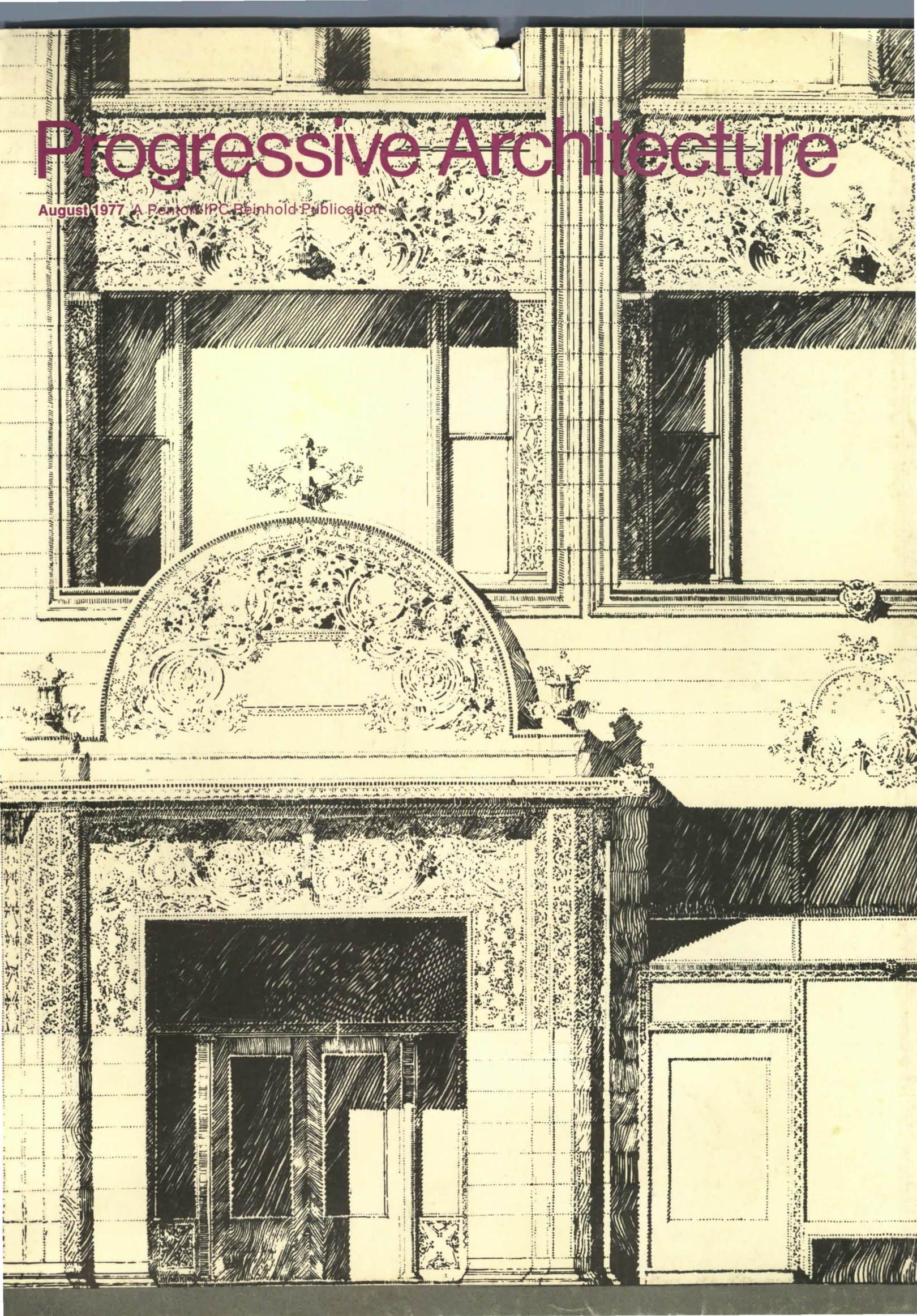


# Progressive Architecture

August 1977 A Penton/IPC Reinhold Publication









# **The Brigantine® sheet vinyl floor from Armstrong.**

**In the school of  
hard knocks, it's the  
easy way to keep up  
appearances.**

The school is West Hardin Elementary in Crump, Tennessee. Where the student body, from kindergarten through sixth grade, numbers 270. And where the clean, functional design of the architecture is enhanced by the beauty of Brigantine Vinyl Corlon® on the floor.

School authorities selected Brigantine sheet flooring for three sensible reasons: its lively, attractive appearance; its easy maintenance; and its will to survive in a world of active, busy children.

While Brigantine can be found in many of the classrooms, nowhere are its characteristics shown to better advantage than in the school's all-purpose "commons" area. Here, the students play basketball (boundary lines are painted on) and other games, eat their lunches, assemble for meetings, watch theatrical performances. And all that activity takes place on Brigantine's beautiful face.

Brigantine's beauty lies in its dirt-hiding pattern and its wide array of design-enhancing colors—two of which can be seen here. Its durability is provided by its tough sheet vinyl composition that stands up strong to the constant running, jumping and cuffing of youthful feet. A composition, by the way, that prevents spills from soaking in, helps the custodial staff clean up in short order.

The fact is, wherever long-lasting, easy-cleaning good looks are called for, you'll find Brigantine at the head of the class. A practical floor covering that comes in rolls 12 feet wide and up to 90 feet long that eliminate a lot of seams. A handsome floor covering that can attend the school of hard knocks and graduate with honors. To learn more, send for a free copy of our "First Family" booklet which describes Brigantine and other Armstrong commercial floors. Write Armstrong, 302 Watson Street, Lancaster, Pa. 17604.

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Architect: H. G. Barnes and Associates, Jackson, Tennessee  
Flooring Contractor: Markham & Hardin, Jackson, Tennessee  
General Contractor: Pettigrew and Chandler, Adamsville, Tennessee



FROM THE  INDOOR WORLD® OF  
**Armstrong**







# Why one of the big savers in this energy-saving building is an Armstrong Ceiling System.

The Gannett West building, shown here, was specifically designed to conserve maximum amounts of energy and provide spatial flexibility. It was completed early in 1976 as part of The Farley Gannett Engineering Center, headquarters complex of the Harrisburg, Pa., engineering firm of Gannett Fleming Corddry and Carpenter, Inc.

Gannett West is about four times more energy efficient than the company's Gannett East building, which was completed in 1968 when emphasis was on initial capital costs. With the new building's design emphasis shifted to life-cycle costing, the result was an average consumption of only 63,250 BTU per square foot during the first year of operation versus 242,905 for the older structure.

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Architects and Engineers: Lacy, Atherton and Davis, Harrisburg, Pa.  
Engineers: Gannett Fleming Corddry and Carpenter, Inc., Harrisburg, Pa.





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**Cover:** Louis H. Sullivan (George G. Elmslie), Bayard Building, New York, 1897-1898; from *200 Years of American Architectural Drawing* by David Gebhard and Deborah Nevins, Whitney Library of Design. (p. 49)



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FROM THE  INDOOR WORLD® OF

# **Armstrong**

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# Socially useful architecture

August 1977

They call it "elitist," or maybe "in-group" architecture—readers who react against an article such as our prominent feature on Peter Eisenman's House VI. (For a sampling of responses, see Views, p. 8.) We expected this article to disturb many readers. Not that we take any satisfaction in antagonizing them; rather, we earnestly believe that his work is a worthwhile exploration of some design questions facing the profession. It is in no way a final answer—there isn't any now—but it sheds valuable light on the ever more urgent question: What can architectural *design* contribute to the world to come?

We know architecture is a service profession, but ultimately the only element that architects alone can contribute is design. And we at P/A have come to share the conclusion—now virtually a cliché—that most of today's Modern Architecture does little—as design—to serve its public or enrich their lives.

What are the possible responses of design professionals under such circumstances? I can readily identify five types of response evident today:

1 Defense of prevailing modes; assume the public can learn to like isolated, closed forms with structural expression and minimal detailing—in the manner of earlier models by, say, SOM, Pei, and Roche—as more and better examples are built.

2 Return to the roots of Modern Architecture, to a period of apparent unity of purpose and social consciousness: attempt to re-establish its virtues, in the manner of historical revivals from Alberti to early Richard Meier.

3 Go back instead to the vernacular or to history—usually some of each: find formal, spatial, and decorative devices that seem to have worked and adapt them eclectically, in the manner of Venturi, Moore, or Stern.

4 Turn to the behavioral sciences: determine through empirical research or participating techniques how people respond to built form and space, and generate a new architecture from that, in the manner originally advocated by Alexander; or use, as many do, aspects of this approach as an adjunct to intuitive design.

5 Experiment with form, space, color, etc.—conceptually, not empirically: adopt some analytic techniques from the sciences—perhaps a dialectic process from philosophy and some communications concepts from modern linguistics—

and use them to synthesize designs that may reveal, if only to the initiated, promising design possibilities.

When we choose works for publication in P/A, they may represent any of these approaches or some combination. Much of what we publish is selected because it excels in solving serious functional problems within real-world constraints. But equally worthy of publication, we feel—particularly in this time of search—are works that break radically with convention—most probably following approaches 3, 4, or 5 above. By their nature, these works are usually privately sponsored and small in scale (or never get built at all). It is work of this kind that is often seen as dangerous by other professionals—as a flouting of functional obligations and practical constraints, as a possible exploitation of the client, as a threat to the credibility of architecture as a service profession. All the more so if the architect's own explanations seem directed only at a circle of initiates (as Eisenman's regrettably do). It's all too easy, too, to speculate that such architects have captivated the press. But just ask them; they know they haven't.

When the annual P/A jury meets here next month (See p. 17 for entry details), they will undoubtedly be weighing these same values in making their choices. Some of the winners will excel in applying accepted design concepts to meet programmatic demands. Others—if experience is any guide—will be explorations of unconventional design approaches, with few functional demands. Some of these are likely to raise cries of outrage from readers.

But P/A's juries—though different and heterogeneous every year—have consistently recognized (up to now, at least) the value of relatively unconstrained design explorations, sponsored by indulgent patrons, to the development of architectural design. (Consider Brunelleschi's Pazzi Chapel, for instance, or Mies's Barcelona Pavilion.) And if architectural design is not now serving the public to the fullest, then *design* exploration is, in fact, very much in the public interest.

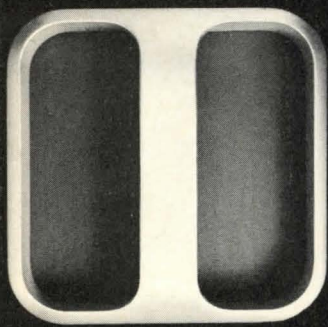
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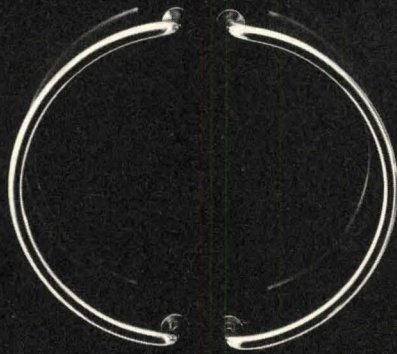
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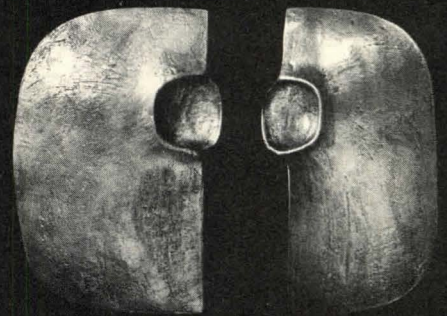
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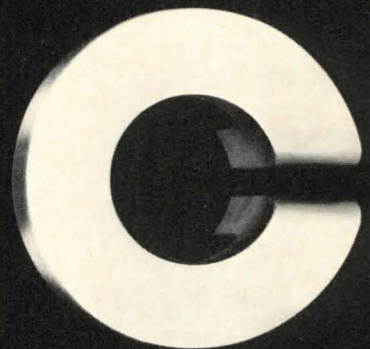
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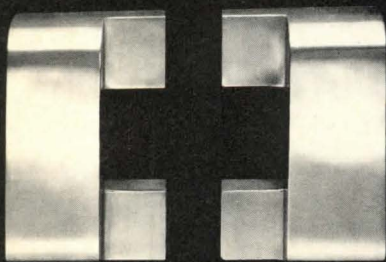
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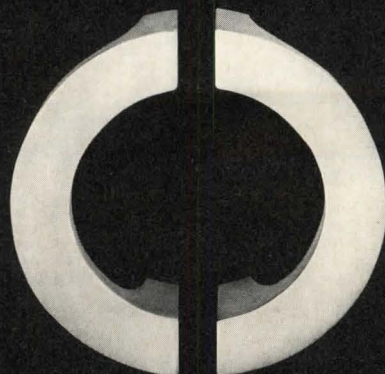
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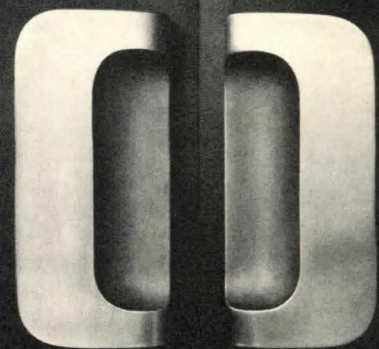
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2 $\frac{1}{2}$ " x 15" dia.



5 $\frac{1}{4}$ " x 12"

**FORMS+SURFACES**



# Views

## Dialogue on House VI

Regarding House VI, by Peter Eisenman: there's less there than meets the eye.

Michael Gassman, *Architect*  
Aspen, CO.

Help! Police! Eisenman's odd little house has been beaten to death by words in your June coverage. Let me review the evidence of the crime. The nonverbal testimony of "House VI" presents, in plain English, the following:

1 Conceptually, it is a plan-generated scheme beginning with a stair framed by walls. The walls are cut away as desired and flanked in turn by crates for storage and use. This assembly is flipped over a 45-degree axis of symmetry and superposed upside down, a stair analogue stepping down from the floor = ceiling, and the storage and use crates hanging in the air. This simple concept is so steeped in verbosity in the articles that it becomes almost invisible, the trees obscuring the forest.

2 Perceptually, it is an hermetically sealed architect's Chinese puzzle, a playhouse of stark vignettes and whimsies designers often doodle but have trouble convincing people to build. There they are: windows in the floors and ceilings, impossibly narrow, deep slots between clipped-on volumes (Archigram), wing walls stretched in all directions separating the outside from the outside (Hedjuk), columns bearing on the sky.

3 Functionally, it requires a client willing to accept unquestioningly and pay for all of the above as well as the host of obvious functional inadequacies and inconveniences. Furnishings perch awkwardly, unconsidered, and unwanted. Programmatic labels are applied as an afterthought, clearly unimportant to Eisenman's pretense to high art.

The verbal evidence reveals the architect's disdain for his readership. This is strictly a personal language, recklessly dishing out misapplied meanings from mathematics and philosophy, a dense jungle of prose and semicolons in need of weeding. Perhaps one shouldn't be too critical of such rare attempts at informed inquiry into the nature of architecture, but method and rigor do not demand complex, wordy discourse. The pages of *Science* and *Scientific American* are models of clarity and readability which make one wish for a better knowledge of the subject at

hand; this cannot be said for the writings of Eisenman and some of his colleagues.

Drawing, as opposed to delineation, appears sadly out of fashion these days. While the impeccable delineations accompanying these articles are decorative and intriguing, they make no real attempt to elucidate. The recondite discourse on vectors, midpoint horizontal datums (second floors), planar armatures (walls), and "reciprocal transformations" is, with perseverance, comprehensible; however, a few quick conceptual drawings would have made the text far more accessible, perhaps downright unnecessary.

Kenneth M. Moffett, *Architect*  
Knoxville, TN.

I don't know whose idea it was to invite William Gass to write about Eisenman's House VI (P/A, June 1977) but someone deserves congratulations for this marvelous match.

Reading his stories, I've always suspected that Gass had that vision architects cultivate of being able to inhabit houses vicariously, through fantasy; of being able to imagine insides—events and spaces—from outside and, like a wizard, enter, unseen.

Looking down from an attic window at a neighbor's yard, Gass' character watches her chasing her children, wielding a stick, peeks into the only part of the house visible from his height and from the clues creates a whole. This interpretation of an obscured reality is based on an understanding of tradition and assigned meaning. It is a novelist's art. His frustration and subsequent love of Eisenman's intentional "inversion of the correspondence of conception and perception" could only have evolved once this art was securely developed.

It is as though two artists operating independently and at odds have come into a kind of cosmic contact through the medium of P/A.

Gilbert Rosenthal  
*Instructor in Architecture*  
Carnegie-Mellon University  
Pittsburgh, PA.

Peter Eisenman's House VI is important to me because it exposes Mr. Eisenman as a person and an artist. It is this aspect of his "architecture" that I would like to comment on.

Even a quick reading exposes Mr. Eisenman's tremendous insecurity. Because of the complications of design and the references to great periods of architecture in the writing and in countless other ways I feel Mr. Eisenman to be trying to "cover all bases," and eliminate any loop holes that might let on that he has in fact done a very courageous thing in exposing himself. It is unimportant that the self he exposes is hiding behind intellectual and historic references. What he has done is to expose himself enough to create a work of art, not architecture. I think that when the client or owner is eliminated completely except as a paying patron and when program is eliminated as well then the resultant reality is only composed of the artist's personal feelings. This is the basic difference between architecture and art.

This is good, in fact this is very important because there is no reason why an architect should not undertake this self-examination and resultant exposure of personal feelings. It is no more self-centered than the installation at the Ace gallery in Venice, CA, where Michael Meizer

has set great rocks in cryptlike concrete containers below floor level. It is no more personal than Robert Irwin's great scrim installations, but it is these comparisons that *must* be made rather than the architectural comparisons Mr. Eisenman makes. Will Mr. Eisenman be taken seriously in the world of art? Personally I think this crossing of traditional boundaries is the most important aspect of 70's art, music, and architecture. I think that Mr. Eisenman's halting steps are truly valid.

Roland Coate, *AIA*  
Venice, CA.

Peter Eisenman's House VI (P/A June '77) is a form not suited to the institution it shelters—the family of rapidly growing Child I. Although the adults may temporarily be enjoying its glamour, Eisenman's truly fascinating intellectual form should never be called a "house" nor used as a house. For a child such a pristine building will be a prison. If architecture is the expression of the institution it shelters, then Building (not House) VI is so crystallized a form that it can never adequately bend, give, adapt, or accept the explorations and creations of a developing young human being and his or her understanding parents. Any normal alterations by the child will surely be labeled "vandalism."

Indeed I find it hard to imagine any human institution that could fit itself into such an intellectualized form—unless, perhaps, the Society for Conceptual Architecture?

Nanine Hilliard Greene  
*Consultant on Child Environments*  
Lexington, KY

I am moved to comment on House VI by Peter Eisenman (P/A, June 1977). Louis Kahn spoke of "letting the building be what it wants to be;" Dr. Eisenman speaks of the architect becoming detached from the object, and acting to excavate and interpret the latent nature of architecture.

How close the words sound, yet how far apart lie the results! Kahn's buildings choose to live; Eisenman's walks in the shadow of the Valley of the Death of Architecture.

Kahn also spoke of designing, not to fulfill needs, but to create them. Eisenman, on the other hand, means to shake people out of their needs. He has successfully, for him, eradicated all of the allies and metaphors of habitation from House VI. He has even wiped out the allies of cohabitation, forcing the clients into twin beds separated by a "floorlight." The stone step, placed by the clients at the front (?) door, is the only clue that life as we know it exists in House VI.

That Eisenman has succeeded in constructing a full-scale house of cards cannot be questioned or even approached. What can, and must, be questioned, however, is why an architect as brilliant and erudite as Dr. Eisenman chooses to widen the credibility gap between architects and their clients, and, more fundamentally, why he is so obsessed with the architecture of nihilism.

David A. Greenspan  
*Urban Designer*  
Department of Development and Planning  
City of Chicago

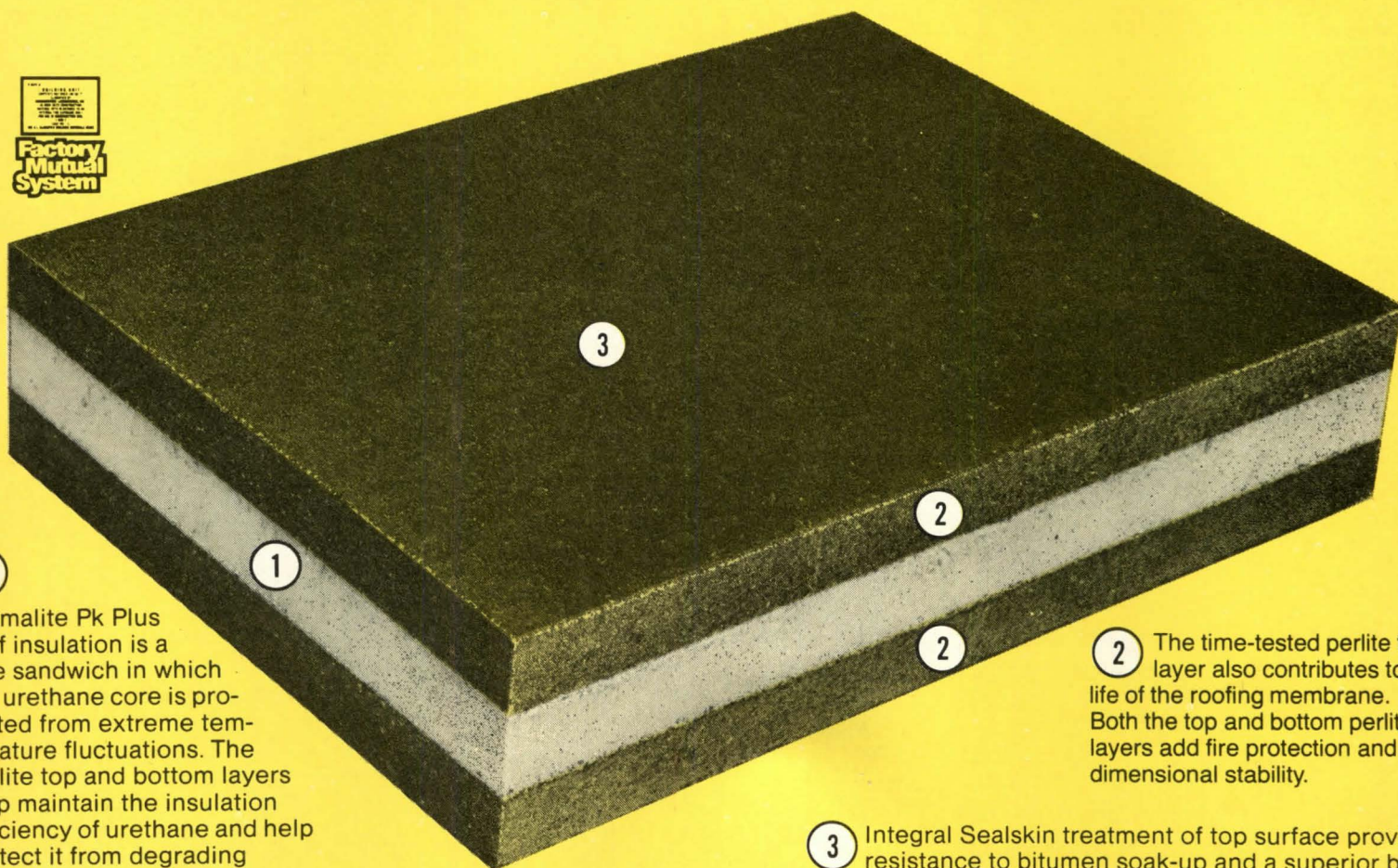
[For editors' response, see Editorial, p. 6]

[continued on page 12]



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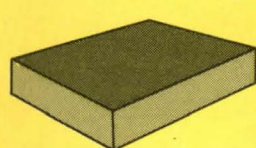
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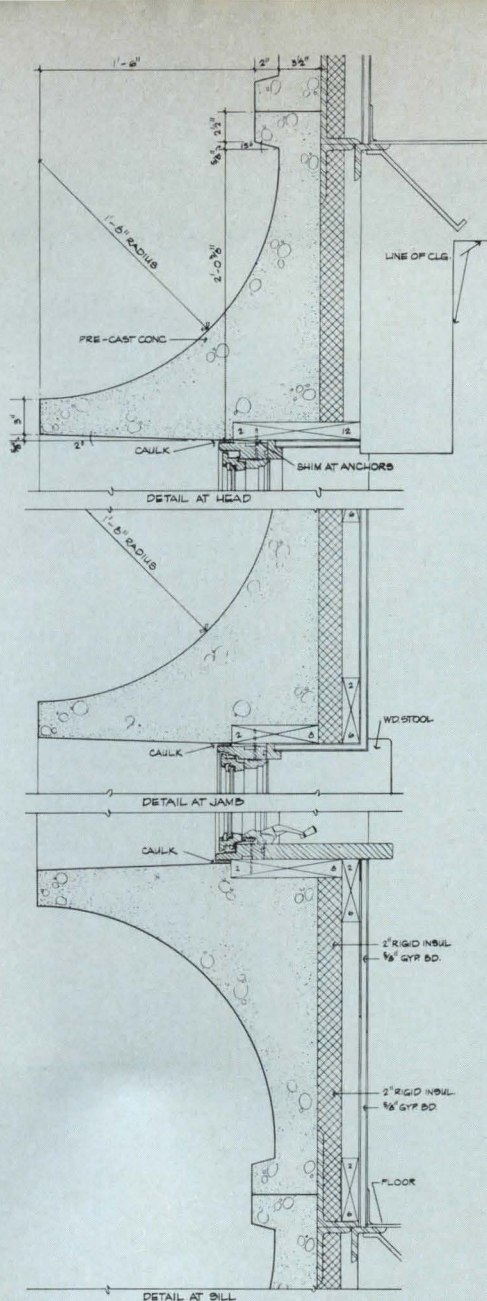
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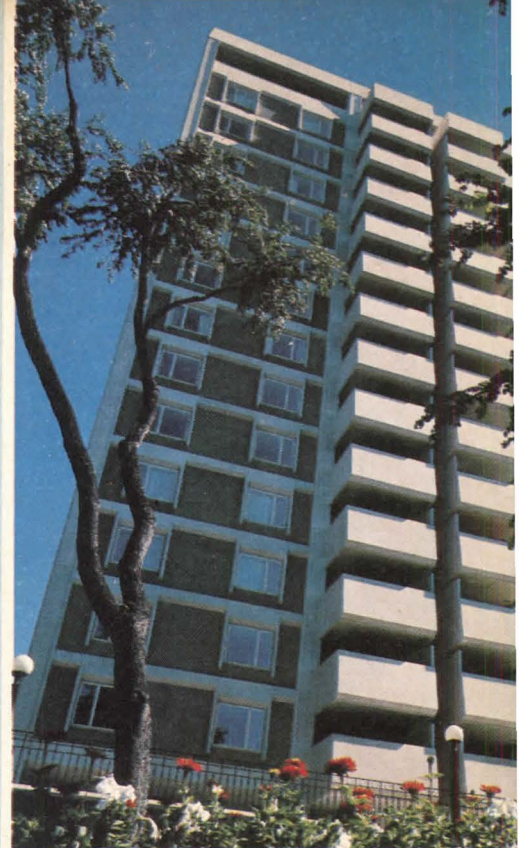
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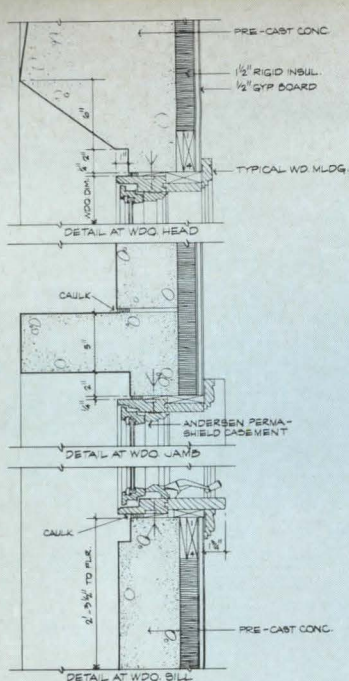
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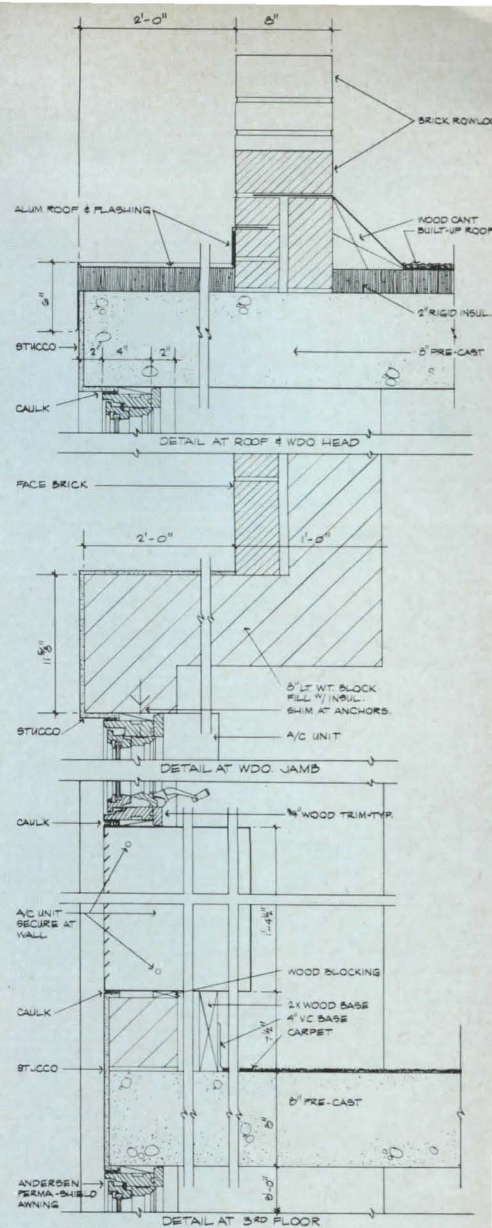
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### Baltimore redevelopment competition

Your article in the June P/A (p. 23) regarding the design competition for the redevelopment of the Allon Manufacturing Building in Baltimore was both misleading and inaccurate in relating the facts. As the Architects of the winning design we were somewhat shocked to read such a superficially researched and one-sided report. We would like to put the record straight.

Your opening statement linking "recent scandals of construction deals" in Maryland with the selection process (in this case a design competition) is particularly objectionable. The two have no connection. The only "deal" appears now to have been in the minds of the runners-up that "understood the project was practically theirs."

The very heading of the article "Disappointment for Homestead Hopefuls," is quite misleading. This project was never envisioned by the City of Baltimore as a Homesteading venture. It was, however, clearly a request by HCD for a design/developer proposal to renovate a group of structures desperately in need of major rehabilitation. All the submissions were developer, and not homesteader, as your article would imply.

Also, the statement by the runners-up that "Pugatch since has applied for State financing" is totally false. Private financing was stipulated in the competition guidelines and no public financing has been sought at any time.

We wholeheartedly applaud investigative reporting and encourage P/A to take stands on issues significant to the profession. This time, though, we feel you really missed the mark. We are very proud of winning this competition and being involved in the rebuilding of Baltimore. We would hope that P/A on a second look might see more clearly the positive side of this effort.

Richard A. Ayers, Architect  
Walter G. Schamu, Architect  
Ayers/Saint  
Architects/Planners  
Baltimore, MD.

The News Report story, "Disappointment for homesteader hopefuls," published in your June 1977 issue contains several inaccuracies which I believe unfairly represent one of Baltimore's more promising projects. Your story concerned the design competition and award for the rehabilitation of the Allon Building, a commercial structure located in Baltimore's Otterbein homesteading area. The central theme of the story was that of an insensitive government agency spurning the "little guy" with a great idea in favor of a big-time developer with a sounder financial package.

This is a grossly distorted view of what actually happened in the award of the Allon Building to the Barre Street Joint Venture group headed by Baltimore developer Melvin Pugatch and architects Richard A. Ayers & Walter G. Schamu. The first clarifying point I would like to make is that Harold Hersch who heads the Allon Manufacturing Company, one of the four losing bidders in the competition did not have to persuade the Department of Housing and Community Development (DHCD) to save the Allon Building. Nor did this agency at any time agree to restrict to the homesteading process the financial mecha-

nism through which the rehabilitation of this building would be accomplished.

Baltimore is considered by national housing experts as the pacesetter in urban homesteading. In Otterbein alone the homesteading of over 100 single-family structures is going on right now. At the Department of Housing and Community Development we have a strong belief that homesteading will continue to be an important part of our housing strategy to stabilize and revitalize Baltimore's many neighborhoods. But homesteading is not the only housing method at hand to accomplish the regeneration of our City.

From the very beginning of the Otterbein project, DHCD has had a keen interest in preserving the Allon Building with the intention of promoting architectural excellence, owner-occupancy, and reduced density—the established overall goals of the Otterbein community. The offering documents of the design competition, which stated the above goals, did not specify a preference for homesteading proposals; in fact, homesteading was not even mentioned. The only financing requirement covered in the documents was that funding for rehabilitation come from private sources.

If DHCD had given the Allon Manufacturing Company group preference because their proposal was based on homesteading, we would have placed the other four competitors in an unfair position.

The selection of Barre Street Joint Venture to rehabilitate the Allon Building was based on a number of factors, not merely the strength of its financial package as you indicated in your article. In fact, the two special committees which reviewed the proposals were told that all five proposals met the city's financing requirements. The committees considered only such questions as architectural merit, open-space use, parking, density, and owner-occupancy. During the review process, no proposals were identified by name in order to assure objective decision making. The Charles Center-Inner Harbor Architectural Review Board unanimously selected the Barre Street Joint Venture proposal as its first choice, stating its solution incorporated imaginative dwelling unit plans, good variety in unit mix, lower density, private outdoor space, off-street parking, and a workable, pleasant courtyard. While a special committee of the Otterbein Community Association in its review of the five proposals selected the Allon Manufacturing Company as its first choice, the committee found the Joint Venture proposal perfectly acceptable and ranked it as second choice.

As Commissioner of Housing, in whose hands the final decision rested, I carefully studied all five proposals as well as the recommendations of both review committees. After much deliberation, I decided that the Barre Street Joint Venture plan held the greatest potential for the Allon Building itself and the Otterbein community as a whole. In its proposal to convert the structure into 14 condominium apartments, Joint Venture most closely fulfilled the stated goals of the Allon Building Project.

In every competition there is a winner and disappointed losers, to which category I must ascribe the Allon Manufacturing Company, which has supplied you with a one-sided version of the Allon Building story. The project was never "practically theirs" as stated in the concluding

portion of your article. I can assure you that this agency would never have proceeded with an open design competition if this had been the case. To do so, in my opinion, would have been highly unethical, if not illegal.

A fair competition was held to determine the disposition of the Allon Building. I believe this agency has acted responsibly to Baltimore and the Otterbein community in awarding the rehabilitation of this structure to the Barre Street Joint Venture group.

M. J. Brodie, Commissioner  
Dept. of Housing and Community Development  
City of Baltimore  
Baltimore, MD.

[We appreciate these reasoned responses from parties involved in this project, and we regret any inaccuracy or misleading inference. P/A did indicate, however, that the winning design was selected for its architectural quality. Our reference to Maryland scandals was clearly intended to point up the contrast, not to suggest a parallel.—Editors]

### Royalty's prerogatives

It was a surprise to see the generous coverage in the June P/A devoted to the palace of Her Imperial Highness Princess Shams Pahlavi. While the photographs are disheartening enough as an example of the confections some American architects are serving up to Middle Eastern clients, the accompanying article was more distressing. Is P/A introducing a new policy of letting wives or husbands of architects fill its pages with hymns of undying praise for designer and client? Will future articles have to carry the imprimatur of local Ministers of Culture—or perhaps the Secretary of HEW? On the other hand, one must agree with the Architect's Statement—at least the part about bringing together "the divergent thought of the East and the West." In the Palace the worst excesses of both are splendidly combined.

Toby Fairbank  
Portland, OR.

[P/A's coverage of the Iranian palace does not represent a change of policy, but a concession in this instance to conditions established by the client. Whatever our readers' reactions to the work, we felt that its editorial interest justified our acceptance of these conditions. Our reference to "consent" in the author's block apparently served its intended purpose of alerting readers to this situation.—Editors]

### Correction

John Habraken, quoted in P/A, May 1977, p. 7, is Chairman of the Department of Architecture at MIT; the Dean of the MIT School of Architecture and Planning is William L. Porter (who is so identified on p. 95 of the same issue). John Habraken's statement first appeared in the Dec. 1976 *Newsletter of the School of Architecture and Planning*, now renamed *Plan*.

### Credit due

Credits for the Ramsey County Adult Detention Center, St. Paul, MN (June 1977 P/A, p. 54) were incomplete. In addition to the architects, The Wold Association of St. Paul, credit should have been given to the associate architects, Gruzen & Partners of New York.



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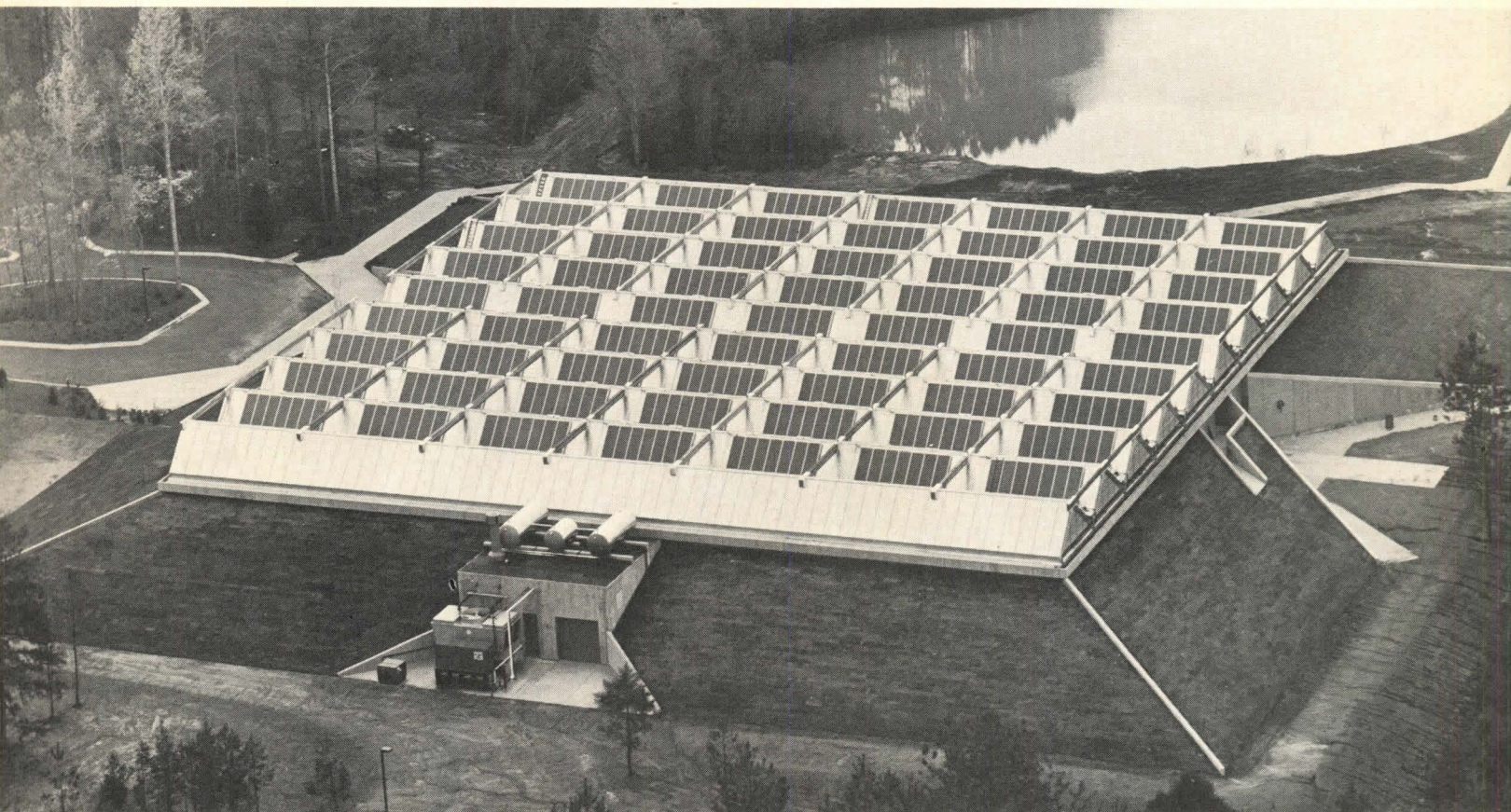


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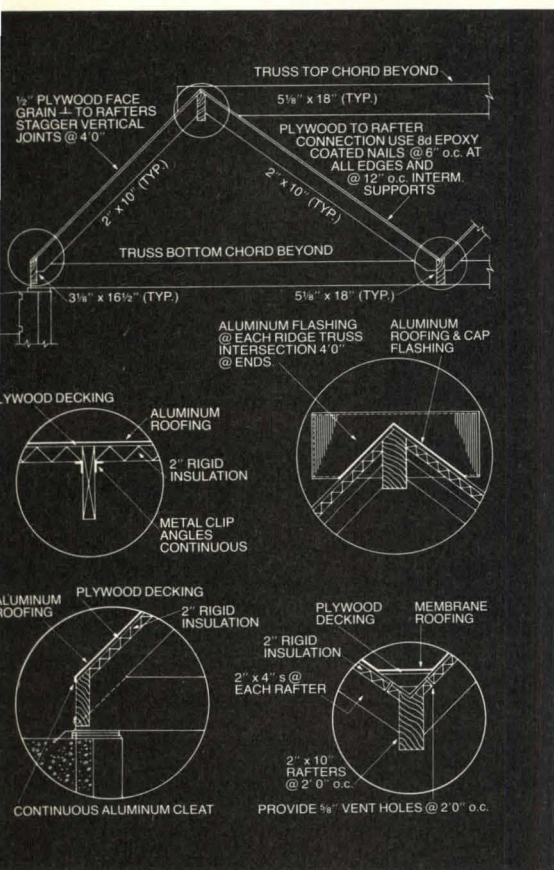


## Plywood Design Series-2



Shenandoah Solar Recreation Center: Shenandoah Development, Inc., owner; Taylor and Collum Architects, Atlanta, Georgia.





## Solar design. The large economy size.

When architects Richard Taylor and Tom Collum designed the roof of this 59,000-square-foot community center as one giant solar collector, there was only one decking material that made sense at all.

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The roof is a folded plate system of wood trusses and 1/2" CDX 32/16 APA grade-trademarked plywood attached to diagonal truss members and rafters at the same slope. The plywood is

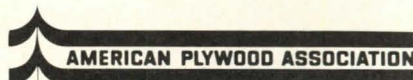
sheathed with reflective aluminum, and collector panels are mounted on the south slopes.

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**Plywood. The Performer.**



# The man who owns this building is going to save \$165,000 over the next 20 years.

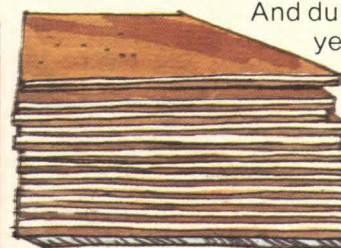


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**Progressive Architecture** announces its Twenty-fifth Annual Awards Program. Awards will be made to U.S. and Canadian architects, designers, urban planners, other professionals and their clients for projects now in the design stage and scheduled to be under construction in 1978. Any building, group of buildings or urban planning project illustrating definite building proposals will be eligible. *In addition entries in applied research will be accepted from architects or others if they are applicable to the design or realization of specific facilities or programs and are scheduled to be adopted within the calendar year 1978.* Qualification of entries in any category depends on the fact that the work is commissioned by a specific client.

**First award, award, and citation** designations may be given by the jury in any or all of the three broad categories: research; urban design and planning; architectural design. Entries will be reviewed for such factors as response to a client's program, site use and development, design excellence, conceptual advances, materials selection, and methods of implementation.

**The Jury** for the Twenty-fifth Awards Program: **William Bain, Jr.**, FAIA, Partner, Naramore Bain Brady & Johanson, Seattle; **Natalie de Blois**, FAIA, Senior Project Designer, 3D/International, Houston; **Robert Gutman**, Professor of Sociology, Rutgers University, and Visiting Professor of Architecture and Planning, Princeton University; **Calvin Hamilton**, Director of Planning, City of Los Angeles; **David Lewis**, AIA, ARIBA, AIP, founder and Partner, Urban Design Associates, Pittsburgh; **Richard Meier**, FAIA, Richard Meier & Associates, New York; **Charles Moore**, FAIA, Professor of Architecture, UCLA, Los Angeles; **Robert G. Shibley**, Architect, Office of the Chief Engineer, Army Corps of Engineers, Washington.

**Purpose** of the Awards Program is to recognize, at the critical early stages, outstanding examples of work being done in the fields that most directly affect the built environment. Recognition will be given to both the entrants and their clients.

Judging will take place in Stamford, Conn. during September 1977. Winners of awards and citations will be notified (confidentially) before the end of September.

Public announcement of the winning projects will be made at a presentation in January 1978 at a location to be selected. Winning projects will be featured in the January P/A. As in the past, P/A will arrange coverage of winning entries in news media, particularly in those localities of the award and citation winners. Winners must agree to provide illustrations reproducible in the press to P/A if requested.

[continued on next page]

# P/A 25<sup>th</sup> Annual Awards Program

for projects not yet completed

in  
architecture  
planning  
and  
research



### Submission requirements

1 All submissions *must be firmly bound*. Original drawings, actual models, or mounted exhibit panels won't be accepted,

and no material is to exceed 11" x 17" in size. Each project is to be submitted under separate cover; 8" x 10" binders are preferred.

# Progressive Architecture 25th Annual Awards Program

**Entry form:** Please fill out *all* parts and submit with each entry. Copies of this complete form may be used when submitting multiple entries. (Typewriter only, please)

Entrant:  
Address:  
  
Project:  
Location:  
Client:  
Category:

Entrant:  
Address:

**Statement of Publication Rights:** P/A has first rights to publish both the design and the finished project if it wins an award or citation (in the case of research studies, first rights to publication of the results) in the architectural press. Construction of the project is not yet completed, construction (or action on research proposals) is scheduled to begin before the end of 1978.

SIGNATURE \_\_\_\_\_

Awards Editor  
**Progressive Architecture**  
600 Summer Street, Stamford, Conn. 06904

Your submission has been received and assigned number:

Entrant:  
Address:

(Receipt)

Awards Editor  
**Progressive Architecture**  
600 Summer Street, Stamford, Conn. 06904

Entrant:  
Address:

(Return label)

2 Submissions must be accompanied by the *entry form*, to be found on the *left side of this page*. Each entry must have a separate form; reproductions of the form will be accepted. Please fill in (typewriter only, please) *all* appropriate spaces on the form, and sign statement of publication (part 2). Note that four parts are required for each entry.

3 No identification of the entrant may appear on any part of the submission, except concealed in an envelope attached inside back cover of binder; entries will be kept anonymous until judging is completed.

4 In addition to the form, please include the following: a one-page synopsis of the submission, in English, attached to first page inside binder, summarizing program, your solution, description and reasons for your selection of materials and construction methods, site considerations, and objectives of design (for research and planning, the intent and effect of the work). Synopsis must conclude with a statement on *why this submission should be considered for recognition*. This synopsis, plus visual material, may be sole basis for retaining submission beyond first round of judging. Any additional information should remain separate from the synopsis.

5 Graphic submissions should also include pertinent drawings such as site plans, representative floor plans, sections, details, perspectives and/or model photos.

6 For purposes of jury procedure only, projects are to be classified *by the entrant* in the appropriate space on the entry form. Awards and citations will not be given by categories, but submissions must be divided into comparable groups for judging. For this reason, you are asked to list your submission as one of the following: *Education (Higher)*, *Education (Secondary)*, *Education (Primary or Early Childhood)*, *Housing (Single Family)*, *Housing (Multiple Unit)*, *Commercial (Large-scale)*, *Commercial (Small-scale)*, *Industrial*, *Religious*, *Recreation*, *Health Care*, *Planning and/or Urban Design*, *Applied Research*. If no category is listed for your submission, please write in MISC., and it will be placed with comparable entries. Mixed-use entries (part commercial and part housing, for instance) should be classified according to the larger function.

7 Submit fee of \$10 for each entry, to cover processing and handling, in an envelope marked "fee" attached inside front cover of binder. Make check or money order payable to *Progressive Architecture*.

8 Any entry not conforming to the above requirements may be returned to the entrant without being judged.

**P/A will take every reasonable precaution to return submissions intact;** P/A will assume no liability for lost submissions.

**Deadline for mailing** is August 31, 1977.  
Address entries to Awards Editor,  
**Progressive Architecture**  
600 Summer Street, Stamford, Conn. 06904.



## A hospital built to expand.

The Aiken Community Hospital in Aiken, South Carolina was structured to allow for expansion to almost twice its initial size. Three floors can be added to the present four-story building, increasing original 190-bed capacity by 150 beds. Horizontal expansion is also possible, due to a floor plan that puts major departments at perimeter walls. Five Dover geared traction elevators in various sizes, capacities, and speeds serve the needs of the hospital staff, patients, and visitors. Elevators, too, are

planned for expansion when floors are added. For more information on Dover Elevators, write Dover Corporation, Elevator Division, Box 2177, Dept. B, Memphis, Tennessee 38101.

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# News report

## Towers by Stubbins in Boston, New York

Two high-rise towers by Hugh Stubbins & Associates of Cambridge, MA., have opened in Boston and New York, representing what Stubbins calls "the new generation of office buildings." In Boston is the \$75 million Federal Reserve Plaza overlooking Boston Harbor, and in New York is Citicorp's \$128 million Citicorp Center in Midtown Manhattan. Neither of the two is a straight tower, but rather the office floors descend onto a base physically and programatically dissimilar. Both have in common an aluminum skin and several energy conservation features. Associated architect on the Citicorp project is Emery Roth & Sons, New York.

The base of the Federal Reserve Plaza is a U-shaped, five-story-high security building that accommodates banking functions. Above it is the 30-story office tower supported by elevator cores at either end and a 36-ft-deep truss spanning an open space. Stubbins said this solution expresses the separation of the money handling operations requiring tight security and the office areas, some of which are leased by nongovernment tenants. The open space helps reduce the down winds making the base more comfortable for pedestrians. Executives have dining rooms on the upper floors of the tower; employees dine in the cafeteria overlooking a roof garden. Engineering was by Le Messurier Associates of Boston. Projecting aluminum spandrels above the windows screen out summer sun but are angled to permit

entry of the sun in winter.

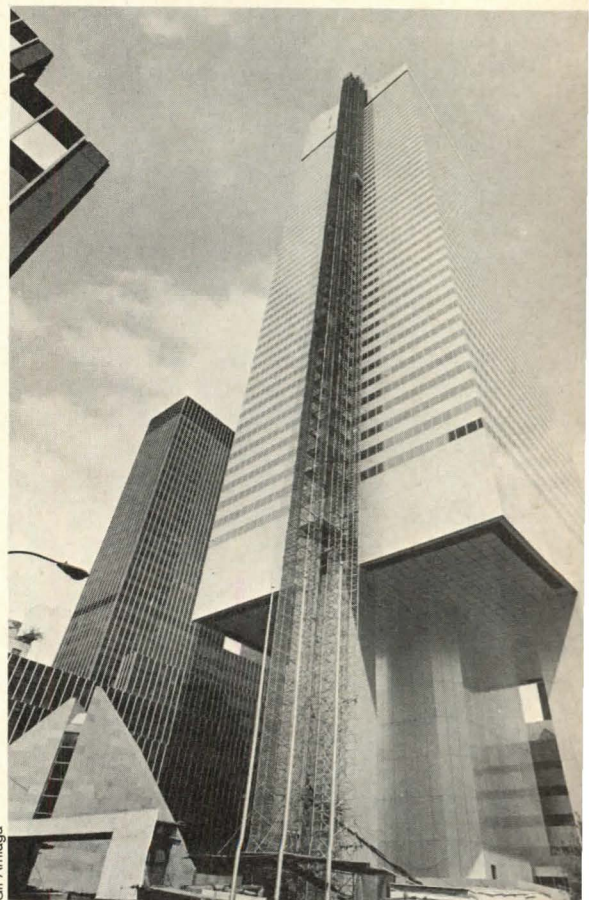
Citicorp Center on Lexington Avenue has a unique relationship to St. Peter's Lutheran Church nestled at the base. The new church is a condominium; the parish sold its property to Citicorp but stipulated that its new church edifice had to be a distinct architectural element of the complex. The bank's tower rises above a seven-story structure containing an atrium surrounded by retail shops and offices. The tower rises to a height equivalent to a 75-story building though there will be only 46 occupiable floors. In this solution Stubbins emphasizes the \$4 million saving in steel accomplished by stiffening the tube with chevron-shaped braces that permit the corners of each floor to be column free. To stabilize this otherwise lighter-than-usual structure against a too-rapid rate of sway, an 800,000 lb. concrete tuned mass damper was poured in place on one of the upper mechanical floors to create an inertia checking the motion. Engineering for this building was a joint venture of Le Messurier/SCI and the office of James Ruderman of New York.

A solar collector originally planned for the angled roof had to be abandoned as economically unfeasible. Also scrapped by a zoning decision was the plan to include luxury apartments on the upper floors. Among the energy-saving features of the building is recirculating warm interior air to areas along the outer walls. This system is sufficient in temperatures above 30 F. The building was designed to consume 42 percent less energy than a comparable conventional building.

Nick Wheeler



Federal Reserve (above); Citicorp (below).



Gil Amlaga



## In perspective

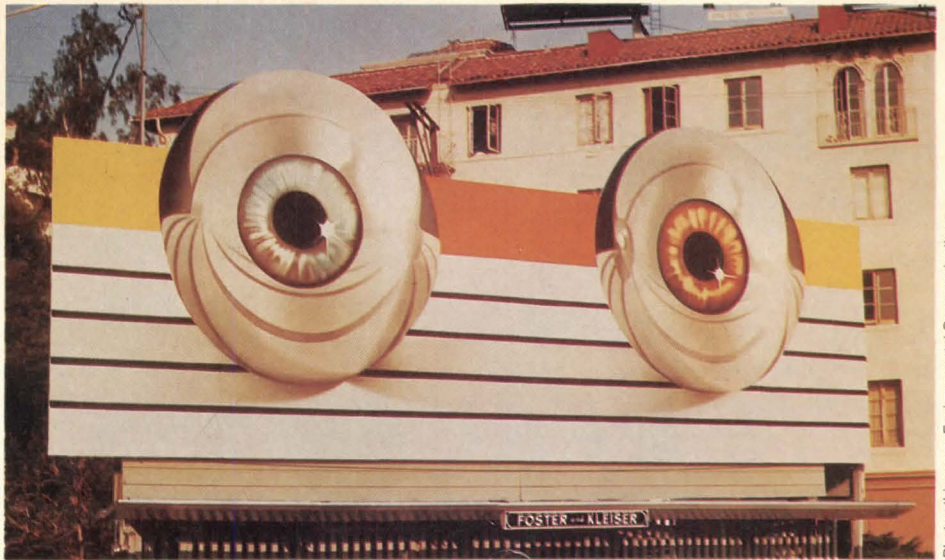
### L.A. environment as art

For years, prominent urban designers have been teaching us to perceive our cities as a large visual information communications system. David Crane explained more than a decade ago that "The city should be a giant message system, or symbolic intelligence apparatus, which provides the citizen with a simple succession of perceptible information needed for utilitarian concerns or for a psychic sense of how the city reflects his and other values." This giant message system is, in fact, alive and well and flourishing in Los Angeles. To give greater presence and legitimacy to this phenomenon, a recent exhibit at the Los Angeles County Museum of Art called, "Environmental Communications Looks at Los Angeles" presented the city as a network of signs and symbols perceptible from the city's vast freeway network and to the sidewalk pedestrian as well.

By sheer coincidence, at the same time that the multimedia exhibition was running to fascinated audiences within the walls of LACMA, a group of avant-garde artists was busy covering billboards around the city with 14' x 48' canvases advertising no other product than art itself. Both shows reaffirm the concept of urban design as an integration of many disciplines with a visual awareness of the city scale.

In their book, *The View From The Road*, Don Appleyard, Kevin Lynch, and John Myer consider the urban highway as a positive visual experience. The sequence of images a driver experiences at 50 mph are recorded and codified. In their exhibit at LACMA, Environmental Communications, under the direction of David Greenberg, records on videotape and color slides the experience of Los Angeles from behind the wheel, from the air, and from the ground. In this city, nurtured on the private car and built on the mobility of moving at high speeds, theories of the east-coast intelligentsia have been realized in living color.

It no longer makes sense to think of architecture as made up only of glass, metal, and concrete. The palette of urban designers must include the neon,



Here's lookin' at you, in billboard tribute staged by Environmental Communications.



L.A. Museum exhibit shows positive visual experience of freeway art. Videotape accompanying the show recreates a highspeed tour by car of freeway art.





the billboards, the plastic, the fluorescence, and the incandescence of creative ideas.

"E.C. looks at Los Angeles" was in fact one footnote of an exhibit called, "California: 5 Footnotes to Modern Art History," organized by Maurice Tuchman, senior curator for modern art.

Included in the exhibit catalogue is an essay by urban observer and radical-chic journalist Tom Wolfe, entitled, "Chester Gould versus Roy Lichtenstein." In his polemic and provoking comparison of commercial artists with "fine" artists, Wolfe puts forth the following notion, "I would like to make the modest suggestion that in most areas of contemporary art, commercial designers are now a good decade ahead of serious (i.e., fashionable) artists—as artists—and if we are serious about art history we will record their names as their work pops up in the amazing tableaux of Los Angeles and other American cities . . . and we will not consign them to the oblivion of popular culture."

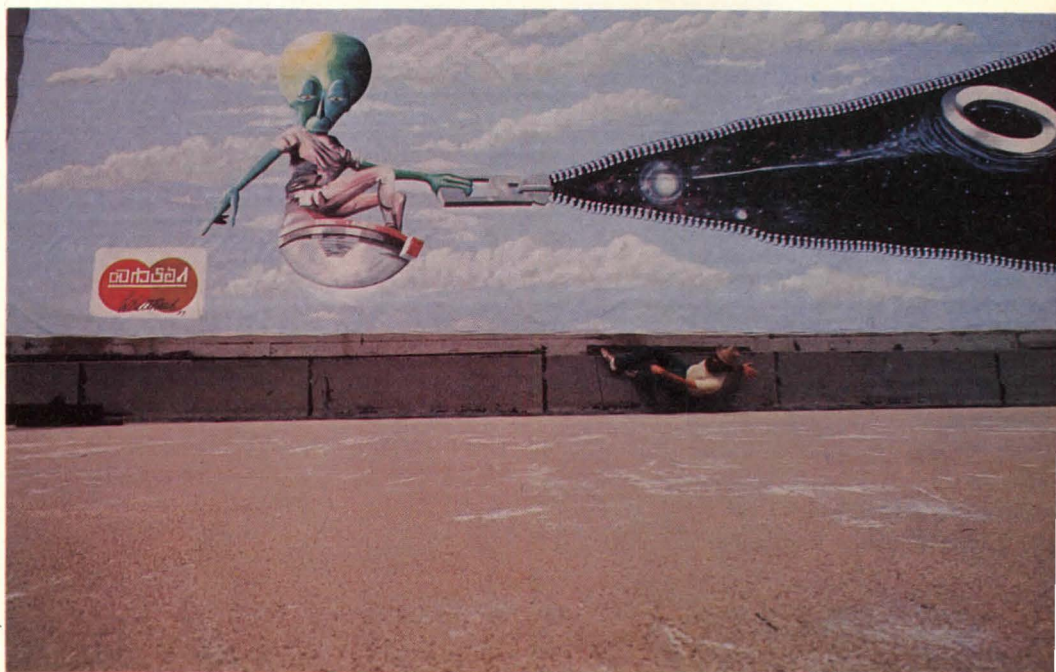
Not to be outdone by the commercial artists on the Sunset Strip, the Eyes and Ears Foundation, with a grant from the California Arts Council and billboard space donated by Foster and Kleiser, National, and Pacific Outdoor Advertising, has mounted its own version of an urban art gallery, complete with nine mega-canvases, handpainted and wrapped around billboards throughout the city.

While the Eyes and Ears billboard exhibition opens art museums to the cityscape itself, the level of creativity to date exhibits only the surface potential of this exciting medium. Even now, as Tom Wolfe indicated, commercial artists are doing more with billboards than ever before. Shaped canvases, three-dimensional assemblages, moving parts, and the entire field of electro-graphic architecture are continuing to be displayed in Los Angeles daily. According to Paul Whitehead, the Eyes and Ears Foundation is committed to bridging the gap between the commercial and fine artist. Further examples of their talents will be on display in October in a new series of billboard paintings for San Francisco's Embarcadero. In addition, the Foundation is negotiating shows for Dallas and Tokyo. With these two exhibits, the concept of environment as art has taken a firm hold in Southern California. [Michael Ross]

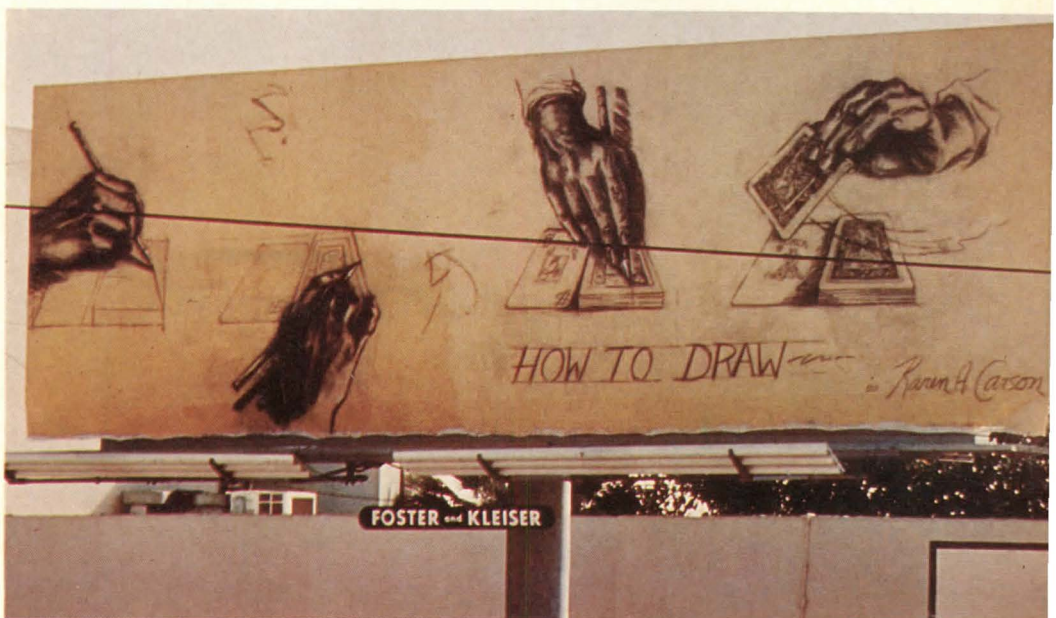
Photos this page: Robert Landau



Ed Ruscha's 'Back of Hollywood' reversed image in billboard project by Eyes and Ears.



Intergalactic visitor unzips California sky (above) in 'Solar Carte' by artist Paul Whitehead; visual pun on 'How to Draw' (below) by Karen Carson.









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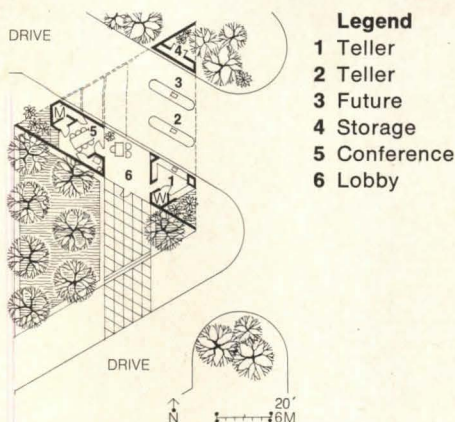
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## In perspective



### Legend

- 1 Teller
- 2 Teller
- 3 Future
- 4 Storage
- 5 Conference
- 6 Lobby

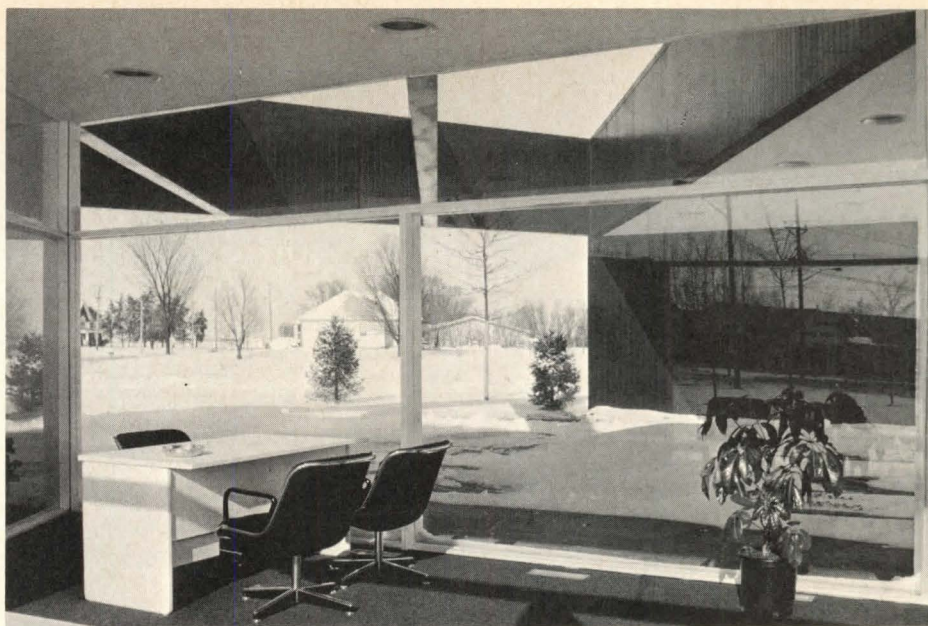
### Designs to bank on

Charles Herbert & Associates of Des Moines is making a collection of design awards for branch banks throughout the state of Iowa; in the last year the firm has received three regional awards and one national, and for the second consecutive year it has won top prize in its category in the American Plywood Association awards program (P/A June 1977 p. 21).

**The Home State Bank** drive-up branch in Jefferson shown here received a first prize in the plywood competition in 1976. This small branch of only 1000 sq ft sits on a six-acre meadow facing a highway zoned for commercial strip development. To keep the building from being lost on the site, a triangular form was selected as sufficiently commanding—especially when painted bright red—and also expressive of the efficient relationship between automobile, teller, and lobby. Further enlargement of the designed environment is achieved with formal plantings by the entrance. The interior is compact enough to allow one person to operate alone. The program called for two drive-up windows with provision for a third. Entrances to interior rooms are made more eventful by locating doorways in angled recesses. Large windows provide light and visibility for monitoring activity.

### Capital City State Bank

In Des Moines, the 4350-sq-ft Capital City State Bank drive-up branch faced the situation of being immediately adjacent to a residential neighborhood on one side and next to a small commer-



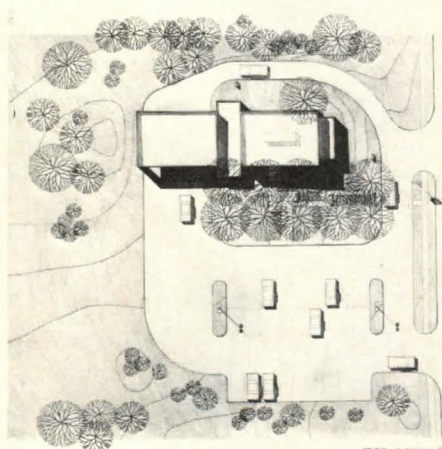
cial strip on the other. The solution suggesting two open-sided volumes joined by a wall-like connector conforms in feeling to the nearby houses with garages yet projects a desired institutional quality. Large trees on the site were preserved with the intention that they also could provide an identity for the bank. Forms of precast concrete with aluminum framed glass give the bank a visual and psychological openness that suit the suburban community. [Ann Carter]

Charles Herbert & Associates' Home State Bank drive-up office (above) is sited along a rural highway in Jefferson, IA.; the Capitol City State Bank (opposite page) in suburban Des Moines serves as a link between commercial and residential areas.

### Data

**Project:** Home State Bank, Jefferson, IA.  
**Architect:** Charles Herbert & Associates; project planner, Tom Clause.  
**Consultants:** VanderLinden & Associates, structural; Stevenson & Schilling, mechanical.  
**Cost:** \$39.70 per sq ft.  
**Photographs:** Charles Herbert & Associates.





#### Data

**Project:** Capital City State Bank, Des Moines, IA.

**Architect:** Charles Herbert & Associates; project planner, Cal Lewis.

**Consultants:** Peterson & Appell, consulting engineers.

**Cost:** \$37.93 per sq ft.

**Photographs:** Charles Herbert & Associates, Joel Strasser.



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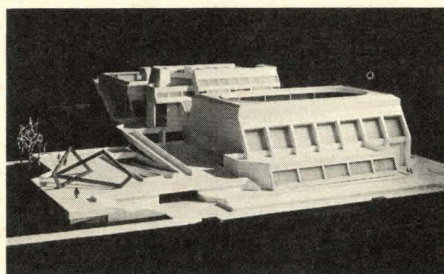
#### ARCHITECTS

John Portman & Associates, Atlanta, GA

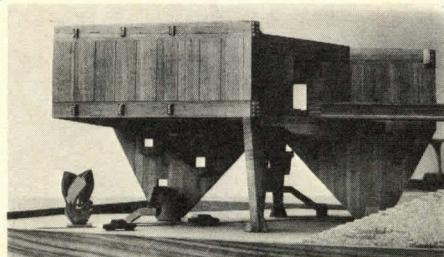
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News report continued from page 27



Polshek's community center, Brooklyn, with sculpture by Larry Mohr (above). Breuer's visitor center, Grand Coulee Dam, Washington, with sculpture by Joachim Berthold (below).



## Findlay's art and architecture show

"Art and Contemporary Architecture," an exhibit showing the interrelationships of art and the built environment, will be held Sept. 22-Oct. 15 at David Findlay Galleries, New York. Seven architectural firms will display in the show models of recent or in-progress works, and the architects have selected paintings and sculpture from the gallery to complement their buildings. Participating firms are Gwathmey Siegel Architects, Hugh Stubbins & Associates, James Stewart Polshek & Associates, Marcel Breuer & Associates, Morse + Harvey Architects/Planners, Pomeroy Lebduska Architects, and Robert A.M. Stern Associates.

## Leadership change at the League

Earlier this year Robert A.M. Stern turned leadership of New York's Architectural League over to Jonathan Barnett, architect, urban designer, and head of the Urban Design program at the City University of New York. Stern was the first person to serve two terms at the League since its first president in 1881. (A special amendment had to be passed to allow the double term.)

During his tenure, the League staged a series of events including a

dinner at the Customs House in 1973 honoring architecture critic Ada Louise Huxtable's election to the editorial board of *The New York Times*; a party in 1974 commemorating the 25th anniversary of Philip Johnson's glass house in New Canaan, CT. (P/A Nov. 1974 p. 21 and 29), and lectures on diverse topics such as "American Design Between the Wars, 1920-1940." The League also organized panel discussions on current issues and sponsored architectural tours, besides actively supporting preservation of landmark buildings such as the Villard Houses (P/A Aug. 1975 p. 27, Dec. 1975 p. 18), Grand Central Station (P/A Mar. 1975 p. 21, Feb. 1976 p. 32), and the Grace Church Houses. The League under Stern's direction also is responsible for recently mounting two major exhibits—"Women in American Architecture: a Historic and Contemporary Perspective," and "200 Years of American Drawings" (p. 00).

In the last four years the staff of the League has been reorganized and expanded, with Marita O'Hare as administrative director and Deborah Nevins as program director. (Nevins was also a curator for the drawings exhibit.)

It is expected that under Jonathan Barnett's guidance the League will continue to communicate architectural concerns to a broader public. [SS]

## Three exhibits at Cooper-Hewitt

The Cooper-Hewitt Museum in New York, the Smithsonian Institution's National Museum of Design, mounted three architectural exhibits in May in celebration of the 75th birthday of the Carnegie Mansion in which the museum is housed. In a city where architecture exhibits are staged at excruciatingly long intervals it is gratifying for one museum to take on three.

While these exhibits, 1) the travelling show, "Palladio," 2) "200 Years of American Architectural Drawings," and 3) on the history of the Carnegie Mansion could sound like an ambitious overkill, the combination comes off quite spectacularly. The 16 models of Palladio's villas, public buildings, and churches occupied the main rooms of the mansion. In scale and details these large wooden representations of architecture, with their axially arranged in-

[News report continued on page 32]



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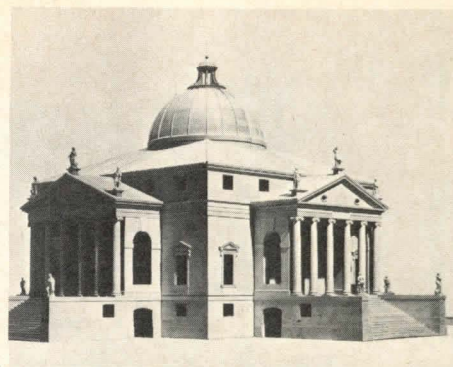


**herman miller**



stallation dramatically highlight the grandiose Beaux-Arts architecture of the house itself, designed by Babb, Cook & Willard in 1902 and recently restored by Hardy Holzman Pfeiffer. In addition to the exhibit of models (made in 1973 by Pietro Ballico di Schia for the Centro Internazionale Andrea Palladio in Italy) is Cooper-Hewitt's own complement of exhibition materials including photographs of the interiors of the buildings.

Also exhibited are books from the museum collection, drawings on loan from RIBA, and more photos of American architecture influenced by the work of this continually inventive 16th-Century classicist. The installation of the show was executed by Elain Evans Dee, Dorothy Twining Globus, Richard B. Oliver (the new curator of Architecture and Design at Cooper-Hewitt) with the aid of Mario di Valmorana, professor of architecture at University of Virginia and Henry Hope Reed. Sponsorship came largely from the Arthur Ross Foundation and Classical



Palladio's Villa Rotonda, Vicenza, model.

America. The show will travel next to Arlington, TX, Austin, TX, Berkeley, CA, and Santa Barbara, CA.

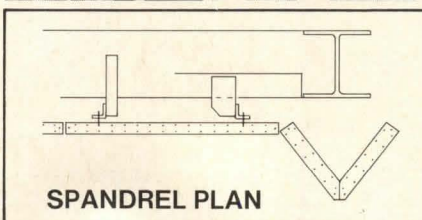
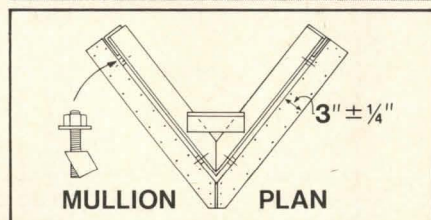
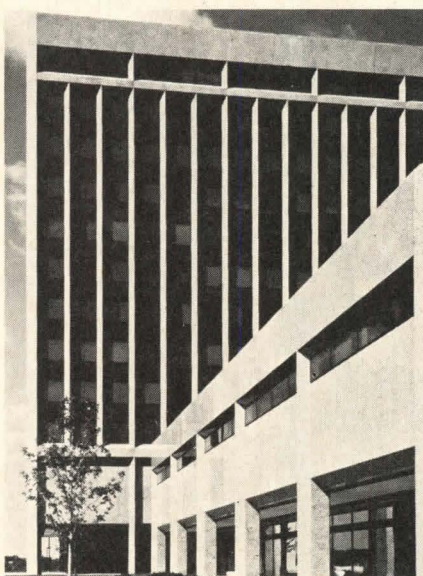
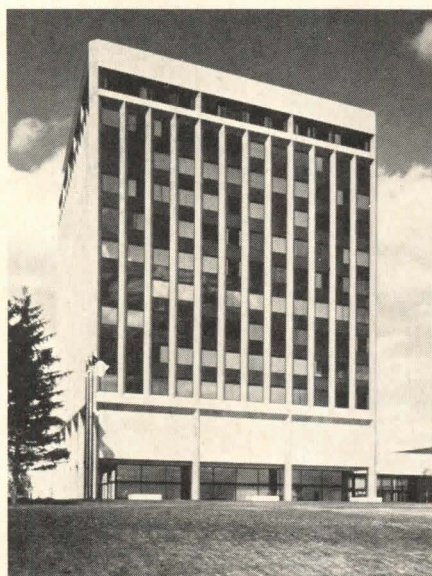
Upstairs at the Carnegie mansion is the "200 Years of American Drawings," a show assembled by architecture historians David Gebhard and Deborah Nevins (see p. 49). An interesting counterpart to the Palladio exhibit in its exploration of architectural representation in two dimensions and the range of its subject matter, the show is chronologically arranged in six sections. All types of drawings are shown, from elevations to perspective renderings, conceptual sketches to axonometrics, collages to floor plans. Interestingly, many of the drawings convey a particular "vision," or a state of feeling the architect seemed to want to be perceived by the users of the built solution. Thus the difference between Rudolph Schindler's Skyscraper in Black Glass and Aluminum of 1921-23, or Lutah Maria Riggs' de la Guerra Plaza project of 1922 is not simply one of technique but of a projected perception of reality.

The show does have several disappointments: because Nevins and Gebhard were seeking drawings by the architects' own hands, drawings by certain architects had to be disqualified or in some cases couldn't be found. (Nor are there drawings by nonarchitects like Hugh Ferriss.) In the period 1945 to 1976, also missing are some of the extremely interesting drawings done by young, less established and often foreign-born architects.

Of these younger architects who are included—Michael Graves, Richard Meier, Robert Venturi, Paul Rudolph, to name a few—the range of their work is not as well represented as it could be. This, it seems, is due to limitations of [News report continued on page 36]

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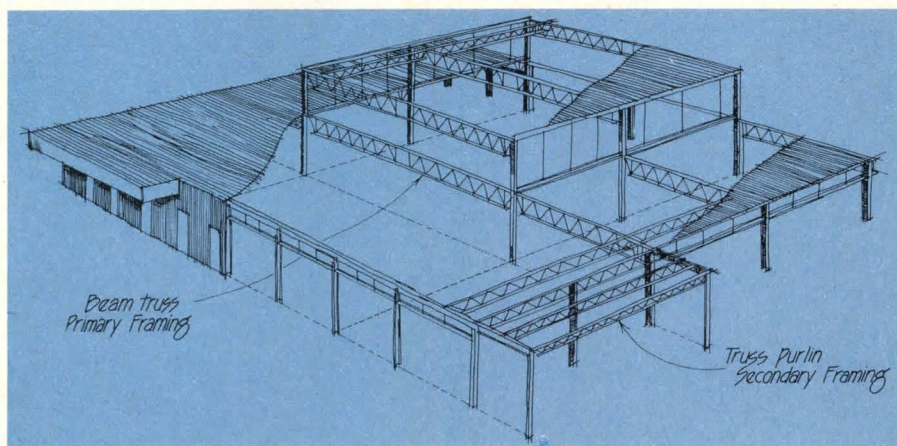
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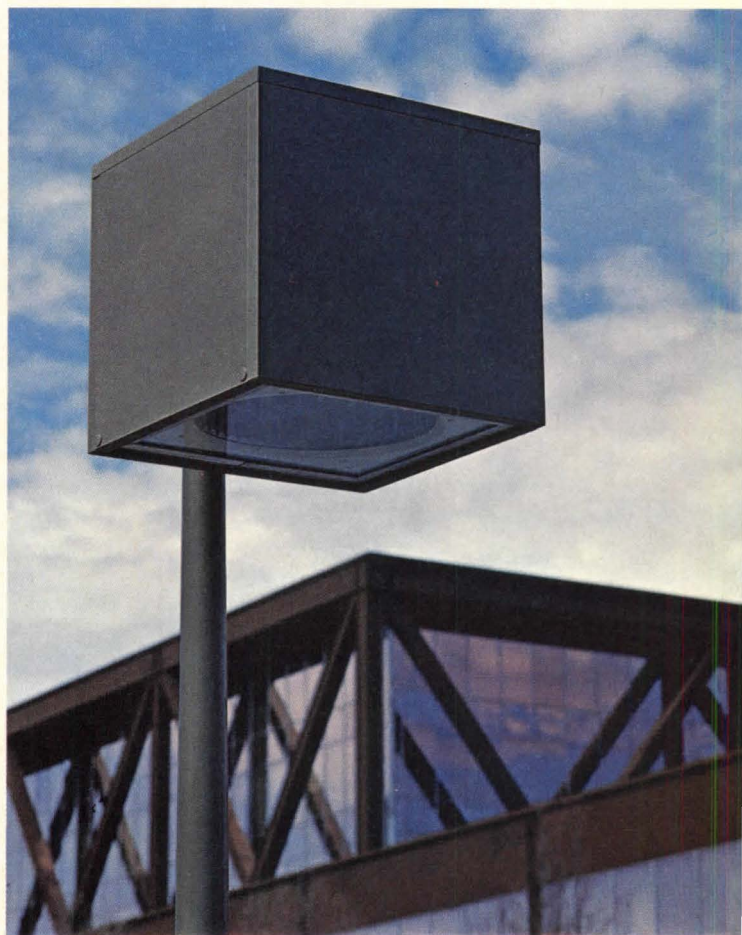
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**News report** continued from page 32

space or size of drawing (or even the architect's unwillingness to part with material). It must be said here though that the way they are grouped is the most disturbing aspect of this section: Hejduk next to Joseph Esherick, Eisenman next to Saarinen or Soleri and Goff next to Turnbull. Rather than illustrate the diversity of this broad period, the achronological juxtapositions dilute the impact of the particular conceptual stance from which each evolved. Elsewhere, the installation by Dorothy Globus and Maureen Healy, however, seems quite reasonable and sensitive to the subject.

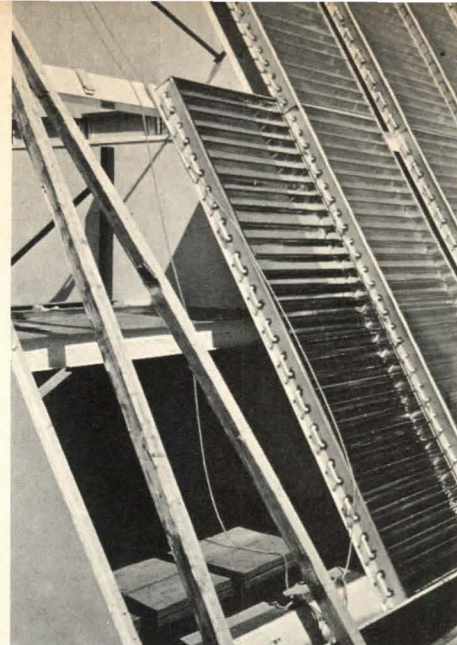
Meanwhile in the basement of the mansion is a third exhibit mounted by Richard Oliver showing the drawings and photographs of the mansion from the earliest days that it was occupied by the Carnegies. This small offering is quite intriguing (especially as an exposition of taste of the rich) marred, however, by the inclusion of "birthday cards" by friends of the Cooper-Hewitt

and an installation that is causal to the point of being careless.

Despite these few cavils with the shows, Cooper-Hewitt obviously is making a serious contribution to public understanding and appreciation of architecture with the mounting of this three-tiered effort. [SS]

## High tech solar office building

The new Cambridge, MA. headquarters of Abt Associates, a social and policy research firm, is a solar-heated, high technology structure which will operate on an annual fuel budget of \$950. The entire south wall of the 6800-sq-ft building will be a solar collector using a system developed by Dr. Roland Winston of the University of Chicago. The rest of the building was manufactured with prefinished panels designed to provide three times more thermally efficient insulation than that found in ordinary home insulation. The panels are a plastic foam encased by a stressed steel skin. From November



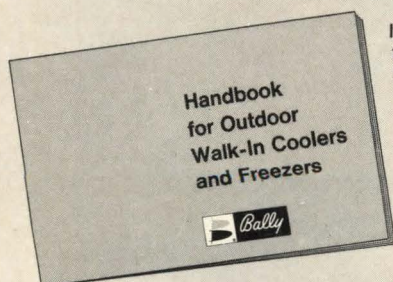
Solar panels form the entire south wall.

through April the solar system will produce 50 percent of the building's heat and all heat during the remaining months. Architects of the building are Clark Abt, designer, and David Schwartz and Sidney Graves. The building panels were by Great Natural Structures Co. (G.N.S.) under subcontract to Abt Associates.

[News report continued on page 38]

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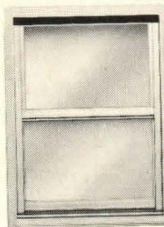


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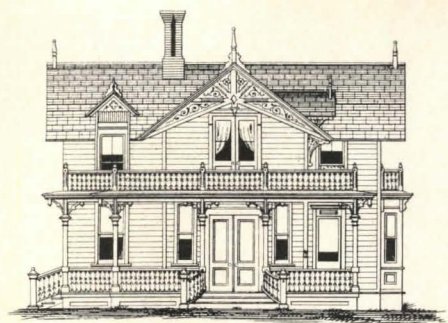
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**Robertson**





Victorian pattern from a book dating from 1880s.

## Victorian patterns in paperback

Patterns of Victorian home layouts and gingerbread ornament are some of the designs available for the fee of \$9.75 from *The Old-House Journal's* "Victorian Architecture" newly released paperback, a reprint of two popular pattern books available to 19th-Century builders. This book is useful, say the publishers, for home restoration or even for building new homes in the Victorian manner. As a guidebook it

also shows the wealth of popular styles of the 1870s and 1880s: Queen Anne, Mansard, Eastlake, Tudor, and Gothic Revival. *The Old-House Journal*, located in Brooklyn, NY, is a monthly publication devoted to giving homeowners tips on restoring antiquities.

## Personalities

Wilbur W. Hamilton has been named executive director of the building and rehabilitation program of the San Francisco Redevelopment Commission.

John Sloan has been named director of urban design at the Boston Redevelopment Authority.

John H. Bryant, AIA has been named to head the School of Architecture at Oklahoma State University.

Joseph Amisano, FAIA, Atlanta, GA., and Richard A. Meier, FAIA, New York City, have been elected associate members in the National Academy of Design, New York City.

Richard L. Graham, associate professor, Department of Human Environment and Design, Michigan State University, has been awarded the

Attingham Grant by the American Society of Interior Designers Educational Foundation, Inc.

Arthur T. Brown, FAIA and William Wilde, AIA, both of Tucson, have received distinguished citizen awards from the University of Arizona Alumni Association.

Richard B. Oliver has been awarded the Arnold W. Brunner Scholarship of the New York Chapter, American Institute of Architects. Oliver is a partner of Meltzer-Oliver-Solomon and is serving a one-year appointment as curator of architecture and design at the Cooper-Hewitt Museum, New York City.

Caswell Cooke of Caswell Cooke & Associates, New Haven, CT., has been named to the Regional Planning Agency of South Central Connecticut.

Ronald Gourley has been appointed dean of the College of Architecture at the University of Arizona, Tucson.

A. Peters Oppermann is the new director of the School of Architecture and Environmental Design, Kent State University, Kent, OH.

[News report continued on page 40]

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## Calendar

**Through Aug. 31.** "Forms in Focus," largest outdoor sculpture exhibit ever assembled in New York City, at Co-op City, The Bronx.

**Through Sept. 11.** "Palladio," Cooper-Hewitt Museum, New York.

**Through Sept. 18.** Exhibit of architectural sketches and drawings from the American Institute of Architects' architectural archives, many never before displayed in public, at The Octagon, Washington, D.C.

**Aug. 15-Sept. 30.** "Women in American Architecture: An Historic and Contemporary Perspective," Fine Arts Center, Colorado Springs, CO.

**Aug. 19-21.** SOLARCON-77, first annual national solar energy convention and exhibition, Civic Center / Brooks Hall, San Francisco.

**Aug. 22-23.** Conference on the solar energy business, sponsored by The Energy Bureau, Hyatt Regency Hotel, Washington, D.C.

**Aug. 31.** Deadline for entries in the P/A Awards program.

**Oct. 7-8.** Designer's Saturday, New York City.

**Oct. 8-12.** American Institute of Planners annual convention, Radisson-Muehlebach Hotel, Kansas City, MO.

**Oct. 10-13.** Producers' Council national conference, Williamsburg Inn, Williamsburg, VA.

**Oct. 13-16.** Annual meeting of the National Trust for Historic Preservation, Mobile, AL.

**Oct. 24-28.** First international conference on energy use management, Tucson, AZ. Organizers are University of Arizona and Interdisciplinary Group for Ecology, Development and Energy.

**Nov. 1-3.** Second annual Building & Construction Exposition & Conference, McCormick Place, Chicago.

**Nov. 3-6.** Energy Fair '77, Anaheim Convention Center, Anaheim, CA. Show will feature alternative energies and energy conservation techniques and products.

**Nov. 13-17.** "Building Materials and Construction Equipment" trade center exhibit, sponsored by the U.S. Department of Commerce, Tehran, Iran.

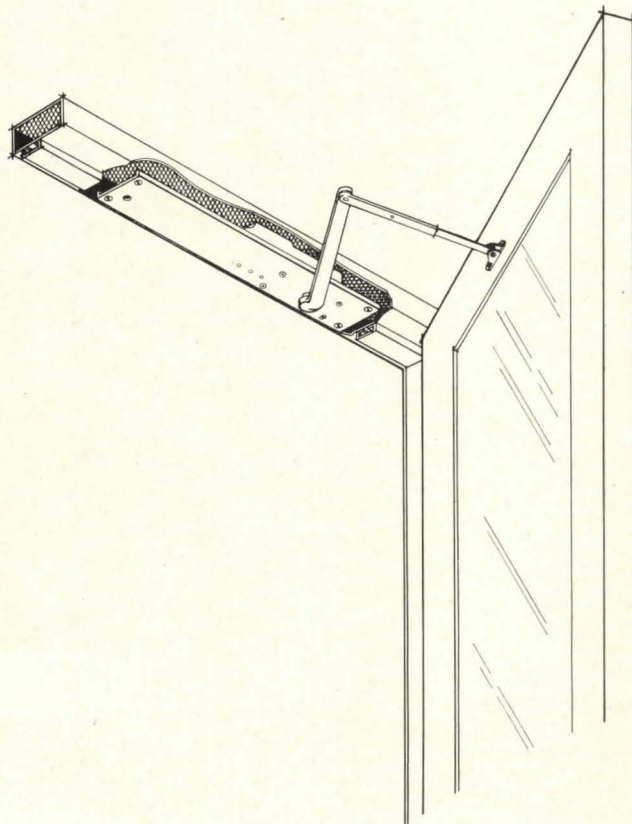
**Nov. 21-25.** 2001: urban space for life and work, UNESCO-sponsored international conference, Paris, France.

[News report continued on page 42]

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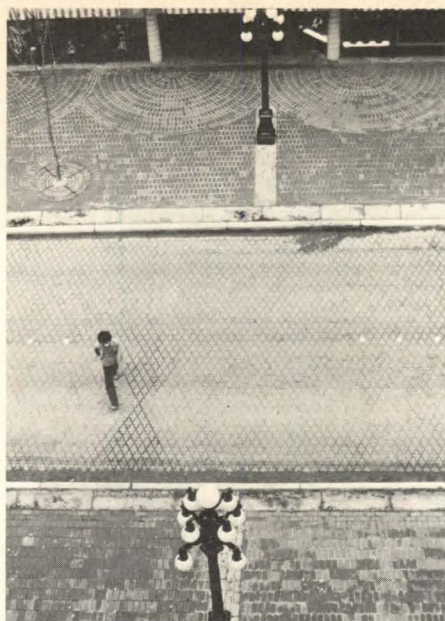
## Report from British Columbia

### The spirit of Gordon Cullen lives!

What a joy it is to discover his genius alive and well, albeit filtered through talented third parties, in their remote corner of the empire, the urbanized southwest of British Columbia. In Vancouver recently, and more extensively over a longer period in Victoria, townscape has flowered.

Best known of these bits and pieces, because it is most accessible, is Vancouver's Gastown, more properly the old Granville Townsite. Everyone knows the city swings; Gastown symbolizes the new Vancouver. Besides historic significance, it also offers a near-waterfront location and a street pattern which, by making elbows in the grid, provides complicated street intersections and vistas focused on Victorian building façades.

But North America is full of tasty reconstructed "old towns." What makes



Bricks form subtle decorative element.

this fragment of old Vancouver so special is the splendid response of the public sector to the initiatives of private developer-conservers. At Gastown's Maple Tree Square, this response takes a deceptively simple form: a subtle molded brick pavement spreading in one unbroken surface from building wall to building wall. The traditional European radial-concentric pattern is set off with ornamental cast iron bollards to separate people and cars. No curbs, just a smoothly curved alley section pavement. Jaywalking is unobtrusively controlled by chains between bollards, and a sensitive, neatly functionalist modification of the pattern makes shop doors, not abstract modules, center-points of the circles.

How different this is from the "old towns" and "gaslight squares" of the United States, where enormous invention and entrepreneurial risk-taking



Vancouver townscape Gordon Cullen could praise.

among the developer-conservers have met with indifference at city hall. In almost every case, even in such wonderful moments as San Francisco's Ghirardelli Square, the necessary array of public works have been conspicuously absent or are there only by happenstance. When public sector initiative does emerge to townscape public areas it almost always signifies the total failure of private market interest. Certainly this has been the case in hundreds of CBD urban renewal projects from Crescent City, Calif. to Morgantown, W. Va. Elaborate malls, plazas, and public arcades exist beside vacant lots and empty stores. How good to find in Vancouver the happy consonance of public and private works.

Precedent may have something to do with the successes in British Columbia. In Victoria, the provincial capital, a couple of fine chunks of town-



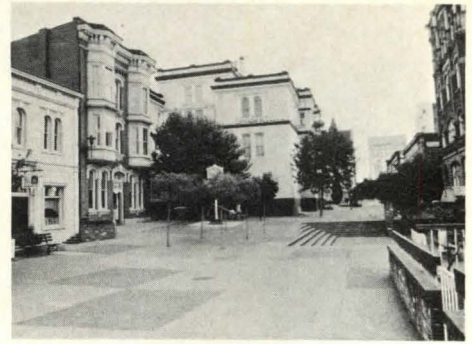
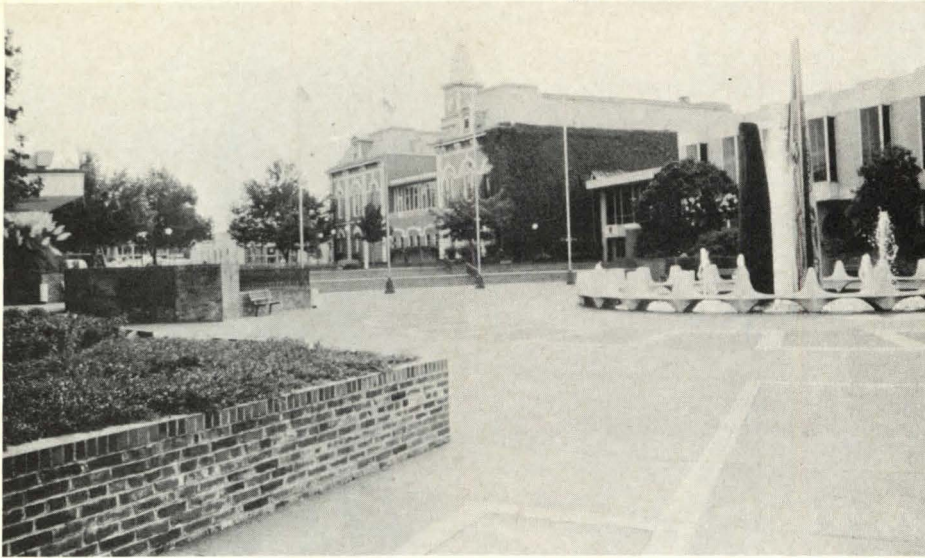
Vancouver's Gastown: elbows in the grid.



Cast iron bollards and chains unobtrusively define areas.

Photos this page: Virginia Ayers





Centennial Square, Victoria (left), enhances views of a 19th Century city hall. Encircling its Fountain Plaza is a mixture of old and new buildings demonstrating a central idea of townscape: the art of relationship. Bastion Square (above) in Victoria's waterfront precinct is noted for its streetscape of warehouses and commercial structures.

scape completed over the last few years must have helped generate Gastown. As a celebration of the Canadian Centennial in 1967, Victoria combined a number of revitalization and improvement projects pivoting about its fine 19th-Century city hall. The result, appropriately called Centennial Square, groups a collection of old and new public and commercial buildings around a civic plaza that occupies ground coalesced from backyards, minor streets, and alleys. An exuberant fountain centers the ensemble. Patterned pavement, street furniture, and fancy plantings embellish it. Overall, the architecture could not be more ordinary. But taken in its entirety, the project realizes Cullen's ideal. It demonstrates the central idea of townscape: the art of relationship. It effectively makes a whole far greater than its parts summed.

Centennial Square was conceived and executed in-house by Roderick Clack, then planning director for Victoria. It formed the first phase of a planned sequence of center city revitalization projects. The second of these, a lovingly rehabilitated waterfront precinct called Bastion Square, continues and even improves on the precedent. Here an ambitious Cullen-esque streetscape sets off a nice miscellany of little old warehouses and commercial structures, stretching from the water to an imposing courthouse, refurbished as a maritime museum.

Soon a third phase should be completed, linking Bastion Square to the visual center of Victoria, its "water square" in Cullenese language. The Inner Harbor and its surrounds consti-

tute a real pinnacle of urban design. As anyone who has traveled there by steamer from Seattle must remember vividly, Victoria boasts just about the best water square anywhere. The steamers tie up at a classic temple in a stone-lined, rectangular basin across the street from Rattenbury's English baroque structures, one symbol of an empire, not provincial government, and his other equally magnificent Empress Hotel. As it stands, this square and its surrounding buildings, even including the monumentally banal Heritage Court complex housing the fine provincial museum and archive, registers as the best civic design grouping on the West Coast.

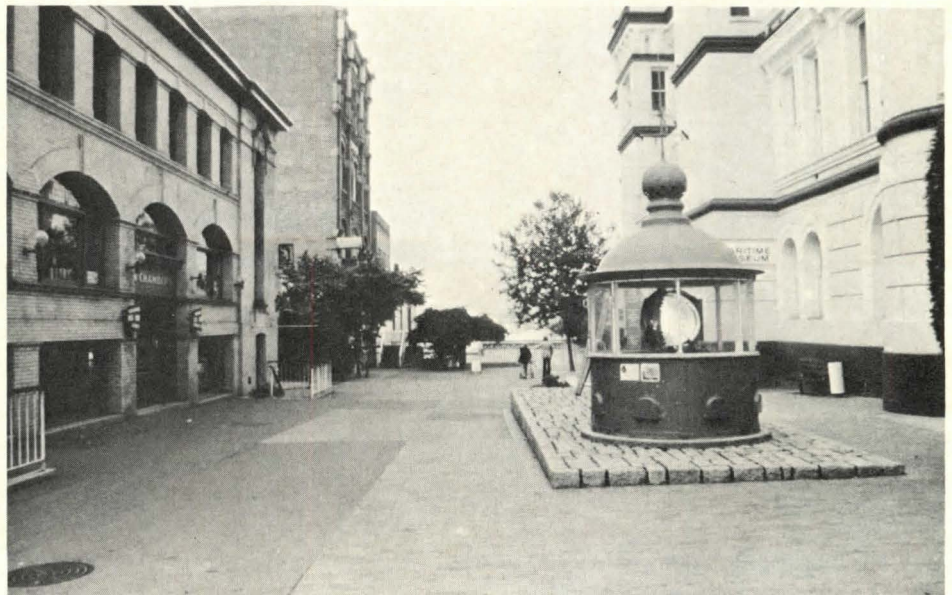
The provincial government has recently undertaken a comprehensive development study of its Victoria facilities, which dominate the inner city

area. Under the leadership of Thompson, Berwick & Pratt's urban design partner Paul Merrick, design proposal in the study call for a whole network of pedestrian precincts around the hotel and legislature buildings.

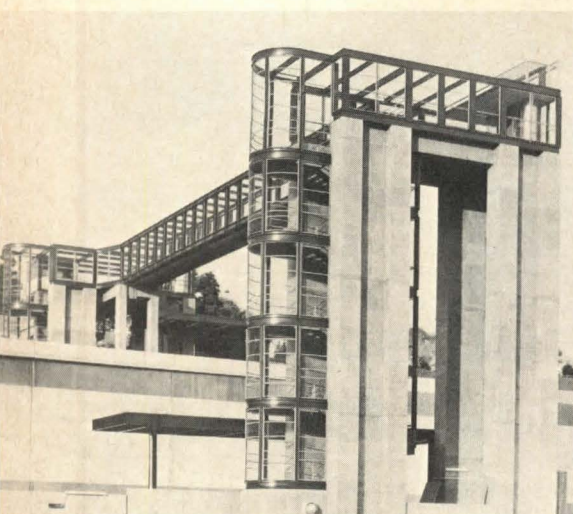
Across the strait in Vancouver, more is happening than just Gastown. At False Creek, a genuine new-town-in-town is rising where obsolete saw mills stood. Designed to be ready for the United Nations international conference on human habitat a year ago, False Creek should demonstrate how thoroughly the designers of British Columbia have learned their Cullen. Can they do what no one else in North America has been able to accomplish: build a large scale townscape from scratch? The chances look pretty good that they can.

[Roger Montgomery]

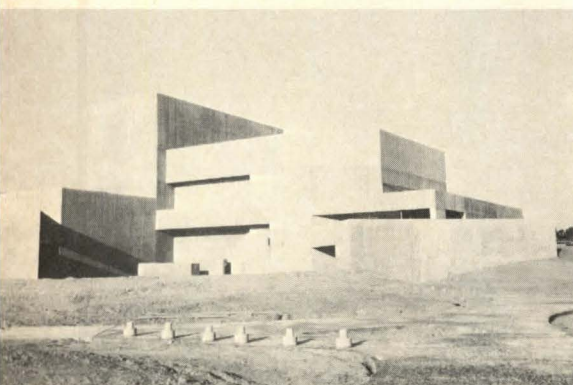
Victoria's Bastion Square showing the Law Chambers (left) and Maritime Museum (right).



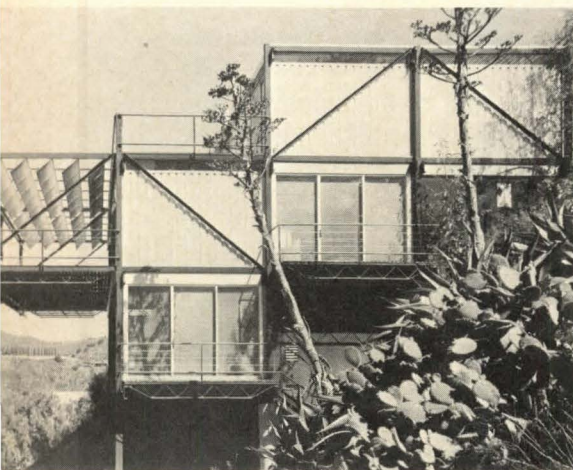




Honor award pedestrian bridge/bus stop by DMJM.



Award winners: Theater (above) by Dworsky and Beverly Hills home (below) by Urban Innovations Group.



## Southern California AIA honor awards

Honor awards of the Southern California chapter of the American Institute of Architects went this year to Daniel Mann Johnson & Mendenhall for a pedestrian bridge at California State College, Los Angeles; to Daniel L. Dworsky & Associates for the Theater

Arts Building at Dominguez Hills State College; and to the Urban Innovations Group for a hillside house in Beverly Hills. Jury members were Paul Rudolph, Fumihiko Maki, Joseph Escherick, Edward Helfeld, and Richard Schoen.

## Joint venture team for Post Office job

The joint venture of McCaughy, Marshall & McMillan, Arthur Cotton Moore/Associates, Associated Space Design, and Stewart Daniel Hoban & Associates of Washington, D.C. has been selected in competition as architect-engineer to renovate the romantic Old Post Office in Washington into a mixed-use center. Pending congressional committee approval, the project could enter construction in the fall of 1978. The joint venture team was among 93 competitors for the job. Other firms reaching the final judging were Faulkner, Fryer & Vanderpool, Architects of Washington, D.C. and the joint venture of Shepley, Bulfinch, Richardson & Abbot, Hugh Newell Jacobson, and Desmond & Lord of Boston. Both finalists received \$46,000 each for their proposals.

Surrounding the projects are several firsts. This will be the first project on a large scale to take advantage of federal legislation enacted last year permitting the mix of government offices with private offices and retail establishments. Also, the competition method of selecting the architect-engineer was a pilot system adopted by the General Services Administration. The review board included four GSA architects and engineers—Karel Yasko, Kent Slepicka, Claude Bernier, and Dwaine Warne—and 20 technical consultants. GSA official William Lawson was chairman.

The joint venture proposal, generally conceded to be that of Arthur Cotton Moore who first became interested in saving the Old Post Office six years ago (P/A, July 1973, p. 69) and who spearheaded the preservation drive, includes applying solar collectors, developing a glass-roofed galleria the full height of the nine-story building, and converting the 315-ft clock tower into an observation deck reached by glass elevators. Project manager Harold Rosten said the proposal was selected more for its design and program approach than finished plan. Also high



Winning scheme for Old Post Office renovation.

on the GSA list were such items as the handling of mechanical improvements, renovations to make the building barrier-free to the handicapped, and safety and security measures.

Among prospective tenants for the renovated structure will be the National Endowment for the Arts, the National Capital Planning Commission, and various arts agencies.

## 'Eye of Thomas Jefferson' film

A half-hour film based on the major Bicentennial exhibit, "The Eye of Thomas Jefferson," organized by the National Gallery of Art, received its premiere in July and now is available free to sponsoring groups throughout the country. The film will be given its European premiere in Paris in the fall. Scenes of Paris and other European cities visited by Jefferson when he was American minister to France are recorded, with emphasis on art and architecture. Jefferson's own home, Monticello, and the University of Virginia also are portrayed along with Jefferson's architectural drawings and designs. The film, produced with private funds and distributed by the gallery's extension service, also is available in French and Spanish.

[News report continued on page 46]



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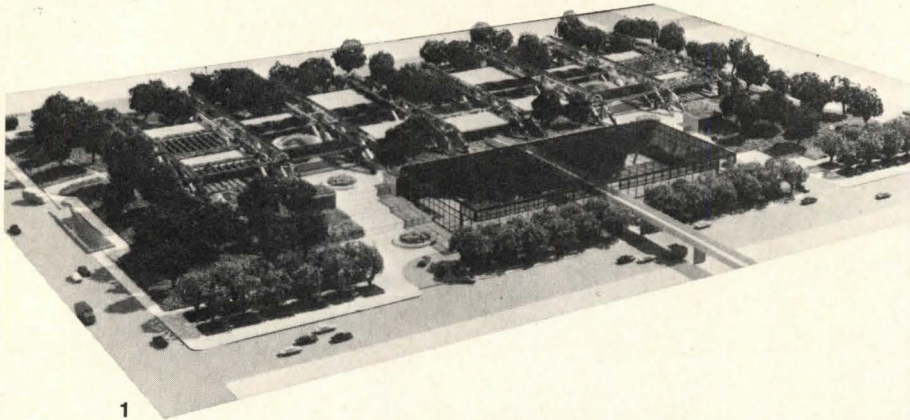
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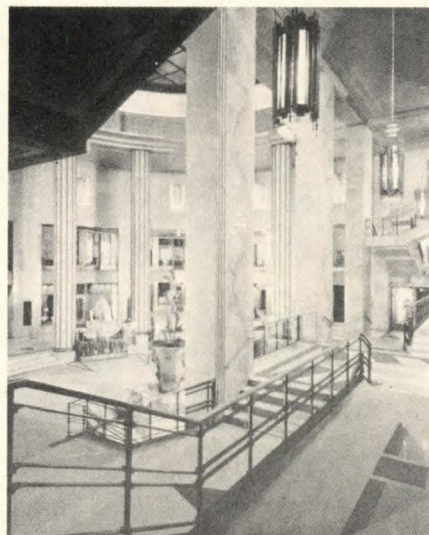
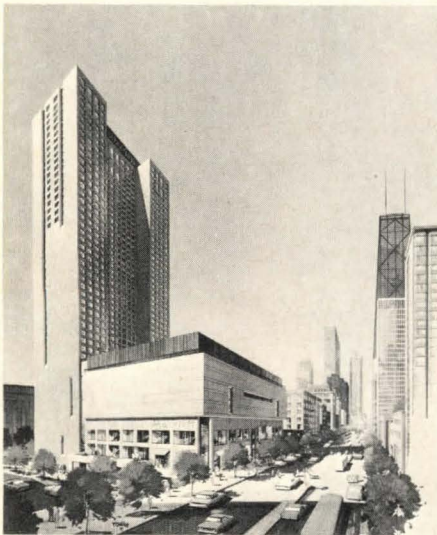
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## In progress



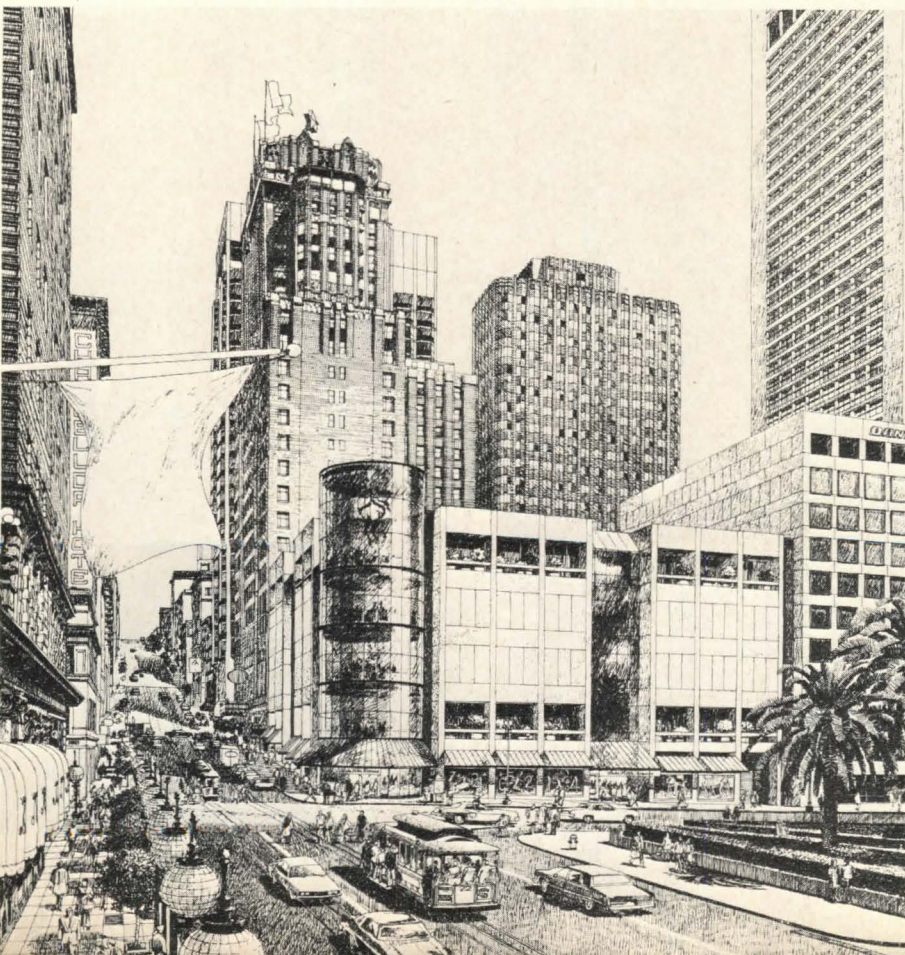
**1 S.F. convention center**—Fast-track construction will begin in January on the \$85 million Yerba Buena Convention and Exhibit Center in San Francisco, CA. with completion anticipated for June 1980. The design team, headed by Hellmuth, Obata & Kassabaum, includes associate architects Young & Associates, AIA; T.Y. Lin International, structural engineers; Hayakawa & Associates, mechanical; and the SWA Group, landscape architects. More than 90 percent of the project including the column-free 549,000-sq-ft exhibition hall will be below ground. Only the glass lobby structure will be visible above in the public park. Supporting the roof will be 15-ft-deep trusses; these may be landscaped like trellises to cast patterns of light and shadow.



**2 Goodbye Art Deco**—On the site of Holabird & Root's now-demolished Time-Life building, 1929, with its renown Diana Court lobby (A) is the 45-story Marriott Hotel-Chicago nearing its 1978 completion date. The building, designed by Harry Weese & Associates of Chicago, is on the Gold Coast section of Michigan Avenue. The precast concrete and concrete building will contain extensive convention and recreational facilities and 1214 rooms.

**3 Au revoir Renaissance**—After considerable time on architectural revisions and meetings with community groups, Sak's Fifth Avenue department store in San Francisco has revealed plans for its \$6.5 million new building on Union Square. Down-played in the announcement is the fact that the store will occupy the site of the present Sak's, the Fitzhugh Building of 1920, a neo-classical structure across the Square from the endangered City of Paris building. Architect for the granite-faced bronze glass building is Hellmuth, Obata & Kassabaum, Gyo Obata, design principal.

**4 College library**—Staley Library at Millikin University, Decatur, IL, will contain five levels in one spatial volume. Classrooms for audiovisual instruction will be on the first floor along with reading rooms; library services will be located on the upper floors. Windows are placed only on the north and south walls. Salogga, Bradley, Likins, Dillow of Decatur are architects for the building, scheduled for completion in 1978.





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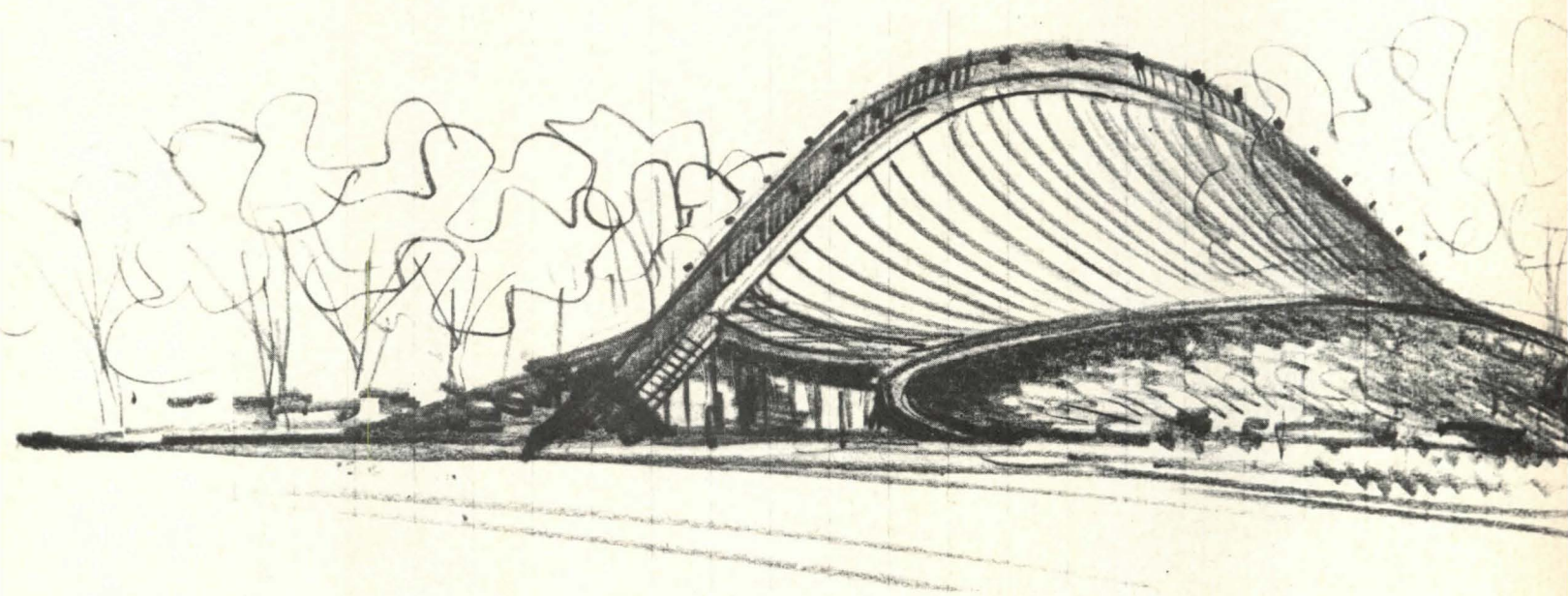
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# American architectural drawings



**A major exhibition entitled '200 Years of American Architectural Drawing' that opened recently at the Cooper Hewitt Museum in New York is a dramatic step in acknowledging a renewed, growing interest in architectural drawings.**

In the past few years there has been a great surge of interest in architectural drawings. It is no longer unusual anywhere in this country to find them on exhibit at universities, museums, and even commercial art galleries. To cite just a few examples, in the past couple of years one could have found Beaux-Arts drawings at MOMA and those of "The Silvers" at UCLA, Addison Mizner in Palm Beach and Ralph Adams Cram in Boston, Purcell & Elmslie at the University of Minnesota and Le Corbusier at the University of Kentucky. These and many other such exhibitions force one to wonder why there is now such an increased interest in architectural drawings.

Part of the reason is explained below in the comments excerpted from David Gebhard and Deborah Nevins' scholarly and handsome catalog that accompanies the Cooper Hewitt exhibition: Drawings (and by extension, buildings) are simply more interesting now than they were 15 or 25

years ago, when an architectural drawing show of any type would indeed have been a rare phenomenon. As Gebhard notes in the catalog's introduction, drawings during the post-war construction boom and into the 1960s were, with a few notable exceptions, as uninteresting as the buildings they represented.

But there may be additional reasons for this renewed interest. Surely the growing concern for our architectural heritage, which is often more clearly illuminated through drawings than through buildings, must also play an important role. And for other reasons, including the recent building recession, more architects of talent, theoretical interest, and sophistication devote more time to drawings now than was the case a few years ago.

In the portions from *200 Years of American Architectural Drawing* that follow, the first two paragraphs are excerpted from Gebhard and Nevins' preface, while the remainder is from Gebhard's Introduction, "Drawings and Intent in American Architecture." Unfortunately, space has precluded P/A's use of any of the "Commentaries on the Drawings" and Architectural Biographies by Nevins, which compose the major portion of this outstanding catalog. [David Morton]

Eero Saarinen, Ingalls Rink, Yale University, New Haven, CT. Perspective study, c. 1953. Dark pencil on yellow notebook paper, 8½"x11". Yale School of Architecture, Yale University, New Haven, CT.

These excerpts and drawings from *200 Years of American Architectural Drawing* are reprinted with the permission of Whitney Library of Design, an imprint of Watson-Guption Publications, Inc., a division of Billboard Publications, Inc. The accompanying exhibition, which is at the Cooper Hewitt Museum in New York through Aug. 1977, will be at the Jacksonville (Fla.) Art Museum Feb. 5-Mar. 19, 1978, and at the Chicago Art Institute Apr. 16-June 6, 1978. The exhibition was supported in part through funds from the National Endowment for the Arts, the New York State Council on the Arts, the Andrew W. Mellon Foundation, and the Graham Foundation for Advanced Studies in the Fine Arts. The Exhibition was sponsored by the Architectural League of New York and the American Federation of Arts.



## American drawings

### A sad story

In all too many ways the subject of American architectural drawings is a sad one. Though there was never a great number of drawings before 1776, only a handful are now known. And the story is not much different from 1776 to the present. If you were to sit down and complete a list of major United States practitioners from Peter Harrison in the 18th century to William Lescage in the 20th century, you would quickly discover that we have only a small number of their drawings or in many cases none at all. Some of these collections of drawings will eventually come to light, but most have probably been destroyed.

Especially with the emergence of architecture as a business in the 1890s the propensity of firms to keep anything but their working drawings is very low. Conceptual sketches, which are often the most telling indicators of architectural intent are seldom retained. . . . Until recently public institutions—libraries, universities, historical societies, and museums—have not been interested or equipped to house collections of architectural drawings. America has never had an archive of architectural drawings akin to The Royal Institute of Architects' Drawing Collection in London. The Avery Library at Columbia University, The Burnham Library of the Chicago Art Institute, and the Octagon of the American Institute of Architects now have collections of drawings. Elsewhere in the country regional collections are developing. But our present interest in collecting, preserving, and cataloging architectural drawings is in its infancy, and because of this, much of our past—via architectural drawings—is lost forever.

### Importance of drawings

Whether we are involved with the question of the origin and development of a style, or with the events and intent contained in the design of a single building, the availability of drawings always provides us with an insight that can only be partially gleaned from a realized building. To go a step further, it can be forcibly argued that the concept of the architect, in many instances, is far better revealed through the drawings than in executed buildings.

Each period in architecture has developed not only its own style, but its own style of drawing. These styles say as much about the period as do the styles themselves. Why in one period are buildings depicted almost exclusively via orthographic projections (elevations and plans) while in another period perspective or isometric drawings are preferred? Why does the architect select this or that point for us to view the project? Equally fascinating is the perplexing, and perhaps not fully answerable, question of how drawings affect the design of buildings. American architectural drawings of the 18th and 19th centuries tend almost exclusively to be renditions of elevations and floor plans. In the later

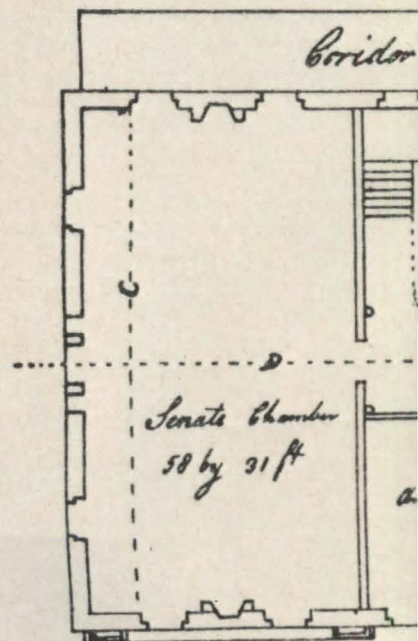
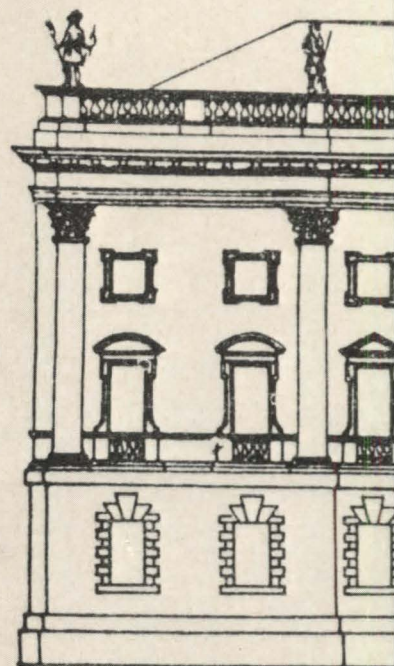
19th century, the Romantic Picturesque styles—the Eastlake, Queen Anne (including the Shingle Style), and the Richardsonian Romanesque—were most effectively conveyed through perspective drawings. The techniques of rendering entailed in the turn-of-the-century Beaux-Arts style, particularly in its rendering of site plans and cross sections, say more about the Beaux-Arts architects' intent than do their impressive elevational drawings! And in our own contemporary period it is not by accident that Charles W. Moore, William Turnbull, Robert Venturi, and others have turned to isometric drawings (including cutaway sections)—a rendering technique closely related to the use of cardboard models as conceptual design tools. . . . Increasingly during the 20th century the use of models has vied with that of drawing as the primary means of design development. Today many of the most important architectural firms use the model almost exclusively as a means of studying and presenting an idea; others use models as a supplement to drawings.

### Before mid-1800s

Generally, drawings produced before the mid-19th century consisted of just a sheet or a few sheets containing (usually in very small scale) the principal floor plans and one elevation. On occasion these might be accompanied by one or two additional elevations, by a cross section of a principal part of the building, plus a few details. Although all these would be drawn to scale, their dimensioning was often not precise. Such cursory "working drawings" served their purposes well since those involved with building were operating in a highly traditional world of technology (in terms of structure and materials) and an equally traditional world of design. Where there is general agreement as to proportions, scale, structure, and detailings, there is little need to produce elaborate drawings to explain all of these. Though drawings were small and limited in the traditional building world of the 18th and early 19th centuries, the pictorial effect of the drawing was dominant. The emphasis on a principal façade in the built building came directly from the two-dimensional rendition of it on paper. . . . Perspective or isometric drawings were avoided, and the buildings were shown as abstract entities unrelated to site and landscaping.

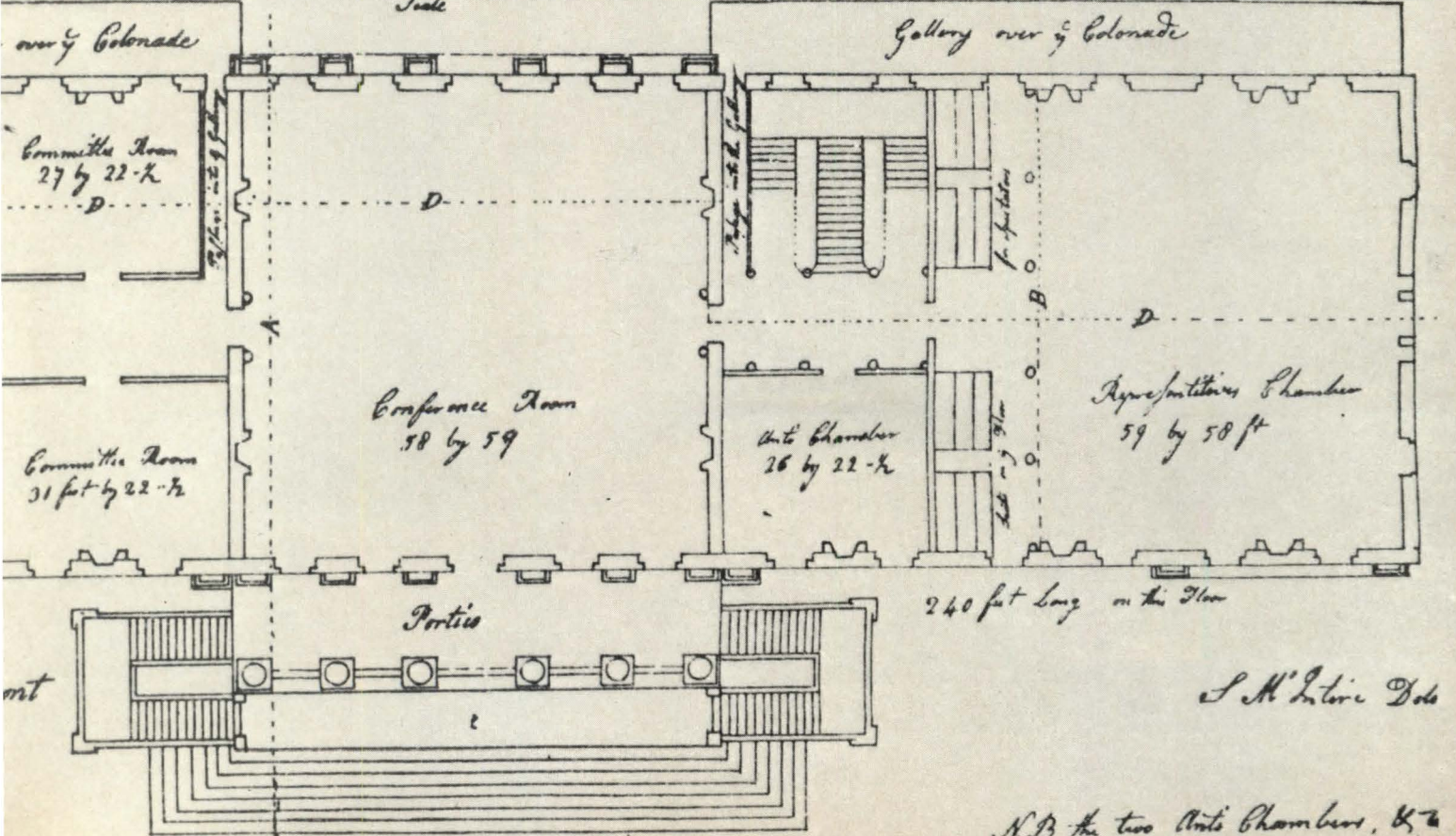
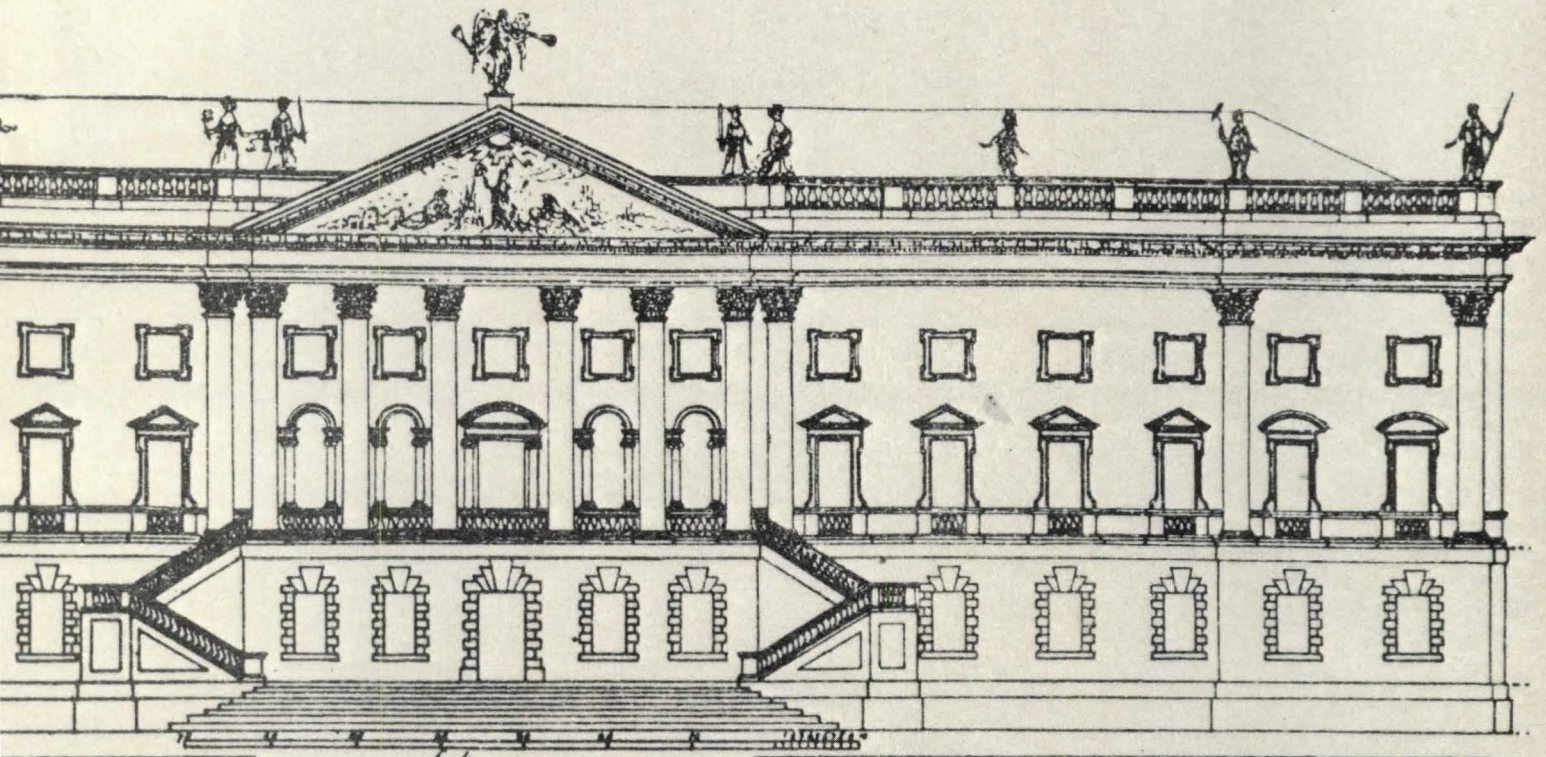
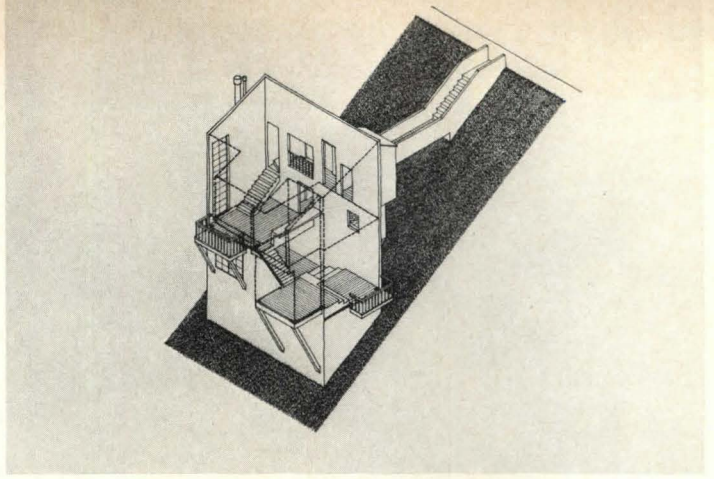
William Turnbull, Talbert House, Oakland, CA. Axonometric, 1962. Ink, 21 1/2"x29". Collection of Moore, Lyndon, Turnbull, Whitaker Archives, San Francisco, CA. (Top).

Samuel McIntire, United States Capitol Competition, Washington, D.C. Plan of second floor and elevation of principal front, 1792. Pen and iron gall ink, pencil underdrawing. 14 1/8"x18 1/8". The Maryland Historical Society, Baltimore, MD. (Right).



*Plan of the second floor and elevation of the principal front of the United States Capitol, 1792.*

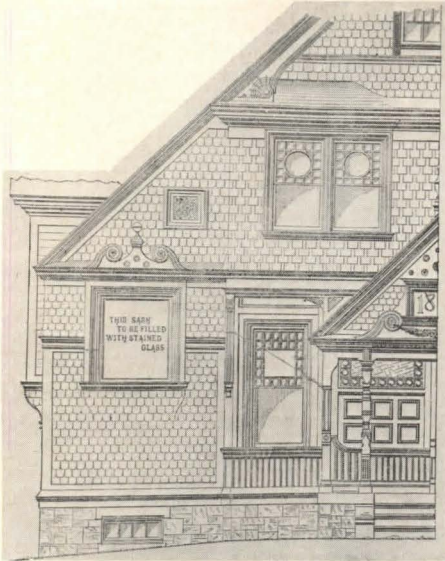




N.B. the two Ante Chambers, & 2  
Rooms on this Floor are 16 feet



## American drawings



"Suburban Architecture," 1888. From *Carpentry and Building*, April, 1888.

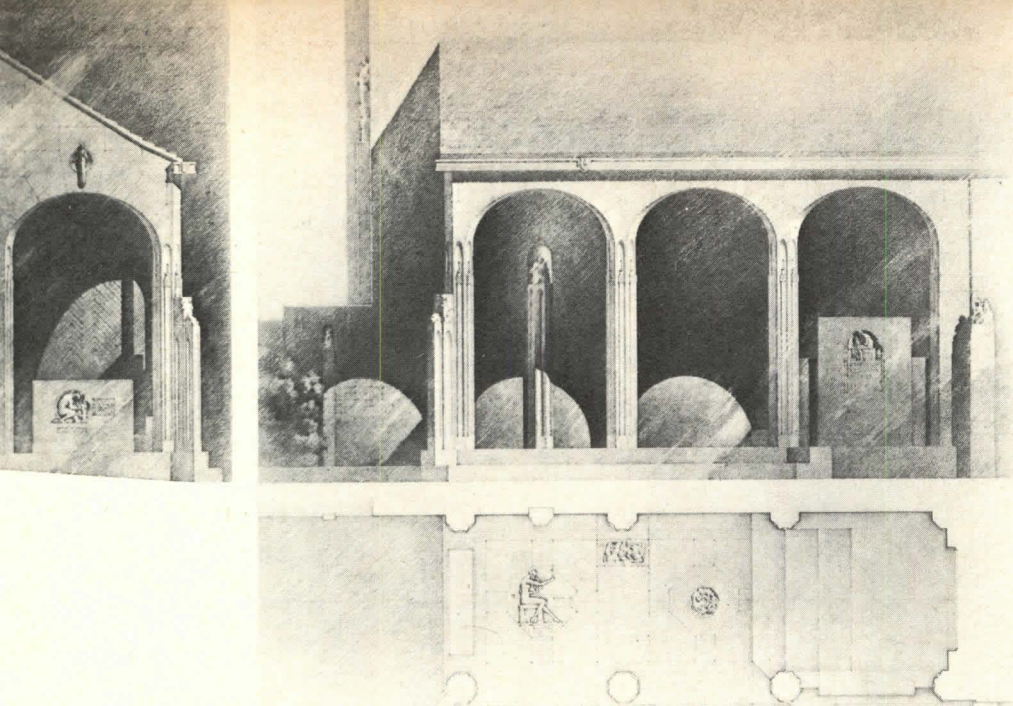


Arnold W. Brunner, Art complex, project, New York City. Perspective, c. 1915. Pastel and pencil on brown paper, 18 $\frac{1}{8}$ "x27 $\frac{1}{4}$ ". Cooper-Hewitt Museum of Decorative Arts and Design, Smithsonian Institution, NY, NY. (Above).

James H. Dakin, Unidentified building. Perspective, undated. Ink and colored wash, 21 $\frac{1}{2}$ "x30 $\frac{3}{4}$ ". Louisiana Division, New Orleans Public Library, New Orleans, LA. (Below).







At first the Greek Revival was, like the earlier Federal style, a two-dimensional surface style, but by mid-1830s it had taken over the picturesque values of the English Romantic garden tradition, and therefore it became three-dimensional. . . . By the second decade of the 19th century adaptations of Greek architecture were being presented by J. C. London in London and even by the Gothic Revival-oriented A. J. Downing in America in perspective as three-dimensional volumes set in the landscape. Though working drawings of the 1820s through the 1840s still remained quite simple, they did in part seek to mirror this new desired image. As has happened continuously in the history of architecture, the pictorial ideal asserted in the perspective drawings could not be fully sustained in the reality of the working drawings and in the constructed buildings. In the case of a good number of those buildings, if they work ideologically, it is because of independent fragmented episodes, not because of the unity of purpose of the whole.

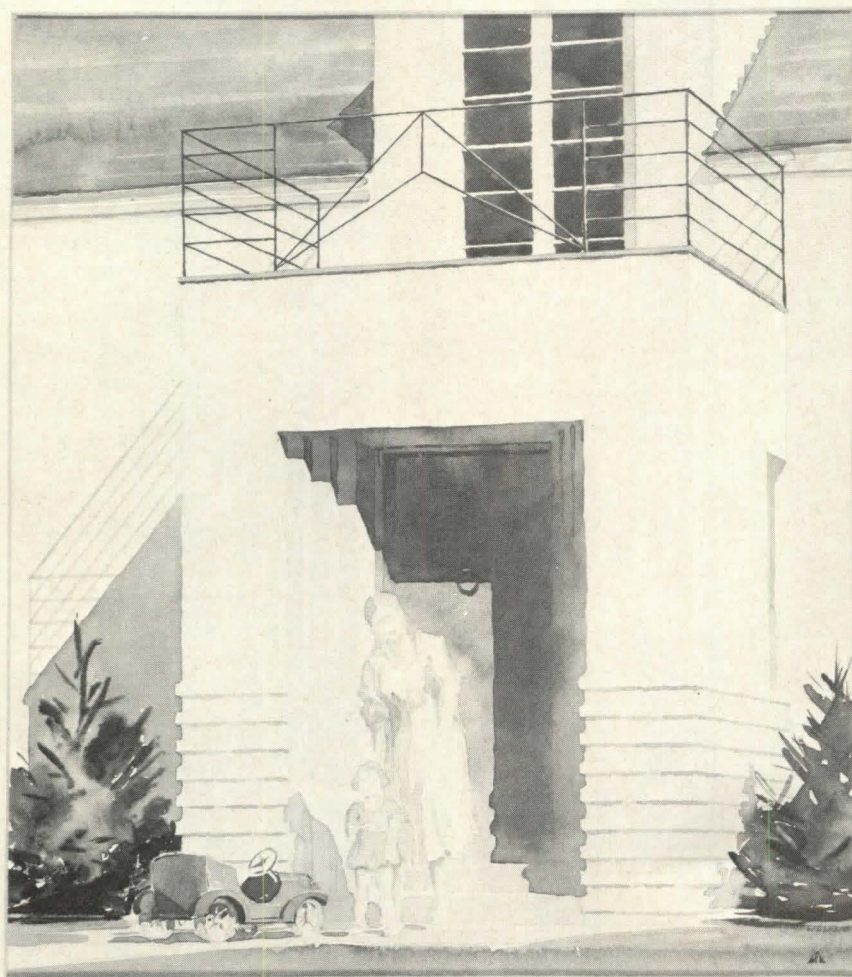
#### After mid-1800s

As this discrepancy increased in the mid-19th century, architectural design shifted to respond to it. American architectural styles after 1860 were established by fragments—separately conceived historical remembrances. The Eastlake makes a nod to the Gothic through a few details. But the details are in fact of a linear nature taken from the drawing and then realized with 19th-century technology—the jigsaw, router, and the lathe. The Queen Anne and the later Colonial Revival (including the Shingle Style) carried on a similar approach. Even the Richardsonian Romanesque, which came the closest of any to evolving a style, simply ended up by using larger-scaled details.

The introduction of new methods of reproducing architectural working drawings in the 1870s (the blueprint process) and the increased reliance on drawings as a specific legal document among the architect, client, and contractor(s) meant that working drawings (together with the written specifications) assumed an importance that they never had before.

#### Before mid-1900s

Though eventful changes occurred in architectural design and practice between the end of the First World War and the beginning of the Second, the uses of architectural drawings changed very little. Throughout the 1920s and 1930s the Beaux-Arts, with its emphasis on drawing, remained as the central mode for architectural education and practice. Those who received their architectural education during those years emerged with a great respect for drawing. The intent of the designer was still to be realized in the initial sketches. Presentation drawings remained of major importance in selling the design, and working drawings and their accompanying written specifications became increasingly detailed and complex.



HOLZWORTH RESIDENCE GEORGE FRED KECK ARCHITECT

Eliel Saarinen, Cranbrook Academy, Bloomfield Hills, MI. Elevations, detail of floor pattern, 1927. Pencil, 25½"x38". Cranbrook Academy of Art Museum, Bloomfield Hills, MI. (Top).

George Fred Keck, Holzworth House, Wilmette, IL. Principal door elevation, c. 1930. Watercolor, 11 1/8"x9 1/8". State Historical Society of Wisconsin, Madison, WI. (Above).



## American drawings

### After mid-1900s

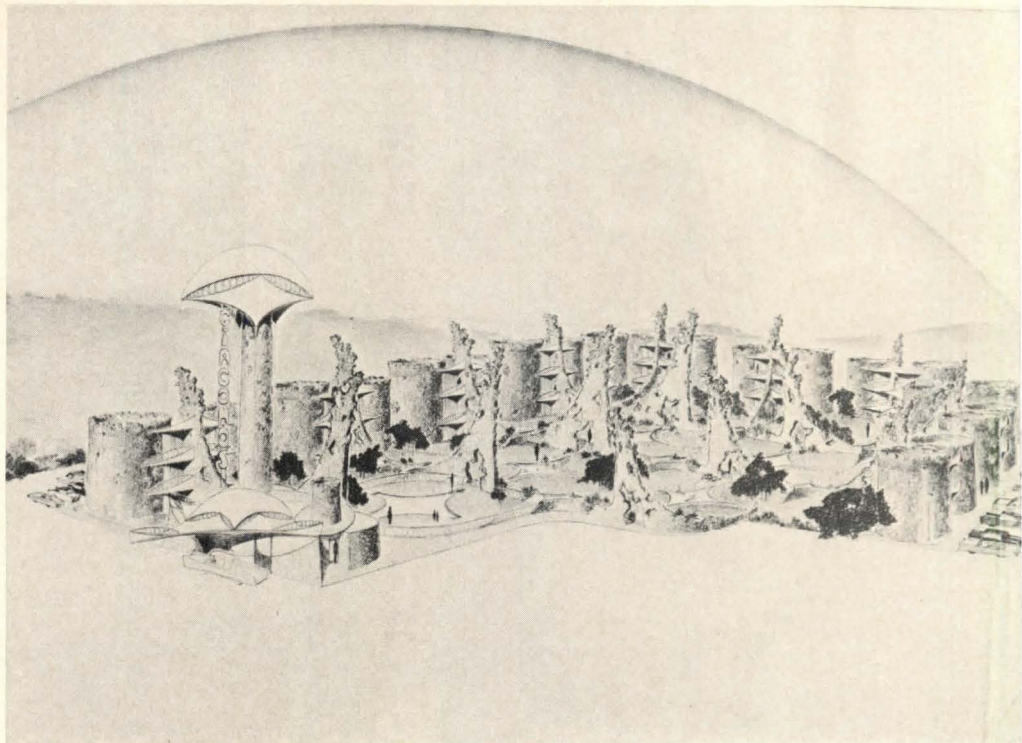
The triumph of the Modern Movement after World War II ended up producing an architectural style that while superficially related to the earlier International Style and to the Streamline Moderne came reasonably close to being barren of content.

... The new architecture of the late forties and fifties seized upon the element of machine anonymity, and out of this emerged an architecture whose principal content was neutrality and blandness. This blandness could be elegant as it was so often in the work of Skidmore, Owings, & Merrill. But in the hands of less skilled designers its stark interior volumes, its cardboardlike box form, and repetitious metal curtain walls were simply a bore.

An examination of most preliminary sketches and typical Modern architectural drawings of the post-1945 decades reveals little of the basic architectural intent of the designers, nor do either formal perspective renderings or working drawings have much to say about content. Generally, the key drawings are orthographic projections of plans and elevations drawn exclusively with the drafting board or a machine. ... Architectural drawings increasingly became architectural drafting; for the increased complexity of construction and of the mechanical core of a building placed a heavy demand on working drawings. ... Most of the formal presentation drawings were bright, grossly colored perspective drawings that seem to insist that they are a product of the world of commercial art rather than that of architecture. The best of these gross renderings merge into the world of Pop; the rest are often as embarrassing as the buildings they describe.

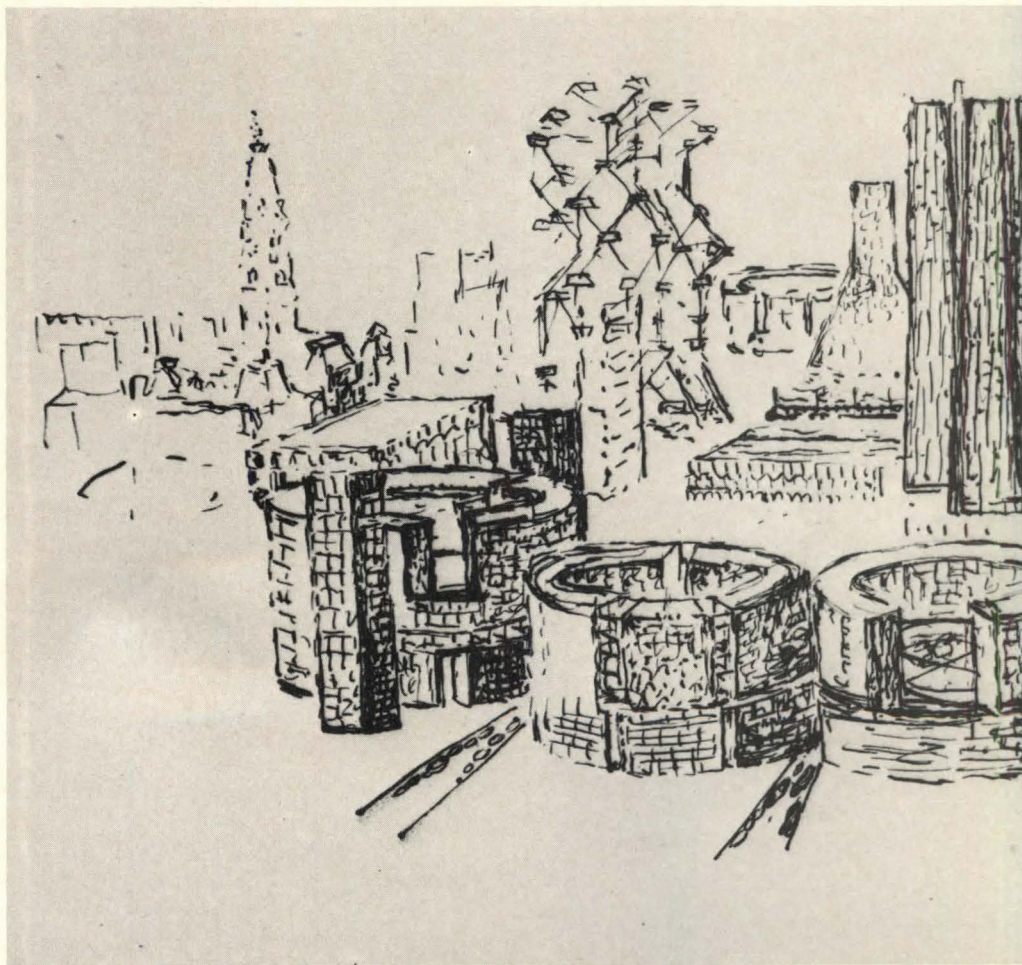
With the exception of Bruce Goff, Louis I. Kahn, Paul Rudolph, Eero Saarinen, Wright, and a few others, the American architectural scene of the fifties came terribly close to being devoid of intent of any substance. The drawings of the time exquisitely expose this emptiness as clearly or more so than the built buildings do themselves. ... The one American personage of the 1950s who can unquestionably be credited with bringing content back into American architecture was Louis I. Kahn. ... It is not simply Kahn's drawings but his plans that are the crucial elements to forming an understanding of his intent. His designs refer directly back to the mid-16th century designs of Andrea Palladio, not only in content, but in their insistence that content be made known exclusively through drawings.

Louis I. Kahn, Penn Center Planning Project, Center City, Philadelphia. Aerial perspective, 1956-1957. Ink on tissue, 11"x14". The Museum of Modern Art, New York, NY. (Right).

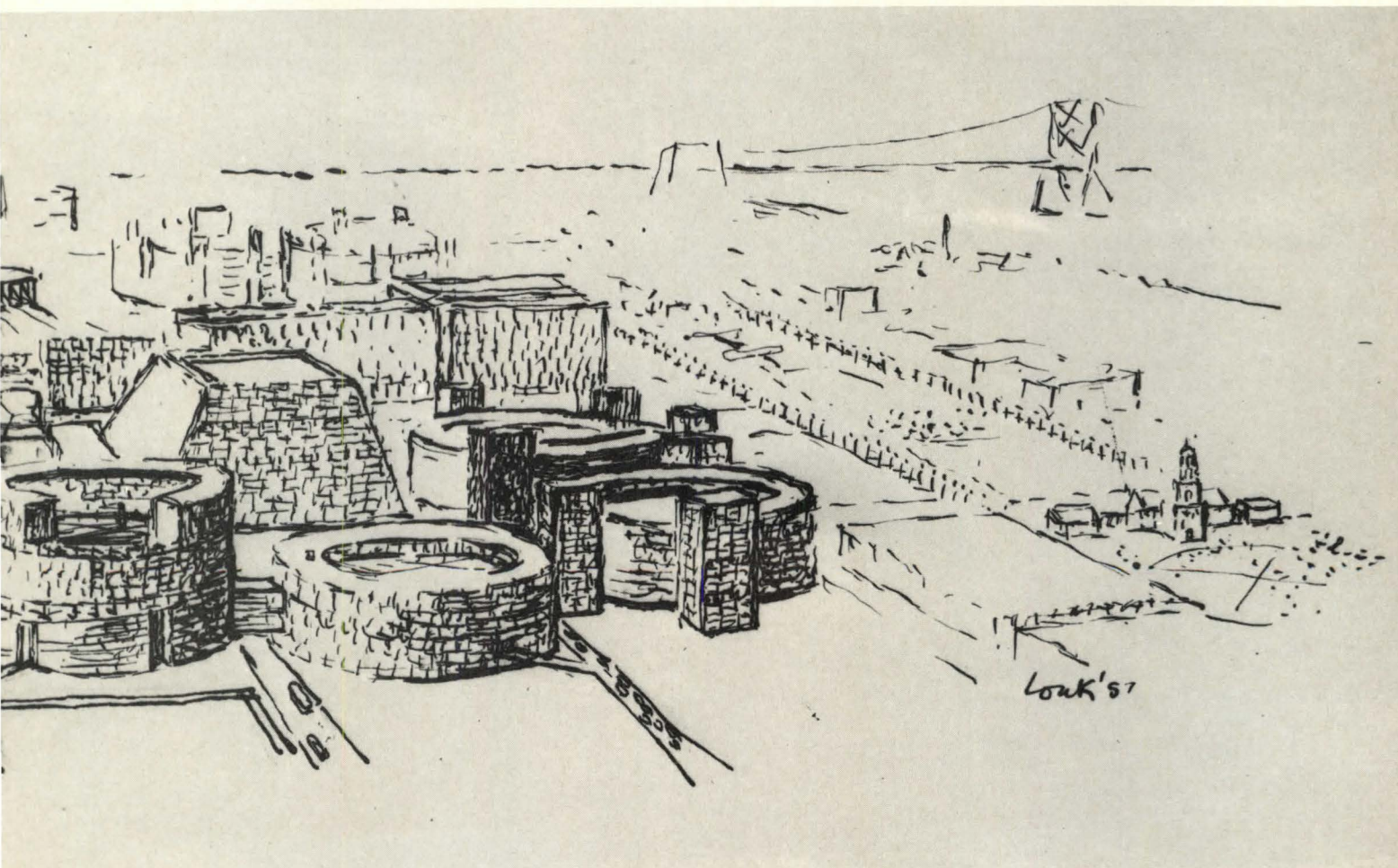
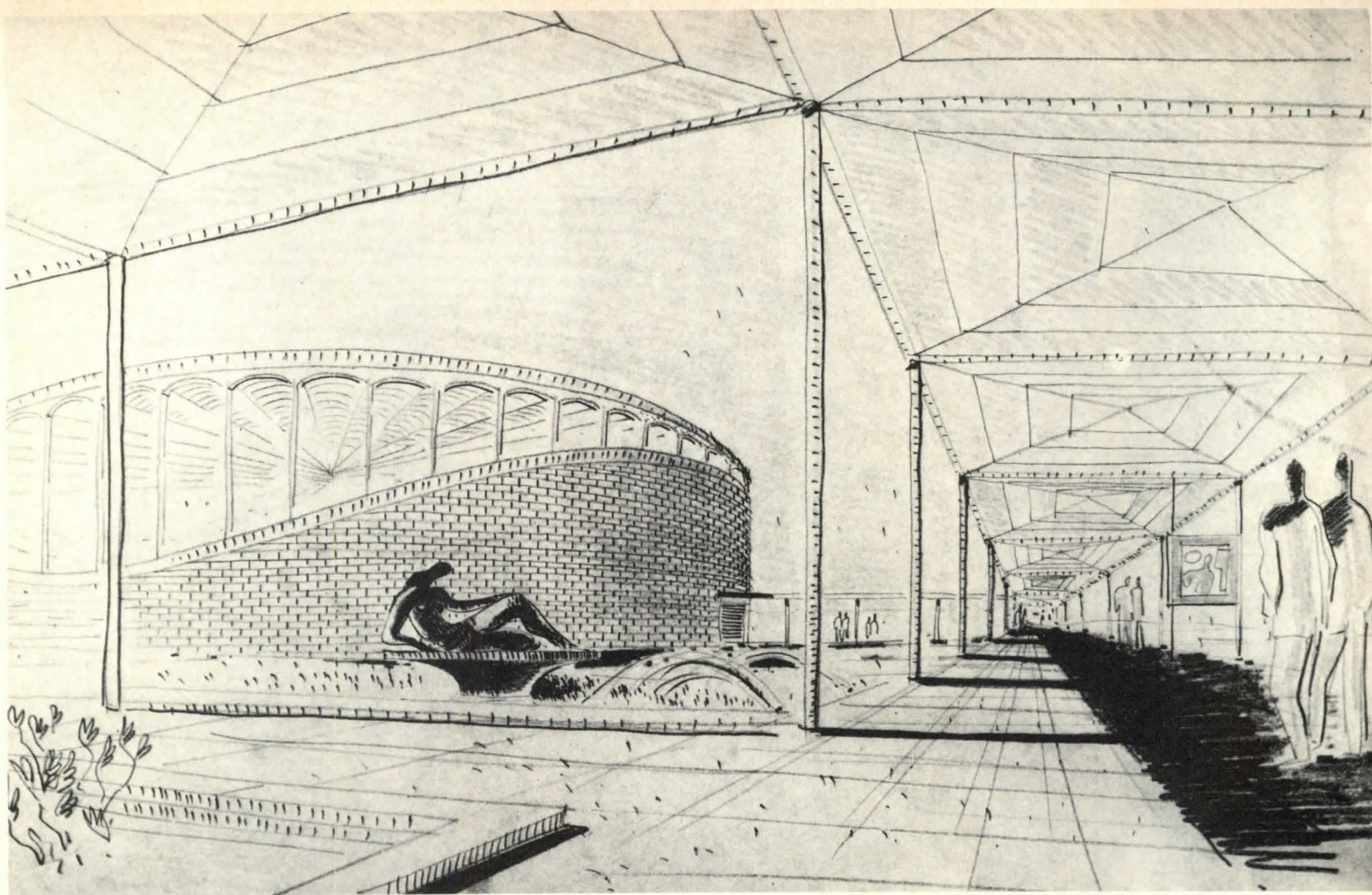


Bruce Goff, Giacomo Motor Lodge, project, McAlester, OK. Perspective, 1961. Colored pencil and pastel, 30"x40". Collection of Bruce Goff, Tyler, TX. (Above).

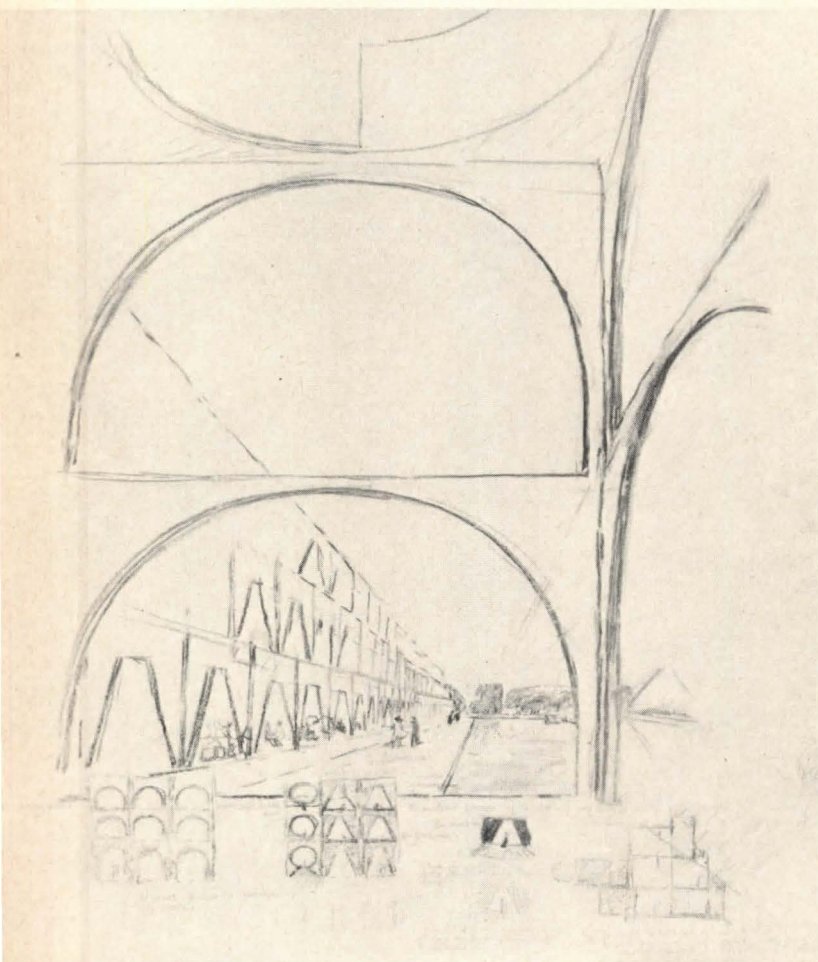
Matthew Nowicki, Dorton Arena, North Carolina State Fairgrounds, Raleigh, NC, Perspective study, c. 1950. Pastel, 17"x23". North Carolina Chapter, American Institute of Architects, Raleigh, NC. (Right).



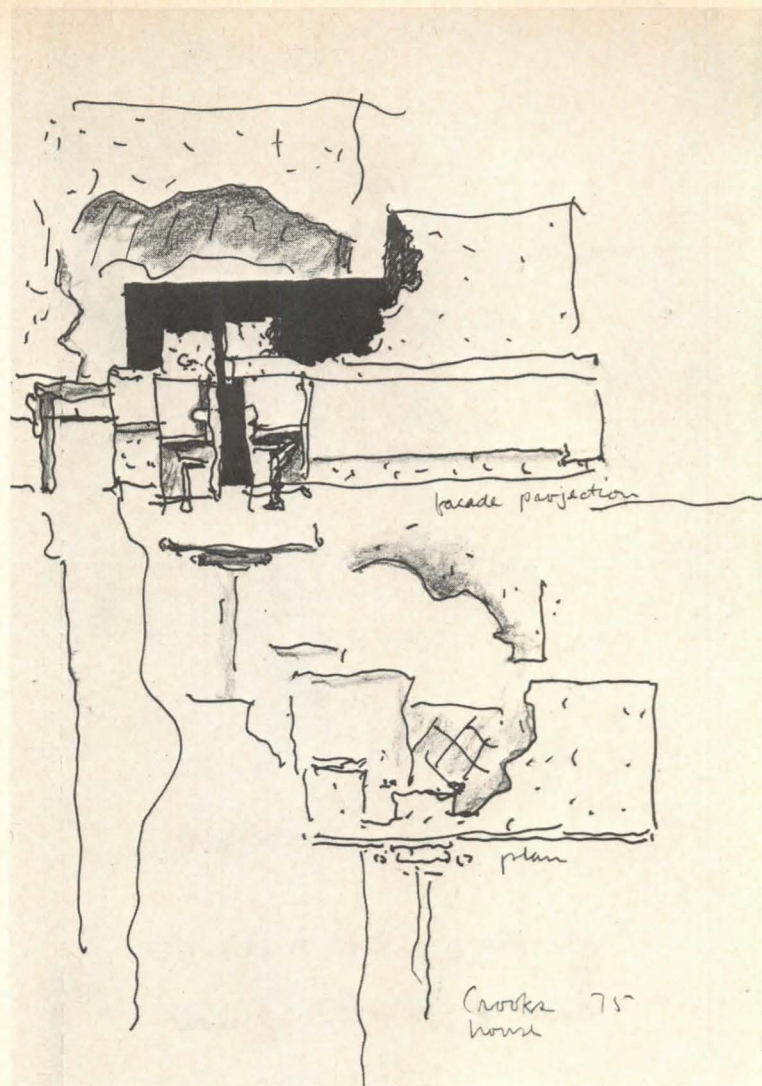




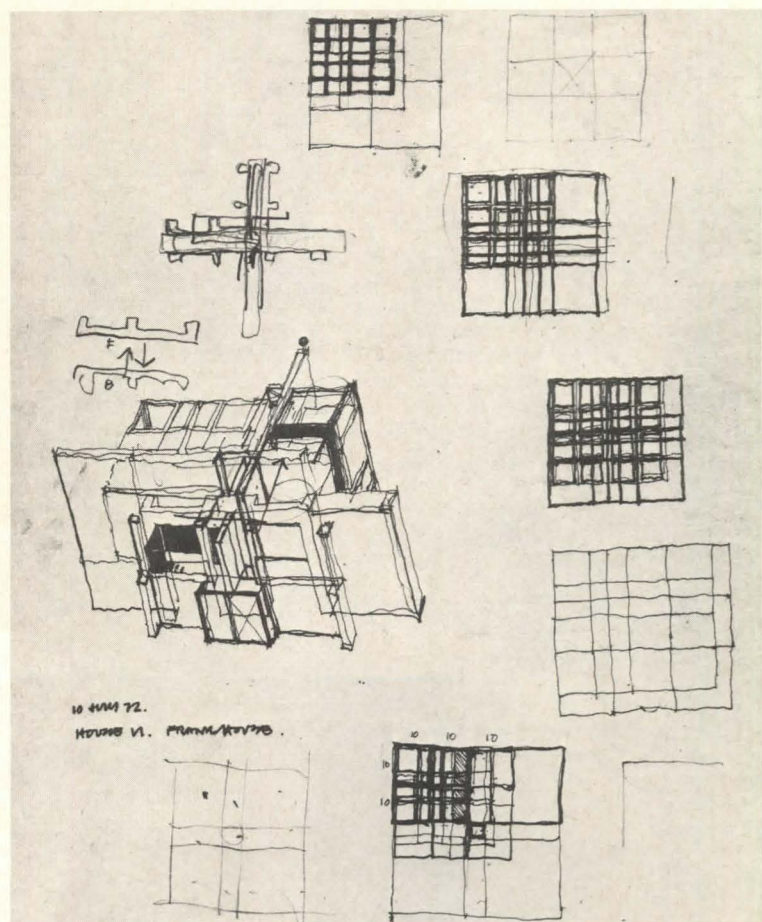




Louis I. Kahn, Second Capital of Pakistan, Dacca, East Pakistan, Hostels, perspective, 1963. Charcoal and colored pencils on tracing paper. 18"x20". The Museum of Modern Art, New York, NY. (Above).

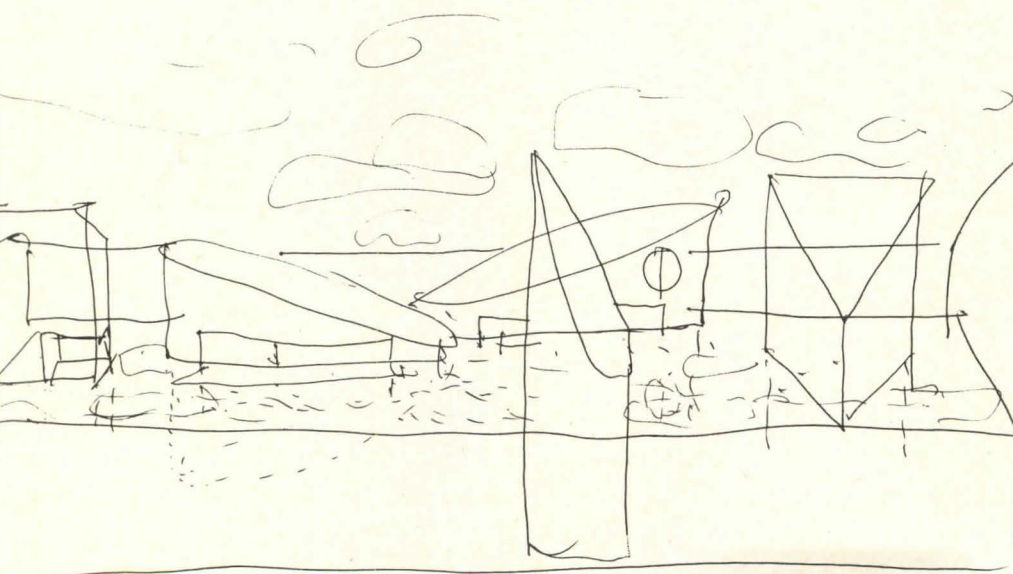
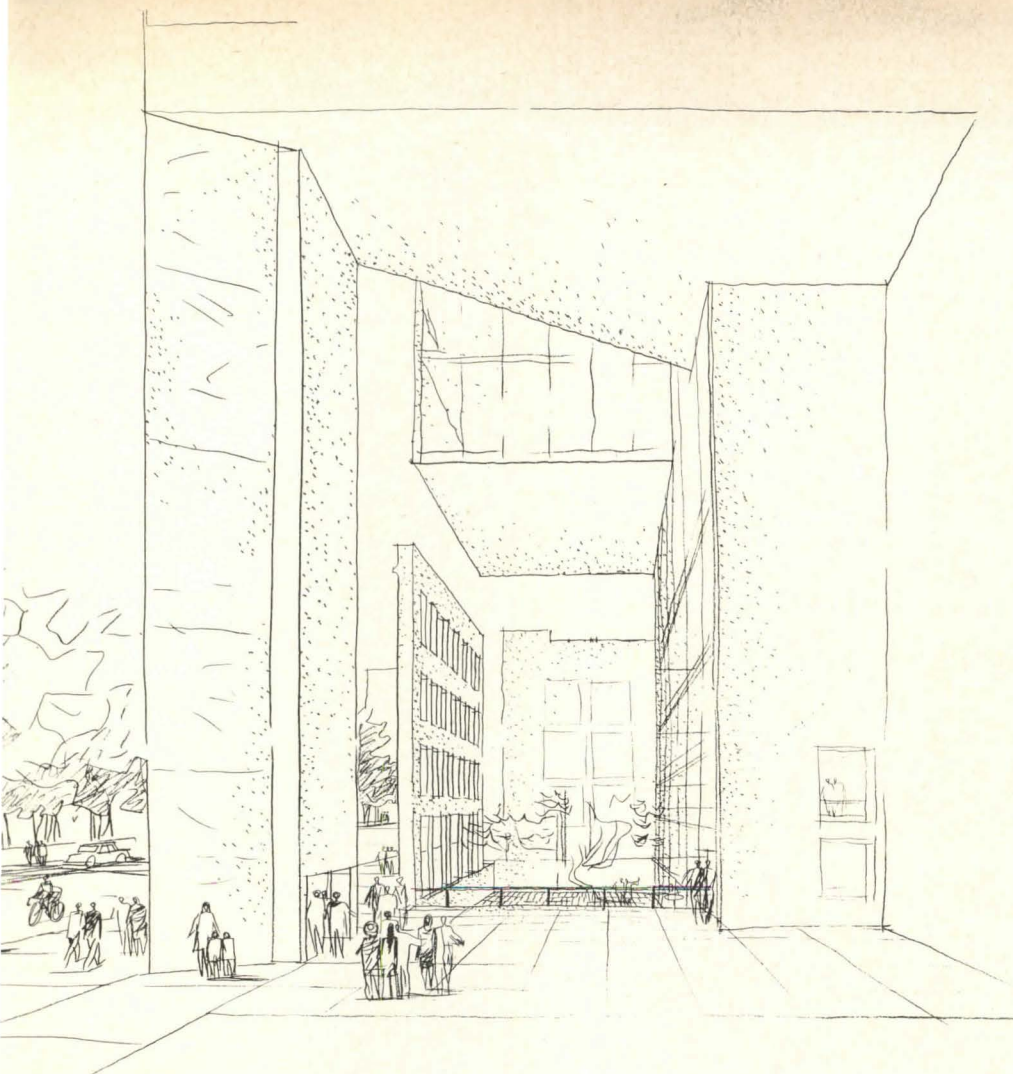


Michael Graves, Crooks House, Fort Wayne, IN. Elevation and projection studies, sketchbook, 1976. Colored pencil and ink 8 $\frac{3}{16}$ "x5 $\frac{3}{4}$ ". Collection of Michael Graves, Princeton, NJ. (Above right).



Peter Eisenman, Frank House, Cornwall, CT. Studies, 1972. Ink, 10"x8". Collection of Peter Eisenman, New York, NY. (Right).





Romaldo Giurgola, Pennsylvania Mutual Life Insurance Company Building, Philadelphia, PA. Perspective of main elevation, 1972. Pencil, 36"x39½". Collection of Romaldo Giurgola, New York, NY. (Top).

Frank O. Gehry, Jungian Institute, Los Angeles, CA. Study, 1976. Pen, 14"x8½". Collection of Frank O. Gehry, Santa Monica, CA. (Above).

### The 1960s

The Palladian/Beaux-Arts roots of Kahn's architecture became the point of departure for a number of the younger American practitioners of the sixties. The content of Kahn's architecture and its use of drawings were so rich and so abstract that others could and did take off from them in various directions. Peter Eisenman em-

ployed the plan, elevation, cutaway isometric drawing, and model to establish his own obtuse formal spatial orders. . . . Other practitioners of the late sixties and seventies—Michael Graves, Charles Gwathmey, and Richard Meier—have, it would seem, only marginally looked at Kahn. In relation to content, Gwathmey has learned the most, but all turned to drawing and the cardboard cutout model as their most telling means of expression. . . . Their intellectual content, in contrast with Kahn or Eisenman, is in their High Art reference to the near-past of Cubism, Purism, and Le Corbusier. . . . John Hejduk has on occasion been inspired by Kahn's geometry. . . . His projected "One Half House" of 1966 obviously looks to Kahn's vocabulary of pure shapes and to his use of a connecting spine. . . . In later . . . 1970s schemes . . . the Kahnian spine remains, but the clarity of order has now been replaced by a picturesqueness which is not that of traditional architecture, but of High Art painting and sculpture.

### The 1970s

Though order was Kahn's underlying concern, his drawings and built buildings often evoke a picturesque image; and the intense play between order and the picturesque is strongly apparent in many of the architectural products of the 1970s. The Philadelphia firm of Mitchell/Giurgola Associates has pursued both themes in its work.

How drawings are viewed in the practice of architecture in the seventies can be illustrated by examining the practice of two Los Angeles designers—Cesar Pelli and Frank O. Gehry. Pelli, with his large-scale practice first as a designer with DMJM and later at Gruen Associates, plays down the importance of drawings. Yet the order of geometry that underlies schemes like the Sunset Mountain Park Housing Development in the Santa Monica Mountains (designed with Anthony J. Lumsden in 1965) or the rocket-ship imagery of the El Monte Busway Station of 1973–1975 can be completely read only via drawings. Frank O. Gehry, with his personal involvement in High Art, is conscious of the importance of drawings in the history of architecture. His rapid sketches . . . are as important or more so than the completed buildings.

### Diversity of intent

American architecture of the mid-seventies is in a much more splintered position than in any period since the 1930s. Though this division exhibits itself through style, its actual basis is due to a diversity of intent. And if the intent has intellectual substance, drawings remain, as in the past, the principal means to convey it. Most contemporary architects, historians, and critics would either deny or feel uneasy about claiming the primacy of the drawing, but if they are uneasy with what has been termed "paper" architecture as opposed to "real" architecture, they may well be indicating that their primary allegiance is to building, not to architecture.



# Chairs yesterday, today, and tomorrow

**The designs of Mies and his would-be successors were evaluated in two shows and a competition held in San Diego and New York this past spring.**

The history of modern furniture design, it sometimes has been said, is nothing more than the history of modern chair design. Within this obviously simplistic observation there lies a germ of truth: for since the middle of the 19th Century, a number of architects and designers have produced chair designs that were more memorable, more innovative, and more influential than their designs for other types of furniture. The list is an impressive one: H.P. Berlage, Josef Hoffmann, Adolf Loos, Charles Rennie Mackintosh, Michael Thonet, Otto Wagner, and Frank Lloyd Wright all produced chair designs in the years before the First World War that were important precursors of contemporary designs, while the Crafts Movements in both England and the United States, under the influence of such figures as William Morris and Gustav Stickley, likewise contributed significant new approaches to seating.

But it was the decade that followed the end of the First World War that saw innovations which produced an international style of seating that was just as much, if not more, pervasive than the International Style of buildings for which they originally had been designed: for that new style of furniture was more immediately transportable than the architecture. And although the International Style and its descendants are now in low repute in some quarters, it will take a more concentrated assault to dislodge such classics as the Cesca chair, the Barcelona chair, the Wassily chair, the Grand Confort Chair, the Brno chair and the Corbusier chair from their positions among the favorite chairs of architects around the world. Two events this past spring addressed themselves to chair design, past, present, and future: the first was a retrospective exhibition at New York's Museum of Modern Art of furniture and furniture drawings by Ludwig Mies van der Rohe. Of the architects producing innovative chair designs in the decade after the First World War, Mies was challenged only by Marcel Breuer as the most influential, and the show at the Modern was a look back at what by now can be seen as the Golden Age of modern chair design.

## **Ladies and gentlemen of the jury**

But what about the present, and the future? In conjunction with the Mies exhibition, Knoll International, the manufacturer of an extensive line of Mies furniture, introduced several new pieces which had not been produced since they were last made by the Bamberg Metallwerkstätten in 1931, and introduced one new piece, a reclining frame chair based on a 1932 design by Mies, which had never been manufactured before.

And as for the future, Knoll was among several other sponsors, which included the Graham Foundation as well as other furniture manufacturers such as Fortress, GF, and Steelcase, who supported an International Chair Design Competition under the auspices of the San Diego Chapter of the American Institute of Architects. The purpose of the competition, as stated in the competition program, was "to encourage the development of original designs (and) to help to fruition the designs in that they be manufactured and sold." More than a thousand applications were received, and some 600 designs were eventually received for the judgment of a jury that was composed of architects and furniture designers Cini Boeri and Warren Platner, *Design Quarterly* editor Mildred Friedman (who is also coordinator of design at Minneapolis's Walker Art Center), and *Interior Design* editor Sherman Emery.

The jury, at the first stage of the competition, worked from quarter-scale models; nine finalists were then chosen and were sent \$1500 each to prepare full-scale prototypes from which the four winners were chosen. An exhibition of the work of those nine finalists (along with 40 other noteworthy but nonpremiated entries) was held at the San Diego Fine Arts Gallery during the AIA convention, and will later travel nationally. The four winners were Motomi Kawakami, a Tokyo furniture designer, and Mike Lance, an architect from San Antonio, who won prizes of \$10,000 each; and Darcy Bonner and Ralph Henninger, designers from Dallas and Scottsdale, AR, respectively, who won prizes of \$5000 each. Since winning the competition, Kawakami has signed a contract with Knoll International for the manufacture of his prize-winning design and might produce further designs for them: a refreshing development at a time when winning an architectural or design competition is not necessarily synonymous with having one's design executed.





The four winners of the International Chair Design Competition sponsored by the San Diego Chapter of the AIA were (clockwise from top left) Chrome tubular frame chair with molded plastic seat and backrest, by Motomi Kawakami of Tokyo, \$10,000 prize; Chrome tubular frame chair with leather sling-type seat and back, by Mike Lance of San Antonio, \$10,000 prize; "Wearable, walking chair" of aluminum with nylon webbing, by Darcy Bonner of Dallas, \$5000 prize; Oak folding chair by Ralph Henninger of Scottsdale, AR, \$5000 prize. Winners were among nine finalists who were given \$1500 each for the construction of these full size prototypes of their designs, chosen from quarter-scale models judged at the first stage of the competition. The San Diego Chapter has plans for the show, which was held during the AIA convention there, to travel nationally.

Kawakami's chair is made of a chrome tubular frame with a molded plastic seat and integral arms and backrest. It resembles somewhat a 1955 chair design by the Swiss furniture designer Hans Eichenberger, produced by his firm, Swiss Design, with major differences in materials (the seat of the Eichenberger chair was covered in leather and it had a natural rush back) and function (the Kawakami chair folds and stacks, which the Swiss chair did not). The jury praised the winning entry for its "extremely sophisticated design" and "elegant appearance" and noted that it was "comfortable for long periods of time." According to Donald M. Rorke, Knoll International's director of marketing, the Kawakami chair was by far the most superior design submitted. Rorke had been invited to review all 600 submissions with an eye to Knoll's interest in contracting any of the designs, and found the chair an easy standout among the other entries. A look at even the three other top prize-winners will indicate why.

#### Walk right in, sit right down?

The chrome and leather sling-seat chair that won Mike Lance the other \$10,000 prize makes one appreciate all the more the essays in those materials by Mies, Breuer, and Le Corbusier. In its general arrangement of elements, the Lance chair has none of the finesse of its would-be stylistic

antecedents. Its high back and wide seat proportions faintly echo Mies designs, but that master never could have tolerated the ungainly, unresolved terminations of the tubing in this chair. Though the jury rather optimistically maintained that this chair "would look great in anyone's living room" it was necessary for them to admit that its "proportions need slight refinement."

But the descent from the Lance chair to the two \$5000 prize winners is precipitous. Witness Darcy Bonner's "wearable, walking chair," which, as its name implies, is actually strapped to the legs and thighs of the user. One can see the jury now, bored inevitably as every jury becomes, seizing upon this admittedly novel idea which they describe as the "first new idea in body support in 20 years," a claim last made in support of the Cross-Your-Heart Bra. The jury's comment that it is "difficult to walk wearing this chair" conjures up visions of shuffling legions of wearers of these Bionic Pants, and one is grateful for the panel's prediction that the "design could take years of development." A less constricting solution for those desirous of portable seating would be an old-fashioned English sit-stick of the sort still to be seen at the races.

The last of the four prize-winners is an oak folding chair ingeniously designed to fold completely flat. The slats of the seat and back interdigitate, and the legs likewise fold

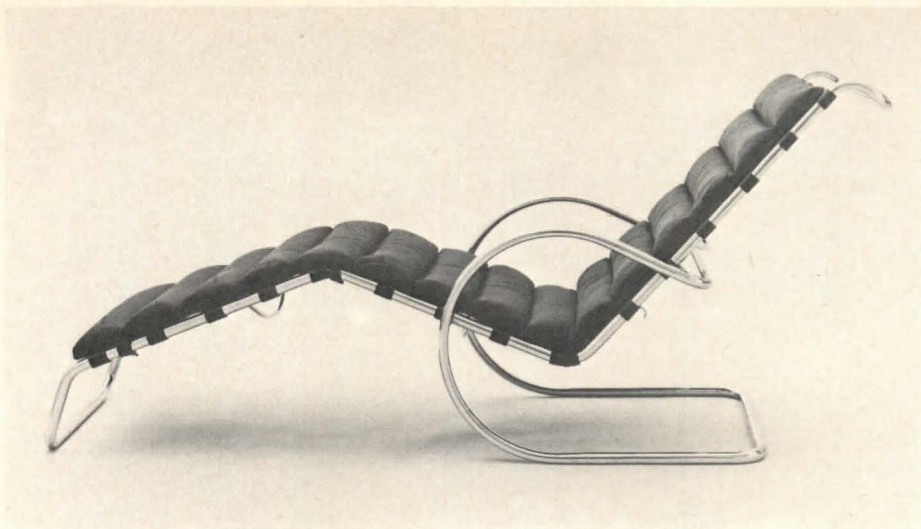


## Interior design



Herbert Matter

Knoll's "new" Brno chair with tubular frame.



Yukio Fukagawa

Mies's reclining frame chair, designed in 1932, now manufactured for the first time by Knoll.

up, making one flat unit. But to those who suffered through the vogue for Danish Modern slat benches in the 1950s, this design comes as a most unwelcome resurrection. "A beautiful piece of sculpture," as the jury called it, it well might be, but a more uncomfortable seating configuration would be hard to find. In all, the AIA Competition can be seen as a success in that at least one design inspired by it will be reaching production by a major manufacturer, and the traveling exhibition could well stimulate new thinking about chair design as much by the problems of some of the prize-winning designs as by their merits. And it is to be hoped that the design professions and industries will lend similar support in the future to undertakings of this kind.

### The glory that was Mies

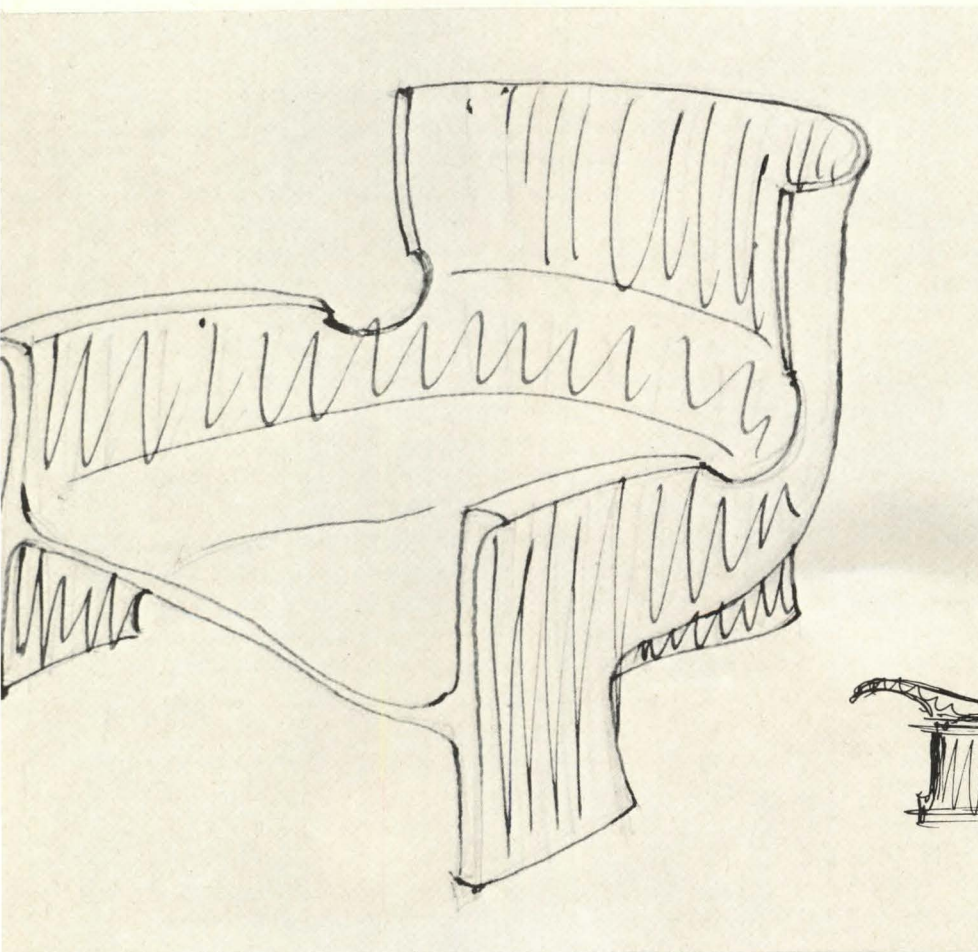
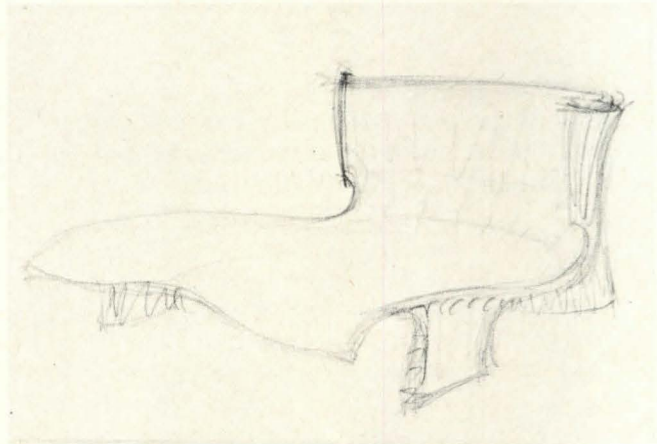
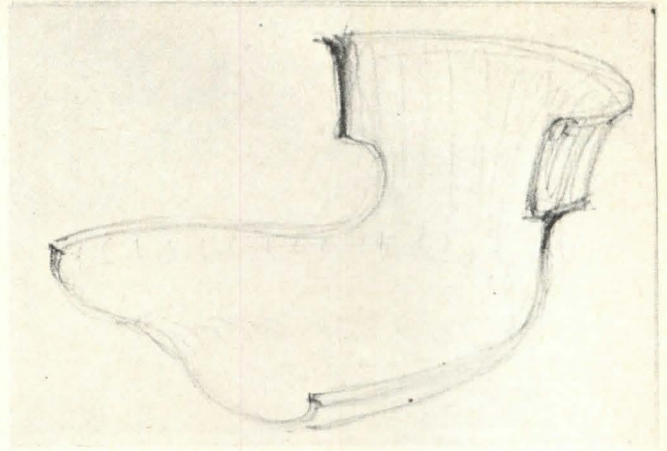
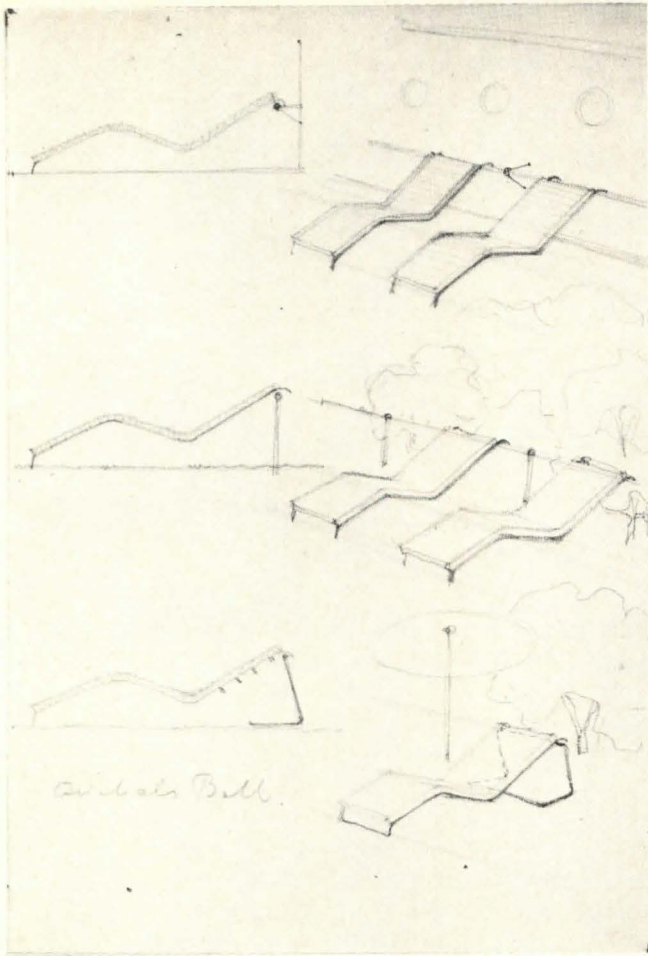
The exhibition that took place in New York this spring was miles removed from the San Diego effort in more than one sense. The Modern's Design Collection and its Mies van der Rohe Archive, under the direction of the Archive's curator, Ludwig Glaeser, mounted a show that reaffirmed Mies as one of the most influential furniture designers of our century. Accompanied by an excellent catalog by Glaeser, the exhibition was newsworthy for the introduction of the reclining frame chair by Knoll, not previously produced: a handsome chair to be sure, whose comfort and accessibility were questioned by *The New York Times* in a series of photographs it ran showing such luminaries as Columbia School of Architecture Dean James Polshek falling out of it at the show's opening night. Inspired by ocean liner deck chairs (and shown in such a configuration in one of Mies's drawings in the Archive), the chair, finally manufactured 45 years after it was designed, is testimony to Mies's staying power as a designer of furniture of timeless beauty. Also introduced by Knoll were four chairs and a table by Mies out of production for a similar span of time: the coffee table of 1927, the Tugendhat chair with arms of 1929–30, the tubular Brno chair of 1929–30 (previously only the flat steel bar version with the bottom cross bar had been available), and the lounge chair and lounge chair with arms of 1931. Two other Mies chairs, the side chair with arms of 1927 and the *chaise longue* of 1931, heretofore only produced by Thonet, are now part of Knoll's Mies Collection as well.

Glaeser's catalog essay gives a thorough reading of the

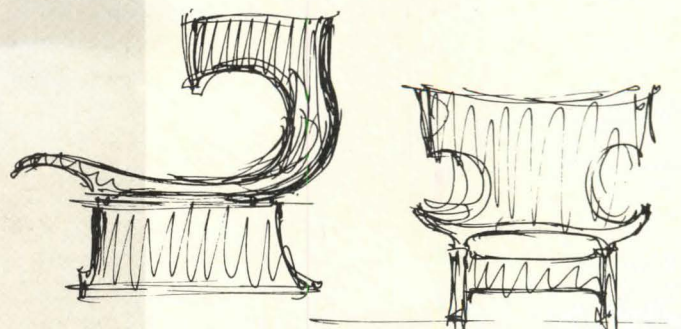
development of Mies's furniture designs, giving particular emphasis to the influence of Mies's friend (with whom he shared more than his ideas), the German furniture designer Lilly Reich. But perhaps more interesting are the catalog's reproductions of Mies's conceptual sketches for chairs (and now and again a table), both those manufactured and those never produced. Among the latter are Mies's bentwood chair studies of 1933–34, surprising exercises in a material not generally associated with him, including one version with a Barcelona-type frame. But they ultimately diminish under comparison with the definitive bentwood designs of Alvar Aalto, and the Mies drawings are more significant for the Mies designs toward which they point: the series of conchoidal chair studies that Mies produced in the early 1940s. The catalog reproduces no fewer than 28 of these fascinating sketches, and they are as revealing as any Mies ever drew.

The conchoidal chair studies are initially startling because of their expression of rounded, sensuously molded forms that seem even more antithetically Miesian than the earlier bentwood designs from which they apparently derive. Most of the conchoidal drawings show concave backs with an embracing curve not unlike the chair designs of classical Greece, and in that respect might be seen as important documents of Mies's inherently classicizing tendencies both in his furniture designs and in his architecture. His innate sense of proportion allowed Mies to produce designs that evoke a sense of Classicism far more accurate in its expression than some literal, revivalist copy. For even Mies's Barcelona chair, less specifically classicizing than his conchoidal chair studies, still seems more authentically classic (as it surely is) than such copybook effigies as the late T.H. Robsjohn-Gibbings's ancient Greek reproductions. Ludwig Glaeser, in his catalog essay, discusses the philosophical underpinnings of Mies's orderly, rational designs as deriving ultimately from the Aristotelian sources (by way of Aquinas) of the Catholic philosophers and writers whose thought Mies esteemed. So perhaps the timeless appeal of Mies's designs—which have survived well some 50 years of aesthetic, not to say intellectual, upheaval—seems likely to pass the test of time in a period that is paying more attention to the importance of the past, whether it be five decades or 25 centuries ago. [Martin Filler]





At top left is a page of Mies's sketches for the reclining frame chair with different support elements, including use as an ocean liner deck chair, shown in the topmost portion of this drawing. All the other drawings on this page are Mies's conchoidal chair sketches of the early 1940s. Mies's designs, which never progressed further than this conceptual stage, were probably produced for a proposed venture by Anton Lorenz, who had marketed Mies's designs in Germany. The conchoidal chair studies are from a binder of 150 pages in the Mies van der Rohe Archive of the Museum of Modern Art, with whose permission these drawings are reproduced.





# Miesian leap

**Craig Ellwood Associates' steel-and-glass structure, spanning 192 ft across a ravine, is the embodiment of one of the Modern Movement's cherished visions.**

In the current climate of contemporary design, architects are discussing the polemics of the Whites, Grays, and Silvers, and debating the influences of Le Corbusier, Wright, and Aalto. There is a proliferation of inflected walls, splayed surfaces, and diagonal shifted grids. Almost forgotten among the modern masters is the serene simplicity of Mies van der Rohe. Yet, his legacy is alive and well in the office of Craig Ellwood Associates in Los Angeles.

The black steel and glass Art Center College of Design by Ellwood and his associates, James Tyler and Stephen Woolley, is bold evidence in support of the Mies tradition. The carefully detailed exposed steel columns and beams, the modular grid, and the cantilevered stair treads rising to a pristine platform are all descendants of the supreme simplicity first displayed by Mies at Crown Hall at IIT more than 20 years ago. The Art Center is a modern day affirmation of an architecture that expresses the logic and clarity of its structure.

As Werner Blaser pointed out, Mies van der Rohe evolved his design concepts from the basic principles of construction; hence the form of his buildings is the expression of their structure. In a similar but independent beginning, Craig Ellwood began his post-war career working for a contractor—bidding, building, and studying the work of Charles Eames, Richard Neutra, Raphael Soriano, and other California designers. He buttressed the knowledge he gained in the field with evening courses in structural engineering at UCLA. When he opened his own architectural office in 1949, Ellwood maintains, he had never heard of Mies. His buildings evolved in the California Case Study tradition of modular post-and-beam structure. Exactly when Ellwood discovered Mies remains unclear, but he admits today that he admires Mies van der Rohe more than any other architect, as is apparent in his work and in the framed portrait of the master which Ellwood has in his office.

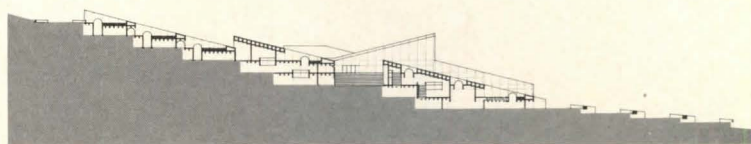
The Art Center itself is a two-story rectangular mass, 672 ft long and 144 ft wide, with its central portion bridging a 192-ft canyon—a powerful black steel and glass solid of

considerable dimension. Ellwood has attempted to give the building a low profile by sinking the first floor two-thirds underground, thereby creating the illusion of a one-story pavilion on a raised platform. Although the lower studio spaces suffer from a decrease in natural light and that "basement" feeling, the total effect of the building is both elegant and restrained. Ellwood claims it was designed with respect for the residential community down the hillside.

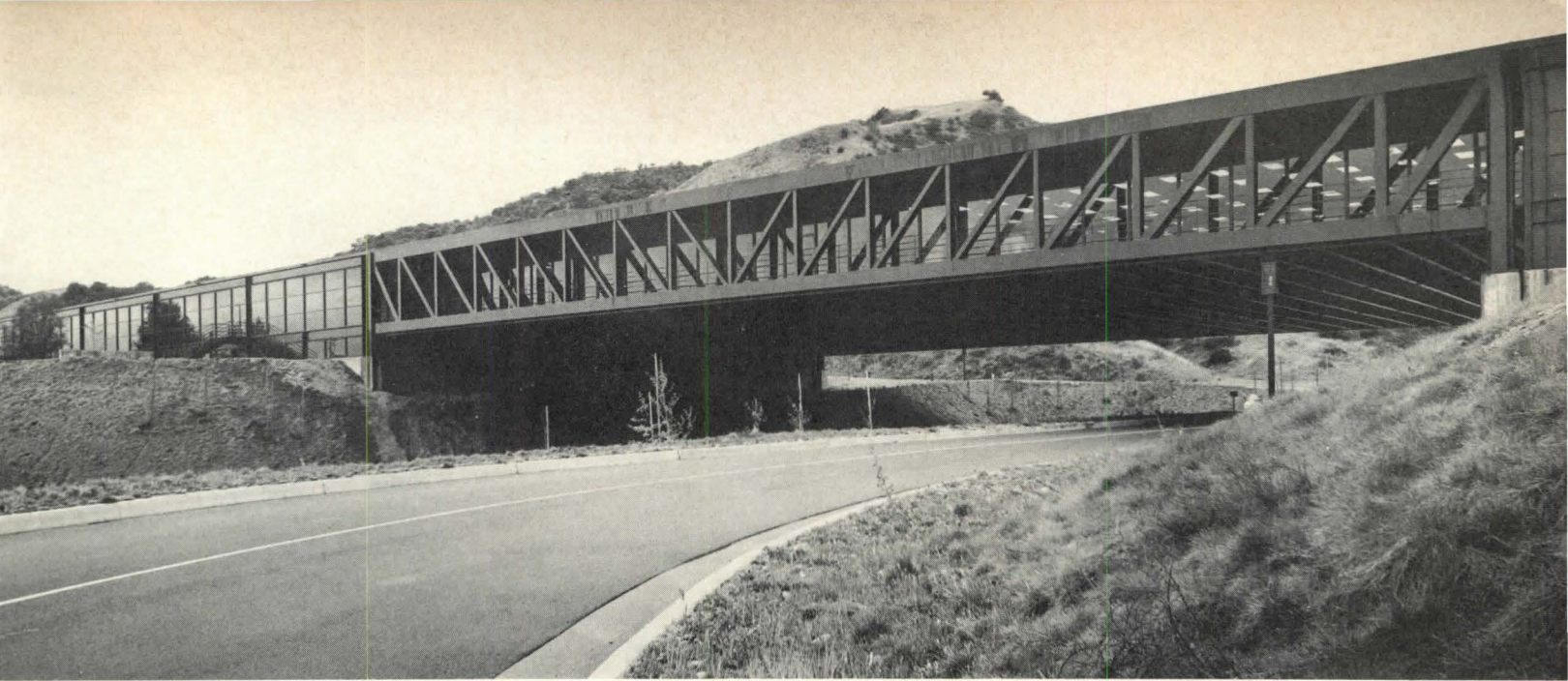
The controversial siting of this 165,000-sq-ft structure suggests from some viewpoints a factory from the Midwestern plains inappropriately set on the steeply rolling hills of Pasadena. Not so, claims Don Kubly, President of Art Center and a strong supporter of the Ellwood scheme. According to Kubly, several different approaches to a variety of hillside locations were examined, and the two-story rectangle that was built was by far the most efficient and sensible, and probably the only configuration that could accommodate all the functions within the tight budget.

It is interesting and perhaps unique that the Art Center College of Design has received two separate P/A Awards from two different juries for two distinctly different schemes. In 1970, the firm of Honnold, Reibsam & Rex won an award for, "a self-contained college complex designed to fit the contours of its hillside site." Designed by Project Architect Sam Carson for a site in the Hollywood hills similar to the one finally chosen in Pasadena, the checkerboard design stepped down the slope with broad stairways and rooftop plazas reminiscent of a Mediterranean hilltown. Juror Robert Venturi commented that, "Architecturally there are things about it that make me suspicious . . . it has a kind of too-good-to-be-true consistency about it." According to Kubly this scheme was "a dream" of what might be possible, but was not "the pragmatic, straightforward" solution, based on real dollars, that the Art

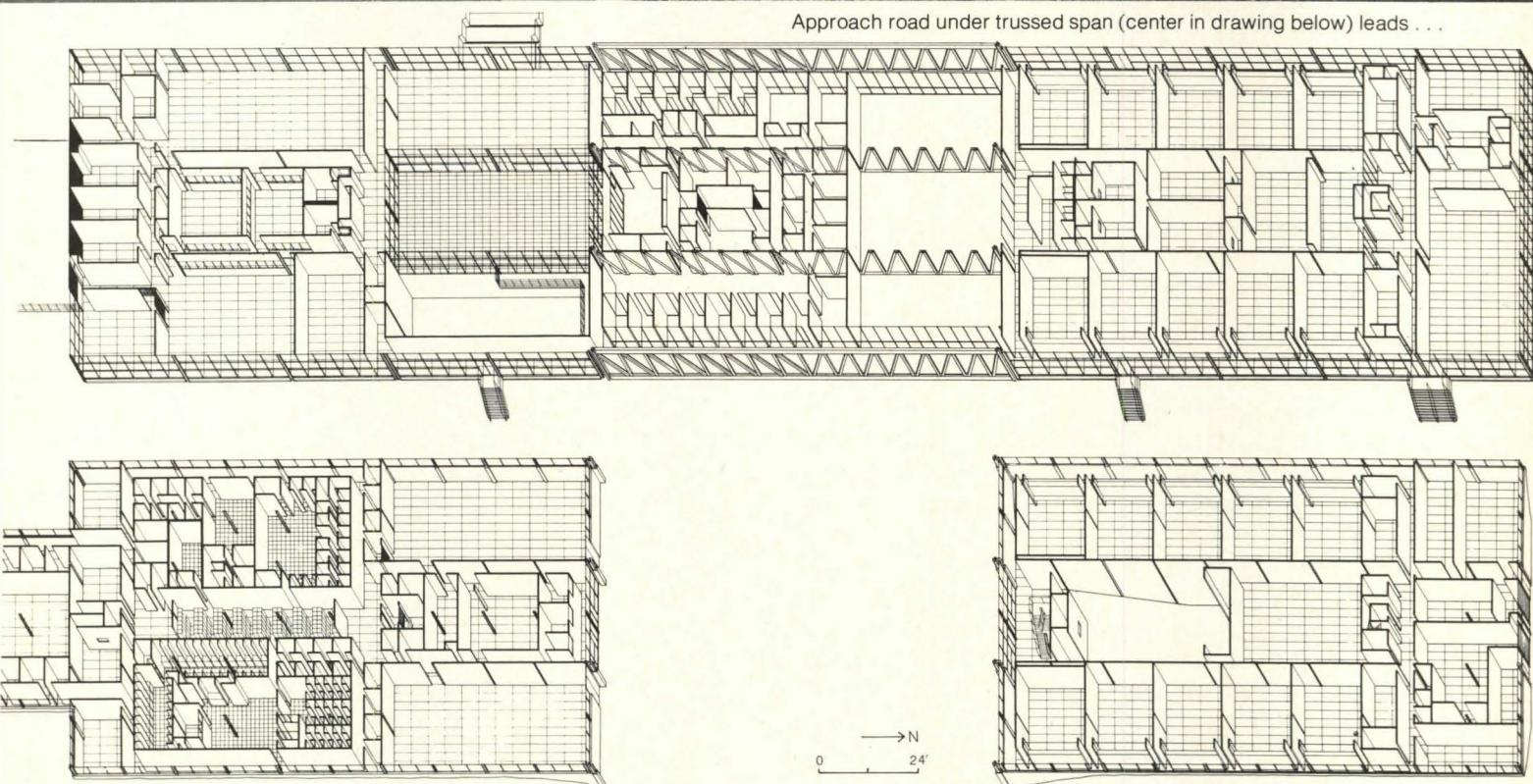
Section, earlier P/A-award-winning scheme by Honnold, Reibsam & Rex.



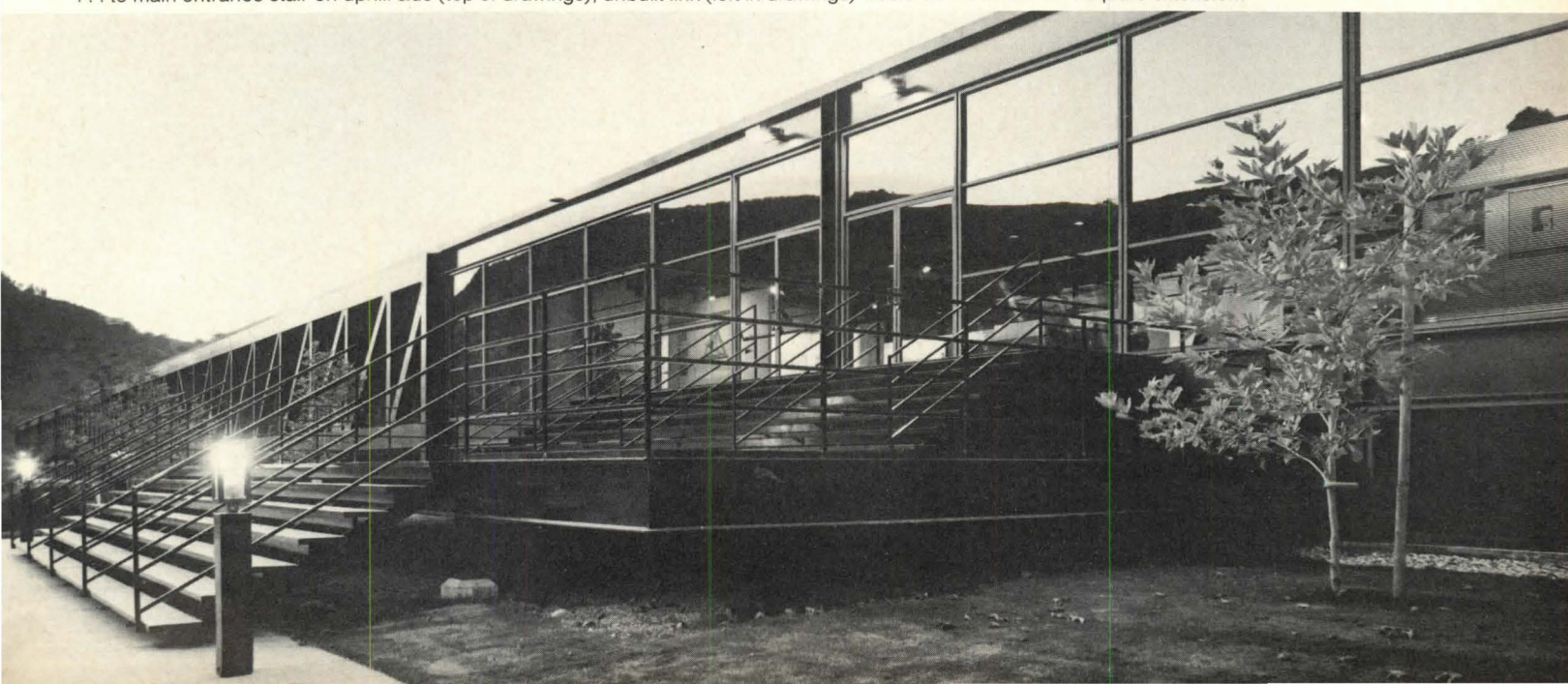




Approach road under trussed span (center in drawing below) leads . . .



. . . to main entrance stair on uphill side (top of drawings); unbuilt link (left in drawings) would connect to 144-ft-square extension.





## Art Center College of Design, Pasadena, CA

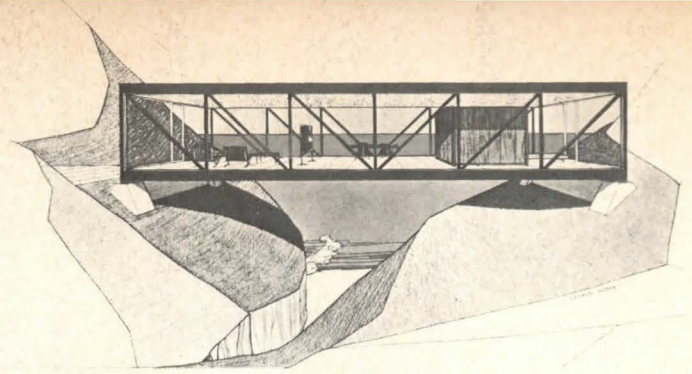
Center needed and found in the design by Ellwood.

In 1976, the final design by Ellwood received a P/A Citation. This scheme was designed and built for \$30 per sq ft which is within the budget first agreed to by Kubly and Ellwood more than five years ago. According to Ellwood, his design associate, Jim Tyler, examined several solutions in which the building stepped down the hill, but they found that the ratio of circulation to work area was unrealistic, and that the need for elevators and ramps for the handicapped, combined with the complex foundation problems, simply made such an approach too expensive. The straightforward, two-story pavilion bridging the canyon was less destructive of the natural surroundings and created a more efficient plan. Furthermore, the dramatic approach to the building maximizes the potential of the hillside site by offering only glimpses of the exposed steel trusswork from a twisting road, which culminates in a drive sweeping under the bridge portion of the structure and around to the front entrance.

Although the bridge truss does not integrate as gracefully with the adjacent elements of the building as one would like, the general display of design excellence and attention to detail creates a successful solution to a difficult problem. Inside the school the unabashed and immodest display of exposed steel members is handled with skill and an apparent appreciation for juxtaposing disparate elements. The bold steel truss marches through the library declaring its structural strength, as a larger-than-life reminder that one is suspended above a deep ravine, yet the refined intersection of the chords resembles a prodigious Anthony Caro sculpture, set against carefully machine-crafted oak cabinets designed by Ellwood.

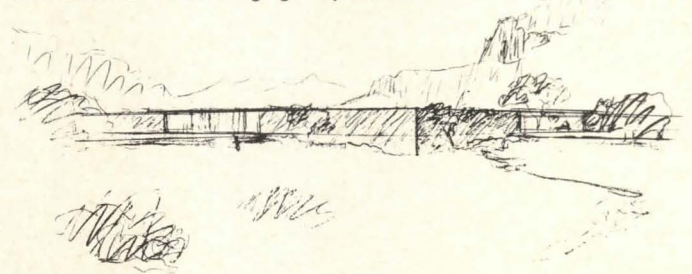
The issue of the bridge itself is an interesting one, because it spans the canyon so effortlessly without interrupting the natural contours of the hillside, yet one wonders how much money might have been saved with the introduction of a few columns under the bridge, and whether in fact the bridge idea was not decided upon before the studies of the stepping schemes were done. Ellwood agrees that he was disposed toward the bridge idea from the very beginning, but the economics and plan efficiency actually made the decision for him. The notion of an elegant steel structure spanning a valley was first sketched by Mies van der Rohe in 1934. During the 1950s, Ellwood developed several schemes employing trusses and bridges for different projects. He first used a truss in his Courtyard Apartments of 1953 which was awarded a first prize at the International Exhibition of Architecture in São Paulo, Brazil. The jurors included Le Corbusier, Gropius, Aalto, and Sert. Later, in 1964, Ellwood designed a weekend house which was a steel truss bridging a canyon very much in the same manner as the Art Center span.

After several visits to the Art Center College of Design, both during construction and after completion, the concept of the continuous floor area floating across the ravine is a convincing one. Whether Ellwood has used the idea before, and even if Mies originated the parti, it serves as an acceptable solution if the concept is appropriate to the problem. The bridge ties the entire college together as one contin-



Ellwood drawing of weekend house, 1964 (built, 1968).

Mies sketch for house bridging canyon, 1934.



uous campus, and the views from the library and staff offices are spectacular. As Esther McCoy has said of Ellwood's work, "There is no sentimental attachment between landscape and structure." The architecture and the structure are a unified entity set on a plateau against the rolling hillside.

The general aesthetic of the interior is pure black and white with emphasis given to the students' work. The high ceilings are a carefully sequenced layering of exposed mechanical, electrical, and structural elements. The various tubes, pipes, and ducts are all painted black, creating a vast Nevelson-like relief. In a college which enjoys a reputation as one of the finest industrial design, commercial art, and photography schools in the country, the meticulously designed enclosure serves as an inspiration and a testing ground of new ideas for the students. Most of those I interviewed had favorable opinions, although some felt the environment was a bit too austere and needed more color. Ellwood described it as a "background building" intended to allow the full-scale automobile mockups, the colorful kite design competitions, and the graphic packaging projects a chance to stand in a noncompetitive space. Don Kubly supported this attitude by comparing the Art Center to the Centre Pompidou (P/A, May 1977, p. 84) in which the artwork is frequently dominated by the brightly colored mechanical equipment. He went on to say that, "since we moved to this building, the work has never been better."

The student work was indeed impressive, but a sense of rigidity and too carefully planned order in the building was also inescapable. The need in the creative process to try anything, to explore new directions, and to wander off the grid seems somehow to have been forgotten in the planning of this art school. The only hint of breaking the rigid order is in the central bridge portion where the diagonal members of the truss intersect walls and ceilings in a dynamic relationship.

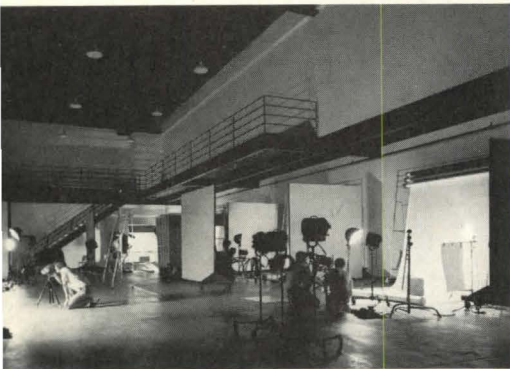
Craig Ellwood's architecture, like the black and white Frank Stella prints which adorn his office walls and the Albers-like paintings Ellwood created for Don Kubly, is disciplined, controlled, and restrained. He has created a vocabulary that is simple, refined, and clear, which echoes the purist post-and-beam elegance of Japan's Katsura Detached Palace. [Michael Franklin Ross]





Main lobby is gallery of student work.

Two-story photo studio shows fine details.



Trusses are boldly exposed in central library.



#### Data

**Project:** Art Center College of Design, Pasadena, CA.

**Architects:** Craig Ellwood Associates.

**Site:** irregular hillside, overlooking residential area to east, with ravine through center; site graded for approach road and two flat pads for ends of structure; additional flat area for parking slightly uphill to south.

**Program:** 165,000-sq-ft art school, including library, cafeteria, photo studio and darkrooms, shop, and studios for automotive model-making.

**Structural system:** exposed steel on concrete foundation; floor, roof concrete on steel deck.

**Major materials:** exposed steel, painted black; aluminum curtain wall, baked black finish, bronze-tinted glass; suspended acoustic ceiling in library and administration only. (See building materials, p. 106.)

**Mechanical system:** package HVAC units on roof.

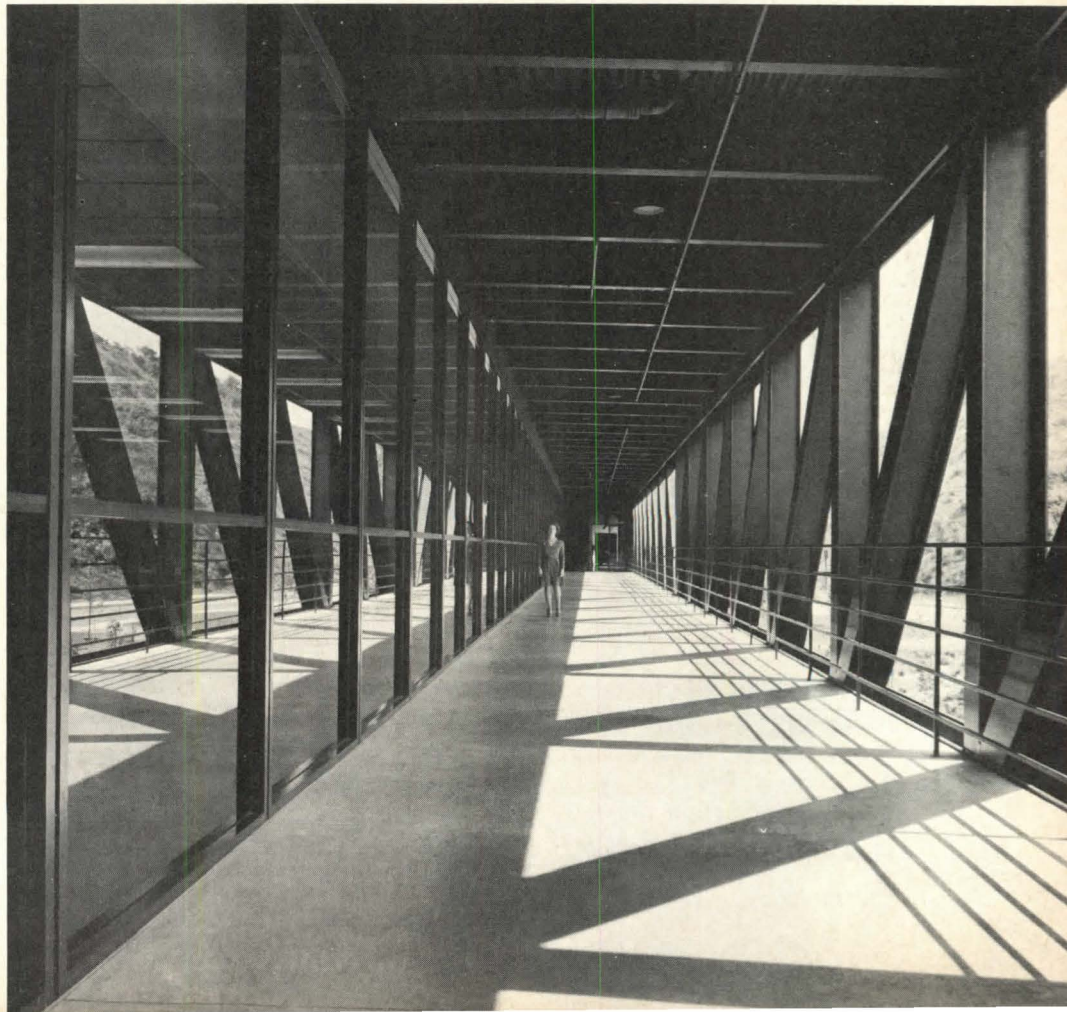
**Consultants:** Norman Epstein, structural; Eli Silon & Associates, mechanical-electrical; Alfred Caldwell/Erik Katzmaier, landscape; Craig Ellwood Associates, interior design.

**General contractor:** Swinerton & Walberg.

**Cost:** \$5.3 million (1976 completion); \$31.92 per sq ft.

**Photographs:** Marvin Rand.

Open passages flanking library show off trusses.





## Is "Wow!" enough?

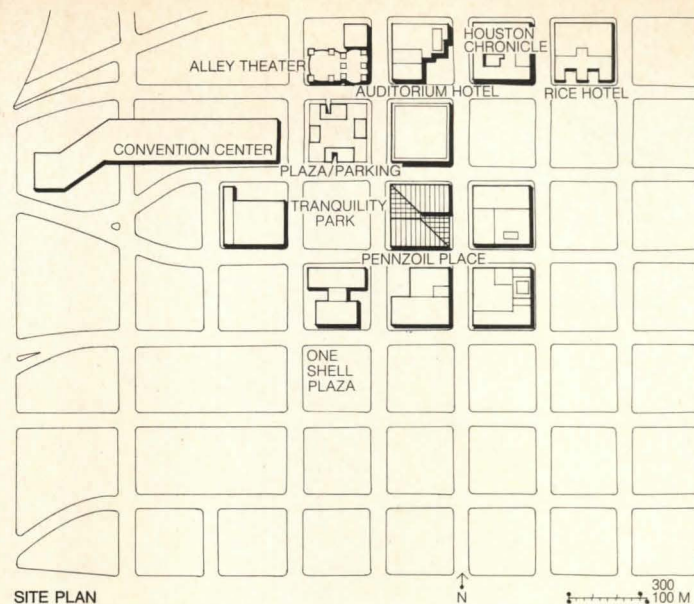
**The real client has finally moved into his own office and now we can look at Pennzoil Place beneath the skin and try to see it for what it is: a solution to the problem of "office building."**

Discussion of Houston's Pennzoil Place has ranged, over the last year, from its being described as a well-managed real estate venture during a fairly soft building market to its being hailed as "Building of the Year" by Ada Louise Huxtable of *The New York Times*. It is only with the completion of the final office for Pennzoil Company, that of Board Chairman J. Hugh Liedtke, that the story of this remarkable project can properly be told. Liedtke's acceptance of his own office signals the beginning of the evaluation of Pennzoil Place in terms of its real purpose—headquarters for his company. While the pristine geometry has already been cited in the press, its real test, as container for the complex activities of both Pennzoil Company and other tenants, is just now beginning: did it accommodate the program, does it function reasonably as an example of the general type office building? Is its artfulness meaningful in these terms? As such does it set standards of form that might point to new directions for the more general urban scene, dominated visually as it has been by this one type of building?

### The selling of a precedent

Pennzoil Board Chairman Hugh Liedtke decided nearly seven years ago that the company—spread over five building locations in Houston, with its computers in Shreveport, Louisiana, Mining subsidiary President in Tucson and vice president in Houston—should consolidate. Accountants needed to be accessible to both executive and principal operating officers, and this meant access to the computers.

It was thought that a downtown location would be best, both for its proximity to related businesses and because of Houston's transportation system. Pennzoil decided as a matter of policy that it didn't want to be in real estate, for as Liedtke observed, "We don't know how to build an office building." Consequently, a search was begun for an investment builder with whom Pennzoil could negotiate a long-term lease and not take the risk of actually developing the



project. This search led to Gerald Hines.

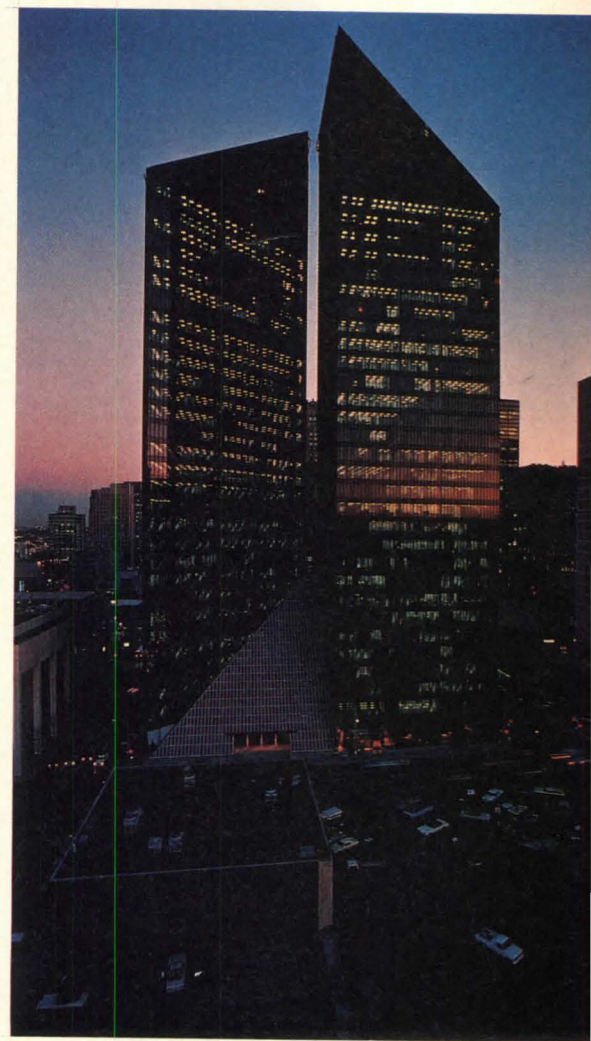
Pennzoil was impressed with its corporate neighbor, One Shell Plaza, built by Hines (and designed by SOM, Chicago) for Shell Oil. Additionally, his firm, Gerald D. Hines Interests, had recently completed the first phase of The Galleria, Houston's multi-use center and retail shopping mall. The architectural quality of certain of Hines's ventures was of interest in that the new project would be "the only thing we'll ever build . . . we didn't want 'just another building', particularly a modern wedding cake or a cigar box" as Liedtke saw it. "Since nearly two-thirds of time awake is spent in one's office, we had a commitment to a decent place to work," explains Liedtke, who also reasoned that such a move would be attractive to potential personnel.

In terms of the total project, nearly 50 percent was committed at the outset by Pennzoil Company. Gerald Hines then constructed his *pro forma* and began to search for other major tenants. Zapata Corporation became the second principal tenant. Its subsidiary, Zapata Warrior Constructors, was interested in building the project. In terms of the program, this wrinkle created a situation where a double identity would be needed.

After several architects proposed schemes, the design by Philip Johnson and John Burgee, consisting of a twin tower concept, was presented to Pennzoil. Hugh Liedtke recalls that the first model reviewed had the angles of the final building, as well as the sloping atrium connecting the two towers, but had a flat roof. Liedtke, however, wanted his project "to soar, to reach, and a flat-top doesn't reach." Philip Johnson then took one of the angled corner sections of the presentation model and set it on the roof, asking if that was what Liedtke was talking about. Gerald Hines considered the implications of the angled top and indicated it was feasible. On that basis the design proceeded. Liedtke, who had spent his early working days in the basement of a building in West Texas, was convinced that the project would provide the environment of natural light which he so much wanted.

Si Morris, of S.I. Morris Associates, the associated architects and principal liaison between Johnson/Burgess and Hines Interests, stated that "Philip's genius lay in providing one-third to one-half again the lot coverage" with a building that set out *not* to be the tallest in Houston. Since the





The two trapezoid-shaped 36-story towers (above) are placed at angles in a reflexive relationship to each other. Similarly the eight-story slope at the top of the towers is repeated in reverse at the base of the towers with the eight-story glass enclosed courtyards (left) through which one enters the building. Here the trusslike framework is painted white in contrast to the dark anodized aluminum mullions and steel framing of the towers above.



## Pennzoil Place

projected 1.8 million sq ft the concept allowed would make the project competitive it was nonetheless known that rents would be slightly (about a dollar per sq ft) greater than the going market rates. Consequently, Gerald Hines knew that he was essentially going after the cream of the market. Since most major projects by Hines Interests are preleased, the problem was one of getting other tenants willing to spring for the higher rents for an incomplete building that was somewhat startling in concept.

The answer was one of the most elaborate presentations of a building's concept ever assembled in a commercial context. The show, housed for over a year in the ground floor of One Shell Plaza, was organized to explain nearly every aspect of Pennzoil. The location was shown on a model of central Houston nearly 12 feet square, access illustrated by various illuminated maps. The experience of the atrium was communicated by two interior models at 1/12 scale, the building itself by a 5-ft-tall model. Even a full-size model office was included to indicate the quality of finishes. Its "view" was a full-size photograph from a proper vantage point.

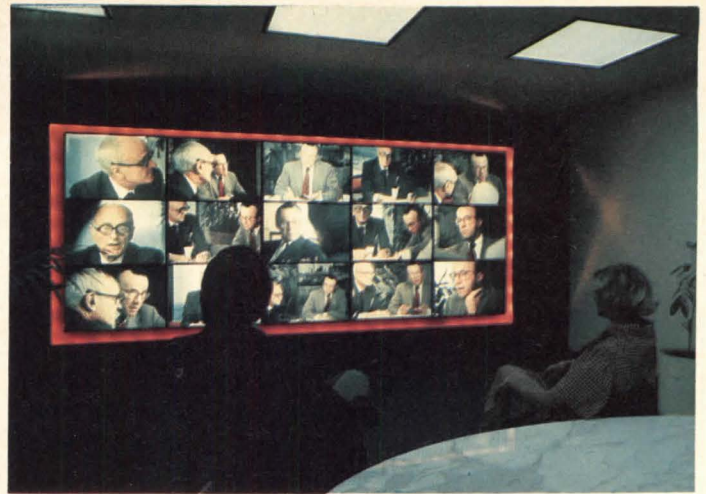
All of this was in addition to a 15-screen slide presentation organized by Motiva of New York. While the show also sold the accomplishments of Hines Interests, unquestionably the star of the presentation was Philip Johnson himself, whose reputation as a designer was the intangible quality made tangible. Covering the period from the Seagram Building in New York to his more recent IDS in Minneapolis, Johnson's remarks on architecture, monumentality, procession, and aesthetics ran through the presentation. Practical considerations for the executive, such as convenience to various centers of commerce, culture, and shopping were outlined, but emphasis in the narrative was given to "not just the look of it as you approach; it's the feelings you experience as you are about to enter . . . a world of light, twinkling down through the glass. Suddenly uplifted by the refreshing change of atmosphere, it's hard to know what will catch the eye . . . and it becomes *your* corporate home." The narrative closes: "Philip Johnson was asked what comment he hoped to get on the experience of seeing and feeling Pennzoil Place." Johnson: "I think 'Wow' is enough."

Pennzoil Place was not only 97 percent preleased at the completion of construction, but two additional floors had been added to the project before it was half erected. As a friend remarked, "It's a good thing Philip's not a nut about proportions."

### A new slant on architecture

Pennzoil Place's twin 36-story towers, trapezoidal in plan and placed as mirror images, take up nearly three-quarters of the 62,500-sq-ft city block site. The triangular plazas resulting from the configuration are covered by sloping 45-degree glass roofs formed by a Warren truss on the vertical and horizontal planes and straight diagonal elements connected at the site. The atrium rises for eight floors, where the slopes meet but are separated by a 10-ft slot running between the towers.

To meet a construction schedule of 24 months, a system



A 15-screen, multi-image slide show, created by Motiva, focused on the creative collaboration between Philip Johnson and developer Gerald Hines.

combining the speed of steel frame with the economy of concrete bracing elements was chosen by Ellisor Engineers, Inc. A reinforced concrete mat, independent for each tower and extending approximately 10 ft beyond the projected floor plan was 6'-3" thick on the perimeter and 8'-6" thick under the core area. The foundations were poured as excavation proceeded, beginning with a cap beam around the perimeter. Since the core of one tower would interfere with the reach of the crane's boom on the other, had conventional slip-forming techniques been used, the steel was erected first and the core was slipped inside the frame, a feature that demanded close tolerances.

The external skin was given wind-tunnel testing at Colorado State University, where wind-pressure distribution was also studied for the structure as a whole, with particular focus on the Venturi effect through the slot. At the 31st floor the skin becomes a roof in effect, as it cuts back at a 45-degree slope. Here, perimeter columns on one side become sloping rafters. Structurally, wind bracing was accomplished by treating the top section of seven stories as a rigid A-frame, combining this with welded exterior steel frame members, while developing the cores as shear walls. Because the center of rigidity did not coincide with applied wind forces, a complex series of adjustments were made to the size of the shear walls and A-frames as the towers rise.

For floor framing of the 20,500 sq ft leasable office space, a "stub-girder" system was developed. This Vierendeel-truss-like concept uses the concrete slab to form the top compression chord, a high-strength steel section to form the bottom tension chord, with vertical stub pieces shop-welded to the bottom chord. This system enabled mechanical runs to be carried without web penetrations, while saving 2.5 lbs of steel per sq ft.

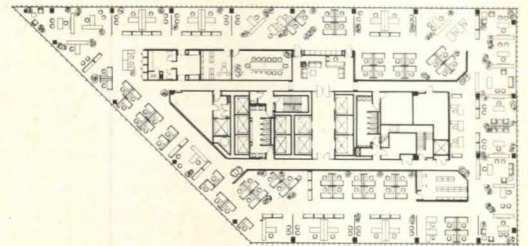
The cores contain three banks of elevators each, six moving between the 2nd and 13th floors, five between the 14th and 23rd floors, five between the 23rd and 31st floors, from which shuttles, offset in plan due to the sloped section, serve the upper executive floors.

Below grade, a concourse is accessible by escalator and by three special, drum-shaped elevators which also plug into the 500-car garage on three levels. The concourse ties in to Houston's existing tunnel system by means of 12-ft-wide, 8-ft-high "tubes." The eastern portion already links





View up from lounge on 35th floor reveals glimpse of North tower's highest point (left); meeting area on boardroom floor (left, bottom) occupies ridge line of sloped glass roof on 35th floor; open planned offices are lit by glazing of sloped rafters (below); executive corner office shows diagonal strut used as window-washing gantry (below, middle); cantilevered stair connects two-story lounge between floors (bottom).



PENNZOIL COMPANY 16TH FLOOR PLAN

30'  
9 M





## Pennzoil Place

with nine downtown blocks and the western portion can accommodate future connections.

### As urban design

One may regard the configuration of Pennzoil's twin towers as a contextual deformation, inasmuch as this theme is carried through to form a pedestrian precinct. Implicit in the development of this route through the atrium is the idea that this route is more "important" than the existing sidewalk system. Also because of its directionality, the route suggests the notion of connection. That is, as in Nolli's maps of Rome, public space has been implicitly extended into the tissue of Pennzoil Place. As such the building could function as a piece of the urban context itself.

However, the public places and interior spaces of Nolli's Rome are generally accessible, establishing a continuous urban fabric. Reflecting the realities of modern life, some internal security measures were required. Thus when the lobby atrium is closed the pedestrian is relegated once again to that old standby, the sidewalk.

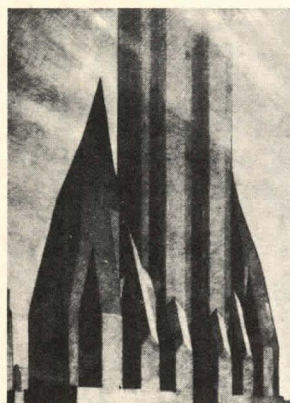
As a space for people, the atrium has become in fact quite businesslike. In terms of its scale, related to size, the atrium is at once too small for pure monumentality (as at IDS) and too large for intimacy. It is a bit uneasy, a quality underscored by the presence of principally financial institutions adjacent to it. The promised restaurant has yet to appear, and in fact at this writing a branch of the Texas Commerce Bank has mysteriously sealed itself from view.

The diagonal thrust of the plaza extends from the traditional center of activity on Main Street through to the Oscar Holcombe Civic Center, but the terminus of this thrust, a raised park over the Civic Center Garage, is one of Houston's more unfortunate urban events, an anti-agora. Consequently, one wishes that the gesture were flipped, tying in with the more hopeful Tranquility Park. Then the active spaces would open onto City Hall and the new Public Library by S.I. Morris Associates, in front of which sits Claes Oldenberg's red *Geometric Mouse*. Rather than attempt to make the best of an acknowledged bad deal, the architects should have linked its southwest corner to the positive interplay of public spaces. At the same time that orientation would have suggested a direction for development to the block on its northeast corner, on the east side of Jones Hall, and immediately south of the newly reopened Rice-Rittenhouse Hotel.

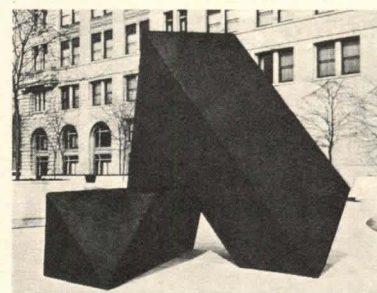
### To the point

As an aesthetic image, however, Pennzoil Place is generally without precedent in recent office construction. Its kinship with monumental sculpture is not only evident, but also totally consistent with Philip Johnson's personal patronage role in the arts. The strength, in part, lies in the duality of the twin towers, a lesson perhaps from "Op" art of the 1960s; the onlooker finds as his focus the negative space of the 10-ft slot, truly the greatest urban "tease" of the century. Also, it evokes comparison with the work of an artist such as Tony Smith, from whose training as an architect one begins to see the trend come full circle.

We can also see the realization, at last, of the images



Pennzoil silhouette (above); Hugh Ferriss rendering (left) on evolution of a setback building; Tony Smith sculpture "Spitball" 1961, (below).



proposed by the delineator Hugh Ferriss in his evocative book *The Metropolis of Tomorrow* (1929). Here Ferriss projected ideas implicit in the set-back building and referred to this new high-density urban space, where both space and object interact as positive and negative, as "crude clay for architects."

With its visual success assured, it has become clear that Pennzoil Place is now a formal prototype. A visionary rendering of Houston from recent vintage suggesting "the shape of things to come" may well use the biased geometry generated by Johnson/Burgee. With its own formal limitations, nevertheless, Pennzoil Place evokes relationships which one hopes will be as thoughtful in the imitations as in the original.

### Making it work: interiors

It is finally at the level of the individual work space, as the users are accommodated in this building form, that we may answer the basic question: can it work? For the greater portion of the building, this is largely a two-dimensional problem: one of planning. But in the upper stories, particularly in the North Tower housing the executive facilities of the Pennzoil Company, this becomes a problem of three dimensions, as the envelope slips back along a 22.5-degree ridge line formed by the 45-degree angle in plan intersecting with a 45-degree angle in section.

Since Gerald Hines has generally had as tenants the cream of the market, the actual quality of finish was still controlled by dollars expended, according to Si Morris,





whose firm produced much of the construction documents as well as the South Tower lease finish documents.

Few, if any, floors have been subdivided, a factor of some significance since planning around and resolving the intersection of two geometries turned out to require both imagination and a simple commitment to making things work.

Offices for Arthur Young & Company, designed by James M. Sink Associates, Houston, show evidence of severe constraints. Building standard walls, ceilings, and lighting were used, as well as many of the clients's existing furnishings. The particular requirements of privacy and numerous small specialized spaces placed this program at variance with the more open planning considerations on the part of Pennzoil Company. Jack McClelland of Sink Associates comments, "The unique configuration did not particularly facilitate the solution nor did it hinder it greatly. Since the program required individual offices, little use could be made of vistas at the diagonal window wall except for the offices adjacent to it." McClelland also felt that a 4- or 6-ft module, rather than the building's 5-ft unit, would have suited his client's needs better.

It becomes readily evident that the greater fit between a tenant's needs and the context of Pennzoil, the more possible it is to capitalize upon the building's unique features. For instance, the offices of Bracewell & Patterson, attorneys-at-law, by Caudill Rowlett Scott, Houston, took advantage of it neatly. The building's 30-ft module was retained in organizing the spaces, and the design is enhanced by

Pennzoil executive office at point of tower and diagonal sloping roof.

use of open-office areas for support staff and the admission of natural light at the end of all corridors. Reception areas on all three floors are located at the "break" in the geometry as one steps from the elevator.

Since the principal client was Pennzoil Company itself, it is not surprising that the best fit should occur in the North Tower, exclusively for Pennzoil and its spin-off, United Energy Resources. For these, the Houston office of Gensler & Associates was retained very early in the building design phases. Design development by Johnson/Burgee was done in consultation with Gensler and related consultants, including Cushman & Wakefield, who analyzed circulation and vertical adjacencies. Pennzoil was interested in open planning to accommodate future change without major demolition or reconstruction expenses.

Typical floors were evolved through the design of appropriate work stations: because of the high percentage of middle management, space needs were different from the usual clerical staff areas. After working on concepts for design variety, the designers decided to no color combinations more than twice throughout the entire facility, the general color tones of which were matched to photomurals at each lobby entrance.

Challenges were plenty on the upper floors 31 through 36. As project designer Margo Grant of Gensler observed, "Problems were endless: particularly the many structural and engineering surprises that emerged as the design



## Pennzoil Place

Light and space of the enclosed courtyard lobby for the two towers creates a strong urban place in downtown Houston, a testament to the continuing interest of architect Philip Johnson (along with partner John Burgee) in the architectural potential of enclosed piazzas.

within the truncated pyramid space progressed." Variations of structure, discussed earlier, were patiently resolved and accommodated by project architect Yee Leung. Offices under the rafter pitch demonstrate how usable space under the sloped glass wall is usable up to a point within 3 ft of the edge.

Certain sections of the floor slab were eliminated, creating dramatic spaces such as Liedtke's own office, the Board Room on the 36th floor, a gallery between floors 35 and 36, and a cantilevered stair between 33 and 34. The very top peak of the North Tower is visible from a meeting area adjacent to the Board Room, located under the building's ridge line.

Hugh Liedtke noted that everybody *wanted* the concept to work, and that this commitment carried through from initial concept to final detail. From Johnson/Burgee and S.I. Morris, the engineers and builders, the interior designers, and all their consultants, and most definitely to the wisdom of Gerald Hines's personal belief that good design can cut it in the marketplace, a unique and memorable environment has been created which, in the end, still comes down to one word: Wow! [Peter Papademetriou]

### Data

**Project:** Pennzoil Place, Houston, TX.

**Architects:** Johnson/Burgee, Architects; S. I. Morris, Associates.

**Program:** headquarters for Pennzoil Co., plus speculative lease space in two 36-story towers totalling 1,800,000 sq ft.

**Site:** 62,500 sq ft in block between cultural center and business area of downtown Houston.

**Structural system:** steel structure in combination with concrete sheer wall; built-up stub-girder system for floor allowed passage of building's ductwork beneath composite steel deck and concrete floor slab.

**Mechanical system:** multi-zone air conditioning with two air handling units per floor, outside air preheated for heating and a/c. Cooling tower on roof under glass shed south tower. Boiler heating with specially designed forced draft boiler fans discharged through stainless steel cylinder on plaza.

**Major materials:** steel, aluminum (mullions 2'-6" on center); bronze tinted glass and concrete. (See building materials, p. 106.)

**Consultants:** I.A. Namen, mechanical; Ellisor Engineers, structural.

**General contractor:** Zapata Warrior Constructors.

**Costs:** \$28 per sq ft (construction only).

**Client:** Gerald D. Hines Interests.

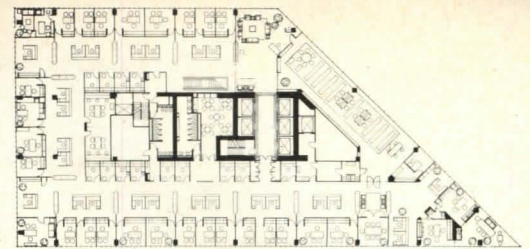
**Photography:** Richard Payne except Ron Scott p. 67 and Jaime Ardile-Arco p. 69 right bottom, and p. 71.



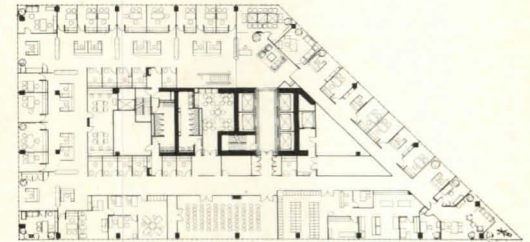




Interiors designed by CRS for Bracewell & Patterson, attorneys.



BRACEWELL & PATTERSON 29TH FLOOR PLAN



BRACEWELL & PATTERSON 28TH FLOOR PLAN

Corridor of Bracewell & Patterson emphasizes triangular configuration of the towers.



Internal stair (above) connects two floors. Corner office (below).



#### Data

**Project:** (p. 69 and 71): Pennzoil Company Offices, Pennzoil Place.

**Interior designer:** Gensler & Associates, Margo Grant, interior designer; Yee Leung, architect.

**Program:** total interior programming, space planning, interior architecture, and furnishings for 1250 people, 410,000 sq ft.

**Major materials:** linen wallcovering, acoustical fabric wall installation, vinyl wallcovering, wool cut and uncut pile carpeting, oak furniture. (See building materials, p. 106.)

**Consultants:** I.A. Namen & Company, mechanical and electrical; Mel Cammisa, lighting; Ellisor Engineers, structural; Joiner-Pelton-Rose, Inc., acoustical.

**Cost:** withheld.



**Project** (this page): Offices of Bracewell & Patterson, Pennzoil Place.

**Interior designer:** Caudill, Rowlett, Scott; Linda Pinto; project manager Jeffry Corbin.

**Program:** office space for 80 attorneys and 70 staff members for three floors (app. 7000 sq ft) with planned expansion to two extra floors.

**Major materials:** linen and carpet wall covering, oak floors, wool carpeting, acoustical tile, rosewood, oak, and ash furniture. (See building materials, p. 106.)

**Consultants:** Joiner-Pelton-Rose, acoustical.

**Costs:** withheld.



# Utopian mechanism

**Nestled into Olivetti's old hometown, a new 'center' designed for numerous public and private functions looks like an assemblage of gargantuan machine parts.**

Recent tendencies toward multiple-use structures, toward integration of public and private domains, toward formal complexity and open-ended composition, toward machine imagery have all converged at the center of Ivrea in the Alpine foothills of Italy, a city core that appears to have undergone little other change for at least 100 years. Somehow the unlikely confrontation turns out—at least in visual and spatial terms—to be complementary.

One reason this structure appears to be at home in its old neighborhood, despite its assertive newness, is that it grew out of the client's deep, long-standing interest in Ivrea. Its complexity expresses the situation of a major international corporation trying to establish intimate contact with a community that depends on it. All of Olivetti's factories, offices, housing, day care centers, etc., at Ivrea—a collection of buildings that represents decades of discriminating architectural patronage (see P/A Aug. 1973)—were carefully planned to avoid a disorganized urban fringe; but they remained outside the life of the city itself. Meanwhile Olivetti employees from all over the world, on visits or assignments in Ivrea, tended to see it as an outpost with few attractions aside from its natural setting. One objective of this new building was to offer staff members homelike private quarters and exceptional shared amenities. A second, bolder intention was to place the complex inside the town itself, where public patronage could justify more extensive recreation and leisure facilities, which would in turn enhance urban life for residents and transients alike.

In commissioning architects Cappai & Mainardis of Venice, Olivetti determined that the complexity of its program would be articulated emphatically, in forms based on a machine aesthetic; no chance that these architects would adopt the stucco walls and tile roofs of the local vernacular. In their devotion to high-tech imagery, these architects fit the pattern of much recent Olivetti building around the world—of Stirling's training center in England, for instance, or Tange's warehouse and technical center in Japan. But Cappai & Mainardis brought along as well their own partic-







On the south side of Olivetti's compact-model megastructure (left) the prefabricated projections of the mini-apartments overlook a public park. On the north side, it confronts the staid, traditional fabric of Ivrea (top photo). Along the access street to the north (photo above) the new structure's massive concrete columns and aluminum-clad protrusions abut the weathered stucco of older neighbors.



## Olivetti Social Services and Residential Center

The entrance front (below) displays a number of elements expressing the architect's preoccupation with circulation: a couple of finely detailed spiral stairs, carefully articulated canopies at entrances, and (in foreground) a series of little articulated shops stepping up along a ramp that gives access from the boulevard to the east—a ramp the architects refer to *sotto voce* as "the Rialto." The few residential units on this side are raised to look out over traditional roofs. The tubular snack bar (bottom photo) looks to the east as through a telescope, with portholes at knee height overlooking the street. A bird's-eye view of the south flank (facing page) shows the ranks of living units, each with a recessed terrace behind its projecting face.



ular kind of latter-day organicism.

The architects view their process of design as a kind of "autogenesis" of form, in which component parts find their locations in relation to a complex, intertwining system of circulation. Their method is consciously aggregational, nonhierarchical, free of preconceived geometrical notions. They encourage diversity and surprise—underlining these qualities through the variety of shapes and materials they apply to various parts of the structure—consciously paralleling a process that occurs quite naturally in the design of mechanisms.

Here clear formal distinction is made between the private quarters—a series of compact pods attached to the structure like spark plugs to a motor—and the looser, interlocking public volumes to which they are connected. Public elements with particular functions, such as the domed meeting room or the cylindrical snack bar, are given distinctive enclosures, merging to greater or lesser degree into the irregular public core; even the traditional rectangular box of the swimming pool is here eroded by a bridgelike dressing area crossing it and extended by a tall angular light monitor. Generally speaking, the larger gathering spaces—pool, gym, cinema, and meeting room—have been at least partially submerged below street level; smaller-scaled amenities such as shops and bars have been clustered along circulation spaces, among the columns that support the private quarters above. There is an order—even a structural module above the special long-span spaces at the base—but that is not readily apparent among all the formal diversions.

Paolo Volponi, writing in *l'Architettura* (July 1976) speaks of the industrial inspiration behind the architects' forms, which are "ductile and tactile like those of a machine." The private dwelling pods look more industrialized than they are—only the projecting outer portions actually being prefabricated; Volponi sees them "not as ostentatious signs of being up-to-date, but as a technological coating, used much as one would otherwise use a coating of marble or bronze." The surface that these metallic shells cover is, Volponi notes perceptively, "not a façade, but a landscape."

### The mini-apartment as prototype

As Volponi notes, there is something prototypical about these private units. (plans and photos, p. 81) Though their plug-in imagery may be little more than skin deep, the actual units do hold prototypical lessons on the possibilities for personal habitats in confined spaces. In their interlocking of underscaled space on various levels and in their use of fold-out elements for the short-term uses of cooking, dining, dressing, and hygiene, they draw upon the precedents of Pullman cars, cabin cruisers, and motor homes. But, given slightly less stringent space constraints and a fixed location, the architects were able to expand and refine these devices. Particularly effective are the horizontal datum lines/planes that give visual coherence to each unit, the light flooding the interior around the central court, and the screening by level—with virtually no partitions—of one area from another. And few "luxury" apartments can match the amenity of the convertible indoor/outdoor study, in addition to the terrace. All this was obtained at some cost, obviously, but it does offer an example to consider



whenever programs call for compact living units—as they will in a world with ever more unattached and/or transient people.

For all their interest in the internally generated patterns of design and the technology of its physical fabric, Cappai & Mainardis include among their architectural principles the idea that the building must grow out of its place—become in fact an integral part of it. It is not enough, say the architects, for a building to merely “complement the structure of the city, submitting to it on the one hand and provoking it on the other.” Their integration of building with context involves little submission: the size and scale of the structure have obviously been adjusted to surrounding structures, but otherwise its building form is frankly divergent. The architects’ chief interest lies instead in weaving the building circulation patterns into those of the city; they see this building as completely permeable at ground level, serving

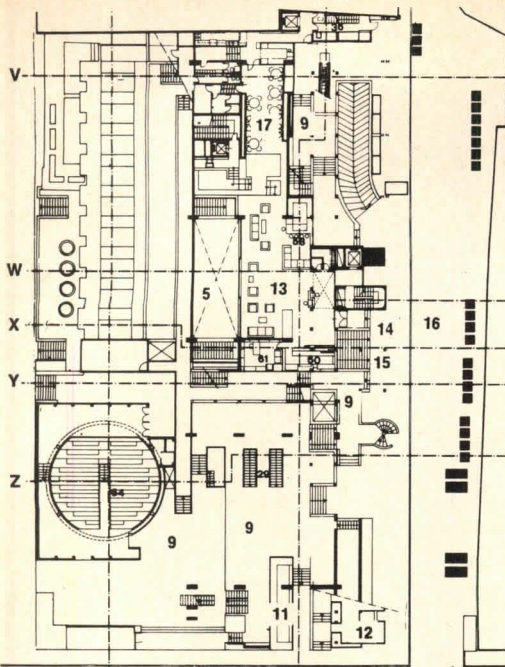
as a sheltered “piazzetta” giving access to a variety of public and private spaces above and below it.

Developed as a socially conscious, architecturally daring scheme back in 1967, this complex took almost a decade to complete—substantially all of it being occupied in 1976. When construction had barely started, the builders uncovered the remains of a Roman street and other significant finds. The result was a two-year delay for an archeological search before the Superintendent of Antiquities in Torino gave approval to resume the work, under revised plans that left the major remains intact and accessible. It is testimony to the adaptable, geometrically unconstrained nature of the design that it could make way for the ruins with no substantial change in concept.

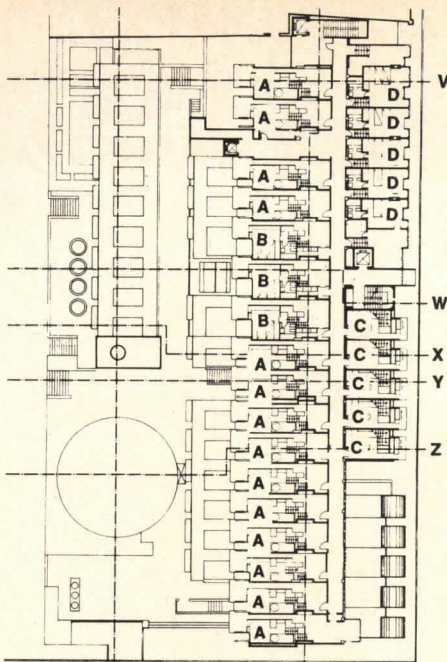
As the construction process moved slowly on, however, interrupted further by strikes, delivery delays, etc., changes in the social climate prodded architects and client to recon-



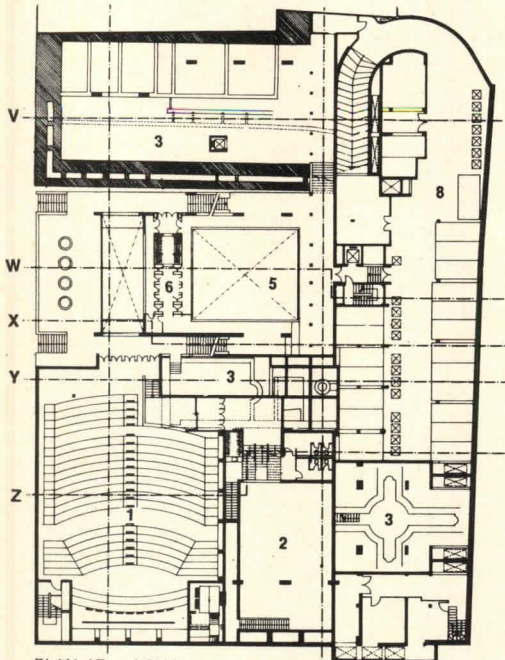




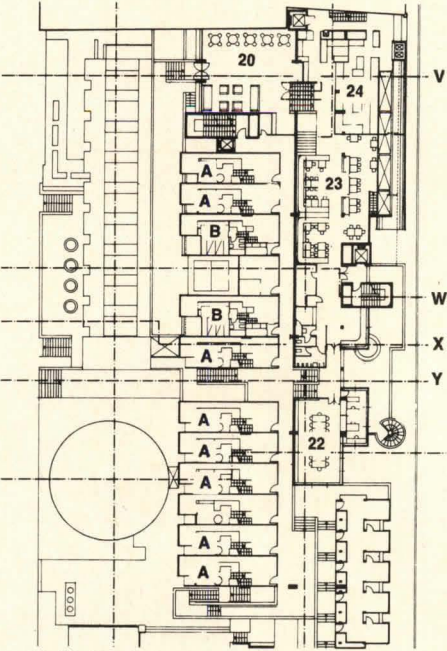
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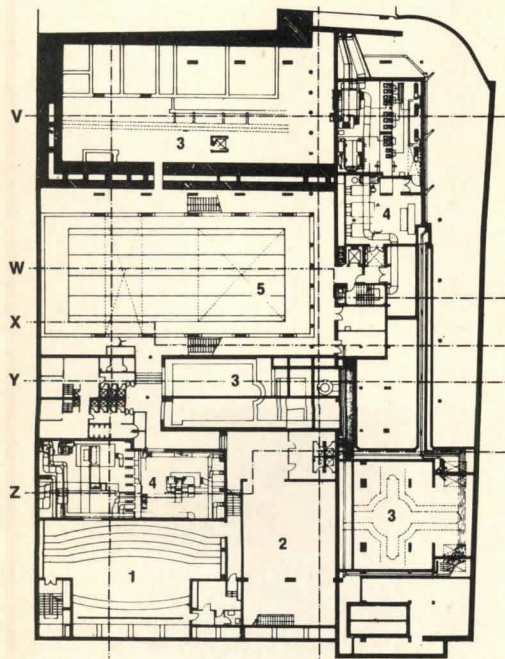
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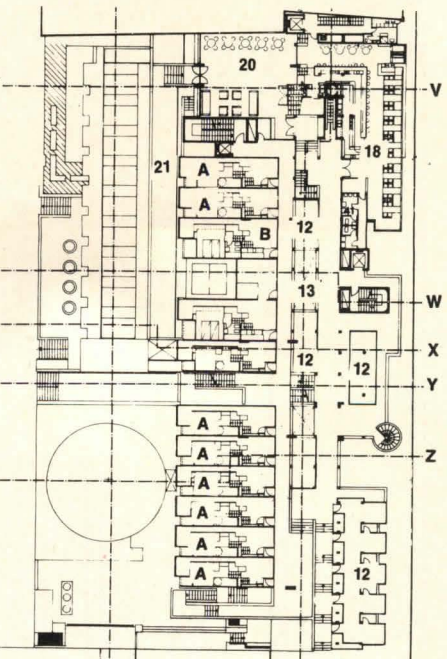
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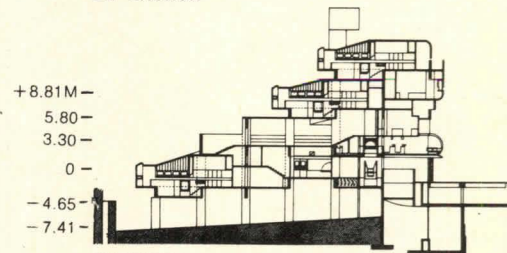


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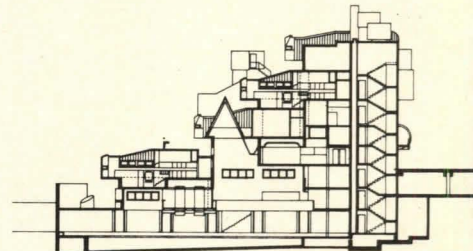


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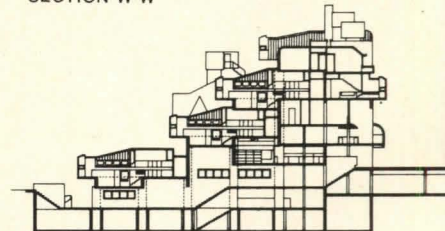
- Legend**
- 1 cinema
  - 2 gymnasium
  - 3 archaeological remains
  - 4 HVAC system
  - 5 swimming pool
  - 6 dressing rooms
  - 7 entrance from park
  - 8 garage
  - 9 open public concourse
  - 10 conference hall
  - 11 public bar
  - 12 shops
  - 13 residence lobby
  - 14 residence entrance
  - 15 concourse entrance
  - 16 public street
  - 17 cafeteria
  - 18 snack bar
  - 19 bar
  - 20 cafe/banquet hall
  - 21 terrace cafe
  - 22 meeting hall
  - 23 restaurant
  - 24 kitchen
- A one-bed unit
  - B two-bed unit
  - C four-bed unit (duplex)
  - D hotel room



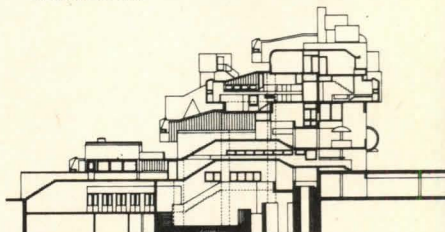
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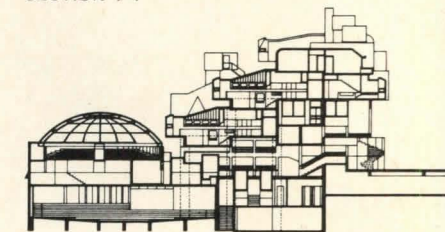
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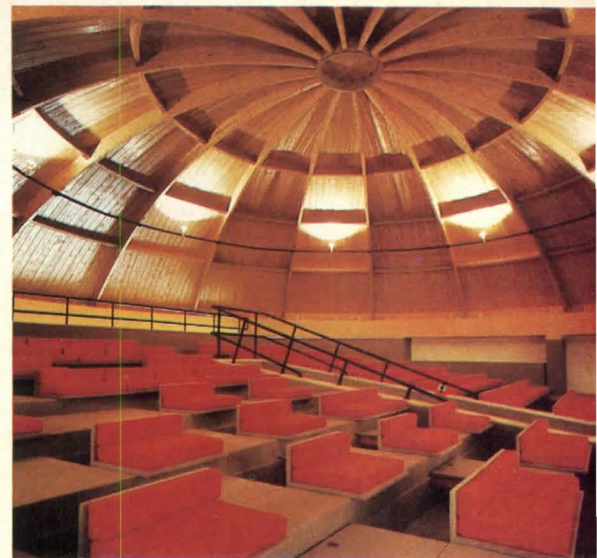


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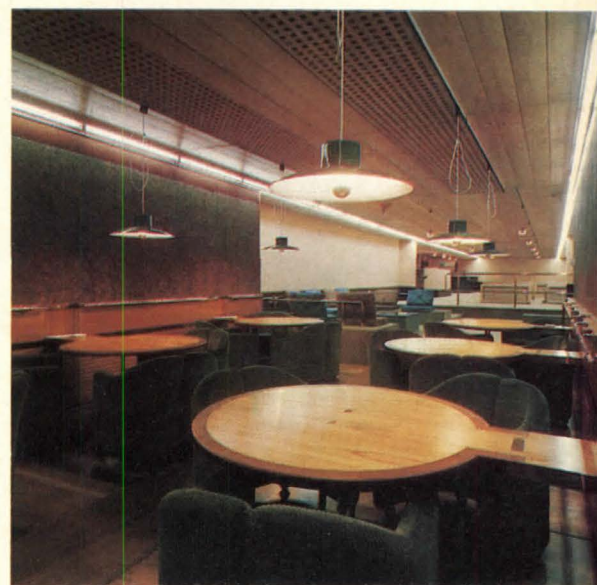
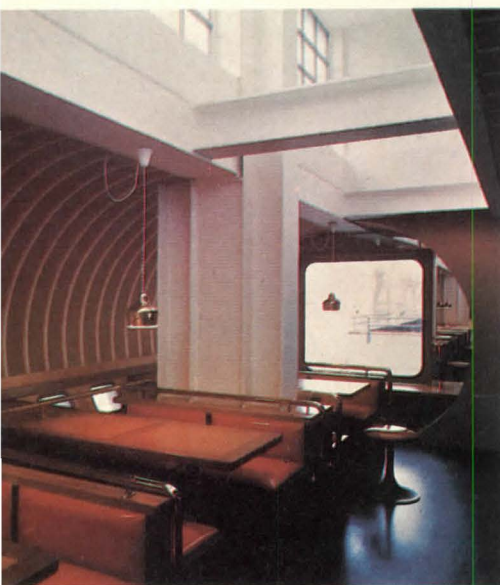
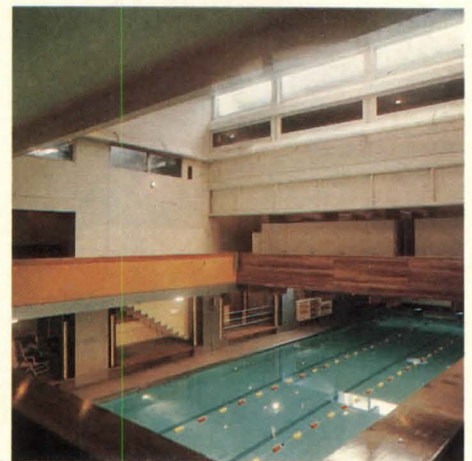


SECTION Z-Z





Night view from east (top left) reveals massive beams above open "piazzetta." Domed meeting hall (above) can be rearranged for conferences or exhibits. Residence lobby (left) has ship-like detail and portholes overlooking pool (below), which is skylighted and spanned by a dressing-room bridge. Snack bar (bottom left and center) has windows below table level and fold-out bar stools. Cafeteria (bottom right) has fold-down tables between easy chairs.





## Olivetti Social Services and Residential Center

sider the Utopian convictions underlying the scheme: that public and private territories could be merged, with virtually no defined boundaries except those around individual dwelling units. Along the way, the issues of social privacy and "defensible" access to units had to be faced, while characteristic "company town" animosities lurked in the background. In the end, small physical adjustments and substantial management adjustments have permitted the complex to be operated for the most part as a hotel, with the major amenities available only to residents or other paying patrons.

Romano Gabriele, writing in *l'Architettura*, decries the prospect of operating the facility as a hotel, which has "simplified, reduced, and congealed the potentials of the entire organism, transforming it almost totally by a grotesque territorial extension of hotel-style privacy and of its anonymous, transitory guests." Gabriele laments that "this architectonic unity and fidelity—in the fullest sense—to the central idea of the program fails when it comes to the software, that is to the application, the control, the use of this complex theatrical machine."

Dr. Renzo Zorzi, director of Olivetti's entire design and cultural program, expresses confidence that the citizens of Ivrea will eventually accept and frequent this complex, making of it the center of social exchange that Ivrea otherwise lacks. It depends as well on the management of the complex and the local government whether the public space essential to this concept will decline into a no-man's-land amid isolated enterprises or whether it can actually become the unifying place of encounter it was intended to be.

Olivetti's understanding and good will may or may not make a social success of this complex. But whatever the outcome, the building remains a forceful statement about the formal possibilities—along with a cautionary footnote on the potential pitfalls—of mixed-use urban construction in a world that resists idealistic schemes. [John Morris Dixon]

### Data

**Project:** Olivetti Social Services and Residential Center (also referred to as "La Serra" Residence), Ivrea, Italy.

**Architects:** Cappai & Mainardis, Venice.

**Client:** Ing. C. Olivetti & C., S.p.A.

**Program:** 55 mini-apartments accommodating one to four residents each; a 600-seat cinema; a meeting hall of variable capacity; a 25-meter swimming pool; a gym; restaurants seating 300; a garage; extensive lobbies; covered outdoor spaces and terraces.

**Site:** a constricted urban site bounded on the south by a public park along a riverbank, on the east by a boulevard, on the north by a narrow street, on the west by existing buildings.

**Structural system:** concrete in lower portions, with prestressed beams over long spans; upper portion, steel frame bearing on concrete columns; projecting portions of individual units prefabricated on steel framing.

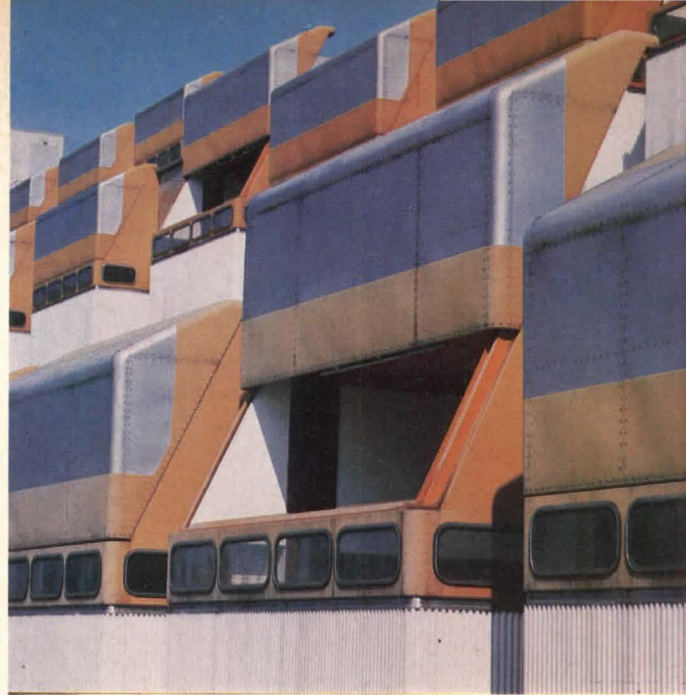
**Major materials:** exposed, painted concrete and steel; various types of aluminum cladding, painted and unpainted.

**Consultants:** Capovilla, architect, and Cappai & Mainardis, interior design; Migliasso & Scomparin of Sertec, structural.

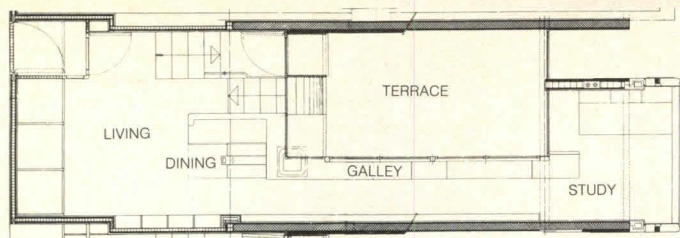
**General contractor:** Olivetti S.p.A.—SGUCI.

**Cost:** 3.5 billion lire (actual, 1976 completion, approximately equal to \$4.1 million); 2.8 billion lire (budgeted).

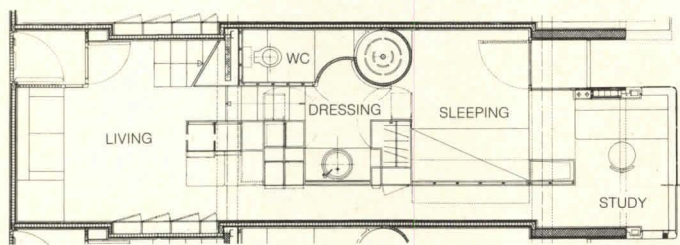
**Photography:** G. Berengo Gardin.





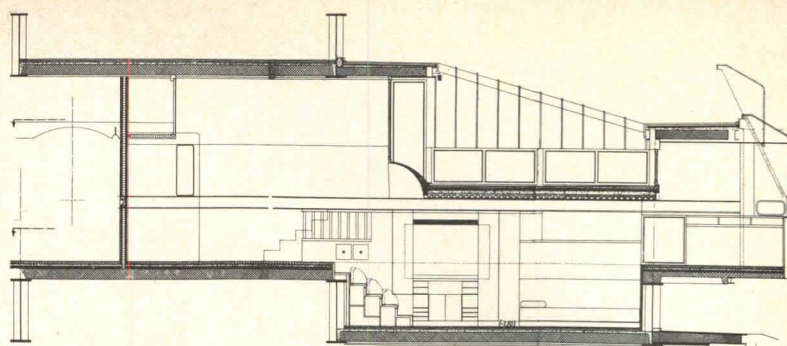


UPPER LEVEL PLAN

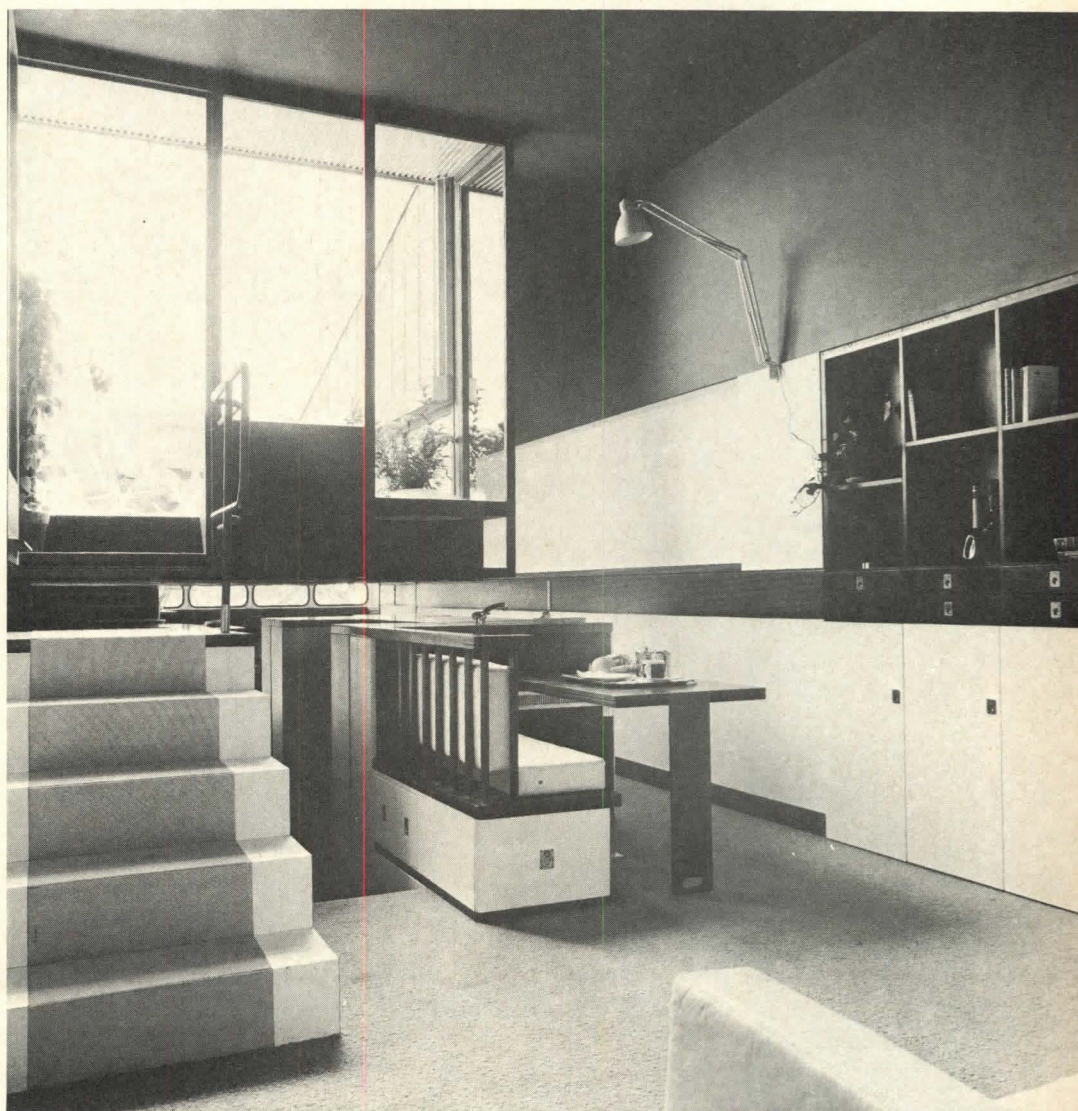


LOWER LEVEL PLAN, ONE-BED UNIT 'A'

0 1M  
3'



LONGITUDINAL SECTION



Typical one-bed unit shown on these pages has spatial complexities and fine dimensional tolerances that suggest a yacht cabin. Each one has a convertible studio, with rising hood (facing page, top) in addition to recessed central terrace (right), both catching sunlight regardless of orientation. Plane of terrace floor, delineated by hardwood strip across walls and cabinets, separates upper living zone from lower sleeping zone. In living area (right) dining table folds out next to storage banquette, kitchen equipment is set into bulkhead/counter. In sleeping zone (facing page and above) wardrobes swing out to enclose generously proportioned dressing area. The two-bed units differ from these mainly in width (see building plans), but have conventional bathrooms, as do the hotel-type doubles and the four-bed units; each of the latter has two double bedrooms and bath a floor above an entry/living area. All of the units reflect Cappai & Mainardis' literal interpretation of Corbu's "machine for living" idea in terms of efficiency and technical perfection.





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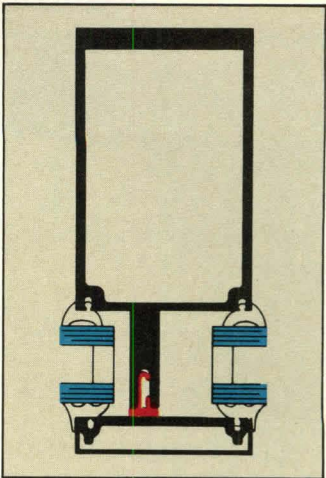
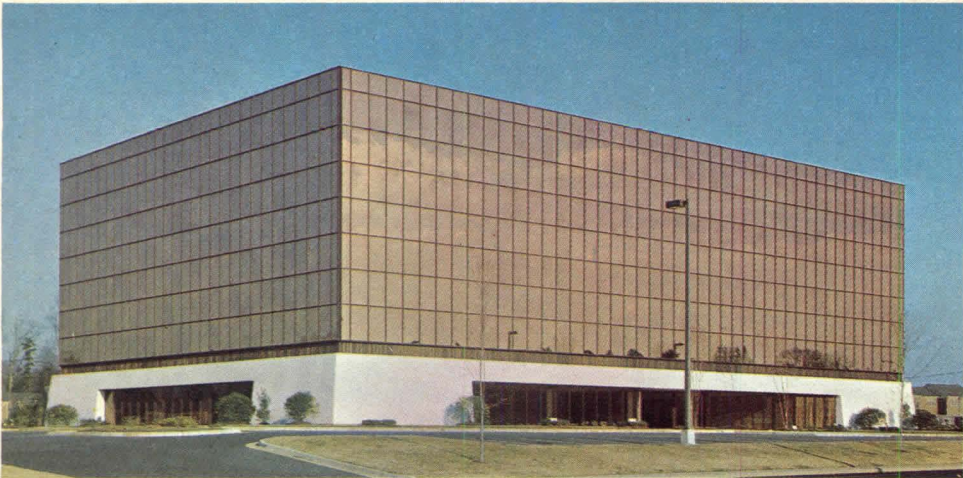


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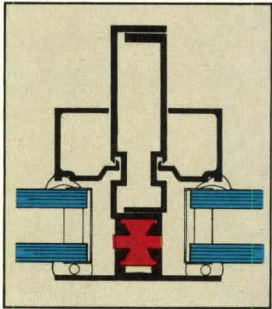
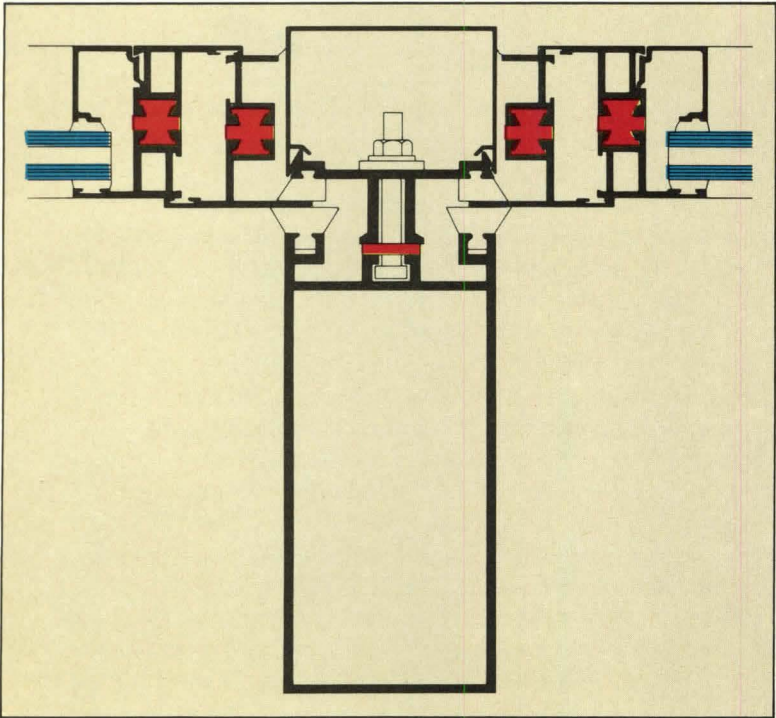
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# Update on plastic laminates

Josephine H. Drummond

**Metallics, canes, cork, wood veneers, marble, granite and fabrics, even faded blue denim. A vast array of colors, patterns, and textures of plastic laminates are available today, in contrast to those of yesterday.**

Theoretically at least, anything that can be photographed can be made into plastic laminates. Some manufacturers have developed laminates which incorporate a microscopically thin veneer of wood, cork, metal, or other "genuine" material. Using the actual material eliminates identical pattern repeats and in some cases aids in providing a more realistic texture. Photographic wood grains are available in numerous species and saw cuts. A wide selection of marbles, granites, and slates, also photographic reproductions, are being manufactured, some of them with textures to match the veining. Solids are available in dozens of bold vivid colors, earth tones, and pastels.

Plastic laminate was developed early in the 20th Century as a substitute for mica in the electrical industry. Quality control of the material is still governed by standards of the National Electrical Manufacturers Association (NEMA), although its use today is far more decorative than electrical. Originally it was, like Ford's Model T, available in black. Known as bakelite, it was used as an electrical insulator, and as the front panel of many early radios.

Laminated plastic consists of multiple layers of phenolic impregnated kraft paper, a top layer of decorative sheet, and a protective coating of melamine. The decorative layer can be either a sheet of solid color paper, the photographic pattern reproduction, or the thin veneer of wood or other material. These are compressed under heat and pressure to form the finished sheet.

Textures are imparted either by textured platens, by subsequent finishing such as sanding, buffing or polishing, or by adding a one-use textured foil sheet to the surface of the melamine. Standard textures include high gloss, semi-gloss, suede, and satin finishes.

NEMA standard LD3—1975, entitled *High Pressure Decorative Laminates*, covers seven types and 18 grades. Most of the types are familiar: general purpose, post-forming, cabinet liner, backer, specific purpose, high wear, and fire-rated. The standard governs the thicknesses, regular

finishes, and physical properties of the listed grades and types, but it does not cover the dimensionals, metallics, or special finishes. The 18 grades consist of various thicknesses within each type, and the different thicknesses possess different physical properties. Thickness is governed by the number of layers of kraft paper in the sheet build-up.

General purpose type is available in four thicknesses. The heaviest grade, GP-50, is 0.050 in. thick, and is recommended for flat horizontal surfaces such as counter tops and furniture tops. Vertical surfacing materials are the thinner grades of general purpose type. Produced in 0.022-in. and 0.028-in. thicknesses, they are formed using two or three layers of kraft backing rather than five or six. The thinner grades are less resistant to abrasion and impact, but neat clean corners and edges can be achieved more easily with them. For the reduced wear that cabinet sides, counter fronts, or wall paneling receive, the vertical surface grades are good choices.

In the post-forming type, which is used for counter tops with coves and bullnoses, one or two layers of flexible, creped kraft are used to facilitate bending the laminate.

The makeup of laboratory grade material varies among manufacturers. Some use phenolic material and black paper for the full thickness of the laminate, which of course produces a black sheet, while others use chemical resistant resins and more conventional papers, and these materials are available in colors.

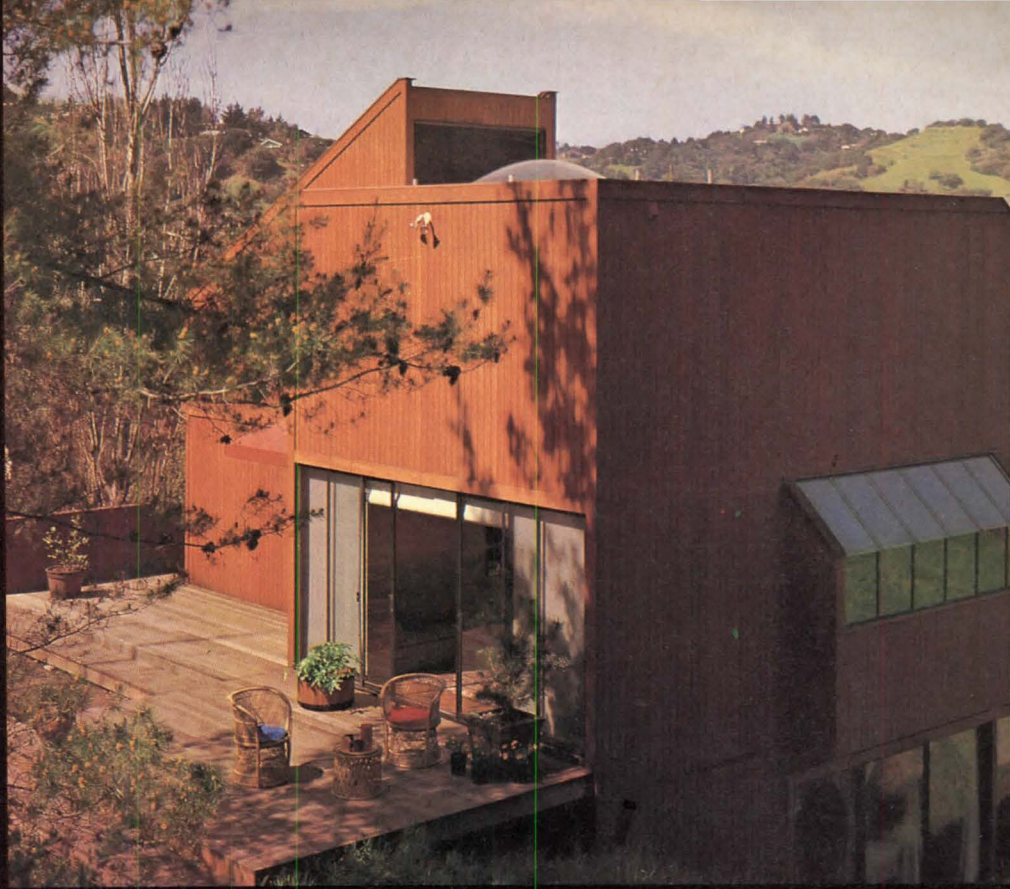
Cabinet liner and backer types, in addition to being thin materials, are essentially nondecorative. Backer type is usually brown or buff; cabinet liner is off-white. These are utility grades and their names define their usual uses.

The metallics and dimensionals constitute the major new development of the industry. The term "dimensional," which means something like 3-D, refers to the heavily textured patterns, and includes some metallics, the canes, slates, some of the marbles and granites, as well as some fabrics. Metallics are made by one or two domestic firms, but most of them are imported from Europe. The metallics of one manufacturer bear little resemblance to those of another. Some are heavily textured, some appear antiqued, and others are polished or rubbed sheets. Metallics lack the heavy, abrasion-resistant melamine layer, and most manufacturers recommend them for vertical surfaces only. The canes and some of the fabrics are made up of thinly sliced fibers woven to pattern, impregnated with resin, and incorporated into the sheet build-up. Some are durable enough for counter top use.

Thus we see an abundance of texture, color, style, and pattern in the plastic laminate industry today. Custom patterns and colors are no longer readily available, but hundreds of selections are in each manufacturer's palette. The prices of the material vary considerably according to grade, pattern, and texture, so specifications should indicate the design preferences exactly. Consultation with manufacturer's representatives is advisable especially when the dimensionals and metallics are proposed, to assure of their availability and suitability for the intended uses. □

**Author:** Josephine H. Drummond, CSI is Specifications Writer/Construction Administrator, Gruen Associates, Los Angeles, CA.





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# Court limits own zoning decision

Bernard Tomson and Norman Coplan

**The Supreme Court of New Jersey, having previously ruled invalid exclusionary zoning laws, now excludes from rule's application old established communities.**

Zoning restrictions whose practical economic effect is to exclude low or moderate income, minority, and other groups from residence in a particular municipality have been subject to legal attack in many states and communities throughout the United States. In 1975, the Supreme Court of New Jersey, in a precedent-shattering case involving the Township of Mt. Laurel, invalidated, as an infringement of the New Jersey Constitution, the zoning laws of that community on the ground that they resulted in the exclusion of low-income and minority groups ("It's The Law", P/A., Aug. and Sept. 1975). However, in 1977, the United States Supreme Court ruled that zoning laws which resulted in the exclusion of minority and low-income groups did not violate the United States Constitution if there was no provable discriminatory motivating factor in the adoption or enforcement of the zoning ordinance (see "It's The Law," P/A., June and July 1977).

More recently, the Supreme Court of New Jersey limited the application of its ruling in the Mt. Laurel case to those communities which are in a state of development and excluded from its application old and established communities (*Pascack Association Limited v. Township of Washington, Bergen County, New Jersey*).

In the *Pascack* case, the New Jersey Supreme Court had under consideration the validity of the zoning laws of the Township of Washington which limited the use of property in that Township to two-acre, one-family residential use. The Township comprises 1934 acres or approximately 3¼ sq mi. The residential nature of the Township is almost exclusively single-family on lots ranging from 5000 sq ft to two acres or more. These homes use approximately 94.5 percent of the land and there are no industrial or multi-family residential uses permitted. Approximately 2.3 percent of the property located in the Township is vacant, and the largest tract of that land, consisting of approximately seven acres, was owned by the plaintiff who desired to construct multiple-family housing and who accordingly challenged

the constitutionality of the zoning ordinance.

The Trial Court had held the zoning law of the Township invalid for failure to make any provision for "multiple and rental housing." On appeal to the Appellate Division, this appeal was reversed and such reversal was affirmed by the New Jersey Supreme Court. That Court, in a divided opinion, distinguished and limited its decision in the Mt. Laurel case, stating:

*"... the relevance of Mt. Laurel here is affected by two important considerations: 1) the population category effectively excluded by the ordinance involved in Mt. Laurel—and the class intended to be relieved by our decision therein—was that of persons of low and moderate income; 2) the municipal category subjected to the mandate of the decision was that of the 'developing municipality.' It required the combined circumstances of the economic helplessness of the lower income classes to find adequate housing and the wantonness of foreclosing them therefrom by zoning in municipalities in a state of ongoing development with sizeable areas of remaining vacant developable land that moved this court to a decision which we frankly acknowledged as 'the advanced view of zoning law as applied to housing laid down by this opinion.' ... There is no per se principle in this State mandating zoning for multi-family housing by every municipality regardless of its circumstances with respect to degree or nature of development."*

In its majority opinion, the Supreme Court of New Jersey asserted that among the 567 municipalities of that State, there is an infinite variety of circumstances and conditions, including kinds and degrees of development of all sorts, germane to the advisability and suitability of any particular zoning plan. The Court emphasized that zoning whose purpose is to avoid undue crowding of uses and undue concentration of population falls within the "police power" of the municipality. Although the Court asserted that it recognized the urgent need for adequate housing, it pointed out that it had not intended, by its decision in the Mt. Laurel case, to suggest that the housing needs of all segments of the population are a priority charge on the regulations of all municipalities, whether or not developed. The Court said: *"Thus, maintaining the character of a fully developed, predominantly single-family residential community constitutes an appropriate desideratum of zoning to which a municipal governing body may legitimately give substantial weight in arriving at a policy legislative decision as to whether, or to what extent, to admit multi-family housing in such vacant land areas as remain in such a community."*

The conclusion of the majority of the Court was that the sociological problems presented by this and similar cases calls for legislation vesting appropriate developmental control in state or regional administrative agencies.

In a dissenting opinion, a minority of the Court concluded that the Court, by allowing developed municipalities having sizeable areas of open space, to ignore regional demands for multiple-family housing, was extending its tacit approval to exclusionary zoning practices. In doing so, stated the minority, "it disregards the intent and spirit" of its own decision in the Mt. Laurel case . . . "to affirmatively require municipalities to provide for their 'fair share' of regional housing needs" . . . and thereby "retreats from its constitutional duty . . ." □



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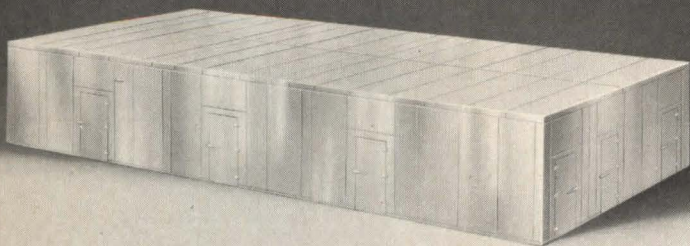
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## Books

# High-rise heaven?

**Housing** by John Macsai, Eugene P. Holland, Harry S. Nachman, and Julius Yacker. New York, John Wiley & Sons, Inc. 1976, 483 pp., illus., \$30.

Reviewed by J. S. Fuerst, Assistant Director, Graduate Program in Urban Studies, Loyola University, Chicago, Ill.

The number of multi-family unit permits for two or more unit structures built in the U.S. in 1975 dropped to 250,000 from over one million in 1971, and *still shows no real sign of recovery*. Much of this decrease is due to the economic recession in the building industry generally. But a good share of the credit goes to the Federal courts which halted any further high-rise building for low- and moderate-income families, saying in fact that the local housing authority could not build any projects containing more than 120 persons (240 in special cases). The restrictions of this decision have gradually infiltrated into much publicly subsidized housing, and a few months ago received the implicit approval of the U.S. Supreme Court. (In *Gautreaux vs. Hills* the Court essentially sidestepped the question of high-rises or multi-family housing, but in affirming the district court decision on racial discrimination it allowed to stand all the restrictions incorporated in the original order).

It has long been observed that court decisions do not proceed *in vacuo* but merely incorporate the conventional wisdom. We may look, therefore, to such spirits as Lewis Mumford, Jane Jacobs, Wolf Von Eckhardt, and more recently Oscar Newman, all of whom have denounced the high-rise as a dwelling possibility for low- and moderate-income families with children.

It was therefore with great pleasure that I read *Housing*, in which are detailed more than 60 multi-family projects that the authors consider of outstanding architectural quality, and which refute many of these allegations. Twelve of these are high rises for low- and moderate-income families, and another 23 are high-rises for middle- and upper-income families. The focus of the book is on design and building of multi-family units. It diligently covers the facets of this architectural process, including design methodology and mechanical aspects. The book is profusely illustrated with fine technical drawings, and it is greatly enhanced by pictures, schematic drawings, and floor plans.

The book has many excellent characteristics for planners and architects. It has fine graphics with an extensive checklist for those architects who, either because of inexperience, natural nonchalance, or aristocratic disdain for detail, may have a tendency to overlook minutia. It provides solid formulae to establish the volume of need for fire prevention, for elevators, for laundry machines, for parking, and for recreation. Macsai explains that these formulae are clearly only useful as general guides for adaptation to particular uses. He gives high praise to the standards established by the Urban Design Council of New York City for recreational space, but points out that while their "rule of [continued on page 90]



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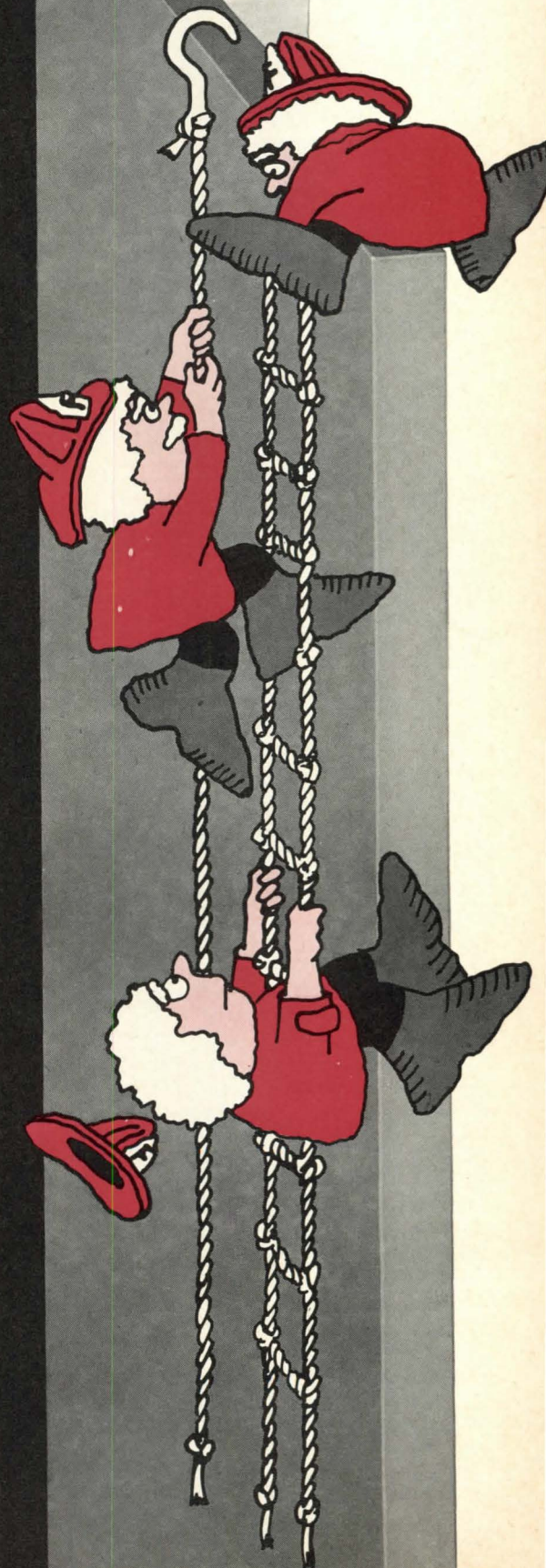
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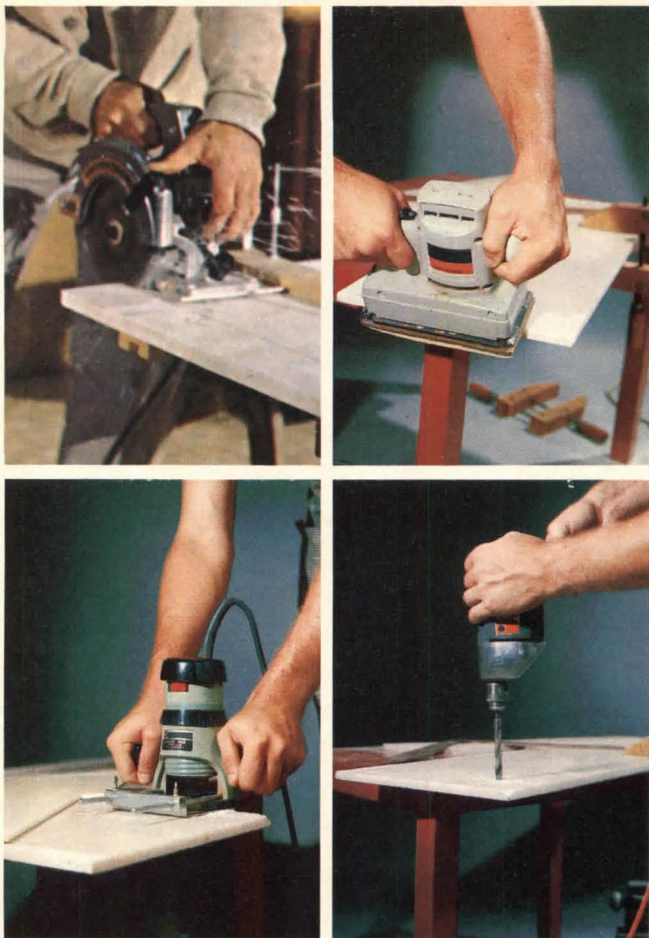
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## Books continued from page 88

thumb'' is workable in large buildings, in smaller ones it results in far too much such space.

Macasai is concerned with users and their reactions, and he makes it clear that this must be a primary concern of architects. He supports counseling with tenant and citizen organizations and generally believes that architects should be tenant advocates in dealing with developers. Nevertheless, the difficulties faced by the architect in meeting the desires of consumer advocates are not disregarded, and he suggests that overdependence on consumer input can spell disaster for developer, tenant, and consumer.

Considerable space is devoted to the problem of zoning and the great difficulties encountered by architects in the frequently unreasonable restrictions imposed by such rules. One of Macasai's strong recommendations is the use of a point system for developers where they can achieve higher densities by providing more amenities. Discussing Planned Unit Development as a substitute for zoning, he warns that while zoning restrictions have great problems, to operate PUD successfully "requires an intelligent, flexible, sensitive, and independent staff,"—something not easily come by.

As he remarks early in the book, "the process of designing is really a path you begin to travel as soon as you possibly can in terms of problems. Most good design will rise out of the specificity of the program data." He devotes relatively little space to the theoretical and philosophical problems of architecture, but where he does he subjects them to the facts of the real world.

It is because he sticks to facts and avoids pseudo-philosophical criticism, and because of his practical experience, that this book is of such value. The book is eloquent testimony to the great possibilities for the architectural excellence in multi-family and high-rise buildings for low- and moderate-income families, which for too long have been in the architectural critics' doghouse. Scattered-site individual housing units for low- and moderate-income families have been widely espoused by non-architects, particularly lawyers, sociologists, and planners, as the substitute for high-rises with suggestions for building units very much like old MacDonald's farm, with here a unit, there a unit, etc. To practicing architects like Macasai, quite apparently this is arant nonsense.

To young as well as experienced architects, planners, and citizens, one of the informative parts of the book is an analysis of the characteristics of the 60 successful developments Macasai details. Equally instructive were the discussions, both personally and through correspondence, that I had with the architects and developers of these "blue ribbon" projects to find out whether they are really "blue ribbon" in terms of management after several years.

The high-rise developments described average 280 units per site, while the 25 low-rises average 230—hardly scattered sites. In the high-rises directed to low- and moderate-income families, of which there are over 4000 units in 15 projects—no token operation—more than 63 percent of the apartments contained two or more bedrooms. Thirty percent had three or more bedrooms, averaging probably two or three children in each apartment. Evidently, while archi- [continued on page 92]





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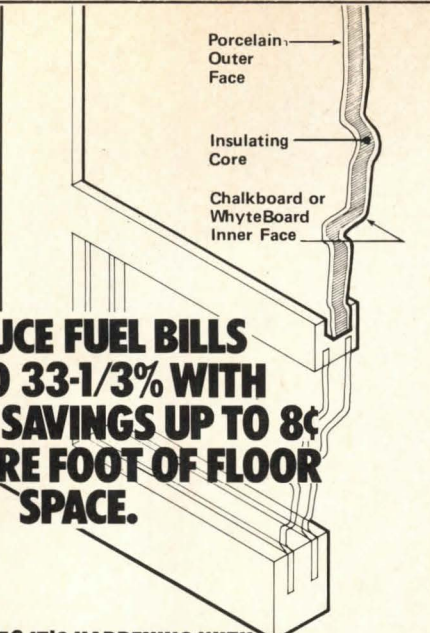
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## Books continued from page 90

tectural critics tell us that children cannot flourish in high-rises, developers are constructing them, and people are living in them with no great trauma.

Success in high-rise buildings, other factors being favorable, is often intimately connected with density. Macsai recognizes density as a major issue in planning of sites, and given a particular size site, he makes suggestions as to optimum density of units, making allowance for parking, recreation, setbacks, etc. Unfortunately, however, he does not make any comment pro or con as to the actual densities found in the projects he describes, and he deals more with density of units than density of individuals per project. He does recognize that the great problem, even apart from ghettoization in multi-family publically subsidized housing, has been too many children; but his emphasis is on density as a factor for compliance with zoning rules rather than as a limiting social factor.

An analysis of density of projects described in the book is informative. The median density of these developments is 100 units to the acre. However, many of the low-rise projects have only 30 to 50 units to the acre while the high-rises contain between 210 and 433. Most of the projects with 300 to 400 units per acre, usually for higher income families, were small with only efficiencies or one-bedroom units and only one person, or two at the maximum, to the apartment. On the other hand, a number of buildings with well over 100 units to the acre are managing successfully; the real question is how many people live in them. In the Bronx in New York City two high-rise projects directed to low-income families, where three- to four-bedroom units represented two out of every three units, there were approximately 450 and 750 persons to the acre respectively in a 120 and 213 unit (one-acre site) building. The architect indicated that these two projects were running into serious difficulties, which he attributed to the deteriorated condition of the area in which they are located. Another observer familiar with one project said that the problems were also due to the fact that it was operated by an inept community group which was also responsible for the original bad mix of room sizes and consequent high density. This point of high individual density is so central to the success of high-rises that it seems to this writer to require rather more attention. Considerable evidence is available that more than a certain percentage of three- or four-bedroom units for low- and moderate-income families, particularly in high-rises, will not work out.

Although with few exceptions, developments were reported as doing well, discussion of projects reported as not doing well are particularly instructive. Take, for example, Cedar-Riverside in Minneapolis. This development (more a small new town than a project) up to 1972 was a huge success judging from the reaction of the tenants, developers, and larger community. Expansion was planned but consumer advocates in the community demanded an environmental impact study before allowing the expansion, in accordance with the 1974 Housing Act. The opponents mobilized support against any expansion, and together with neighborhood private property interests who wanted no further encroachment on their preserves they were suc-

[continued on page 104]

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**Whirlpool baths.** Models include: The Bath—a 5½'x7' fiberglass bathtub with six adjustable whirlpool jets; Caribbean—a 6'x36" enameled cast iron bathtub with four adjustable jets; Steeping Bath—an extra-deep enameled cast iron soaking bath 5'x36"x20" with four adjustable jets. Kohler Co.

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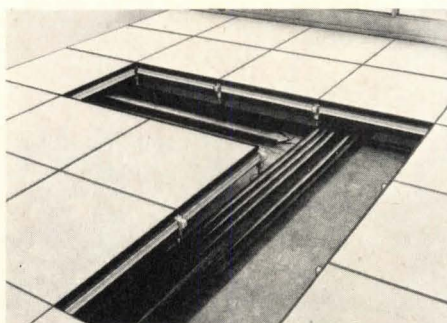
Cooler for the handicapped

**Coolers for the handicapped.** Dual purpose cooler has one fountain at wheelchair height, the other at standard height. Self-contained cooler mounts on the wall surface. It combines bubbler and regulator and has a special lever arm for easy activation. A recessed in-the-wall refrigeration system is concealed by louvered grill. Elkay Manufacturing Co.

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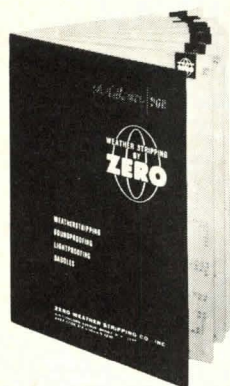
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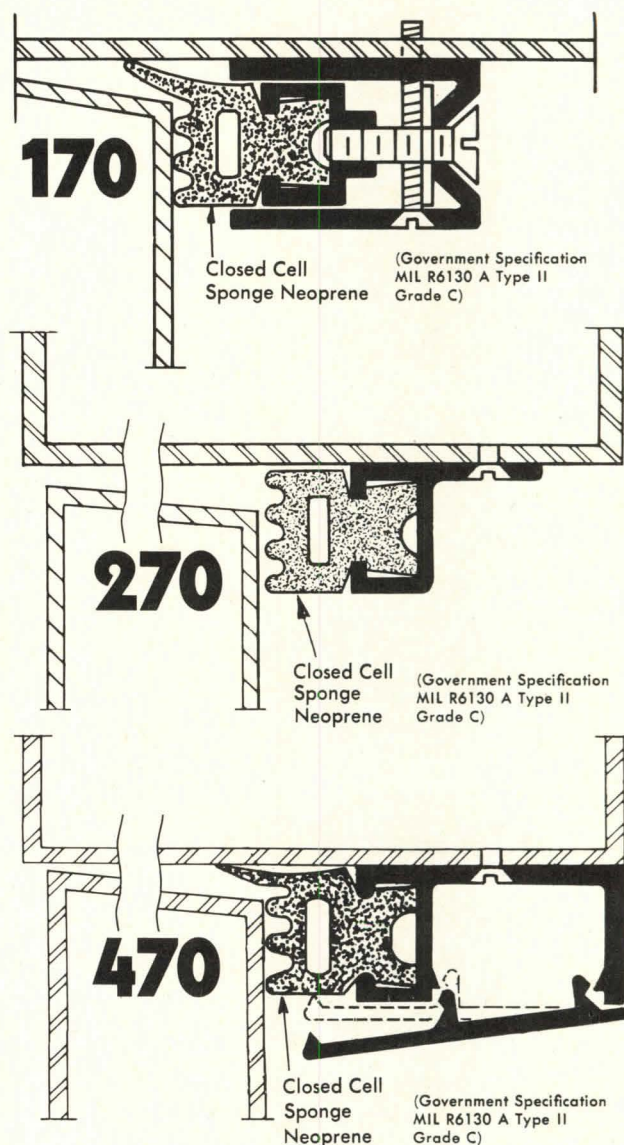
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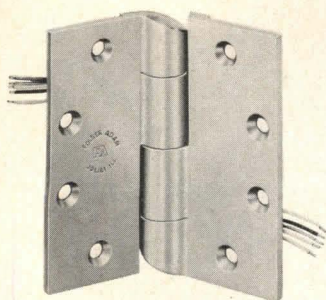
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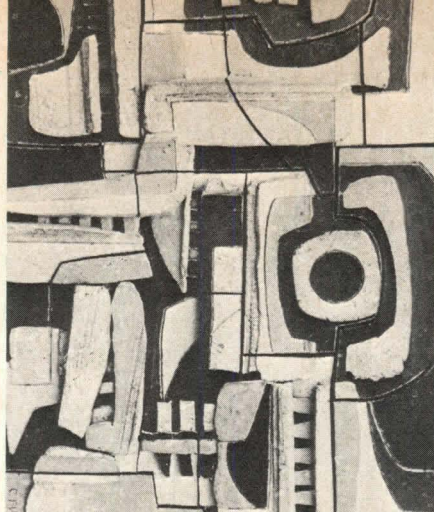




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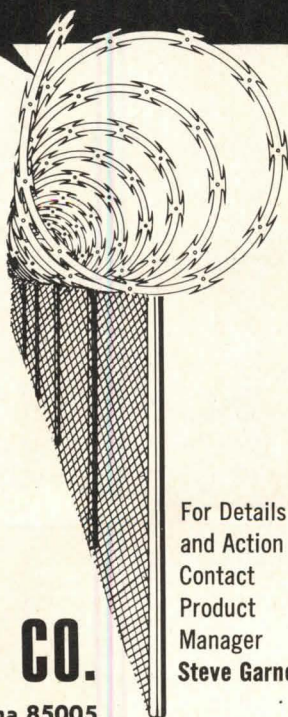
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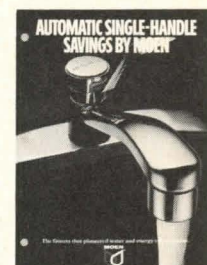
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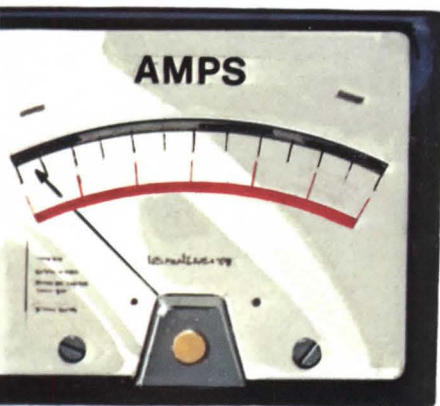




# How to specify a generator set.

You could take the easy way out with old, outdated specs. But the easy way isn't always the best way. And as your Detroit Diesel Allison distributor we're offering this unsolicited advice. Take the time to really know generator sets. Know the people who make them. Know their technical capabilities. Their record for service. And while you're at it, do some serious thinking about what follows.

**Power ratings:  
is one man's 60KW  
another's 50KW?**



Low watt ratings can be deceiving unless you know what they really mean. If it says 60KW, does that mean 60KW sustained to the limit or 60KW at normal rated power? Is it a "flash rating" for a couple of minutes or a rating that meets the requirements of your intended duty cycle?

We can't speak for others, but the Detroit Diesel engines we use are built to stand up under rated loads—and keep going. We can say this without hesitation. *Our power ratings mean what they say.* You can take our generator sets to the rated limit, keep them there, and that Detroit Diesel power will do the job.

**2-cycle  
vs.  
4-cycle.**

1. 2-cycle Detroit Diesel engines get on line fast. 2. Once on line, they stay there. Detroit Diesel 2-cycles provide outstanding performance when it comes to *transient response*. Frequency stays steady even under widely fluctuating loads. 3. The Detroit Diesel Allison 2-cycle design makes for a small, light package. That translates into easy installation and, in many cases—low installed costs.

Of course, some would have you believe that the modern 2-cycle diesel is some sort of new-fangled gizmo. Too new. Too untested. But we've been using Detroit Diesel 2-cycle engines ever since we began building generator sets, so we can tell you for a fact; that's just so much smoke.

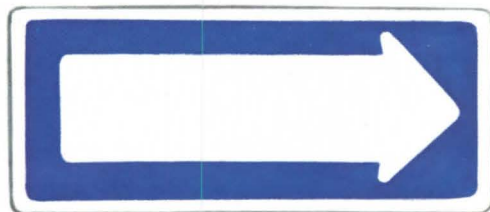
Detroit Diesel Allison, a Division of General Motors, has been making 2-cycle, 1800 RPM diesels for over thirty years. The result is an utterly reliable, beautifully serviceable engine that has earned its stripes in applications all over the world.

**1800 RPM  
vs.  
1200 RPM**

Slow-speed (1200 RPM) diesels have been powering generators for decades. And there's no arguing they were adequate for their time.

But now—with tougher metals and more durable designs—the more responsive 1800 RPM diesels are taking over. And, as these diesels get more popular, slow-speed engines get harder and harder to find. And—most importantly—so do the people and parts needed to keep them going.

**There's more from  
Your  
Detroit Diesel Allison  
Distributor...**



**Covington Diesel**



# Specifying gen sets continued...

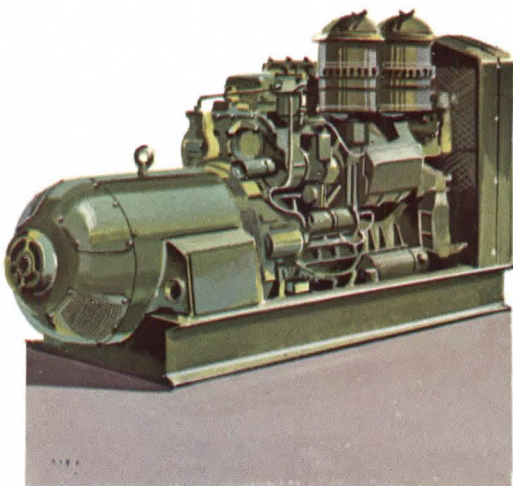
## Why Covington Diesel wants you to know.

We're telling you all this for one simple reason.

We want your business.

You see, we think we've made a pretty convincing case for the 2-cycle, 1800 RPM generator set. And we're about to give you some more solid reasons why we are the place to get it.

### The custom tailored electric set.



Before you even begin your next project—that's the time to get in touch with us. That way you can do away with outdated specs based on yesterday's power. And you can call on our expertise to define your power requirements in modern terms. We can help you in the specification, design, fabrication, installation and service of your entire diesel-electric generating system.

And it just stands to reason that we can help you more at the finish if we're with you at the planning stages. We'll be there with the kind of know-how that comes only after years of experience. And we'll be there to make sure you get the power you need for today and tomorrow—at a price you can live with.

The point is, we build to suit. And we aren't satisfied until you like the fit.

### Spec for Tomorrow.



It's a simple matter of looking to the future. If you want a power source that will still be a going concern decades from now, if you're concerned about availability of parts and service, then we believe your decision has to be the 1800 RPM Detroit Diesel.

And if you compare things like power-to-weight ratios, transient response and ease of installation the Detroit Diesel 2-cycles will look awfully good to you.

We think that gives you some very important things you need to know about specifying generator sets.

### The whole story, FREE.

We've told you all we can in this space—but there's more. And if you'd like to know more about us and the complete line of Detroit Diesel Allison power products we sell and service, we're more than eager to help. Give us a call and we'll be out in person to talk specs. Or, if you prefer, we will send you some modern specs in the mail. Simply fill out this coupon and mail it to the address at the bottom of the page. The information we send won't cost you a thing. It could save you a bundle.



To get the whole story *Free*, just give our sales manager the information below. And Send it to:

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**P.O. Box 9418**  
**Greensboro, NC 27408**  
**Attn: Sales Manager**

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Movable filing system

**Movable filing system** has Rotadrive crank mechanism which maker states permits moving loads up to 20,000 lbs per carriage by turning a handle. Carriages range in length from 72 in. to 20 ft. Lundia Myers Industries, Inc.  
Circle 118 on reader service card

**Wool carpet/upholstery/wallcovering.** The line consists of two construction weights: one heavyweight to be used as carpet (Jeans), the other, lighter-weight to be used for upholstery

and walls (Jeans, Jr.). The face construction of both is in the same yarns, all wool: the heavier is backed for floors, the other is non-backed for upholstery. The line is available in six colorways. Stark Carpet Corp.  
Circle 119 on reader service card

**Module 42 round tiles** are composed of impervious, dense, and vitrified homogenous glass and are completely frostproof. They are available in white, beige, pumpkin, and a group of earth colors or can be made in any custom color for a minimum order of 5500 sq ft. Suggested uses include floors and walls, interiors and exteriors, residential or commercial applications. Hastings Tile.  
Circle 120 on reader service card

**Aquafan modular cooling tower** is a mechanically induced, fan-draft cooling system. It uses water-turbine driven fans powered by the water flowing to the tower. Pumped to the cooling tower, the energy in the water is converted into rotational energy to drive the fans. It is constructed of 6-ft-sq modules, each with its own built-in fan. Multiples of the Aquafan module can be lined together in any direction for cooling towers of unlimited shape and height. All components are constructed of stainless steel, fiberglass-reinforced plastic, engineered plastics, and treated wood. Enclosed in fiberglass-reinforced plastic sheets. AIR-X-Systems Div., Heat/Fluid Engineering Corporation, Div. of Patterson-Kelley Co., HARSCO Corp.  
Circle 121 on reader service card

**Heat reclaim unit** for commercial restaurant exhaust salvages waste heat generated by the cooking equipment and uses it to temper make-up air. The unit offers an integral wash-down system to clean the thermal recovery unit, a means of controlling supply air temperature, supplementary electric heaters to handle extreme low outside temperatures, ductwork combining exhaust and supply fans into one unit. It can be located in a mechanical room or on a rooftop. Each unit is individually engineered to fit the requirements of a specific job. Gaylord Industries, Inc.  
Circle 122 on reader service card

**Hexagon ceramic mosaic tile.** Small 2-in. hexagon-shaped tile is available in company's range of 43 solid and flecked colors, in 2-sq-ft paper faced-mounted sheets. It may also be ordered face-mounted in any specified design. Body of unglazed tile is 1/4-in. thick and is suitable for walls and floors in homes, schools, institutions, hotels. American Olean Tile Company.  
Circle 123 on reader service card

**Architectural panels.** Molded of polyester compounds, panels are said to have texture of natural originals (i.e., quarried coral stone), to be stable and lightweight, and to have excellent insulation, flame retardant, and nonabsorbent qualities. Composition of compounds used in casting panels can be formulated to meet specific design requirements. Meridian Products, Inc.  
Circle 124 on reader service card

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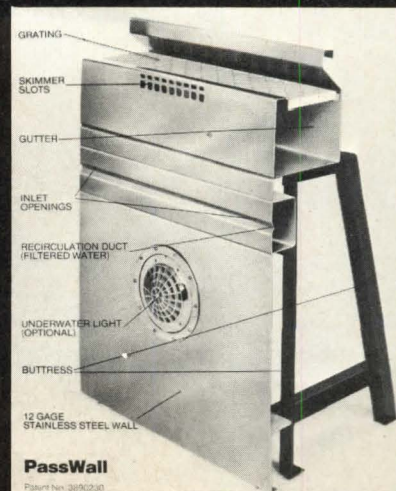
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Santa Cruz, Ca. 95060  
408-426-9010



PassWall  
Patent No. 3,690,230

PassWall Wall and Gutter Section



**Products** continued from page 97

**Sonex noise baffles** are composed of open-cell urethane plastic foam on concealed metal frame with eight eyelets per baffle for hanger installation, horizontally or vertically, or for wall stand-off mounting. The Sonex contour is based on the anechoic wedge principle, which is said to optimize noise deflection. Charles Industries Corporation.

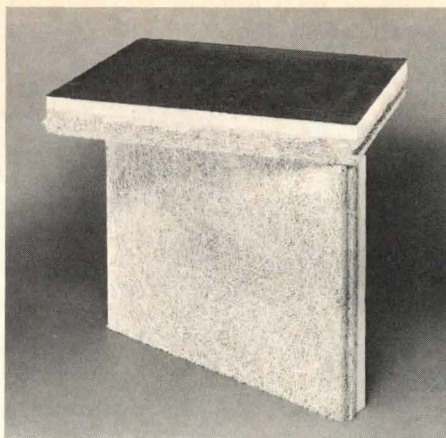
Circle 125 on reader service card

**Reinforcing pivot hinges** are said to prevent sagging doors due to excessive hinge wear by transferring excess force from the door to the pivot and into the jamb rather than to the hinges. They are available for both full surface and half surface applications with 3½, 4, 4½, and 5 in. hinges and come in a bright zinc finish. Hager Hinge Company.

Circle 126 on reader service card

**Insulated window panels.** Unit features two protective panels: one which remains fixed in the upper position, while the other is movable over the entire length of the window. The unit is an aluminum tilt window consisting of one upper fixed lite of insulated panel and a double hung sash. Panels are constructed with a steel face laminated to an insulated core. The unit combines these panels with double weatherstripping and a ½-in-thick insulating glass. Graham Architectural Products Corporation.

Circle 127 on reader service card



Insulated roof deck

**Insulated roof deck.** A PetriCal structural cement-fiber deck is bonded to urethane foam with a top layer of asphalt saturated felt. Deck panel gives a U factor as low as .066, states maker. Asphalt saturated felt top surface is said to be compatible with normal base sheets and built-up-roofing systems which can be applied directly to it. Cornell Corporation.

Circle 128 on reader service card

**Drywall partition system** has been developed to enclose elevator shafts and other vertical chases in buildings where it is advantageous to erect walls from one side. System comprises two basic components, gypsum board and metal framing, including I Studs and "J" tracks. I Studs

have integral tabs to hold 1-in. shaft liner board in place; two ¾-in. gypsum wallboard face panels are screw attached to stud flanges to complete wall assembly. All components are non-combustible. Gold Bond Building Products.

Circle 129 on reader service card

## Literature

**Wall panels and systems.** Brochures cover integrally colored textured mineral panels used for fascias, spandrels, etc., or, as part of an entire dry-built wall. Permatone "S" Panels are smooth-surfaced mineral panels, with an acrylic resin color finish, which are used for building accents as well as paneling large areas. Laminated panels have mineral facings plied to insulating cores and are used for quick enclosure of large areas. Johns-Manville.

Circle 200 on reader service card

**Healthcare furnishings.** 36-page color catalog illustrates and describes complete line of beds, overbed tables, furniture, chairs, mattresses, and cribs. It details features, shows actual room settings. Simmons Commercial Products.

Circle 201 on reader service card

**'Textured Indiana Limestone Wall Panels.'**

Brochure illustrates various textures available and gives typical panel wall sections. Harding & Cogswell Corp.

Circle 202 on reader service card

[continued on page 100]

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**Literature** continued from page 98

**Development Guide** for health service facilities. Contained in large ring binder is information covering the planning of every part of a health care facility. It illustrates how materials management system can be used to improve work flow and supply management within the framework of constantly changing hospital requirements. Guide explains how UNICELL, which can be wall-hung or used free-standing or mobile, can be incorporated into an exchange system to eliminate routine ordering and the continuous replacement of supplies and equipment. Guide also supplies information on initiating and using partial or complete exchange system and maintaining environmental standards with UNICELL. Monitor Products.  
*Circle 203 on reader service card*

**Exterior wall insulation and finish.** Four-color brochure describes the Dryvit System, gives color chart, technical data, typical details of installation, and specifications. Case study pamphlets are also available. Dryvit System, Inc.  
*Circle 204 on reader service card*

**Coat racks.** Rigid-Rak™. Brochure covers comprehensive line of coordinated coat and hat rack equipment combining wood with combinations of metal shelves and brackets. Raymond Engineering Inc.  
*Circle 205 on reader service card*

**Warnel metal** offers a broad range of natural metals and finishes: stainless steel, copper, bronze, weathering steel, aluminum with anodic finishes, and aluminum or galvanized steel with color coatings. Both textured surfaces and geometric patterns are available. Brochure contains product information and photo case studies of metal façades. Forms + Surfaces.  
*Circle 206 on reader service card*

**Aggregate panels** for curtain walls, window walls, veneer, and fascias are illustrated and described in color brochure. Panels consist of cement asbestos board substrate (or skin) and aggregate facing materials permanently bonded in an epoxy matrix. Artcraft Industries, Inc.  
*Circle 207 on reader service card*

**Miralox-T™** is a thermal barrier curtainwall system that is said to offer "U" values as low as .07. The insulated panel system for exterior or interior walls and partitions is progressively jointed with no thru-wall metal contact. Brochure illustrates details, gives specifications and data. Glasweld International.  
*Circle 208 on reader service card*

**Pre-insulated wall panels.** Brochure illustrates and highlights important features of three basic type of panels. A separate brochure gives technical data and physical properties of Isocyanurate foam insulating material used in the panels. Inryco, Inc., Building Panels Division.  
*Circle 209 on reader service card*

**Steel framed curtain wall panels.** Light structural framing members can provide entire support for buildings up to four stories high, states maker. Brochure illustrates framing systems components and installation process, gives product data and floor and roof construction options. Inryco, Inc.  
*Circle 210 on reader service card*

**Stone on plywood siding and decking.** Sanspray panels are of exterior grade plywood factory-finished with epoxy resins and stone chips. Dexdeck is faced with a small sand aggregate. Brochure shows actual size aggregates, give data. Sanspray Corp.  
*Circle 211 on reader service card*

**Technical literature on plywood.** The 14-page index contains a list of the technical literature currently available, most of which is written for architects and engineers. American Plywood Association.  
*Circle 212 on reader service card*

**Music practice rooms.** Test reports validate properties such as noise reduction, noise isolation class rating, and ambient sound pressure levels. Reports are accompanied by explanatory charts and graphs, and should be of interest to specifier or purchaser of music practice rooms for use by schools and colleges. Industrial Acoustics Company, Inc.  
*Circle 213 on reader service card*  
[continued on page 102]

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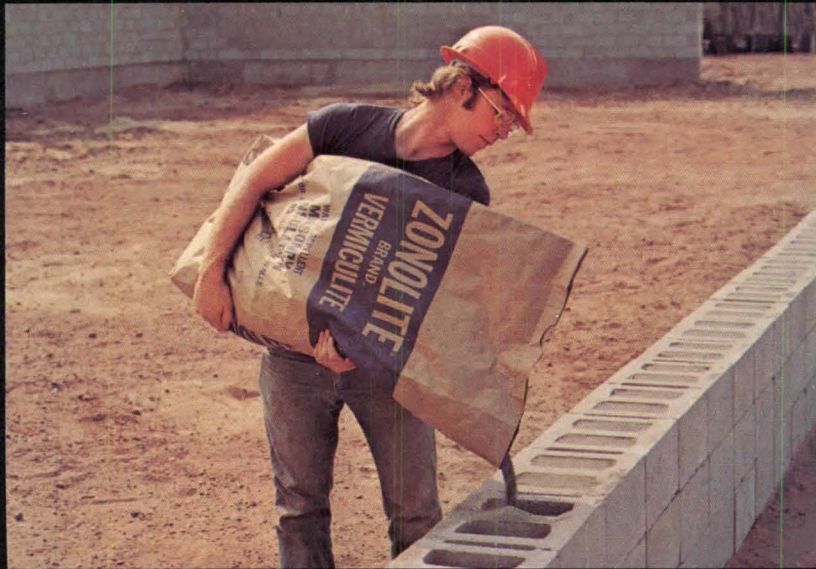
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This extra protection provides the needed safety factor that gives occupants time to escape and lessens the risk to fire fighters.

**Economy.** Zonolite Masonry Insulation saves money two ways. Installation costs are reduced because Masonry Insulation pours freely, with no rodding or tamping, from lightweight bags to completely fill cores and cavities quickly and easily. And, of course, the sharp reduction in heat transmission means reduced heating and cooling costs.

For complete information, write Construction Products Division, W. R. Grace & Co., 62 Whittemore Avenue, Cambridge, Massachusetts 02140. In Canada: 66 Hymus Road, Scarborough, Ontario M1L 2C8.

# GRACE



Literature continued from page 100

**Locksets.** Catalog illustrates complete line of locks and gives technical and descriptive data. Schlage Lock Company.  
Circle 214 on reader service card

**Sikagard 670.** Brochure details in full color water-base epoxy/acrylic coating for indoor and outdoor concrete, masonry, steel, and other structural materials. Brochure gives data, illustrates proportioning, mixing, and application for the two-component system. Sika.  
Circle 215 on reader service card

**Architectural epoxy coatings.** 24-page brochure includes properties and comparative data for Pitt-Glaze solvent-base polyester epoxy coatings and water-base acrylic epoxy coatings. Data includes color choices and tinting information, federal acceptances, environmental standards met by the coatings, complete product descriptions including composition and materials. PPG Industries.  
Circle 216 on reader service card

**Post-tensioning concrete systems.** Brochures describe Monostrand and Multistrand systems for post-tensioning concrete, the various services available, which range from design assistance to a firm proposal for a complete post-tensioned framing system including all engineering, forming, mild reinforcing, and post-tensioning steel, and concrete. VSL Corporation.  
Circle 217 on reader service card

**'The Painting Computer.'** Brochure describes how room-size reproductions can be created from any artwork or photo with the architectural paintings process. A machine-ready transparency of the original is scanned, and color and density translated into electrical signals. A computer interprets the signals, controlling micro-spray guns which actually paint an enlarged version of the original. Enlargements range from 20 sq ft to full auditorium size. Booklet illustrates and describes the computerized painting process, types of originals which can be used, the variety of reproduction background surfaces available, and methods by which completed architectural paintings can be displayed. 3M Co.  
Circle 218 on reader service card

**Surewall®.** Brochure contains information and data required for designing buildings of surface bonded masonry construction which require no mortar in the erection of concrete block walls. Concrete blocks are dry stacked and surface bonded with a stuccolike application of a surface bonding cement. W.R. Bonsal Company.  
Circle 219 on reader service card

**'A Design Guide: Long Span Steel Roof Structures.'** 59-page guide discusses design options offered by varied systems, outlines design criteria, structural criteria, and geometrical considerations. Twenty buildings are described and illustrate the variety of flexural, axial, shear, and tension roof systems in use. Committee of Structural Steel and Steel Plate Producers, American Iron and Steel Institute.  
Circle 220 on reader service card

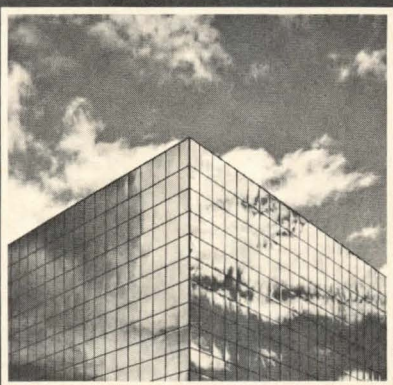
**Precast panels.** Literature includes photographs of applications, gives typical details and specifications. MyerPax Industries, Inc.  
Circle 221 on reader service card

**Urethane deck systems.** A 12-page brochure contains complete updated specifications, and application information for decks incorporating rigid urethane foam cores. Apache Foam Products Company.  
Circle 222 on reader service card

**Aluminum siding** in a wood shingle design. Color brochure illustrates "Shingl-Wood" which, maker states, has the appearance of wood shingles, offers low maintenance features, better insulation, and is available in a variety of styles and colors. Alcan Aluminum Corp.  
Circle 223 on reader service card

**Replacement windows.** An illustrated 12-page catalog gives abbreviated specifications, cross sectional drawings, illustrations of double and triple-hung, slider, and picture replacement windows, and introduces recently developed gothic and circle top windows with unique operating top sashes. Season-all Industries, Inc.  
Circle 224 on reader service card

**Anchoring system** for veneer limestone panels called the Swen-Angle System, is described in brochure. According to the manufacturer, the system is especially useful in outer renovation of existing buildings. Indiana Limestone Company.  
Circle 225 on reader service card  
[continued on page 104]



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For complete information, including engineering data, request Catalog 12 or see the BLUM listing in Sweet's General Building, Industrial Construction and Comprehensive Engineering files.

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R. L. STOWE MILLS, Belmont, North Carolina—Arch: Freedom Design & Interiors; Fabr: Colonial Iron Works.

KINGS CHAPEL ASSEMBLY, Manhattan, New York—Arch: Millard Bresin; Fabr: Joseph Charla Iron Works.

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KINGS CHAPEL ASSEMBLY



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Circle 226 on reader service card

**Construction and maintenance products** included in pamphlet are those for patching and resurfacing, concrete bonding, grouting, glazing, and coating. Company provides program of technical advice. Garon Products.

Circle 227 on reader service card

**Metal building panels.** Brochure gives technical data, details, specifications, and illustrates colors and finishes that are available. Architectural Panels, Inc.

Circle 228 on reader service card

**Struct-O-Wall™.** 24-page booklet describes dry-built dry wall system using lightweight structural steel studs and tracks with a facing of 1/4 in.- and 5/8 in.-thick mineral fiber panels, shows step-by-step fastening details. Johns-Manville.

Circle 229 on reader service card

**Plywood publications.** A full-color, 16-page booklet, "Plywood Siding" discusses the qualities, acoustical value, thermal insulation, and economy of plywood. Illustrations include samples of a variety of siding patterns, joint details, and more. "Plywood for Floors" includes a guide to plywood grades and information on Glued Floor System. Stressed-skin floor panels, heavy-duty floors, long span floors, in updated book. American Plywood Association.

Circle 230 on reader service card

**Ceramic Tile.** A 1977 20-page specifiers guide is available to architects, builders, contractors, designers, and other qualified specifiers. It includes 165 ceramic tile colors and a variety of shapes, sizes, designs, and glazes. Nearly 70 flooring patterns are indicated and/or suggested. The catalog describes company's design service, gives information on swimming pool designs. United States Ceramic Tile Co.

Circle 231 on reader service card

**Steel decks for floors and roofs.** A 32-page catalog covers company's complete line which includes new H Roof Deck, particularly suited for roofs and canopies where long spans are desired. Catalog BD contains cutaway illustrations, section properties, load span tables, and dimensioned drawings. Other design information includes sound absorption data, fire ratings, suggested specifications, general recommendations for erection and design aids. Bowman Construction Products, Elwin G. Smith Division, Cyclops Corporation.

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**Computerized security.** An automated on-site security and building management system for single large buildings or multi-building complexes is based on a central computer processing unit. It uses multiplex signal transmission techniques. ADT.

Circle 233 on reader service card

**Vinyl film laminate.** Catalog describes the specifications and properties of vinyl films for lamination to metal and nonmetallic substrates, provides samples of the vinyl materials which come in a variety of colors, textures, and finishes; includes textile patterns, woodgrain effects, and leatherlike finishes. The General Tire & Rubber Company.

Circle 234 on reader service card

**Structural clay products.** A 12-page full-color catalog features the complete line of structural glazed facing tile, textured and acoustical tile, High Brick and utility brick. Product descriptions, typical specifications, and technical data are also given. Stark Ceramics, Inc.

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**'Chemicals for Curing, Hardening, and Sealing Concrete.'** The 12-page, two-color brochure contains a technical discussion on the importance of curing, hardening, and sealing concrete, gives details on how these procedures can save the contractor money. Illustrations show applications and charts show application rates and other technical data. Each product is described and its uses given. Symons Corp.

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## Books continued from page 92

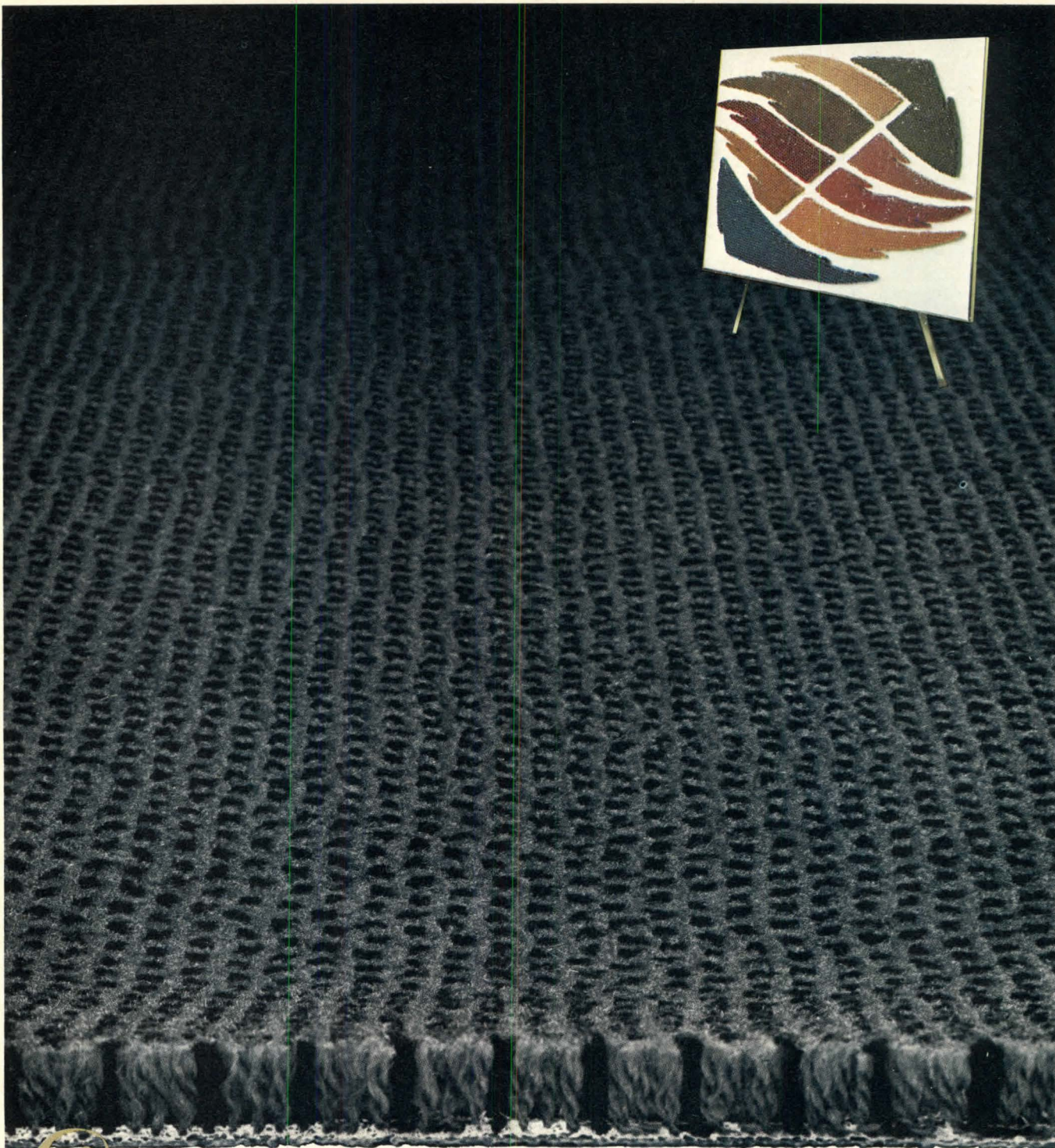
cessful in obtaining a court injunction against any further building. As is not unusual, this setback to the plans had repercussions and severely injured the operation of the existing project which, after five years, is now having some serious problems.

A low-rise project indicating yet a different problem is Church Street South in New Haven. Here the architect indicated that the project had been crippled since the beginning by government's unrealistic property standards and cost limitations, so that too much had to be given up at the outset to maintain the project in good condition. Again, here the compromises that had to be made to the varying demands of consumer and neighborhood groups were enough to make a difficult situation even more difficult.

A third project also on the unsuccessful list is Woodlawn Gardens in Chicago, a low-rise project whose problems the architect blames on the local citizens organization for using it as a dumping ground for political purposes. Further, he indicates that the management of the project has been particularly inept and that these two facts plus the general location of the project have combined to make success extremely difficult.

Actually, the successes of the vast majority of the projects, particularly the high-rise ones, and the reasons for the lack of success in the remaining ones, particularly the low-rise, are further testimony to the quality of Macsai's choice of buildings. They demonstrate that the buildings from which he has gleaned many of his design suggestions are indeed worthy of study. □





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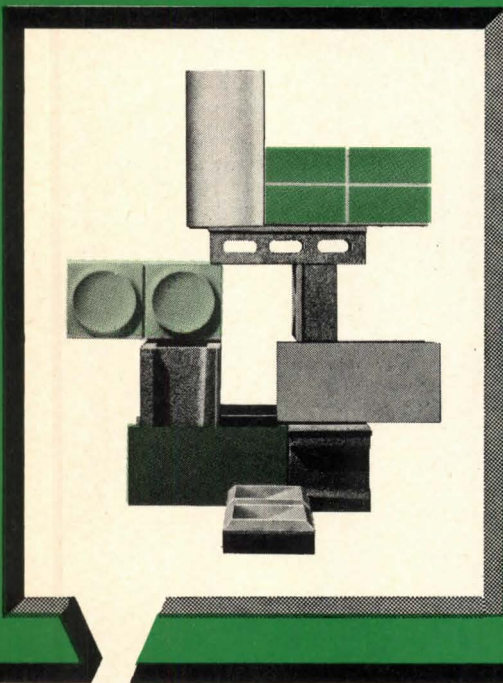
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## Progressive Architecture

# Notices

### New addresses

**Edgar Tafel, Architect**, 14 E. 11 St., New York City 10003.

**Richard W. Peters & Associates, Architects**, 4549 S.W. Scholls Ferry Rd., Portland, OR 97225.

**Skidmore, Owings & Merrill** has opened an office at 5333 Westheimer, Houston, TX 77027.

**Keimig/Neifert Architects & Planners** has opened a branch office at 1738 S. Poplar St., Casper, WY.

**T. Fred Underwood Architect, AIA** (formerly Boyes & Underwood), 1455 Berkshire Rd., Columbus, OH. 43221.

**Harper & George**, 307 E. 47 St., New York City 10017.

**Tom Price, Architect**, 301-B Park Ave. N., Orlando, FL. 32789.

## Building materials

**Major materials suppliers for buildings that are featured this month, as they were furnished to P/A by the architects.**

### Art Center College of Design, Pasadena CA

(p. 62). *Architects: Craig Ellwood Associates, Los Angeles.* Concrete foundation and walls: Conrock. Steel deck with concrete fill: ASC Pacific. Aluminum curtain wall, baked finish: Hytee Products. Gypsum board interior walls: Flintkote. Carpet: Cabincraft. V.A. tile: Armstrong. (Floors, except in administration and library: exposed concrete.) Suspended ceiling runners (admin. and library only): Chicago Metallic. Built-up roof and roof insulation: U.S. Gypsum. Foundation waterproofing: Pioneer Flintkote. Insulated span-drel panels: Duraspan. Interior doors, solid core: Haley. Overhead steel doors: Cookson. Elevator: U.S. Elevator. Aluminum entrance doors: Hytee. Locksets, door closers, hinges: Corbin. Case-ment hardware: Timely. Panic hardware: Jackson. Paint: Sinclair. Exterior lighting: Bieber, Halo, Nulite. Electrical distribution: Square D Co. Water closets: Eljer. Sprinkler system: Star Mfg. Package HVAC units, 80 zones: McQuay, Trane Co.

### Pennzoil Place, Houston, TX (p. 66). Architect:

*Johnson/Burgee, New York, NY and Houston, TX.* Reinforced concrete mat type foundation: Bethlehem Steel, U.S. Steel. Steel frame: Mosher Steel Co. Aluminum and glass curtain wall: Cupple Products, L.O.F. Glass. Acoustical ceiling tile: Celotex Building Products. Suspended concealed spline ceiling system: Chicago Metallic. Waterproofing: Uniroyal. Curtain wall span-

drel: Owens Corning; Sound attenuation blanket: U.S.G. Gyp board partitions: U.S. G. Shaft wall partitions: National Gypsum. Teak veneer doors: Bruce Door Co.; Truck dock doors: Overly Mfg. Co. Balanced doors: Ellison Bronze Co. Locksets and door closers: Russwin. Hinges: McKinney. Interior paint for tenant partitions: Devoe. Elevators and escalators: Westinghouse Elevator Co. Tenant lighting fixtures: Westinghouse. Lobby lighting fixtures: Edison Price. Bus duct electric distribution: G.T.E. Water closets and lavatories: Kohler. Flush valves: Sloan. Boilers: Kewanee. Chillers: Carrier. Cooling tower: Marley. Air handling units: Carrier.

### Pennzoil Company offices, Pennzoil Place, Houston, TX (p. 69). Interior Designer: Gensler & Associates.

Ceilings (acoustical with concealed spline): Armstrong. Lighting: Westinghouse (fluorescent). Oak furniture system: Stow Davis, Free-Dimensional. Fabric wallcovering (linen): Franciscan Fabrics. Acoustical fabric wall installation: Homecraft. Fabric accent walls: Boris Kroll Fabrics. Textured vinyl wallcovering: Virectex. Wool cut and uncut pile carpeting: Philadelphia Carpet Co. Window blinds: Levolor. Files and metal desks: GF. Steno seats: Steelcase. Guest chairs: Stow Davis. Desk Chairs: Directional. Lounge chairs: Scope and Stow Davis. Upholstery fabric and furniture system fabric: Boris Kroll Fabrics. Drum tables: Intrex. Custom file panels: Homecraft. Custom furniture: Langenbacher, Concept, Walter P. Sauer and Sons. Conference tables: JG Furniture. Custom banquettes and planters: Concept. Tables (employee lounge) Thonet. Chairs (employee lounge): Knoll. Lounge seating: Scope. Drum tables: Artec. Special enamel table tops: American Porcelain. Planters: Group Artec. *Executive offices, Pennzoil Company.* Fabric wall covering: Scalmandre, Franciscan fabrics. Fabric wall installation: Homecraft, Architectural millwork: John Langenbacher Company. Carpet: Spinning Wheel Rugs, Mort West. Wood flooring: Stanley Floors. Windows: Levolor blinds. Draperies: Scalmandre, Homecraft. Executive desks, cabinets, credenzas: John Langenbacher Company for Gensler. Seating: Knoll, Stow Davis, Brickel Associates, Scope, Zographos. Lounge furniture: Scope, Lakeside. Drum tables and occasional tables: Intrex and John Langenbacher Co. Conference tables: John Langenbacher Co. for Gensler. Conference chairs: Cumberland. Planters: Architectural Supplements, Richard Melborun. Desk Accessories: BPC Industries. Lighting: Lightolier (incandescent downlights); Wrightlight (fluorescent under-counter); Edison Price (incandescent make-up lights).

### Bracewell & Patterson offices, Pennzoil Place, Houston, TX (p. 73). Interior Designer: Caudill, Rowlett, Scott.

Fabric wall covering: Carnegie Fabrics; Wall carpeting: Eurotex. Paint: Pratt & Lambert. Oak flooring: Stanley Flooring. Carpeting: Karastan. Acoustical ceiling: Celotex Corp. Downlights/Wall washers: Edison-Price. Files, desks, work units, conference tables: Brochsteins, Inc. Reception seating: Atelier International. Conference seating: ICF. Attorneys and secretarial chairs: Knoll International. Guest chairs: Zographos. Glass coffee tables: Cumberland Furniture. Reading lamps: Cedric Hartman. Snack bar tables: ICF. Snack bar chairs: CI Designs.

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By Macsai, Holland, Nachman,  
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This book on multiple housing serves as a refresher course for the architect, a handbook for the novice, a reference book for the student, a course guide for the professor and as background for the housing official.

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# 11 Frank Lloyd Wright's Usonian Houses

By John Sergeant, 207 pp., illus., ... \$24.50

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