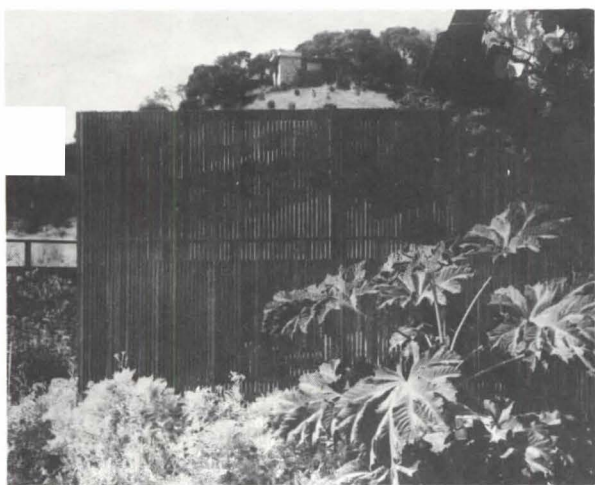
office upstairs. To the south-west, a fenced garden is set aside for the growing of vegetables and cut flowers. In this way, every piece of the property has been given a purpose and all parts of the house provided with the widest variety of outlook.

In the construction of the house a 4' module was observed throughout. Flooring in the main living section is a concrete slab on grade. The two-story children's wing, with bedrooms upstairs and a playroom below, employs wood joist construction with asphalt tile flooring. Walls and roof are of post and beam construction. Exterior wall finish is 1"x10" T&G redwood siding.



The New House-to-Site Transition

House (bottom), seen from the driveway on the west, is almost windowless except for maid's room and architect's office under gables. Skylighted shop has 8'-wide blind doors toward driveway for bringing in materials, cars, skis, etc. On the opposite side, living/dining room (right and acrosspage bottom) is totally glazed on its south and east sides for enjoyment of lawn, terrace, and treetops.





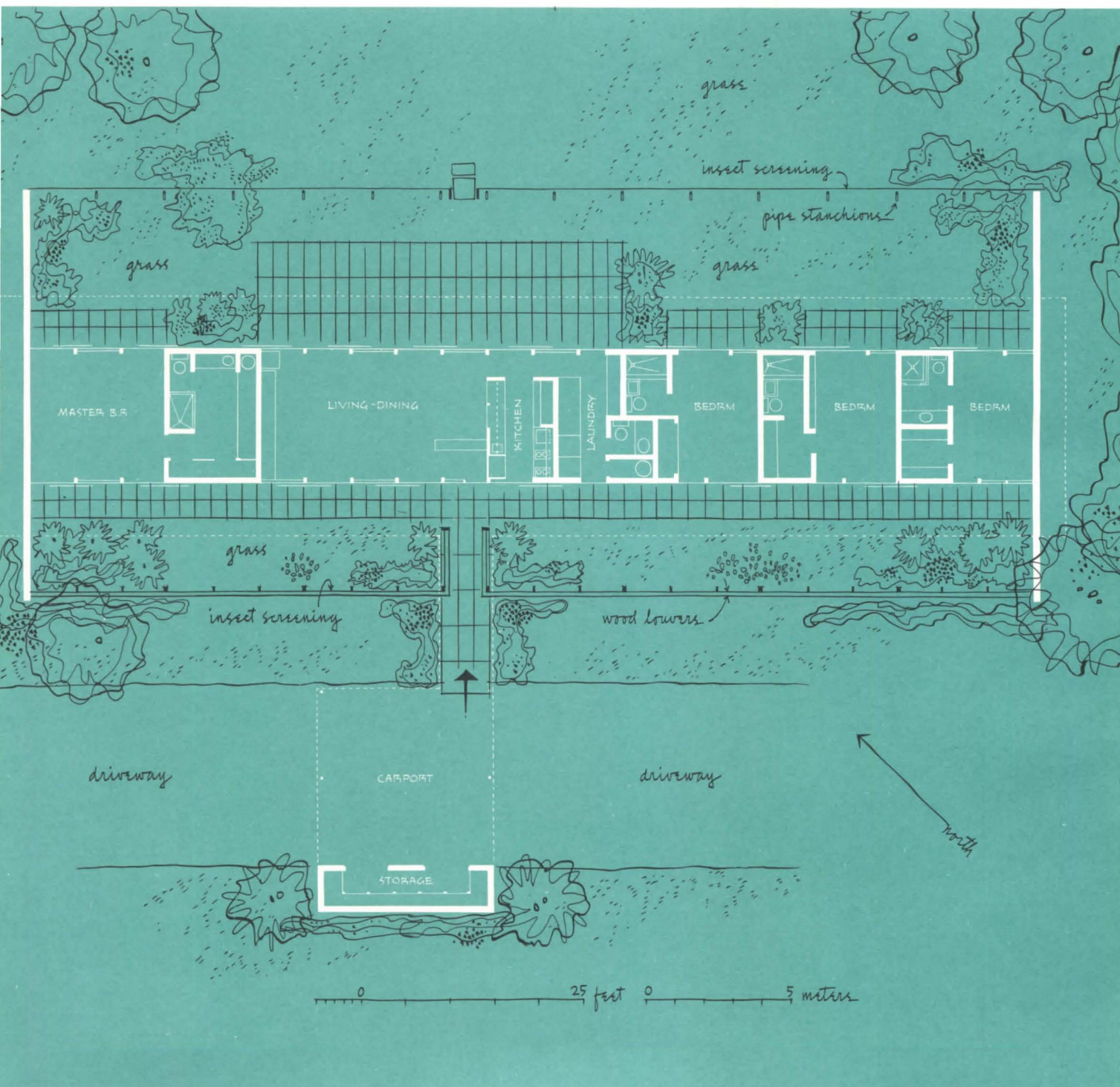
Wife, who is practicing architect, uses office and drafting room (above), accessible from stairs which lead up from entry porch. Mother can work in privacy (no children allowed upstairs) but commands a view over entrance drive and living room below. Kitchen (right) with beautiful outlook toward garden, is large on theory that children can learn to cook and help.



The New House-to-Site Transition

St. Petersburg, Florida. Rufus Nims, Architect; Alois Steinwachs, General Contractor.

Photos: Alexandre Georges



all rooms extend to screened outdoor space



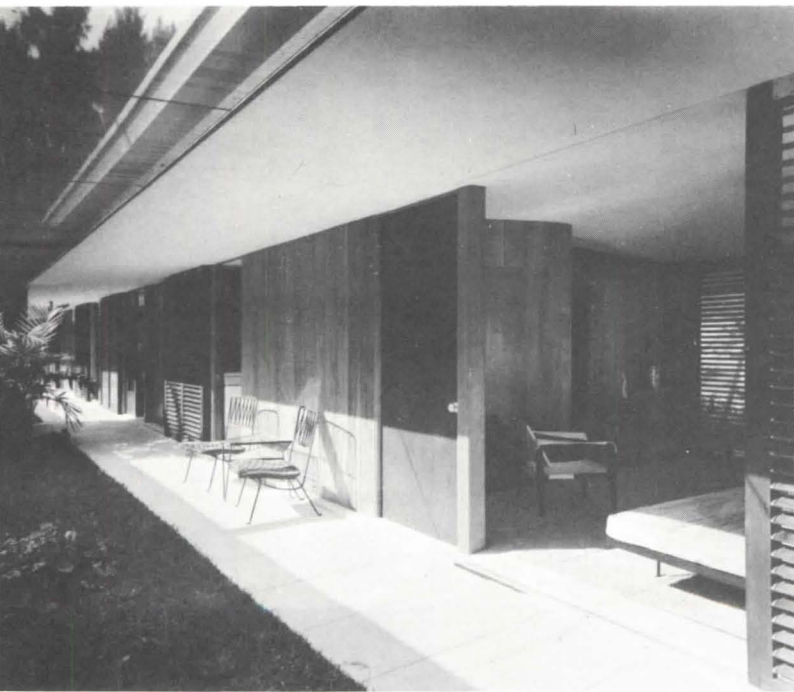
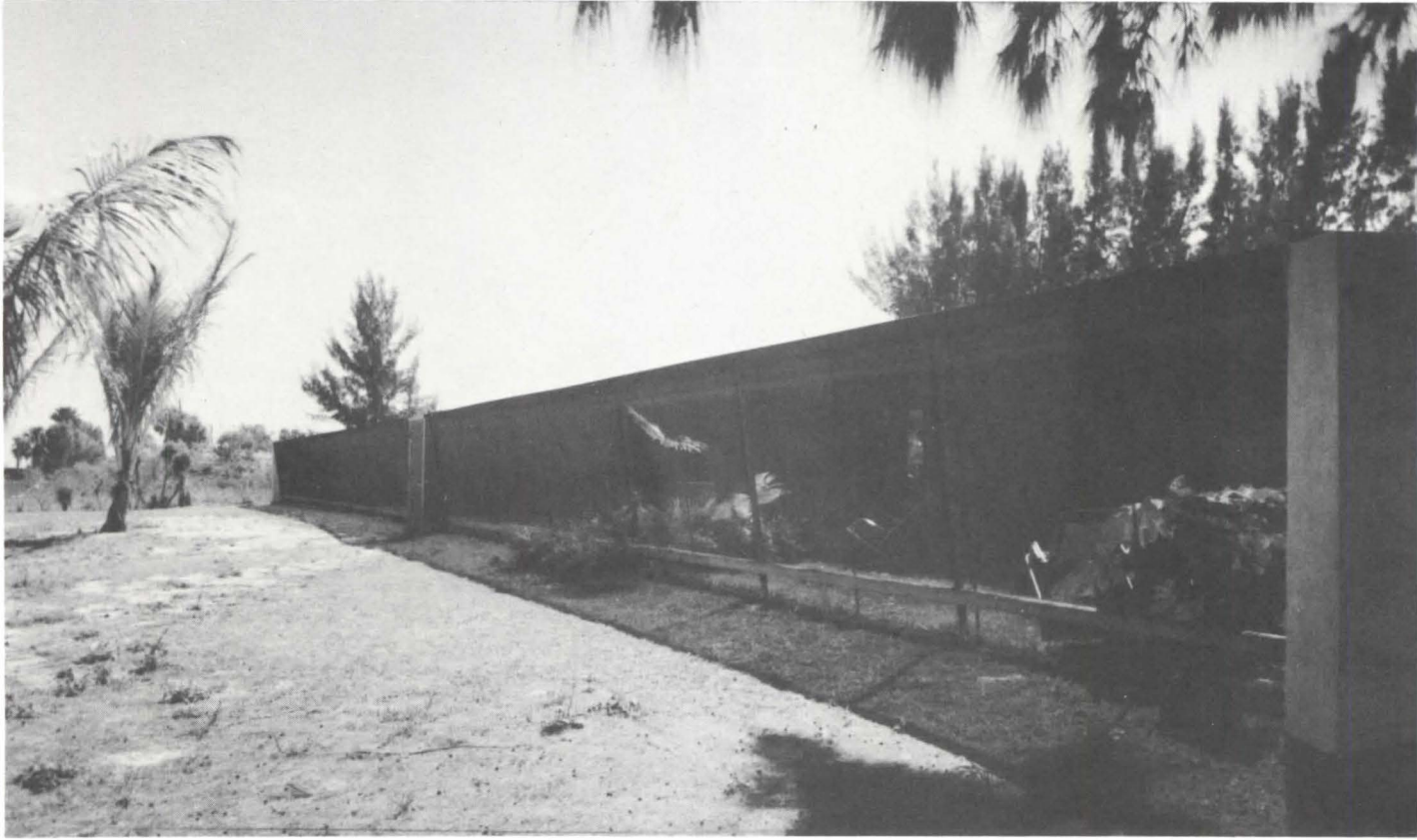
"The house," writes architect Nims about this residence for a family of six, "is essentially a porch strung continuously between two gardens." This strip plan with circulation outside the house offers many advantages in Florida's subtropical climate. Through-ventilation is obtained for all interior spaces since house is only one-room deep. Interiors as well as gardens are insect-proof, and, most important of all, the two gardens

are readily accessible and truly useable. The narrower of the two gardens (*above*) faces the street and carport. A louvered fence breaks the vision from the outside into the house and a wide overhang offers weather protection for the exterior passage way, which connects with all of the rooms. The terrace on the opposite side (*below*) faces a view of the water and is the outdoor living extension for all of the rooms. Actual enclosed space

is thus kept to a minimum in the rooms which reach from one garden to the other. When privacy is wanted, wood жалousies in sliding tracks permit cross ventilation even though closed; alternating clear glass panels admit light to the interior. Divisions between rooms are cores of masonry containing plumbing and storage. Heat is provided by electrical-resistant coils in the plaster ceiling.



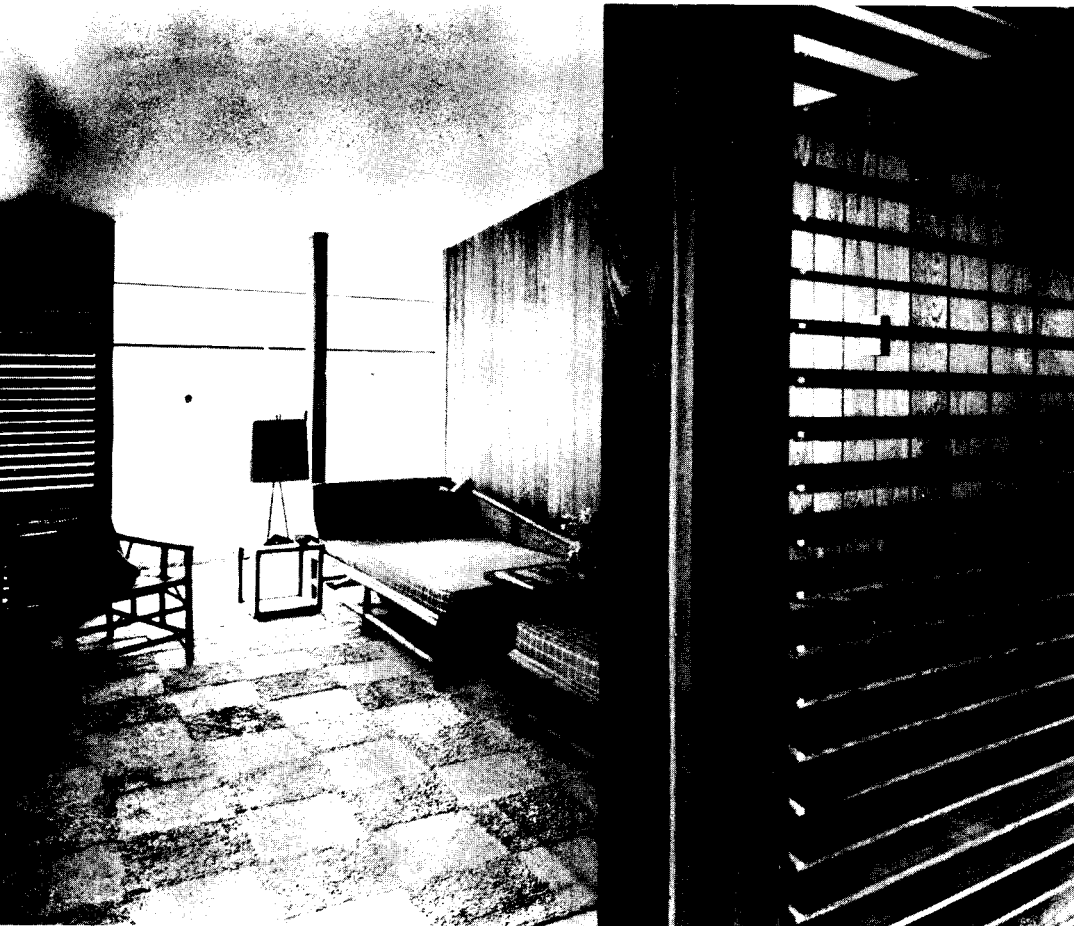
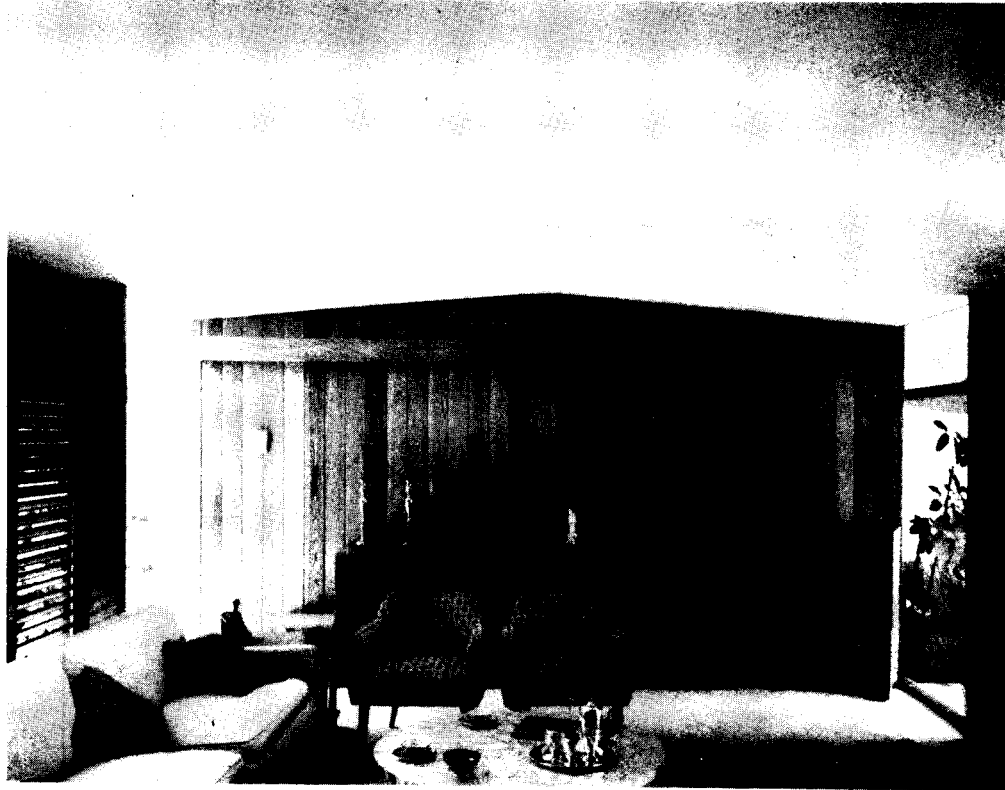
The New House-to-Site Transition



Every room, including kitchen (below) has cross ventilation and borders on two screened gardens. Instead of interior halls, walkway in the garden on the street side (left) provides access to all of the rooms. Garden opposite (above), seen from the outside, has wide living terrace and view across bay.



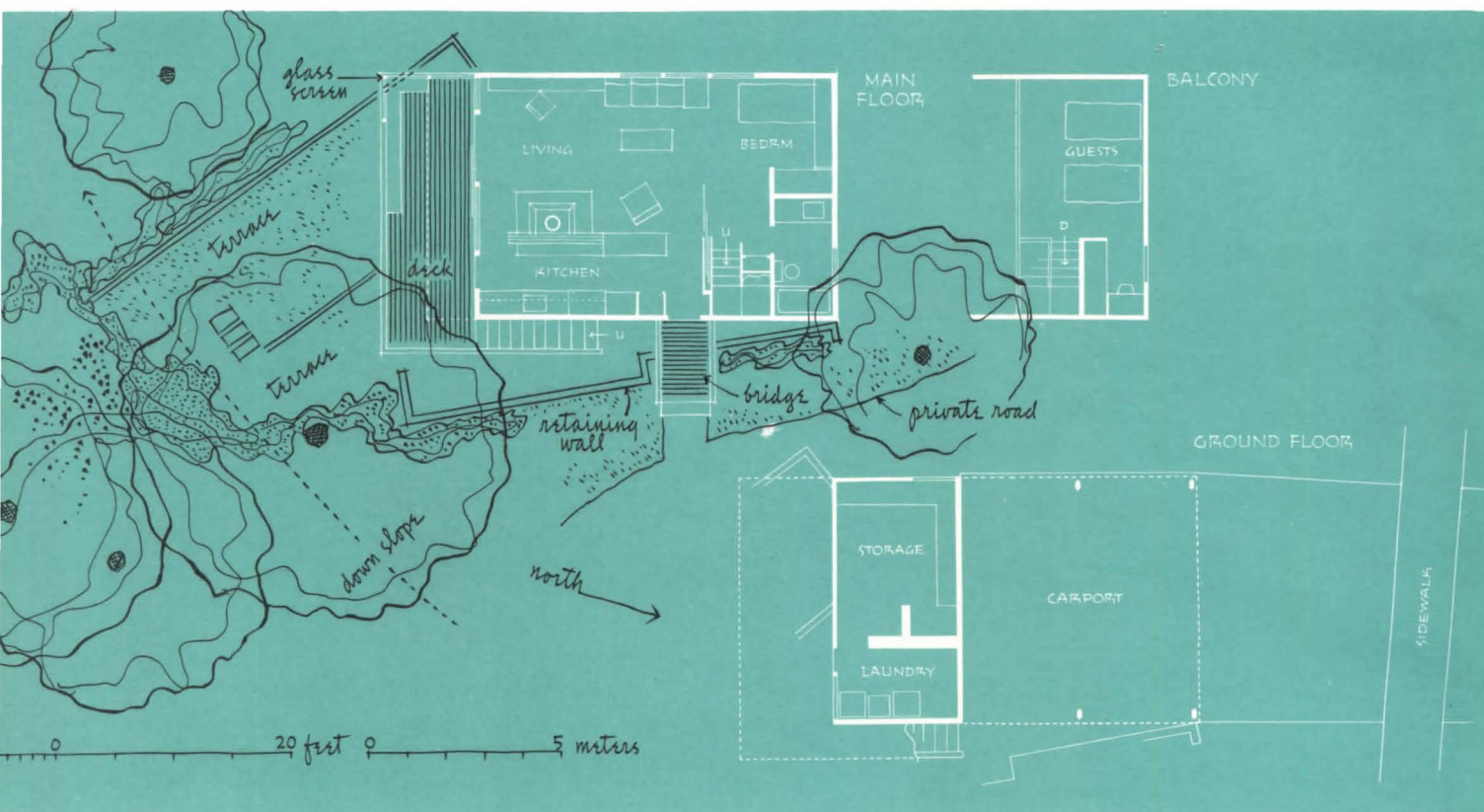
Living room (above) takes up entire width of house and separates parents' quarters at west end of house from children's rooms on the east (below). For its warmth and weathering properties, redwood has been used liberally throughout interiors.



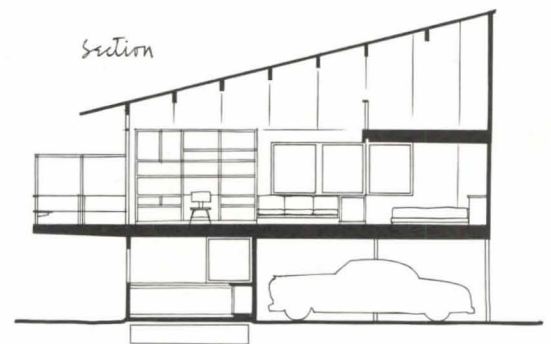
The New House-to-Site Transition

Berkeley, California. Roger Lee, Architect;
Willis Foster, General Contractor.

Photos: Rondal Partridge



hillside aerie opens to balcony and view



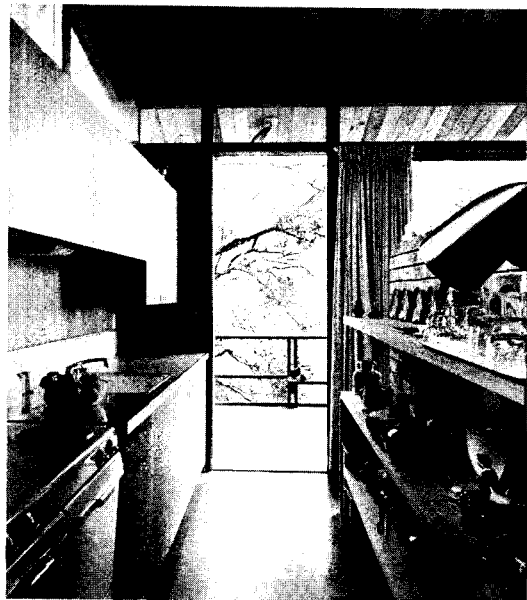
A steep, wooded slope with eye-filling views of San Francisco Bay to the west and the Berkeley hills to the south were governing factors in the design of this unusual, essentially one-room home for a single woman. To appreciate fully the physical and visual progressions that have been developed to link enclosure and terrain, one must view the design both horizontally and vertically.

To begin with, the main living floor

is perched above the site, allowing both under-house car storage and optimum viewing for the main-floor level. Between land and living floor on the east is a connecting bridge from the ground. To relate house to view and treetops, an 8-foot deck, with glass wind screen and built-in seating, is cantilevered from the main structure and connects by a stair to the ground. The huge window wall and doors facing south and border-

ing the living space form a total visual indoor/outdoor link, while the guest bedroom balcony provides a platform from which the full effect of house-to-site relation is dramatized. Sliding panels close the main sleeping room from the living space.

Exterior walls are redwood; interior surfaces, vertical-grain Philippine mahogany. The house is heated by both gas floor furnace and electric wall heaters.



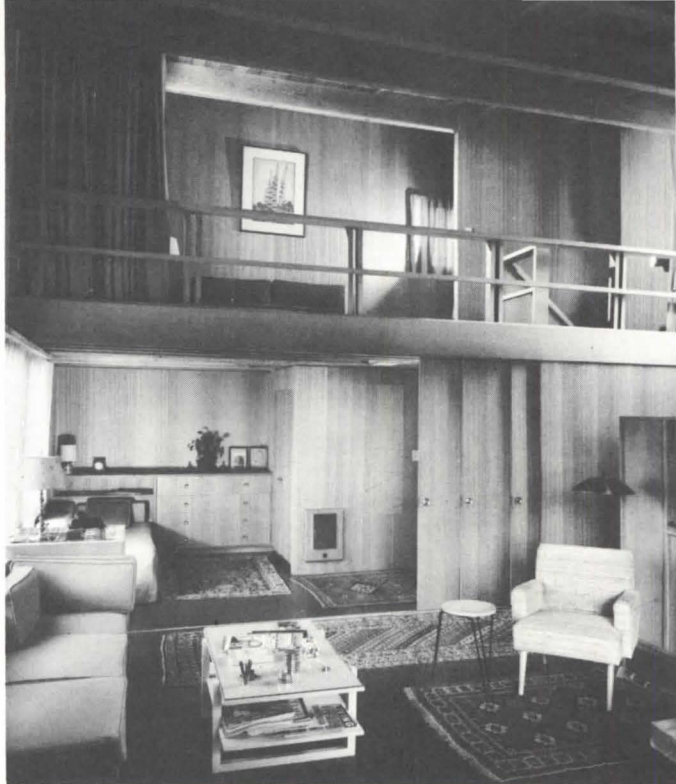
The front door (top) is reached by a ramped, wood-deck bridge.

Even the cooking space (above) shares the view and opens to the treetop, cantilevered deck (left).

The New House-to-Site Transition

The owner uses the rear of the main floor for sleeping—a space that may be wholly enclosed by three sliding panels (right). Immediately above is a balcony for guests.

From the balcony (below), the transition to living floor, through opened wall, to outside deck, trees, and view is striking.



vinyl-latex emulsion paints

by J. S. Long*

During recent years water-emulsion paints have become extremely popular and as many as 40 million gallons have been sold in one year. Their appeal is based primarily on certain functional advantages: (1) The resin particles (a copolymer of butadiene and styrene) are suspended (emulsified) in water which makes the paint easy to brush or roll. (2) These paints have little objectionable odor so that one can paint a dining room after luncheon and enjoy supper in it the same day. (3) They dry rapidly and "touch up" easily with no significant difference in hue. (4) They wash well after a period of aging. On the other hand, their limitations are: (a) Adhesion to smooth glossy surfaces is relatively poor. (b) Sheen is too high.

A new water-emulsion paint possessing all of the desirable features listed above has now appeared and, in addition, it has excellent adhesion to smooth, glossy surfaces, can be formulated at a lower sheen, washes well, and dries sooner than the butadiene-styrene type. Its vehicle is vinyl-latex emulsion. Present judgment is that it will largely make obsolete the butadiene-styrene type.

A word about polyvinyl-acetate latex—the principal constituent of some vinyl-emulsion paints. If acetylene (made by action of water on calcium carbide) is treated with acetic acid (vinegar), it yields what is called vinyl acetate. Vinyl acetate when heated or subjected to certain other conditions polymerizes—that is, the individual molecules join one another to make polyvinyl acetate. (The word "poly" means that many single vinyl-acetate molecules have joined to form a large one.) Because the types of resins used in vinyl-latex emulsions are made of long-chain molecules, paints containing them bridge well over small cracks such as fire checks on white putty-coat plaster. They

also seal a wall, well. Vinyl-latex paints are resistant to alkali so that when applied to new unseasoned lime-containing plaster walls, they perform well. Because of the sealing action, the alkalis that are present do not cause paints to burn.

Further, since there is a water emulsion, it wets and lays the fibers on dry-wall construction which is important for the following reason. It is common practice to tape joints with paper tape and special compound; often, the excess compound is removed by sanding. This procedure roughens the nap on the paper adjacent to the taped joints. When painted, the small fibers are not wetted by solvent-type primers, such as alkyds, so they do not lie down. Water emulsions, however, cause them to lie down and yield a smooth finish. Conclusion: vinyl-latex emulsion paint is excellent for dry-wall construction.

With high-hiding, vinyl-latex emulsion paints, one coat is often sufficient. If a second coat is needed by the time the painter has gone around the room, however, he can start right over again and put on the second coat. It fits well with the contemporary need for speed.

A great variety of color is available in various color systems and intermixes. Prices are typical of high-grade, one-coat, flat wall paints.

Other types of resins, such as the acrylic emulsions, are also making an appearance at this time and a few manufacturers have chosen to offer these instead of the vinyl-latex type. At the moment, it appears that the latter has some advantage over the former—particularly in application properties.

Vinyl-latex emulsion paint is a good illustration of purposed design in the creation of protective coatings. As in the illustration cited above, the shortcomings of an existing product were "designed out" and eliminated. Consequently, the suitability of the product was greatly improved.

* Research Consultant, Devoe & Reynolds Company, Inc., Louisville, Ky.



concrete- and aluminum-frame summer house

Arthur A. Carrara, Chicago architect who created this house, is convinced that "any sound piece of architecture must not only be a part of the terrain it lives in, but must also reconcile the universal with the regional as well as bringing the mechanical and the human into great harmony." His interpretation of this conviction, in a summer house situated at Whitewater Lake, Wisconsin, is shown and described here.

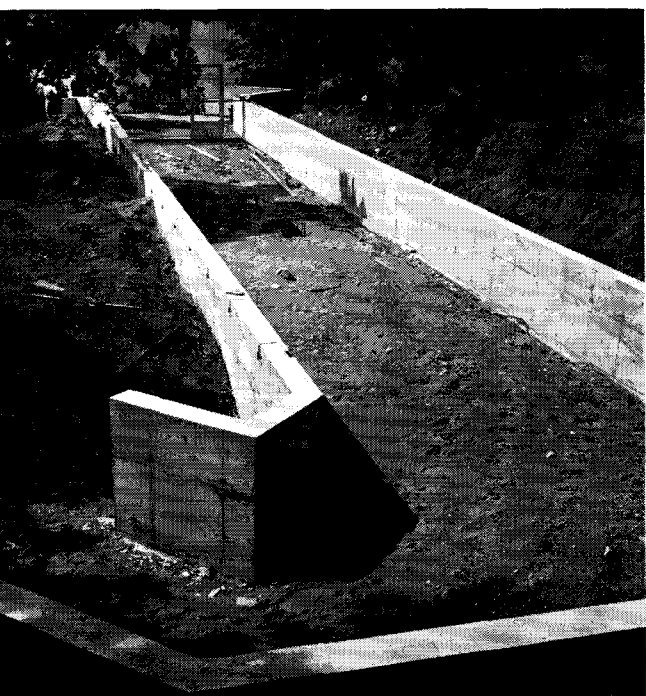
When the architect first visited this site—a razor-back peninsula projecting 60 ft above water level and alternately subjected to heavy rain washes and unrelieved sun heat—he quickly sensed the

opportunity and necessity to design a structure that would provide serenity and protection for its owner.

Since this lodge is used primarily during the summer months—all roads leading to it are impassable during winter—the primary thermal-environment considerations were to provide summer comfort. Using an age-old technique, concrete walls were "bermed" into the ground so that as the house nestled into its site a good measure of insulation was automatically provided.

Prefab-aluminum frames mounted on the concrete walls not only support the roof but also serve as sash for glazing.

These sections, all precut by a greenhouse manufacturer and specially treated for outdoor use, were assembled with self-threading stainless-steel screws. Double-strength glass was precut and fitted into rubber channels. The remarkable ease with which the entire aluminum frame was assembled and the technique of setting glass in rubber solved the skilled-labor problem—"a serious consideration for a building site in the woods" Carrara points out. Actually, over 1½ tons of glass were set by the owner in two days. Vents placed at the ridge are operated by worm gears, spaced as needed throughout the rooms.



"Bermed" concrete walls (acrosspage and right) automatically provide insulation. Ample roof overhang produces shade but does not severely limit view of surrounding terrain and lake.

Photos: John Szarkowski



The large "parasol" roof is supported by structural-steel gusset plates spaced at five-ft intervals which carry the roof load to the aluminum framing (*detail page 139*). Separating the roof and the glazing in the top of the aluminum framing by an air space, simultaneously established the venturi-flow principle. As the sun strikes on the outer roof, the space between the wood and glass roof becomes heated and expanding air produces a flow. Thus the indoor temperature continuously responds to all outdoor changes immediately. Although the ample roof overhang provides precious shade, it does not obstruct views of the

surrounding terrain or the lake.

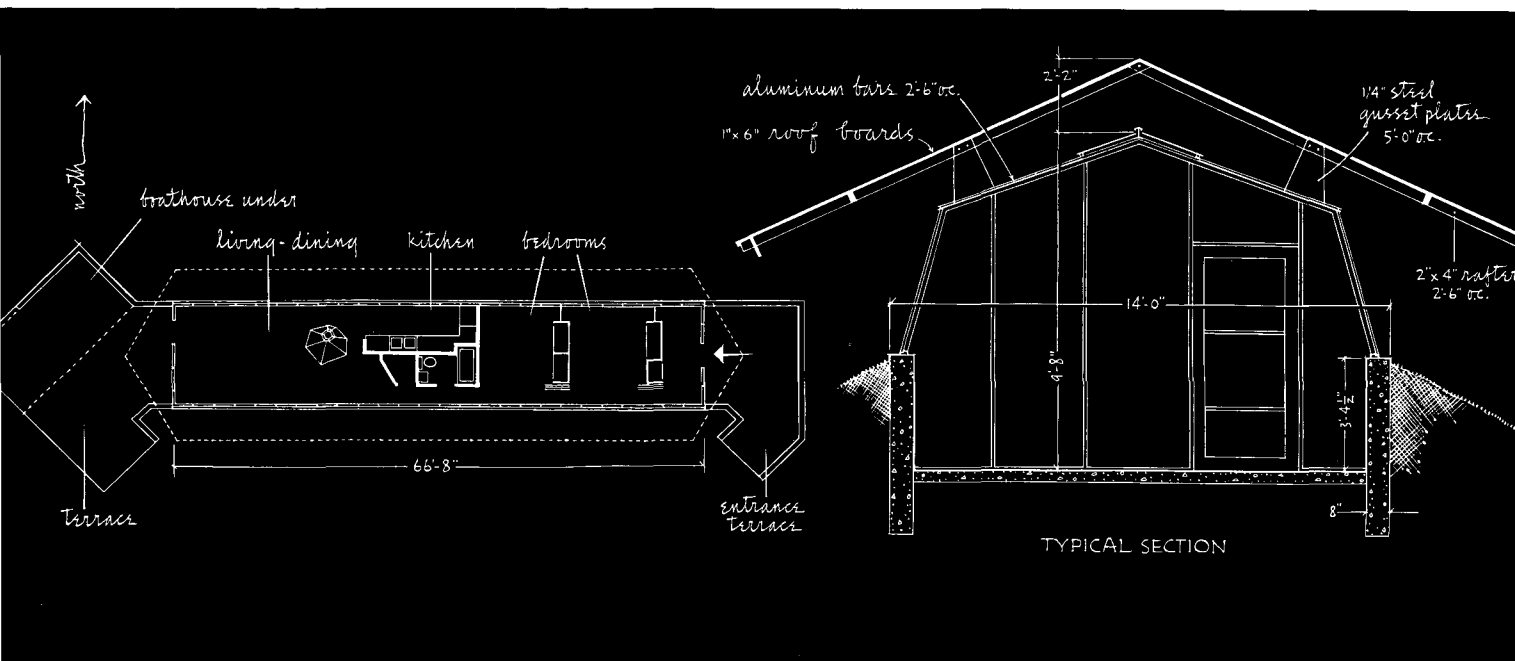
The outer roof is constructed of T&G wood boards saturated with three coats of creosote.

In addition to the rooms at ground level, an enclosed space for dry-docking a boat is located beneath the terrace facing the lake. Excluding the property, the total cost of the building was \$9000.

Additional comments from the architect help to document the house. "I never felt that the standard aluminum space frame was a hindrance in design. . . . I feel that the greatest advance in complete structure, that is walls and ceiling, has been most successfully accom-

plished by the greenhouse manufacturers. Their method of placing opening vent sash at the ridge is not only sound for controlling ventilation within, but at once simplifies entire structure. . . . Much can be said about the use of glass in a heavily wooded area . . . and the complete view of nature on all sides—at times so close that gophers nose the glass. . . . The entire shape and sol-air orientation is a result of much experimentation and confirmed by studies of Victor and Aladar Olgyay."*

* Currently in production at Princeton University Press is a book which documents the philosophies, research, and work of the Olgyay brothers.

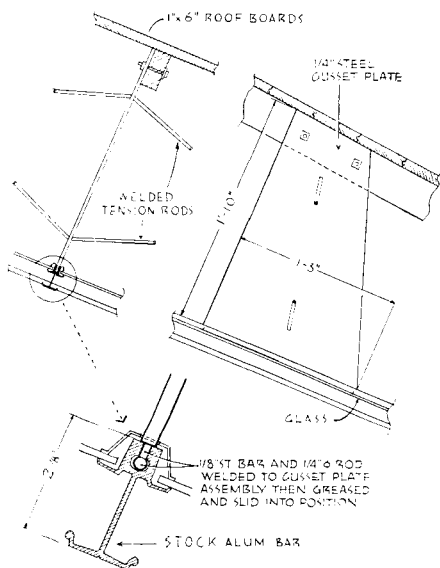
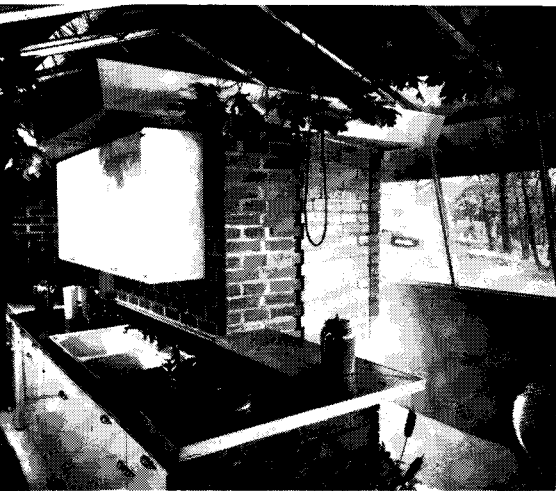




Concrete-aluminum frame house is located 60 ft above water level of lake (left). Air moves through space between wood roof and glazed ceiling (below) by venturi principle.



Steel fireplace was installed mainly for cool evenings in spring or late summer (right). View of bedroom from outside (below right) clearly shows arrangement of steel gusset plates between prefab-aluminum frame and wood-plank roof. Detail drawing provides supplementary data on gusset design. Island between kitchen and bath separates bedroom and living-room areas (below).



all-welded steel-frame houses

by J. B. McCormick*

If initial successes are reliable criteria, the steelworker's welding electrode may replace the carpenter's hammer in the framework construction of many functionally efficient homes. This abrupt forecast is based on fact—not fancy.

For many years, forward-looking architects and engineers have worked over plans for the "all-steel" dwelling unit—a home impervious to storms, fires, earthquake shocks, insects, and the ravages of time. Some homes have been built but, from the practical point of view, few of these "trial" homes could be classed as commercially profitable on a large scale.

Costs were out of proportion; erection time was excessive. Added to these objections, when the steel-framed structures were bolted, these "trial" homes

were, strange to say, noisy. Temperature changes causing a slight expansion or contraction of individual steel members and wind stresses of sufficient magnitude to cause microscopic shifting of the structural elements—one against the other, in the bolted joint areas—set up annoying reverberations.

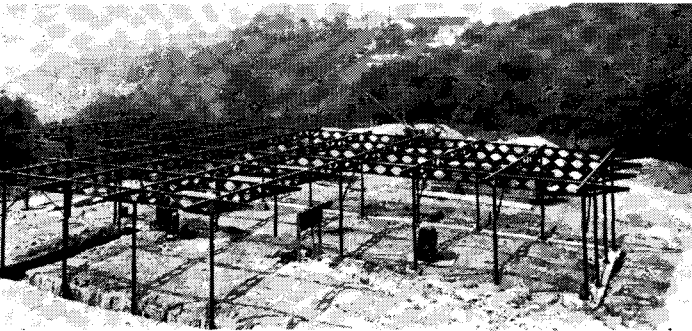
Eugene Memmler, a steel man and an experienced production engineer, has tackled this problem of commercially feasible steel-framed home construction and has produced significant results. Memmler did not concentrate on one structural material as being best for all purposes; rather, he surveyed many materials in order to decide which would serve best in the various phases of home construction, then correlated these into a carefully worked-out system employing contemporary building materials in ways that combine most efficiently to form

a permanent, sturdy structure. Had Memmler concentrated on the use of steel in places where other structural materials would have served the purpose better and cheaper, his method might have been foredoomed to failure.

Memmler's system—which he labels "Moduplan"—calls for a welded-steel framework, a welded-steel roof deck, and welded-steel panel supports to be installed where necessary in a manner that facilitates his modular construction plan. Steel pipes, anchored in a concrete floor slab, support the entire weight of the steel roof deck and its covering. All joints throughout the structure are welded in a manner that completely prevents joint movement or displacement, regardless of the stresses involved.

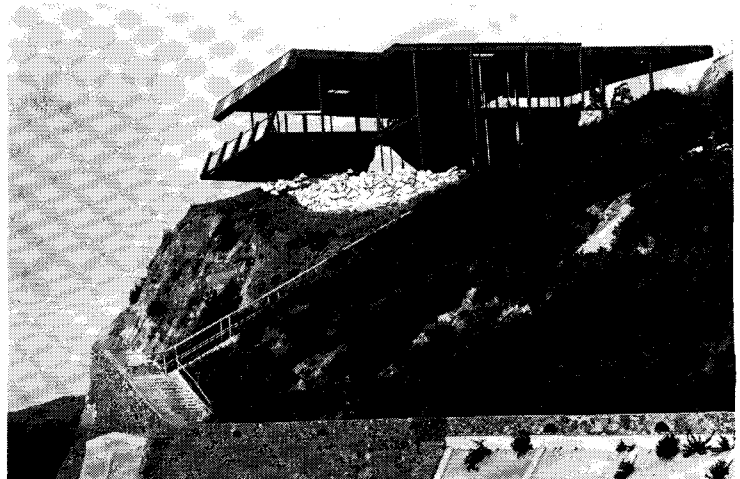
This increasingly popular modular construction plan, which in effect follows the principle introduced by toy

* District Engineer, The Lincoln Electric Company.



All-welded steel framework for pilot "Moduplan" house erected by California designer Eugene Memmler (above). Plumbing and wiring can easily be carried between roof and ceiling.

More recent steel-frame house built on cliff overlooking Pacific Ocean (right). Overhead view taken before roofing was applied (below) shows junior-beam framing with T-section grid welded to bottom flanges at 4-ft intervals.



erector sets using standard-sized parts in the fabrication of any desired structure, makes it possible to prefabricate a large proportion of the steel frame-work before delivery to the job. This prefabrication of the modular sections can be accomplished quickly and economically, using standardized jigs, welding equipment, and steel components that have been pre-cut to the proper length. When these prefab sections are delivered to the site, a minimum of on-the-job welding is required to join them together. Even this work is simplified by pre-attached-and-drilled clip angles, so that the modular sections can be bolted into place immediately prior to welding. The few bolts used to prejoin the modular sections are left in place after welding, mainly because it is cheaper to do so than to remove them, not because they serve a useful purpose after the joint

assembly has been welded together.

In a typical home using Memmler's system, the wall-frame sections are made up of 3-in. standard pipe columns spaced 8'-5" on centers anchored in the concrete floor slab. The column tops are welded to 12-in. junior beams, which in turn support the steel roof deck and its covering. The channel-steel roof-deck material is tack welded at intervals so that any roof stressing results in a diaphragm-like action rather than a noise-producing relocation of the panels.

Framing sections consist of vertical and horizontal T-sections equally spaced between pipe columns so that 4-ft wide prefab wall panels can be inserted and bolted in place. The edges of these wall panels are subsequently calked. Ceiling framing consists of structural T's welded to lower flanges of the junior beams at 4-ft intervals. These

T-sections intersect and divide the interior ceiling into 4-ft squares, which in turn support ceiling panels.

The interior partitions are nonload-bearing and are of conventional wood-stud and plaster construction, or made up entirely of built-in storage cabinets. Necessary water pipes, plumbing stacks, and wiring are concealed in these partitions; all other piping and wiring is contained in the 12-in. space between the ceiling panels and the roof deck. These service lines may be reached for repair or inspection by merely moving aside one of the ceiling panels. The interior partitions were anchored to the floor slab and overhead beams by power-driven steel fasteners.

Electrical switches and outlets required on the exterior walls were built into structural channels covering the pipe columns. The 1½-in. thick vertical



Junior beams of roof being welded directly to vertical pipe stud (above left); lower extremity of pipe is anchored to concrete floor slab. Workmen hot-mop roof deck made up of steel sections tack-welded together to prevent movement and noise and to provide diaphragm-like action to absorb stresses (center). Upper plate of interior wall section is anchored to nether flange of junior beam by power driven fasteners.

Insulating wall panels, 1½ thick, are set between vertical pipe studs and steel T's spaced 4-ft on center (below left). Ceiling panels are laid in place and supported by flanges of structural T's (below right).



panels set between the upright T's and columns are made of asbestos-cement sheets laminated to an insulating core and have an insulating value equal to 25 in. of solid brick.

During construction of the home, a cutting torch was used to open necessary pipe lead and wiring holes through the junior beams in the space between the roof and ceiling. When finished, the entire loadbearing framework of the house, as well as the steel roof deck, was a unified, homogenous welded structure—including the welded-in-place wall framing which provides a rigid support for the interior partitions. Yet the entire structure is so designed that it includes sufficient flexibility to offset expansion and contraction, absorb unusual stresses, and even "give" with an earthquake shock without harm to or movement in any of the welded-joint areas.

The above-described home encloses about 2250 sq ft of heated living area. Cost of the finished structure—including draperies, budget for landscaping, and such refinements as radio-controlled garage doors, but not including fees for landscaping or architect or financing—was about \$14 per sq ft. With fewer refinements, it is estimated the cost would have been about \$12.50 per sq ft. This compares very favorably with better "Class A" wood-framed homes. The various homes already completed using "Moduplan" construction have varied in cost from \$10 to \$14 per sq ft.

Prefab units for the home were assembled in Memmler's small steel yard at Monrovia, California. Simplified, home-built jigs were used to align and hold the components during welding. All steel was purchased precut to the correct length. A 200-amp a-c welder was employed for yard welding,

while a 180-amp portable welder was used for field welding. A $\frac{1}{8}$ " electrode of the new iron-powder type was used for yard welding. This type electrode permits fast work, gives very little spatter, and requires a minimum of post-welding clean-up work. An E6011-type electrode is used for all-position welding on the job, using the portable welder.

Memmler's plan is to establish franchised yards throughout the nation to prefabricate and erect his steel-framed homes.

The initial modular structure is carefully laid out to accept standard-size steel casements, standard doors and frames, and standard-size wall and ceiling panels. A franchised contractor anywhere in the country can obtain these purchased units locally at minimum freight costs. Specialized structural units that are produced at one place only and not nationally available, are avoided.



View of "Moduplan" house before installation of ceiling panels (above). Exterior and interior views of Memmler's own home (right).



The Shifting Bases of Contemporary Criticism

by James M. Fitch*

The content as well as the form of architectural criticism has undergone a fundamental change in the past half century. This has been largely a matter of vastly increased knowledge, both of the past and of the present-day world around us. As late as 1896, Sir Banister Fletcher could set up a system of categories in which the successive architectural forms of the West appear as the "historical styles" and those of all the rest of the world as "nonhistorical." General advances in the science of history have made the repetition of this monstrous sort of error impossible. And this, in turn, affects the critic benignly, giving him a much more accurate perspective of the past than ever before. One has only to compare the Gothic world which Pugin and Ruskin beheld a century ago to that of Geoffrey Scott in 1914 or Pevsner today, to see how increasingly precise history has tamed the wilder and more lurid aspects of the critic's mind.

But it has always been easier to analyze the past than to criticize the present. When criticism deals with contemporary artistic developments, as opposed to the past, its task becomes more complex, more difficult, by definition. First of all, the critic himself is immersed in events, his judgments colored by his own positions and prejudices. Second, criticisms of contemporaneous events plays an active, functional role in society. On the one hand, it introduces the new development to the public; prepares it, so to speak, for the future. But criticism also reflects the public reaction to that new event and in this sense modifies the subsequent development of a given style or movement. Criticism, for this reason, has a far wider significance for architecture than we architects are apt to realize. A short review of the architectural criticism of the past quarter-century should prove this conclusively.

We know now that modern architecture was not the exclusive invention of a few gifted Frenchmen and Germans; and

that it could not appear, full-blown, in Barcelona and Dessau and Paris and Chicago without a century of preparation, by many men, on both sides of the Atlantic. But we did not know this in 1925! For the purposes of our argument, we can safely say that, for the American people, modern architecture began with the famous show of 1932 at the Museum of Modern Art, which did for architecture what the Armory Show of 1913 had done for painting.

The vast range of social, economic, and technical forces which gave rise to modern architecture needs no recapitulation here. But, overwhelming as these forces were, they could not have succeeded without a vast literature of criticism which prepared the way for its development and ultimate victory as the absolutely dominant style of the 20th Century. This critical literature furnished the philosophic substructure on which the new architecture was to be constructed. And it is fascinating, today, to see how this rationale has shifted since the 1920's.

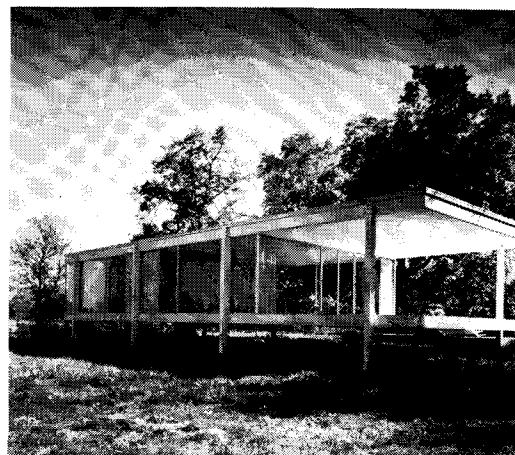
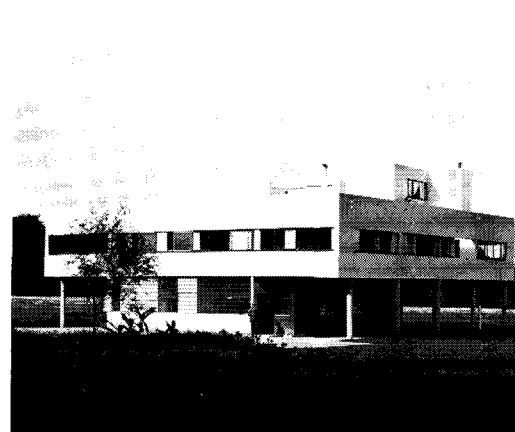
It was called by different names: Wright called it "Usonian"; Hitchcock and Johnson named it the "International Style" (and that proved to be its most used label). But a rereading of the literature of the period will show that the new architecture was not defended primarily because it was "modern" or "contemporary" or "International," but because it was "functional." Actually, of course, the philosophy of the new architecture employed a whole hierarchy of values; and different architects and critics gave them different emphasis. But generally speaking, the values were primarily *ethical* and *utilitarian* and only *secondarily esthetic*.

The very adjectives in use confirm this: modern architecture was "good" because it had "integrity"; was "honest,"

(Continued on page 192)

In 1934, architecture like Le Corbusier's *Villa Savoye* (1929-30) at Poissy-sur-Seine, France, was hailed by Charles Harris Whitaker in *Rameses* to Rockefeller for its "straightforwardness in line, form, and mass." He praised it as an "heroic effort to throw off the heavy burden of architecture as art, as advertising, as propaganda," adding "by recognition of basic things it lets the art emerge from the rightness of the building for its purpose."

Photo: Courtesy of Museum of Modern Art



In a 1952 issue of *House & Garden*, the house built in 1950 by Ludwig Mies van der Rohe for Dr. Edith Farnsworth, near Chicago, was praised in quite other terms, for quite other values. Its "unique architectural spirit" was termed the expression of that "pioneering purist who wrote, 'architecture is the will of an epoch translated into space.'" According to the critic, "This house was a structure of implacable calm, precise simplicity, and meticulous detail."

Photo: Hedrich-Blessing

* Author, Editor, Associate Professor at School of Architecture, Columbia University, New York. This discussion based on a speech delivered April 12 at annual dinner of The Decorator's Club of New York.

synthetic-rubber calking compound

by J. R. Panek*

Polysulfide synthetic-rubber compounds have been used extensively by the aircraft industry for integral-wing fuel-tank sealing and cabin sealing for more than 10 years. The requirements in this field call for a compound that can be gunned into place after all construction is completed. The gunned compound is then quickly converted to a rubberlike material which has excellent adhesion to aluminum, flexibility over a wide temperature range, and resistance to change by water and gasoline.

For economy of space and a better distribution of the over-all load, gasoline tanks are built into the wings of aircraft. The general method of assembly consists of riveting together sections of the tanks around many of the supporting members within the wing. Upon completion of all construction, the synthetic-rubber-based compounds are calked over all the riveted seams to give a completely sealed tank. The compound has to have excellent adhesion to aluminum, to be resistant to aviation gasoline, and to maintain flexibility over a wide temperature range. Because of the location of the tanks within the wing, considerable vibration takes place during flight. The service conditions are made even more drastic by the fact that an airplane may first be standing in the hot summer sun, with the surface temperature of the wings as high as 180F, and then suddenly it must ascend in a matter of minutes to altitudes where the temperature may be as low

as -100F. Simultaneous with the sudden temperature drop, the wings and wing tanks are subjected to continuous vibration. The fuel tanks must be completely leakproof under these severe service conditions; otherwise, explosions could occur. Consequently, polysulfide compositions have been subjected to and have passed rigorous tests before being specified for aircraft sealing.

On close analysis, the problems confronted in making aircraft airtight and leakproof are very similar to those encountered in sealing metal curtain- and window-wall construction against rain and weather. The need in the building field is for a rubberlike compound that will adhere to a wide assortment of building materials; will adhere in spite of (restricted) lateral motion and vibration; and will be watertight over a wide temperature range. Applications that are particularly critical are window calking and glazing, embedment of air-conditioning louvers, calking between panels in curtain-wall construction, sealing flashing, and expansion-joint sealing.

The success of synthetic-rubber compositions in the aircraft industry has resulted in their specification for many difficult applications in the building field within the last five years. These compositions have been found satisfactory and show every indication of a minimum life, for a properly applied joint, of at least 20 years. Tests made on several samples of synthetic-rubber compounds in glazing exposed to New Jersey weather for 10 years show that the seal was completely satisfactory and

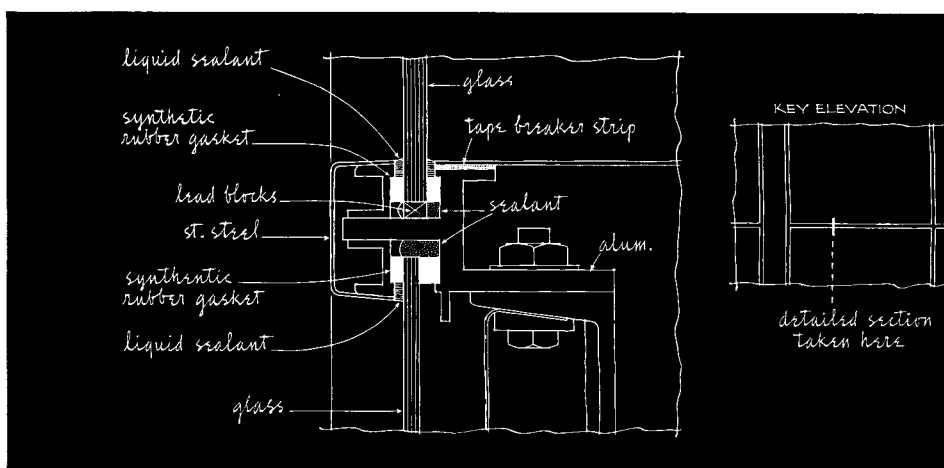
that the compound was unchanged with respect to its rubberlike and adhesive properties, and its appearance.

Polysulfide synthetic-rubber compounds made by The Thiokol Chemical Corporation have been used in numerous exterior calking applications. Well-known structures where such compositions have been used are: Lever House, New York, for glazing; Republic National Bank, Dallas, for glazing and sealing frames in panels; Statler Hotel, Dallas, for calking window frames; Socony Mobil Building, New York, for sealing flashing, embedding louvers, and sealing pre-assembled window-frames.

It is well to remember that the performance of any compound is only as good as the precautions taken to insure proper mixing and installation. The synthetic rubber that appears to be most satisfactory for application in the building trade is a liquid with a viscosity similar to that of molasses. The incorporation of fillers thickens the polymer so that, in many cases, beads of the mixed compound can be applied to vertical surfaces without flow. In addition to these fillers, which also reinforce the converted compound, other modifiers are added to bring about other desired characteristics. One additive is used to obtain excellent adhesion of the compound to aluminum, steel, glass, and other surfaces. Another additive is used to give the desired working life. Yet other additives have been used in compounds for the aircraft industry to produce a number of desirable properties, among these being improved high-temperature resist-

* Section Head, Technical Service Department, Thiokol Chemical Corporation, Trenton, N. J.

Detail (right) indicates recommended locations for liquid-polymer sealants and synthetic-rubber gaskets at typical mullion of glass curtain-wall sealing system.



ance. The choice of these additives is governed to a great extent by the properties desired by architects. The liquid synthetic-rubber base, together with fillers and additives, constitutes one part of a two-part compound. The second part is the curing agent.

Each part, separately, of this two-part compound is stable for periods in excess of one year. Immediately prior to use, the two parts are thoroughly mixed in the proper proportion, giving a compound with two to six hours of working life, which will convert to a rubber in 24 to 48 hours at 75F. This short working life does not limit the use of the compound, for the compound, after mixing, can be refrigerated at deep-freeze temperature, thus postponing the conversion for periods of up to one month. When ready to apply, the compound need only be thawed for one hour at 75F before using. The deep-freeze storage in no way alters the final properties.

The two-part compound is available in properly weighed proportions to give one quart, one gallon, or five gallons of mixed compound. Equipment is available for mixing the above quantities in separate batches which may then be transferred directly to calking tubes. One method which works satisfactorily for the one-quart or one-gallon quantity is to add the accelerator to the polymer base and then stir the batch for five minutes using a low-speed paint stirrer. It is important that no streaks of curing agent be apparent after mixing, since this indicates uneven distribution of curing agent and will result in a poor

and nonuniform rubber compound.

The conversion of the properly mixed compound to give a rubberlike material requires approximately two days at a temperature of 75F. The mixed compound when applied to various surfaces will, when cured, give excellent adhesion to surfaces which include—among others—aluminum, steel, glass, various stones, concrete, etc. The rubber and the adhesive bond are unaffected by outdoor elements such as driving rain, hurricane winds, and temperature ranges varying from -100F to over 250F. The polymer structure is responsible for many of its excellent properties. The polymer is not affected by oxygen or ozone; this accounts for the fact that the cured polymer is essentially unchanged after outdoor aging for more than 10 years.

A summary of the handling characteristics and physical properties developed by the cured compounds is shown (Table I).

Synthetic-rubber-based compounds are more expensive than so-called conventional calking compounds. This stems from many factors such as the cost of raw materials, the use of elaborate polymerization equipment, polymer control testing, and research to yield a constant controlled product. However, cost has never been a deterring factor when measured against long-term performance. It is only necessary to review the performance of synthetic-rubber compositions over the years to realize that the criteria for the selection of these polymers have been based on satisfactory performance for long periods.

TABLE I—Properties

of Polysulfide Synthetic-Rubber Compounds

Available colors: Generally buff, gray, black and aluminum

Set time at 75F: 2 to 6 hr

Time to complete cure at 75F: 24 to 48 hr

Ultimate tensile strength: 250 psi^a

Elongation at break: 200%^a

Shore-A hardness: 20 to 60^a depending on choice of fillers

Adhesion in shear: Approximately 200 psi^a

Adhesion in peel: Minimum of 25 psi^a

Water absorption: 0% after 4 days immersion at 75F

Service temperature: -100F to +250F

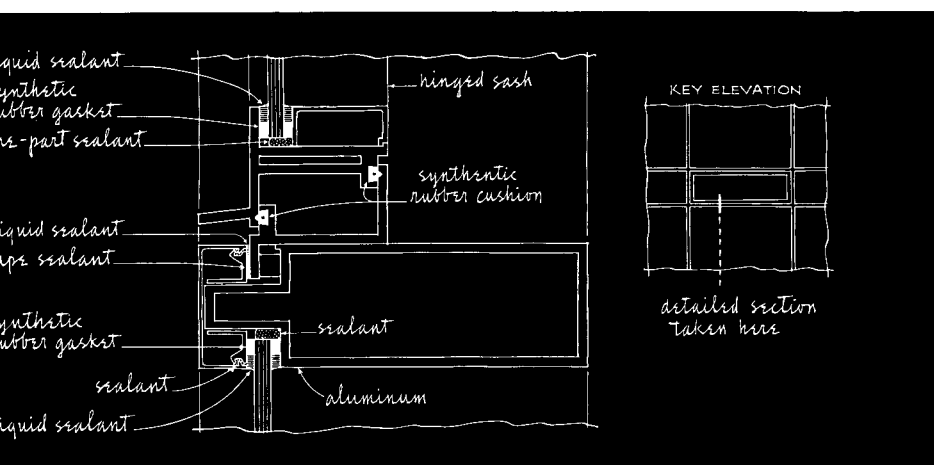
^aConducted on cast-sheet specimens cured for 24 hr at 75F. Standard ASTM test procedures for rubberlike materials were used for testing.



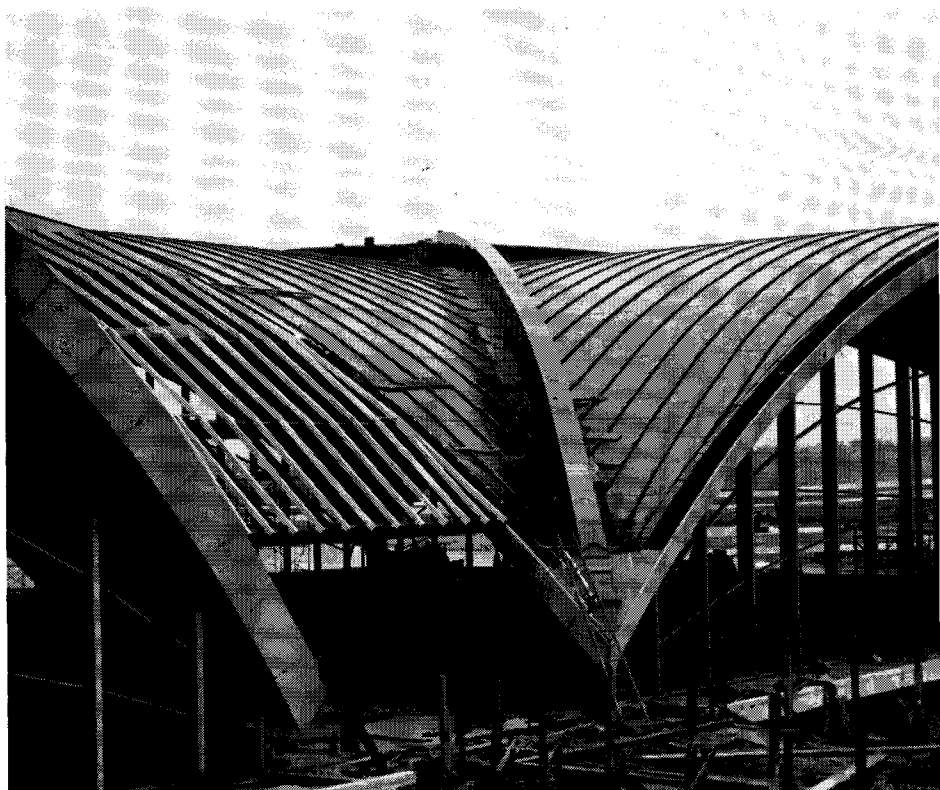
Detail (left) shows recommended locations for sealants, gaskets, and cushions at ventilating window and mullion of glass curtain-wall sealing system.

Stainless-steel panels of New York's Socony Mobil Building (above) were calked with polysulfide synthetic-rubber compound before installation.

Photos: American Iron and Steel Institute



copper-sheathed domes



The new Airport Terminal Building at Lambert Field, St. Louis, was dedicated this spring. One of several remarkable uses of material in this unique structure, consisting of three-intersecting barrel-vaulted sections with six intersecting dormer arches, is its copper roofing. According to the Copper and Brass Research Association more than 50,000 sq ft of cold-rolled sheet copper, using batten-and-seam construction, was required to cover the roof. (Sections connecting the three primary units of the roof are glass skylights.) In addition

to providing excellent protection against the elements, copper was specified because of the monumental character of the building. In a short time, the entire surface will acquire a blue-green patina and the roofing may actually be expected to outlast the structure that it protects.

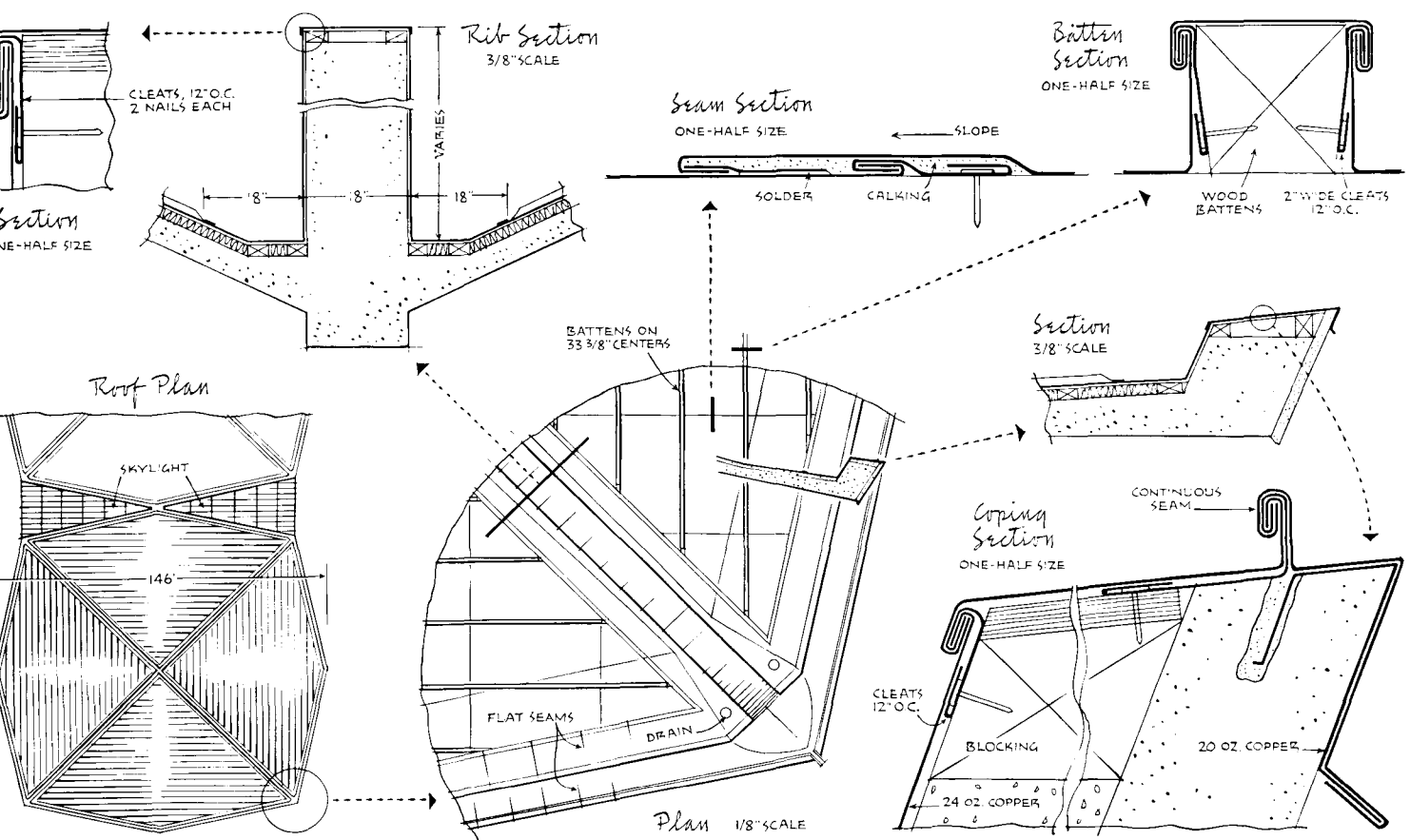
The Terminal Building is approximately 415 ft long, 120 ft wide, and has a maximum height of 32 ft. The roof was constructed of thin-shell concrete, over which an insulated plywood deck was applied. Each roof section rests on

four pendentives, thus eliminating all interior columns in the main concourse.

Minoru Yamasaki, while a principal of the architectural firm of Hellmuth, Yamasaki & Leinweber, designed the Airport Terminal Building. (He provided the large areas of glass and the vaulted arches to convey the impression of flight.) William C. E. Becker was Structural Engineer; Roberts & Schaeffer acted as Consultants for the concrete shells. Copper roofing was installed by Mound Rose Cornice & Sheet Metal Works.

Detail of pendentive at intersection of two barrel vaults (above). Section at left was later filled with glass. Sheet-metal workers apply 20-03 cold-rolled sheet copper in batten-seam construction (right).





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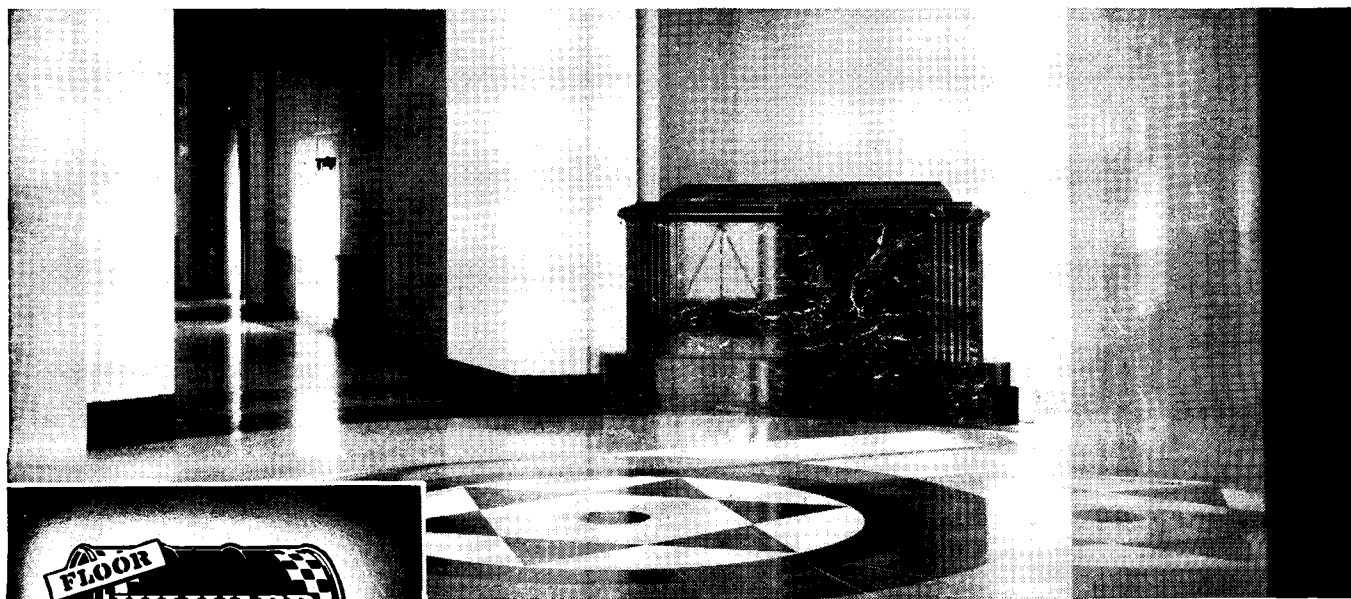
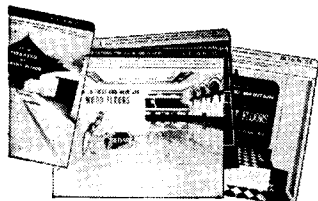
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weasel's grandfather

You specification writers know perfectly well that you have been guilty of writing a grandfather clause here and there in your specifications, but do you know the origin of the term? The 15th Amendment to the Constitution of the United States made it illegal (1870) for any State to deny any citizen the right to vote because he had once been a slave. But many former slaveholding States found ways to evade the provisions of the Amendment. One method was to provide in a State Constitution that none could vote unless his forebears had the right to vote in 1867. The name "Grandfather Clause" was first given to laws of this type. Later it became a general name given to similar laws or legal schemes by which former slaves were barred from the right to vote. While we are on this subject, how about the expression "weasel words"? These are words that destroy the force of a statement by equivocal qualification, as a weasel ruins an egg by sucking out its contents while leaving it superficially intact. See you in court, friends.

taking the cure

In a recent study made by the Asphalt Tile Institute, it was found that concrete-curing compounds are being used more frequently in certain types of construction work. Some of these compounds, when applied to concrete subfloors, have proved to be injurious to asphalt tile. The Institute, therefore, has added the following note of warning to its current Recommended Specifications for the Installation and Maintenance of Asphalt Tile.

Caution: As some concrete-slab curing compounds can be injurious to asphalt tile, especially if they contain solvents, it is recommended that you consult the manufacturer of the tile before installing it on such a treated surface.

interior trim

This piece concerns itself with the care and feeding of interior trim. Where do I look for such dope? The Architectural Woodwork Institute, of course. If, after spending so much of your client's money on good wood you are still unhappy with the results, perhaps a little more prenatal care will help. Pay attention now; absorb these pearls of wisdom and specify in your own magnificent prose:

In a building under construction, the relative humidity will average higher

than it will in an occupied structure because of the moisture that evaporates from wet concrete, concrete blocks, brickwork, plaster, and even from structural wood members. The average temperature will also be lower, because workmen prefer a lower temperature than is agreeable in an occupied building. Under such conditions, interior woodwork tends to attain a higher moisture content during an advanced stage of construction than later, during normal occupancy. Before any interior finish is delivered, the outside doors and windows should be hung and in place so that they may be kept closed at night and in this manner hold the conditions of the interior as close as possible to the higher temperature and lower humidity that ordinarily prevail during the day. If this is not feasible, temporary closures should be provided. Such protection may be sufficient during dry, summer weather, but during damp or cool weather it is highly desirable that some heat be maintained, particularly at night. Whenever possible, the heating plant should be placed in operation before the interior trim goes in. Portable heaters may be used. Temperatures during the night should be maintained at about 15F above outside temperatures and not be allowed to drop below 70F, approximately, during the summer or 62F to 65F when outside temperatures are below freezing.

Carey coup

All too infrequently, a document crosses my desk which excels as a first-rate aid to specifiers, young and old. Such a document is Philip Carey's reference list for asphalt and asbestos magnesite products. This list takes a triple threat approach such as: (1) list of Carey products by major classifications in bold type and a breakdown showing each product; (2) products indexed by standard specifications (Associations and Governmental Agencies); (3) product group including reference to standard specifications plus comments. Good for Carey, because I believe that building product manufacturers who have extensive lines cannot do too much for the specifier in creating crystal clear score cards of their products.

syneresis

You're wrong! It has nothing to do with illness. I am talking about cracks in concrete which develop very soon after placing and finishing, sometimes within a matter of minutes, even under a film of water. These, dear students, are

ascribed to plastic shrinkage caused by syneresis or by a false set. I know you know but just the same syneresis has been described as follows:

"When hydrochloric acid is added to sodium silicate solution, silica gel is precipitated. This freshly prepared gel is unstable and begins to shrink, expelling water from the mass, undergoing a process known as syneresis. During syneresis no volume change occurs in the whole system (gel + water), and the process consists simply of the expulsion of free liquid enmeshed in the gel, the shrinkage of the gel reducing the available pore space."

The end is not yet in sight. Watch this page for more exciting hot flashes.

school-site sizes

My favorite educational consultant writes:

Dear Ben: I enjoy *spec small talk* so much that I hope you will find some space soon for specifications on site size. Just recently I have had occasion to summarize sites of some recently planned high schools throughout the nation. These are schools in which our organization played an important part in site selection.

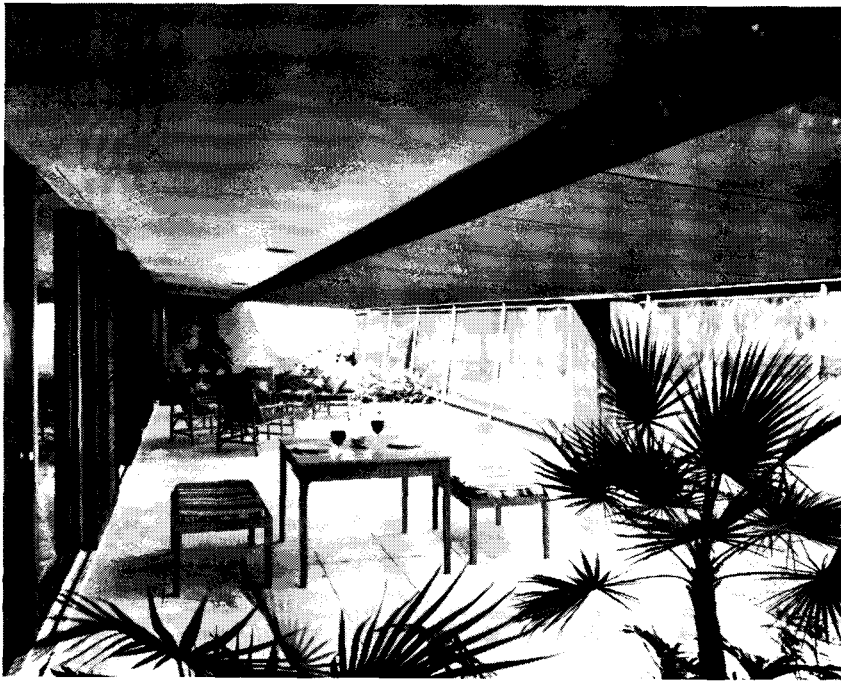
The list seems to me to be very impressive. When approximately 50 communities in several widely scattered states make decisions to buy 40 to 100 and more acres for senior high school sites, they apparently are stressing the importance of education in community progress and particularly the significance of the proper use of the out-of-doors in the achievement of important educational objectives. It seems to me that the rise in specifications for sites for secondary schools during the past 50 years represents a corresponding advance in the importance of secondary education in American life.

Early in 1900, high-school sites were frequently limited to 10 acres or even less. At the quarter of the century, 20 acres were frequently dedicated to senior high-school purposes. At the half century, you will note that the purchase of 50, 60, 70 acres (and more) does not appear to be a rare event. Apparently American communities are becoming land-wise with respect to their specifications on school sites. The sad experience of communities that put their high schools on small sites has apparently become widely known. It is most reassuring to find today's boards of education protecting school-plant investments by providing enough land to safeguard against unforeseeable future inroads and to provide for the expansion which is inevitable in the secondary school field.

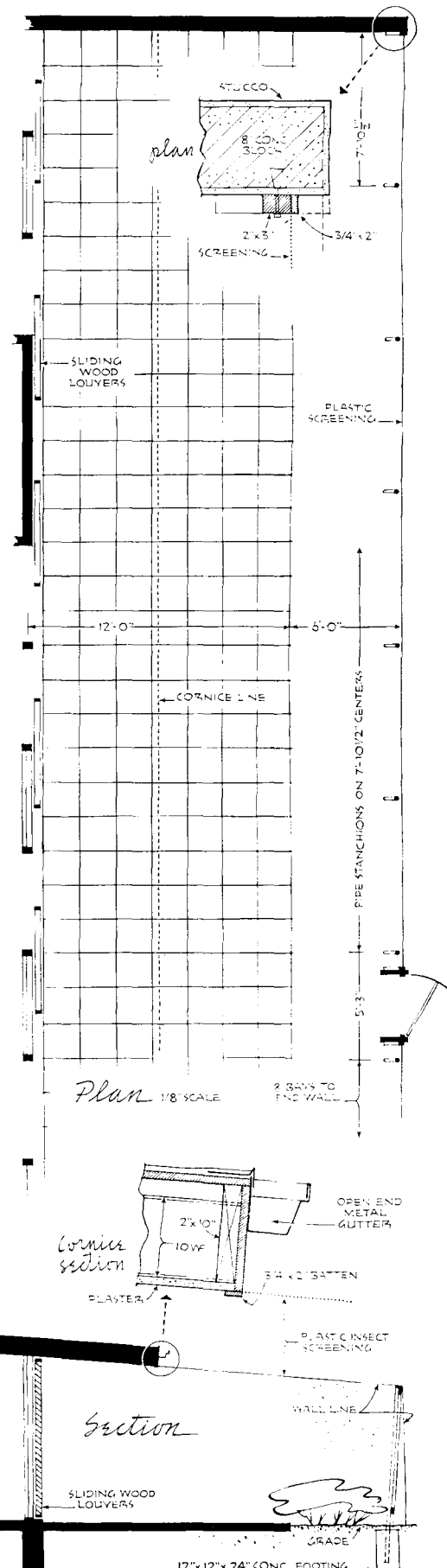
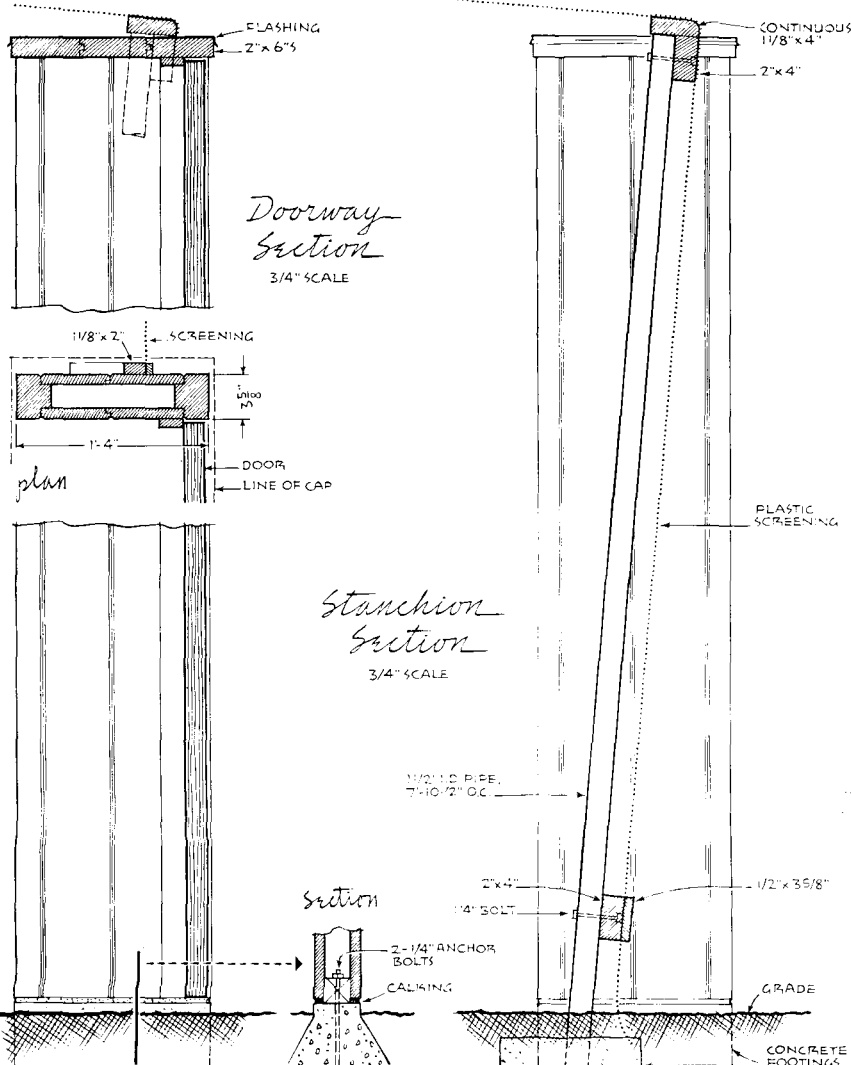
N. L. ENGELHARDT, SR.

Enclosure: List of high-school sites "with more than 40 acres of land." Sorry, Nick, I really don't have space for the list but I do hereby invite readers to write to me for it. —B.J.S.

screened terrace

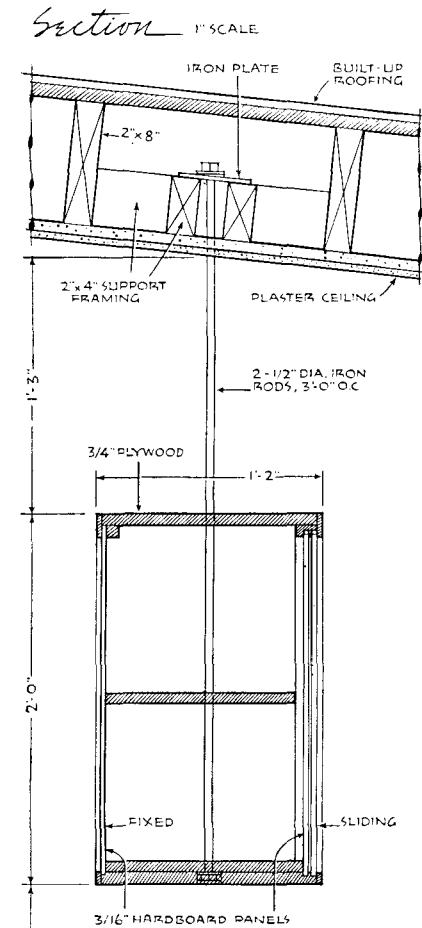


ALEXANDRE GEORGES

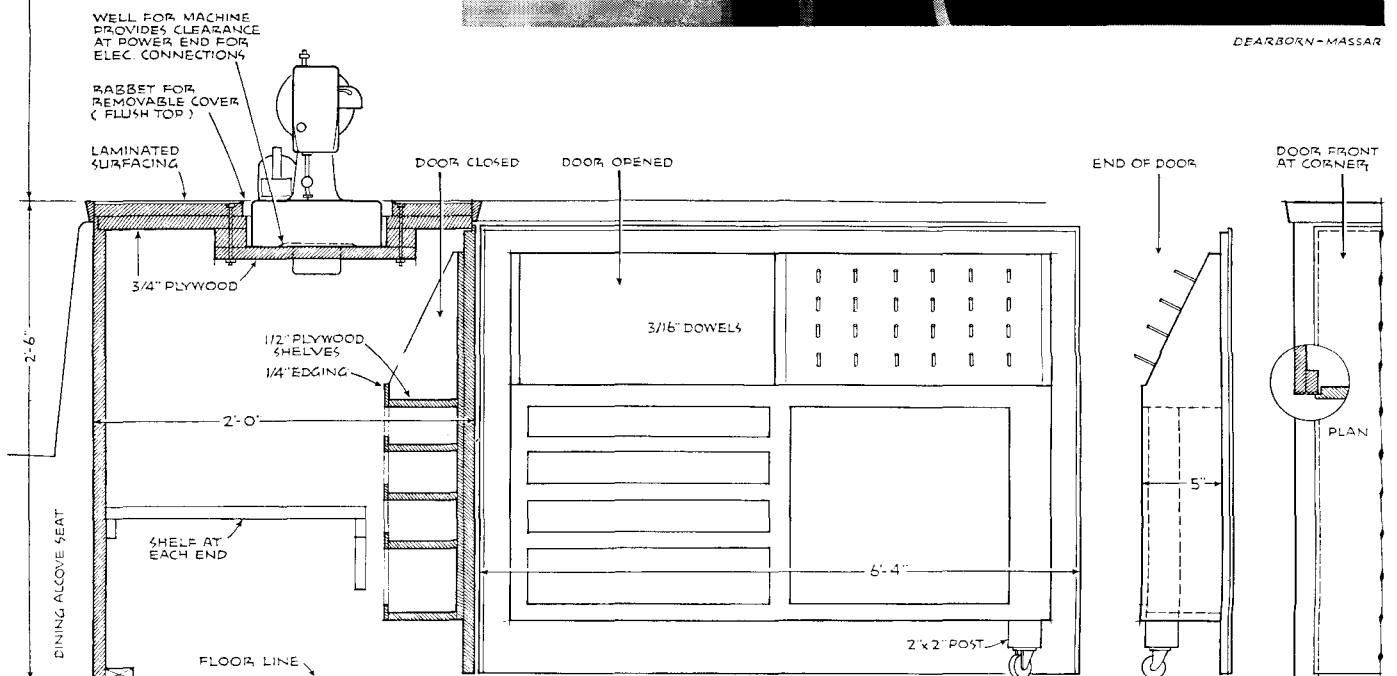


HOUSE, Redington Beach, Fla.

Rufus Nims, Architect



DEARBORN-MASSAR



HOUSE, Tacoma, Wash.

Robert Billsbrough Price, Architect

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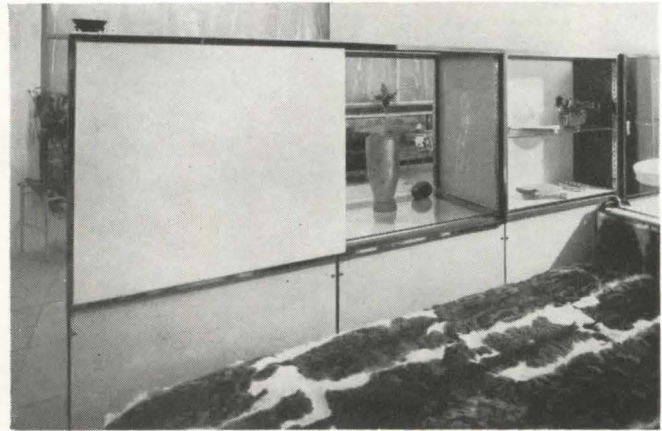
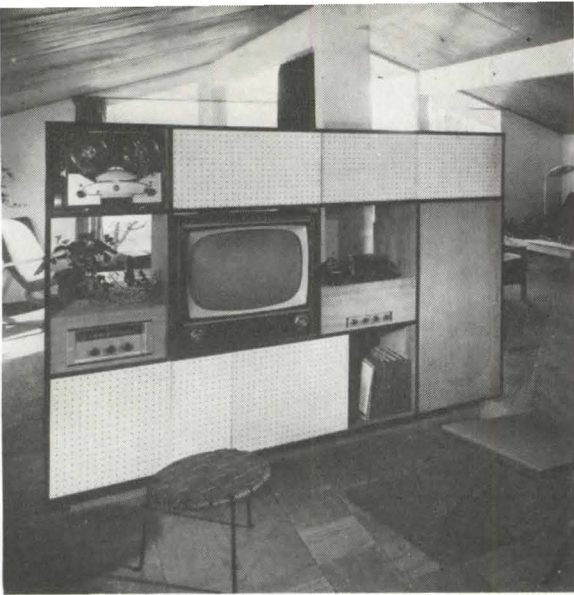
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Two examples of designed storage covering a quarter-century span. Storage-divider (left) in *Techbuilt* house (1950) by Carl Koch; modular storage unit (right) by Le Corbusier, Pierre Jeanneret, and Charlotte Perriand, shown at the 1929 Paris Salon d'Automne.

Louise Sloane **designed storage**

Dating from the first cupboard built into the earliest house by the self-made architect-owner, what we now call the storage unit has always been the “furniture” of the architect. Its development in the present century has been paced by the ingenuity of the designer and the introduction of new materials to supplement that creativeness.

Illustrating the current trend toward specialized storage are the pages that follow. Designer J. R. Davidson and Architects Sherwood, Mills & Smith have both utilized the storage unit as separator between room areas, designing the unit as multifunctional and each interpreting its detail in the form best suited to its surroundings.

Architects Kenneth Lind, and the late Burton A. Schutt, in association with Harold W. Levitt, treat the bath/dressing room as a giant walk-in wardrobe, utilizing all possible space for maximum storage, designing as well for beauty of decor.

Four examples of special-purpose storage show each architect's design tailored to the personal interests of the client. They include: wine-and-liquor storage by Cull, Robinson & Green; sporting-equipment storage by Arnold G. Gangnes; record-album storage by Richard Stadelman; and garden-equipment storage by Anthony Thormin.

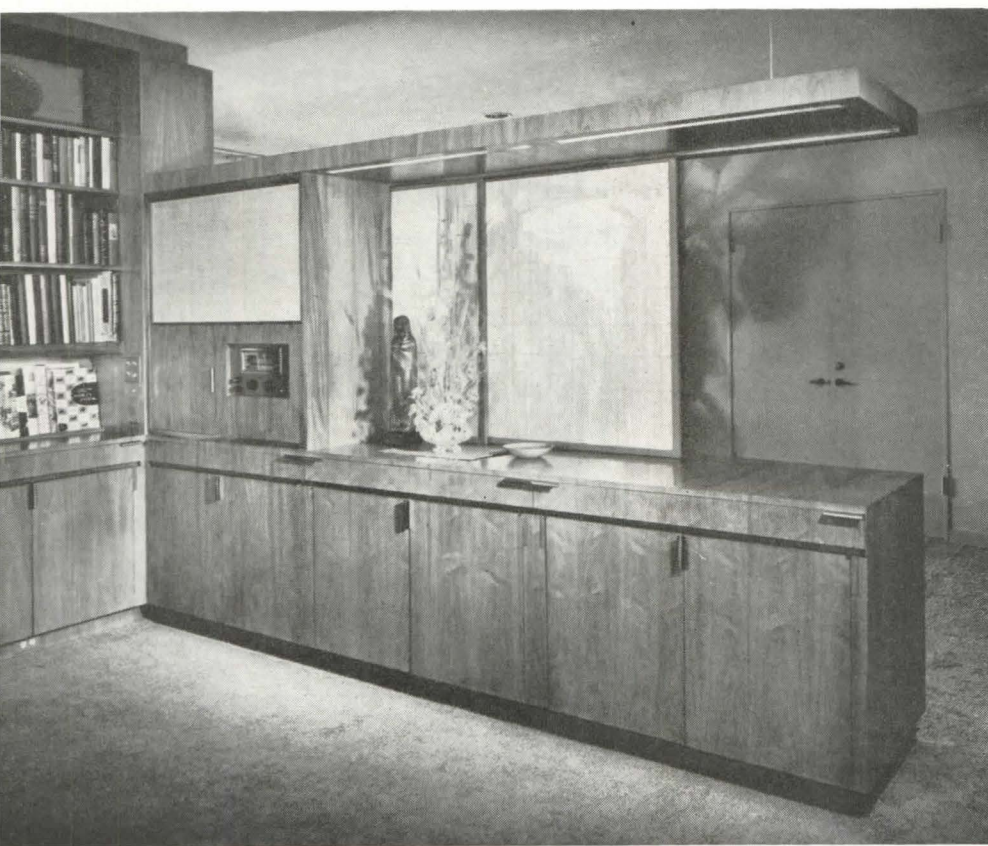
Let the traditionalists and the modernists war as they will about esthetics, incontrovertible is the satisfaction of the client whose house is provided with “a place for everything”—and lots of it! Designed storage, the concept of the modern architect, emerges triumphant over the inadequacies of the dated, dark, and cluttered closet of the past.

designed storage

Multipurpose storage divider separates entry hall and living room. Made of American walnut, the unit contains radio and record player, affords hidden storage in three lower cabinets. Sliding panels of natural bass woven wood, in blue-painted frames, open or close on metal grooves. All three narrow drawers have hinged fold-down fronts, pull out to form a desk surface. When the hall and the living room are to be used as one room, two-thirds of the lower cabinet may be removed entirely, and used as a buffet server. Indirect lighting, with slots for down light, is installed in the canopy, as well as in adjacent bookcases.



Photos: Julius Shulman



data

cabinetwork

Storage Unit: custom designed, built on job.

Sliding Panels: bass woodweave/ pine frame painted blue/ "Temlite"/ Holland Shade Co., 999 Third Ave., New York, N. Y.

furniture

Settee: before fireplace/ Dunbar Furniture Corp., Berne, Ind.

lighting

Indirect: "Slimline"/ General Electric Co., Nela Park, Cleveland, Ohio.

walls, ceiling, flooring

Walls: plaster/ painted pale blue-orchid.

Ceiling: acoustical plaster/ painted pale blue-orchid.

Floors: loop carpeting/ gray.

client	Joe R. Osherenko
location	Beverly Hills, California
designer	J. R. Davidson



client | Christopher H. Knoll
 location | New Canaan, Connecticut
 architects | Sherwood, Mills & Smith

data

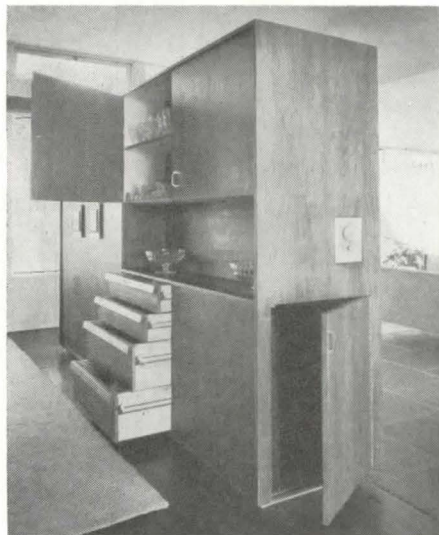
cabinetwork

Storage Units: architect-designed/
 plane-sawn walnut veneer "Algoma"
 grade plywood/ exposed edges, V-
 stripped/ rubbed-down boiled linseed
 oil natural finish.

Drawer Slides: #306/ Grant Pulley &
 Hardware Co., 31-85 Whitestone Pkwy.,
 Flushing, N. Y.

lighting

Strip lighting: controlled by "Luxtrol"
 dimmer switch/ Superior Electric Co.,
 Bristol, Conn.



Photos: Robert Stahman

Conceived as part of the structure of the house, storage unit separates entry from dining room. On the entry side, there is a coat closet; space for games, movie equipment, etc., located near the living room end; as well as a card-table closet. On the dining-room side, storage for dinnerware and linens is conveniently provided. The unit is of walnut, equipped with piano hinges and magnetic catches. Lighting throughout is controlled by a master dimmer-switch located on the cabinet.

designed storage

client | Nat Goldstone
location | Los Angeles, California
architect | Burton A. Schutt
associated architect | Harold W. Levitt

Bath/dressing-room storage, with generous space provided for bath linens as well as for personal effects. Natural woods, distinctive hardware, fully carpeted floor, contribute to the lavish look. Sliding shoji screens and shutters, imported from Japan, afford privacy as well as contrasting textures.



data

cabinetwork

All: architect-designed, custom-built/
Harold Anderson, 816 Moraga Dr., Los
Angeles, Calif.

Marblework: tub, counters/ Edmund B.
Lohr, 2763 Santa Ana St., South Gate,
Calif.

plumbing

All: American-Standard, Pittsburgh, Pa.

windows

Sash: steel/ Druwhit Metal Products
Co., 4368 E. Bandini Blvd., Los An-
geles, Calif.

Photos: Julius Shulman

client | Manuel Seff
 location | Beverly Hills, California
 architect | Kenneth N. Lind

Photos: Julius Shulman



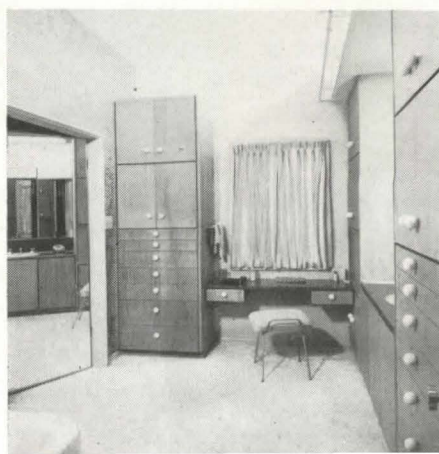
data

cabinetwork

Storage Units: architect-designed/
 Light Luan Philippine mahogany ply-
 wood/ United States Plywood Co., 55
 W. 44 St., New York, N. Y.

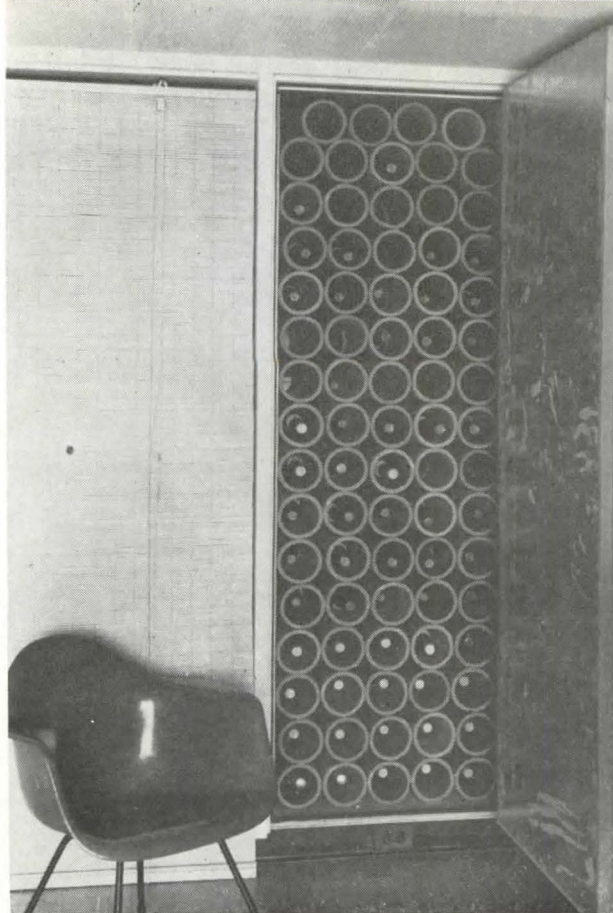
Surfaces: The Formica Co., 4615 Spring
 Grove Ave., Cincinnati, Ohio.

Walk-in bath/dressing-room, with lavatory and dressing table built-in; engineered storage for all clothing and linens. The monochromatic scheme is designed to harmonize with the light Luan Philippine mahogany of the paneling. Cabinets are equipped with adjustable clothing rods and shelving. Fluorescent lighting is designed for flexibility. The architect's intent was to provide maximum storage space, yet not sacrifice beauty of decor to utility.

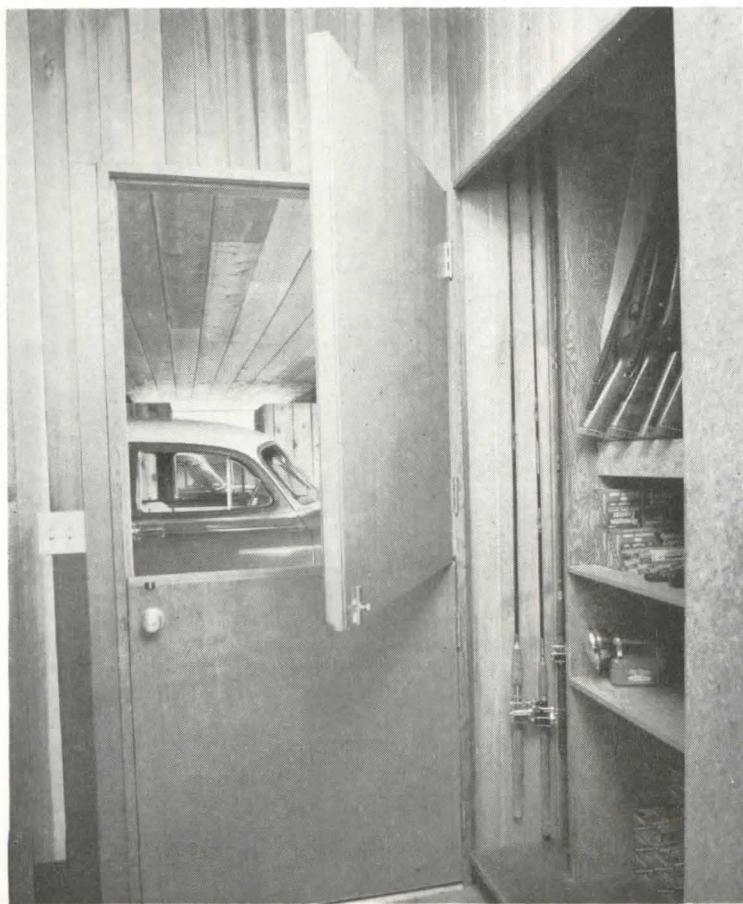


designed storage

Wine-and-liquor storage closet in the house for Edward S. Brackett, Jr., Seekonk, Mass., by Cull, Robinson & Green, Architects. Bottles stored in drainage tiles, piled two deep, at a slight angle, from floor to ceiling. Door is equipped with a lock. Behind the adjacent bamboo blind is a recessed snack bar, with refrigerator and sink.



1



2

Sportsman's storage closet in the house for George Veith, Sequim Bay, Wash., designed by Architect Arnold G. Gangnes. Custom-designed of cedar, with yellow-painted sliding doors, to hold guns, ammunition, fishing tackle, and clothing for hunting and fishing. The closet is placed at the rear entrance to the house, on a stair landing. Adjacent outside lockers in carport hold motors, boat gear, etc.

For his own house in Las Vegas, Nev., Architect Richard Stadelman designed a record-and-book storage unit that is compact and functional. Each record album is placed, title-side easily read, on an individual plywood shelf, for easy individual access. Additional storage is in the cabinet below.



3

data

2 Sliding Doors: "Novoply"/ U. S. Plywood Co., 55 W. 44 St., New York, N. Y.; **Door Tracks:** "Washington Line"/ Washington Steel Products, Inc., Tacoma 2, Wash.

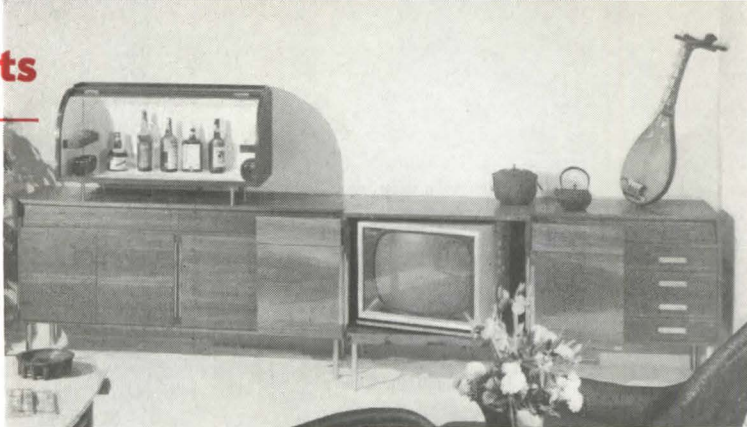
3 Cabinetwork: U. S. Plywood Co., 55 W. 44 St., New York, N. Y.; **Stain:** "Dutch Boy"/ National Lead Co., 111 Broadway, New York, N. Y.

4 Sink and Ledge: Stainless Steel. **Surfaces:** The Formica Co., 4615 Spring Grove Ave., Cincinnati, Ohio; **Cabinetwork:** architect-designed/ executed by Incorvaia & Omilyak, Los Angeles, Calif.



4

Garden-equipment storage unit in the patio of his own house in Los Angeles, Calif., designed by Architect Anthony Thormin. The unit has Formica work surfaces, stainless-steel sink, sliding doors of gumwood. It serves both for storage of garden tools and as a flower-arranging center.



Modular Chests: "Legato" group/ rare quartered-teak veneer in natural or dark wax finish/ brass hardware and legs/ modular units may be used individually or combined as desired/ designed by Harold M. Schwartz/ Romweber Industries, Batesville, Ind.



Lounge Chair: foot-rest hidden when chair is upright/ patented mechanical reclining device is all-steel, springs No-Sag, upholstered construction foam rubber, rubberized hair, felted cotton/ width 35", over-all height 40", depth 35"/ all-nylon fabric in black and white, charcoal, claret red, sage green, toast, turquoise/ retail: \$129; in Duran-and-linen fabric, in six colors, \$119/ designed by Russel Wright/ Sidney Chairs, Inc., Detroit, Mich., and Altoona, Pa.



Occasional Chair: (left) tapering stretcher, contour back, carved arms/ foam-rubber construction, oatmeal plaid weave fabric/ finish "Amber" on solid mahogany; **Portable Bar:** (below) beige Carrara marble top, mahogany frame in "Resin" finish, brass-trimmed wheels/ bottle cabinet/ plastic-lined drawer/ Harvey Probber, Inc., 136 Fifth Ave., New York, N.Y.

Counter Bar: (below) on bartender's side, two hinged and two sliding doors cover two pull-out trays and two adjustable shelves/ plastic-top mixing surface covers access ports for ice bucket and pail/ of walnut with cane/ 48" long x 27" x 38" high/ designed by Donald Irving Assoc./ Georg Jensen, Inc., Fifth Ave. at 53 St., New York 22, N.Y.

