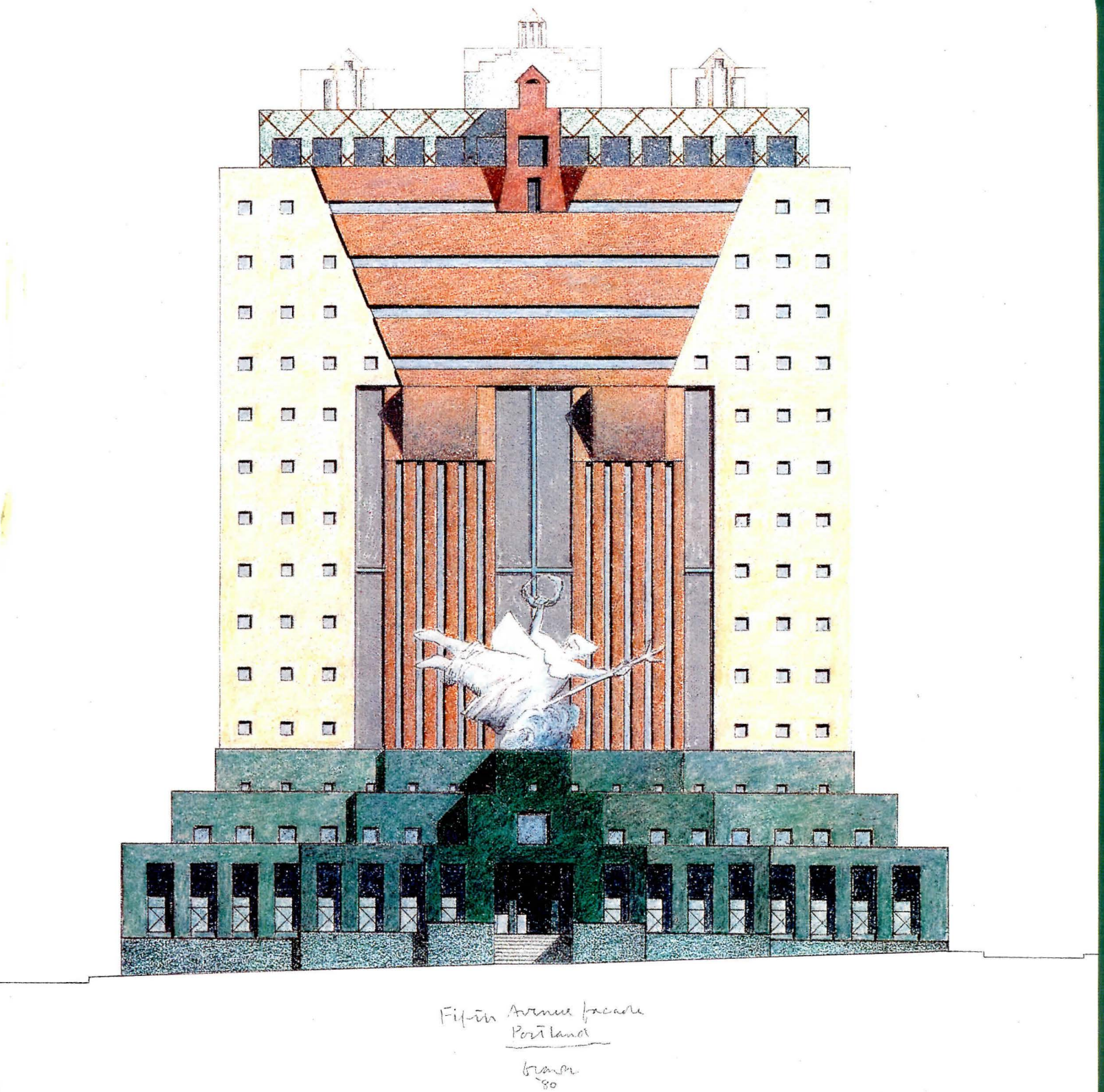

MICHAEL GRAVES'S CONTROVERSIAL DESIGN FOR PORTLAND

THREE NEW DESIGNS BY C.F. MURPHY ASSOCIATES

WILKES-BARRE REVIVES ITS DOWNTOWN AS A MARKETPLACE

ULRICH FRANZEN'S NEWEST BUILDING AT CORNELL

BUILDING TYPES STUDY: SCHOOLS

FULL CONTENTS ON PAGES 10 AND 11

ARCHITECTURAL RECORD

AUGUST 1980 **8** A McGRAW-HILL PUBLICATION $5.50 PER COPY

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Letters to the editor

"The rumors of my demise are greatly exaggerated."

I think that Mark Twain's comment is appropriate, having read your May 1980 article about the Institute for Scientific Information headquarters designed by Venturi Rauch & Scott Brown, which made comparisons to a building designed by our firm—that is, the Monell Center "by the since-dissolved firm of Ewing, Cole, Erdman and Eubank."

The name of our firm has been changed to Ewing Cole Cherry Parsky, and we are very much alive and in practice, with a staff of over 150 housed in the Federal Reserve Bank Building in Philadelphia.

Robert M. Parsky
Ewing Cole Cherry Parsky
Philadelphia

In many ways, I wish what follows were not said in the proud shadow of being included in *Record Houses of 1980.* I hope you will understand that were my work not among the important efforts of my colleagues illustrated in the mid-May issue of RECORD, I would still feel compelled as an architect to write the following.

Having been a reader of *Record Houses* for 25 years, I consider myself quite qualified to comment on certain truths that I believe to be self-evident. Beginning with the very first issue, I realized that if one is an architect of individual houses, and he takes it seriously, his work should damned well appear as often as possible in *Record Houses.* This selection of 20 houses has responsibly addressed itself to the best efforts of my profession in response to the true meaning of "house." *Record Houses* has never featured seduction chambers, flashy and luxurious dream castles, nor stylized attempts at interpreting clichés. With rare exception, each one of the houses included in this important annual gathering addresses itself to the problems of mumps, measles, chicken pox, birthday parties, Christmas, and the onslaught of popular taste.

This year the quality of the buildings included is extraordinarily good, their responsibility and detailing nearly profound. And once more the editorial selection is not dedicated to style alone, but to the attempted solution to architectural problems of scale, proportion, form and light.

Well done.

Hugh Newell Jacobsen, FAIA
Washington, D. C.

Anxiously I awaited the arrival of the mid-May issue, *Record Houses.* Once again I was disappointed with many of the selections published.

I find it extremely difficult to believe that selection for publication is based on design merit or quality of concept execution. Consistently, year after year, the same architects' work appears in this issue, regardless of quality or similarity to last year's submissions. Members of Architectural Alliance have concluded that Hugh Newell Jacobsen, Charles Moore, Booth and Company, et al., either know the selection committee personally or their photographers do.

If this letter sounds like sour grapes, you are partially correct. Considering the number of submissions, many well executed, functional and dynamic solutions were passed over in preference of a "warping binuclear organization," a typically bland but "friendly" house, or a Shingle Style house with spaces that are "more or less the spaces of any house." Houses that fall into this category may be worthy of note, but in *Record Houses*? Has your "eccentric wit" been expressed at the expense of the fine work of other architects?

I can faithfully predict a good number of the architects to be selected for publication in the 1981 issue. If you desire assistance, call me. I would be glad to help. In the meantime, you may consider advising architects that their submissions have a 72 per cent chance to reach the level worthy of recognition in *Record Houses 1981* if the submission is made under one of the names listed above.

Michael J. Munninger, Architect
Architects Alliance
Phoenix

In its annual Record Houses, ARCHITECTURAL RECORD *strives to offer a breadth and diversity of designs and designers. Architects new to the pages of the magazine in 1980 included Robert Becker, Grattan Gill, Roth and Moore, the Zephyr Architectural Partnership, Charles R. Rolando & Associates, Arne Bystrom, Errol Barron, Copeland-Miller-MacDonald and Pomeroy-Lebduska Associates. At the same time, the editors cannot believe that the newest work of familiar architects should go unseen.*—Ed.

In your generous coverage of our work in the June issue ["Reviving the arts and crafts: projects by Kliment and Halsband," pages 104-113], we noted the omission of special credit to members of our office on two projects:

For the Town School: David Knowlton, project architect: John Averitt and Patrick Golden, project assistants.

For the offices of William M. Mercer: Robert Frear, project architect; Jack Esterson, Patrick Golden and Jenny Young, project assistants.

The realization and the quality of the projects owe much to these people, and we would appreciate the forum of the Letters column to correct the omission.

R. M. Kliment, AIA, and
Frances Halsband, AIA
New York City

Correction

The price of the book *Twentieth Century Limited* by Jeffrey L. Meikle is $17.50, not $45 as reported in RECORD's recent review (June 1980, page 45).

Calendar

AUGUST

16 Exhibition, "Municipal Art: Love It or Lose It," to celebrate the inauguration of the Municipal Art Society in the Urban Center; in the landmark Villard Houses, New York City. The exhibit was designed by Chermayeff & Geismar Associates and is sponsored by the National Endowment for the Arts and Philip Morris Inc. Contact: The Municipal Art Society in the Urban Center, 457 Madison Ave., New York, N.Y. 10022.

SEPTEMBER

2-4 International Design Conference, "Architecture and Design: Research/Education for the 1980s," sponsored by Nova Scotia Technical College, P.O. Box 1000, Halifax, Nova Scotia B3J 2X4.

8-10 Mid-America Solar Update '80, sponsored by the Mid-America Solar Energy Complex; at the Radisson Hotel, St. Paul, Minn. Contact: The MASEC Center, Alpha Business Center, 8140 26th Ave., South, Minneapolis, Minn. 55420.

24-27 Conference, "The Architecture of Energy," sponsored by the Martin Centre for Architectural and Urban Studies; at St. John's College, Cambridge. Contact: Conference Secretary, The Martin Centre for Architectural and Urban Studies, University of Cambridge Department of Architecture, 6 Chaucer Rd., Cambridge CB2 2EB, England.

Through October 5 Exhibition, "American Architectural Etchers: The Traditionalists," sponsored by the American Institute of Architects Foundation; at the Octagon, Washington, D.C. Contact: The AIA Foundation, 1700 New York Ave., N.W., Washington, D.C. 20006.

OCTOBER

8-9 Seminar on Swimming Pool Design for architects and engineers, sponsored by KDI Paragon, Inc. Contact: KDI Paragon, Inc., 12 Paulding St., Pleasantville, N.Y. Paulding St., Pleasantville, N.Y. 10570.

ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, ARCHITECTURE and WESTERN ARCHITECT AND ENGINEER) (USPS 132-650)
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Kevin Dowling, Vice President
Donald Bentley and Associates
Project Engineer, State Fund Building
San Francisco, CA

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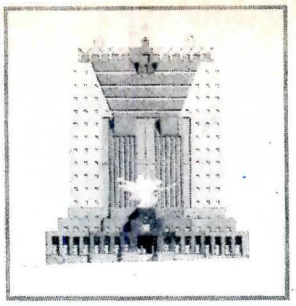

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Portland, Oregon
Architect: Michael Graves
Drawing by Michael Graves

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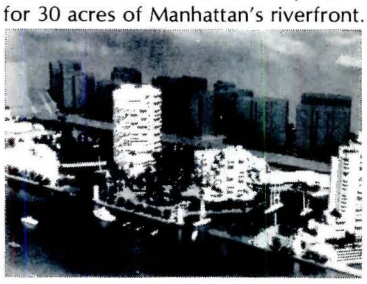

ARCHITECTURAL BUSINESS

FEATURES

BUILDING TYPES STUDY 547

Peter Aaron, ©ESTO photographics, Inc.

ARCHITECTURAL ENGINEERING

NEXT MONTH IN RECORD

Building Types Study: Low-rise office buildings
Here is a building type that has a history of being comparatively recession-proof and looks ahead to another year of high activity. The September Building Types Study will examine three new low-rise designs for corporate clients who care about quality and who understand that the buildings they build carry an important clue to the quality of the products they produce and/or the services they offer.

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One more time: Why are there still so few good houses?

Not long ago, I had the annual honor of serving on the jury for the Homes for Better Living Competition, jointly sponsored by the AIA and our sister publication, *Housing*. Still the country's largest residential design competition—with several hundred custom-house submissions and an even greater number of built-for-sale entries—it offers a pretty broad look at "what's happening" in residential design.

At the same time, I've been reading the "letters to the editor" on this year's RECORD HOUSES (fewer "outrage" letters this year, except about Stanley Tigerman's house, and the perennials—on recycled paper of course—claiming that *once again* we have totally ignored considerations of energy conservation. Not true, I think).

And we have started receiving submissions for next year's RECORD HOUSES (which are most welcome, thank you).

Thus full of looking at and thinking about houses, I find myself on one hand encouraged—and on the other hand discouraged.

First what I think is the good news. I think the best of the houses—both as judged by our editors for RECORD HOUSES and by the Homes for Better Living jury—are very good indeed. For one thing, the HFBL jury commented that there seemed to be much greater variety in the *Housing* submissions—and the jury chose houses that represented a broad range of design approaches. Despite this pluralism, the custom house jury had very little conflict in choosing the eight houses that were premiated. Why? Because they were all wonderfully appropriate to their sites, made sane and sensitive use of materials, had an orderly and rational plan and—generally—were designed around a *single* major idea.

The same is true, I would argue (though I'm biased) of this year's RECORD HOUSES. There are three (only three?) white boxes—and even though we know that white boxes are "out," these are very elegant and very livable white boxes. But there are a number of houses that, while thoroughly contemporary, are almost traditional in feeling. There's a house built around an exposed structural system, a house designed under a great skylight, a house that integrates well an active solar system and several based *primarily* on varied expressions of passive energy input. Some are big, some are little; some obviously expensive, some clearly built on a rigid budget; some compact, some sprawling. But each has clearly been perceived by our editors—again without a lot of conflict—as being a very good house, usually for one very specific reason—that "single major idea."

The point is this: There seem to be clearly defined "rules" for deciding what is good design in a house. Juries seem to have little trouble choosing winners. The editors of architectural magazines don't seem to have much trouble. So why are there so many disappointing houses?

The bad news is, of course, that well over half—maybe even 75 per cent—of the houses that are submitted by their architects for either Honor Awards or for publication are really not very good. I'm not making a personal value judgment—again I would point to the strong support that winning houses get, time after time, from varied juries and groups of editors (who, heaven knows, don't agree about much in architecture these days). Conversely (and perhaps even more to the point) it is a fact that juries—on their first study of a group of houses submitted—are usually unanimous in setting aside as "not worth further study" at least a half of the houses submitted by their architects for Honor Awards. Question: Why's that? There are still too many houses with too many roof pitches and too many materials and plans that just don't seem to make sense. Or that seemed dropped on their site from afar. That seem to have no central idea.

Perhaps this is true of all architecture. But it is particularly unhappy in the case of houses—which represent in a very special and personal sense the aspirations of clients for a very good house in which to make their home, and represent architects' very best chance to build acceptance of the profession. I guess I'd sum up this way: Anyone who approaches an architect for a custom house is making an enormous commitment, not just to a particular architect, but to the profession of architecture. That client deserves the very best that the architect (and the profession) can deliver. It is very hard to do a good house—but to do it well is in my view an especially important responsibility. There is nothing that would do more to build the case across the country for good architecture and for the profession than a lot more truly good custom houses.

—*Walter F. Wagner, Jr.*


Glass creates
always in
bloomi

The Australian government has selected the joint entry of Mitchell/Giurgola and Richard Thorp to design the new Australian Parliament House in Canberra. The 1,500,000-square-foot structure is expected to cost $155 million and has a projected completion date of 1987. For more details, see page 43.

The winner of the Pioneer Courthouse Square Design Competition in Portland, Oregon, is an interdisciplinary team headed by Willard K. Martin of Portland. Details on page 37.

Design Fair '80 is an annual celebration of the role of New York City as the primary source and marketplace for interior furnishings, products, and design. This year, cultural and retail events have been added to the existing calendar of industry events—Designer's Saturday, ASID conference—during the month of October, for a city-wide display of design resources. For a complete listing of scheduled events contact: Joseph Freitag, Design Fair '80, 950 Third Avenue, New York, NY 10022. (212/421-0185).

The contract value of new construction in 1980 is expected to decline to $137 billion, or 17 per cent below the 1979 figure of $166 billion. According to the McGraw-Hill Information Systems Company, the value of construction in the first five months of this year fell by one-third, and no quick turnaround is in sight. Homebuilding contracts, at $53 billion, will decline 29 per cent, and nonresidential construction will be down 5 per cent to $47.1 billion.

Max Bond has been appointed chairman of the Columbia University School of Architecture after having served on the faculty of the Columbia Graduate School of Architecture and Planning since 1968. Mr. Bond holds a master's degree in architecture from the Harvard Graduate School of Design and was recently named by New York City Mayor Edward Koch to the New York City Planning Commission.

The Second International Conference on Urban Design will be held in Boston and Cambridge, September 24-27. The conference is sponsored by the Institute for Urban Design, in cooperation with Harvard University, and will focus on the theme: "Tools for Urban Design in a Period of Constraints and Opportunities." The purpose of the program is to establish a dialogue between government leaders and members of the design professions. The mayors of 25 major cities around the world, accompanied by city planners and business and cultural leaders, will participate in panel discussions on transportation, housing, and the urban poor. Urban design professionals will conduct workshops devoted to the impact of the energy crunch, community participation, downtown development, and design administration. For more information contact: Institute for Urban Design, Main P.O. Box 105, Purchase, New York 10577. (914/253-5527).

Delegates to the 59th NCARB meeting in June at Colorado Springs voted to require every applicant for a Council Certificate—as of July 1, 1984—to hold a professional degree from an accredited architectural program. The vote has the effect of upgrading the educational requirements for those seeking the so called NCARB "Blue Cover." Until now, applicants for Council Certification needed only a high school diploma, but those lacking a professional degree were required to take the NCARB qualifying test.

The Historic Albany Foundation invites architects and developers to submit proposals for a residential infill directly across from the New York State Governor's Victorian mansion. The preliminary stage of the competition requires the submission of past work which shows "an interest in contemporary design infill." Five finalists will be awarded $1000 each for the final stage of the competition. Deadline for registration is September 30. For further information contact: Susan A. Christian, Historic Albany Foundation, 300 Hudson Avenue, Albany, NY 12210. (518/463-0622).

The Pan American Federation of Architectural Associations (PFAA) elected Rex Whitaker Allen, FAIA, as Vice President of the Northern Region, which includes Canada, Mexico, and the U.S. The PFAA is a 50-year-old organization dedicated to promoting communication between architects in the Western Hemisphere. Mr. Allen is former president of the AIA and a principal in the San Francisco firm of Rex Allen-Drever-Lechowski.

A studio course in the vocabulary of Classical Architecture will be given in Philadelphia this fall, and in New York next spring. "Drafting of the Five Orders" will analyze and compare through drawing, Tuscan, Doric, Ionic, Corinthian and Composite. The systems of proportion and detail which underlie classical architecture are presented in a series of exercises from the designer/draftsman point of view. For more information contact: Henry Hope Reed, Classical America, 227 East 50th Street, New York, NY 10022.

The Abacus Group is requesting manufacturers of building materials to participate in an exhibition of American-made building products in Peking this October. For further information contact: Abacus Group of America, 350 Fifth Avenue, Suite 3419-23, New York, New York 10118. (212/586-1000).

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Pioneer Courthouse Square: another major Portland competition

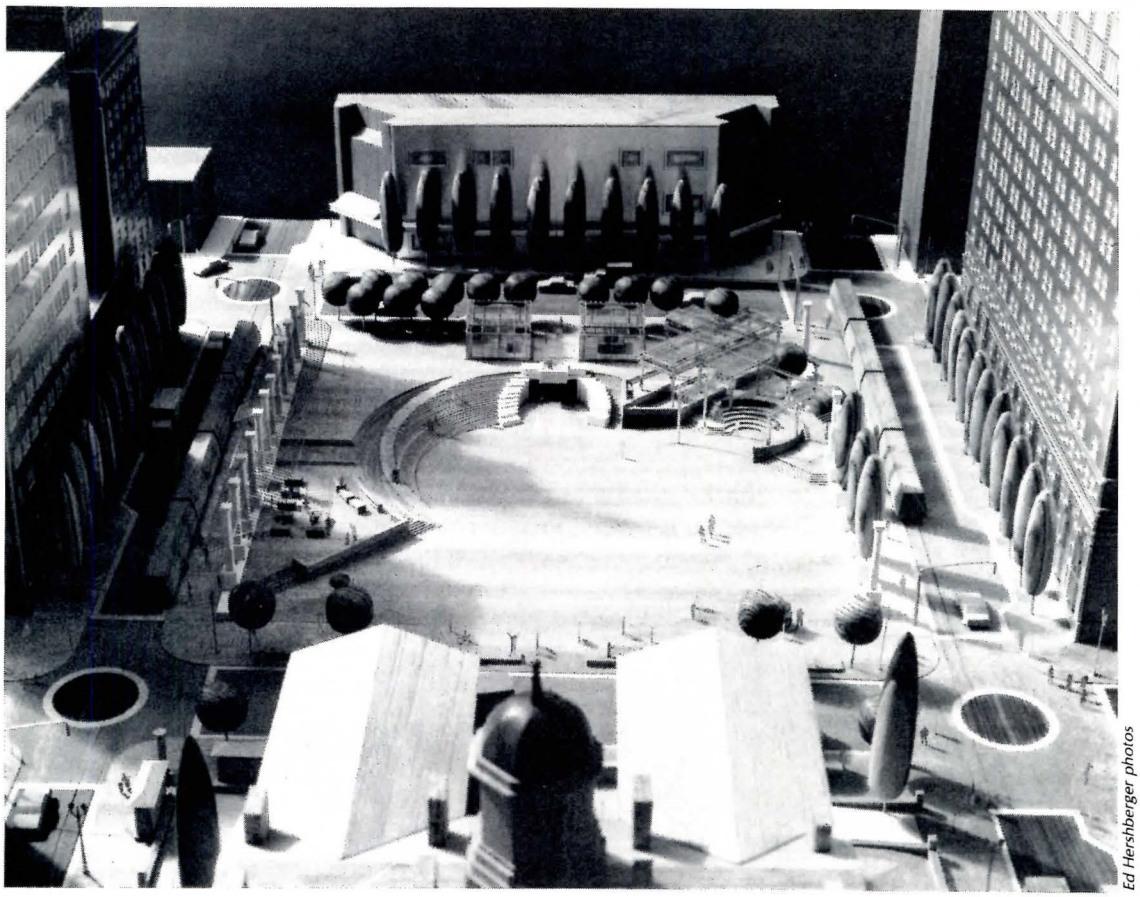
After five years of planning, and a much publicized national competition—netting 162 submissions—the inter-disciplinary team of Willard K. Martin, J. Douglas Macy, Lee Kelly, Terence O'Donnell, Spencer Gill, and Robert Reynolds, has been chosen to design the $7½ million Pioneer Courthouse Square in Portland, Oregon.

The Martin scheme was chosen from the five finalists, including: Peter Eisenman/Jaquelin T. Robertson; Geddes Brecher Qualls Cunningham Architects; Lawrence Halprin & Charles Moore; and Machado/Silvetti Schwartz/Silver.

In its evaluation and recommendation, the jury approached the five submissions as "concepts"—not as finished designs. Each team was to present an over-all site organization with details that would define the purpose and function of a public square. A citizens' group wrote the program, which included a proposal for a greenhouse facility.

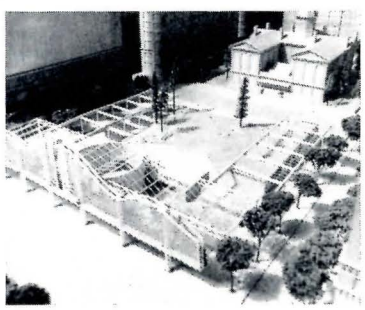
The jury views the selection of Martin, who has his office in Portland, as the beginning of a "process of collaboration," with much community involvement before the final plan is approved.

The jury included Pauline S. Anderson, M. Paul Friedberg, George A. McMath, John L. Rian, Sumner M. Sharpe, and Donald J. Stastny. The winning design and the four finalists follow with comments from the jury.

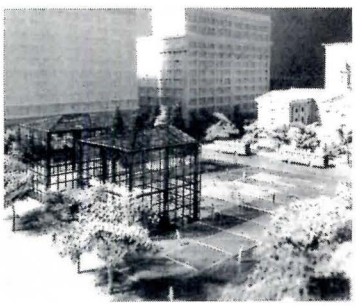


Ed Hershberger photos

Martin, Macy, Kelly, O'Donnell, Gill, Reynolds. "The Jury compliments the designer on the manner in which the adjacent buildings frame and create the edges of the space, with subtle but sensitive response to the Courthouse and local historical detail. The scale of this composition enhances the buildings surrounding it. The materials proposed have the desired enduring quality. The Jury encourages the designer to seek opportunities for the inclusion of more vegetation and water—elements characteristic of Portland—and explore a broader pallet of materials on the ground surface for relief from the large expanse of brick."



Geddes Brecher Qualls Cunningham. "The Jury does not feel the design has achieved the kind of space and setting that would be enjoyed in Portland. Elements like the trellis would be inconsistent with the intent of the Design Program and would be viewed as an undesirable intrusion into the character and nature of the Square. The Jury further questions the choice of the dominant material. The Jury acknowledges the designers' desire to make the space a 'civic' place by the choice of granite, but does not feel the material appropriate considering the number of overcast days experienced in this area. The complexity of the design appears to limit its use as it diminishes flexibility."



Eisenman/Robertson. "The Jury was concerned that the design does not provide opportunities that would encourage the day-to-day informal activities anticipated for the Square. The 'pavilions' appear to be more symbolic than functional, lacking the openness at the ground plane necessary to encourage a flow of activity between the inside and the outside. The benefits of the warped plane appear to be overshadowed by the problems inherent in the form. The peripheral edges (the 50-foot-wide north and south flanks of the Square) would require continuous programming since the warped plane with limited terracing restricts the opportunity for sitting and impromptu gatherings. The inclined surface and elements in the center of the Square limit the opportunity for large-scale events."

Machado/Silvetti & Schwartz/Silver. "The Jury was concerned that the north and south flanks of the design seem to be inconsistent with the requirements of the site. Acknowledging the need for smaller scaled experiences and activities, the Jury felt that these areas were not successful. The amphitheater limits and denies access from Yamhill Street. Although the single glass structure provides a strong symbol for the Square, the interior arrangement of functions seems curiously inconsistent with the desire to make the Square visually and physically active."

Lawrence Halprin & Charles Moore. "In the Jury's opinion, the dominance of the design would tend to distract from any of the events that would take place in the Square. Although interesting and enticing, the design does not appear to be appropriate or responsive to its context. The design lacks sufficient flexibility to provide the required range of programs intended for the site and restricts open diagonal movement through the space. The Jury reacted negatively to the suggestion of the structure extending over Morrison Street and connecting to the pilasters of the adjacent American Bank Building, one of the most elegant buildings on the Square. In order to realize the design within budget constraints, the designers would be required to use materials that are not of a lasting 'civic' quality."

more news on page 39

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Circle 20 on inquiry card

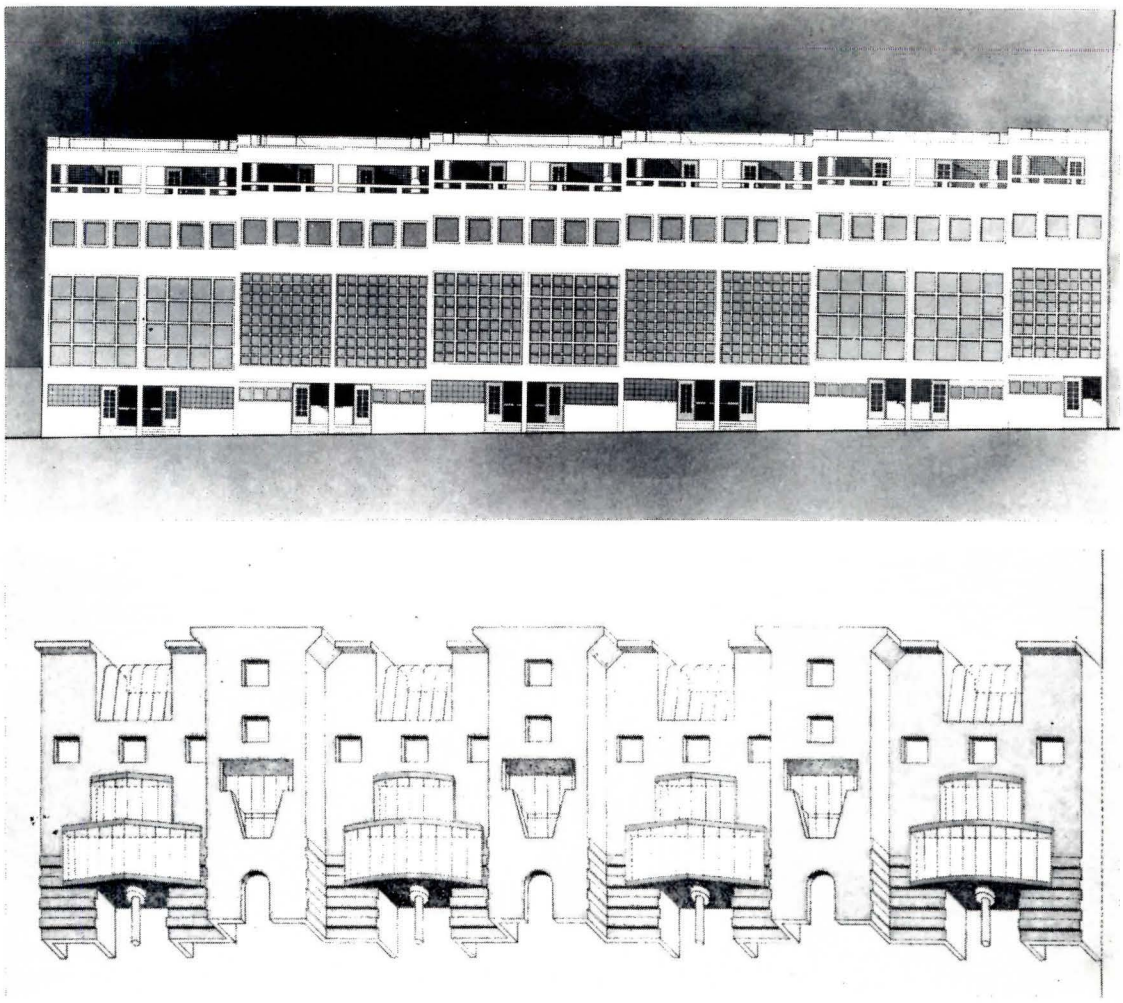
Architects and builders: no relief from liability suits

In May, the Wyoming Supreme Court overturned a 1973 state statute that decreed all damage suits against building designers and builders be brought within ten years of completion of construction.

The Wyoming court ruled the 1973 law contrary to the provision in the state constitution that says "all laws of a general nature shall have a uniform operation," and was an unfair immunization for architects and other construction professionals from the kinds of suits that others would have to face. The new ruling relies on a 1967 ruling striking down a similar Illinois law that decreed such suits had to be brought within four years of completed construction. Other states that have followed the Illinois lead and declared similar laws unconstitutional include: Kentucky, Hawaii, Wisconsin, Oklahoma, Minnesota, Michigan, South Carolina, and just last year, Florida.

The Wyoming decision repeats the argument of the 1967 Illinois ruling: "The arbitrary quality of the statute clearly appears when we consider that architects and contractors are not the only persons whose negligence in the construction of a building or other improvement may cause damage to property or injury to persons. If, for example, four years after a building is completed a cornice should fall because the adhesive used was defective, the manufacturer of the adhesive is granted no immunity. And so it is with all others who furnish materials used in constructing the improvement. But if the cornice fell because of defective design or construction, for which the architect or contractor was responsible, immunity is granted. It cannot be said that the one event is more likely than the other to occur within four years after construction is completed." Wyoming chief justice, John Raper, says he and his colleagues agree with that analysis: "We hold that there is no rational or reasonable justification for granting this immunity to this limited class of persons."

Not all states, however, have rejected special privileges for architects and contractors. Similar laws, limiting the time a would-be plaintiff has to sue for design defects, have received the approval of high courts in Arkansas, Louisiana, Montana, Utah, Washington, and Oregon. Two years ago, the Pennsylvania Supreme Court upheld a limitation in that jurisdiction: "Suppliers, who produce items by the thousands can easily maintain high quality-control standards in the controlled environment of a factory. . . . A builder, on the other hand, can pre-test his designs and construction only in limited ways—actual use in the years following construction is their only real test." —*William Hickman, World News, Washington.*



A public showcase for architectural drawings in New York City

New York City now has a permanent public showcase for architectural drawings. It is "The Lobby" of 369 Lexington Avenue, a 28-story office building recently renovated by real estate developer Harry Macklowe.

The neo-Palladian lobby, with its glass entrance, carved limestone walls, and tiled floor, was recently redesigned by Stephen B. Jacobs Associates. The display area (photo right) will be devoted to the work of 20th century architects, designers and urban planners; anyone can walk in during business hours and take a look. Barbara Jakobson, a trustee of the Museum of Modern Art, will serve as advisor and curator.

The idea of creating a space for public display of art is not new to Macklowe. He is responsible for an office building at 866 Second Avenue (RECORD, April, 1973) that incorporates a public park noted for its continuing exhibitions of contemporary American sculpture.

This month, "The Lobby" displays drawings of Manhattan Townhouses by Richard Meier (top) and James Stirling. The architects' designs for luxury row housing on East 67th Street were commissioned—along with those of Eli Attia—by developer/builder Sheldon Solow in 1979. Of the three, Attia's designs were selected, but unfortunately his work is not on display—at the request of Mr. Solow.

Roberto Schezen

Mr. Solow wanted the plans for the townhouses—a building type almost unknown in Manhattan since 1905—to be drawn for 11 dwellings of five stories each on an 18-foot module. This was pre-determined by a partial foundation already laid over an underground parking garage with parallel rows of beams built into the roof; the beams will eventually support the party walls of the townhouses.

The site, which only takes up half a block, is adjacent to a massive glass and steel apartment tower on East 66th Street and Second Avenue by Gruzen and Partners.

Stirling based his plans on a series of 18-foot-wide "thin man" houses, alternating with 36-foot-wide "fat man" houses. The wider units contain two dwellings each—one on the lower three floors and a second on the upper two levels. This alternating plan creates three varieties of dwellings. The facades were to be brick with bay windows, studio glazing, and balconies—the effect is similar to traditional New York townhouses and brownstones, with small front gardens set behind railings.

Meier's plans are accented by dramatic fenestration and crisp white facades. According to Meier: "The institutional image of the buildings in the surrounding neighborhood is diminished here by breaking down the scale of the facades and by following the inclined plane of the street with the primary facade. The windows within windows and the fenestration pattern on this facade give identity to each townhouse and develop a scale relationship with aspects of the surrounding neighborhood."

Meier's design shows family-use spaces on the lower two and a half floors opening onto an interior garden. Individual outdoor space is provided by roof terrace solariums. At street level, Meier includes covered stoops.

Manhattan Townhouses will remain on display through this month. The next exhibit in The Lobby will be Celluloid Cathedrals, a display of John Margolies's photographs of movie theater facades across the U.S. This display will open on September 18.

—*Katy Koontz*

more news on page 41

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Circle 21 on inquiry card

1700 attend International Design Conference in Aspen

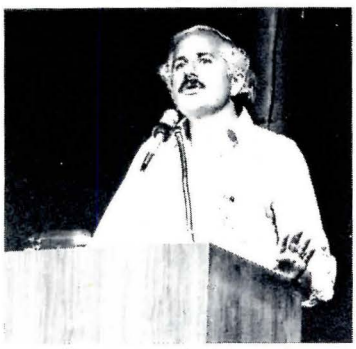
The themes of the 1980 IDCA in June were subtle and complex. Of particular interest to architects was this year's conference chairman architect Moshe Safdie's perception of a possible crisis in modern architecture: the growing retreat on the part of architects, city planners, and other designers, from social involvement to artistic isolation, and the concomitant divergence (in Safdie's view) between designed form and a larger sense of purpose. In setting forth the themes of the conference, Safdie (photo right) called attention to the "narcissistic, introverted and indulgent activities" of some architects today, "activities in which personal fascination and eclectic sophistication are the mainstays."

Following Safdie, a roster of famous designers reiterated the themes for which they are well known. Buckminster Fuller spoke of a need to design for "total planet Earth;" Serge Chermayeff, of the need to plan for today's accelerated urbanization. George Nelson spoke against Post-Modernism as an "architecture taken to the extreme of boredom," saying that "this craving for mere novelty reflects a decadent and desperate society." Bernard Rudofsky described the alternatives indigenous interior design can offer to Western designers.

The Post-Modern movement was discussed within the broader framework of true style in contrast to mere fashion. Speakers, ranging from anthropologist Catherine Bateson to fashion critic Kennedy Fraser, described the phenomenon of fashion and what it indicates about a society. Style as a response to social change was analyzed by such notable and diverse figures as sociologist Nathan Glazer, and sinologist Orville Schell. Fashion designer Pauline Trigère and aeronautical designer Paul MacCready each illustrated, respectively, design with style and function as its highest priority. Most speakers viewed "fashion" as symptomatic of a contemporary malaise, a learned need for rapid change, and implied that those who catered to passing fashion were ignoring more profound social questions.

Perhaps the best indicator of the prevailing spirit were the hisses that greeted New York architect Robert A.M. Stern's remark: "architects don't solve problems, they design responses to situations." It was perhaps unfortunate that Stern, whose work has been primarily single-family houses, should have been the sole representative of "Post-Modernism." This made for an extremely one-sided picture of that esthetic.

For the architects and designers in the audience, perhaps the most



rewarding parts of the conference were the afternoon presentations by the 19 IBM Fellows selected by the IDCA Board, particularly those by British architects Norman Foster, Richard Rogers, and Theo Crosby, Swiss architect Dolf Schnebli, U.S. architect Lewis Davis, and Israeli architect Yacov Rechter. These men exemplified, in the work they showed, a coexistence of both esthetic and social concerns, a contemporary spirit sensitive to tradition and innovation.

In the light of the wider perspective they demonstrated, the "crisis" of modern, or Post-Modern, architecture seemed increasingly illusory. Indeed, a show of hands on the third day on the question "is there a crisis in modern architecture?" demonstrated that most of the audience believed there was no such thing.

Next year's design conference program will have architect and educator Bill N. Lacy as chairman. With "the Italian Idea" as its theme, it will explore the past and current contribution of Italian culture and design to the rest of the world.

Moynihan Bill (S. 2080) passes Senate—goes to House

Long-awaited legislation that would greatly increase the pace of Federal building construction activity and encourage higher architectural standards is now through the Senate and will be taken up in the House this summer.

The Senate's version, written by New York Senator Daniel Patrick Moynihan and 13 of his colleagues, is highly comprehensive and places a great deal of emphasis on architectural questions; the House version has more modest goals. But the central feature of the measure—means for financing a greatly accelerated new construction program—is in both bills and reportedly stands a good chance of final approval. Less certain, are elements in the Moynihan Bill *(S. 2080)* that establish "guiding principles of Federal architecture" and create the post of "supervising architect" of the government. Both House and Senate bills, however, call for the General Services Administration (GSA) to submit an annual building program and scrap the existing practice of piecemeal requests for approval of project construction.

For nearly a year, Senator Moynihan has blocked approval of new Federal office construction projects by the GSA. He wants a comprehensive building program before opening the floodgates to new construction work. The Senate bill would do that, while at the same time allowing the GSA to go to the U.S. Treasury for construction loans. This is a key factor because several administrations and congresses have been reluctant to grant funding of Federal construction projects when their full impact would be felt on a single year's direct appropriations.

Senator Moynihan's plan is to diminish the government's dependence on leased space by setting goals for relocating Federal offices from leased buildings to government-owned ones. But doing so will be expensive. The GSA concluded that the cost would be about $31 billion over the next 20 years. The Senate Public Works Committee decided the actual cost would be more like $11-15 billion. But either amount is significant when compared to the GSA's current new construction budget of $30 million. Most sources agree that the cost of renting work space for government workers is far higher than placing them in Federally-owned work space, however, substantially more is involved than constructing new buildings.

The Federal Building Statutes, written in the late 1940s, are badly in need of modernization. The House-originated proposal would spruce them up while the Senate's version would totally rewrite them. Most organized professional and business groups favor the Moynihan total-rewrite approach, but there is a vigorous exception: in rewriting the law, Senator Moynihan has proposed the use of architectural competitions for some selections. Arguing that this is a cumbersome system, the AIA and other groups representing construction design professionals, prefer selection of designers based on the traditional Brooks Law (most qualified test). Since the House is silent on the point there is a possibility that professional groups will win the point once this round of Congressional action is completed. Senator Moynihan's proposal won in the Senate by an overwhelming vote of 71 to 8.

Construction organizations, led by the Associated Builders and Contractors, tried to attach a provision exempting 10 per cent of the projects from the Davis-Bacon prevailing wage and Copeland antikickback laws, which they claim are inflationary. However, this was voted down by a 48 to 34 margin.

The Senators did accept an amendment insisting upon life-cycle cost considerations in GSA procurement, ordering a study on the conversion of coal as a fuel source in Federal buildings, and having GSA contractors certify whether they have been convicted, or are under indictment, for certain crimes.

Also accepted were amendments approving the construction of nine Federal building projects, including a $40 million Federal office building in Omaha. —*William Hickman, World News, Washington.*

U.S. Justice Department sues Mississippi engineers

The U.S. Justice Department intends to root out any efforts by architects, engineers, and other professionals, to resist the filing of price bids when they seek work.

The most recent evidence came when the Department filed suit in U.S. District Court to over-ride a regulation of the Mississippi State Board of Registration for Engineers which bans price bidding. The Department claims this is a restraint of trade in violation of Section 1 of the Sherman Antitrust Act.

The case is complicated but goes to the heart of the issue. Under Mississippi state law, the registration boards are to develop codes of professional conduct. In 1977, the Board added a ban on competitive price bidding: its purpose, according to Forrest North, secretary of the board and a consulting engineer, is "to protect the public interest." The idea is that the public could be harmed by construction designers who lock themselves in to a price when they do not know the full scope of the work—and this could cause them to cut corners in the design process.

The Justice Department, which has been going full tilt against bid bans for the better part of a decade, does not agree. The Department says price bid bans "eliminate" price competition among engineers.

The issue is far wider than the Mississippi case. Similar situations exist in a number of states, according to Milton F. Lunch, general counsel of the National Society of Professional Engineers. Mr. Lunch hopes the Mississippi Attorney General will agree to fight the Justice Department case.

The legal question is based on whether the court will agree that the State Legislature can empower its registration board to adopt rules which may be in conflict with the Federal laws.

The case against the Engineer's Board in Mississippi is receiving widespread publicity and is causing a great deal of bitterness. Secretary North says the Justice Department is getting "downright personal": the suit claims that all 5800 holders of engineering registration certificates are "co-conspirators." —*William Hickman, World News, Washington.*

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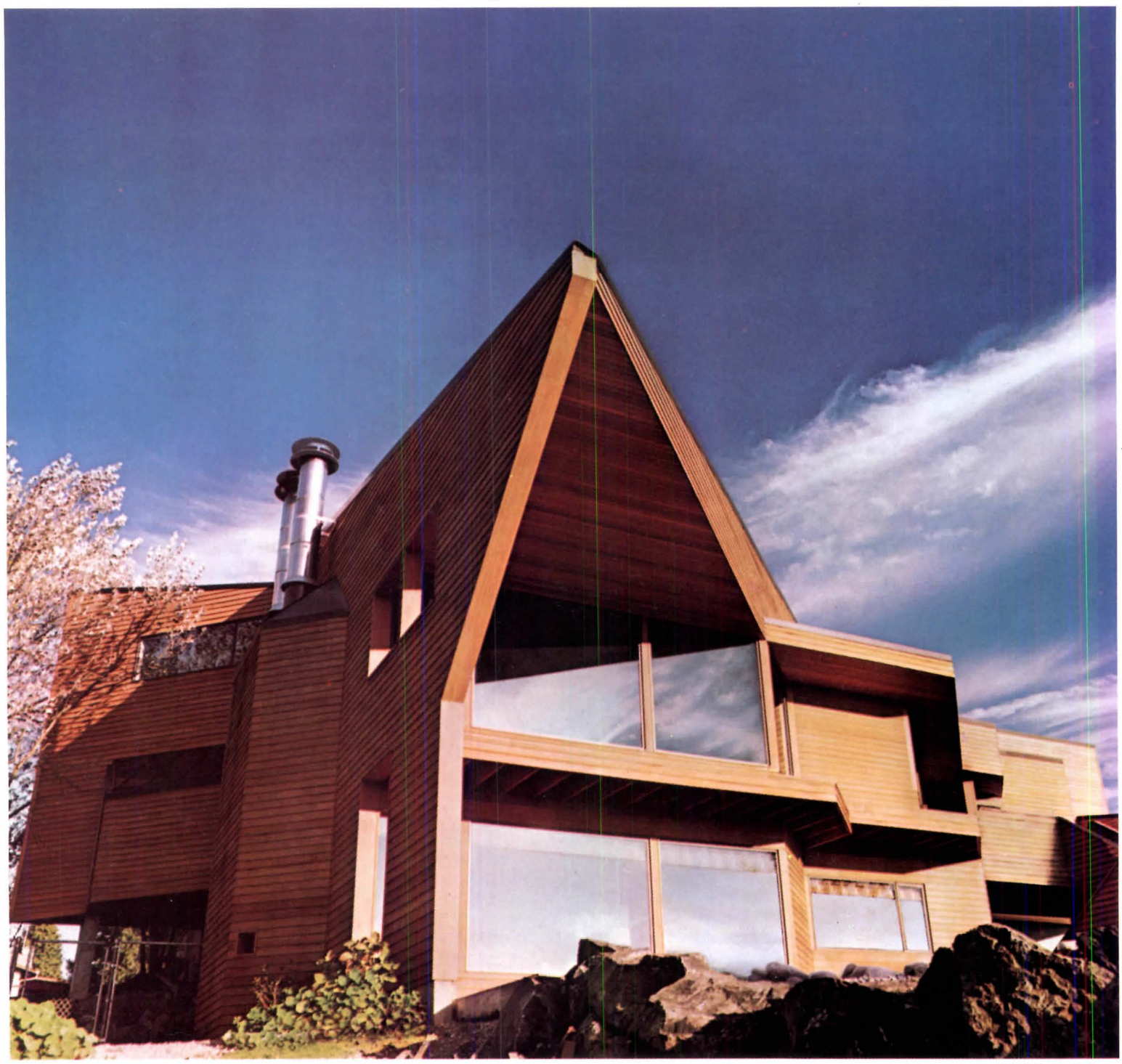

Architect: Wendell Lovett, FAIA, Seattle, Washington

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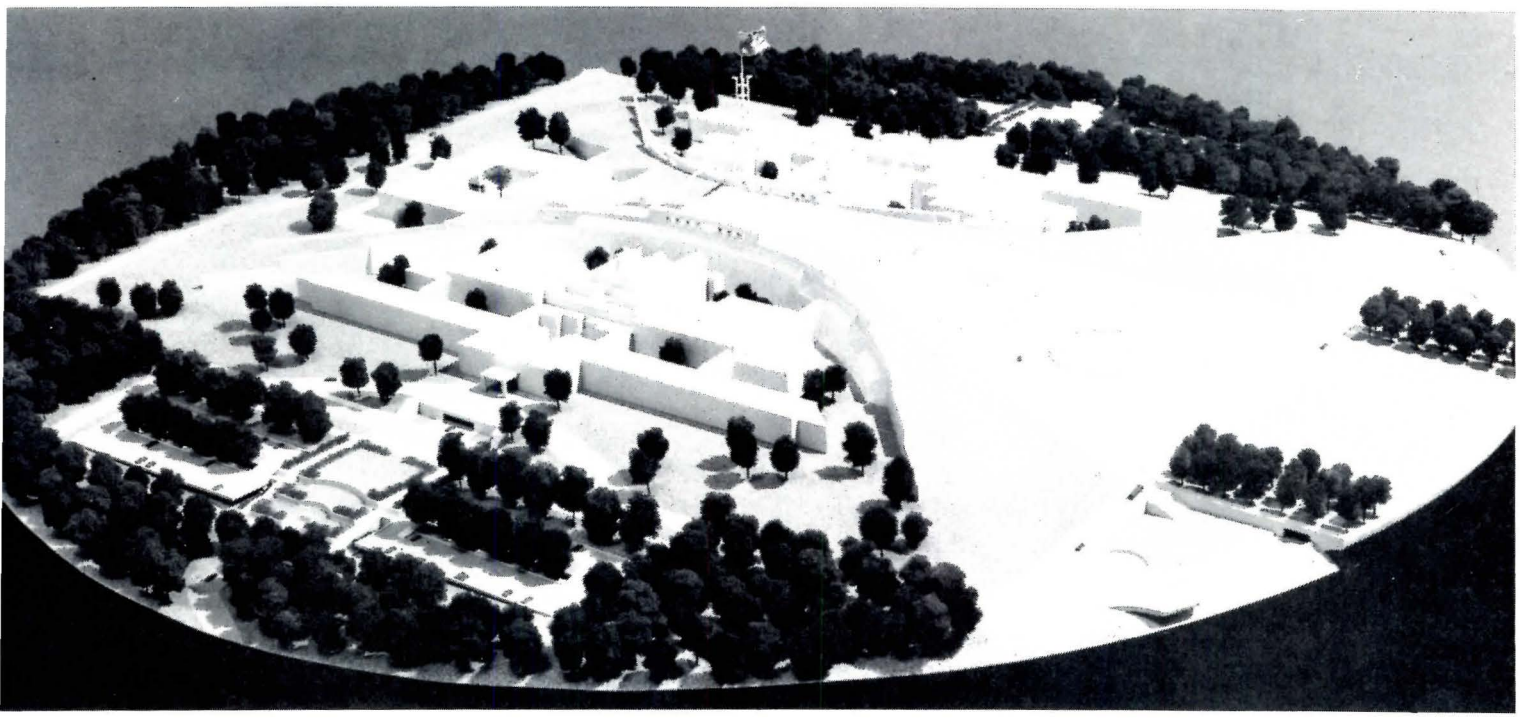
itchell/Giurgola and Richard Thorp win competition to design Australia's new Parliament in Canberra



Humphrey Sutton photos

he Australian Government as selected Mitchell/Giurgola rchitects, in partnership with ichard G. Thorp (an Australan architect living in New ork), to design its new Parliaent buildings. The comlex—the equivalent of our ouse, Senate, and executive epartment—will cover ,500,000 square feet on a hill verlooking Canberra.

Mitchell/Giurgola and horp were awarded the projct in an international competion, entered by 329 architects from 28 nations.

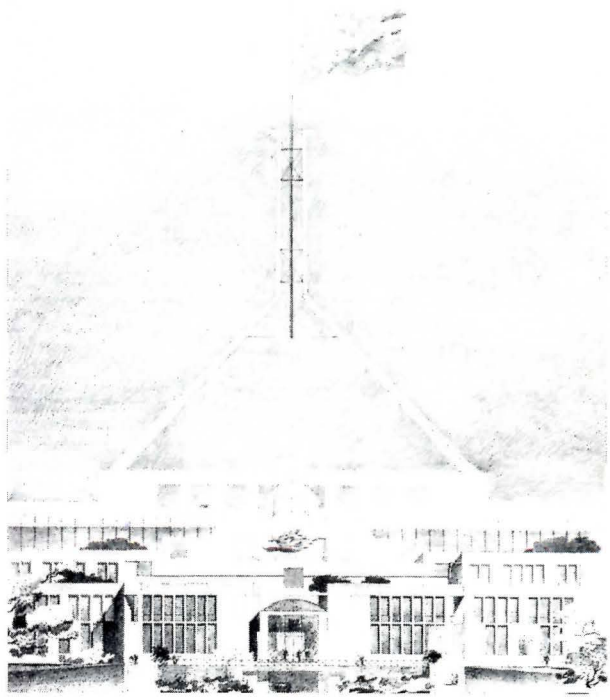
According to Romaldo iurgola, "the design of the te creates an architectural mprint that expresses the relaonship between nature and onstruction, and by extenon, between the imposition f government and the natural ate from which the governent evolves." The Mitnell/Giurgola team began by e-examining the 1912 Canberra City Plan of American architect Walter Burley Griffin. According to Sir Robert Cotton, the Australian Consul-General, "The winning design appears to meet Griffin's desire to keep Canberra's hills free of buildings, but at the same time to make the Parliament Building a focal point. This has been brilliantly achieved by having the Parliament Building set into Capital Hill."

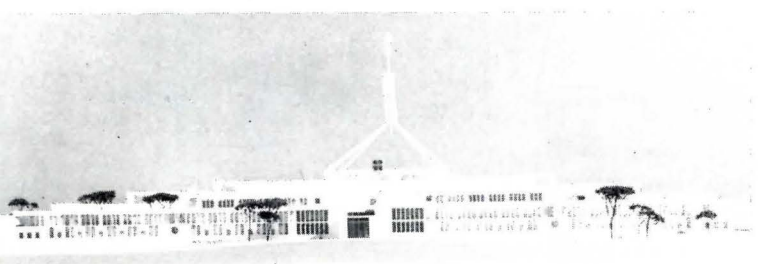
The Mitchell/Giurgola, Thorp scheme uses the circular site of the hill as the determinant for the plan. The complex of buildings conforms to the topography of Capital Hill, with the entrance, foyer, and Members Hall structured in such a way that a large part of the hill can be used for public recreation. Rather than imposing a massive monumental structure on the hilltop, the proposed design conforms to the profile of the hill and preserves a tall symbolic flagpole, which has dominated the apex of the hill for many years.

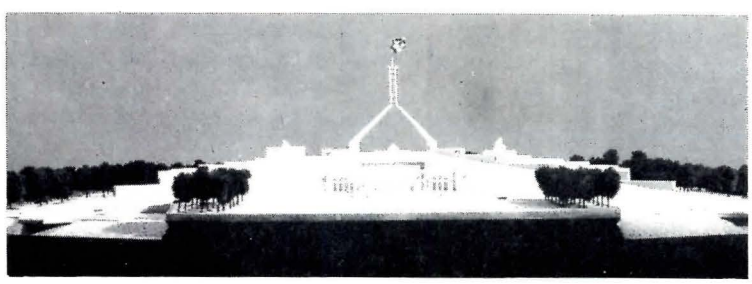
Within the circle of the hill, a central linear sequence of formal meeting rooms is framed by two curvilinear walls, each of which encloses the offices and chambers of the Senate and House of Representatives. The entire complex has four major elements: the two legislative areas, a forum situated between them, and an executive government area.

The exterior of the building will be a sand-based, precast concrete panel system. Selected sections will have a stone inlay of Australian marbles, while the base and the coping of the walls will be of granite.

Detail design work of the Parliament complex is expected to begin in November of 1980 and construction is to be completed by 1987.

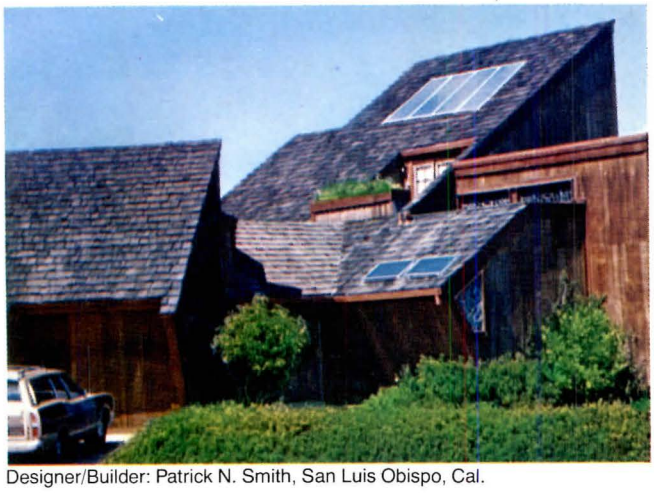




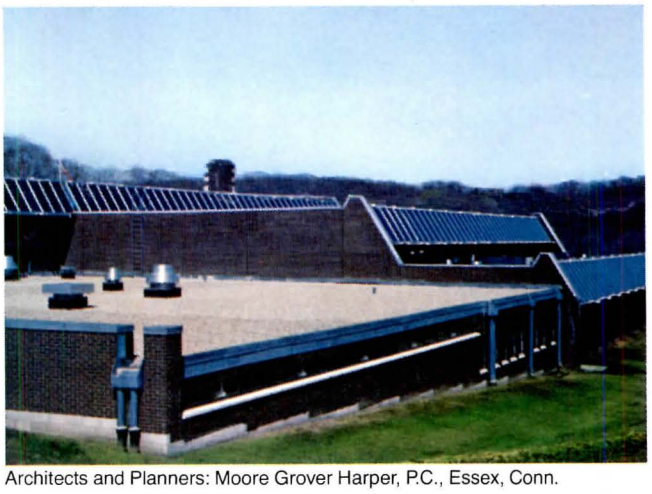


Architect: Muchow Associates, Denver, Col.

The sun works best with copper.



Designer/Builder: Patrick N. Smith, San Luis Obispo, Cal.



Architects and Planners: Moore Grover Harper, P.C., Essex, Conn.

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Gruzen & Partners and Hooker/Siskind selected for East River development

The Mayor of New York City had the final word in selecting a $274-million mixed-use development for the riverfront along Manhattan's Lower East Side, between 16th and 24th Streets. The site is adjacent to Stuyvesant Town, a massive brick housing project, and the Franklin D. Roosevelt Drive, a major thoroughfare.

The winning scheme "River Walk" was designed by Gruzen & Partners and Hooker/Siskind Partnership of New York, and is backed by the Canadian development company, Cadillac-Fairview, in association with the Related Housing Companies Inc. The Gruzen design was selected from four entries—I.M. Pei & Partners, Ulrich Franzen & Associates, and Michael O'Keefe (Edward Durell Stone & Associates).

The Gruzen plan will leave more than half of the 30-acre site as open space, with 9 acres developed as parks and a mile-long waterfront promenade.

"River Walk" is composed of four areas, or what the developers call waterfront "communities," interconnected by pedestrian walkways.

1) Marina North includes specialty and retail shops including restaurants, cafes, boutiques, and movie theaters, surrounding a small boat harbor. The Marina North main building will include office space on the third and fourth levels, with the balance of the 32-story building given over to 704 apartments.

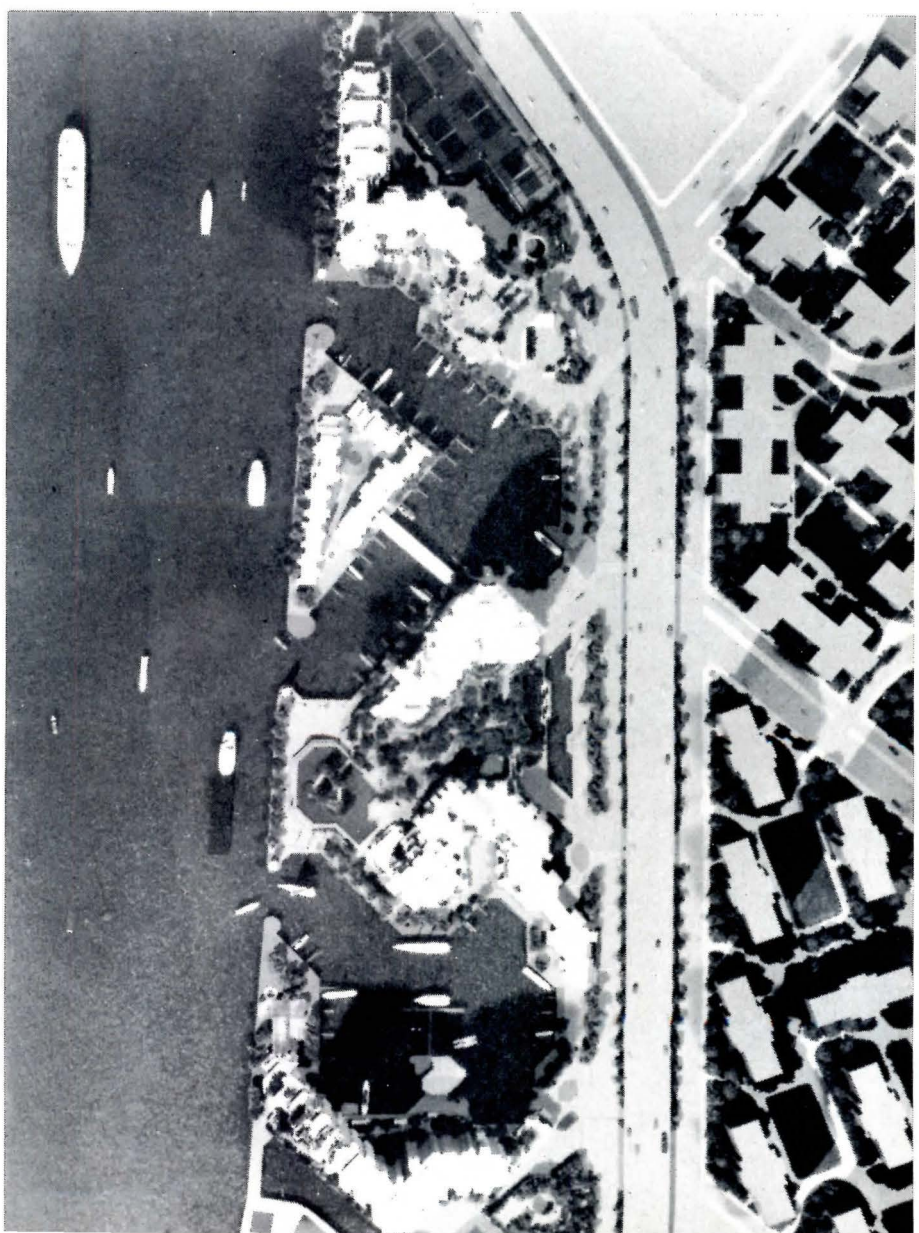
2) Park Central is to be the recreational focus for the residents of the project and the surrounding community. Three levels of terraced landscaping, plazas, streams, waterfalls, a community amphitheater, and a pond, will rise from the river's edge. A 245-room hotel is to be located near the entry plaza. A multi-use building containing 300 apartments and a health club is also located in this area.

3) Marina Island will provide 90 co-operative apartments in low-rise townhouses.

4) Marina South will contain 782 apartments and a "convenience retail center." The promenade is located here.

The project will be built to extend over the East River. The developers have announced a $1 million endowment for a Public Arts Program for the community spaces, and they have also established a non-profit cultural association to coordinate theatrical and community events for the outdoor amphitheater.

Landscape design for River Walk has been developed by M. Paul Friedberg & Associates, and the DeMatteis Organizations have been selected as the builders.



A dash of dazzle in a shopping center.

ELEVATOR BY DOVER

It's quite a trip for shoppers when they move from the main level to the promenade level of the Rolling Acres Mall in West Akron. Designer James B. Heller of Keeva J. Kekst Associates combined glass, chrome, and incandescent lamps to create a "vista" elevator that dazzles and delights. At the heart of these glamorous trappings is a Dover IVO Elevator, the high quality, pre-engineered Oildraulic® elevator made for add-on or new construction of three stories or less. For more information on the complete Dover line of traction and hydraulic elevators, write Dover Corporation, Elevator Division, P.O. Box 2177, Dept. A, Memphis, Tenn. 38101.

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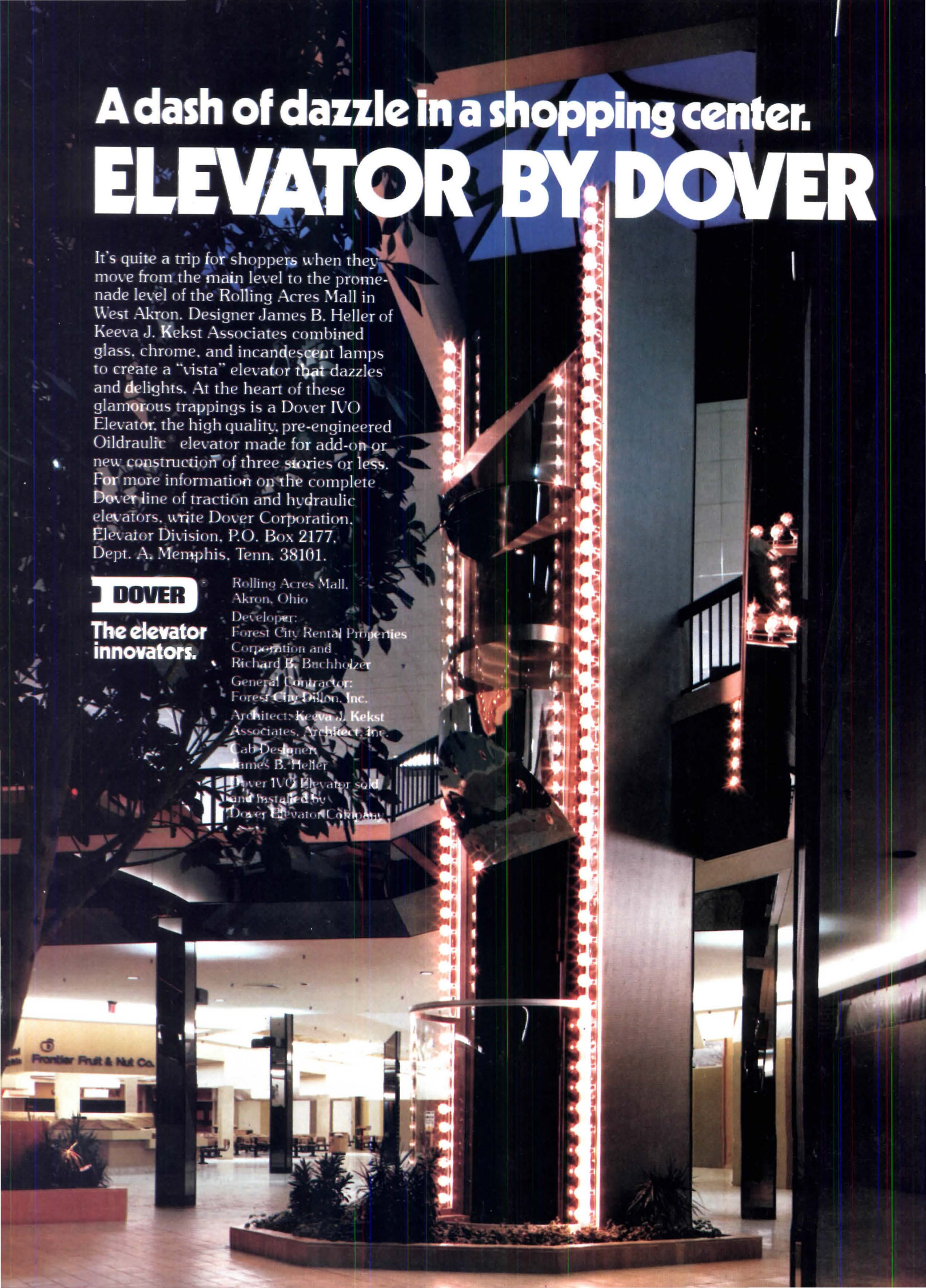

Dodge/Sweet's Construction Outlook 1980: Second Update

Since the beginning of the year, behold the 1980 construction countdown: 190 . . . 171 . . . 155 . . . 125. . . . That's been the downward course of contracting for new construction since January, as measured by the Dodge Index. In only five months, the seasonally adjusted value of contracting for construction of all kinds fell by one-third, a much steeper rate of decline than at any time during the 1974-75 recession. Like the economy itself, the construction industry is experiencing a considerably more severe setback than had been accepted. But . . . in this second July update of his annual forecast, George Christie—vice president and chief economist of the McGraw Hill Information Systems Company—holds out real hope for the second half of the year and for 1981. The good news for 1981: "an over-all gain of as much as 30 per cent, heavily concentrated in residential markets."

1980 National Estimates
of Dodge Construction Potentials

Second Update July 1980

Construction Contract Value (millions of dollars)		1979 Actual	1980 Forecast	Percent Change
Nonresidential Buildings	Office Buildings	$ 11,194	$ 11,175	0
	Stores & Other Commercial	13,021	10,550	—19
	Manufacturing Buildings	7,280	6,750	— 7
	Total Commercial & Manufacturing	$ 31,495	$ 28,475	—10
	Educational	$ 6,298	$ 6,525	+ 4
	Hospital & Health	4,790	4,900	+ 2
	Other Nonresidential Buildings	7,076	7,200	+ 2
	Total Institutional & Other	$ 18,164	$ 18,625	+ 3
	Total Nonresidential Buildings	$ 49,659	$ 47,100	— 5
Residential Buildings	One-Family Houses	$ 54,520	$ 35,650	—35
	Multi-Family Housing	17,430	14,625	—16
	Total Housekeeping	$ 71,950	$ 50,275	—30
	Total Nonhousekeeping	$ 2,736	$ 2,725	0
	Total Residential Buildings	$ 74,686	$ 53,000*	—29
Nonbuilding Construction	Highways & Bridges	$ 13,842	$ 14,000	+ 1
	Utilities	13,117	7,000	—47
	Sewer & Water	7,704	8,400	+ 9
	Other Nonbuilding Construction	7,370	7,800	+ 6
	Total Nonbuilding Construction	$ 42,033	$ 37,200	—11
Total Construction		$166,378	$137,300	—17
Dodge Index (1972 = 100)		183	151	
Floor Area of New Buildings (millions of square feet)				
Nonresidential Buildings	Office Buildings	234	215	— 8
	Stores & Other Commercial	579	425	—27
	Manufacturing Buildings	237	185	—22
	Total Commercial & Manufacturing	1,050	825	—21
	Educational	101	96	— 5
	Hospital & Health	58	55	— 5
	Other Nonresidential Buildings	160	152	— 5
	Total Institutional & Other	319	303	— 5
	Total Nonresidential Buildings	1,369	1,128	—18
Residential Buildings	One-Family Houses	1,859	1,080	—42
	Multi-Family Housing	616	450	—27
	Total Housekeeping	2,475	1,530	—38
	Total Nonhousekeeping	56	52	— 7
	Total Residential Buildings	2,531	1,582	—37
Total Buildings		3,900	2,710	—31
Number of Dwelling Units (thousands of units—F. W. Dodge basis)				
	One-Family Houses	1,169	675	—42
	Multi-Family Housing	599	425	—29
	Total Dwelling Units	1,768	1,100	—38

Since January, when the industry's problems were confined largely to homebuilding, the cyclical decline has spread rapidly to all corners of the construction market. During the first five months of 1980, contracting for nonresidential building fell by 25 per cent and public works contracts slipped 33 per cent, while residential building—already into decline before the year began—sagged yet another 35 per cent.

This across-the-board collapse of construction in 1980 is different from the sequential pattern of recession/recovery that is more typical of building markets. The simultaneous decline in 1980's first half of housing, nonresidential building, and public works has left the market without any countervailing support.

And no quick turnaround is in sight. Even though the decline of interest rates prepares for a housing recovery, the summer months of 1980 will bring continued weakness. As residential building stabilizes, commercial and industrial building will be subject to further declines as general recession blights the economy through the third quarter, and possibly into the fourth. By the fourth quarter, however, declining commercial and industrial building will be offset by the early stages of a housing recovery and by the temporary support of a spurt of anti-recessionary public works spending.

This should put the trough of the 1980 construction cycle in the third quarter, at a rate not much below that of the second quarter. And by year's-end, housing will be leading the way to a general recovery of construction contracting through 1981. In the light of the harsh experience of the first half of 1980, this year's estimates of square footage and contract value of newly-started construction have been updated accordingly.

The 1980 Construction Outlook: Housing

The 1974-75 collapse was mostly a matter of the lack of *availability* of mortgage money; the 1979-80 decline had more to do with its *cost*. Most of this difference can be attributed to the effectiveness of money market certificates in preventing disintermediation during the latest period of soaring interests rates. Without the need to repay large advances from the Federal Home Loan Bank Board (as they did in 1975), S & L's are ready to lend as soon as borrowers are satisfied that the decline of mortgage rates has leveled off.

continued on page 49

Steel framing saved more than $150,000 in four-story retirement complex

Local code restrictions for wood frame construction would have limited Casa de los Amigos in Redondo Beach to only three stories, but four stories were needed to provide the desired 136 living units on the land available for this HUD approved senior citizens' project.

In seeking alternatives, a structure combining steel framing on the first floor with three stories of wood framing above was shown to have many problems. The accepted solution, a design prepared with the help of Inryco engineers, used Inryco/Milcor roll-formed steel stud and joist framing throughout. It solved construction problems and also reduced costs by $155,470.

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2. Counsel for owner, designer and contractor based on our longtime involvement in steel frame construction — including an honest appraisal of its suitability for your project.

3. The combination of benefits inherent in our systems: design flexibility . . . construction speed through advance fabrication of framing assemblies . . . thermal energy efficiency . . . capacity to withstand heavy seismic and high wind loads . . . numerous one- and two-hour fire rated assemblies . . . insurance advantages of non-combustible components.

Let us help you increase construction efficiency and reduce costs on your projects. See the information on our steel framing systems in Sweet's: General Building File, section 5.3/In, and Light Construction File, section 5.3/Inr. (Or write for Catalogs 37-1 and 37-2.) Then give us a chance to discuss their application to your projects.

Milcor Division; INRYCO, Inc.; Dept. E-4033; P.O. Box 393; Milwaukee, WI 53201.

Inryco/Milcor® Steel Framing Systems

Casa de los Amigos, Redondo Beach, California
Architect: Arthur Hugh Kensler, A.I.A., Los Angeles, CA
General Contractor: J. R. Slaught Construction Co., Irvine, CA
Framing Contractor: W. C. Froelich, Inc., Buena Park, CA

Inryco
an Inland Steel company

A9-37-1

Circle 24 on inquiry card

continued from page 47

The combination of high cost financing applied to high cost housing is not likely to be as much of a constraint on expansion in today's "thin" market as it will be in a year or two when volume approaches the two-million-unit level.

Update '80:

Recovery of homebuilding during the third quarter can do no more than limit 1980's decline to 1.1 million dwelling units—a virtual tie with 1975 for the worst housing year in the past thirty. Residential contract value, at $53.0 billion, will be down 29 per cent. In 1981, housing starts will advance nearly 50 per cent to 1.6 million units, launching the first of several years of cyclical expansion.

Nonresidential building

The arrival of recession in 1980's second quarter shifted the thrust of economic policy from housing to nonresidential building.

Square footage of commercial and industrial building reached its peak early in 1979, but remained close to that peak all through the remainder of last year and into the first quarter of 1980. Then, recession quickly precipitated a steep decline of commercial and industrial building, and past performance indicates that contracting for the construction of business facilities will not begin to recover until one or two quarters after the economy itself has revived.

Recovery is expected to take hold in 1981's opening quarter. Thus the recession/recovery sequence that will constitute the environment for most kinds of nonresidential building in the short run involves a relatively brief period of economic stress that will be considerably more severe than the intended "mild correction," but one that stops short of the 1974-75 recession.

Update '80:

Retail building, with its close link to housing, will lead the recovery of nonresidential building next year. But in 1980, with homebuilding starts off nearly 40 per cent, the current year's decline in square footage of stores and warehouses will be a substantial 27 per cent.

Industrial building has yet to feel the full impact of the recession, and will be declining well into 1981. A 22 per cent drop in 1980 will be followed by an additional, but smaller, decline in 1981.

Office building, the best survivor of the group, will slip by less than 10 per cent in 1980 from its recent strong volume.

As usual, the inherent stability of institutional building will dampen the nonresidential building cycle in 1980, leaving total square footage for the year down 18 per cent.

Nonbuilding construction

Public works construction is presently in the curious position of being restrained and encouraged at the same time. Advocates of fiscal restraint are constricting the mainstream of public works funding by ordering government agencies like DOT and EPA, which administer most of the Federal spending for highways and sewage treatment plants, to hold back on their 1980 fiscal year authorizations. And in fiscal year 1981, according to the June budget resolution, these and other agencies responsible for public construction will have some $3 billion *less* to spend.

Meanwhile, the champions of fiscal stimulus are knocking at the back door of the public works construction market, the Commerce Department's Economic Development Administration. This agency, which dispensed the $6 billion Local Public Works appropriation in 1977-78, appears likely to have another $2 billion of special anti-recessionary funds to put out in the near future. Although "Round III" is by no means a certainty, Congressional approval is expected this summer. If this bill is passed, as much as half of the money could be committed by year's-end, based on Round II experience.

Update '80:

With the impact of budgetary restraint falling mostly in 1981, and with the probability of some public works stimulus before the end of the current year, there is opportunity for a modest gain (as much as 5 per cent) in public works contracting in 1980 despite the recent cutback. However, the value of all nonbuilding construction contract value will be down at least 10 per cent this year because electric utility work has fallen to its lowest level in almost a decade.

What of the second half—and 1981?

By mid-1980, contracting for all new construction was nearing the bottom of its cyclical decline at a seasonally-adjusted rate of only $115 billion. The second half should bring some welcome improvements—the beginning of recovery in homebuilding and a temporary spurt of public works construction. Nevertheless, this year's total construction contract value, now estimated at $137 billion, will be 17 per cent below 1979's record $166 billion.

A preview of the *1981 Dodge/Sweet's Construction Outlook:* an over-all gain of as much as 30 per cent, heavily concentrated in residential markets.

George A. Christie
Vice president and chief economist
McGraw-Hill Information Systems Company

1980 Regional Estimates
of Dodge Construction Potentials

Second Update
July 1980

Construction Contract Value (millions of dollars)	**Northeast** Conn., D.C., Del., Mass., Md., Maine, N.H., N.J., N.Y., Eastern Pa., R.I., Va., Vt.			**Midwest** Northern Ill., Ind., Iowa, Ky., Mich., Minn., N. Dak., Ohio, Western Pa., S. Dak., Wis., W. Va.		
	1979 Actual*	**1980 Forecast**	**Percent Change**	**1979 Actual***	**1980 Forecast**	**Percent Change**
Nonresidential Buildings						
Commercial & Manufacturing	$ 5,257	$ 4,875	− 7	$ 7,533	$ 6,700	−11
Institutional & Other	3,608	3,700	+ 3	4,466	4,275	− 4
Total	$ 8,865	$ 8,575	− 3	$11,999	$10,975	− 9
Residential Buildings						
One-Family Houses	$ 7,155	$ 4,550	−36	$11,103	$ 7,100	−36
Multi-Family Housing	2,677	2,050	−23	3,398	2,775	−18
Nonhousekeeping	789	750	− 5	539	500	− 7
Total	$10,621	$ 7,350	−31	$15,040	$10,375	−31
Nonbuilding Construction						
Highways & Bridges	$ 2,122	$ 2,375	+12	$ 3,947	$ 3,875	− 2
Utilities	415	700	+69	1,443	1,075	−26
Other Nonbuilding Construction	3,123	3,600	+15	3,713	3,850	+ 4
Total	$ 5,660	$ 6,675	+18	$ 9,103	$ 8,800	− 3
Total Construction	$25,146	$22,600	−10	$36,142	$30,150	−17

* Totals may not equal sum of components, due to independent rounding.
++ = Over 100% increase.

Construction Contract Value (millions of dollars)	**South** Ala., Ark., Fla., Ga., Southern Ill., Kans., La., Miss., Mo., N.C., Nebr., Okla., S.C., Tenn., Tex.			**West** Alaska, Ariz., Calif., Colo., Hawaii, Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash., Wyo.		
	1979 Actual*	**1980 Forecast**	**Percent Change**	**1979 Actual***	**1980 Forecast**	**Percent Change**
Nonresidential Buildings						
Commercial & Manufacturing	$10,442	$ 9,400	−10	$ 8,263	$ 7,500	− 9
Institutional & Other	6,363	6,675	+ 5	3,727	3,975	+ 7
Total	$16,805	$16,075	− 4	$11,990	$11,475	− 4
Residential Buildings						
One-Family Houses	$20,847	$13,650	−35	$15,415	$10,350	−33
Multi-Family Housing	6,234	5,400	−13	5,121	4,400	−14
Nonhousekeeping	749	850	+13	659	625	− 5
Total	$27,830	$19,900	−28	$21,195	$15,375	−27
Nonbuilding Construction						
Highways & Bridges	$ 5,241	$ 5,200	− 1	$ 2,532	$ 2,550	+ 1
Utilities	11,015	2,550	−77	244	2,675	++
Other Nonbuilding Construction	5,233	5,275	+ 1	3,005	3,475	+16
Total	$21,489	$13,025	−39	$ 5,781	$ 8,700	+50
Total Construction	$66,124	$49,000	−26	$38,966	$35,550	− 9

* Totals may not equal sum of components, due to independent rounding.
++ = Over 100% increase.

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Jarvis Putty Jarvis, Inc., Dallas, Texas

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"We tried to be sensitive to the high cost of energy; and the use of brick, in our opinion, was a good material choice. The thermal lag property of brick, due to its mass, contributes to long-term energy savings. Brick also was adaptable to forms consistent with the design, which helped shade the glass areas — another energy savings.

"With regard to aesthetics, brick provided the appearance of dignity and quality, which we were trying to achieve.

"We wanted to avoid materials which were faddish or temporary. Brick has stood the test of time for centuries, and was the ideal material to keep this job within our budget. For the Collin County project, we think the choice of brick was the obvious solution."

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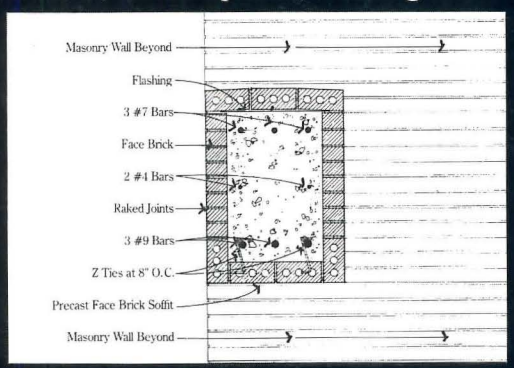
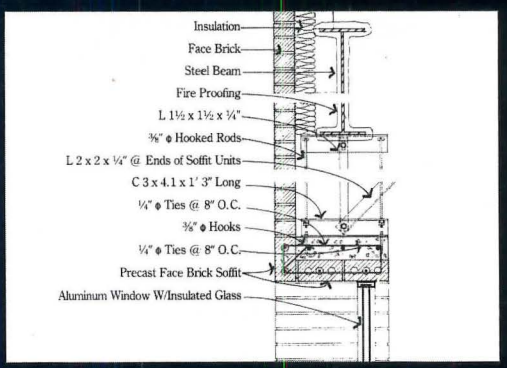
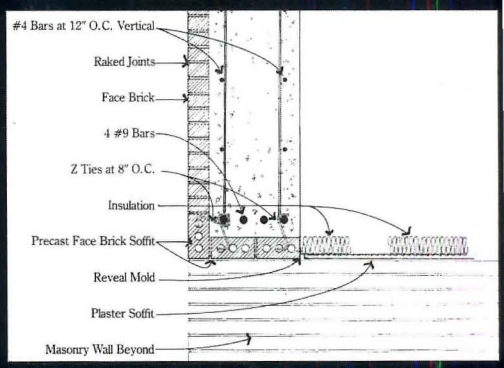


The handrails were constructed by forming U-shaped brick channels. Reinforcing steel was then set in the channels which were filled with concrete. The top surface was finished with Acme Brick .



Acme Brick was attached to the structural steel truss to form a return and to frame the recessed opening of the glass area.



The poured in place spandrel beam was formed on two sides by Acme Brick which serve as the exterior finished wall and the soffit. The brick thickness was included in the structural calculations.

Collin County Courthouse and Jail, McKinney, Texas
Owner: Collin County, Texas
Architect: Jarvis Putty Jarvis, Inc., Dallas, Texas
Structural Engineer: Datum Structures Engineering, Inc., Dallas, Texas
Masonry and General Contractor: Howard U. Freeman Incorporated, Irving, Texas

Circle 25 on inquiry card

Designing barrier-free communications in building

Architectural design has always placed more emphasis on the visual environment than the non-visual. For people with hearing and vision impairments, however, this traditional emphasis must be altered. On the one hand, those with vision impairments must rely on the non-visual environment to a great extent. On the other, those with impairments of hearing require augmentation of the sonic environment. Architects must now begin to develop an understanding of how people with hearing or vision impairments utilize and orient themselves in buildings. This will help in interpreting new accessibility codes as they are used in design and bring a greater measure of rationality to the development of codes and guidelines that the profession must use.

by Edward Steinfeld

The bulk of barrier-free design codes and regulations focus on the needs of people with walking and other movement impairments. But, generally, the needs of people with impairments of vision and hearing have been neglected. One reason for this is that there is little research and technical information. What materials do exist on this subject tend to recommend more extensive physical features than our current knowledge would indicate is necessary. In some of the newer state codes on barrier-free design, and in some of the newer Federal regulations, some common misconceptions about how blind people use buildings and sites have been used as a basis for specifications which, rather than improving accessibility for visually impaired people, may actually cause them confusion.

Elevators, graphic information and signs, telephone and intercom systems, public address systems, and emergency alarms are key design elements. There are some other design concerns that go beyond basic accessibility to buildings but are still extremely important in design of facilities that are meant *specifically* for one or both of these population groups. These issues include the esthetics of a non-visual world, orientation within and legibility of the environment, and the impact of design in avoiding both sensory deprivation and information overload.

Compensation for visual impairments

The visually impaired person uses two principal techniques of navigation: dog guides and cane technique. There are no specific design requirements for those people who use dog guides. To be noticed by a cane user, on the other hand, a potentially hazardous object must be within the range of canes. The most serious problems for the cane user are objects that overhang his path above the point at which he holds the cane and so are not detected.

In addition to canes and guide dogs, the visually impaired traveler utilizes many other non-visual cues. These include tactile information as well as air movements, changes in air temperature, smell, and most importantly sound. The sound of doors opening and closing, the arrival of elevators, variations of background noise, conversation and traffic noises (both vehicular and pedestrian) all create non-visual "landmarks." In some situations in buildings, only visual cues to direction finding are available, e.g. advance warning of elevator arrival. In such places, blind people need the addition of sonic information.

An important factor in finding one's way around in a building is the ability to read signs and other graphic information. Only a small percentage of blind individuals learn braille. They can read tactile letters, however, provided that they are large enough.

There is a distinct difference between the navigation of blind or partially sighted people in a familiar setting as compared to an unfamiliar setting. For most buildings or sites, blind people will request assistance on the first visit. By the time they are familiar with a building, however, non-visual people will have developed a mental image of its floor plan. They will be able to find rooms and spaces through recognition of non-visual cues. Tactile signage used for room identification is primarily a means for them to verify a destination that has been located through other navigation and orientation techniques.

To the partially sighted person, the visual environment is even more important than to the sighted person. Partially sighted individuals require high-quality visual information, including good contrast between printed information and its background, the avoidance of visual noise, the elimination of glare, and satisfactory proportions for letters and signs. Within buildings, the size of signs is not very critical since people can move closer when they cannot see small characters. The conventional print fonts used in architectural signage are reasonably legible.

Compensation for hearing loss

People with hearing losses can be divided into those who can distinguish ordinary conversations with the use of a hearing aid and those who cannot distinguish ordinary conversation at all. The first group relies on the sonic environment for such information, but these people are impaired in their ability to use certain communications systems and hear at the full range of the frequency spectrum. The second group must rely solely on lip reading, sign language, and generally increased visual attention to obtain information about the world around them.

For the most part, normal use of buildings is not impaired by loss of hearing. However, in the use of telephones, public address systems, and emergency warning systems, there are, of course, serious limitations. People who use hearing aids can use telephones, but their hearing aid must be equipped with an inductive pick-up and telephone equipment must generate a magnetic field in the area of the receiver. Current technology in the telephone industry, however, is moving toward the use of devices that do not generate a magnetic field—and when the new, non-magnetic technology was first applied to public telephones, it soon became evident that many people who use hearing aids could no longer utilize public telephones. In recent years, major telephone companies have adopted a policy of replacing equipment that does not generate magnetic fields with new equipment that does. There are many people who do not use hearing aids who suffer hearing losses and others whose hearing aids are not supplied with an inductive pick-up. These individuals can benefit from amplification of the telephone signal. Pay telephones can be equipped with a variable volume device that amplifies the sound.

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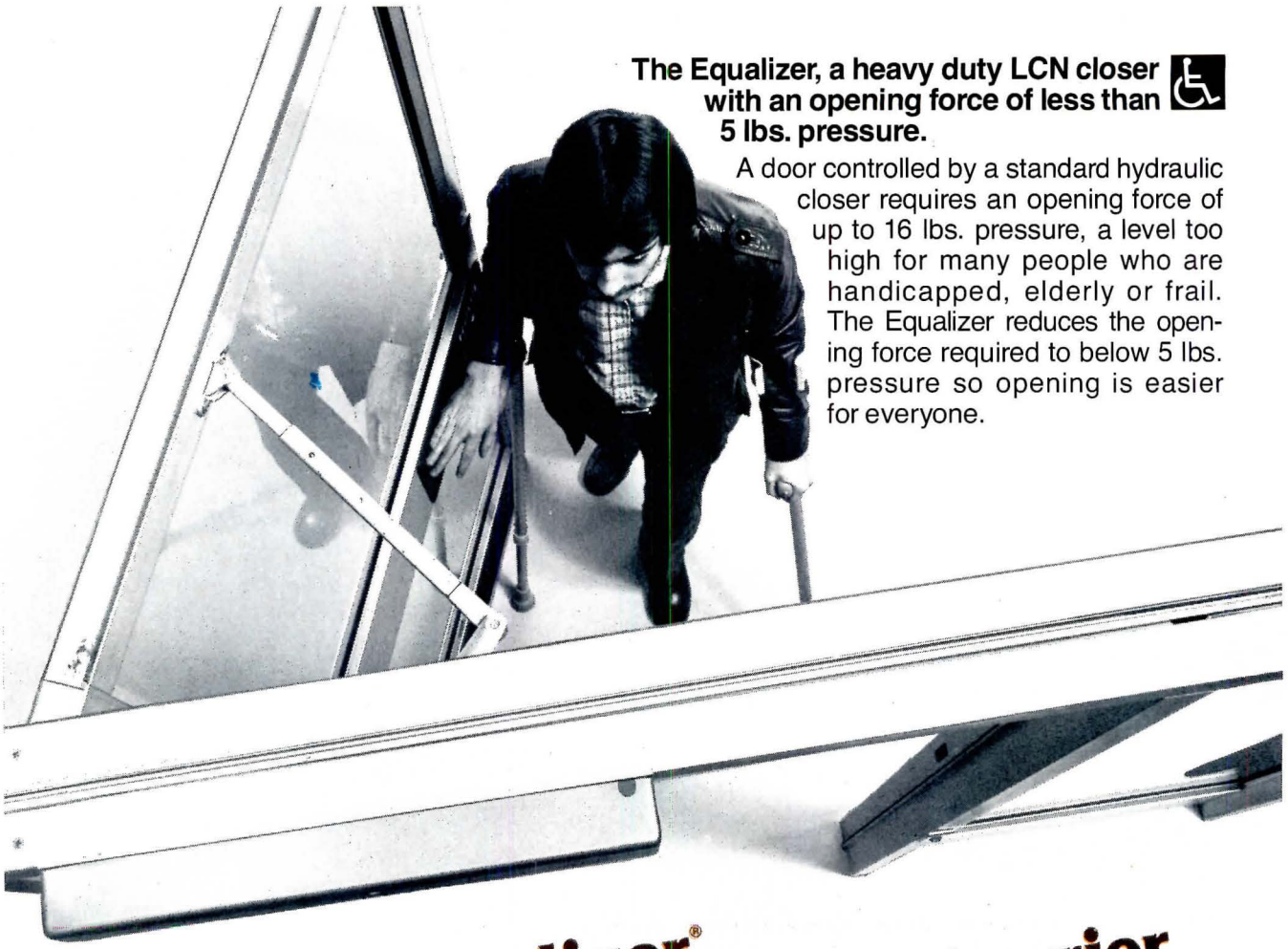
Edward Steinfeld is Associate Professor of Architecture at SUNY-Buffalo. This is the last in a series of six articles he has written for RECORD on barrier-free design.



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Circle 26 on inquiry card

For those individuals who cannot hear well enough to understand conversation, there are a variety of telephone aids available that allow communication through printed media. These devices hook up to the regular telephone lines and consist of a teletypewriter (TTY) with either a paper printer or a TV screen on which messages can be displayed and read. The technology of telephonic aids is developing rapidly, although at the present time such equipment is not generally available for unlimited public use. It can, however, be installed in buildings where access by the public is supervised.

Emergency warning signals are typically aural. In emergency situations there is a need for additional information in places where people with hearing impairments might be working or living alone. Although there is no research data on the thresholds of illumination and the types of signals that are minimally effective, experience in residential institutions for the aurally impaired has provided some guidelines for the type of visual alarms that can compensate for sonic emergency alarms. Clearly, in other places where sonic signals are used—such as elevators—such signals must be augmented by visual signals in order to accommodate aurally impaired individuals.

The quality of the acoustic environment is critical in places where many individuals with hearing impairments will spend a considerable amount of time. In addition, good lighting, proper sight lines, and other aspects of design contributing to visibility become even more important to the aurally handicapped person than to the person with normal hearing. Furthermore, since the aurally handicapped person spends a great deal of time concentrating on the visual world, he requires a certain degree of release from visual stimulation, or what could be termed "visual rest areas."

Design for the visually impaired: tactile warning textures

The edges of all hazardous areas must be marked or protected so that people with severely impaired vision will not walk into them unaware. A tested method of warning visually impaired people of a hazardous area is the use of a tactile warning texture. This consists of a pattern of texture on the part of a walkway immediately preceding the hazard and bounding the edge of the hazardous area. Curbs at the edges of the vehicular way, for example, are the basic means by which cane users identify the edge of a pedestrain walkway. When curbs are removed for wheelchair users, the possibility exists that cane users will not perceive where the street begins. A similar problem exists at heavily-traveled driveways where there are no curbs and the walkway crosses the vehicular surface.

Careful design can ensure that accessibility for wheelchair users and protection from hazards to the cane user are both provided. A tactile warning texture should cover the entire area of curb ramps. In other places, it should be at least three feet deep. This depth has been found to be easily perceivable for even fast-moving people. A roughened surface such as exposed aggregate or pea gravel aggregate is a satisfactory texture for easy identification. Contrast in resiliency such as tennis court cushion on concrete is even better. Another acceptable technique is the use of a pattern of raised strips or ridges running across the walking surface. Although some accessibility codes call for the direction of such textures to be parallel to the walking surface, the perpendicular direction has been found to be easier to identify by cane users. For exterior applications, grooves in the walking surface are not satisfactory because they can be easily confused with cracks in the sidewalk. However, grooves are acceptable in interior applications.

Wherever there are drop-offs, both indoors and outdoors, that are not protected by guardrails or walls, tactile warning textures can be used. An example of such an application would be along the edge of a rapid transit boarding platform. Another very important application for tactile warning textures on walking surfaces is at the top of stairs found directly in the path of travel. There is no need for a tactile warning texture at the bottom of such stairways because the stairway itself can be located with the cane. It is extremely important that tactile warning textures are not used for unnecessary reasons because indiscriminate applications will reduce their usefulness. Some design recommendations have promoted the use of tactile warning textures to mark the location of telephones, water fountains, and other amenities. But this approach can make it impossible for the blind to know the difference between amenities and hazardous areas. Throughout a building, the texture used should be consistent.

Protection from overhanging objects

Objects that overhang from the side of pedestrian pathways can be designed so that they do not cause hazards to the cane user. The lower edge of such objects should not be higher than the height of the cane at a point somewhat in front of the individual. A height of 27 inches will be satisfactory to protect the smallest and tallest individual. Anything that overhangs the pathway below this height should be provided with wing walls. Proper use of the cane will keep the cane user at least 6 inches away from the side wall of a corridor. Allowing for a tolerance of about 2 inches, small objects such as fire alarm boxes can project off side walls as much as 4 inches without being hazardous. Objects that overhang from above the pathway should be at least 6 feet, 8 inches above the walking surface. Since this is the conventional height of a doorway, even people who are taller will be used to avoiding hazards at this height. When an object is mounted on a post, the post itself is detectable by the cane user. Thus, overhanging objects such as telephone enclosures can have their lower lead-

continued on page 57

Design Criteria

Textured warning signals

1. Location: provided at the edges of hazardous areas not protected or marked by railings, walls or curbs; this includes the tops of stairways directly in the path of travel.
2. Type of texture: exposed aggregate, pea gravel, resilient tennis court surface, applied parallel strips, parallel ridges; parallel grooves may be used indoors; strips, ridges and grooves should be perpendicular to direction of traffic.
3. Dimensions: 36 in. deep along entire edge of hazardous areas; strips, ridges and grooves should be ¾ in.-2 in. wide also.
4. Material: use resilient materials for signals on hard surfaced pathways and hard materials for signals on resilient surfaced pathways.

Hazard protection

1. Headroom: 6 ft 8 in. minimum.
2. Leading edge of wall-hung objects: 27 in. high maximum unless mounted on posts.
3. Maximum overhang of leading edges of post-mounted objects should be 12 in.
4. Doors to hazardous areas: door openers marked with roughened surface.

Tactile signage

1. Location: on elevator panels and hoistway door jumps at minimum.
2. Type: raised or indented, sans serif styles.
3. Raise or indentation: 1/32 in. minimum.
4. Height: ⅝ in.-2 in. for raised characters.
5. Stroke width: ¼ minimum for indented characters.
6. Proportions: width-to-height ratio, 3:5 to 1:1 for characters; stroke width-to-height ratio, 1:5 to 1:10.
7. Contrast: either light characters on dark background or dark characters on light background.
8. Elevator control symbols: standardized symbols for main entry floor, door open, door closed, emergency alarm and emergency stop buttons; cluster these buttons at the bottom of the panel apart from floor buttons.

Elevator signals

1. Lobby signals: both audible and visible.
2. Car position indicator: both audible and visible; audible signal for passage of each floor served by elevator (20 db minimum).

Emergency alarms

1. Loudness: equivalent sound level that exceeds that in the room or space by at least 15 db; no louder than 120 db.
2. Illuminated exit signs: equipped to flash when audible alarm rings.
3. Isolated rooms or accessible sleeping spaces equipped to connect auxiliary visible alarm.
4. Flashing frequency: less than 5 HZ.
5. Emergency power for visible alarms: if powered by building electrical system, installed on same circuit as audible emergency alarm.

Telephones

1. Type: all new telephones should have "blue grommet" where cord attached to head set.
2. Variable volume: at least one in a bank of telephones.

Listening systems for hearing impaired people

1. Location: places of assembly with occupancies of 50 or more people where audio amplification equipment is installed; if individual fixed seats served, *within 50 ft. of performing area.*
2. Type: audio loops or radio frequency devices.

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ing edge above 27 inches. However, the projection of the object into a circulation space should be kept at a maximum of 12 inches. Otherwise, the cane user will not detect the post in time to stop before encountering the object.

Tactile room identification

Though many new accessibility codes require tactile room identification in buildings, other cues can be used by the visually impaired to find a specific location in a building more effectively. If such signs are provided, however, they should use raised characters rather than indented ones. The little research that has been done on the subject indicates that blind people can quickly discriminate characters in the standard alphabet as small as ⅝ inches high with their fingers. The critical dimension for indented characters is the stroke width of the character. Although no research has been done specifically on this subject, it would appear that a stroke width of ¼ inch is easily readable by fingers. The proportions of characters should be as follows: 1) a width:height ratio between 3:5 and 1:1, and 2) a stroke-width:height ratio between 1:5 and 1:10. Characters and symbols that contrast with their background, either light characters on a dark background or dark characters on a light background, are most easy to read. Although some codes specify light on dark, the difference between the two is insignificant in normal building use.

Elevator signs and signals for the visually impaired

One place in which tactile signage is an absolute necessity is in elevators. Blind people have a very difficult time determining which call button to press. Tactile floor numbers should always be provided to the left of all call buttons. Tactile characters on the buttons themselves are not effective because most elevator call buttons are so sensitive that the elevator would stop at every floor touched. To make it easier to find specific floor buttons on the elevator panel, the entry floor should be marked with a tactile star. Though required by many codes, the use of braille in addition to the standard alphabet is not recommended because it clutters the control panel. Tactile floor numbers also should be placed at both door jambs of each hoistway entrance so that visually impaired people can verify that they have arrived at their floor before leaving the elevator. Such numbers must have a standardized location to be useful. A height of 5 feet is recommended because it is close to eye level. The numbers should be large but not larger than 2 inches tall.

Audible signals in elevators are important to blind people. Such signals are needed in the elevator lobby to note in advance which elevator cars are arriving and their direction of travel. (They should sound once for the up direction and twice for the down direction or have verbal annunciators that say "up" or "down." Within the car itself, there should be a sound at least 20 decibels loud to mark the passing of each floor that is served by an elevator. It is not necessary that elevators serving a zone, e.g. only the upper ten stories of a 20-story building, have the signal operative except within the zone. An alternative to this sound would be a verbal annunciator that broadcasts the actual number of the floor at which an elevator stops. Relatively inexpensive solid state systems are now available for annunciators; a tripping device attached to the elevator cab that clicks at each floor can be used for the 20 db sound.

Design for the aurally handicapped: Alarm systems

Audible signals are generally used for emergency warnings because of their psychological immediacy and the impossibility of physically closing one's ears to block out the signal. People with hearing impairments, however, should be notified of emergencies by a visual alarm system with a flashing light. Unlike audible alarms, a visual alarm would have to be located in every space in a building to provide complete coverage. It is unlikely, however, that a person with a severe hearing impairment would be alone in a building unless he were a normal occupant, e.g. employee or resident. For those spaces that he inhabits regularly, visual emer-

continued on page 59

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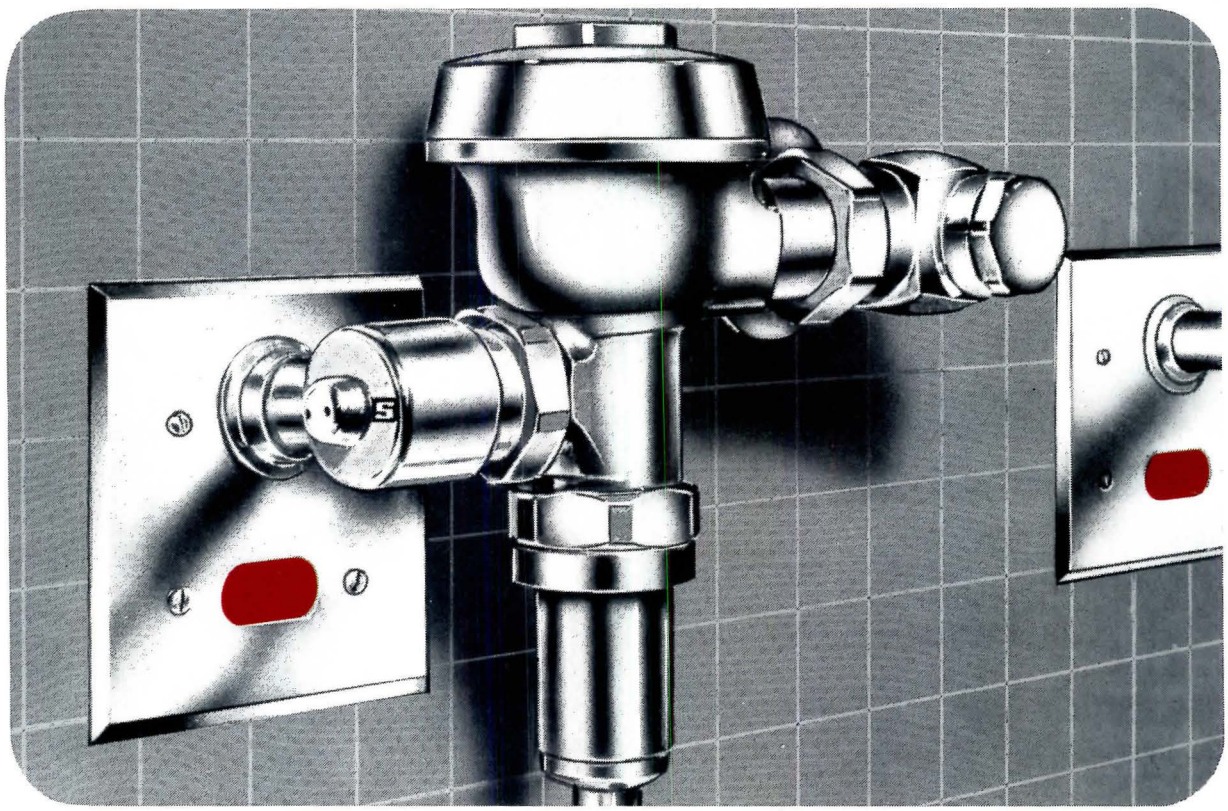

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gency signals can be installed as needed. There are new devices available that transmit signals through the normal electrical circuitry of a building to a visual alarm device that can be plugged into any normal electrical outlet. Visual signals should be distracting enough to attract an individual's attention. They must spread light or reflections throughout a space and, in sleeping spaces, raise the level of light enough to awaken someone. There is no empirical research on minimal illumination level changes necessary to accomplish this; however, some administrators of residences for aurally impaired people feel that a 100-Watt bulb is satisfactory in a dark room. Strobe lights are definitely a successful approach. Since most building codes require illumination of exit signs, public spaces of a building can be provided with visual alarms by making the exit signs flash in conjunction with audible emergency signals. With these two kinds of protection, persons with severe hearing impairments can be made aware of an emergency either at their normal place of occupancy or within public circulation spaces. In all other spaces, it is unlikely that they would be alone for an amount of time that would be significant enough to be considered an undue risk.

Public audio systems

Listening systems should be provided wherever audio amplification is installed in public assembly areas. There are several types of listening systems for use by people who have hearing impairments although there is no one system that works for all conditions. Earphone jacks with variable volume controls can benefit only those people who have slight hearing losses but do not help people with hearing aids. Audio-loop devices consist of transmitter and a receiver with a wire loop, and the loop surrounds an area of floor or a number of seats within which people who have hearing aids with inductive pick-ups can hear the transmitted signal. The loop can surround a large area or can be small and portable and, thus, moved easily from place to place. However, loops do not help people who do not use hearing aids nor can they help people whose hearing aids lack inductive pick-ups.

A third type of device is a radio frequency system, which can be extremely effective and inexpensive. People without hearing aids can use them. However, people who use hearing aids may require custom-designed equipment for some RF units. If listening systems serve individual fixed seats, those seats should be within 50 feet of stages or performing areas so that lip readers will be close enough to see performers' faces.

Elevators and telephones adapted for the aurally impaired

Audible warning signals are used in elevator lobbies to attract users' attention to an arriving car. For the aurally impaired, visual signals are also necessary.

Telephones that have magnetic fields in the area of the receiver can be identified by blue-colored grommets where the wire from the box attaches to the receiver. All pay telephones should be this type. Variable-volume control chould be specified for at least one telephone in every bank of telephones.

Other design implications

Although these design implications consist of the minimal needs of visually and/or aurally impaired individuals, there are many other implications of the compensatory principles identified in this article that can improve the usability of the built environment still further. These include: 1) the conscious design and location of non-visual cues to create landmarks for the visually impaired person, 2) provision of telephonic devices with display screens or printed communication media in addition to telephones, 3) acoustic design that provides the best conditions for hearing human speech, and 4) visual surroundings that provide opportunities to "escape" visually or relax one's concentrated visual attention. Most of these provisions—a certain degree of redundant information, clarity of information, and augmentation of stimuli—enhance the usability of the built environment for *all* people.

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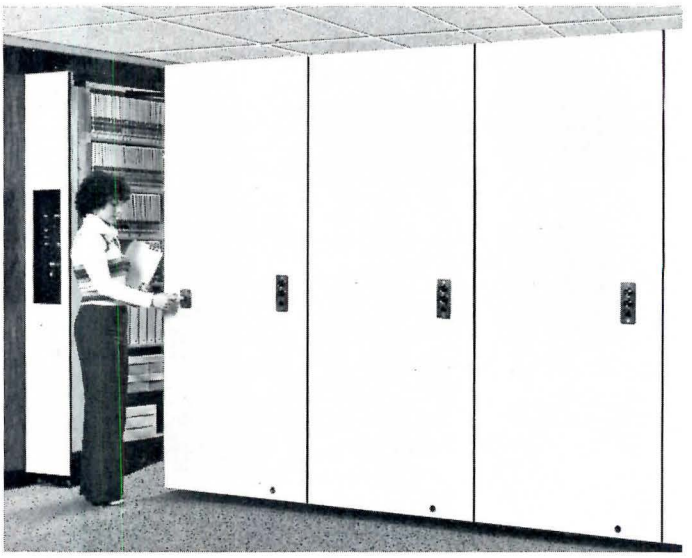

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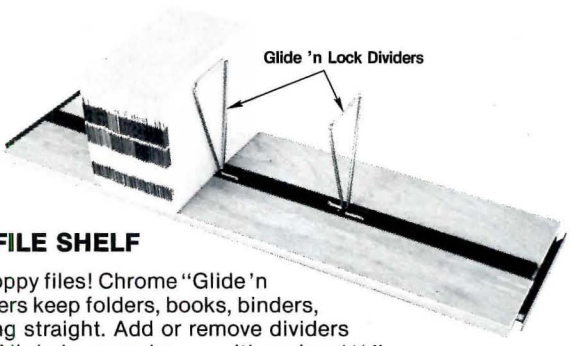

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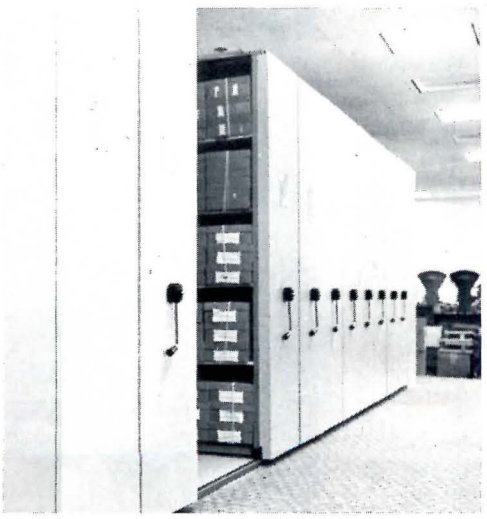

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Federal patronage

THE PLACE OF ART IN THE WORLD OF ARCHITECTURE, *by Donald W. Thalacker; Chelsea House/Bowker, $35.*

Reviewed by Patricia Markert

The Federal Government has not always acted as generously as the Medicis in its support of the arts. But thanks to the General Services Administration's Art-in-Architecture program, nearly 150 modern artworks have been installed in new government buildings, adding an often needed balance to a lackluster courthouse or plaza, or enhancing a good design. And despite occasional public suspicion of tax abuse, the Art-in-Architecture program enjoys an unusually good reputation as one that keeps costs down while keeping artists and public happy.

As Sam Hunter points out in his well-argued preface: "Federal patronage lapsed in our own century until the calamitous Depression period, but even after the signal success of the WPA programs, the U.S. government turned its back on the arts once again. It was only in the context of the postwar 'culture boom' and of the sophisticated and stylish Kennedy White House that cultivating the arts on a national level gained a new foothold. . . ."

The Kennedy Administration started a national fine arts policy similar to the current French art policy for educational buildings, which allows one per cent of the construction budget for art to complement buildings. Our policy is limited to one half of one per cent, but it has flourished under the Nixon and Carter Administrations. In terms of sheer volume, 130 artworks have been installed since 1972 compared to the mere 34 artworks that came into being during the beginning years (1962-1966). Largely responsible for this upswing in commissions is Nancy Hanks, former chairman of the National Endowment for the Arts, who instigated the revitalization of the program, and Donald Thalacker, director of the program and author of *The Place of Art in the World of Architecture.*

Thalacker has organized the book to reinforce the fact that the program is a Federal one, so the works appear in alphabetical order according to city, from Akron, Ohio, to Winston-Salem, North Carolina. And he tells the story behind each commission. How did architect, NEA panel, and community settle on each commission? How did the large steel sculptures get to their sites? How much were the artists paid? Thalacker, in answering all these questions, peppers his reportage with anecdotes of the frequent battles among reluctant public official, proud artist, public, and GSA official. That the program has withstood such philistine attacks as Senator Proxmire's "fleece of the month" award and Walter Cronkite's sarcastic television commentary on the use of the tax dollar testifies to the program's success. Because for every denigrating remark by such national figures, there is a counterattack by the local press or citizenry defending their new artwork. People, it turns out, *like* modern art.

Witness the citizens of Grand Rapids, Michigan, coming to the defense of sculptor Mark di Suvero when his revised design was rejected by the GSA panel on the grounds that it was "little more than playground equipment." The new sculpture is not only safe in high-velocity winds, but its tripod-like crossing I-beams suspend a gondola swing, allowing children to play on it, and experience di Suvero's intentional sense of balance. These people were proud to recognize di Suvero as one of their own. The *Grand Rapids Press*

Patricia Markert is editor of Architectural Record Books.

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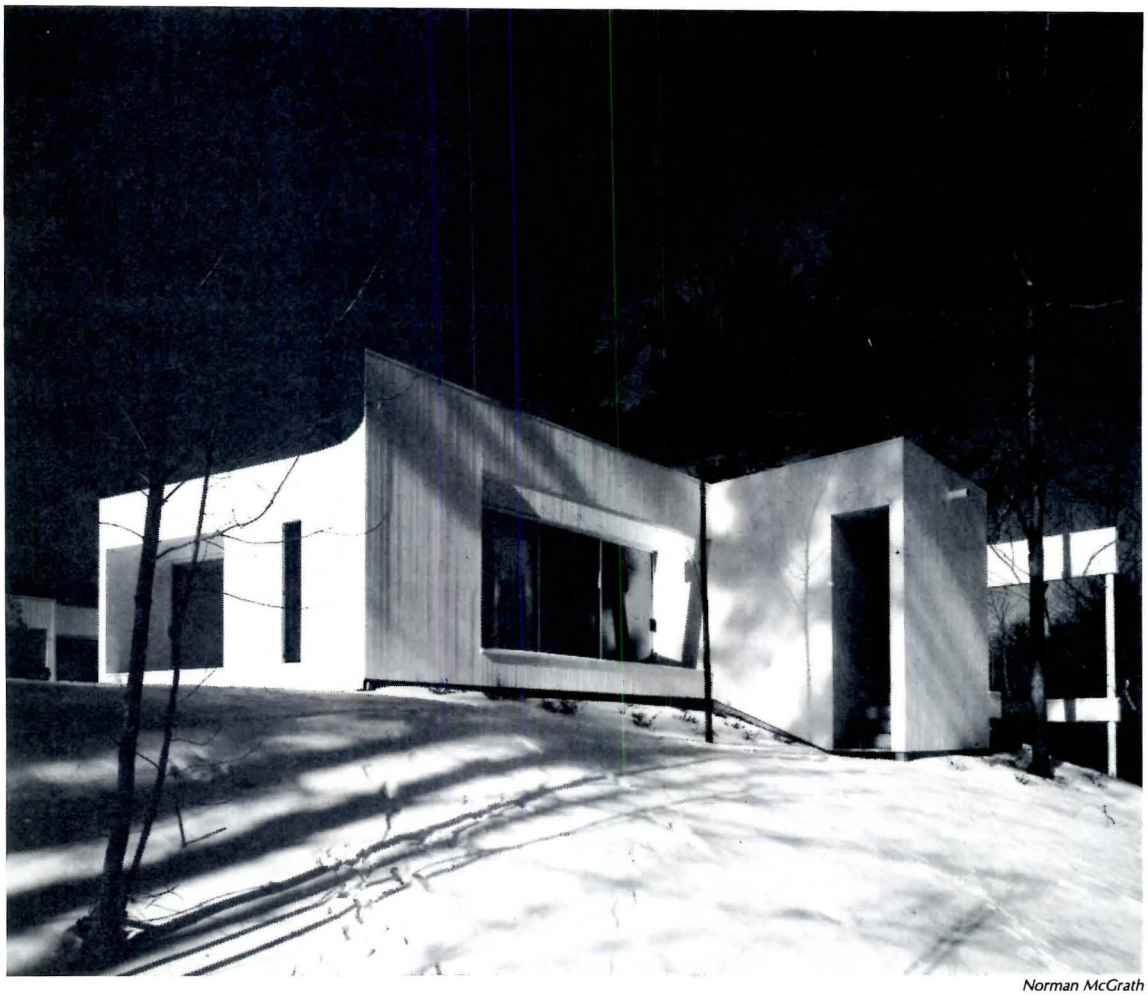

Norman McGrath

This award program is open to any architect registered in the U.S. or Canada, and submissions of unpublished work will be welcome until October 31, 1980. No formal presentation requirements are made, though materials submitted should include plan(s), photographs, and a general description of the project. Submissions will be returned, but not before date of publication. We especially solicit and welcome the work of young and/or previously unpublished architects.

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went so far as to call him "the Pied Piper of public sculpture." Take that, William Proxmire.

But not all the commissioned artworks aroused battles. The GSA had the political savvy to inaugurate their revived program in 1972 with Alexander Calder's stabile entitled *Flamingo* in Chicago. If anyone can ensure public acceptance of modern art, it is Calder, and true to form (or to the requests of publicists of the event) Calder, in imitation of his playful circus wire figures, headed a circus parade to dedicate his sculpture. Chicago had the good fortune to receive Oldenberg's *Batcolumn* as well. *Batcolumn* rises 100 feet in the air, a giant baseball bat in homage to the city's favorite sport. Constructed of stainless steel in a latticework of diamond shapes, the *Batcolumn* is painted a steel gray and fits perfectly next to the sleek, glass-skinned Social Security Administration Building. The sculpture's mirror image in this building, designed by Lester Knight, adds another dimension to the even rhythm of vertical windows.

The commissioned artists do not all share Oldenberg's and Calder's fame. Illustrations of a painting by Lynne Golob Gelfman and a sculpture by Ned Smyth appear side by side with illustrations of a Noguchi and a Segal. And the art does not always qualify as "high" art. With installation of such folk art as quilts, weaving, and ceramics in the Alfred P. Murrah Federal Building in Oklahoma City, the GSA enlarged its program by breaking away from its custom of installing monumental sculpture in large, otherwise empty spaces. Thirty-two works were installed throughout the building's interior, responding to the architect's wish that the art consist of as many forms as possible. Although the Murrah Federal Building seems to receive the most extensive coverage in the book, not a single photo shows the building itself. Which brings up one of the problems of the book.

The architect's point of view is conspicuously absent. And the architecture itself is shown in bits and pieces, fragmented to the point that you can't tell how high or wide each building is, let alone the scale of the artwork in relation to the building. This flaw becomes especially apparent in the illustrations of the Social Security Administration Western Program Center in Richmond, California. Gyongy Laky, a textile artist, describes the building designed by Pereira/Bentley/Tudor: "The building is exciting and very sensitively designed for human beings, a rare thing." And the architect, in one of the few descriptions given by an architect of his own work: "The building's interiors have been developed using native and natural materials, which provide a fabric of warmth to complement the exterior finishes." But we are given only a glimpse of this "sensitive" building with views of a single wood wall on which the tapestries hang.

Although several artists voice their opinions on the architecture, sometimes expressing anxiety that it will be a real struggle to position their art in prominent enough places so that the buildings will not overpower them, the architect is never heard commenting on the completed collaboration of art and architecture. One begins to wonder if the buildings are not worth showing, or if the architects were displeased with some of the works of the artists. For example, Isamu Noguchi was selected to create a sculpture for the Seattle Federal Building. The architect recommended Noguchi, having in mind several artworks for the building with the emphasis on a sculpture of "horizontal composition and of bronze or dark stone." Noguchi's completed sculpture, a composition of five light-pink granite stones in the plaza, has a vertical emphasis. What were the architects' reactions to this? Did they mind that the sculpture was vertical for the most part and light-colored instead of horizontal and dark-colored as originally suggested? Thalacker is so caught up with the artists' mystique that he never bothers to tell.

Thalacker writes about the artists like a proud parent talking about his children: after a while you begin to tire of and suspect all that praise. Is it necessary to describe Lia Cook's finished textile entitled *Spacial Ikat III* as "optically dazzling, executed to perfection in yarns so sensuous that the impulse to touch the undulating forms is all but irresistible"? The book reveals itself as a catalog for the GSA program and its artists, instead of doing what its title promises, illustrating how art and architecture fit together in context with each other to improve both.

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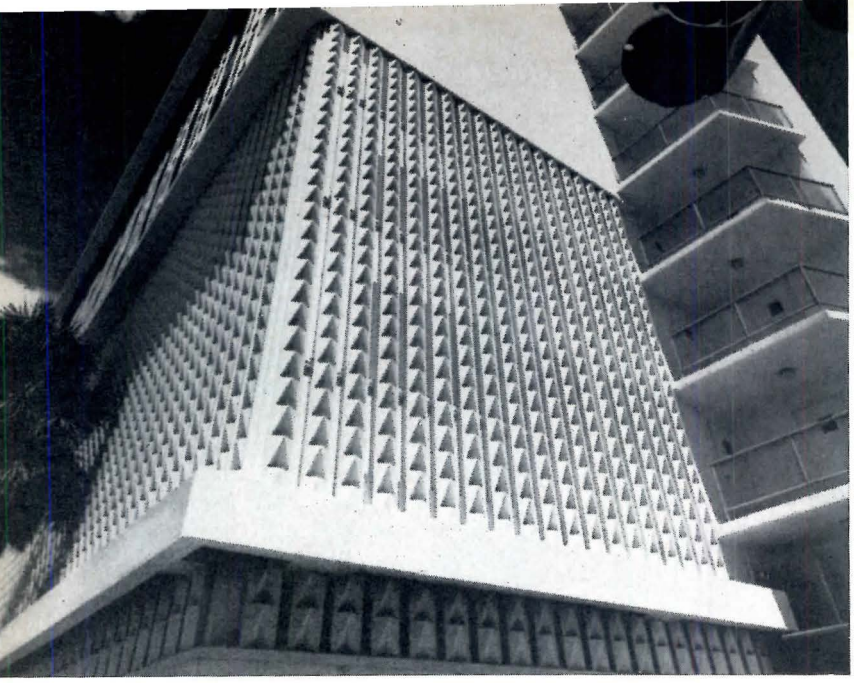

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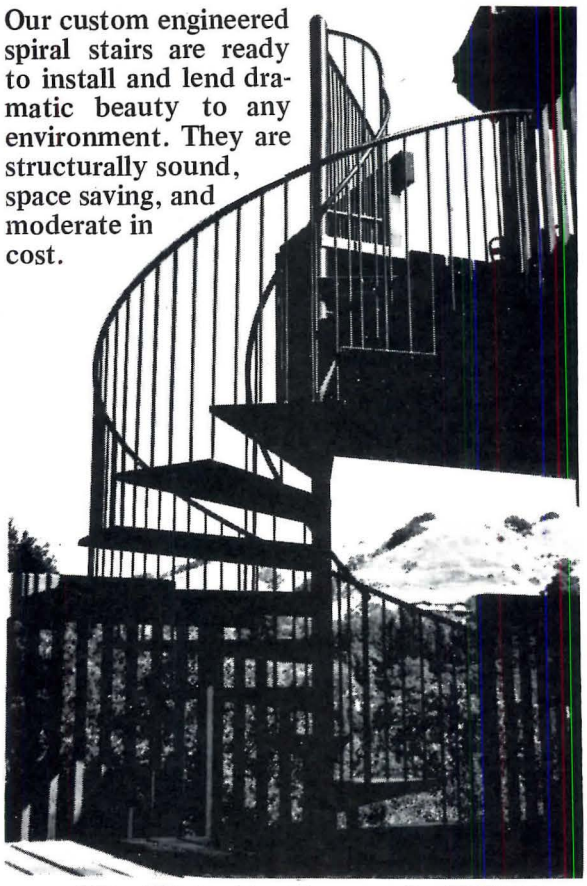

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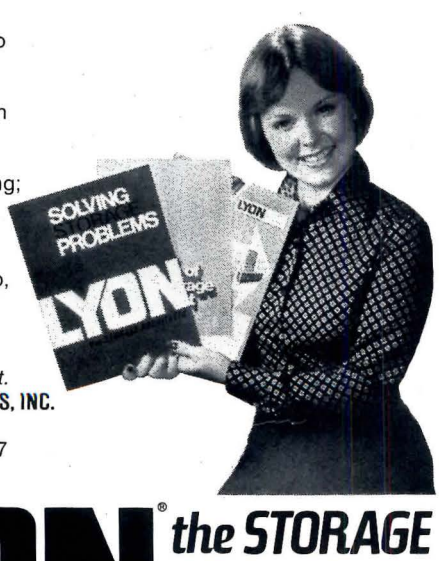

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BOOKS RECEIVED

AN ARCHITECTURE OF JOY, *by Morris Lapidus; E.A. Seemann, $19.95.*
An autobiography that shows the "inside story" behind the planning of the Summit Hotel in New York and the Fountainbleau, the Eden Roc, and the Americana in Miami. Lapidus attempts to show us how architecture mirrors our inner selves, our dreams, and our fantasies.

BURNHAM OF CHICAGO, ARCHITECT AND PLANNER, *by Thomas S. Hines; The University of Chicago Press, $6.95.*
Hines focuses not on Burnham the architect, but instead on Burnham the man. Although Burnham's reputation went downhill after his death, aided by his clashes with Louis Sullivan, Hines challenges Burnham's poor image and shows us another side of the man.

DUNCAN PHYFE AND THE ENGLISH REGENCY, *by Nancy McClelland; Dover Publications, Inc., $7.50.*
A noted American authority on antiques describes the Scottish emigrant's life and works, showing why he is considered the last of the great furniture craftsmen. Numerous photographs illustrating the Regency style are included, as are drawings of characteristic Phyfe details.

THE ARCHITECTURE OF FREDERICK CLARKE WITHERS, *by Francis R. Kowsky; The Wesleyan University Press, $25.*
One of the first full studies of a major late nineteenth century American architect. Emphasizes the immigrant English architect's work in the 1860s and 1870s when he created some of the outstanding achievements of the High Victorian Gothic Movement. Withers' religious architecture is also presented, along with a list of all his projects, both realized and unrealized.

WOODEN HOUSES, *by Makoto Suzuki; Harry N. Abrams, $45.*
A beautiful collection of photographs of wooden houses, barns, playhouses, chalets, storehouses, and cabins, from the Swiss Alps, Germany, and Scandinavia. Photographer Yukio Futagawa captures splendid images of carved storefronts, farm buildings with thatched roofs, mountain hide-aways, and wooden doors. Christian Norberg-Schulz contributes a lengthy introduction that discusses construction methods, and the influence wood has had on architecture.

THE WYATTS, AN ARCHITECTURAL DYNASTY, *by John Martin Robinson; the Oxford University Press, $69.*
A blend of architectural history and the Wyatt family biography, bringing to light some of the lesser-known Wyatts. The Wyatts dominated English architecture for 150 years, and the personalities of the family line—from the eccentrics to the more conventional family members—are shown. Foreword by Woodrow Wyatt, photographs, and catalog of family works included.

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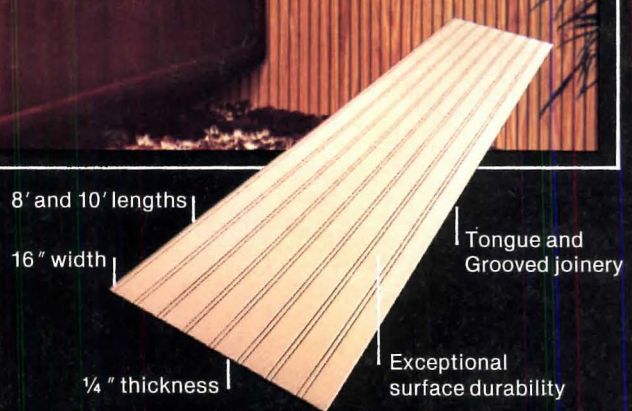

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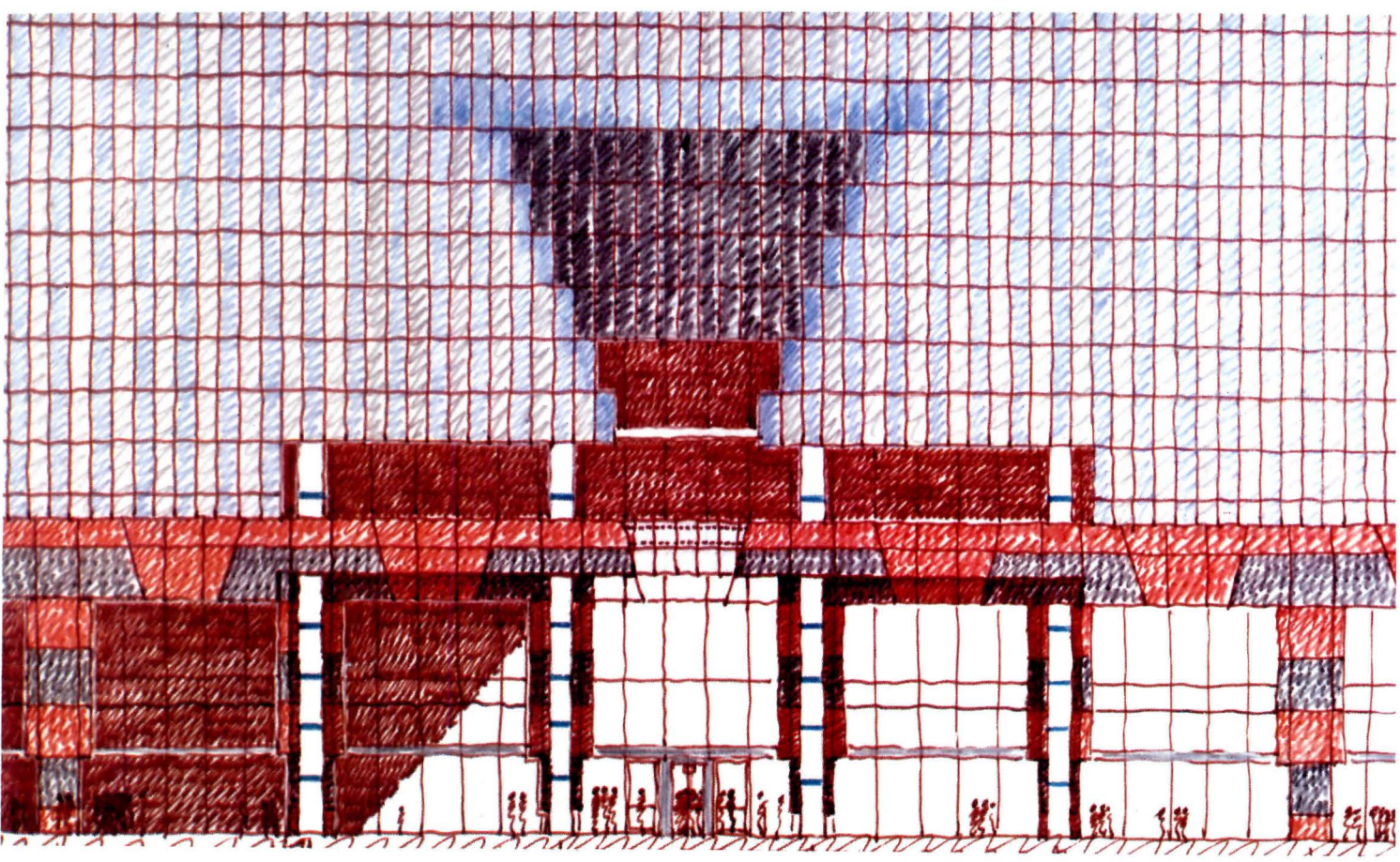
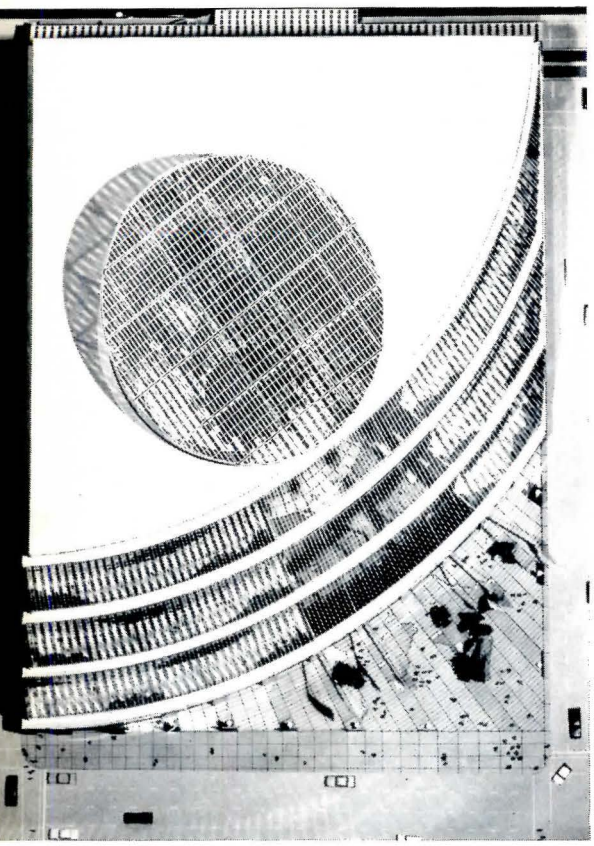
NEW FORMS FOR CHICAGO'S CORE

THREE PROJECTS BY C.F. MURPHY ASSOCIATES

Most of C.F. Murphy Associates' recent work is going up in and around Chicago's urban core. Out of this high degree of localization, certain interesting potentialities seem to be emerging. Without stringing out long lines of logistics—the kind that somebody always trips over somewhere, and without diluting design authority through regional or overseas offices, C.F. Murphy Associates is able to maintain unusually close lines of control over what gets designed and built. Follow any of these lines backward and you will be led, almost directly, to Helmut Jahn, the firm's 40-year-old principal in charge of design. In an earlier piece for RECORD (July, 1979), Jahn spelled out a number of concerns getting new emphasis in the firm's approach to design—the now-familiar concerns like context, historical associations, and consciously abstracted symbols and images. Several of these concerns are evident in the projects that follow. The questions these new concerns raise are addressed to the two decades ahead. Jahn is admittedly feeling his way, and a good deal of what he does is frankly intuitive. Design-at-the-cutting-edge has almost always carried a heavy component of intuition and that, of course, means risk. But when such risks are taken in a relatively small geographic area, and at a large scale, the outcome can begin to decisively affect the living patterns of a community and its citizens. When this is the case, we cannot afford to either applaud uncritically or prematurely dismiss the designs with a few falsetto protests. We wait and watch. —*Barclay F. Gordon*



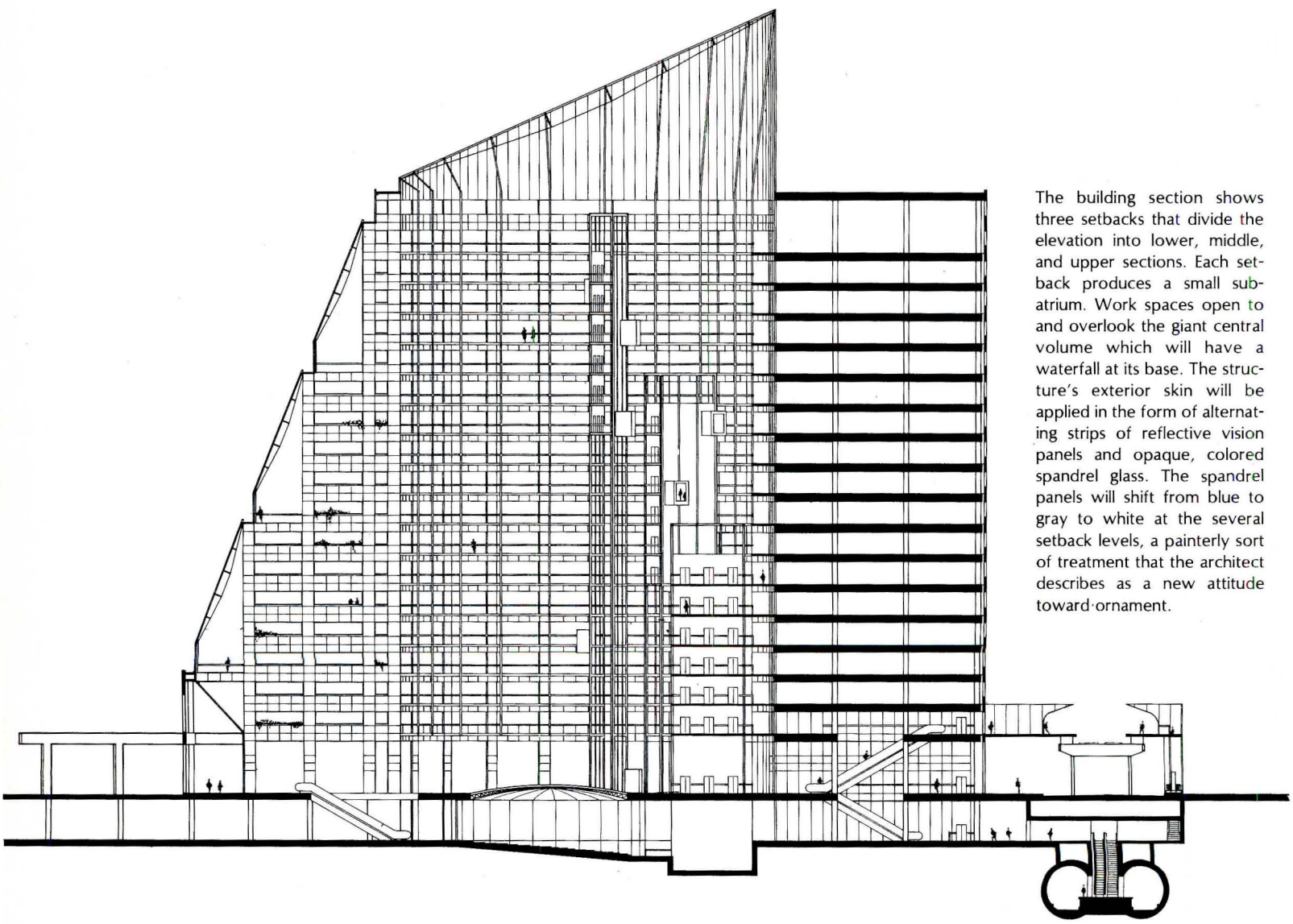


STATE OF ILLINOIS CENTER: THE EMBODIMENT OF COMPLEX GOALS

Perhaps the boldest—and certainly the most talked about of C.F. Murphy's current projects is this design for the new State of Illinois Center, a state office building soon to go under construction along Chicago's North Loop. Enclosing some 14 floors of office space varying in size between 48,000 and 77,000 square feet, and gathering all these spaces around a huge central atrium, the building will be a ringing declaration of the State's presence in downtown Chicago. It will also be a radical departure from familiar office tower forms and, almost certainly, a source of continuing debate inside and outside the profession.

The proposed building's arresting form grows out of a loosely interlocking cluster of goals both functional and theoretical. The State wanted a focal building that would recharge the neighborhood and at the same time dignify government's role and underline its fundamentally democratic nature. The architects sought to give expression to these goals by exploiting the transparency of glass and by creating within the building a monumental public space that will be filled with activity of various sorts. The building's central drum of space will thrust upward through the roof in the shape of a truncated cylinder that will establish itself as a fresh form on the Loop's skyline. It is also intended to summon associations with the central rotunda-dome forms that have characterized important government buildings for centuries. The tall, clear glass "keyhole" (see drawing and photo right) is both a symbol and an invitation.

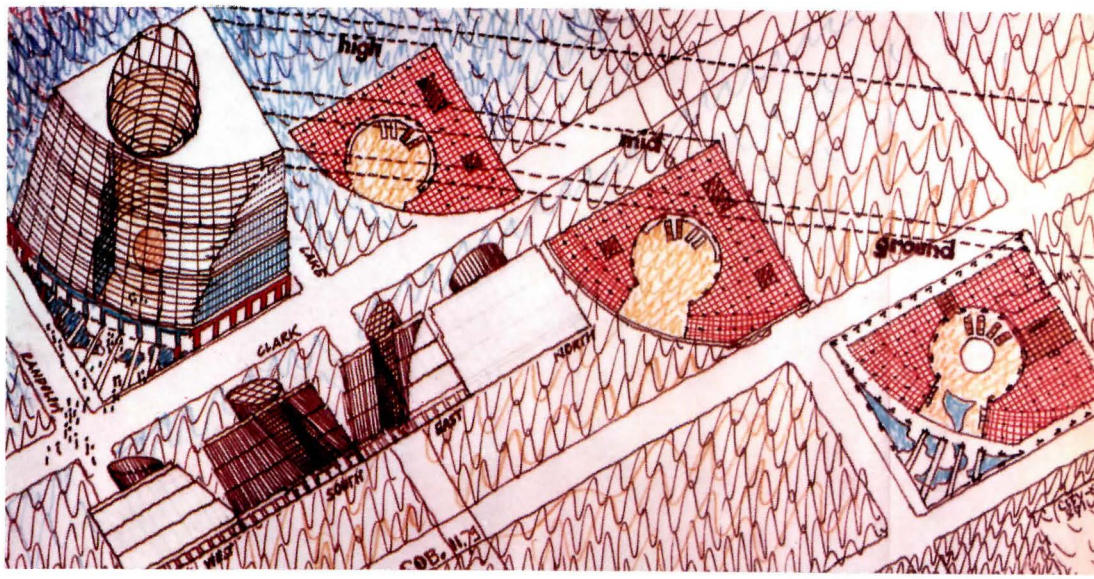
The entry forecourt established by curving the southwest corner is landscaped and is



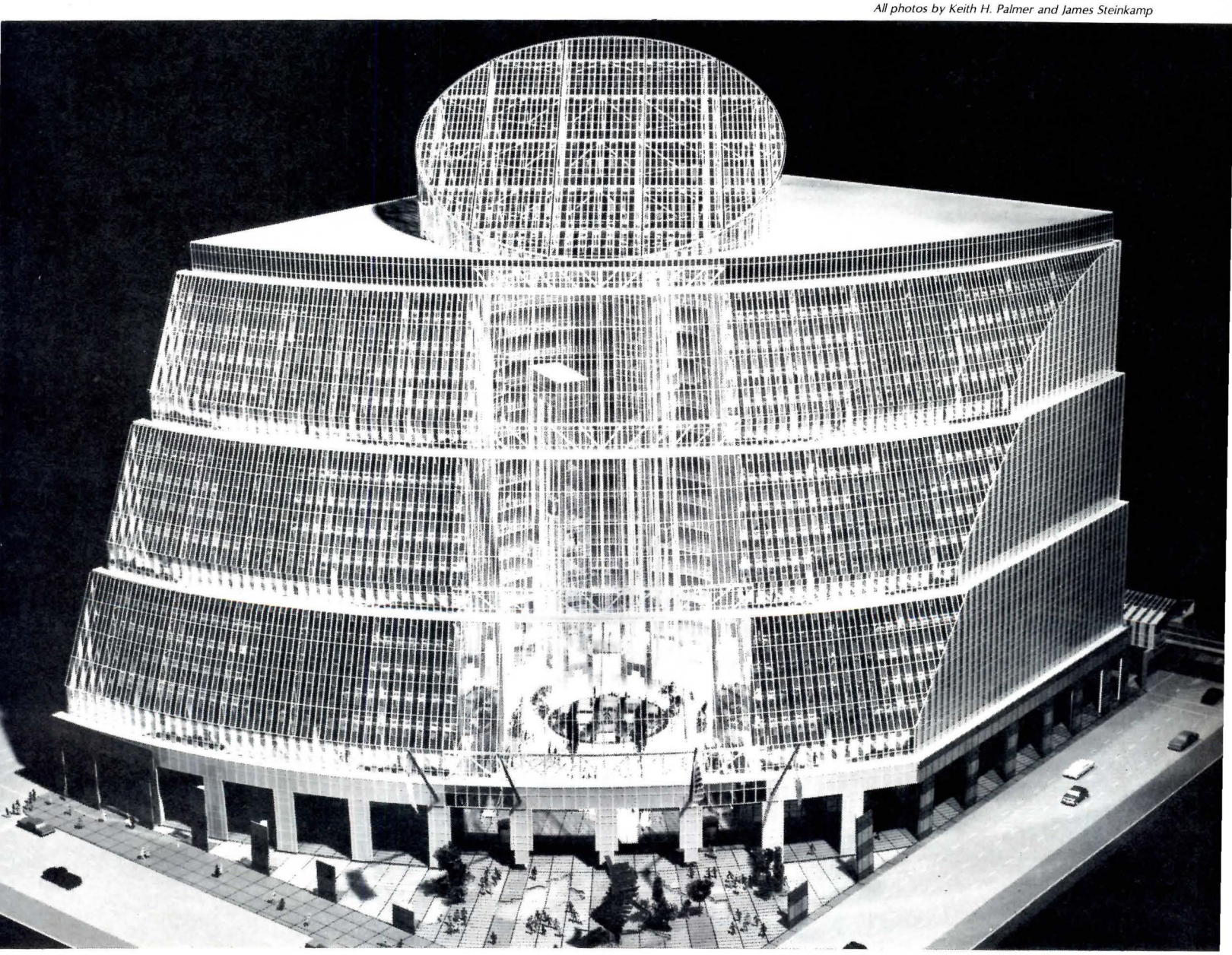
The building section shows three setbacks that divide the elevation into lower, middle, and upper sections. Each setback produces a small subatrium. Work spaces open to and overlook the giant central volume which will have a waterfall at its base. The structure's exterior skin will be applied in the form of alternating strips of reflective vision panels and opaque, colored spandrel glass. The spandrel panels will shift from blue to gray to white at the several setback levels, a painterly sort of treatment that the architect describes as a new attitude toward ornament.

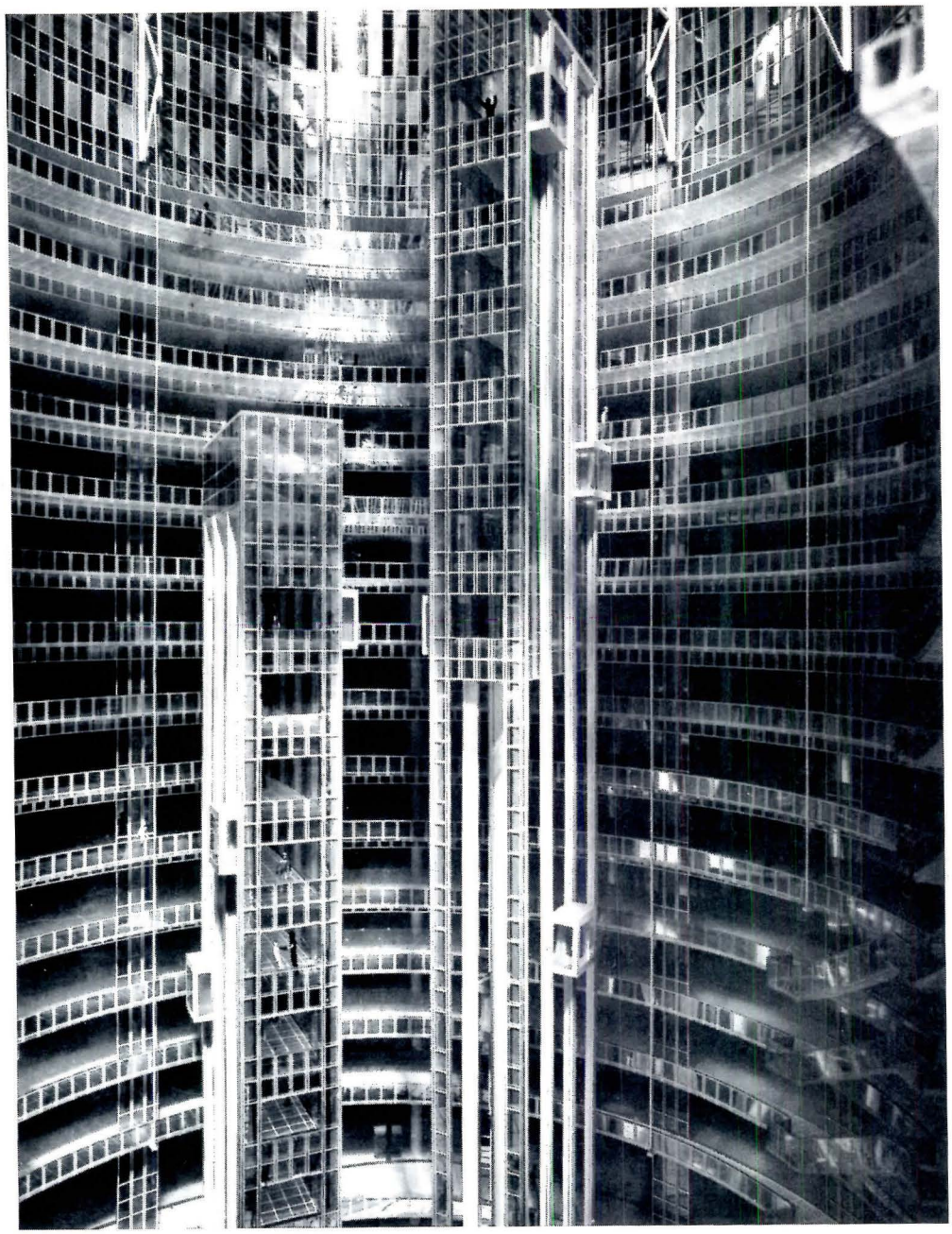
contained by rows of columns. Structural along the sides of the building where they define exterior arcades, these rows of columns become freestanding and unburdened as they step out from under the building and march forward toward a right-angled point of intersection they never reach since they dissolve as they go into smaller and smaller fragments. It is a device for modulating the sense of containment of the forecourt, a highly original and imaginative idea which may turn out to be quite successful.

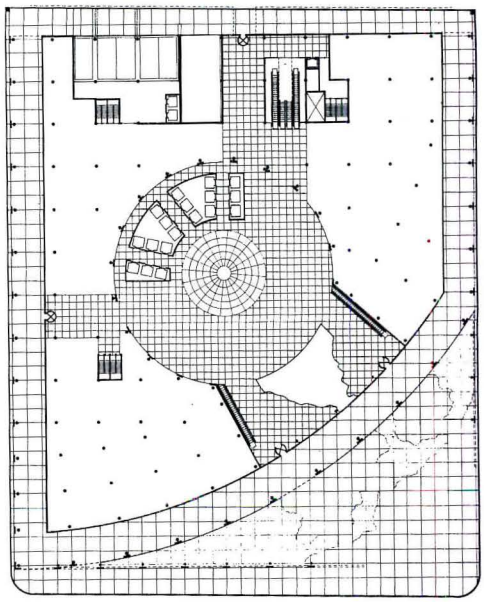
STATE OF ILLINOIS CENTER, Chicago, Illinois. Architects: *C.F. Murphy Associates/Lester B. Knight & Associates in joint venture—Helmut Jahn, principal-in-charge; James Goettsch, project architect.* Owners: *State of Illinois Capital Development Board; Donald S. Glickman, executive director; Brian O'Connor, project executive.*



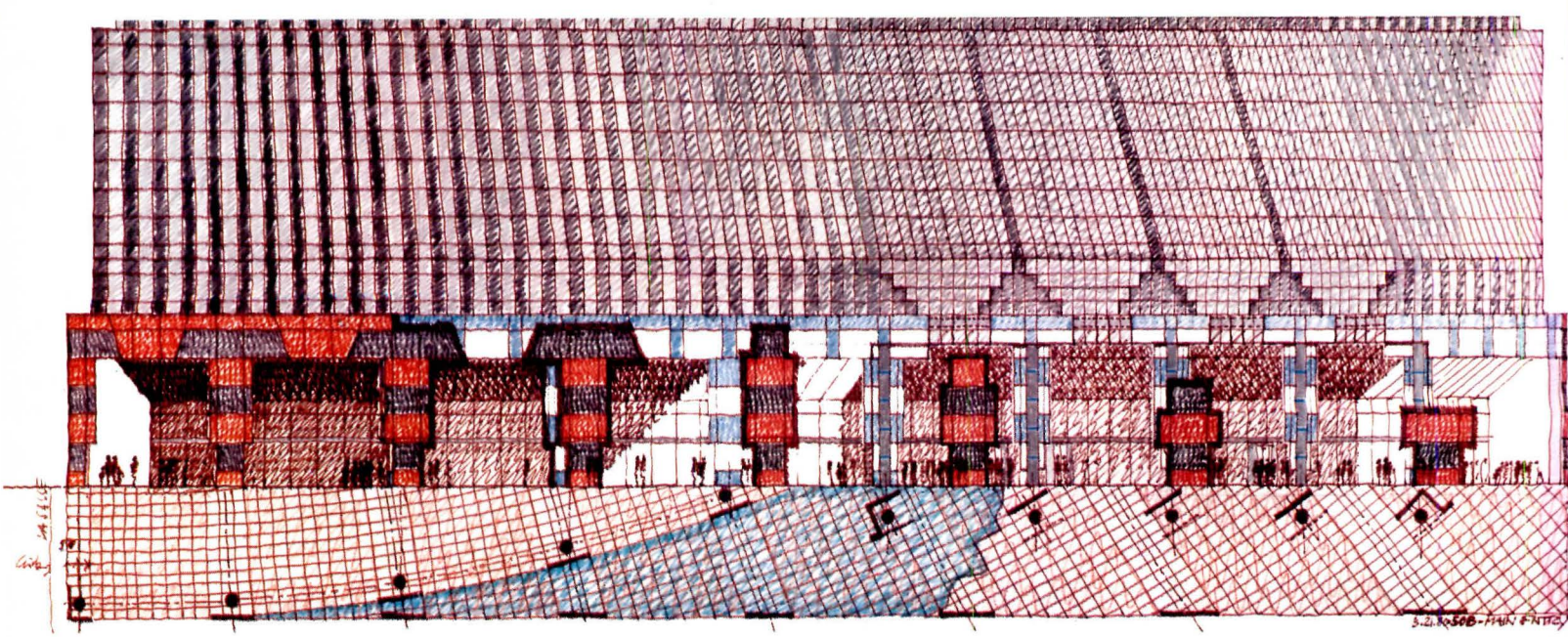
All photos by Keith H. Palmer and James Steinkamp

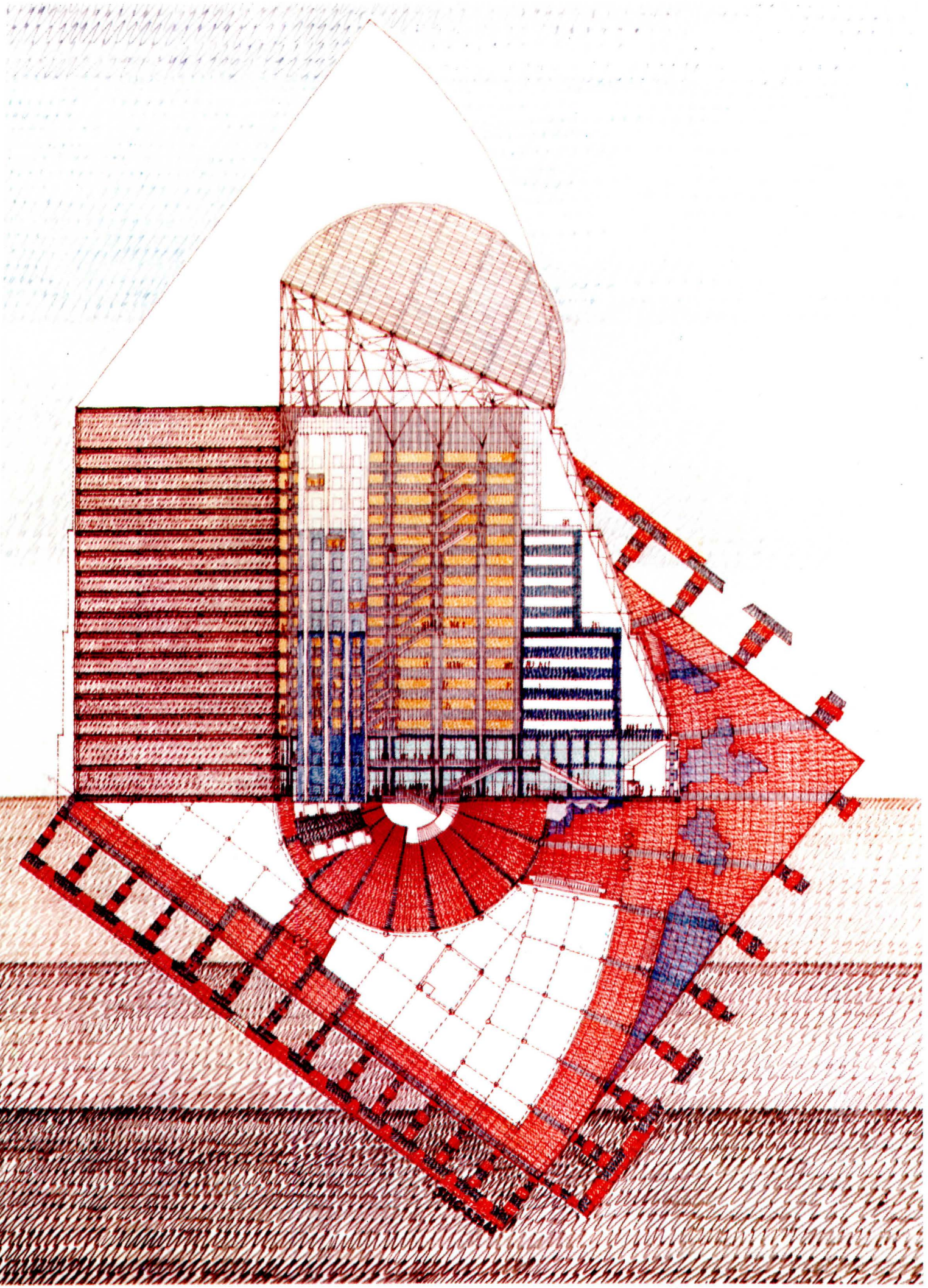




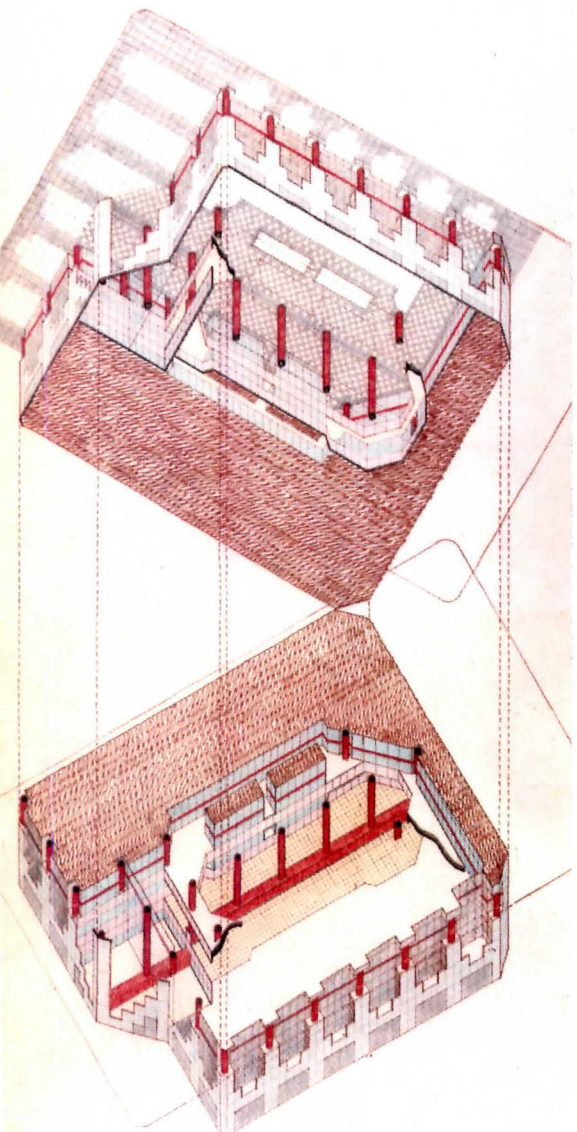


The composite plan/section, so expressively rendered at right, is simplified in the plan above. The elevational study below shows the dissolution of arcade columns as they strive to enclose the landscaped plaza. Engineering studies indicate the Center will be energy efficient. The rotunda and "sub-atriums" maximize the exposure to natural illumination, and the interior loft spaces, which open to a controlled interior environment, will not be penalized by high heat loss or gain. Total energy consumption for the building is calculated at 50,000 Btu/sf/year.





ONE SOUTH WACKER: SOLID DESIGN AND REAWAKENED IMAGES



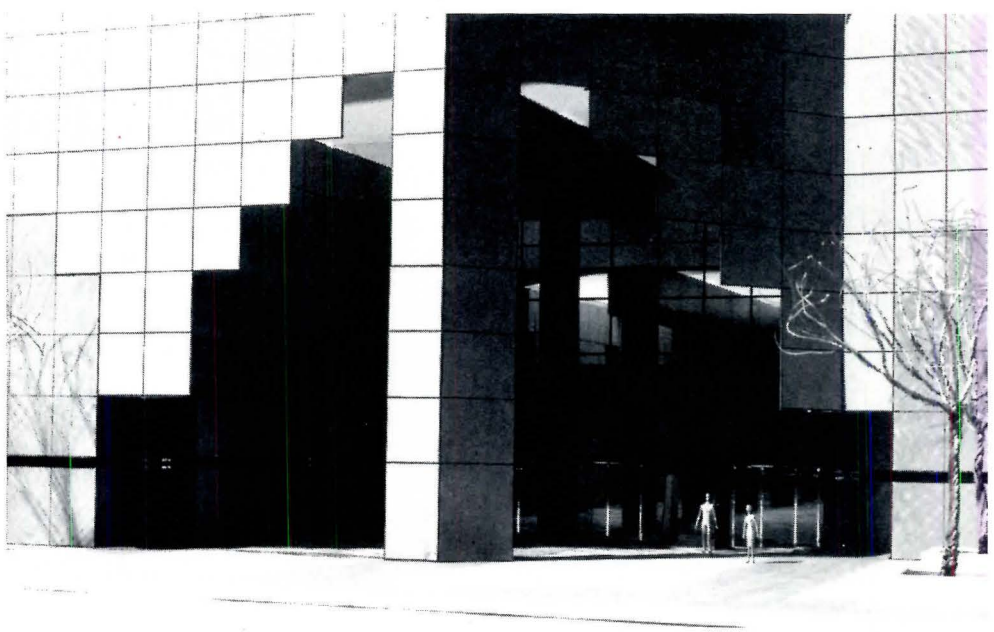
Facade studies reveal the care and articulation that the designers give even the smallest details. Columns which were to have been bright red (sketch above) were softened and dignified by a change to black (photo right).

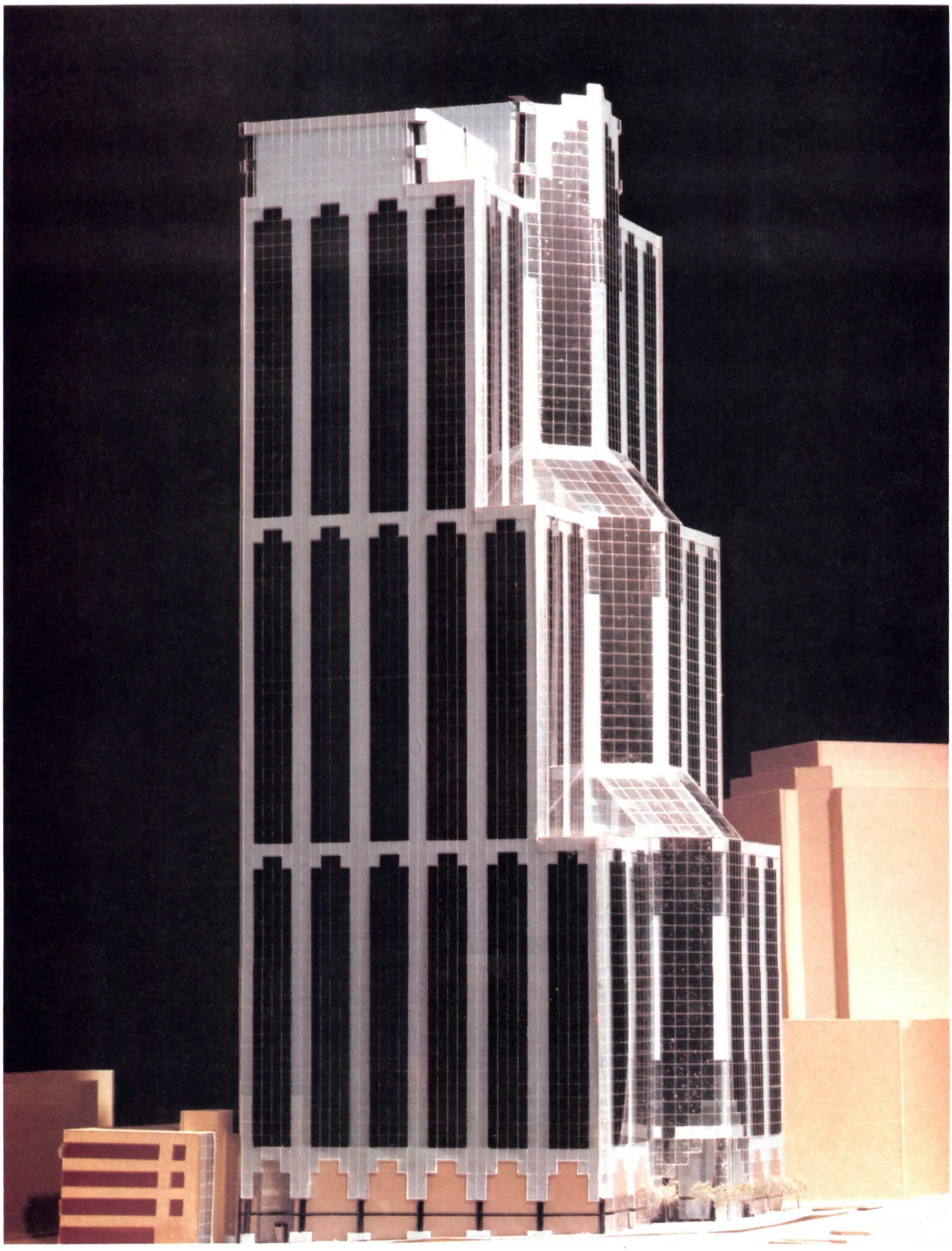
Another C.F. Murphy project that, like the State of Illinois Center, is about to go into construction, is One South Wacker, a 40-story office tower to be built on a downtown site between South Wacker Drive and Madison Street. Here, there was little in the urban context to which the architects could relate their design. The new tower will rise majestically to place a carefully modeled profile against the sky. The program required floor areas of three different sizes: 25,000-, 30,000-, and 38,000 square feet. These are reflected in the system of setbacks which, in turn, is echoed in plan where a corner of the building is bent back at an angle to create an intimate entry court. The court leads to a multilevel galleria in the form of a full depth-of-building throughway linking the South Wacker and Madison Street entrances.

Three-story atriums occur above and below each setback level. Created in this way are U-shaped floors that benefit their users by increasing the perimeter exposure to daylight without simultaneously increasing the exterior wall area.

There is little doubt that One South Wacker will be elegant and distinctive. Its beautifully modeled form, its rich detailing, the concern that has gone into the selection of finishes are all extraordinary and set it apart from its routine counterparts. The question that it raises—and it is a question that the profession now ponders with increasing uncertainty—is this: Is there refuge in the forms of the 1920s? How, and under what circumstances can such forms be resummoned? To whose benefit? At what cost? These are questions with no easy answers.

ONE SOUTH WACKER, Chicago, Illinois. Clients: *Metropolitan Life Insurance; Harvey Walken & Company; Metropolitan Structures.* Architects: *C.F. Murphy Associates—Helmut Jahn, principal-in-charge; James Goettsch, project architect.* Engineers: *Alfred Benesch & Company* (structural); *Cosentini Associates* (mechanical).



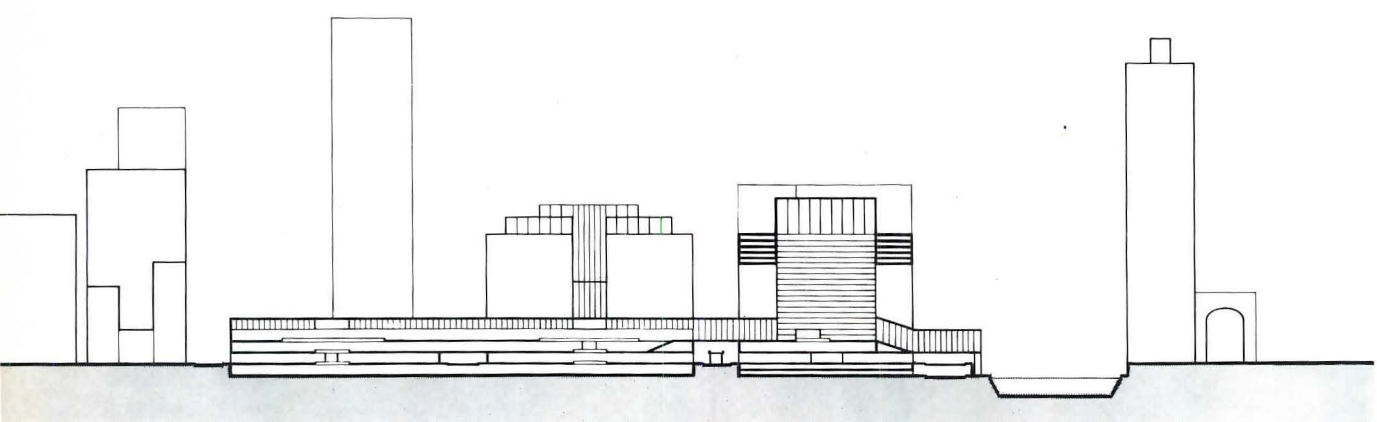


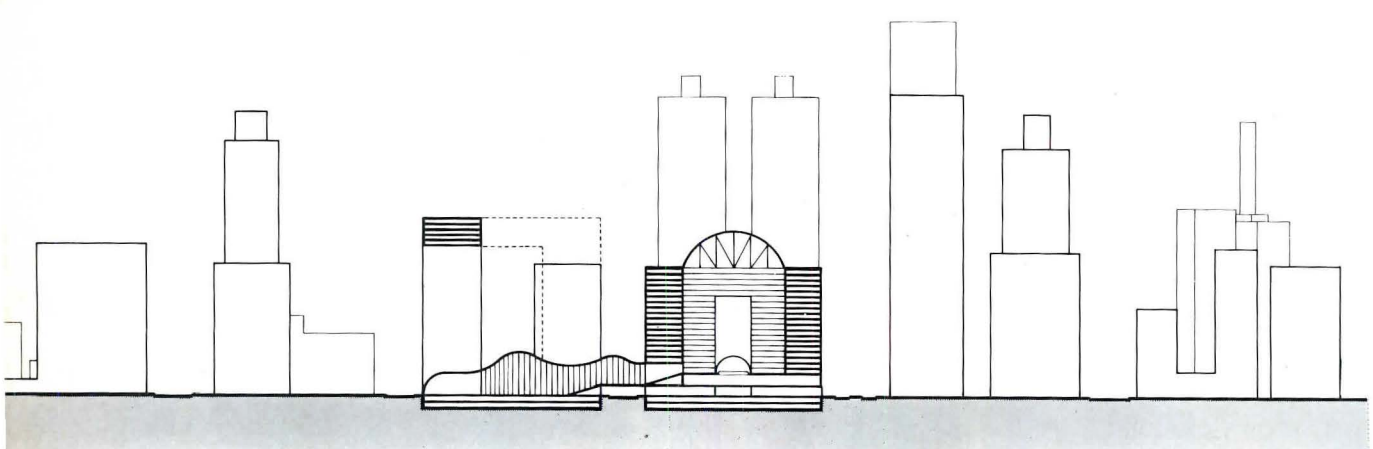
NORTH LOOP REDEVELOPMENT: A FRAMEWORK FOR ORDERLY URBAN CHANGE

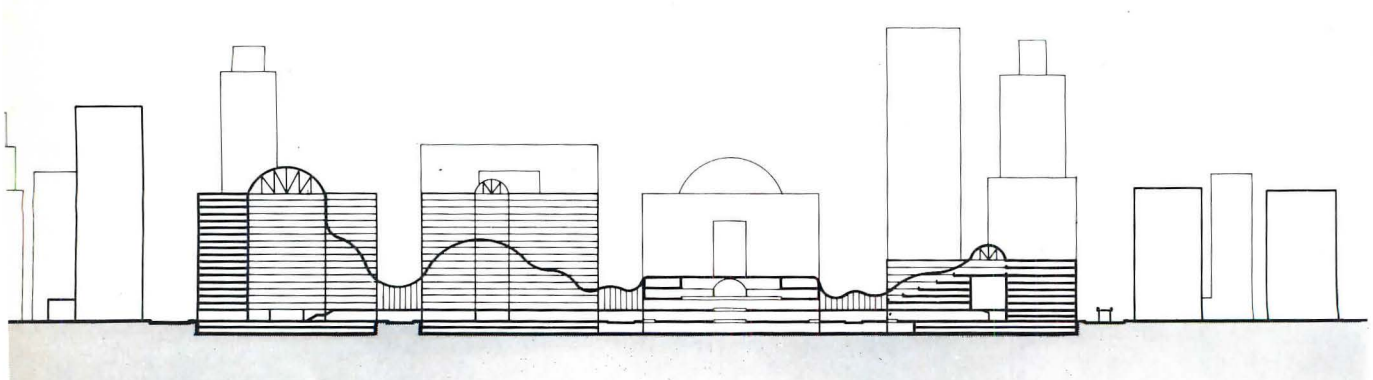
Gradual deterioration had slowly mortgaged the future of this seven-block parcel along the North Loop. C.F. Murphy Associates was retained by a developer to replan the area that, coincidentally, included the site of the new Illinois Center (glass-domed structure right center). Not to be implemented, at least in its present form, the study is nevertheless interesting. It establishes a low-rise and mid-rise scale for the district and gives close attention to the development of a sequence of spines and spaces that tie the area together above, at, and below grade. In the center of the project, at the intersection of the two main cross routes, the architects envisioned a shopping center modeled roughly on Eaton's Center in Toronto. Without radically disturbing the patterns of urban use, and without making specific proposals for building designs, the architects have created a physical framework that identifies goals, establishes priorities, and rests securely on intelligent land use.

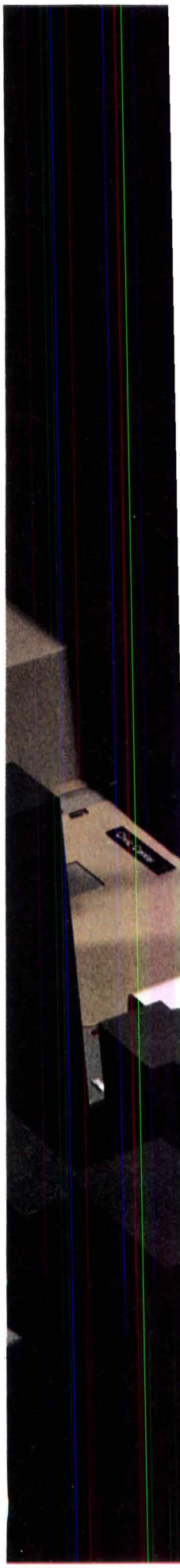
An 1830-room hotel (tall, dark structure at left in photo) has already been designed that can plug into this redevelopment program. The design includes not only 30,000 square feet of ballrooms and a 40,000-square-foot landscaped atrium, but 20,000 square feet of retail space on several pedestrian levels. These several levels may be seen in the sections below.

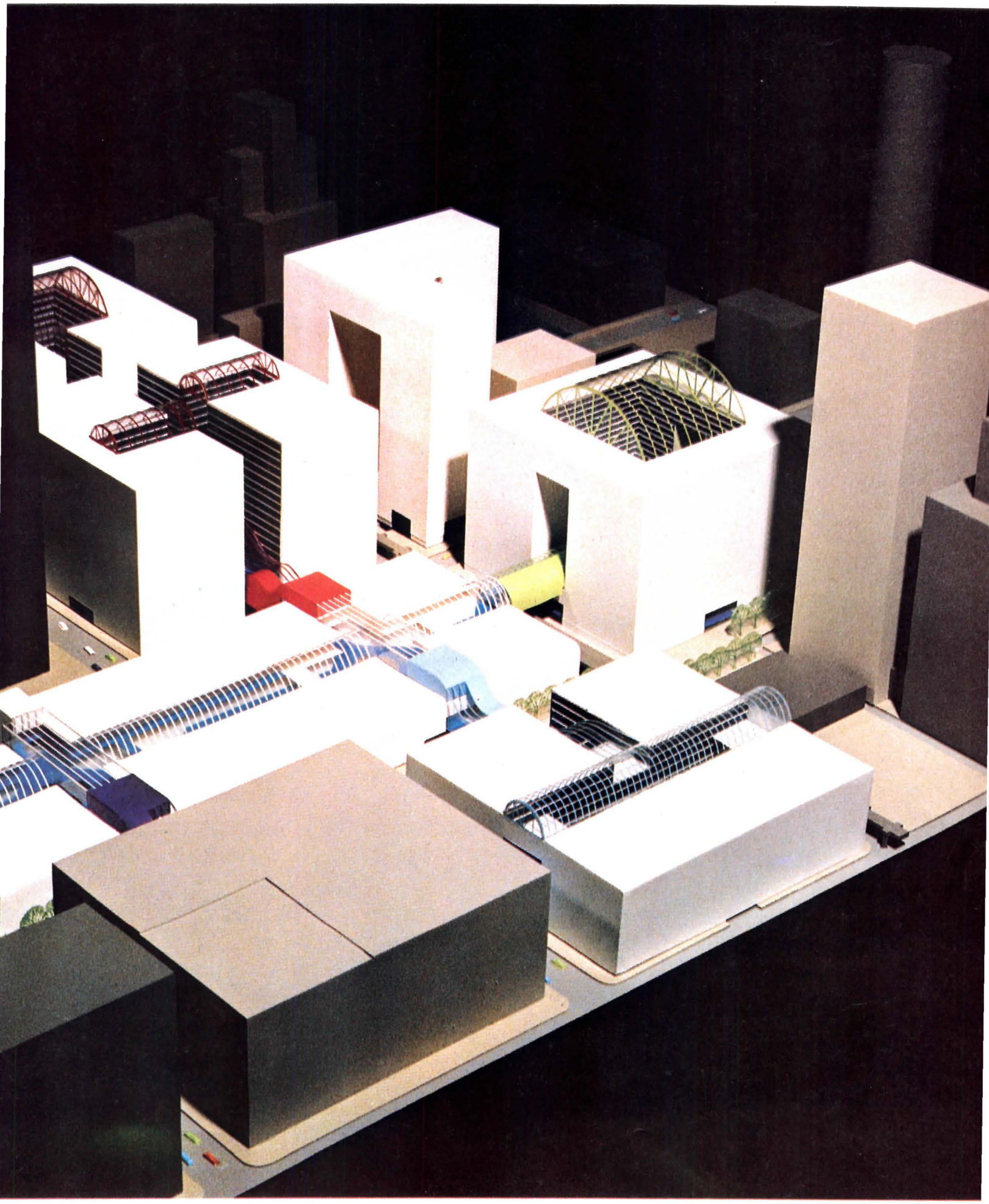
NORTH LOOP REDEVELOPMENT PROJECT, Chicago, Illinois. Clients: *Arthur Rubloff Development Corporation.* Architects: *C.F. Murphy Associates—Helmut Jahn, partner-in-charge; Jim Goettsch, project architect.*







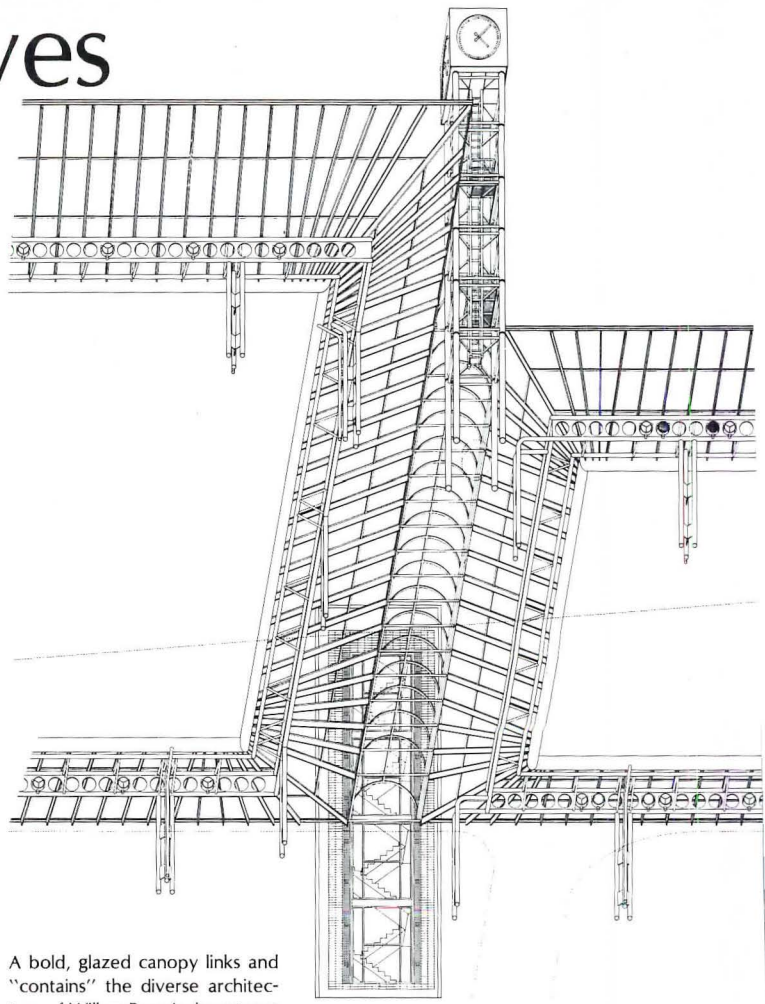




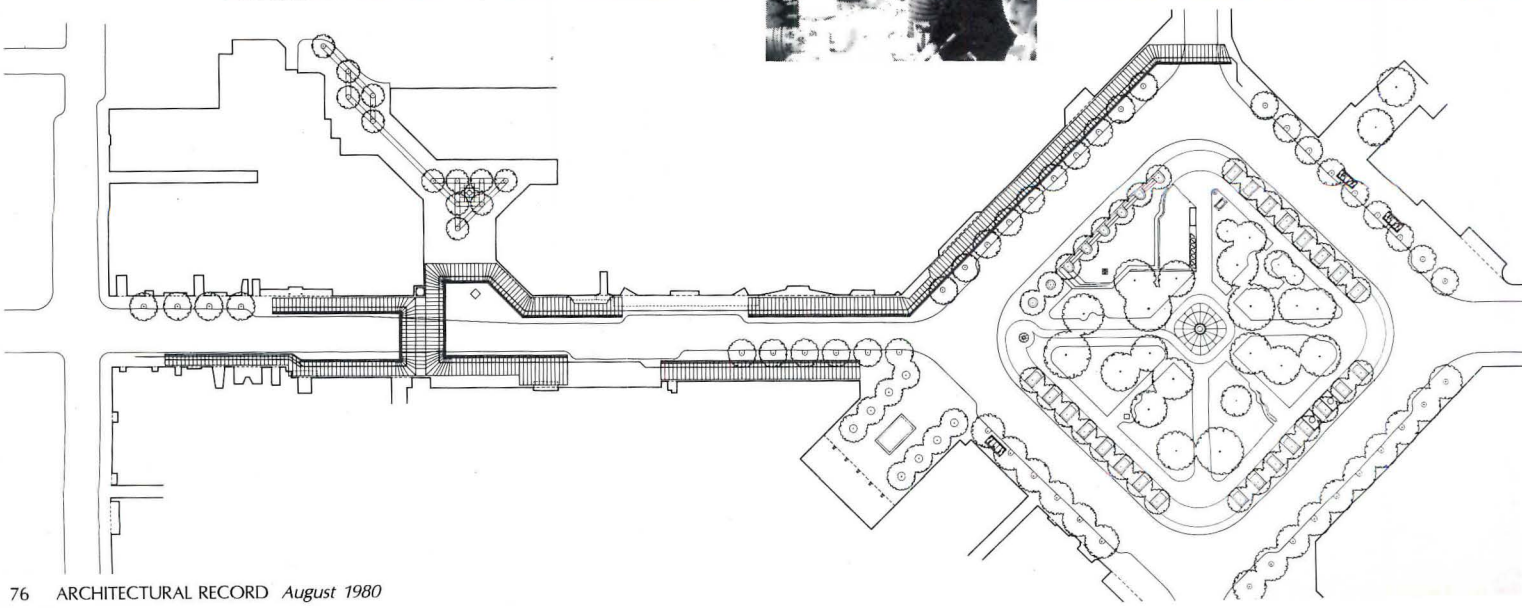
Wilkes-Barre revives its downtown

From a locus of blight and devastation, the center of this Pennsylvania city becomes a zesty, active marketplace

Joseph W. Molitor photos



A bold, glazed canopy links and "contains" the diverse architecture of Wilkes-Barre's downtown stores (details above and left), as well as sheltering pedestrians from rain and snow and accommodating the city's various festivals (photos below). Clear graphics on information kiosks steer shoppers to various stores.



As a shopping center, downtown Wilkes-Barre was already faltering, as so many U.S. city cores are, when it was struck by the Hurricane Agnes Flood in 1972. Federal and state aid funds were soon provided for reconstruction, and portions of the monies were used to recreate a viable, lively city center: streets, pedestrian spaces, utilities and the planting of over a thousand new trees were included in the rehabilitation.

To up the intensity of public interest and use, architects Bohlin Powell Brown Larkin Cywinski studied a variety of options for the downtown area, ranging from a modest upgrading of paving and street trees, to complete elimination of vehicular traffic and full enclosure of the main shopping street. The studies culminated in a delineation of the downtown's central four blocks by a one-way traffic loop edged by dark red lighting fixtures and tightly spaced trees, and a concentration of major efforts on the primary commercial area. This retail sector is "anchored" by three department stores along South Main Street and at the northwest corner of Public Square. The area was unified by a vigorous, 1800-foot-long, glazed canopy linking the major stores. Vehicular areas were narrowed to provide space for broader pedestrian walkways and appropriate street furniture: benches, flower tubs, information kiosks and bent steel "people seats" (see photo overleaf). All these "public improvements", which cost about $18 million, were accomplished in phases between 1974 and early 1979.

The eye-catching, crystalline canopy is forthrightly framed by tubular rafters cantilevered from a continuous, triangulated steel pipe truss, supported on pipe columns—all painted dark red. The glazed shed pitches up to a point several inches from the existing buildings (support along the building faces was not permitted), and carries water away from the buildings to a stainless steel gutter

rimming its lower edge. Specially designed, double-faced lighting fixtures and sound system speakers plug into the truss webs' circular openings. The truss and canopy frankly adjust to the varying circumstances along the edges of the square and the street; gaps occur where existing building canopies interrupt the system, and a mid-block crossing is punctuated by a 60-foot clock tower.

The canopy system terminates at the historic and psychological center of the city: Public Square, a big outdoor room set diagonally in the downtown street grid. The architects intensified its use as a green, oasis-like center by incorporating activities that range from resting and card playing to festivals and a weekly Farmers' Market.

Basic materials are similar throughout the entire "loop" (red asphalt pavers, granite curbs and block pavers, painted steel), but on the square they are used with greater fun and verve, contrasting red and green granites, more active patterns and "petroglyphs", and variations in scale. The original crossed pedestrian pattern has been retained, and its large trees have been supplemented by new ones. However, the perimeter has been enlarged to allow for a ring of cherry trees set in raised granite planters, which buffer pedestrians from surrounding traffic and provide added seating. The "slots" between these planters harbor farmers' vehicles on market days. The square abounds in "focal points", but all are unified and tied together by a band of granite pavers that "twirls" around the block and into its center to circle a large illuminated fountain. Along its path it links the raised planters accommodating the Farmers' Market, two striped granite restrooms, a performing area, and a small fountain set in a millstone-like granite disk at the park corner facing the main street.

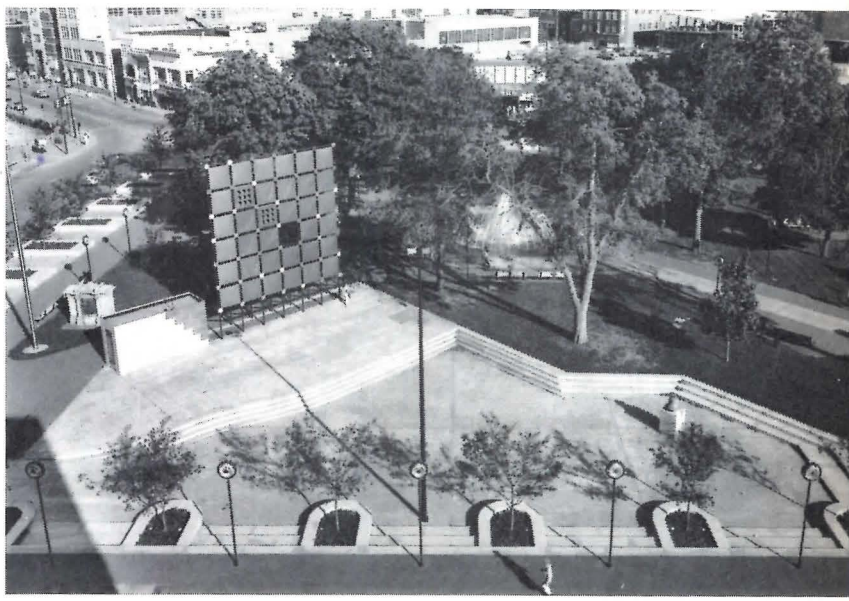
The performing area is a recessed granite expanse, with stepped seating at its edge and a raised stage dramatized by a festive, vari-

able backdrop: a three-dimensional, green-painted steel pipe truss, with changeable fabric panels secured to stainless steel disks.

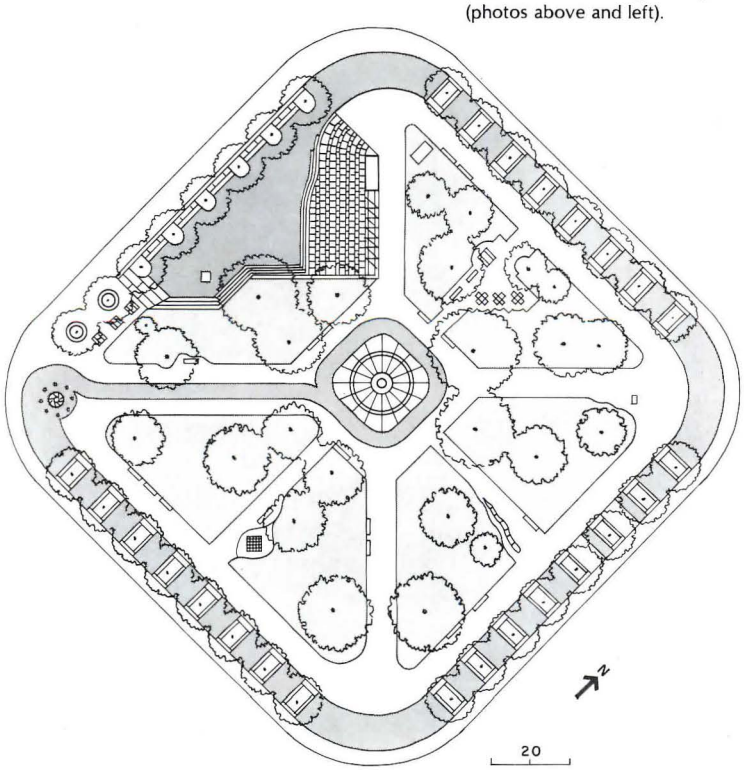
From the larger scales of the canopy and the various activity centers, the architects have carried their design concerns down to the relatively minute scale of the steel "bent people seats" and the "petroglyphs" or "rock carvings" sprinkled along the granite paving blocks (see photos bottom right). Some 300 of these intaglio sculptures were specially designed and sandblasted into the walks; many of them have references to the flood, a map of the area, the history of the region, produce and animals from the Farmers' Market and the like (the one illustrated refers to coal mining in the region). However, the architects had a bit of "in" fun with a number of the carvings: plans of/by Mies, Ronchamp, Nowicki, Jefferson; sections of Kahn and Aalto; a Mackintosh flower, and various other "architecture" references. All-in-all, there are a lot of interests and "lures" to re-people the shops and streets.

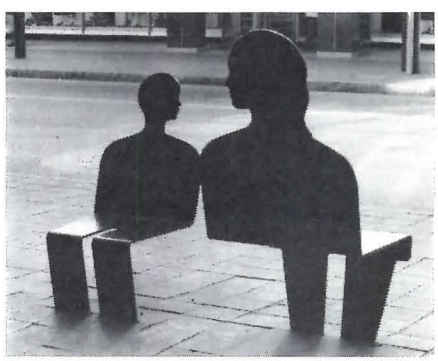
—Herbert L. Smith, Jr.

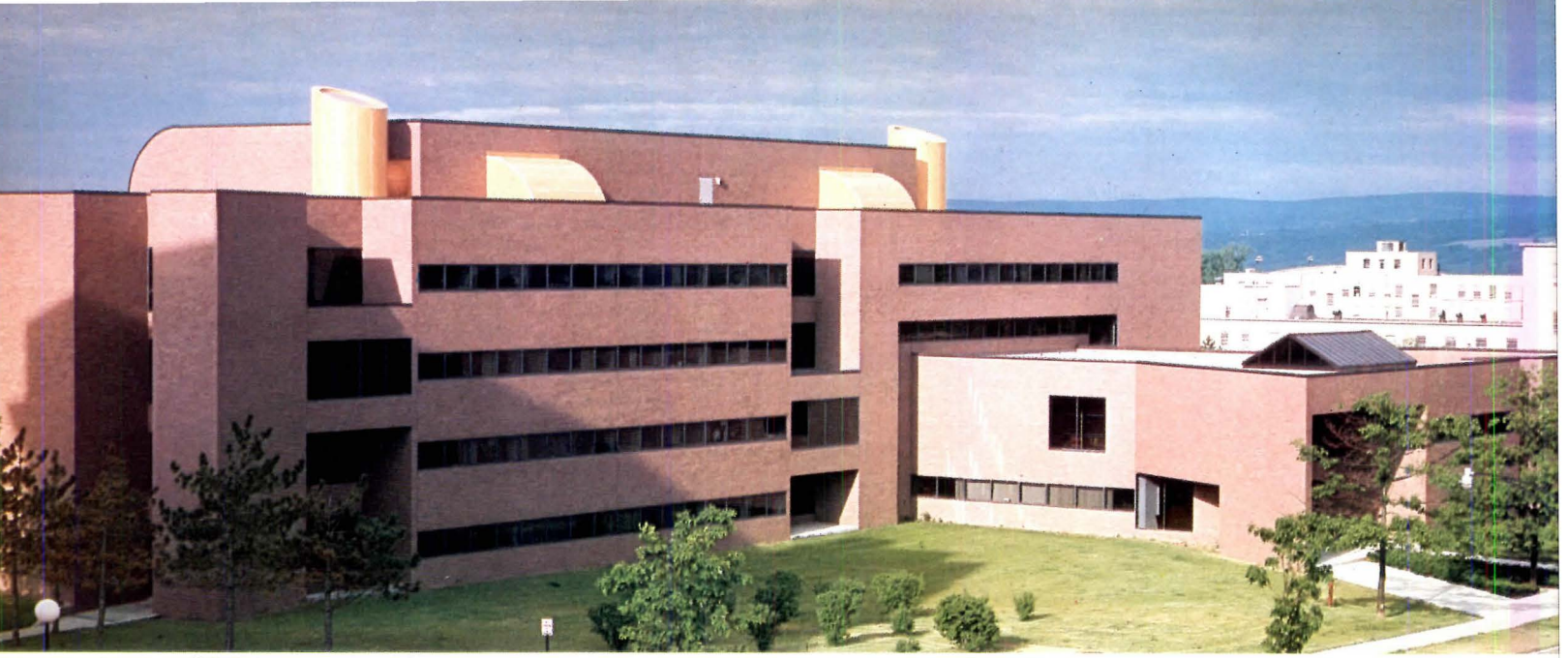
SOUTH MAIN STREET/PUBLIC SQUARE URBAN DEVELOPMENTS. Owner: *City of Wilkes-Barre.* Client: *Redevelopment Authority of the City of Wilkes-Barre.* Architects and engineers: *Bohlin Powell Brown Larkin Cywinski—principals-in-charge: Peter Q. Bohlin, and Richard E. Powell; project architect: William Gladish; project engineer: Walter F. Blejwas, Jr.; project team members: David Wilson, Richard Shields, Edwin Gunshore, Eric Oliner.* Planners and urban designers: *Direction Associates.* Consultants: *Criterion Company* (structural engineering); *Paul H. Yeomans, Inc.* (electrical and plumbing engineering); *Huth Engineers, Inc.* (civil engineering); *John Brown* (landscape design); *David A. Mintz* (lighting); *Boles, Smyth Associates, Inc.* (traffic). General contractors: *American Asphalt Paving Company* (South Main Street); *Sordoni Construction Company* (Public Square).



Public Square, the center of Wilkes-Barre's downtown, has been re-designed to encourage a constant variety of activities: from oratory to drama and music in its amphitheater (photos top right and far left); strolling and relaxing along the tree-shaded walks and contemplating the fountains and "petroglyphs" (photos below right); playing games at the permanent tables and benches (top right in plan below); and a weekly outdoor Farmers' Market, when vehicles with meats and produce are installed between the raised planters surrounding the park (photos above and left).

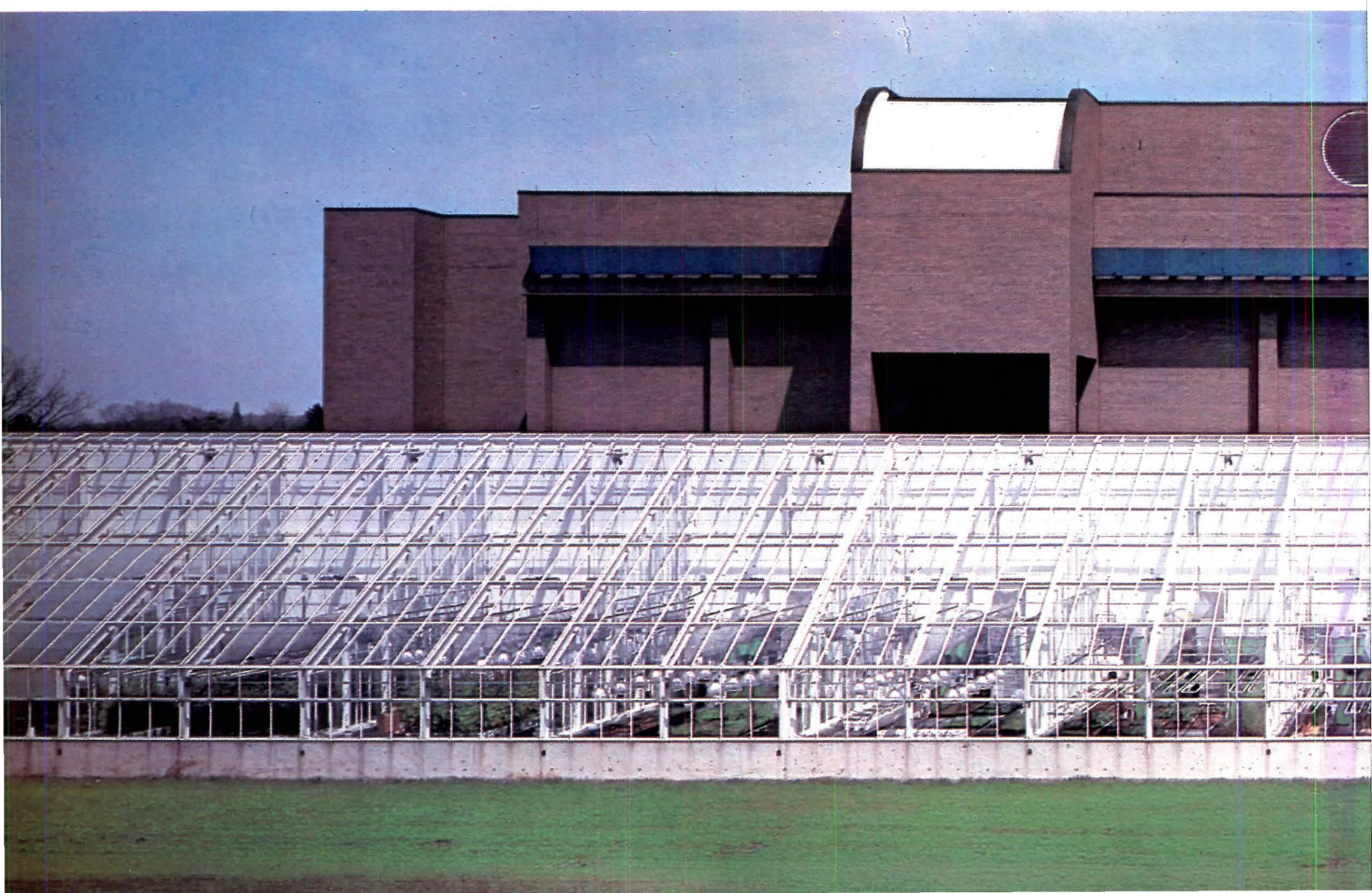


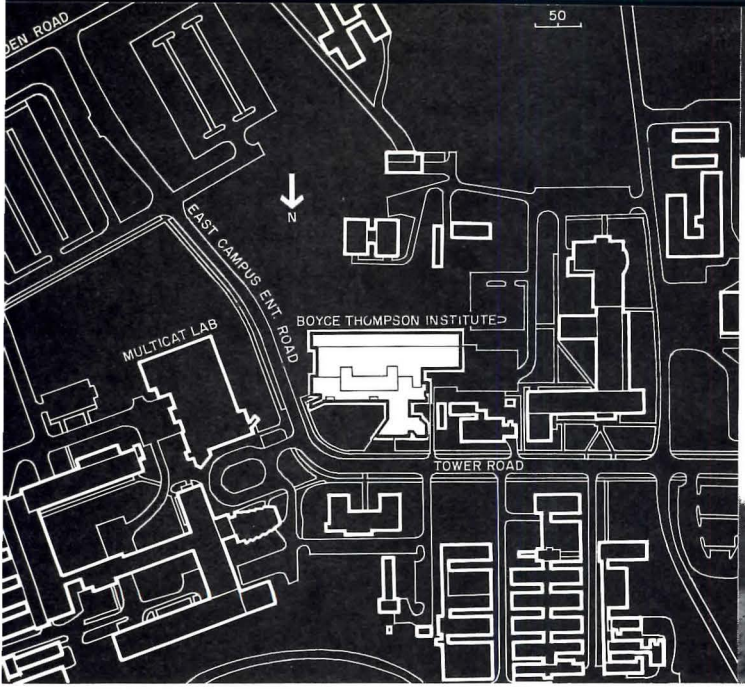




Peter Aaron/©ESTO photos except as noted

Machine for scientific research balances internal functions and external esthetics

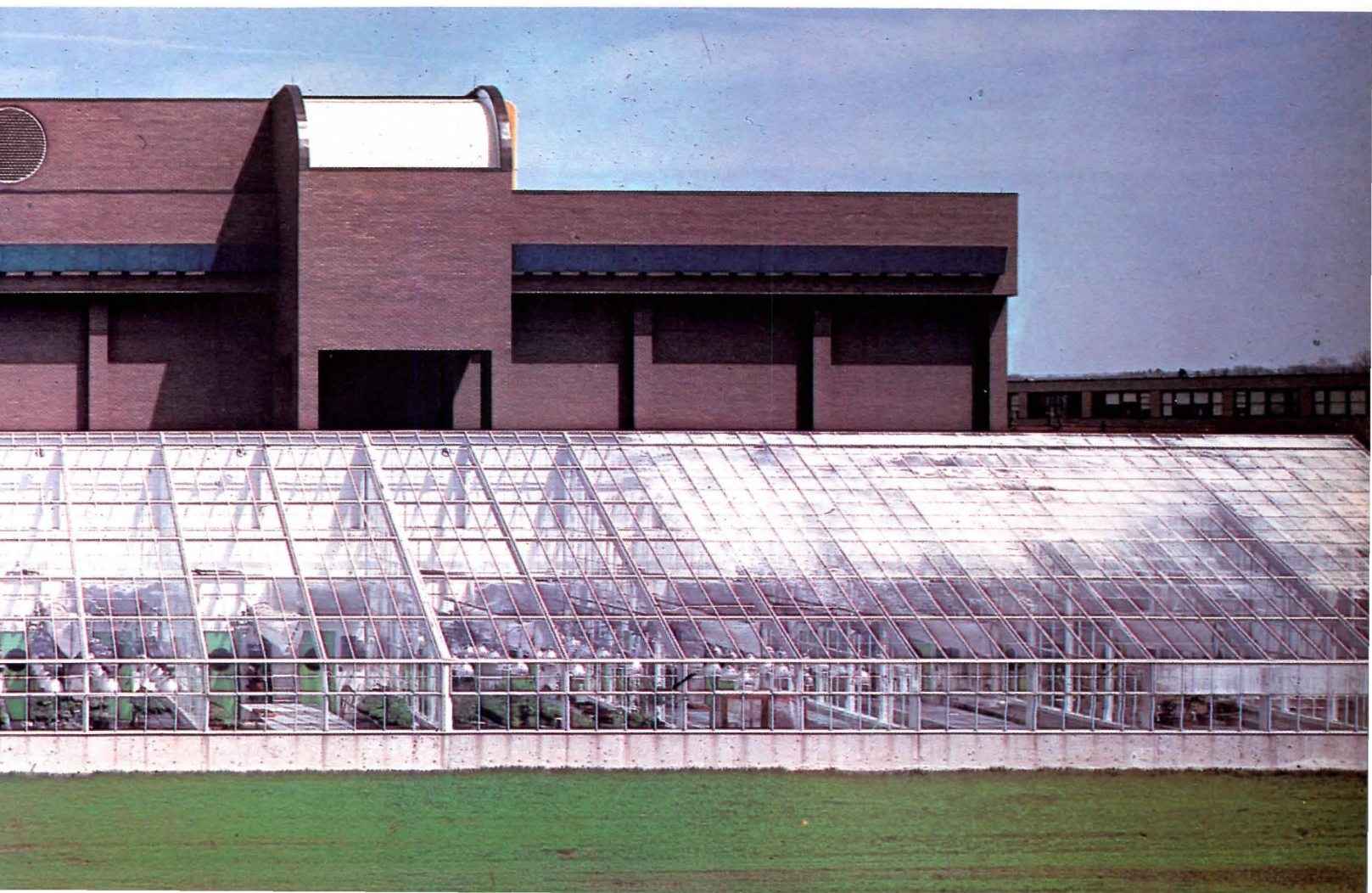




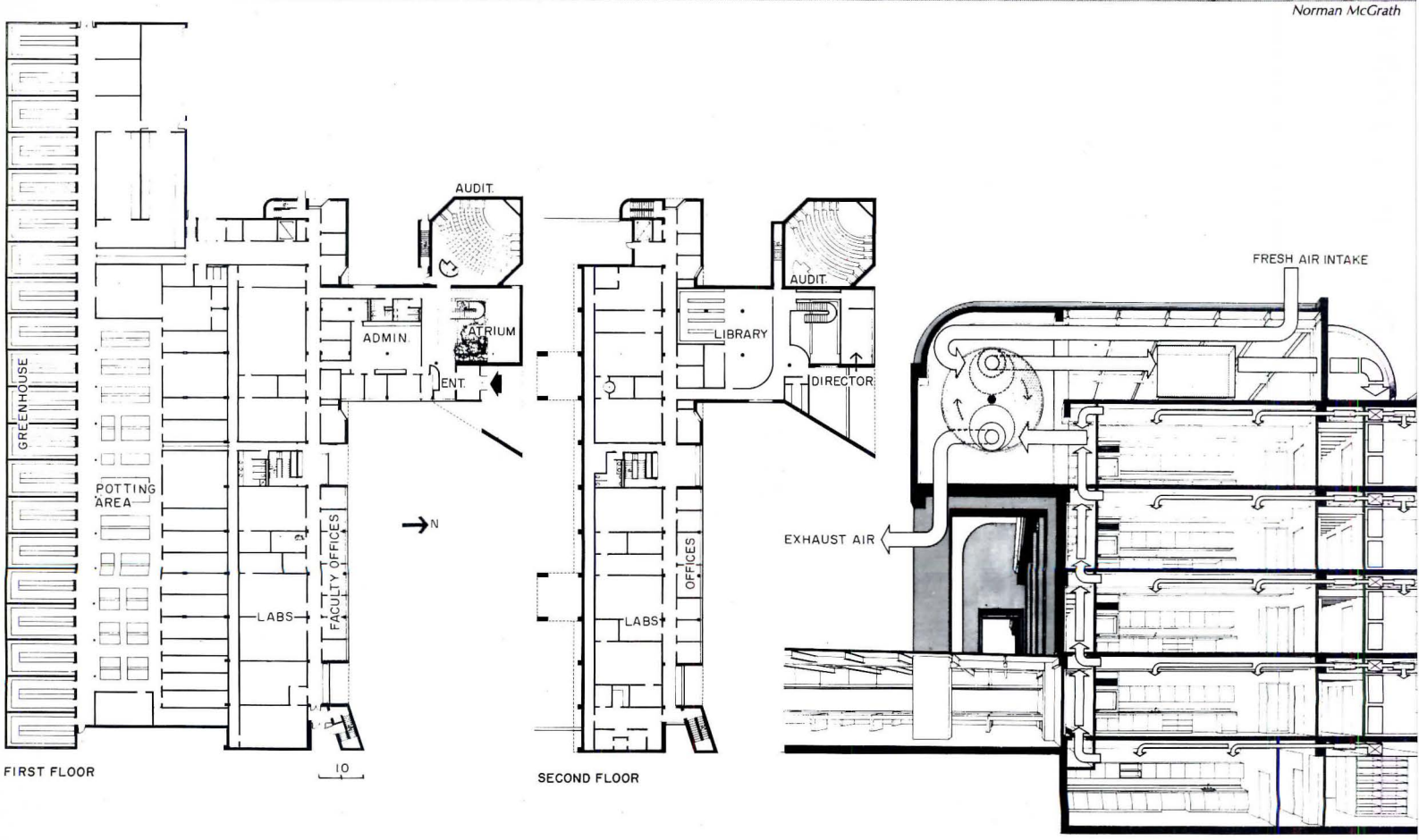
Norman McGrath

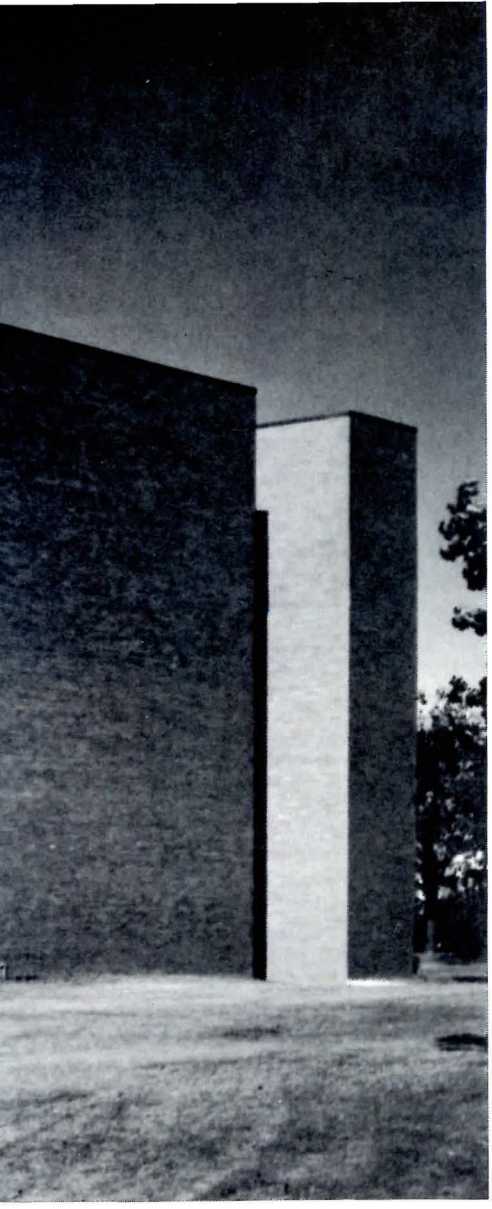
The design of The Boyce Thompson Institute for Plant Research (BTI) at Cornell University in upper New York State is the most refined example of Ulrich Franzen's research buildings—a solution that evolved through his design of two other science buildings on campus. Most immediately noticeable in the new building is that the major north and south elevations (top and bottom) are totally different from each other and are intended to be an honest expression of interior functions. The northern elevation with its ribbon windows and typical office-building appearance represents administration and faculty offices; an extended entry wing directs people into a plant-filled atrium—an unexpected amenity for a research building. The blank southern elevation permits a climate-controlled 400-foot-long greenhouse and laboratories.

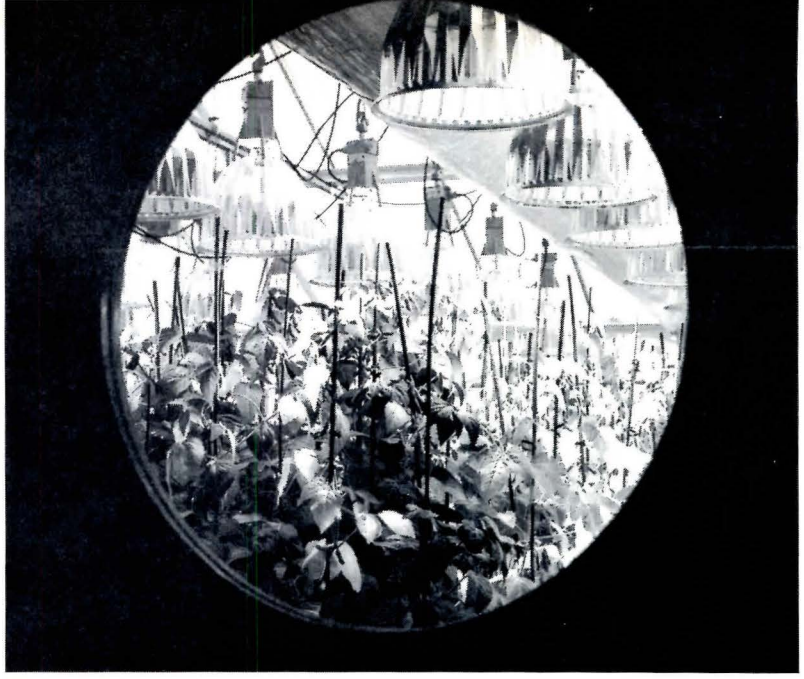
BTI, a well-known plant and physiological research institution founded at the turn of the century, moved from an outdated facility in



Norman McGrath



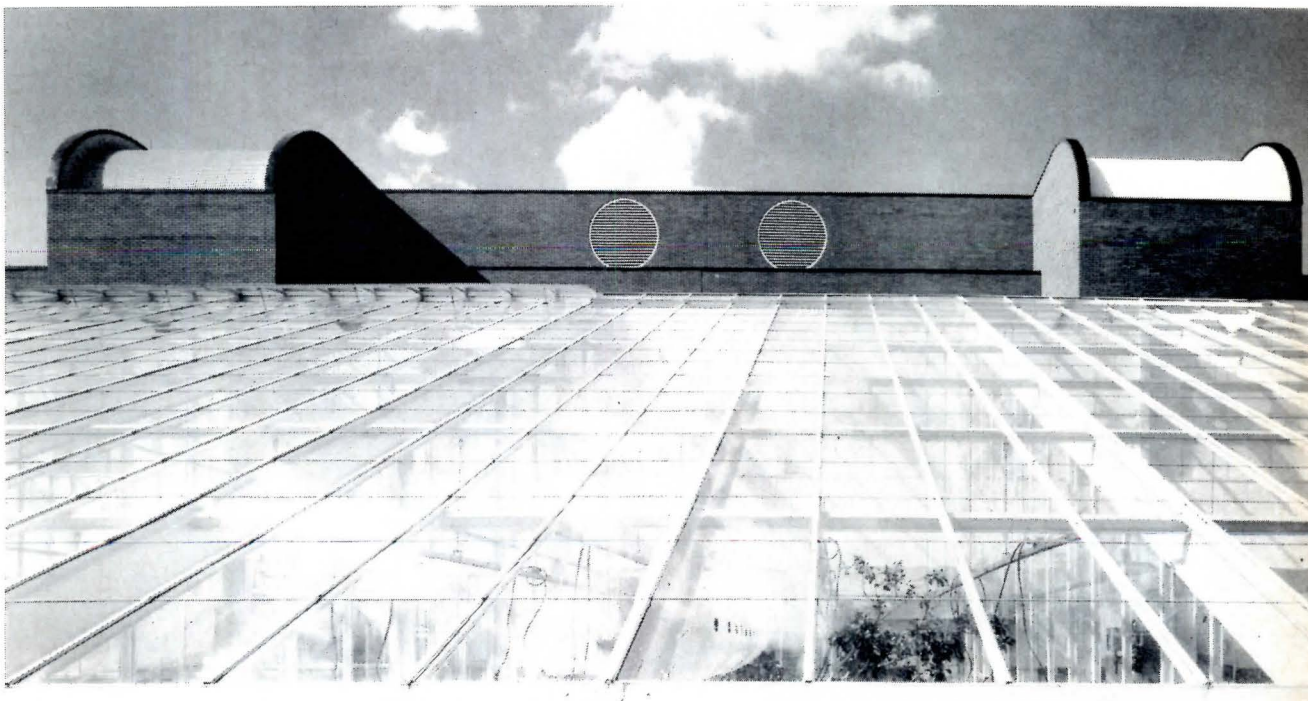




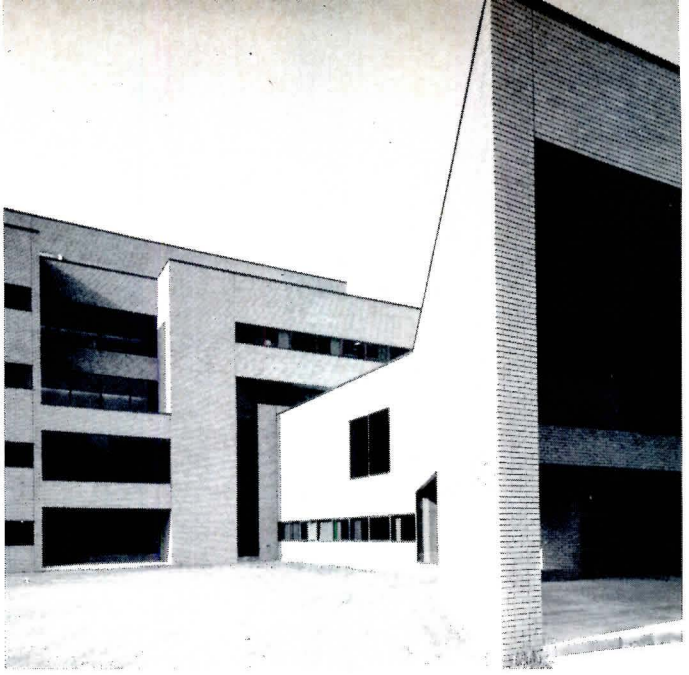
THE BOYCE THOMPSON INSTITUTE

air-polluted Yonkers, New York, to the Cornell campus in the spring of 1979. Now an educational link to similar activities at Cornell, it is located near other agriculture and life-science buildings, and is the visual terminus of the main campus artery, Tower Road.

In his first science building at Cornell, the Agronomy building (RECORD April 1965) Franzen combined a highly sophisticated "machine" for research with an efficient integration of plan, structure and innumerable ventilation, plumbing and electrical systems. This design separated research labs and offices into two distinct wings—a multi-faceted, windowless 13-story-high tower housing research labs; and an adjoining, glazed two-story-high wing for administration. The second science building commission (RECORD, July 1971), referred to as Multi-cat (and shown in relation to BTI, preceding page, top right), unites these two programmatic functions in a single high-rise form, in which lab spaces are



The single most important visual element of The Boyce Thompson Institute is the juxtaposition of the transparent glass greenhouse with the severe, windowless face of the brick portion of the building. The 400-ft-long greenhouse, with glass shed roof, connects to the potting area through climate-controlled sealed doors with circular windows. This southern elevation is marked by color and pattern: centered circular exhaust vents, horizontal blue reflectors at the cornice line to deflect exhausted fumes from internal equipment, articulated ribs augmenting the criss-cross of greenhouse framing, and white-tipped elements housing heat recovery wheels.



THE BOYCE THOMPSON INSTITUTE

expressed by a windowless but strongly articulated facade, and offices by a sheer glass face. This design development culminates at Boyce Thompson.

While BTI relates to these two prototypes in materials (mainly brown brick), it carries the esthetic expression one step further, in which scale, changing from elevation to elevation, has a dramatic effect. The northern side is designed at a human, people-related scale, while the southern elevation is designed as the scientific "machine" at a bold scale with a sense of technology.

Correspondingly, the interior spaces are programmatically arranged, with public areas on the "office building" elevation, and research areas on the "machine" elevation. There is a progression from the community spaces—entrance, atrium, auditorium, library—to partially climate-controlled to full environment-controlled labs, potting rooms and greenhouse.

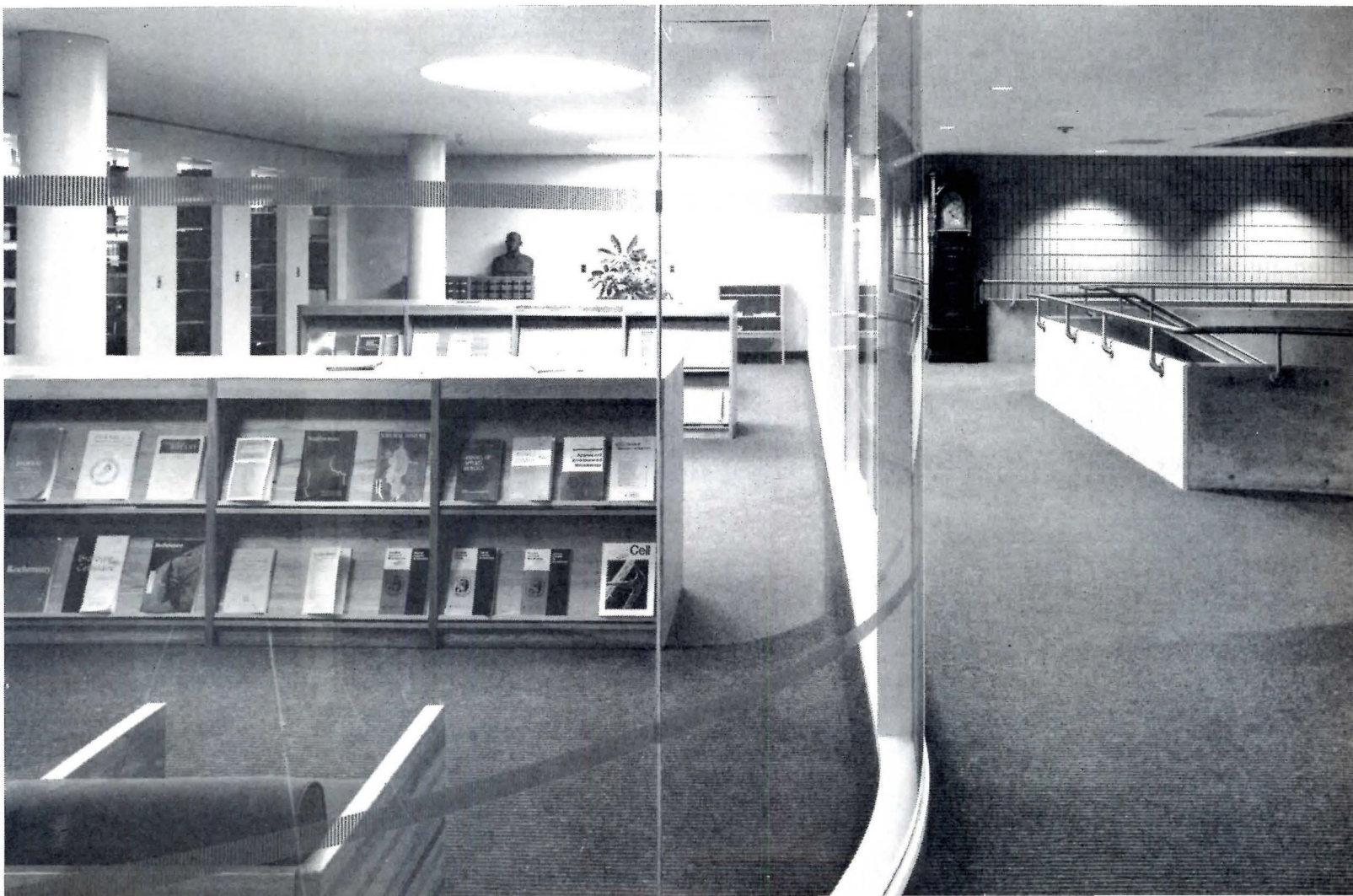
Because of the extraordinary volume of fresh air changes required for various research activities—about three times as much as in a lecture classroom—it was worthwhile to retrieve some energy from the exhausted air and transfer it to incoming fresh air by use of heat recovery wheels. The tops of those wheels read as rounded protrusions on the south elevation.

The appeal of this structure is to be found in understanding the rationale of its

The angular entry scoop (far left, top) opens from a green space at the intersection of several science buildings in this part of the Cornell campus into an unexpected plant-filled atrium (far left). Bright colors are used in the labs (left) and subtle colors in the glass-enclosed library (below.)

major disparate elevations. "I like buildings with character, and the visual tension set up in this one heightens its interest," states Franzen. "While the scientific inquiry is sustained by equipment, the architectural inquiry is in designing such scientific spaces to be as human as possible—balancing these two aspects of our lives." It is this "balance" that is reflected in architectural terms in BTI—managing the external esthetics and internal functions. —*Janet Nairn*

THE BOYCE THOMPSON INSTITUTE FOR PLANT RESEARCH, Cornell University, Ithaca, New York. Owner: *State University of New York.* Architects: *Ulrich Franzen & Associates—Roger Diao, managing associate; Jack Fitzgerald, manager of design & construction, State University Construction Fund.* Engineers: *Tor, Shapiro & Associates* (structural); *Kallen & Lemelson* (mechanical/electrical). Interior design: *Ulrich Franzen & Associates.* General contractor: *McGuire & Bennett.*



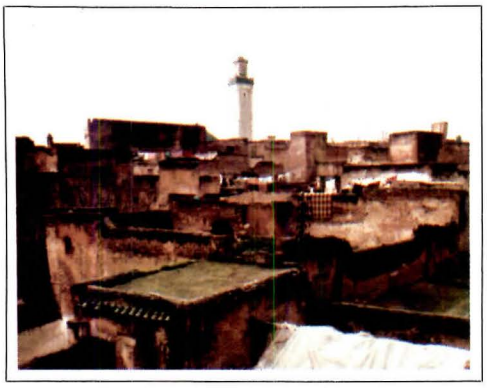
A SEARCH FOR MEANINGS IN THE ARCHITECTURE OF ISLAM

Today, we of the West are so involved with the Islamic world, for better or worse, that interest in their art and architecture must inevitably follow, as surely as the addiction of late Victorians to the arts of Japan followed Commodore Perry's arrival in Tokyo Bay. Among the most interested of all in the arts of Islam should be the U.S. and European architects and planners who are building entire cities, multi-billion dollar universities, giant airports, and luxury hotels in Islamic countries. Many are incorporating what they believe to be Islamic forms in their work—domes, vaults, pointed arches, arcades, courtyards and fountains; and ornamenting them, rather sparsely, with traditional motifs.

Regrettably, too many architects assume that these ancient shapes have a universal symbolic meaning for Muslims. A symbol, however, has no fixed set of meanings and is continually being reinterpreted across time and civilizations. The Aga Khan Award for Architecture (March 1979, pages 117-124; August 1979, pages 87-92) recently sponsored a conference "Architecture as Symbol and Self Identity" to discuss these transformations of meaning and their significance for Islamic architecture today. The conference was held in the ancient city of Fez, Morocco, because this labyrinthine walled town is one of the most beautiful and intact examples of medieval Islamic urban form still in existence.

Although its population is dangerously increasing, its economic base imperiled and its fabric sadly decaying, it remains rich in ornament and shape. The seminar was not just about Fez, however, but it could have been. A microcosm of Islam, the city still resonates with meanings for the Muslim culture as a whole. To begin to understand them is to begin to comprehend a civilization which until lately interested only a few scholars and hardy travelers. And such knowledge should inform our search for meanings in contemporary Western architecture as it deepens our perception of all art.

The Fez seminar was fourth in a series of conferences being held to establish criteria for the Aga Khan Award for Architecture. (The awards, to be made for the first time this year, will be announced in Lahore, Pakistan, late in October.) Twenty-five architects and scholars from the United States, England, France, Switzerland, Algeria, Kuwait, India, Morocco, Egypt, Bangladesh, Pakistan, Turkey, Indonesia and Iraq joined the Aga Khan, the Begum Aga Khan and Prince Amyn Aga Khan in a series of informal meetings in an old Moroccan palace overlooking a beautiful walled garden, now the Hotel Palais Jamais.



Their subject was semiotics, or the meaning of signs and symbols, in an Islamic context. Their purpose was to try and discover whether there are architectural forms and ornamental themes which can correctly be called Islamic; what such forms if they exist meant at the time they were created; whether they have a similar or different symbolic power or relevance today, and to whom; and finally if still significant to what degree. Of practical interest, of course, is whether these traditional forms can be an expressive and functional source for architects presently at work in the Muslim world.

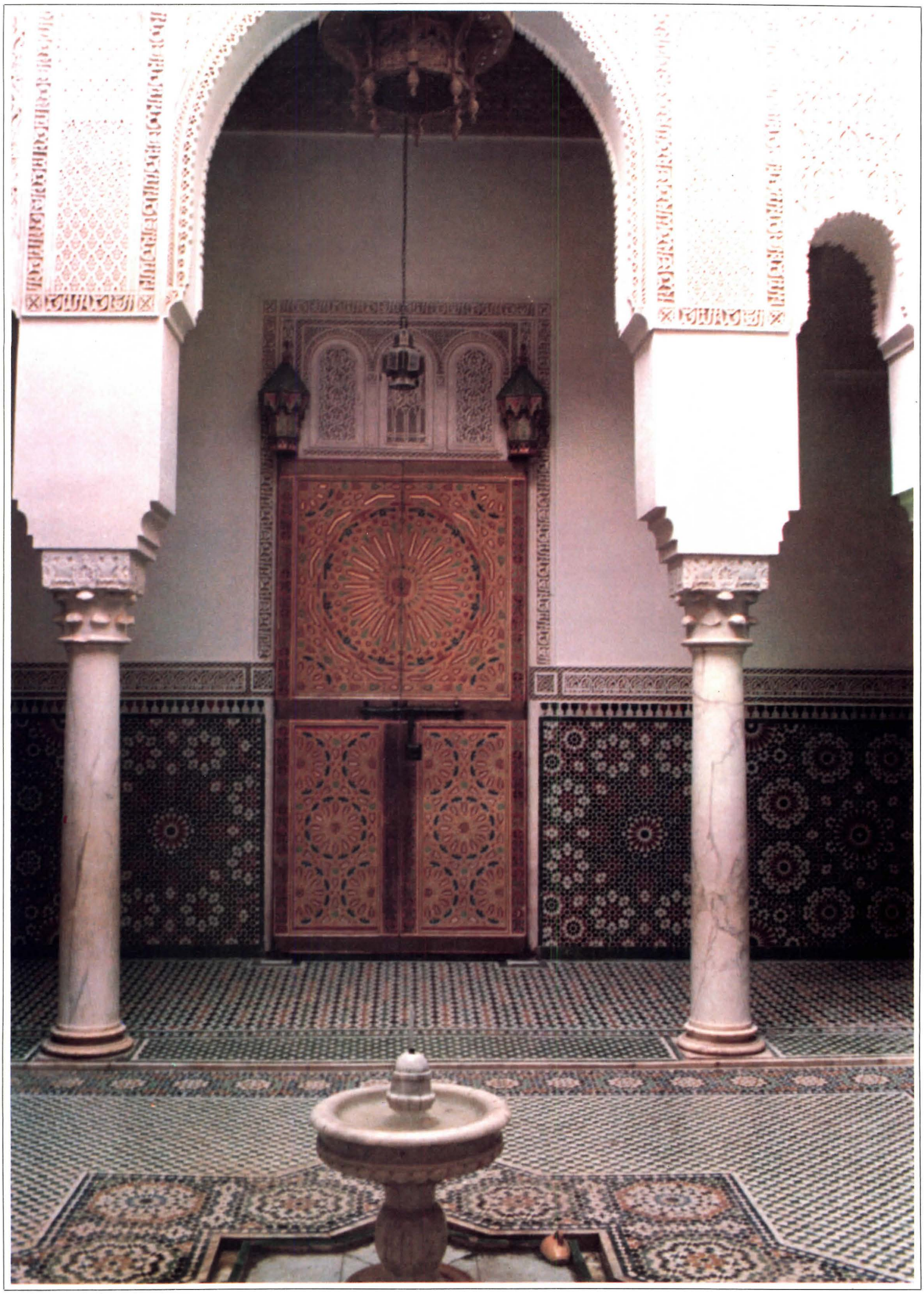
The search was undertaken within the frameworks of four intellectual disciplines: art historical, mystical, anthropological, and socio-economic. The art historical approach was formulated by the Islamic scholar Oleg Grabar, chairman of the Department of Fine Arts at Harvard University and a member of the Award Steering Committee. Comment and corollary hypotheses to those of Grabar were developed by Dogan Kuban, another member of the Award Steering Committee and head of the Department for History and Preservation of Architecture at Istanbul Technical University. Among others who developed art historical themes was Muhsin Mahdi, director of the Center for Middle Eastern studies at Harvard. Mystical or cosmic definitions of Islamic meanings were offered by architect Nadar Ardalan. Anthropologist Hildred Geertz, a professor in the Department of Anthropology at Princeton, offered the perspectives of her discipline. The socio-economists reminded the conference of the semiotics of overpopulation, rapid urbanization and poverty and warned that traditional urban forms in such places as the Fez medina, whatever their symbolic meanings, help perpetuate the misery of their poor inhabitants.

The historians presented their themes with great subtlety and complexity. Art has always been renewed when distinct cultures redefine themselves through contact with each other. It is not too far-fetched, therefore, to suggest that the West's new-found interest in the semiotics of architecture can be nourished by attention to the meanings to be found in the traditional arts of Islam, precisely because this culture is still virtually unexplored by us, and we have few preconceptions as to what its forms signify.

To begin to consider Islamic architecture within the framework of semiotics requires that questions be formulated. In his position paper prepared for the seminar, Professor Grabar proposed five. "First: Is there an Islamic system of visually perceptible symbols and signs? Second: How universally Islamic is such a system and what are its variants? Third: What are the sources of the system, the revealed and theologically or pietistically developed statement of the faith or the evolution of visual forms over 1400 years? Fourth: In what fashion and how successfully were signs and symbols transformed into building forms? Fifth: How valid is the experience and memory of the past for the present and future?"

To answer these questions, Grabar suggested three approaches: pure theory, the evidence of Islamic writings, and a study of the monuments. Although he finds that the world of abstract theory does not provide immediate models or paradigms, it at least makes semantic distinctions which are consistent enough to be useful: "For instance, a *symbol* is different from a *sign* which indicates something and an *image* which represents it; a symbol defines something and connotes it but does not circumscribe it like a sign or an image. . . . In other words, while the sign attribute is fixed, the symbol attribute is a variable which depends on some 'charge' given to it or on the mood or feeling . . . of the viewer." Symbolic value is to be found, therefore, not in the object but in the attitudes of those who share it. "Our problem," according to Grabar, "then becomes one of defining the semantic field of a symbol by finding the area in time or space of its contractual agreement with a social group."

Grabar has found through a search of Islamic writings contemporaneous with certain selected traditional architectural forms that with an occasional exception these texts do not reveal that the writers thought of architectural forms as visual symbols which identified functions, defined aims or made judgments, in a uniquely Muslim way. In the words of Grabar, the Muslim symbols and signs to be found in these texts "consist less in visually perceptible features than in memo-



Photos of Fez by William Betsch

ries of men and events: the place where something took place or where someone did something." Grabar concludes that "it may, therefore, be possible to propose that traditional Islamic culture identified itself through other means than visual: the sounds of the cities, the call to prayer, the Word of the Revelation but not its forms, the memories of men and events . . . it is not forms which identify Islamic culture and by extension the Muslim's perception of his architecture, but sounds, history and a mode of life."

Grabar believes that while the great Islamic architectural monuments such as the Ka'ba, the Dome of the Rock, the Taj Mahal, Fathepur Sikri's throne for Akbar and others are full of symbolic content, they are of secondary importance for semiotic study because they are too unique. Of interest, however, is the fact that with the exception of the Ka'ba, the meanings of these monuments have changed with time or were modified, "as with the Dome of the Rock, which grew in religious connotations as the centuries went by, or with the Taj Mahal, which lost them."

Grabar also notes that such Islamic forms as the large hypostyle mosque, first developed in the seventh century, while a purely regional style in some areas, became symbolic of the introduction of Islam into new areas. Other forms, the classical Ottoman mosque for example, became a symbol of Ottoman power and prestige in the lands they conquered. Thus the symbolic resonance of certain forms may relate to cultural hegemonies rather than to formal qualities.

What of the obvious and constant forms: minarets, mihrabs and gates? Grabar believes that except for the inscriptions upon them, these objects "are functionally rather than emotionally or intellectually symbolic." Can symbolic and sign systems therefore be sought in these calligraphic inscriptions and other forms of decoration? The study of the calligraphic decoration of major monuments shows the ornament to have profound meanings. A beautifully conceived series of inscriptions, for example, provide the most direct clues to the interpretation of the Taj Mahal as the Throne of God in the Garden of Paradise. Geometric and vegetal motifs also carry meanings to be discovered. Grabar proposes, however, that "the symbolism of the decoration is not an inherent property of the design but the result of man's prescribed action in the building. Could one extend the point to propose that the true uniqueness of the Muslim visual symbolic system lies not in the *forms it took* but in the relationship it creates, indeed compels, for its users? A celebrated tradition is that wherever a Muslim prays there is a mosque. Symbolic or signifying identity lies in setting and man, not in form. Is this a possible challenge for contemporary architecture?" It would appear to be a profoundly liberating one.

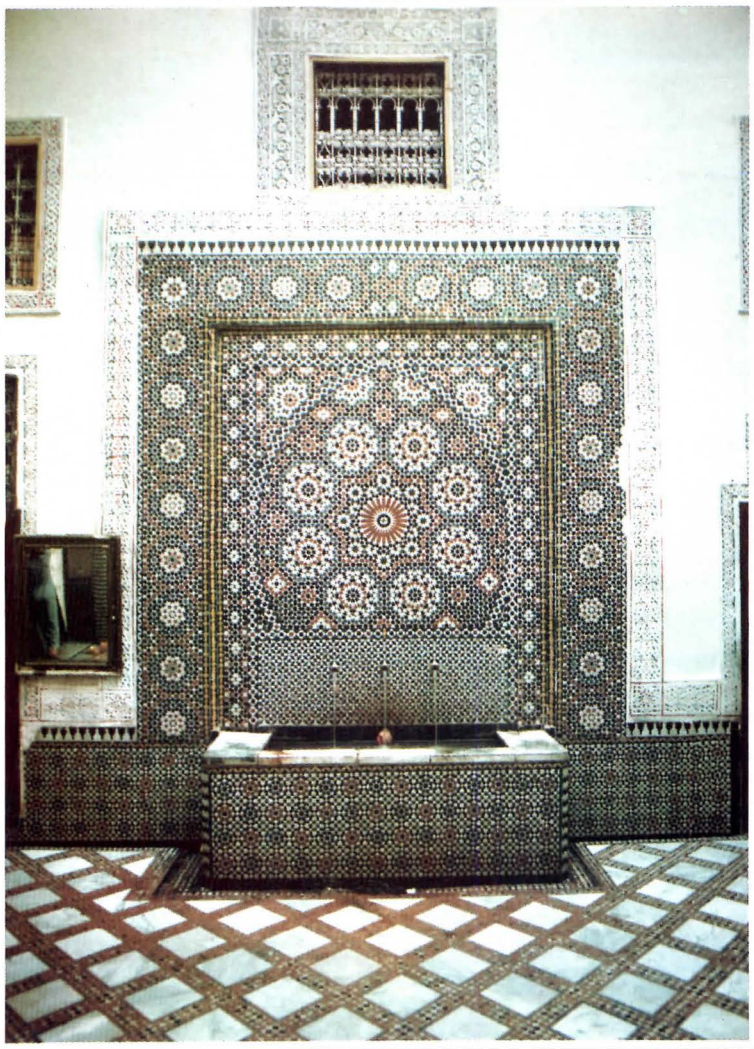
Professor Dogan Kuban, like Grabar, believes that the symbolic content of forms changes over time. He is concerned, however, that the rate of change of this symbolic content is too fast, causing a vacuum in meaning, signaling a lack of communication between past and future, and bringing about cultural chaos in the Islamic world. He warns, further, that "a rapidly changing symbolism should not be slowed by looking longingly to the great palaces of the caliphs or the monumental mosques, or by cherishing and regressing to domes and arches and courtyards. The replication and repetition of forms is instinctive, so we cannot refuse it automatically. Forms acquire meaning with use over time. But intentional continuity is a conscious cultural decision, capable of determining the fate of old symbols and forms."

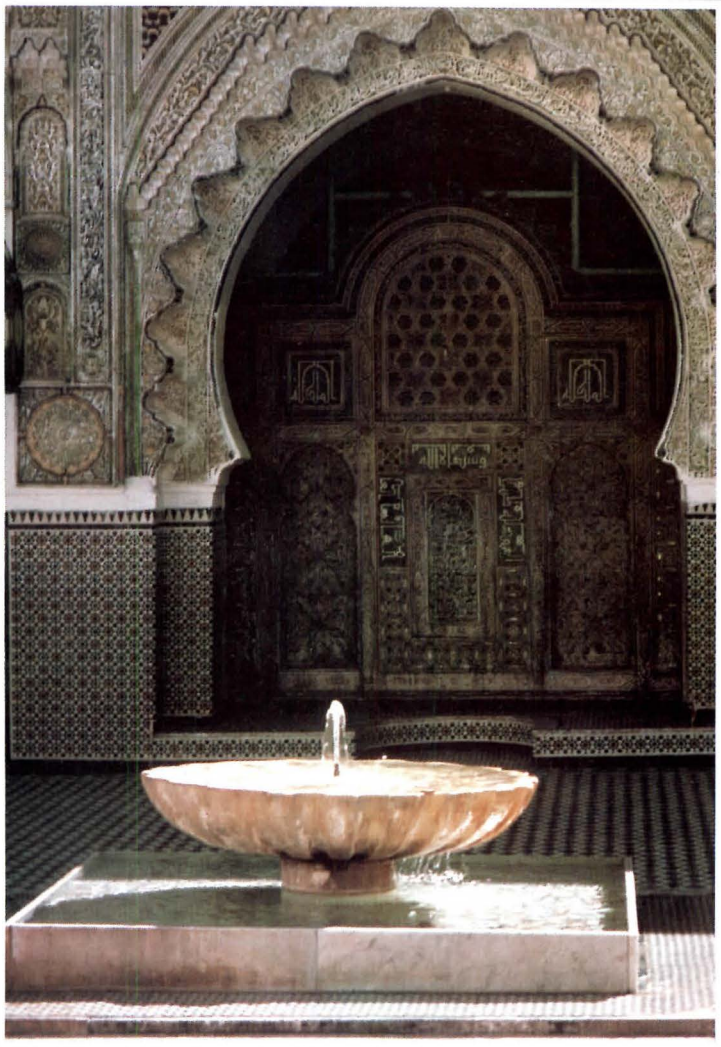
Professor Muhsin Mahdi chose to comment upon the symbolic functions performed by religious buildings and drew the distinctions between practical functions and those perceived by some to be impractical. "Now what appears to be useless or arbitrary in a work of art may be just that, in which case it performs no function beyond confusing and disorienting the beholder or listener. But what looks useless or arbitrary may aim at a higher utility or necessity, and, depending on the onlooker's or listener's taste and judgment, it may succeed in performing a higher function. For example, a public religious building may try to convey a sense of God's peace or glory or majesty or transcendence or unity—in short, any one or a combination of God's beautiful names—and it may do this through sheer simplicity or the manipulation of space or color or scale or decoration or inscription or a combination of these. Those aspects of a religious building that go beyond solving an immediate practical problem in a narrow sense have to be looked at individually and together as symbolic in the larger sense of this term. One has to ask what the building is trying to convey and whether it succeeds or fails. . . . Our discussions have pointed to the roots of the spiritual beliefs and artistic traditions of the Islamic countries. If the majority of the [contemporary examples we have surveyed at this meeting] indicate anything, it is that some architects are trying to attach dead branches to these roots with rubber bands. Our task is to find out whether others have succeeded in grafting living branches to these roots and whether the result is a living tree that can grow and under which contemporary Muslims can find shade. We cannot perform this task if we continue to assume that architecture in the Islamic world must reproduce certain forms or symbols identifiable as 'Islamic' in order to distinguish 'Islamic culture' from Western culture or other Oriental cultures."

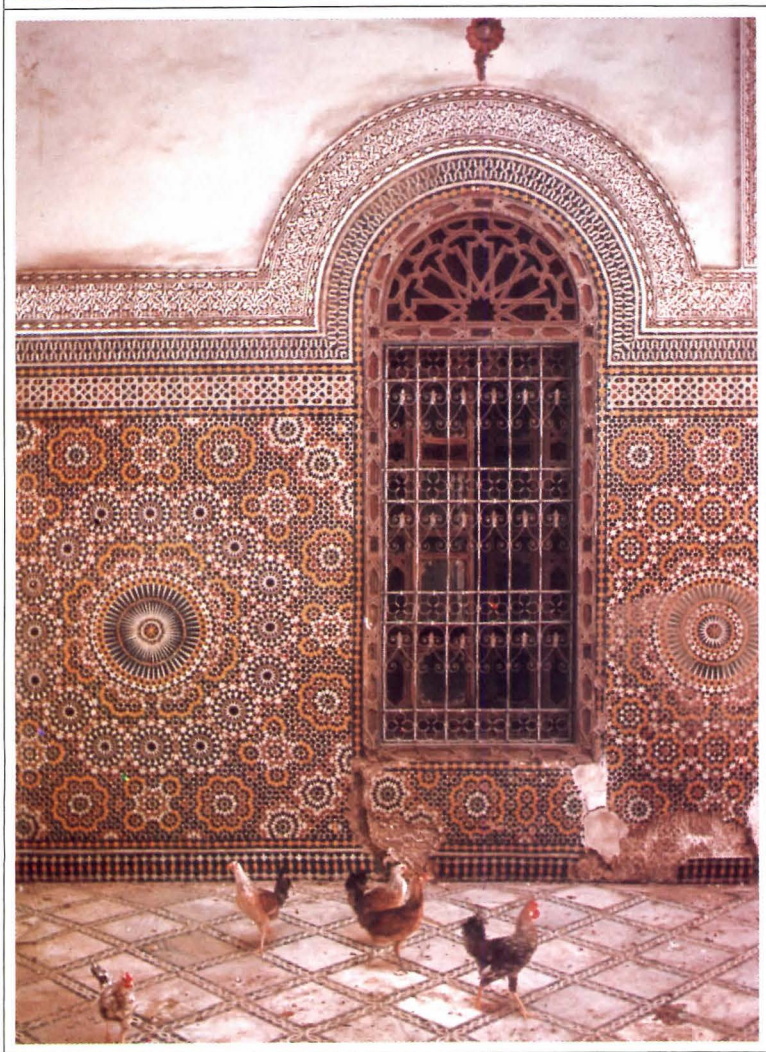
Nadar Ardalan, in contrast, stressed the mystical content of Islamic forms. Ardalan argues that to speak of Islamic architectural tradition is "to speak of immutable principles of heavenly origin." The minaret, for example, "reflects man's ontological axis, the vertical and transcendent dimension which provides a spiritual depth or height to man's otherwise 'two-dimensional' material existence. Externally, it represents a man, a defined form who alone among the creatures stands upright in the universe; internally it recalls the soul of man yearning to return to its primordial place or origin." Ardalan offers little historical evidence for his theories and does not reveal how or if others perceive these forms as he does. But he expresses his certainties so poetically that one longs to believe them and wishes he would demonstrate that they spring from other sources than his own richly imaginative and creative mind.

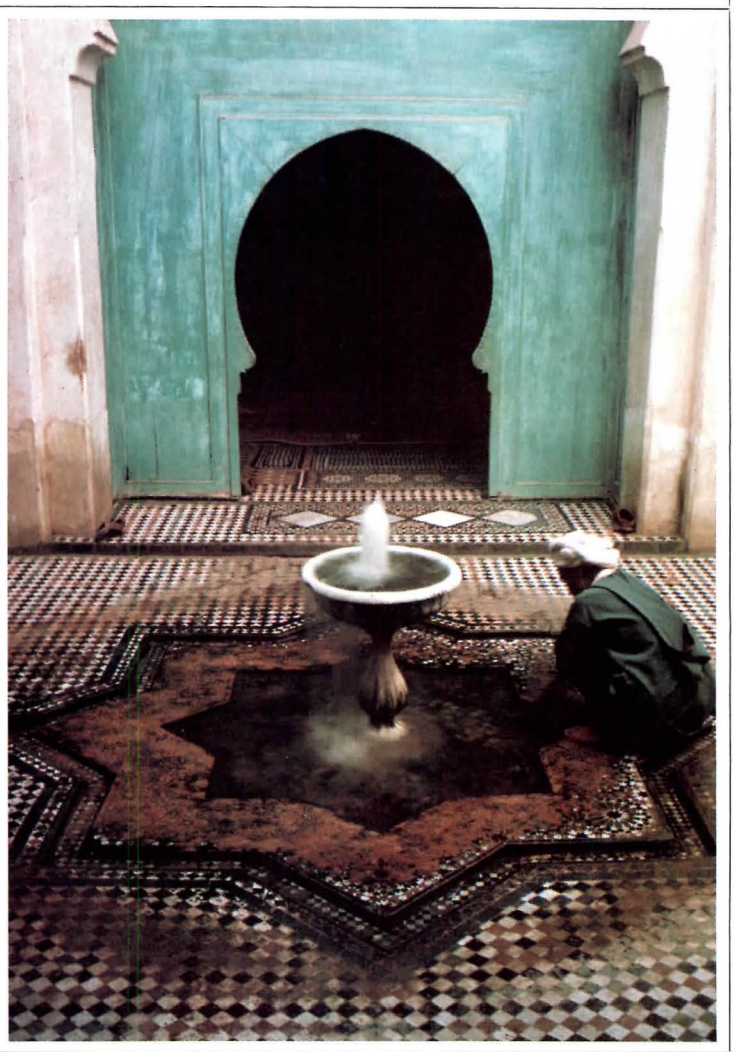
The anthropological approach, as opposed to the mystical, searches for symbolic meanings by paying attention to the way individuals and groups respond to the objects and circumstances of their environment. Anthropologist Hildred Geertz applied a needed corrective to the seminar when she reminded the group that "the focus of research should not be on attempting to discover systems of symbols themselves directly from the forms of the objects—for example, studies of minarets—or from examination of Islamic philosophy by itself, but on a study of the acts of interpretation various people make when they encounter these objects in the here and now. . . . Do *they* take into account antique architecture? How do the criteria *they* use relate to Muslim philosophy, theology and literature? In other words, we should look not at the buildings themselves alone nor at the cultural system as we outsiders understand it, but we should study the responses of the people who use these buildings, what they do in them, what they understand about them, and particularly what sorts of connotative images they themselves call up in the course of their involvement with the buildings. What we need is to study the perspective from within, that of the people who live inside the buildings and inside their cultures, and a set of procedures for discovering this perspective. . . . To presume, as an outsider, that one can understand the meanings that the local inhabitants place onto parts of their environment is to invite disastrous falsification." Geertz acknowledged that anthropological techniques have their limitations. "There is always a gross oversimplification of experience, a violation of the wholeness and complexity of it. The connotatively rich, sensuously immediate experience of entering a great mosque, or moving through an intricately pathed market place is never given full expression by such techniques, but at least a start is made in viewing it from their eyes, rather than our own."

Will the Fez seminar ultimately affect the work of the Western architect designing for and with Islam? Are art historical studies useful? Should mystical ideas of divinely ordained forms not be irreverently dismissed? Can anthropological methods help? Will social and economic realities continue to overwhelm all other concerns? As this brief and generalized report must reveal, the Fez seminar offered no simple answers. For those who wish to learn more, the full proceedings will soon be available upon request from the Aga Khan Award for Architecture, 32, Chemin des Crets, Grand-Saconnex, 1218 Geneva, Switzerland. —*Mildred F. Schmertz*









TWO SURGEONS' OFFICES: INTERIORS EASE OPERATIONS FOR DOCTORS AND PATIENTS ALIKE

Too often, nervous patients enter doctors' offices and feel none too reassured by haphazard surroundings that match the leftover magazines on the waiting room tables. When the doctors are specialists in the sensitive field of surgery, both the physical and psychological effects of their surroundings are of great importance. These two offices are similar because for both, the architects had to insert special requirements into tight spaces within what were once typical apartment layouts—a commonplace problem for doctors' offices in urban high-rent districts. In their solutions to this problem, the architects exhibit high levels of design skill. The two offices are different because of the type of surgery performed in each. For the offices shown first, the client is a dental surgeon, many of whose services are performed on an emergency basis. Both architect Edward Walsh's subtle esthetic and his major allocation of space to operating (and not support) activities spell out a pleasant but business-like environment. By contrast, Neski Associates/Architects' design for a plastic surgeon's offices, on the two pages that follow, recognizes the high degree of psychological assurance that must accompany surgery done on a voluntary basis. The spaces are not only calm and inviting but the distribution of operating and support services is almost reversed. Each in its own way is a highly successful solution. —*C.K.H.*

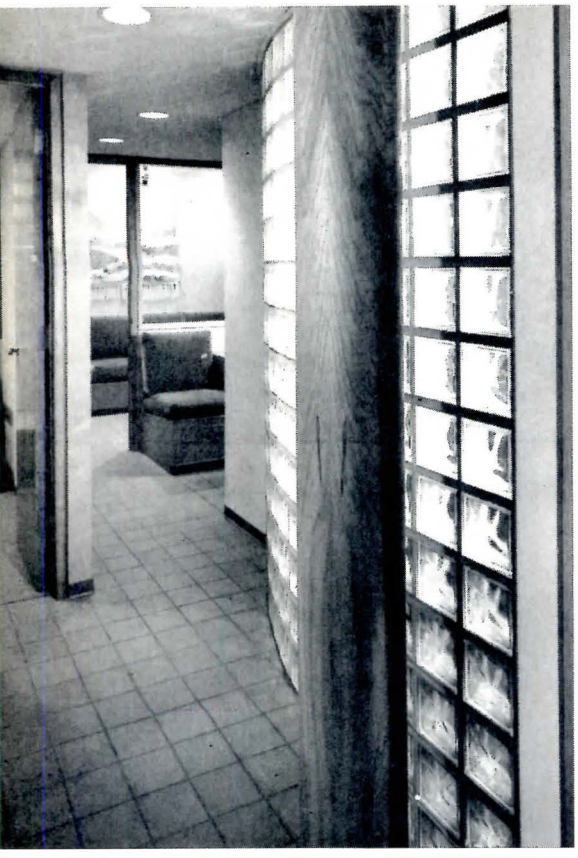
©Chun Y. Lai photos

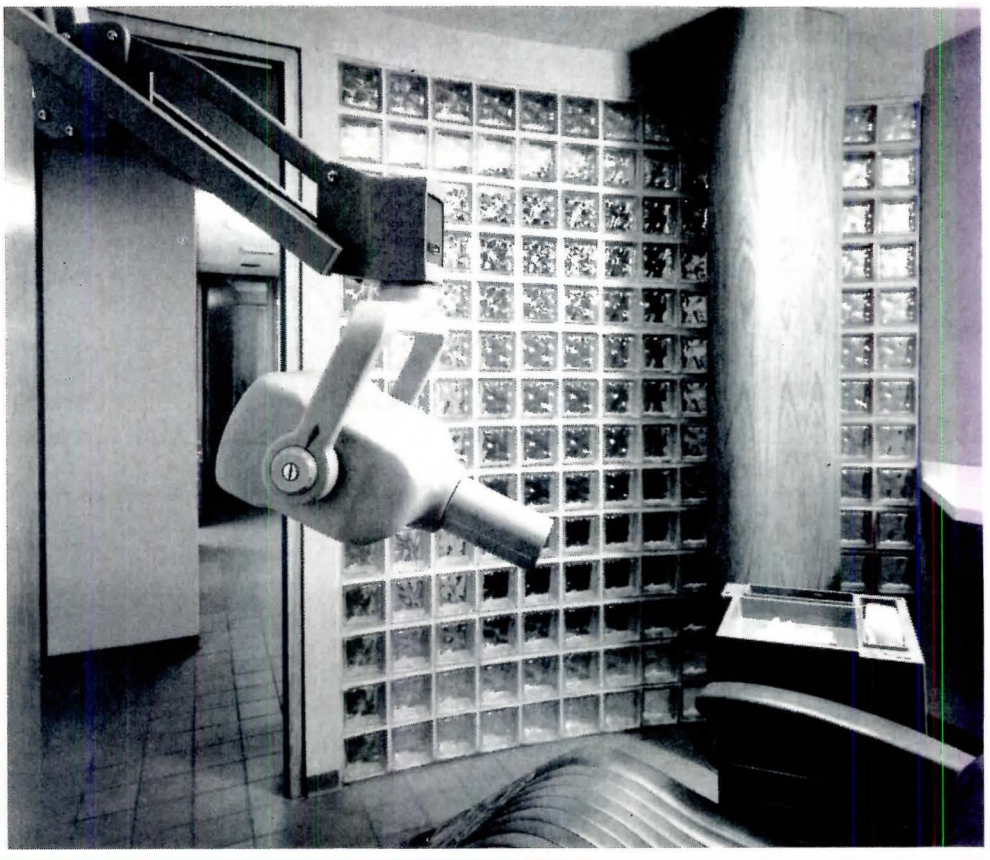
DENTAL SURGERY OFFICES FOR DR. DAVID KRITCHMAN BY ARCHITECT EDWARD WALSH

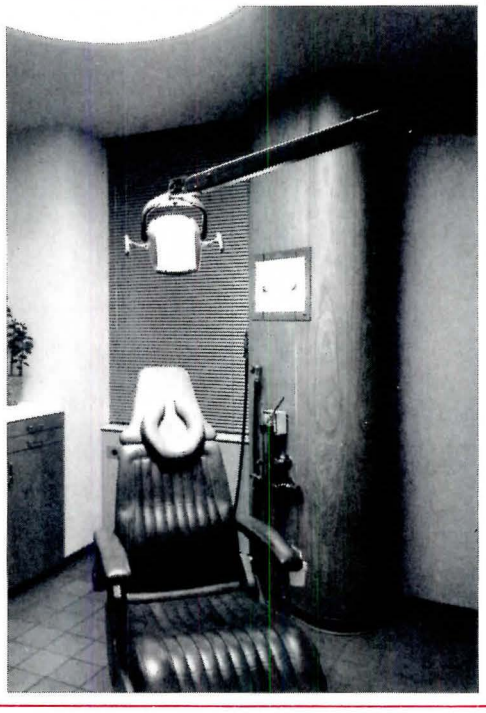
At first glance, this office suite appears to be not only efficient but very much in the current vogue of curvilinear forms and more subtle colors. One of the last places that we might expect to see this kind of stylish treatment would be in facilities for surgery, with their rigidly defined constraints. But architect Edward Walsh does not acknowledge any conscious bow to fashion in his design for Dr. Kritchman. Instead, he emphasizes both his and his client's desire for a more natural—even "homelike" working environment than the norm. To this end he has not only softened shape and used colors that he likens to the greens of foliage, the browns of earth, and the purples of a sunset, but also has made extensive use of such materials as quarry tile for floors and lacquer-coated natural light oak for the cabinets, the doors and the rounded "columns" that are in actuality enclosures for unused plumbing risers.

Besides the rather complex distribution systems for such things as gas from central tanks, the mechanical considerations had to accommodate existing plumbing risers for baths and kitchens that had been put in before the building's conversion from an apartment house built in 1925. While the 1000 square feet of space was completely gutted for the new offices, it was small for the three-operating-room program. It was further restricted by the irregular shape of the rental area, the projections of columns and dropped beams and by the limited number of windows (see plan overleaf).

While we may suspect that it is Walsh's talents that have made the offices seem light and spacious, he modestly gives much of the credit to the client for actually fitting the highly specialized program into the tight space: "With an unusual grasp of three-dimensional planning, Dr. Kritchman kept reducing the sizes of the operating rooms beyond what seemed possible in order to bring the whole plan into balance." Still, these vital spaces seem to be as spacious as the



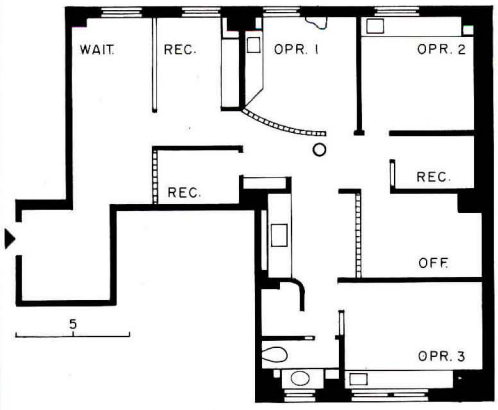




rest. One device that Walsh introduced to save space was to make use of corridors for work surfaces and access to storage (see photo on the opposite page). Similarly, the shared workroom-style desk space replaces the traditionally separate and private doctors' offices. Consultation is carried out in the operating chairs. Such an arrangement may seem all the more surprising, because Dr. Kritchman built the offices to his own specifications with the successful idea of attracting his associates by the high quality of the accommodations. Another device to save space was to limit one of the dimensions of the recovery rooms to the length of a reclining patient. These minimally sized spaces *seem* generous because of their glass block walls, which admit borrowed light and blurred images of surrounding spaces, even while they provide privacy. Such expansions of space by visual means characterize all of Walsh's design work for this office, and are responsible for what is perceived to be a spacious plan. Such psychological considerations extend to the architect's careful treatment of the ceilings with their pale sky-blue color and large pleasant dome-like lights, in recognition of the fact that patients spend much of their time staring upward.

Walsh believes that this dental office suite is successful because he paid special attention to its distinguishing features. First, he had a feeling for the character of his clients specialized and active pursuits, unlike those of a lawyer for example. Second, he responded to the nonrepetitive nature of the spaces in which each activity is different from the others, again unlike those in most offices. Third, he recognized and overcame the difficulties of inserting a high-efficiency operation into the irregular and confining floor area of an old apartment building. Finally, Walsh acknowledges the inputs of an understanding client and a willing, quality-minded contractor and cabinetmaker.

DENTAL SURGERY OFFICES FOR DR. DAVID KRITCHMAN AND HIS ASSOCIATES, New York City. Architect: *Edward Walsh.* Contractors: *Nico Construction—Dean Memminger, job supervisor* (general); *Jim Asker Carpentry* (woodworking).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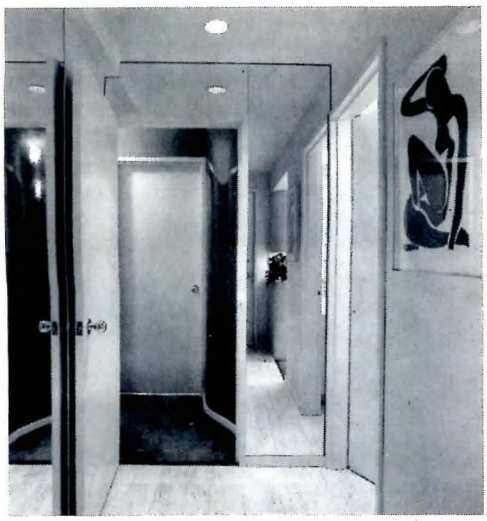
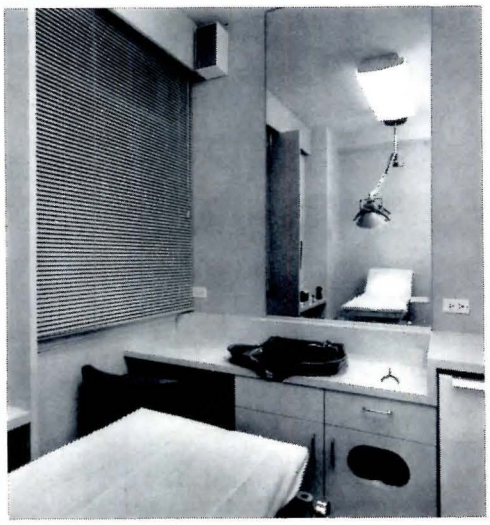
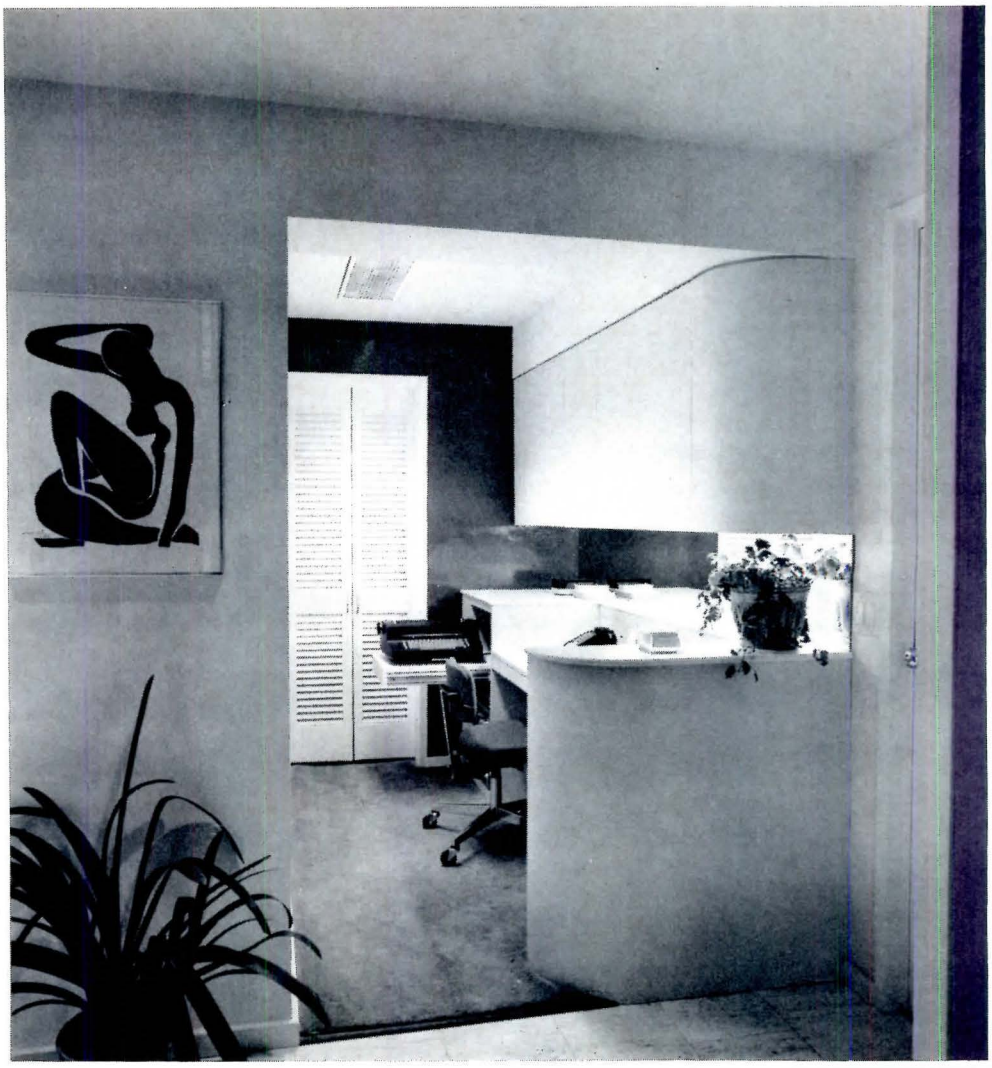






In describing the design for these New York City offices, Barbara Neski stresses both the psychological aspect and the efficient use of the confined Park Avenue space. Because Dr. Berakha is a plastic surgeon, he recognizes the esthetic sensibilities of patients who may be as aware of their surroundings as they are of the contours of their faces. And according to Neski, it is essential that this recognition be in a form that conveys quiet reassurance.

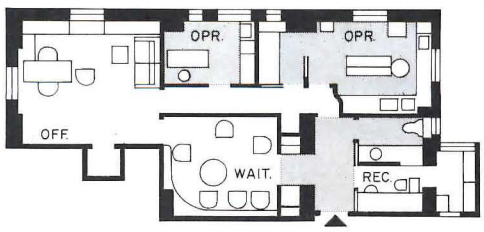
Hence, the emphasis in allotting space has been on the waiting room (photo opposite) where patients gain their first impressions, and on the physician's relatively large private office where patients are free to discuss their problems in a pleasant and unthreatening atmosphere.

PLASTIC SURGERY OFFICES FOR DR. GEORGE BERAKHA BY NESKI ASSOCIATES/ARCHITECTS

In the waiting room, the character is—according to Neski—"warm but efficient." The design is also extremely polished and a little bit of an exercise in visual expansion through trickery, as the mirrors surrounding the small room are framed by furred walls with projecting sculptural forms that enhance the reality of what appear to be the adjacent reflected spaces. Neski jokes that within the original tight room with intruding beams and columns, "I have done my own bit for cosmetic surgery."

And indeed throughout the irregular space, the architects have created a "warm but efficient" environment through careful attention to detail and by the most effective use of limitations. For instance, filing cabinets opening from a wall of the tight reception/administration area are located under the countertop of the adjacent lavatory. The typewriter can disappear into the cabinets on a pivoted shelf. And within this ship-like use of precious floor area, such a basic requirement as separate circulation to and from the operating rooms has been respected.

PLASTIC SURGERY OFFICE FOR DR. GEORGE BERAKHA, New York City. Architects: *Neski Associates/Architects*. Contractor: *H. Marks & Co.*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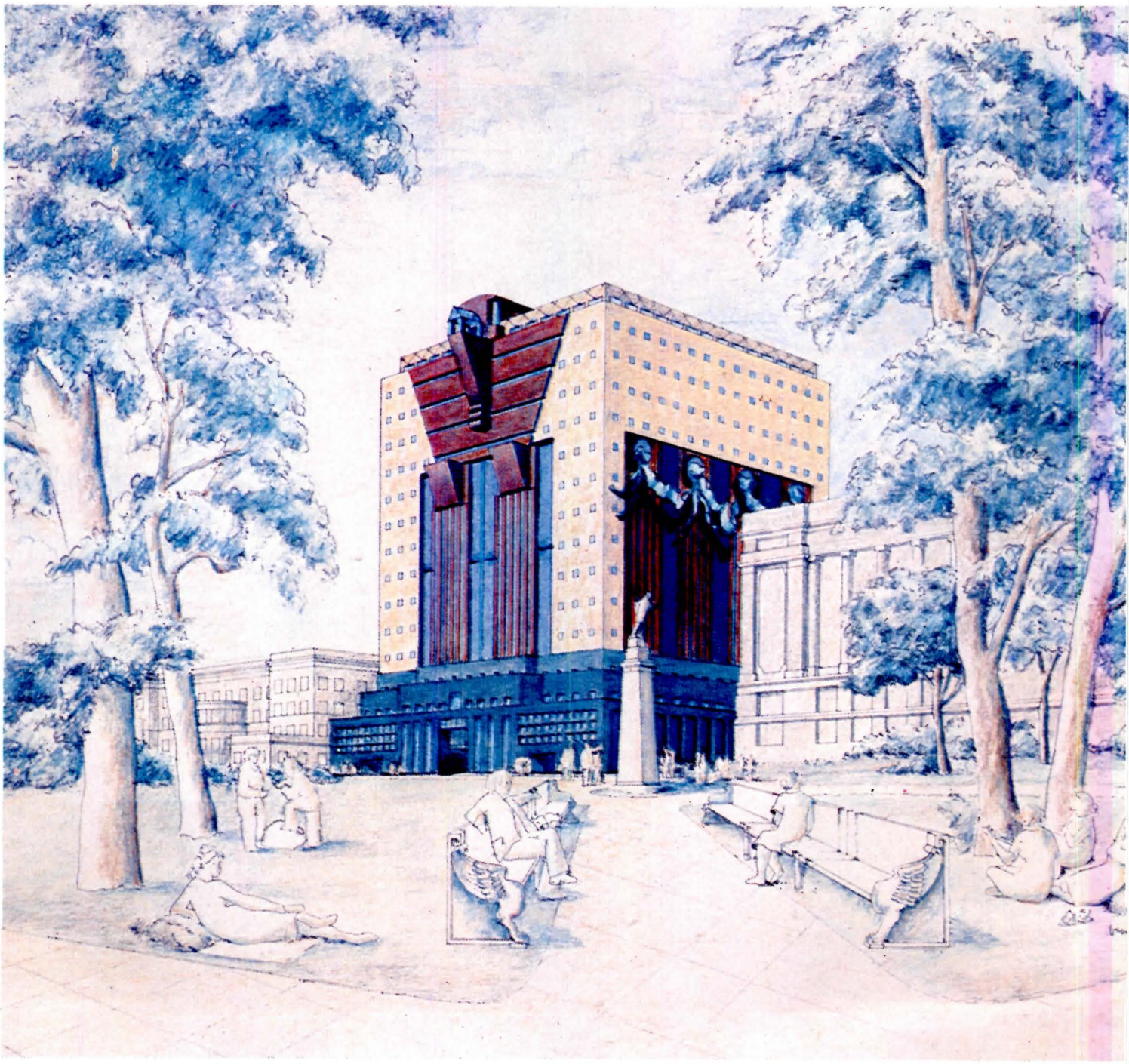
The case for Michael Graves's design for Portland

Few designs have stirred as much emotion and controversy as Graves's competition-winning design for the Portland (Oregon) Public Service Building, just starting construction. The first "Post-Modernist" work of major size or civic importance underway in the United States, it inspires both love and hate. Gut reactions aside, it seems critical in assessing this design statement to consider Graves's rationale for designing this particular building for this particular site and city, and the argument for his personal vision of what a government building might be. —*Eleni Constantine*



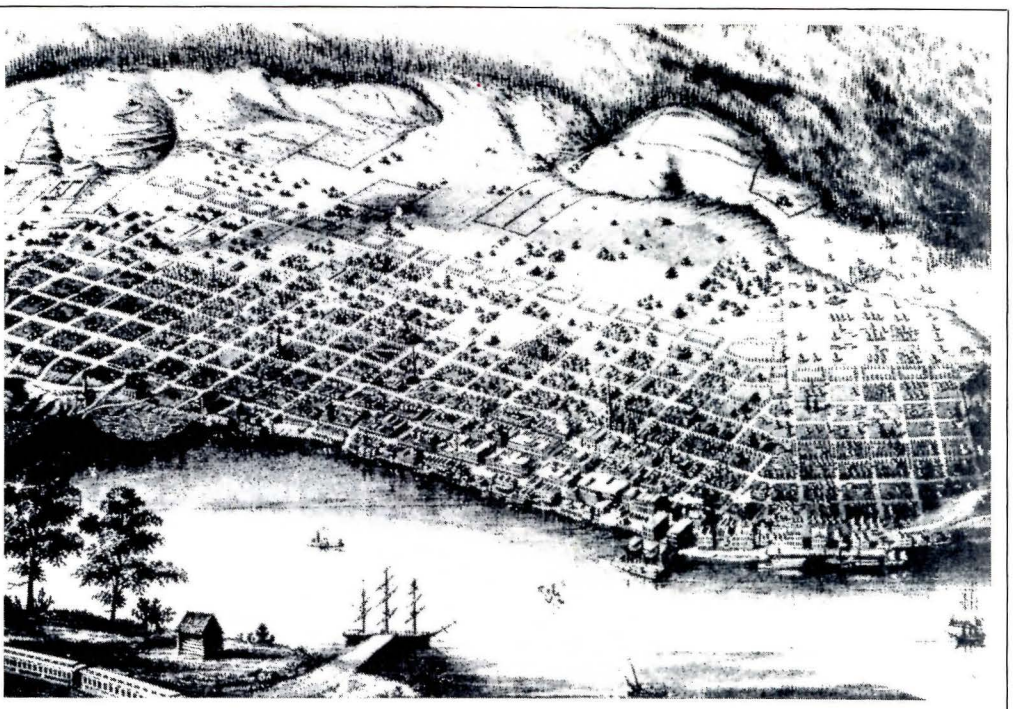
Twice winner in an extended and controversial city competition, Michael Graves's Portland Public Service Building, in Portland, Oregon, had its groundbreaking July 8th, and the fast-track, $22.4-million structure is scheduled for completion in the fall of 1982. Judging by Graves's drawings and models, Portland should get an office building that restates and reinforces the essence of this city, describes (in classicizing terms) the ideals and goals of civic government, and makes some seminal statements about architecture's role as a message-carrying medium.

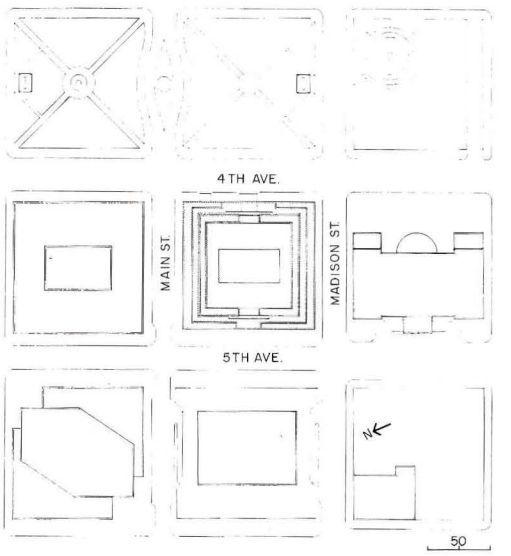
With this project, Graves makes his debut as a "public" architect in that most real of architectural worlds, government office buildings. Save, perhaps, for a commission to design public housing, even Graves's severest critics couldn't have wished for a more thorough baptism of bureaucracy and budgetary constraints. His design won out over the competing submissions of Arthur Erickson and Mitchell/Giurgola (the other entrants in the protracted and controversial city-sponsored invitational competition for the commission) in part because his building consistently provided more space at less cost. But of course, the design is also a resounding statement about public architecture.

With this design, Graves argues that a public building should be colorful, active, engaging

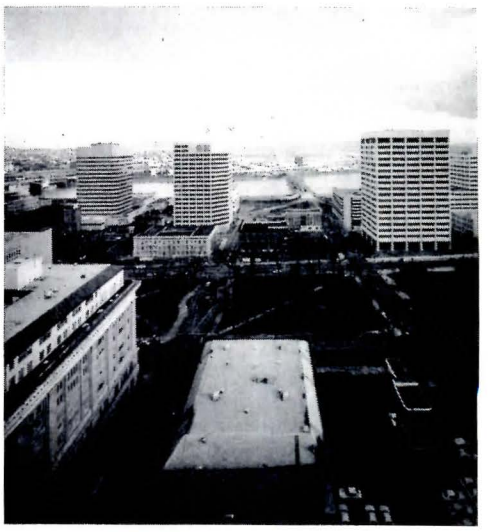
Like another recent controversial public building, Rodgers and Piano's Centre Pompidou in Paris, Portland clamors for attention; it is colorful, gregarious, outgoing. It proclaims that buildings serving the public ought to do so with verve and dash; they should excite the viewer, delight the visitor; encourage participation and inspire observation. It has been argued with regard to Beaubourg that one should not be *amused* by a building that houses art; similarly it has been argued with regard to Portland that one should not be delighted by a building that houses government. But why must art and government be approached in the "proper" subdued spirit? After all, Frank Lloyd Wright drew the pure, forceful white spiral of the Guggeheim Museum smack in the middle of a grid of traditionally styled rectangles and stretched the pink arches of the Marin County Civic Center out from a pink California hill to meet a sky-blue dome. And McKim, Mead and White set the elegant Beaux-Arts facade of the Metropolitan Museum on the greensward of New York's Central Park and grandly placed the dome-capped classical Capitol of Providence, Rhode Island on a knoll overlooking the small brick town, capital of a tiny state.

All these prominent buildings were criticized at the time they were built as being inappropriate to their context, and some are still so condemned. Indeed, they do create strong and striking juxtapositions with their immediate surroundings. But in a larger sense, they are profoundly part of their place. They reach out not to the present and proximate surroundings but to the larger context of the city as a whole, as it is now and as it has been. Modeled after tried and proven archetypes





Laying out the town in 1895 between the Rocky Mountains and the Willamette River, in what was then comparative wilderness, Portland's founding fathers gridded the civilized area in blocks 200 feet on a side (top, Portland in 1870). In the modern city (center and bottom, the new building's site) the still-intact block pattern makes for a human-scale cityscape.



of urban form, they intervene boldly, evoking fundamental patterns in striking ways.

Assuming Graves's building fulfills the promise of his design, Portland should get a building that communicates as forcefully as the great works cited above, that is as surprising and as welcome as they. Just as it has aroused similar reactions of love and hate, perhaps, in time, it too will be acknowledged as an architectural bench mark.

Graves's building, like Beaubourg and other revolutionary buildings before it, is asking a lot

It challenges much that architects have been taught since the beginning of the Modern Movement and much of what the public has come to be familiar with in the decades since. It asks, first, for a rethinking of the Modernist architectural reductionism that aimed at the simple. Graves's design argues for a level of complexity in public architecture appropriate to the complex reality of cities and civilization; for a degree of symbolic content in form and facade that suggests to the viewer what the building is all about; that conveys not the building's structure, but the human activity within, its importance to the city as a whole.

Second, the design suggests by example that powerful contextural statements require not only a sense of the building as a shaped space, a sculptured object, but of the building as a shaper of space, a sculpturer of the street. Graves's building calls for a re-evaluation of the Modernist concept of infinite and continuous space, of cities as free-form gardens in which *objets d' architecture* stand, with room to show off. Portland urges a reconsideration of the older notion—seen in Michelangelo's plan for St. Peter's, Nolli's 1748 map of Rome, and every Beaux Arts scheme from Lafayette to Ledoux—that the streets and squares of the city are the significant shapes, or figures, the buildings the fill against which this figure emerges. Public thoroughfares and parks are made, in this urban vision, by the buildings that bound them, streets run between banks of buildings and squares are shored by the structures that surround them. Graves argues that buildings have a responsibility to maintain and reinforce what he calls the "figural void"—the shaped public space. And in Graves's design for Portland, these academic points have acquired meaning in terms of that city by virtue of his application of these principles to specific program and particular place.

The building's configuration defers to Portland's street pattern and to traditonal forms long established in the city

Portland has always had a rather unique grid, composed of blocks 200 feet on a side. This intimate grid interweaves structure and street to create a human-scale urban atmosphere. Large buildings often occupy an entire block, separate entities still knit to the city, while smaller structures, clustered between the cross streets, activate the ground level with closely-spaced entrances and windows.

In nineteenth century Portland, the meeting of building and street was further enhanced by arcades, or at least awnings, sheltering the ground floor of the early classical and Beaux-Arts buildings with cast-iron and terra cotta facades. Though many of these have been demolished, the center city still retains the tradition of arcades and the vestiges of its classical image.

The Portland Public Service Building is to sit between two classicizing public buildings, the City Hall and the County Courthouse, at the center of Portland's old grid. One facade is centered on three blocks of green park cut out of the built network, the other fronts on Fifth Avenue, part of Portland's bustling free transit loop, and one of the city's most active shopping boulevards. Two of the three blocks on this side of the three-block group of civic buildings are occupied by glass-skinned towers designed by SOM that act as backdrops to the more articulated older structures and to Graves's building. The third block, behind City Hall, will be occupied by another tower designed by Hugh Stubbins.

The facades of the building expand on this rite of passage from Fifth to Fourth Avenues, from a commercial street to a park. The giant portal, two columns and a keystone, drawn in colored ceramic tile on the aggregate concrete canvas of the Fifth Avenue and park facades becomes a giant colonnade (echoing the remaining arcades) on the side streets, differentiating front and side with classical clarity.

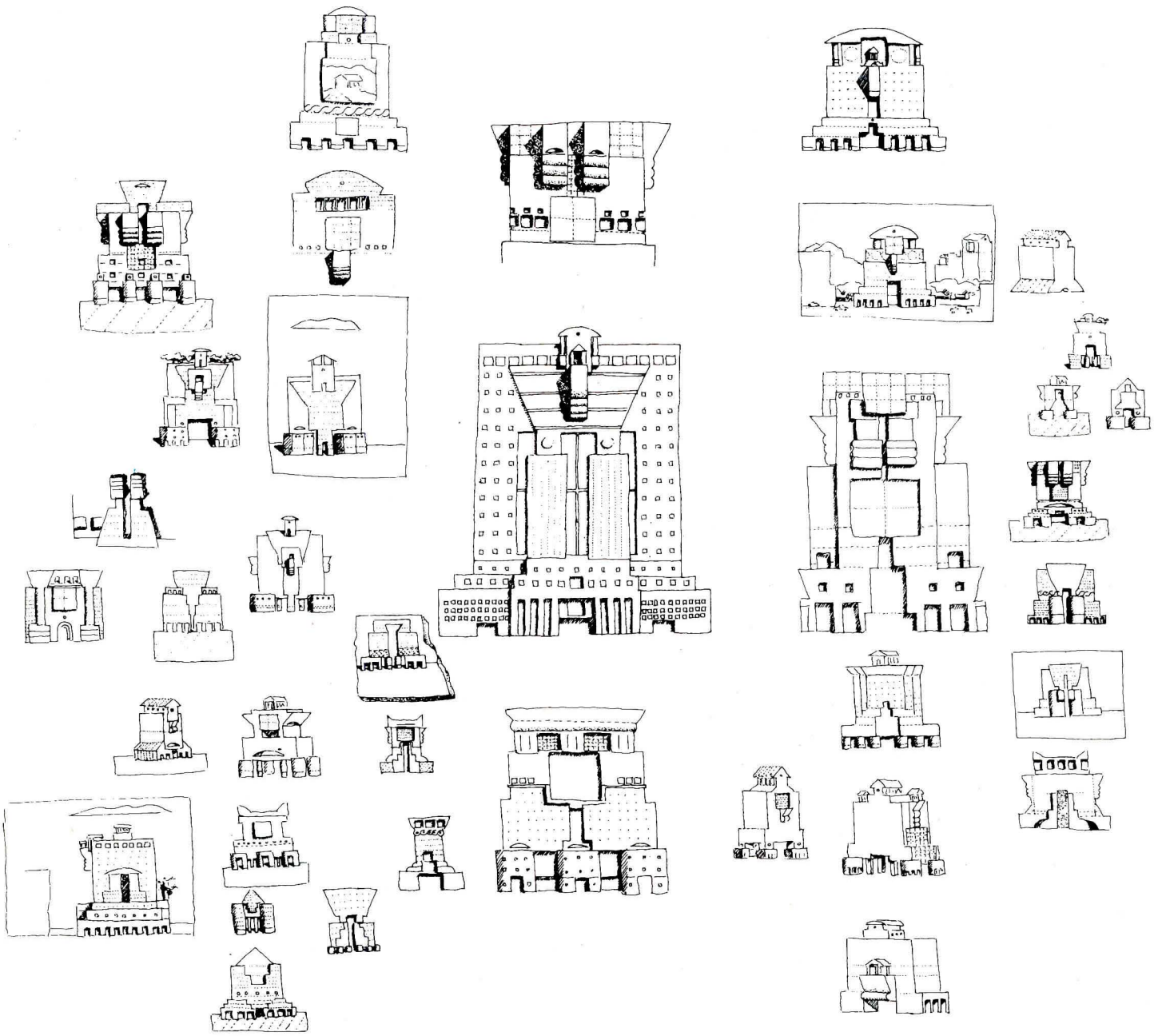
Graves intends each element of design and decoration to convey the building's meaning

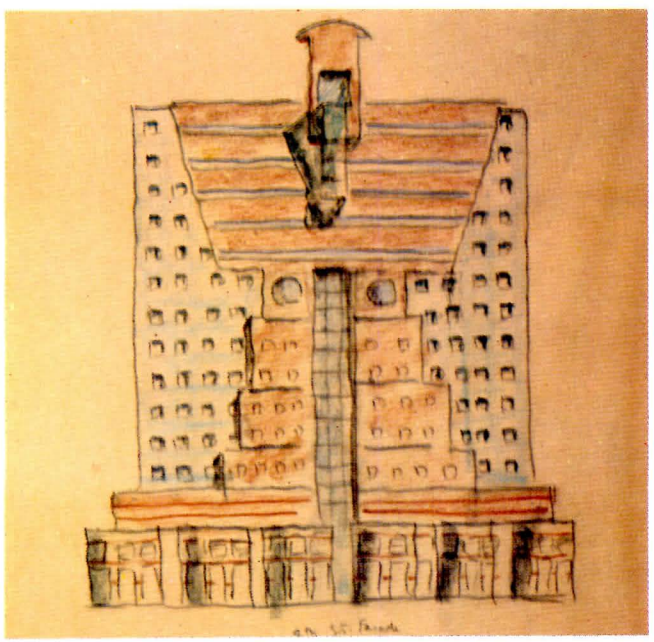
The elevation, for example, suggests a detailed reading. The columns supporting the keystone describe the interior program: city office below, rental space above, government supporting commercial activity. Behind the columns, a giant window of reflective glass identifies the center (or "body") of the building, housing the city services, and again suggests (no more than that) qualities of light, vision, and the reflection of government activity on the city. Moreover, this applied figure of portal and window adds relief to the flat facade, transforming a potentially homogeneous, static surface, read straight across, into a kinetic plane given focus and tension by the emerging arch-like form.

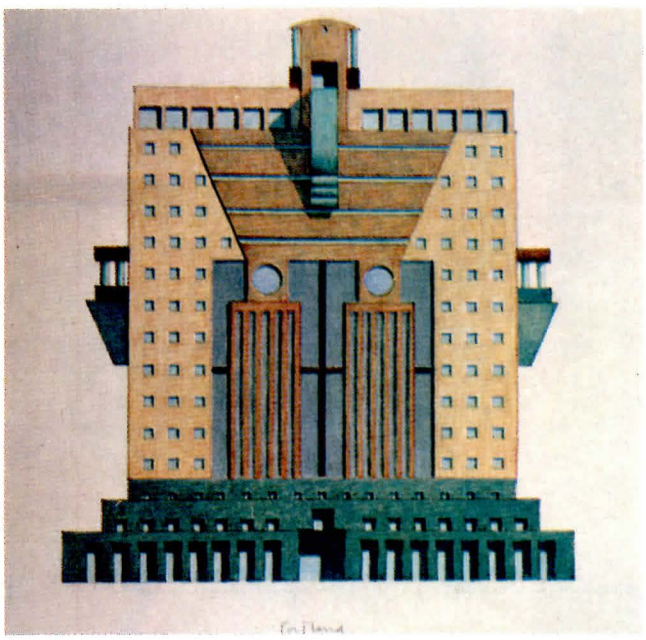
Not all of Graves's original scheme found favor with the city. The approved working scheme eliminates some of the smaller, more decorative, and more Gravesian elements on the facades, side, and roof—although these may be replaced or revised in the next month or two, depending on upcoming City Council decisions. In removing, at least temporarily, these signature motifs, the city has made the building more "acceptable," less surprising, but it has also weakened its artistic integrity to some degree.

Current plans show a squashed barrel-vault configuration over the roof, but in the original scheme, atop the park facade, is a small pavilion projected beyond the face of the building, supported by an oversized sconce. An extension of a top-floor gallery, the pavilion, a look-out point, would take

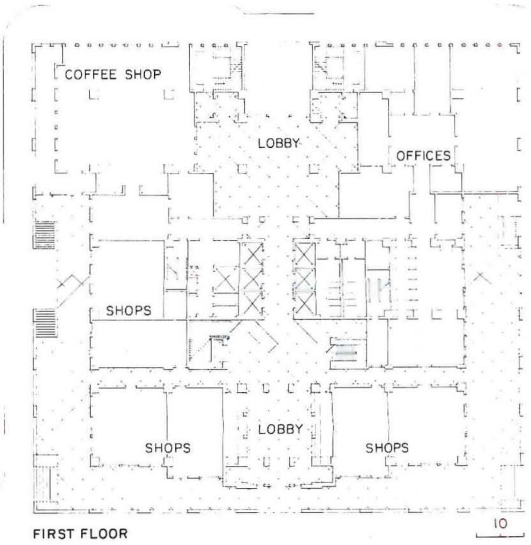
Eager to establish a city that looked reassuringly like a real metropolis, the citizens of early Portland erected rows of buildings with arcaded Beaux-Arts-style facades in cast-iron or glazed terracotta (above, vanished Portland). The classical tradition sums up, for Graves, the relation between architecture, man, and nature; he finds an emblem of this in the image of the hut, or temple, on the mountain (see sketches for Portland, facing page). From Schinkel's Casa di Raffael in the Villa Borghese, Graves derived a sketch he considers highly influential (see below).



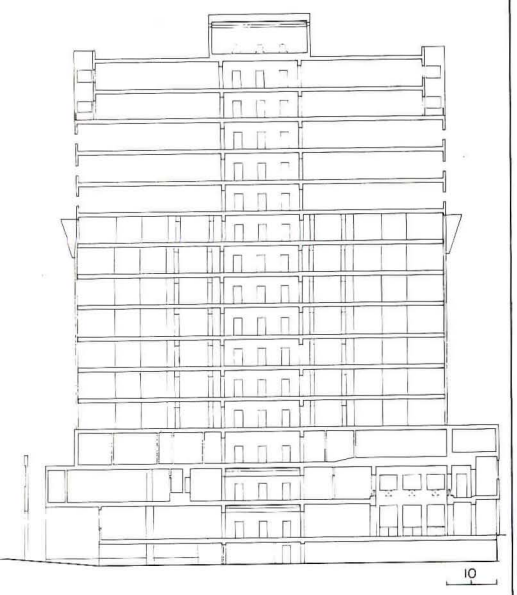


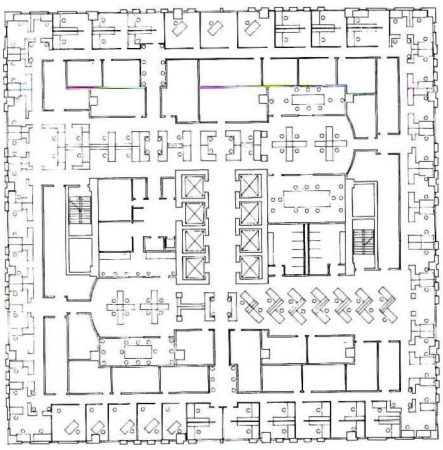


The organization and massing of Graves's building endeavors to reinforce the park on one side and the commercial street on the other, while respecting its traditional neighbors. The pedestrian loggia relates the building to the commercial street. Open for most of its length, the loggia shelters a privileged, yet public place; it is inside the skin of the building, yet outside the shops and lobby within. The central entrance on Fifth Avenue opens into a double-height lobby, acknowledging the public space above. A second lobby leads off this to the city Permit Bureau and other city offices frequently visited by the public. Passing the elevator core at the building's center, the extended galleria opens out on the Fourth Avenue site overlooking the park—one story above grade, out to the sloping site. On the park side, the solid bulk of the building—meeting the street line yet stepping back just two stories above—is intended to strengthen the park by emphasizing its boundary edge without overwhelming it with a severe, tall wall. The building wall at ground level is punctuated by a vehicle entrance at its center, flanked by two pedestrian entrances leading via stairs to the lobby above.

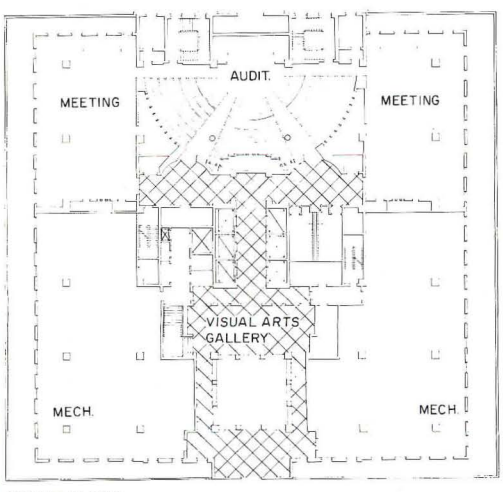


FIRST FLOOR





TYPICAL OFFICE FLOOR



SECOND FLOOR

advantage of and point up the spectacular views over the parks to the river and Mount Hood in the distance. But Graves, in his characteristic fashion, uses the simple practical gesture to gain metaphorical leverage. Atop the building's block, the pavilion, shaped like a child's drawing of a house, would recall some primitive hut emerging from a mountain. The hut, or temple, on the mountain, common in classical and Beaux-Arts imagery, is a favorite with Graves; it sums up, for him, the relation between architecture, man, and nature, which he considers essential to the discipline.

Crowning the building, the pavilion, at the center of the keystone image, would also furnish the structure with a "head." Graves argues that the expression of the classical tripartite architectural division—base, body, and head—allows us to understand the building via an anthropomorphic metaphor which brings it closer to us. Not every building, of course, is or should be an extension of man; we delight also in images of nature and of the machine. But it would seem that a building which is a metaphor for a person is particularly appropriate to house the representatives of the people.

A second pavilion, on the Fifth Avenue facade, would offer a more domestic interpretation of this theme, closer in form to the particular source from which Graves derives this archetype; Schinkel's Casa di Raffael in the Villa Borghese in Rome. Three other rooftop pavilions, sheltering storage, stair exits, and skylights, would create a bright miniature city, enlivening the roofscape as viewed from the taller buildings around—a specific requirement of the program.

Color here hints at a second, naturalistic metaphor . . .

The stepped green base might suggest a formal garden, the terra-cotta colored columns and larger plane above the earth. In this symbolized story, the pavilion would logically assume its role as, again, the temple on the height, architecture related to nature.

. . . and specific symbolic elements relate the building to the city

Over the main entrance, the design proposed a sculpture of the figure on Portland's city seal, Lady Commerce (renamed Portlandia in view of the larger symbolic value she has acquired through the years). Another proposed piece of the building's art budget is a pair of garlands festooning the side colonnades. (Portlandia and the garlands have caused more controversy than the building itself; what form they, or other art projects, eventually take has yet to be determined by the city.)

Graves's awareness of 'figure'—the form emerging from the background—whether it be made of the space between the walls of buildings or made on a building wall, appears to be related to his work as an artist. Developed through his painting and drawing as well as in his architecture, this could be characterized as a painterly concern. It would seem logical that Graves's work in two-dimensional media has increased his sensitivity to such things as form, color, and symbolism, some of the components of figure. The Portland Public Service Building argues, publicly and responsibly, for the fundamental importance to architecture of these considerations, denigrated by the Modern Movement as obsolete or irrelevant.

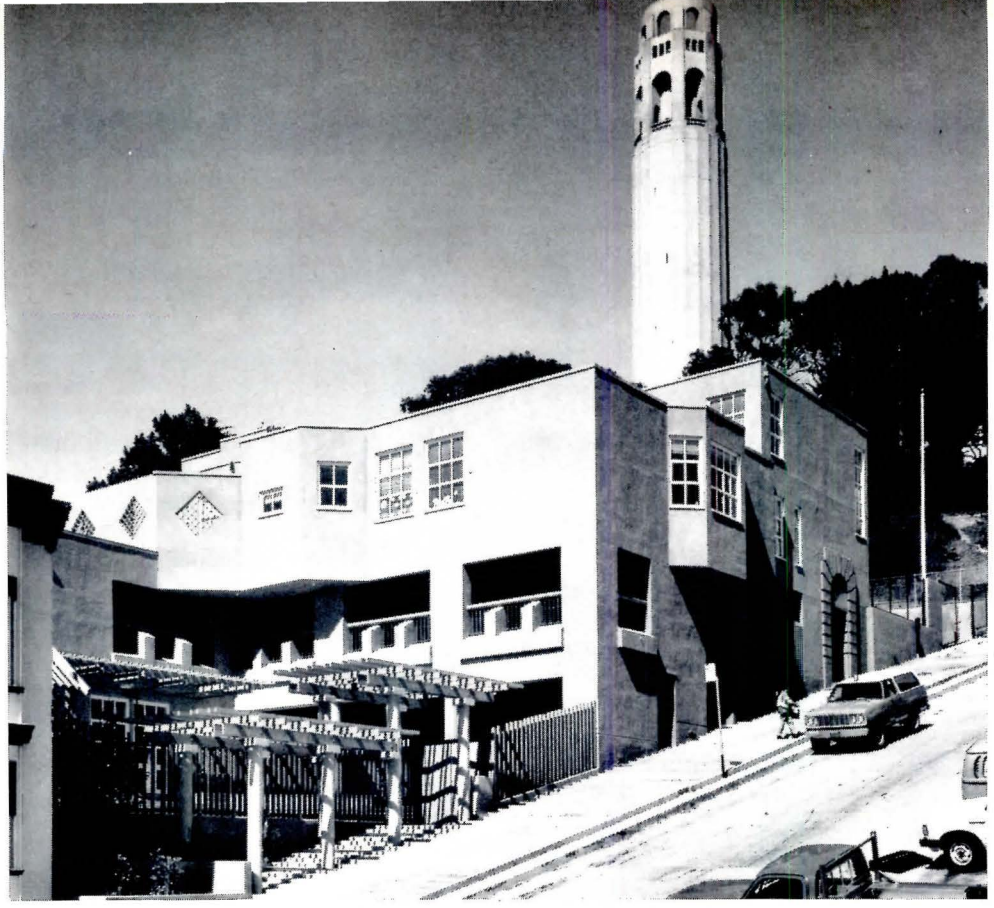
But if Graves's use of figure is a painterly device, the system by which he gives it meaning—classicism—is fundamentally architectural. Graves uses classicism as a system in which architectural elements can be placed in a significant order, and enriched with associative and connotative meanings. Portland's massing and facade explore the fundamental formal and figurative aspects of this building type, those that convey that the building belongs to the city's government and by extension to its citizens, and they imply the ideals on which civic government itself is built.

Graves's use of archetypal form as historically validated symbol assumes what some architectural historians would term a formalist posture. His mode of creating metaphor implies that it is form itself which contains basically unalterable, essential meaning, and it is form which furnishes both the connection between one architectural movement and the next, and the generating energy for that motion. Put simplistically, in this historical view of architecture, when you get down to fundamental significance, a hut is a hut is a hut, sacred or profane, in the city or country, today or five thousand years ago.

Graves has touched a live wire, releasing the power of architectural form to express his vision of representative government.

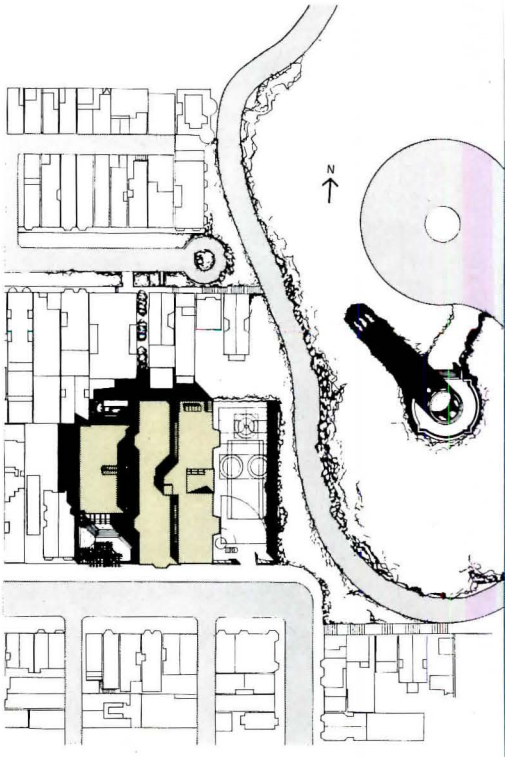
Portland's shape proclaims it a government building in the classic American tradition of government buildings. Its formal recollection of a classical temple has been made an accusation and a joke by its detractors; less remarked, but more intimate, is its formal kinship with buildings like the older Rockefeller Center, that inspired rendition of a classical forum in praise of democracy's all-American adjunct, private enterprise.

American government has invoked the classical architectural tradition as a symbol for representative, participatory democracy since the Revolution. Democracy, of course, has no exclusive on the style; indeed, classicalism is politically ambiguous, allowing one to choose between republic and empire. Architects in other places and times have used classical forms to reflect the glory of the past on dictatorships and totalitarian regimes. But Graves's recall of *classicism* in a twentieth century mode interprets tradition to convey what democracy is all about. Graves is endeavoring to show the universal theme in the particular situation, to enhance Portland's streets with recollections of the arcades of classical Greece, or medieval Bologna, to enrich the front of a Portland government building with proud symbols of government evocative of republican Rome, or of an earlier and perhaps more idealistic age in our own country.



Garfield Elementary School, San Francisco

Designed by George Homsey of the San Francisco firm of Esherick, Homsey, Dodge and Davis, this 40,000-square-foot building was built at a cost of $2.8 million to house 460 students. The three-story structure, containing ten classrooms, two kindergartens, and a multi-purpose room for school as well as for community use, is stepped up a steep hill (see site plan and section, below, and main facade, left). The low building, broken into townhouse-size units, fits into the surrounding residential neighborhood (top right, street facade) while the playground (below left) blends in with the park above. The stepped configuration provides views over the city (far right).

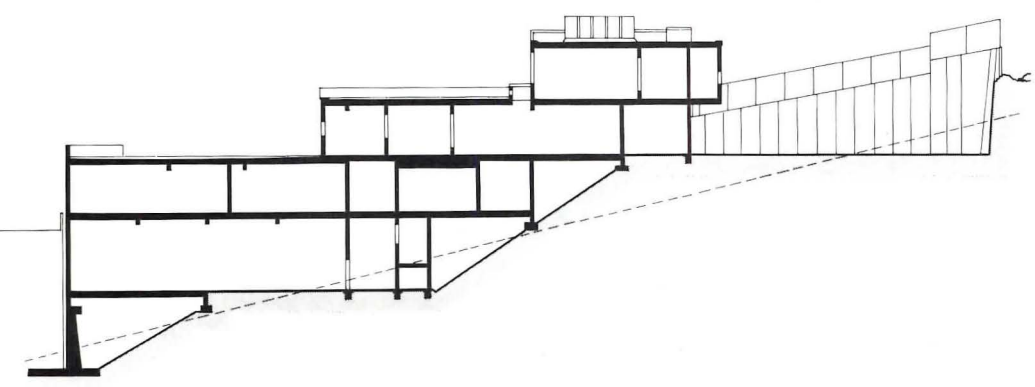


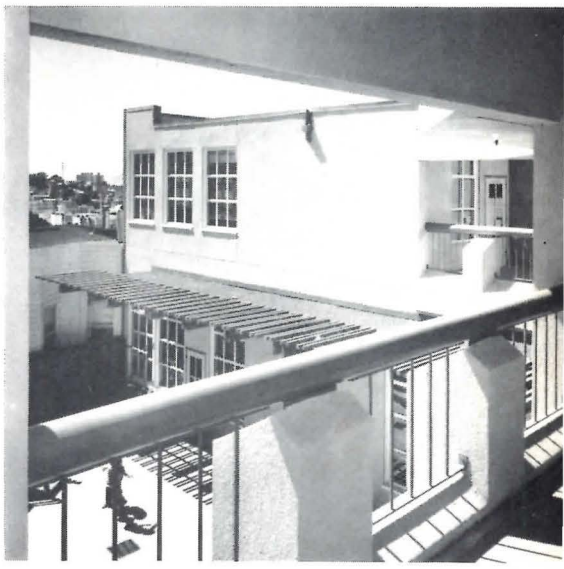
BUILDING TYPES STUDY®548

FOUR SCHOOLS WITH THOUGHT

The school constitutes the first experience most children have of the greater world outside their homes, the school building their first experience of architecture which is public rather than private. Elementary and high schools are consecutive primers in social relations, educational theory, and culture. The four public schools shown here are designed to address the particular needs of the age group they house: the two elementary schools strive for an intimate, homelike charm, drawing on a residential vernacular, while the two high schools, active and highly abused buildings, are intentionally tough, sharing some of the casual exuberance of adolescence. The smaller elementary schools pay careful attention to the architectural context, while the larger high schools endeavor to capture a more problematic social context. All four attempt to create structures that not only shelter learning but foster it.—*Eleni M. Constantine*

Peter Aaron, ©ESTO photographics Inc. photos

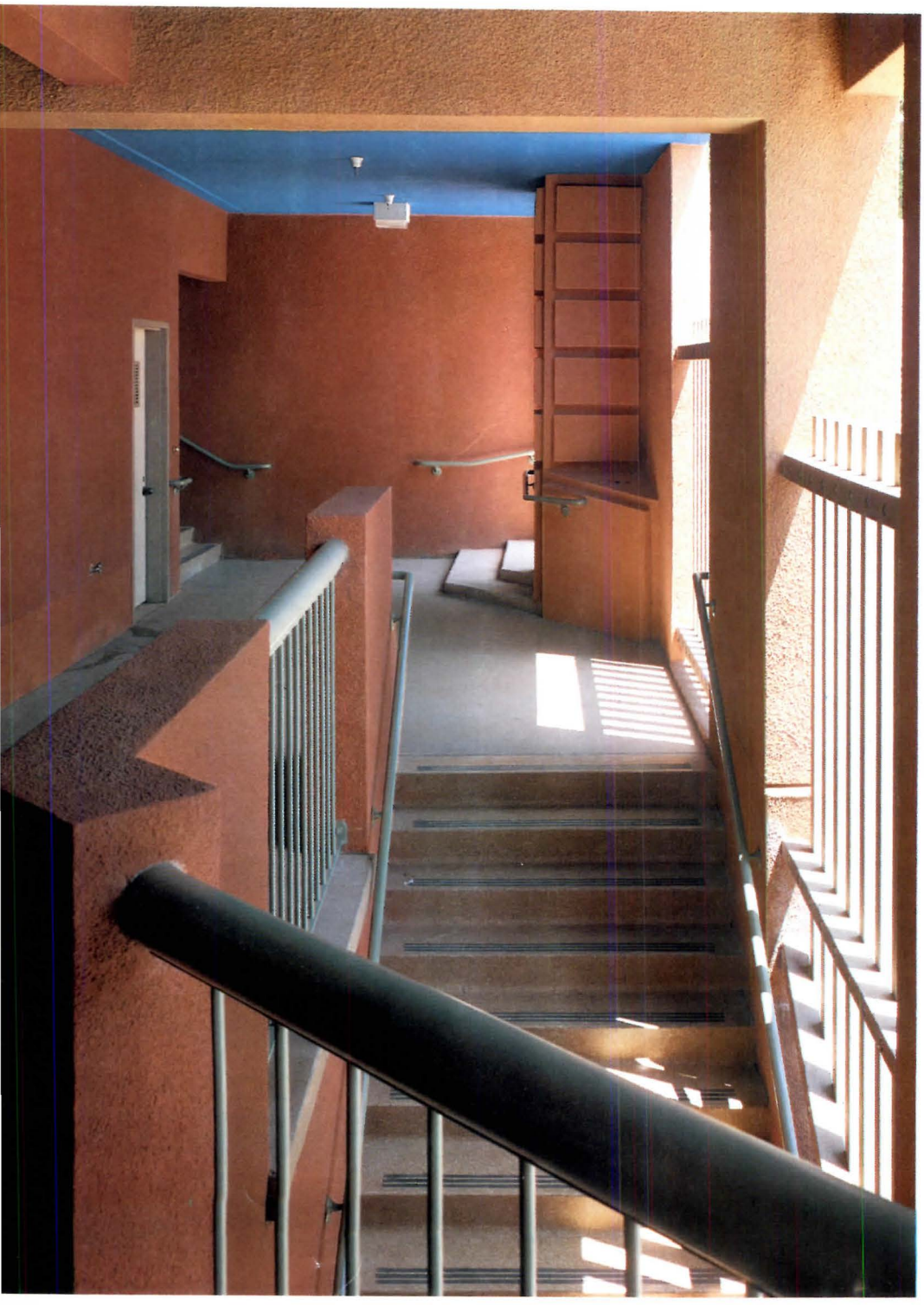




Perched on the western slope of San Francisco's Telegraph Hill, just below the stone hose nozzle of Coit Tower, Garfield Elementary School stands out, brilliantly orange against the pastels and whites of the surrounding rowhouses. But if the color contrasts with the surroundings, the massing of the building emulates these; floor units are stacked up the side of the steep hill in modules scaled to echo the townhouses. Replacing an earlier school condemned as seismically unsafe and deemed economically unfeasible to rebuild, the new structure reverses the organization of the previous one, placing the school building against the neighboring houses, with the play area on the uphill side, rather than separating the school from the residences by inserting the play area between. The new arrangement, putting mass next to mass and open space next to open space, allows the school to become part of both neighborhood and adjoining park.

From the street, the school reads as three modules, each marked by an entrance and articulated by alternating tones of orange flanked by a courtyard below and above. In actuality, the courts serve as the major entries to the kindergarten unit on the lowest level and to the classrooms for the older children above, while the rusticated portal at the center marks the less-used access to the administrative offices. A community center, attached to the kindergarten, has its own entrance through a back alleyway.

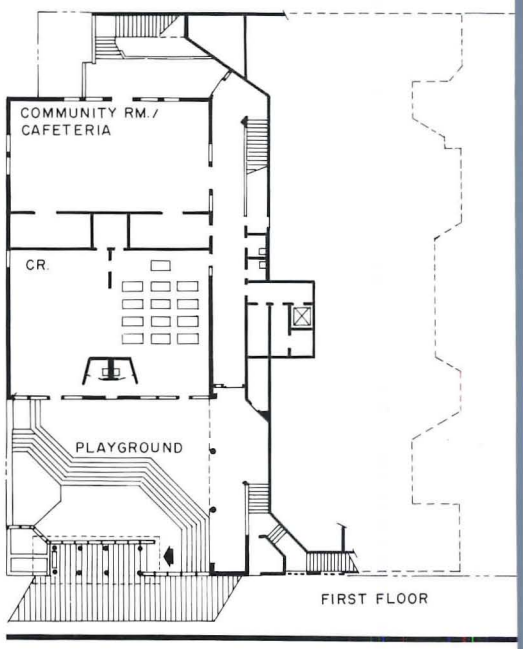
Capitalizing on San Francisco's moderate climate and the dramatic views from this height over the city, the design incorporates exterior passages and promenades, large operable windows, and open areas. Internal circulation is kept to a minimum. The classrooms themselves are semi-open in plan (overleaf) with visual access to shared kitchen, demonstration, and teacher preparation areas. All in all, a pleasingly open and bright design, neatly worked out on the interior and



GARFIELD

Classrooms are semi-open in plan with visual access to shared kitchen, demonstration, and teacher preparation areas (top right and plans, below). On the terrace adjacent to the third floor media-library room is a greenhouse and outdoor planting area. The kindergarten cafeteria doubles as a community room with a separate entrance (see plans). Exterior circulation areas are maximized (below, open corridor).

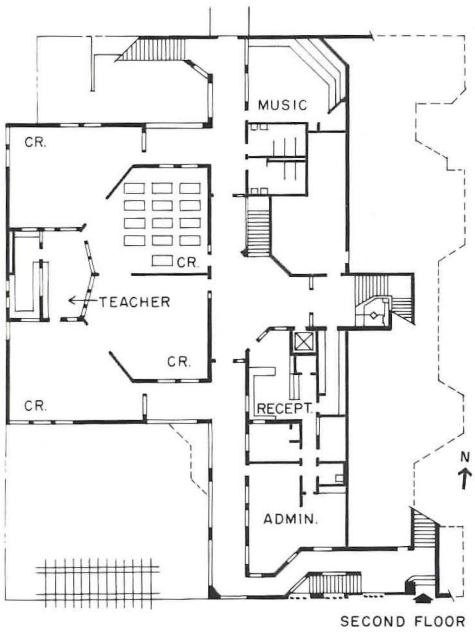
GARFIELD ELEMENTARY SCHOOL, San Francisco, California. Client: *San Francisco Unified School District.* Architects: *Esherick Homsey Dodge and Davis; partner-in-charge: George Homsey.* Consultants: *Rutherford and Chekene* (structural foundations and soil); *Marion Cerbatos Tomasi Inc.* (mechanical and electrical). Landscaping: *Richard Schadt Associates, Inc.* Contractor: *Nibbi Brothers.*



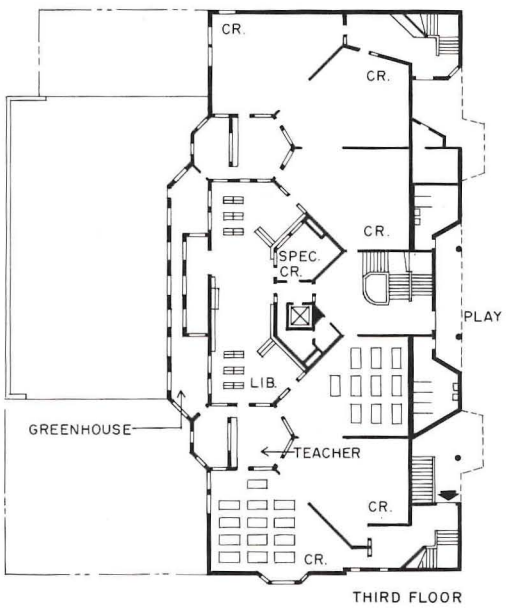
carefully composed on the elevations.

Garfield is a very pretty school, evoking in its strong coloring, Italianate detail, and courtyard focii, medieval palazzi in Rome or Tuscany. The calculated fenestration follows a more recent Italian style, and appears to derive its square proportions and use of light and shadow to articulate the facade from the work of such neo-Rationalists as Aldo Rossi or Carlo Aymonino. The abundant use of vibrant color on the exterior to create a tension between planes of roof and wall is also reminiscent of Aymonino's work.

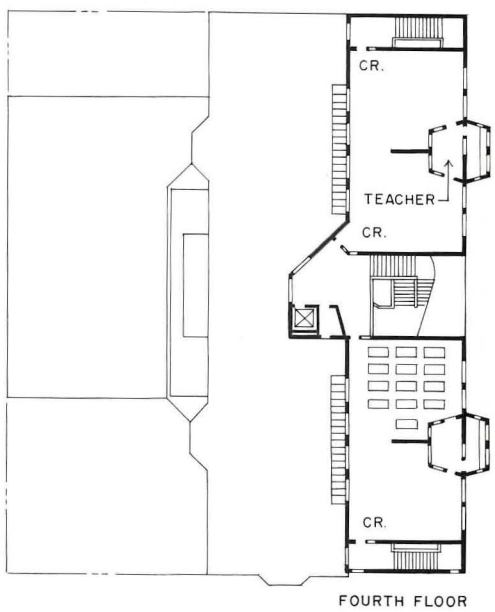
Much of this stylistic grafting takes very well in sunny California, but some doesn't.



SECOND FLOOR



THIRD FLOOR



FOURTH FLOOR

The orange and green which seems so mellow in the gentle light of Italy seems very strong in the clearer, brighter light of San Francisco. Homsey has used this orange before and to somewhat better effect in his Bay Street condominiums, also in San Francisco—but in the apartment building, the tones are muted by the more commercial surroundings. For Garfield, on its prominent site next to quieter buildings, a redder spectrum might have been more appropriate, borrowing the red-orange tones of the Golden Gate visible from the school, or the pink of Telegraph Hill's soil.

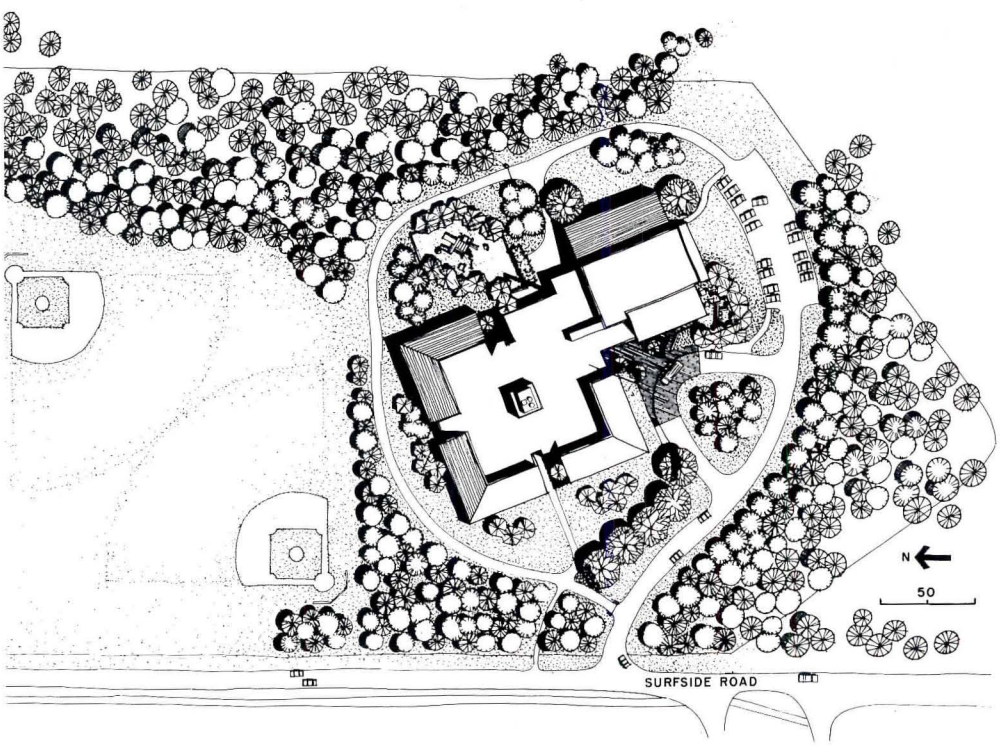
The fenestration, on the other hand, is much more than a well-done stylistic composition of solid and void, light and dark, forward and back. On the interior, the large square windows flood the classrooms with natural light and, because of the building's stepped configuration, provide stunning views from each room. Almost all are operable; the design makes for a building suffused with daylight and hilltop breezes, open to its spectacular surroundings.

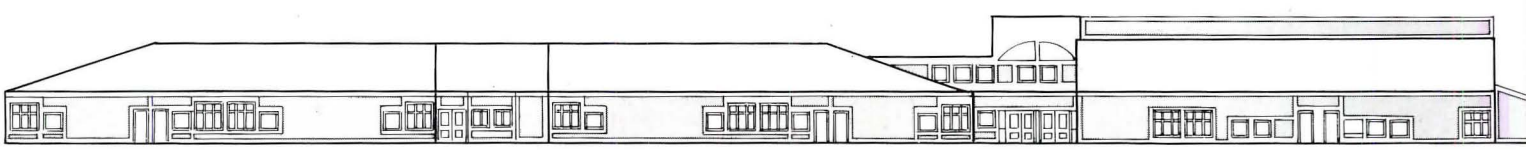
Unfortunately, the building's energy and freedom have been compromised by the school administration, which advocates keeping the blinds down, windows closed, lights and air conditioning on. It isn't just that the windows don't admit light and air, but also that the exterior, shut up, loses its expressive tension and becomes flat, the windows no longer dark and deep but blank and blind. It isn't just that the classrooms become enclosed and are deprived of the views they were positioned to receive, but that, cut off from visual contact with the exterior circulation system, the spatial sequence is less clear and the carefully articulated masses can no longer be meaningfully read. One often faults a building for failing to respond to user needs; here it is the users who seem insensitive to the underlying assumptions of an attractive and well-planned design.

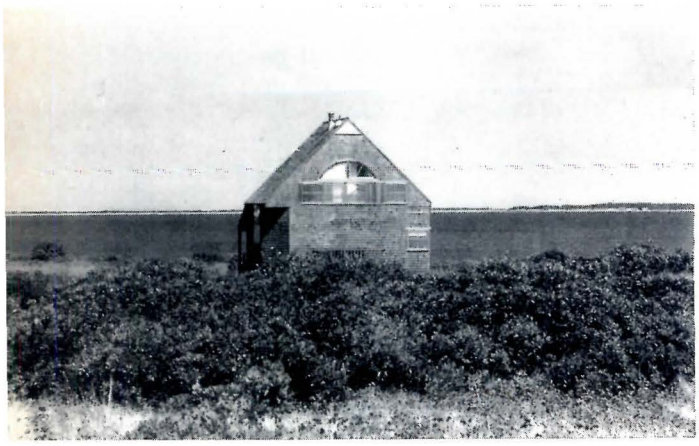
Joseph Rizza photos

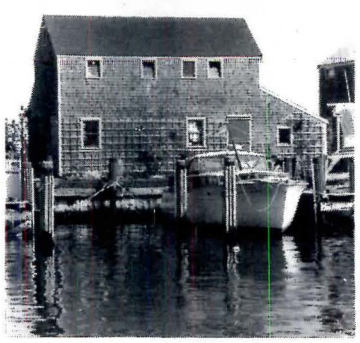
Nantucket Elementary School, Nantucket Island, Massachusetts

Designed by the Boston firm of Earl Flansburgh and Associates, this 59,500-square-foot building housing 600 pupils was built at a cost of $3,013,700 ($51.24 per square foot). The program called for a 61,000-square-foot facility on 34 acres (site plan, left) to include 20 classrooms, an art room, kindergartens, a resource center for special education, a gymnasium/cafeteria/assembly area, central support facilities, a music room, administrative support facilities, teachers' lounge, teachers' workrooms, and a library: all in a structure that fits in with the shingle vernacular of the island (below center and right, original Nantucket houses; below left, Robert Venturi's variation on the theme). Materials and fenestration in the new school—weathered cedar siding, variegated roof lines—pick up on the local traditions.







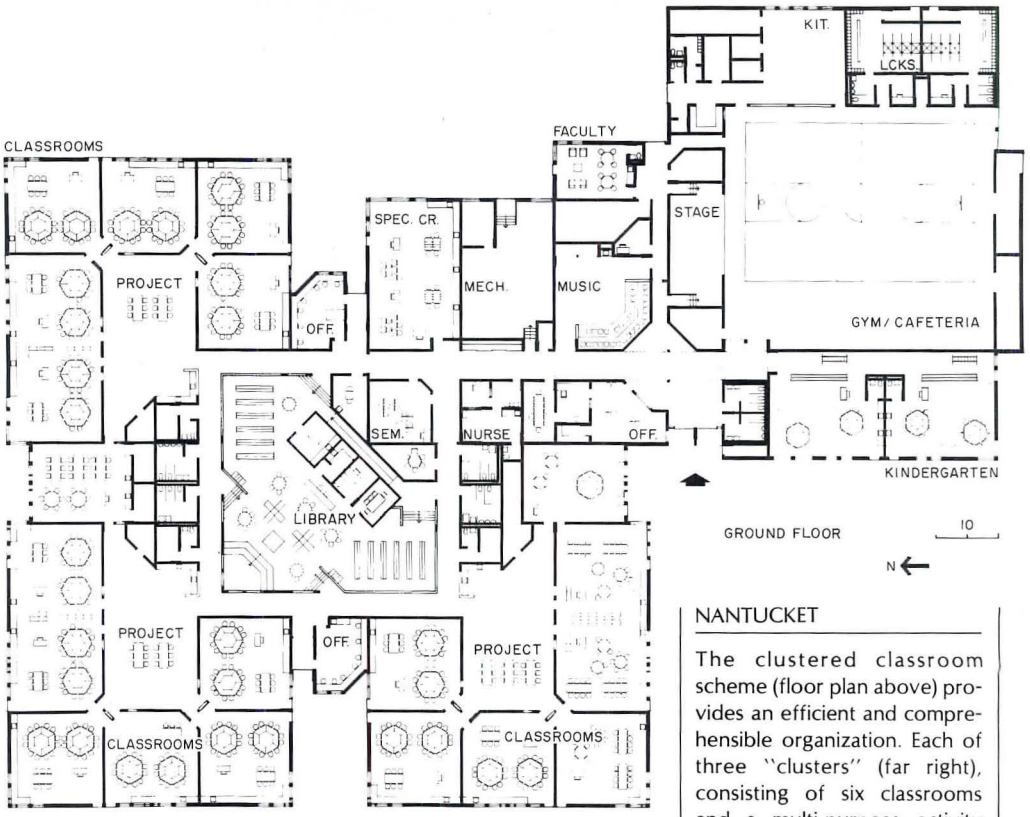


The design of the Nantucket Elementary School by Earl Flansburgh and Associates, like that of its San Francisco counterpart, adapts features of the local vernacular to make a new and original statement in harmony with the existing context. Indeed, the building, completed in February 1978, was awarded a design citation by the American Association of School Administrators and the Boston Society of Architects in part for the manner in which it reflects the unique character of the small island.

Spread over a flat, sandy site, the school—the largest building on scrubby Nantucket Island—keeps a low, one-story profile. The one-story box is variegated by changing roof heights and its facade is activated by a repeated assemblage of juxtaposed windows of different sizes and doors opening directly to the surrounding field. Picked out in wide red trim boards against the natural-colored cedar siding, the fenestration acts not only as a decorative motif, but also as a scaling device, breaking the mass into comprehensible units and reducing the apparent size of the new building.

Nantucket Island jealously guards the architectural legacy of its whaling past. There has been an Historical District Commission for exactly that purpose since 1936, and its efforts have kept the relics of Melville's era relatively intact and comparatively free of architectural competition. Modernism never came to Nantucket. (Though recently Post-Modernism has, in the form of Robert Venturi's vacation house—see photo, far left).

The new Elementary School picks up on the hallmarks of the island's traditional architecture—the distinctive materials, proportions, and stylistic characteristics—but implements these in an almost industrial fashion, simplifying basic elements into standardized, repeatable modules and hardening the pretty residential vernacular into a mode appropriate to a larger, public structure. The cedar

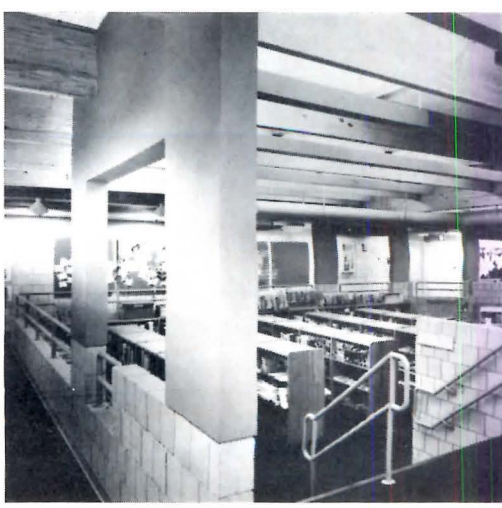


Peter Vanderwarker photos

NANTUCKET

The clustered classroom scheme (floor plan above) provides an efficient and comprehensible organization. Each of three "clusters" (far right), consisting of six classrooms and a multi-purpose activity area, has its own identity defined by color (red, blue, green). The library (near right) is built at a lower floor elevation, separating it from the rest of the school, yet allowing it to be a strong core element. The entry (lower left) is marked by a panel in which a circular puncture echoes the thermal window over the door.

NANTUCKET ELEMENTARY SCHOOL, Nantucket Island, Mass. Client: *Town of Nantucket.* Architects: *Earl Flansburgh and Associates; principal-in-charge: Earl Flansburgh, FAIA: associate-in-charge: Allen M. Leib; job captain: Penelope Beye; project architect: David Webster.* Consultants: *Engineers Design Group* (structural); *Goldberg Zoino and Associates, Inc.* (foundation and soil); *E.J. Flynn Engineers, Inc.* (mechanical); *Mason Associates Inc.* (electrical). Contractor: *Wexler Construction Corp.*



siding, for example, is a variant on the ubiquitous cedar shingle of Nantucket's houses. The aggregated windows are patterned after the patchwork fenestration typical of the island, but those of the school are set at child's-eye level. The variegated roof, alternately pitched and flat, echoes the complex, layered roof planes of the houses with their multiple sequential additions, but serves precisely to describe the functions of the building.

The illusion of a patchwork style is confined to the exterior treatment. In plan, the school follows a clear and concise geometry with an apparent logic derived purely from the programmatic needs. Three classroom clusters, each consisting of six classrooms and a multi-purpose activity area, are grouped around three sides of a central sunken library space at the core of the building, with the administrative offices occupying the fourth corner. Instantly legible, the centrifugal layout spins off the strong center established by the library. Minimized internal passages and visual access to almost the entire building from any spot make for easy orientation.

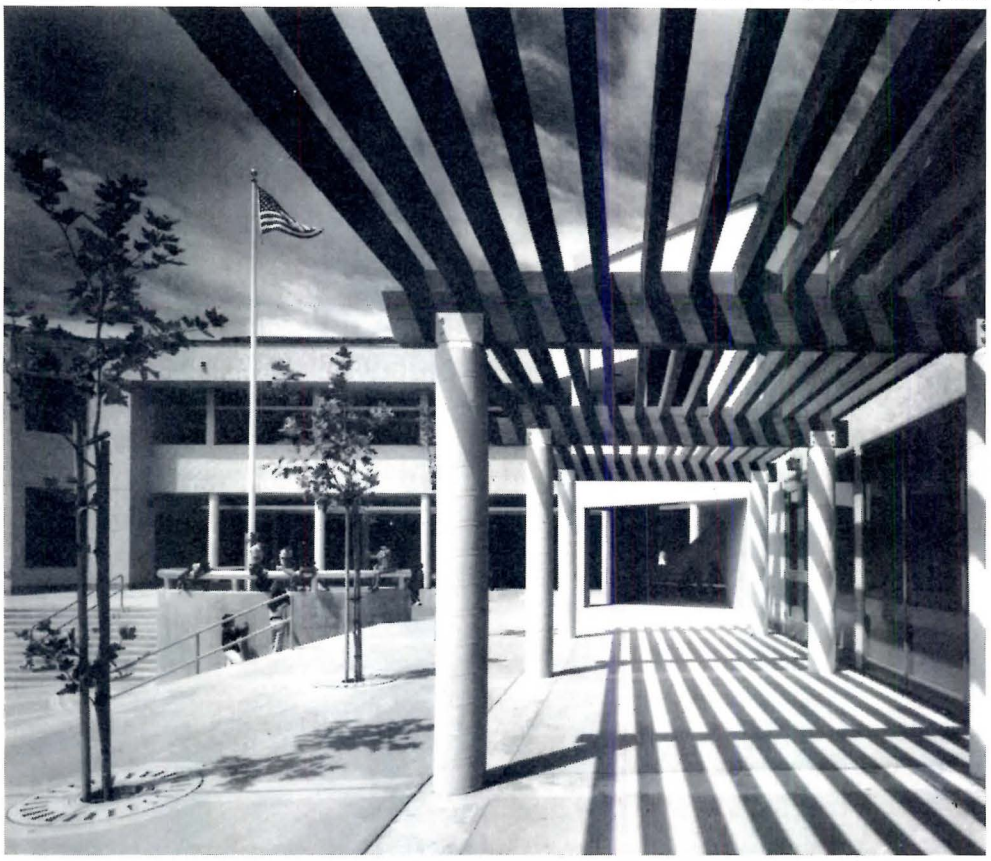
The Nantucket School represents the best of problem-solving architecture. Somewhat intimidated by the admittedly limiting context, it doesn't make any imaginative leaps but accomplishes its work with a solid responsibility enlightened by contextual responsiveness. Only once, in this sober, respectful translation of tradition, do we get a momentary allusion to more playful ways of approaching the past; the split thermal window over the main entrance is Flansburgh's gesture to Venturi's vacation house.

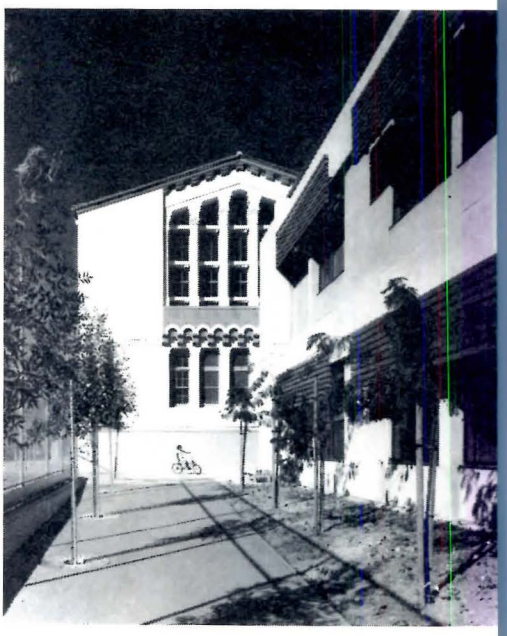
Garfield and Nantucket, small elementary schools, concentrate on making an addition to quiet residential context. Their elevations are clearly studied, their plans carefully fitted together. They indulge in gay color and applied decoration; they affect a sturdy cheerfulness. Like their young occupants, they are one step from home.

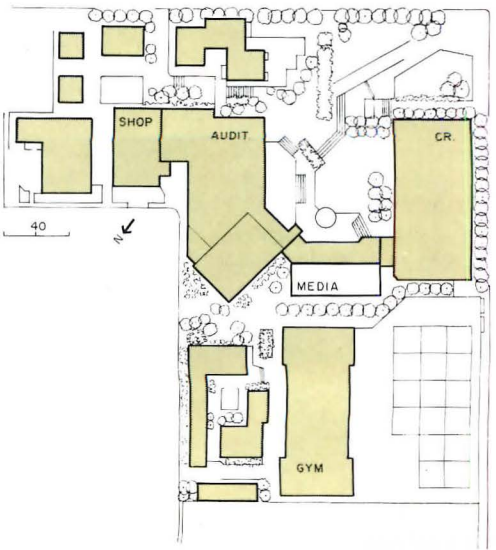
Peter Aaron, ©ESTO photographics Inc. photos

Fremont High School, East Oakland

Designed by Charles Davis of Esherick, Homsey, Dodge and Davis, this 107,000 sq ft high school was designed for a projected population of 1500 students. It now holds over 1800. Built for $6 million, the two story structure is arranged around a central courtyard, the site of the original buildings (see photos, left, and site plan, below). The existing library and boiler room, in reinforced concrete, were adapted to meet the new seismic standards. The portal of the old school was also salvaged, and rebuilt as a free-standing arch, marking the entrance to the court (right).







Fremont High School, in Oakland, California—designed by Charles Davis of Esherick, Homsey, Dodge and Davis—exemplifies some of the problems of a large inner-city high school and one spirit in which these may be profitably confronted. It's a large school in a predominately black, lower-middle-class area of East Oakland. In the crowded older buildings, vandalism and absenteeism were rampant; violence not infrequent. Structural problems and the new seismic safety code forced a major reconstruction.

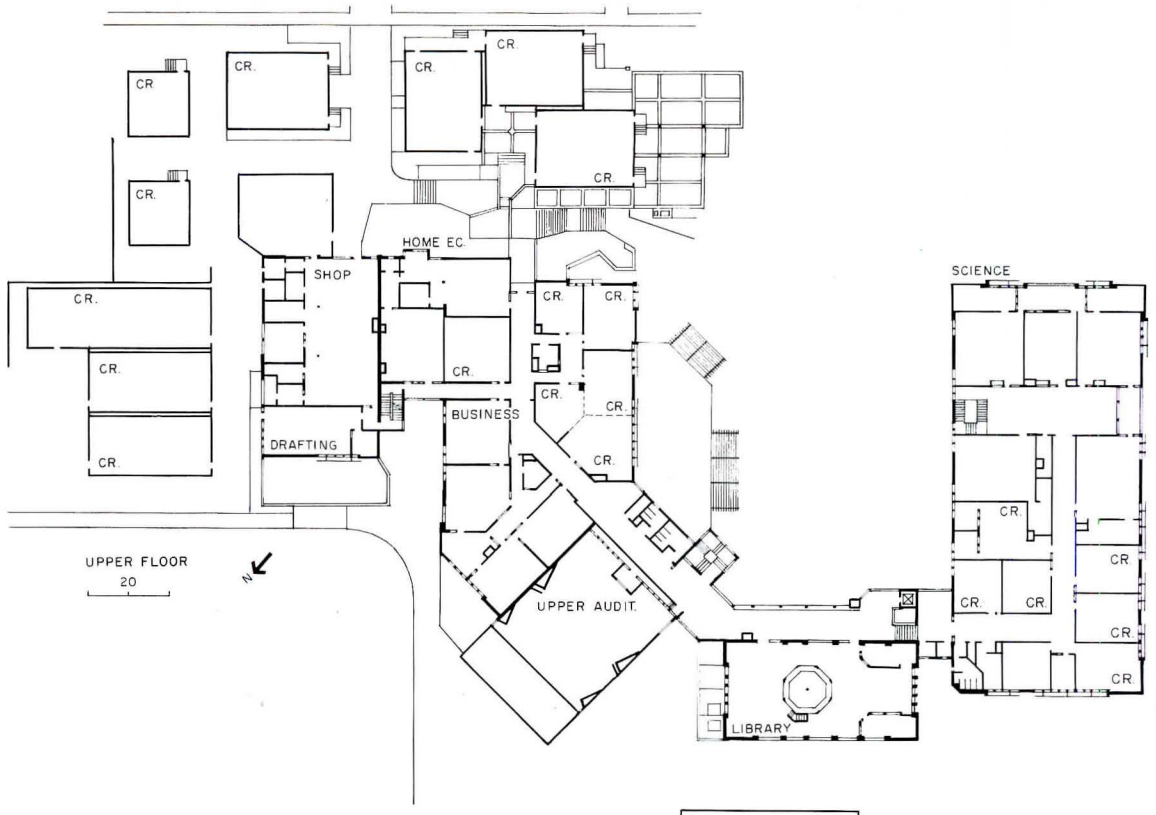
The lengthy, complex planning of the new school is directly reflected in the new design. Since the school had to remain in use throughout the construction, the new building was designed to be built around the existing structure, which would subsequently be demolished. However, due to cost escalation and other problems, this plan had to be abandoned; sixty portable classrooms were moved onto the football field and the school was housed in those during the three years of construction.

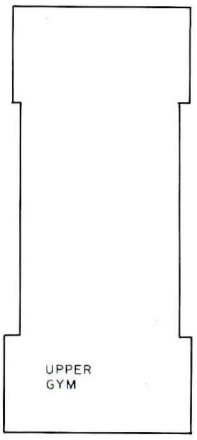
The new school, however, preserves the doughnut configuration dictated by the original phasing concept. The old library and the boiler room were preserved primarily for economic and secondarily for design reasons. At either end of the site, these anchor the new design. The old library, a Spanish-style room with big timber trusses and a 30-foot ceiling, has been horizontally divided, adding a floor, while the concrete structure of the boiler room has become a terrace, on top of which the art department is housed in three more portables. Where the old building once stood there is now a central court; the main entrance to the old school, a large ornate plaster arch flanked by columns, has been preserved as a freestanding fragment. Unfortunately, the sixty temporarily-installed portables have become a fixture in the completed design, since the school, designed for 1500 students, now contains some 1800.

FREMONT

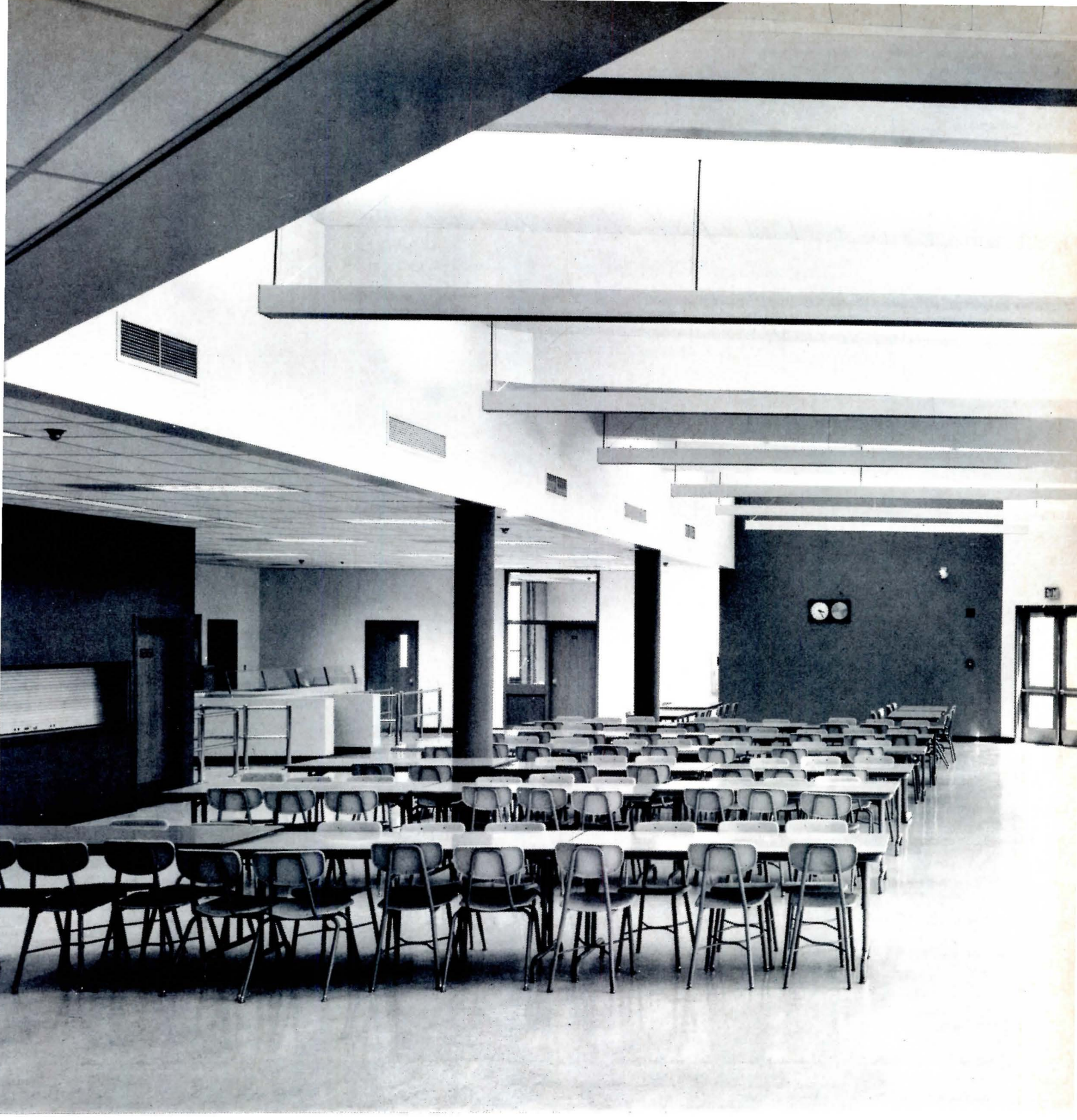
The school houses some 80 classrooms, all self-contained except for those for social studies and English, where open spaces for team teaching can be created (see floor plan, right). The specialized facilities include: woodshop, diesel and automotive shop, media center, chemistry and biology labs, computer room, drama, cafeteria, theater, faculty and community rooms, and administration offices. Bright open corridors and gathering areas (below left and right) eliminate potentially dangerous dark corners.

FREMONT HIGH SCHOOL, Oakland, California. Client: *Oakland Unified School District.* Architects: *Esherick, Homsey, Dodge and Davis; principals-in-charge: Richard Marshall, Charles Davis.* Consultant: *Rutherford and Chekene* (sturctural); *Harding-Lawson Associates* (foundation); *Marion Cerbatos and Tomasi* (mechanical and electrical). Landscaping: *Richard Schadt Associates, Inc.* Contractor: *Trans-Bay Lathrop Joint Venture.*





All these in-process changes, severe overcrowding, and cost cutting have led to certain design compromises, but Fremont does some important things very well. First and foremost, the circulation areas are ample and attractive. A covered, two-story arcade and an open staircase provide access to one wing, while the large central court creates a visual and physical release valve. Classrooms have interior as well as exterior windows, providing visual access to the walls as well as to the outside. All this openness isn't just pleasant but very practical as well; high visibility helps solve Fremont's severe security problem. This is a school where isolated,



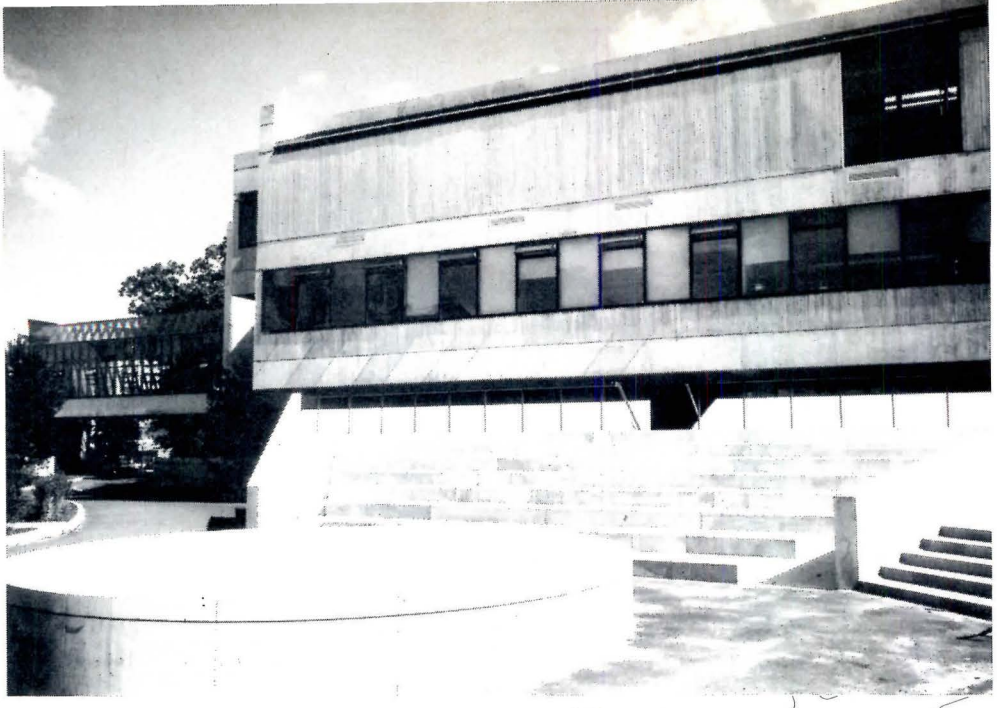
hidden corners would be dangerous.

Second, the school has a well designed administration area. Smack in the middle of the complex, the offices are inserted in the shell of the cafeteria of the former school. The perimeter offices of the administrative officials front onto the courtyard so they can both see and be seen. Open and accessible, the office unit is situated and laid out so as to become a secondary hub of the school.

Third, the classrooms are flexibly designed so they can be opened to serve the needs of larger groups or subdivided with movable partitions. A very simple concept, to be sure, but it works—particularly when it has been thought through, as here, to ensure that the classrooms remain light and airy no matter what size they are adjusted to be.

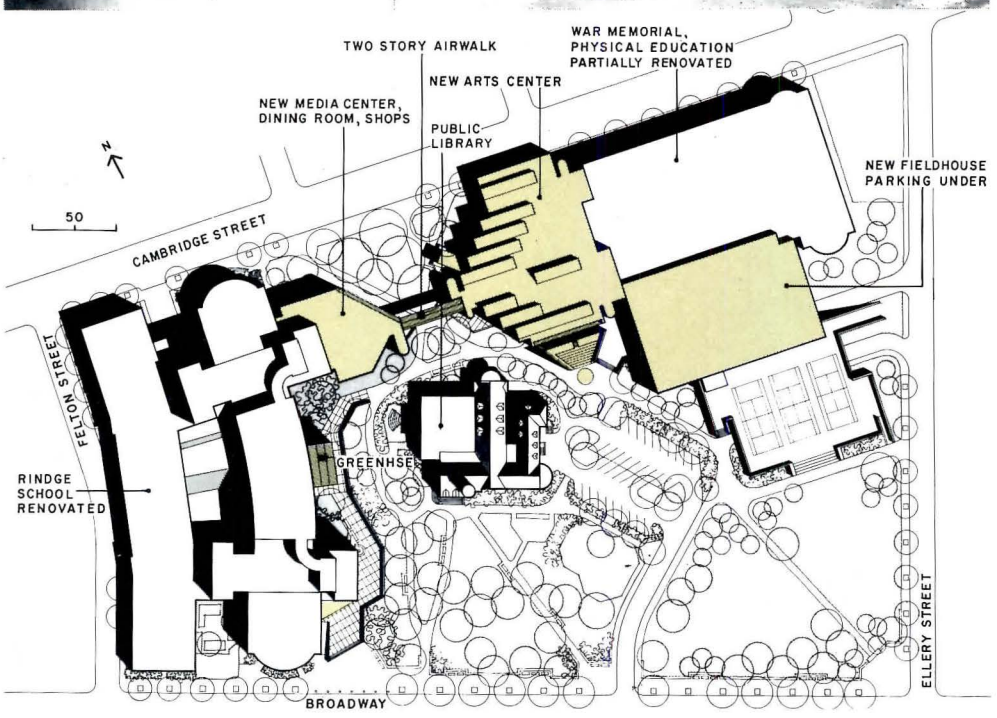
But above and beyond these hard-headed sensible gestures, Fremont allows for student input and for spontaneity. Inserted into the fabric of the design are several small group meeting areas, intended to serve the ethnic and special interest groups that structure the school's social life. These areas "actually function as planned," comment the architects, with barely disguised surprise and delight.

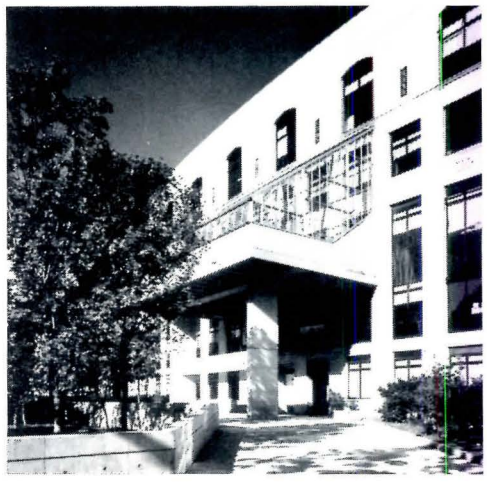
But one place in the school, perhaps the nicest place of all, doesn't function as planned at all, but rather attests to the superiority of necessitated invention. The basement metal shop, a large wood-floored room with industrial vent hoods and lighting built in, has been transformed into a special learning center. Controlled, as the metal shop was intended to be, by a supervised anteroom entrance, the learning center houses valuable books and equipment in an environment set apart from the rest of the school. The wood floor adds a touch of luxury and warmth; the industrial fixtures, now decorative spatial focii around which furniture is arranged, contribute a fashionable metallic zing. You might call it "ad hoc tech."

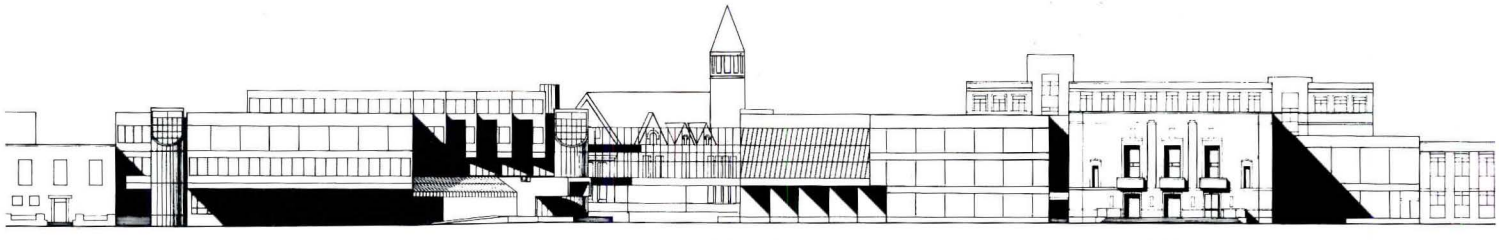


Cambridge Rindge and Latin High School, Cambridge

Designed by Eduardo Catalano, this high school was built at a cost of $21 million to house 2,600 students (it now holds 2,800) in both renovated and new buildings (see site plan left, and street elevation, below). About 23,000 sq ft within the existing Rindge buildings were renovated, adding some 50,000 sq ft within the shell. A central court was converted to a cafeteria and a greenhouse (below) was added at the second level. An additional 194,000 sq ft was added in new construction: the major component being a 120,000 sq ft arts center (right and top left, front and rear elevations). A 25,000 sq ft media center (bottom left) and a 27,000 sq ft field house were also added.







The Cambridge Rindge and Latin School, in Cambridge, Massachusetts, designed by Eduardo Catalano, uses architectural interventions to work for positive social and environmental effects. Two public schools, situated facing each other adjacent to Harvard Yard—Rindge Tech and Cambridge High and Latin—were limited by needless duplication of semi-adequate facilities. Moreover, the separate schools, with separate curriculae, were perceived as reinforcing class divisions within Cambridge. When a couple of years ago an enlightened city school board decided to unite the two schools into one comprehensive facility, it became immediately apparent that drastic revision of the existing plant was necessary.

At the same time, the community wanted to preserve, even improve on, what it liked about parts of the existing complex: a scale (in the Rindge buildings) not incompatible with the residential neighborhood; a tree-lined street front; an open space around the old, Richardsonian-styled Public Library, at the center of the site and visible from the street. The stone buildings of the Rindge School, built in the '30s style with a bare hint of Art Deco, were judged worth saving on architectural merit—as well as for the cost savings reuse afforded. The stone portions of the old

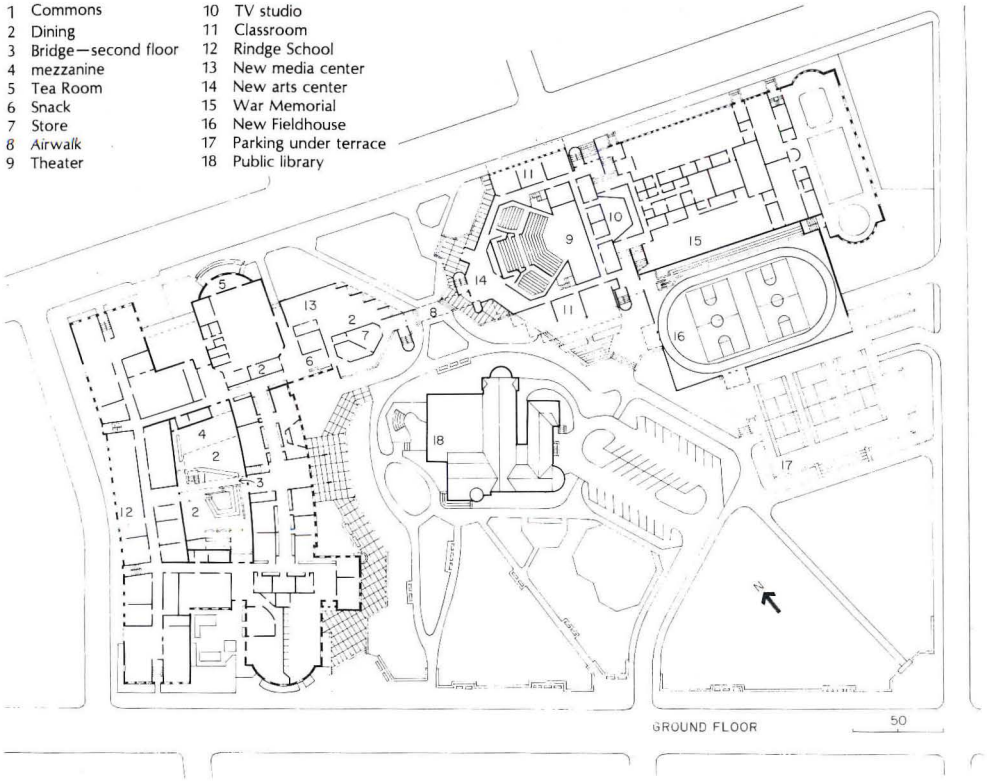
Eduardo Catalano photos

Latin School were also to be saved, though not necessarily reused on that site.

The Catalano design addresses these various requirements with a two-part structure, bound together with a dynamic link so as to create a whole within which there is constant activity. The renovated Rindge School (to which has been added a new Media Center), on one side, is tied to the new Arts Center, its counterpart, by an elevated two-story skywalk wrapped in transparent glass. The composition frames the Public Library behind, respects the larger trees on the site, and makes for a readable, moderately-scaled complex. Moreover, the new design significantly increases the amount of open space on the site—the architects estimate some 110,000 sq ft have been gained by the demolition of the Latin School and the replacement of on-grade parking with an underground garage.

The needs of the school are met within the reduced building mass by the restructuring of the Rindge buildings to better serve classroom and cafeteria purposes, and the addition of new facilities for more specialized functions. The central court of Rindge, unusable most of the year in New England's rigorous climate, was covered with a space frame and skylights and transformed into a central commons, containing, at ground level, two dining areas and a mezzanine for casual socializing. Spanned by a steel bridge, this area pulls together the classrooms ringing it—alleviating their rigid cellular structure and enlivening the long corridors that feed them. The larger spaces of the old school—the theater and gymnasium—were remade into vocational shops and science labs, respectively. The fifth floor cafeteria was altered, with some student input, to house the special "Pilot Program" for students deemed capable of more independent work. The most attractive area of the old school, behind a curved, carved, stone facade, has been made into a

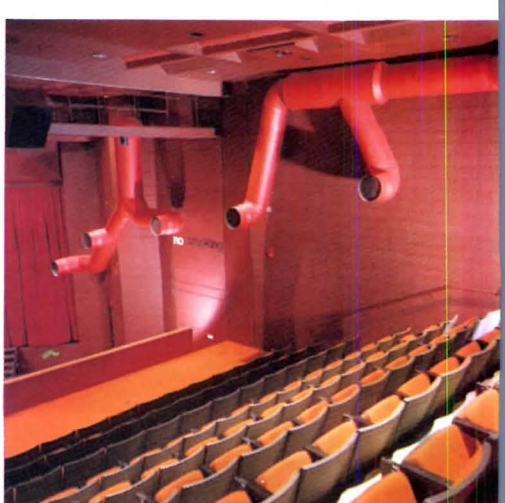
1 Commons
2 Dining
3 Bridge—second floor
4 mezzanine
5 Tea Room
6 Snack
7 Store
8 Airwalk
9 Theater
10 TV studio
11 Classroom
12 Rindge School
13 New media center
14 New arts center
15 War Memorial
16 New Fieldhouse
17 Parking under terrace
18 Public library



CAMBRIDGE

A two-story airwalk (right) links old and new buildings (floor plan, left). The interior is strongly colored, bright and active; the stair wells (below) are lit for skylights, and in the theater (bottom), ventilation ducts are used to sculptural effect. The center for special programs (bottom left) offers a more relaxed, comfortable environment.

CAMBRIDGE RINDGE AND LATIN SCHOOL, Cambridge, Massachusetts. Client: *City of Cambridge*. Architects: *Eduardo Catalano*. Associate architects: *Frederick Taylor, Paul Shimamoto*. Consultants: *Deborah Foreman* (structural); *McPhail Associates, Inc.* (soils); *Francis Associates/SCI* (mechanical/electrical); Landscaping: *Carol Johnson and Associates*. Contractor: *Vappi and Company Inc.*



Tea House run by students and open to the public.

Balancing the mass of Rindge, and opposing to its rounded mass a sharply angled roofline, is the new Performing Arts Center—a geometrical composition in concrete block and glass housing a 760-seat theater, large studios for music, dance and drama, scenery workshops, and other supporting facilities. Two floors of classrooms are placed above, and the top floor contains art studios lit by north-facing skylights.

The new building answers the precise needs of each function, grouping these in a tight, structurally simple envelope. Massing and proportions respect the surrounding neighborhood while juxtaposing to it an image whose form and fenestration proclaim it a rather unique institution. Interior details are well resolved—the giant pipes used as murals in the theater and the staircases encased in bright skylit cylinders are strong pieces.

Although the exterior of the school, new and reused buildings, exhibits a rather piece-by-piece approach, the fact that the various parts are arranged around an open area, with the Public Library providing a hub, lends a perceived unity to the particular gestures. Some of these work very well; the wide, parapeted, southfacing promenade around Rindge is a perfect solution to the dual problem of separating school from library while providing a place for students to gather on this sunny side of the building.

Adaptive re-use seems to have brought about the "neo-triumphal arch style"; among fragments of the Latin school to be used in the landscaping is an arched entrance which will become a gate to the site.

But the esthetic of collage employed here provides an architectural smorgasbord that seems to be a success. Graffiti, vandalism and absenteeism are down, enrollment—against all predictions—is up.

For more information, circle item numbers on Reader Service Inquiry Card, pages 165-166

INTRUSION DETECTOR / Product brochure explains how the "Model HA-99" residential intrusion alarm, with passive infrared detection sensor, provides a sensitive and stable home security system at moderate cost. ▪ Colorado Electro-Optics Inc., Boulder, Colo.

circle 400 on inquiry card

PLAN FILES / Color catalog illustrates how each *Gabs* plan file holds up to 2,000 60-in.-wide drawings, with each one individually suspended at an equal height for fast locating and retrieving. Self-stacking horizontal storage cabinets, each with ten or five drawers or pigeon hole dividers, are also available. ▪ United Filing Corp., Ltd., Mississauga, Ontario, Canada.

circle 401 on inquiry card

HOLLOW METAL DESIGN / The "Hollow Metal Technical and Design Manual" provides 114 pages on the design and use of hollow metal doors, frames and other construction products such as exterior window walls, entranceways, canopies and corridor walls. The guide contains chapters on manufacturing techniques, door and floor details, fire door assemblies, hardware items and locations, etc. Copies are available for $12.50, plus $2.50 handling, from the National Association of Architectural Metal Manufacturers, 221 N. LaSalle St., Chicago, Ill. 60601.

MONUMENTAL SIZE WINDOW / Product sheet provides specifications and cross-sectional drawings of the "Model 655" replacement window, an aluminum unit for use in oversized openings, and for smaller windows installed high above grade and exposed to severe wind pressures. ▪ Season-all Industries, Inc., Indiana, Pa.

circle 402 on inquiry card

DECORATIVE SIDING / Catalog page illustrates the heavily textured surface of "Shadowcast" hardboard siding in the "Pecky Cypress" pattern. Pressed-in vertical grooving gives the effect of wood planking. The all-wood hardboard is available primed, unprimed, or prefinished in weathered gray and natural cypress brown finishes. ▪ The Celotex Building Products Div., Tampa, Fla.

circle 403 on inquiry card

RE-ROOFING SYSTEMS / Color brochure suggests solutions for roof problems such as a deteriorated sloped built-up roof; a leaking, rusting metal roof; and a failing flat built-up roof. ▪ Armco Building Systems, Middletown, Ohio.

circle 404 on inquiry card

LABORATORY EQUIPMENT / Color catalog features such laboratory equipment and apparatus as fiberglass lab hoods, safety enclosures, laminar flow biohazard safety cabinets, glassware washers, freeze-dry equipment and Kjeldahl nitrogen apparatus. ▪ Labconco Corp., Kansas City, Mo.

circle 405 on inquiry card

ROLL-UP SHADES / A hard-cover binder contains a range of different color samples of "Tropic" and "Lustreweave" aluminum reed weaves for roll-up or Roman shades. Both patterns permit an infinite variety of trim treatment to complement the color of their quarter-inch reeds. There is a $15 charge for the large-format sample binder, available from Levolor Lorentzen, Inc., 720 Monroe St., Hoboken, N J 07030.

ELASTOMERIC ROOF / A UL Class A-approved roof, *Permalast* is a loose-laid, molecularly welded singly-ply system. A brochure describes the *Permalast* installation, which consists of the welded membrane, ballast, laminated flashing, and insulation. ▪ The Monroe Co., Inc., Cleveland.

circle 406 on inquiry card

OPEN PLAN OFFICE / A 16-page color brochure describes the *GF* Open-Plan System of work surfaces, wall-hung componentry and panels with full electrical and communications wiring management capabilities. ▪ GF Business Equipment, Youngstown, Ohio.

circle 407 on inquiry card

STEEL FIREPROOFING / Technical data sheet provides UL ratings, physical properties and product characteristics on *Thermo-Lab* subliming fireproofing for structural steel. The spray- or trowel-on compound is said to provide more fire protection than any other fireproofing at a comparable thickness. ▪ TSI, Inc., St. Louis.

circle 408 on inquiry card

ACOUSTICAL DOORS / Application report supplies in-use photos and acoustical test results on custom-made doors for the auditorium and music practice rooms at the Kentucky School for the Blind. The brochure includes technical details of typical *Noise-Lock* doors. ▪ Industrial Acoustics Co., Bronx, N.Y.

circle 409 on inquiry card

AIRCRAFT HANGARS / The efficiency, economy and basic design flexibility of pre-engineered steel buildings for use as aircraft hangars is the subject of an eight-page brochure. Available eave heights and roof slopes allow the *Marathon* hangar to be used for all sizes of aircraft from trainers to jumbo jets. ▪ Marathon Metallic Building Co., Houston.

circle 410 on inquiry card

MICROFILM STORAGE / The speed, accuracy and cost-effectiveness of *Adstar* computer-controlled storage and retrieval systems is explained in an illustrated brochure. System capabilities are discussed in terms of engineering drawing applications, functions, capacity and integration with existing or future on-job installations. ▪ Access Corp., Cincinnati.

circle 411 on inquiry card

ELECTRONIC THERMOSTAT / A product data sheet on the *Rapidcircuit 6000* electronic clock thermostat stresses the residential unit's reduced price and easy-to-use features. Actual and desired temperature are displayed digitally; changes in settings or setback are made by adjusting a slide lever. The *6000* thermostat operates on existing wiring, and needs no batteries. ▪ RapidCircuit Corp., Brooklyn, N.Y.

circle 412 on inquiry card

ALUMINUM ENTRANCES / Entrance, storefront and window wall catalog provides 16 pages of photographs, product information, extrusion drawings, and typical configurations. The *Arcadia* aluminum products include door hardware; center paneled and narrow, medium and wide stile entrance doors; storefront systems; the *DGF* double-glazed framing system; and the *C-250* linear curtainwall. ▪ Northrop Architectural Systems, City of Industry, Calif.

circle 413 on inquiry card

POOL/SPA HEATERS / Gas-fired and electric heaters for all sizes of swimming pools and spas are shown in a color brochure. The energy-saving features of the *Conservationist* heater are explained. ▪ A.O. Smith Corp., Kankakee, Ill.

circle 414 on inquiry card

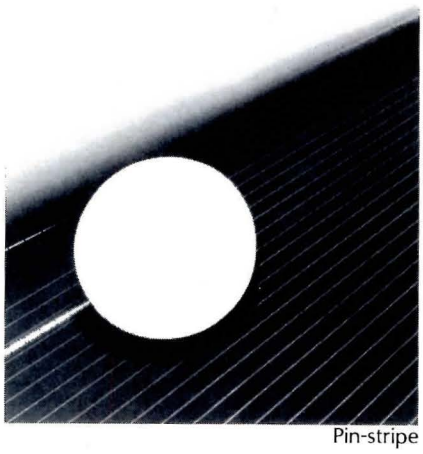
more information, circle item numbers on
der Service Inquiry Card, pages 165-166

w high-quality decorative laminate designs ng new style to industry

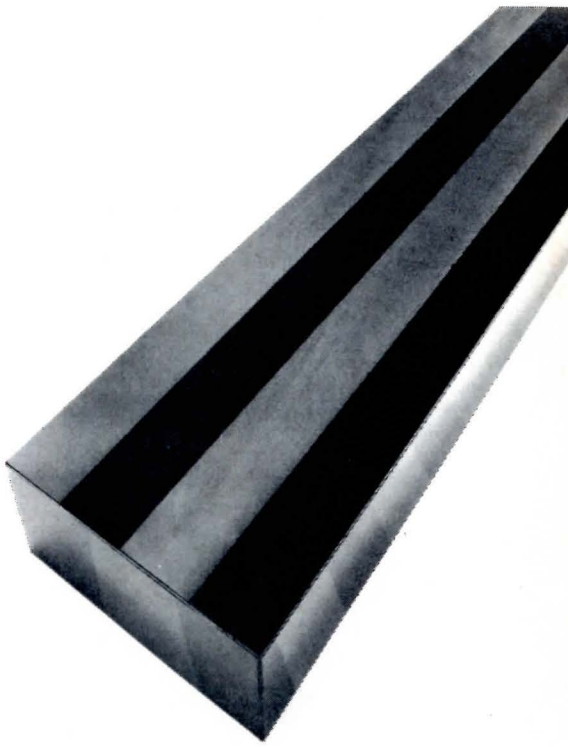
a radical departure from er decorative laminate de- ns, unusually stylish patterns 'e been recently introduced this manufacturer. Known "Design Concepts," this lection consists of five di- nsional designs (disc, stripe, -stripe, graph and maxi- ıph) in six basic colors nite, gray, beige, brown and ck, with burgundy as an cent color). The group of inates also includes high ss lacquer finish in eight col- s—the six noted previously well as hunter green and vy blue. The lacquer group as developed expressly for rtical surface use. In an even re unusual move, this collection is the first result of a Design Advisory Board, a group of architects and designers who act as consultants to the manufacturer on its design program and product planning. The advisors are: Charles Boxenbaum, Adam Buchsbaum, Joseph D'Urso, Gamal El-Zoghby, Richard Hobbs, Donald Singer, Margaret Larcade, Tony Moses, Billy McCarty, Charles Morris Mount, Barbara Ross, John Saladino, Paul Segal, Barbara Schwartz, Ristomatti Ratia, William Turnbull, Jr., and Valerian Rybar. ▪ Formica Corp., Wayne, New Jersey.

circle 300 on inquiry card

more products on page 125



Pin-stripe



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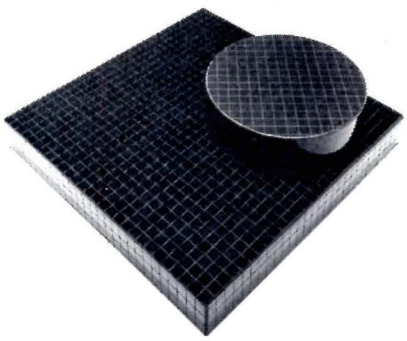

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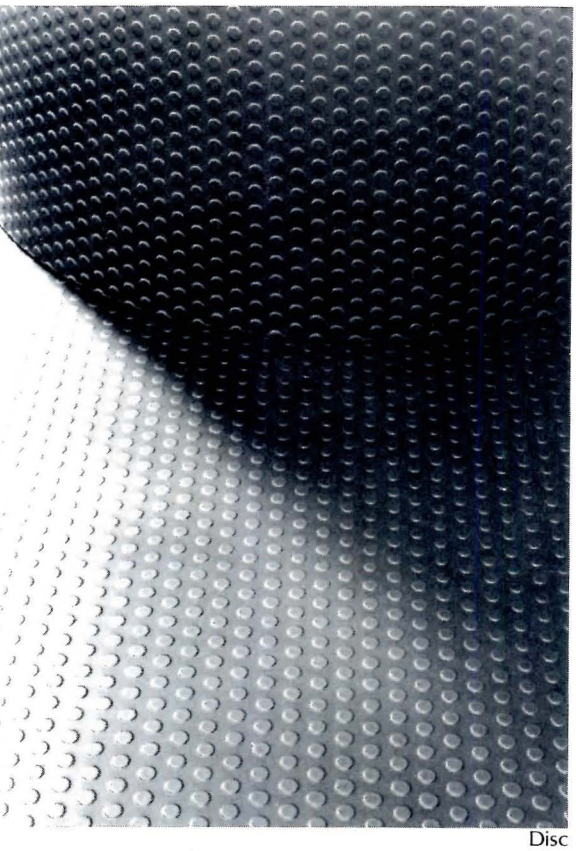
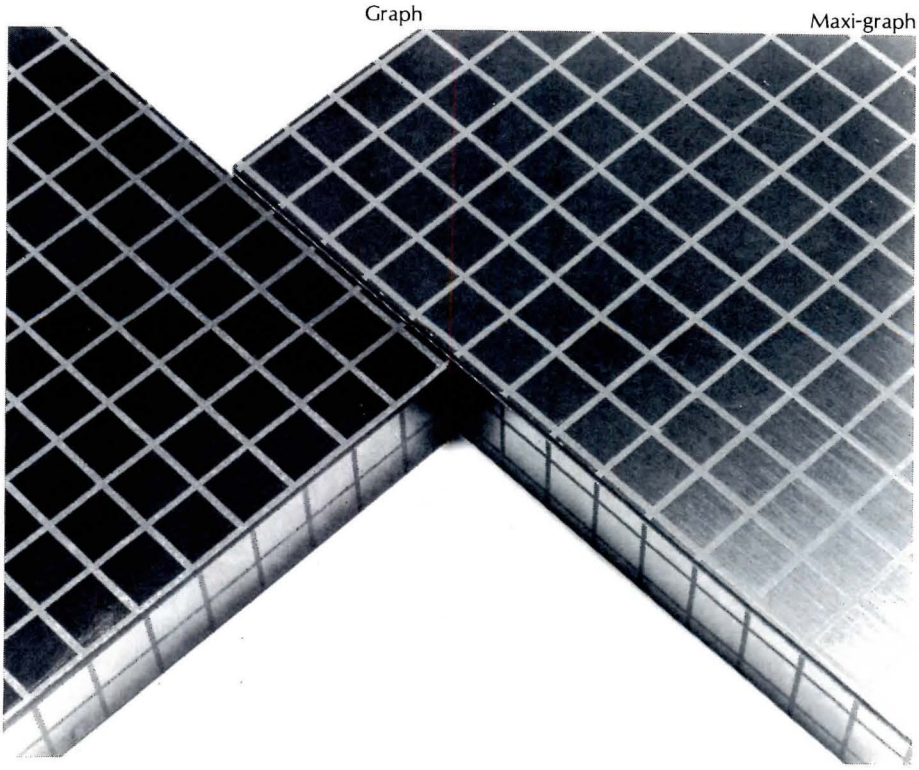
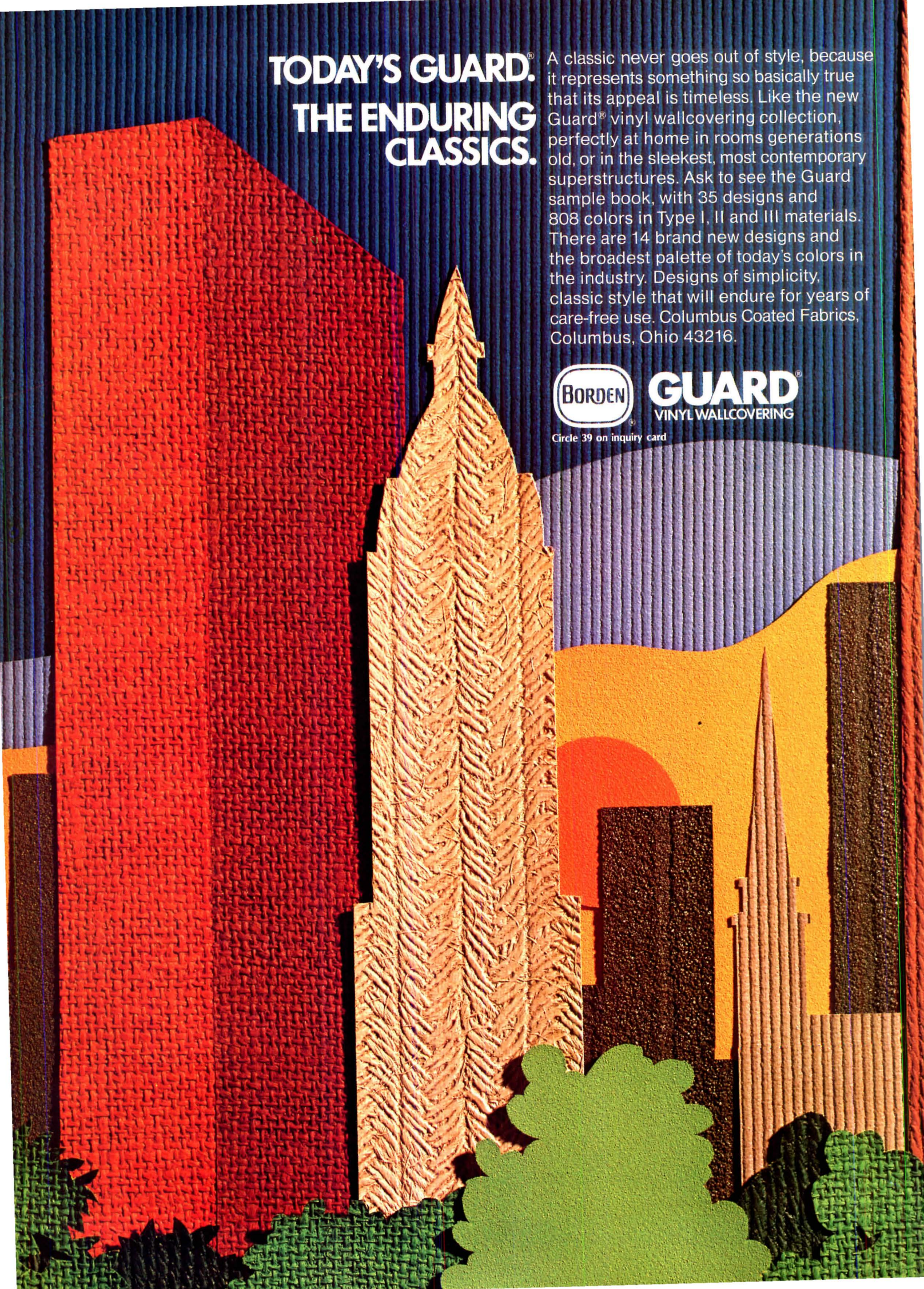


Disc

Maxi-graph

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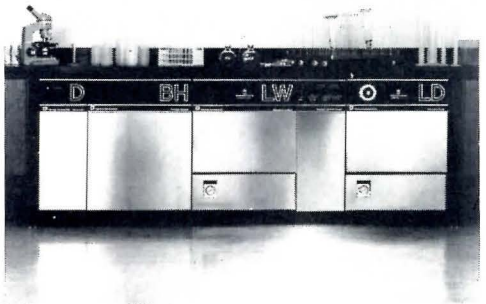
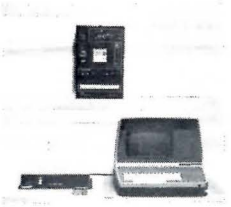


LABORATORY EQUIPMENT / The "Power Package" is a complete labware washing system designed for undercounter use. Installations are built around the compact "Model 8711" washer, with two wash cycles, multiple distilled water rinses, and a dry-only cycle. There are different temperature settings for glass and plastic equipment; a matching labware dryer increases flexibility. For laboratories without distilled water service, the "Model 8735" de-ionizer removes metals, inorganic matter, etc. from tap water. ▪ Forma Scientific, Marietta, Ohio.

circle 301 on inquiry card

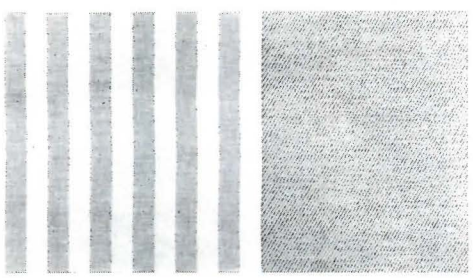
LOAD SUPERVISOR / Energy costs in multiple site situations can be monitored, controlled and substantially lowered, claim the makers of the *Pacific Technology* Load Supervisor. Using dial-up phone network, leased line or hard-wired system, the *PTI* unit can manage energy use in any number of remote facilities equipped with the basic load programmer, shown at top in photo. The central control center requires the "210" video terminal and "200" printer. ▪ Pacific Technology, Inc., Butler Mfg. Co., Renton, Wash.



circle 302 on inquiry card

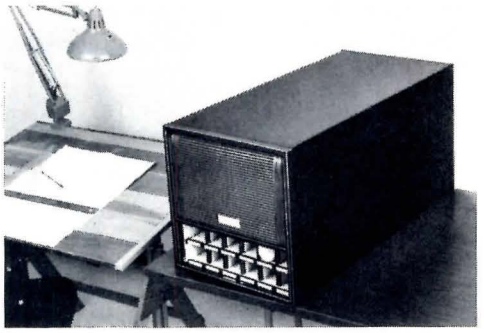
BOOSTER PUMP / The "CP Range Series C" booster is a vertical, multi-stage centrifugal pump designed primarily for chilled water or cooling tower circulation, service water boosting, etc. With a performance range of 6-70 gpm and pressure to 280 psi, the "CP" offers flexibility and ability to specify exact pressure levels. All high-stress components are constructed from stainless steel. ▪ Grundfos Pumps Corp., Clovis, Calif.

circle 303 on inquiry card



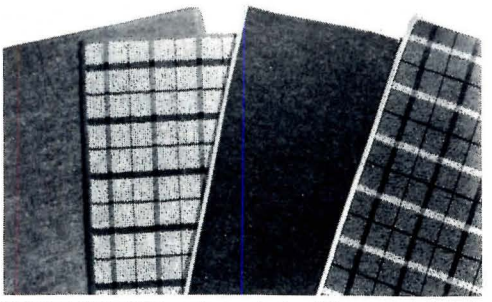
LINEN WALLCOVERINGS / Natural fabrics paper-backed in widths ranging from 24- to 54-in. are offered in Class A-rated wallcoverings. Shown are two stripes, both in natural and oyster colorways. ▪ CrofterCraft, New York City.

circle 304 on inquiry card



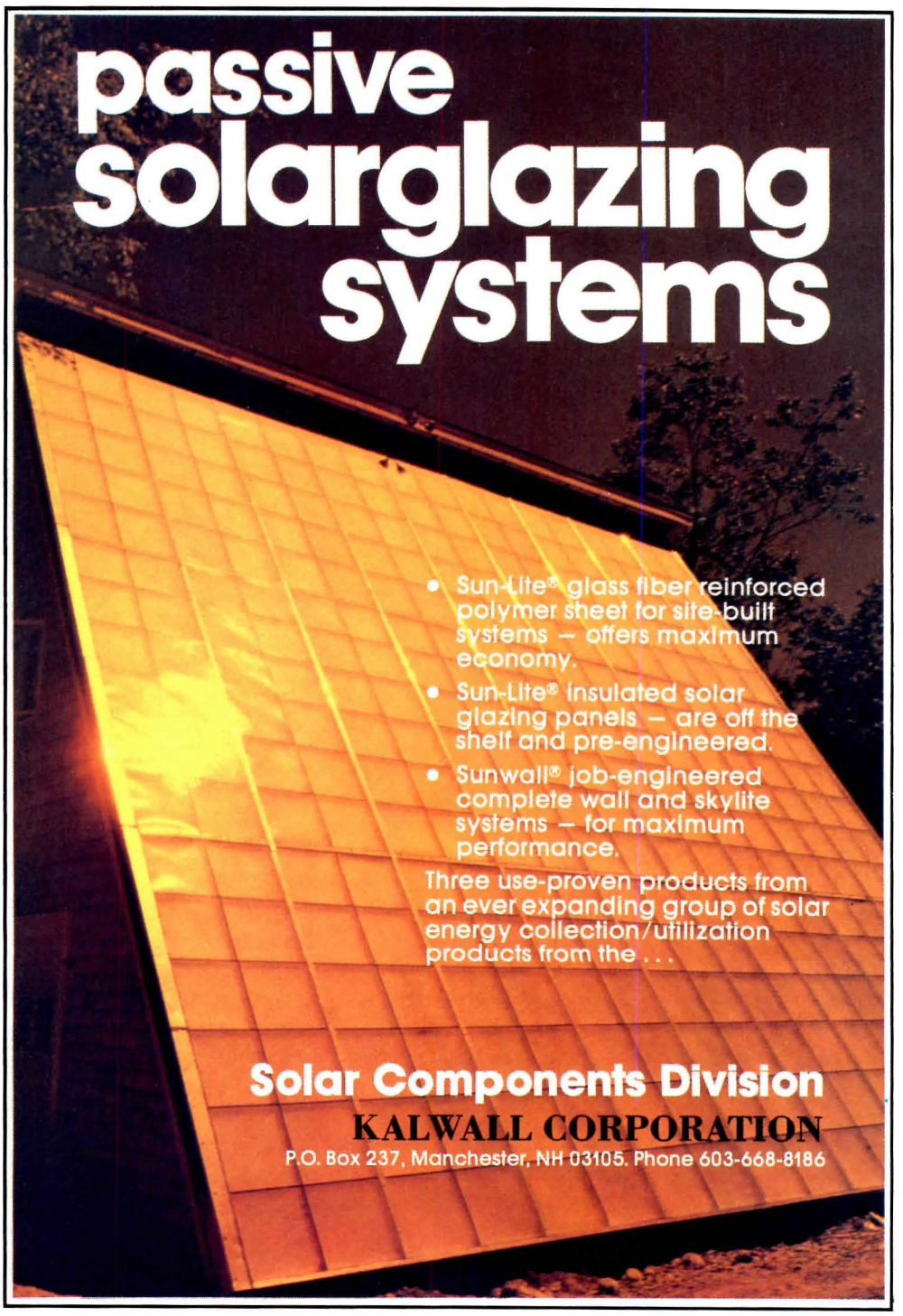
ROLLED DOCUMENT STORAGE / Space-saving desk top storage units, *Roll/Stor* files are made of economical corrugated fibreboard with a woodgrain plastic tambour door. Three new sizes incorporate 36 inner compartments for convenient filing of rolled documents and drawings. ▪ Bankers Box/Records Storage Systems, Itasca, Ill.

circle 305 on inquiry card



VELVET WEAVES / Part of the "Brentwood Collection" of velvet weave contract carpets, "Configurations" is a plaid design in three colors, combining cut and loop pile. Solid color cut pile and loop pile carpets coordinate with the seven plaid colorways available. ▪ Pennsylvania Wilton Carpets, Inc., Wayne, N.J. *circle 306 on inquiry card*

more products on page 127



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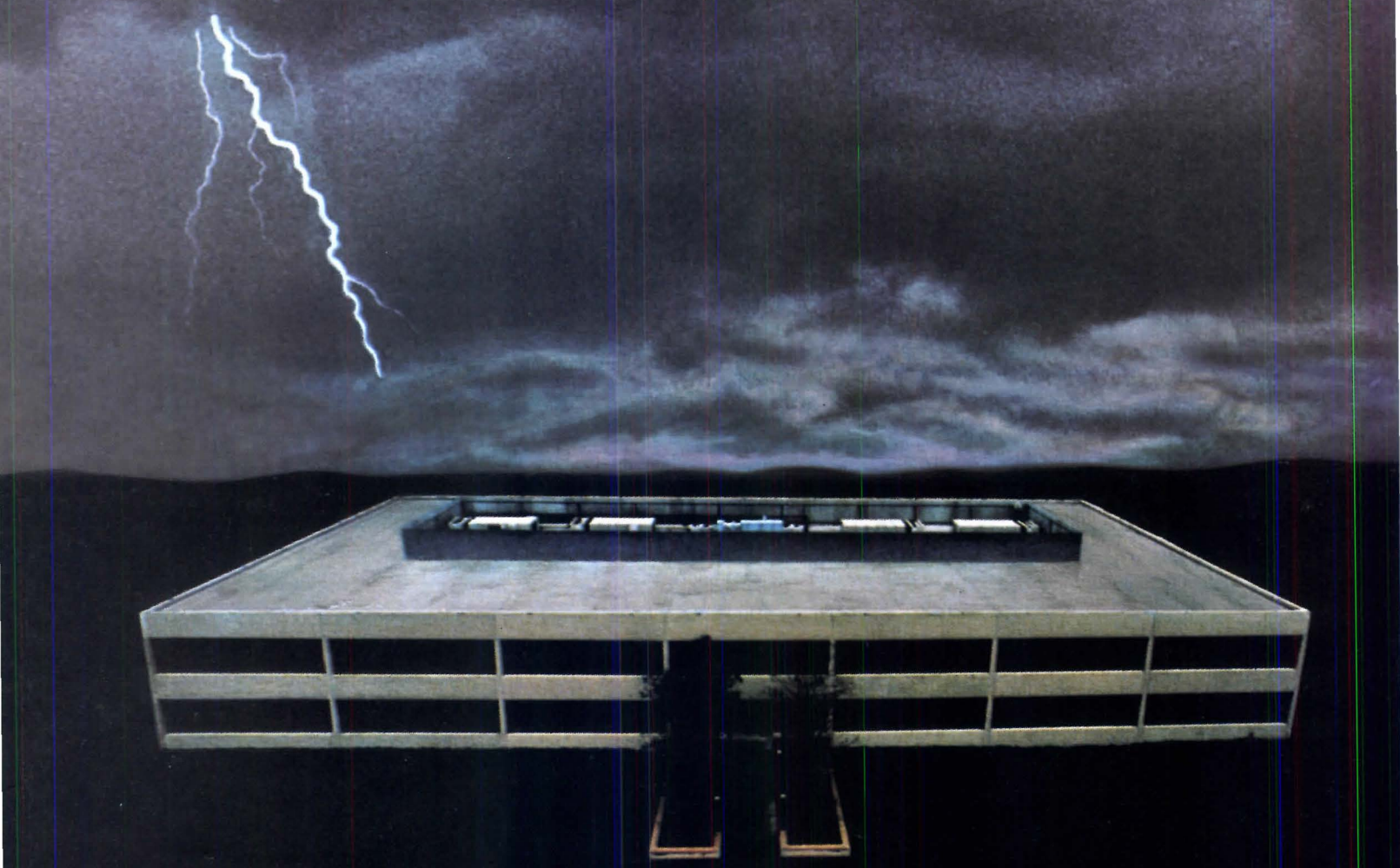
OUR GLASS PLYSHEET HAD TO GO THROUGH SNOW AND HEAT AND GLOOM OF NIGHT BEFORE IT COULD GET TO YOUR ROOF.



GAF'S EXTENSIVE FIELD TESTING GIVES GAFGLAS™ PLY 4 AN EDGE OVER THE COMPETITION.

Gafglas Ply 4, our newest glass roofing product, is now ready for national distribution. But it had to go through all kinds of abuse first. On our roofs, in the great outdoors.

We tested its ability to weather the effects of harsh climate changes. How well it resisted moisture or other harmful elements that could cause premature failures. And made sure it was easy to apply, even under extreme conditions.

This rigid testing ritual is the reason Gafglas Ply 4 has actually exceeded ASTM specification D2178 and UL requirements.

In fact, all our glass built-up roofing products—from our glass vent-plys and standard base sheets to our ply and cap sheets—never leave our hands without being tested both on our roofs and in our labs.

What's more, when you specify GAF Built-Up Roofing products, our highly trained team of experts are at your disposal for technical assistance as well as in-put for job specifications.

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BUILT-UP ROOFING PRODUCTS

ALL YOUR BUILT-UP ROOFING NEEDS ARE UNDER ONE ROOF.

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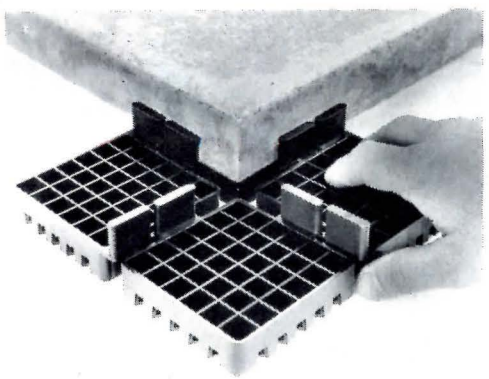
WOOD FRAMED ENTRANCE / An addition to this manufacturer's "International Door" line, "Chateau Michelle" features a delicate floral design etched in beveled ovals for a Victorian look. A carved rail separates the lights from two split-proof, laminated *Innerbond* door panels. The entrance has extra-wide styles to accommodate a range of door hardware. ▪ Simpson Timber Co., Seattle.

circle 307 on inquiry card

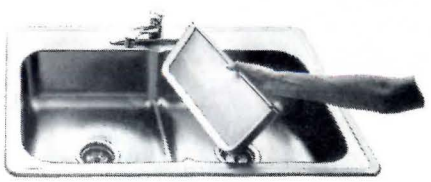


PAVER STONE PEDESTAL / Specifically for use on all single-ply and protected membrane roof deck areas, the *Pave-El* pedestal system elevates, spaces and provides complete drainage of rectangular paver-stones. Each square polyethylene honeycomb has eight vertical spacing ribs on its upper surface, and can be sub-divided into halves or quarters for paver support at perimeter and corner deck areas. Special leveling plates placed on the pedestal's bearing surface allow for minor deck and paver discrepancies. ▪ Envirospec Inc., Buffalo, N.Y.

circle 308 on inquiry card

TRASH RECEPTACLES / Molded in ABS *Cycolac*, the "Supertrasher" stands 28½-in. high, to fit unobtrusively in office or home. A removable flap allows easy access to the interior of the trash can. Unit also may be used as an umbrella stand. ▪ Beylerian Ltd., New York City.

circle 309 on inquiry card



CONVERTIBLE SINK / This stainless steel double kitchen sink has a matching insert with neoprene seal that divides it into two compartments. With the divider in place, it serves as a standard two-basin sink. When the insert is lifted, it becomes a single sink large enough to handle broiler pans and over-size pots and platters. Sink will be sold as a private label item only. ▪ Stainless Steel Sinks, Inc., Addison, Ill.

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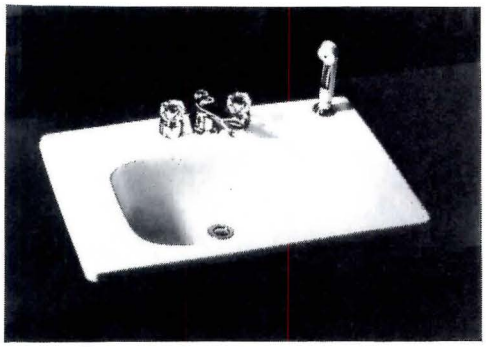
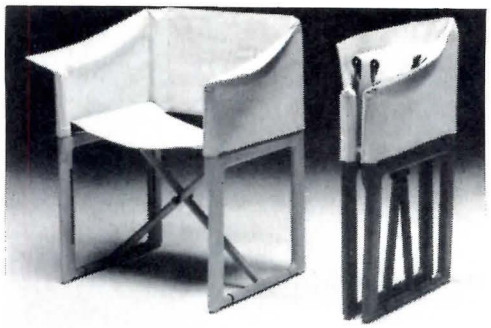


SHAMPOO BASIN / The self-rimming, vitreous china "Helene" lavatory is now available in a shampoo version, with a convenient swing spout and a slender spray head. The basin's size and sloping rim facilitate shampooing. "Helene" lavatories are offered in eight colors plus white. ▪ Eljer Plumbingware, Wallace Murray Corp., Pittsburgh.

circle 311 on inquiry card



FOLDING ARMCHAIR / Winner of a Resource Council award in the casual furniture group, this folding chair from *Kartell* is constructed of polypropylene, covered in linen or cotton. Chair was designed by Masayuki Matsukase and Centrokappa. ▪ Beylerian Ltd., New York City.

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more products on page 129

THE ULTIMATE AGGREGATE PANEL

Real stone, real beauty, and real tough, Sanspray panels give you the versatility and cost effectiveness the 80's will demand. These high quality panels combine natural stone, pure epoxy resins, and plywood or FRC substrates to give you masonry without masonry prices — as low as $2.50 square foot installed. Panelized construction saves time, labor, mess, and headaches. Sanspray's regular panels weigh only 1.8 pounds/square foot so carpenters can easily install them. And with Sanspray's complete matching trim and fastening accessories you receive a total "ready to go" system, with design possibilities you'll be proud of. Write today for details (and a free sample).

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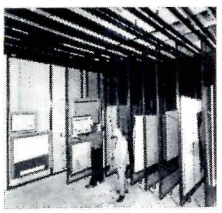
ARTWORK STORAGE / This museum application of *Unistrut* metal channeling and materials consists of 16- by 20-ft metal screens, which slide out on 40-ft runs for easy access. Replacing a wooden rack and shelf system at the La Jolla Museum of Centemporary Art, the *Unistrut* installation made it easier to control the environment surrounding the paintings. ▪ General Telephone & Electronics Corp., Stamford, Conn.



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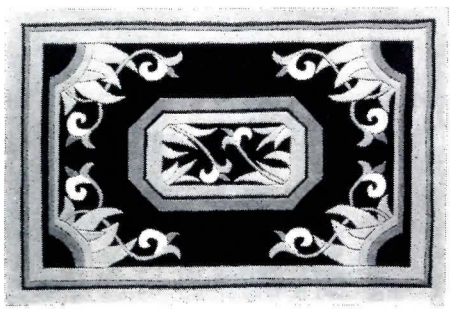
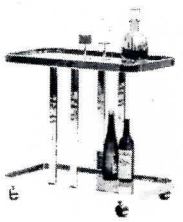


CUSTOM CARPETS / All-wool tapestries and area rugs can be reproduced from any motif, with original hand-painted designs or custom-made replicas to coordinate with wallpaper, fabric or tile patterns. All carpets are an exact match to the original design in a three-dimensional effect. ▪ Logo Looms Ltd., Great Neck, N.Y.

circle 314 on inquiry card

METAL FURNITURE / An oblong cart with clear glass shelves, this *Thaden Metals* table has a mirror chrome frame and casters for easy mobility. It is also available in an antique bronze finish. The contract line of decorative accessories and occasional furnishings includes desks, chairs, étagerès, mirrors, and other accent pieces. ▪ Monarch Furniture, Thaden Metals Div., Jamestown, N.C.



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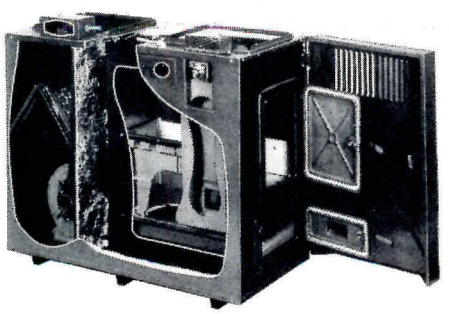

WOOD-BURNING FURNACE / This central heating unit is engineered for installation as a supplement to existing oil or gas central systems, or as a totally independent furnace. Constructed of cast iron, the furnace has synthetic seals on ash and feed doors to provide an air-tight combustion chamber. A positive pressure blower circulates air at up to 750 cu ft per minute; replaceable filters assure dust-free operation. Unit is UL-classified; one load of wood provides up to 12 hours of continuous even temperatures. ▪ Ashley Heater Co., Sheffield, Ala.

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more products on page 131

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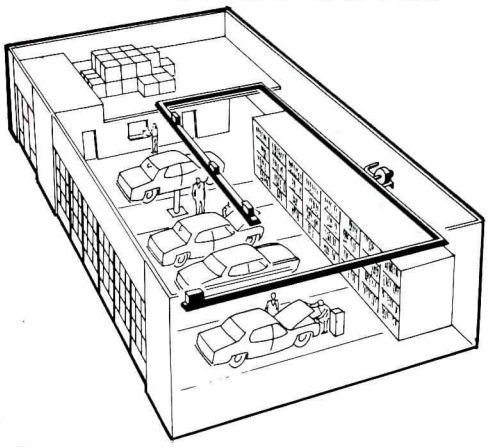

Developed in 1963, Co-Ray-Vac is a fully vented, low intensity infrared heating system. It is used primarily for new or retrofit installations in industrial or commercial buildings.

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UC-5-BC refrigerator has a blower coil cooling system with automatic off-cycle defrosting and condensate evaporator in condensing unit compartment. Two adjustable stainless steel shelves are provided.
UC-5-F-BC freezer is equipped with automatic timer electric defrost.
Capacity—5.4 cu. ft. (155 ltr.)

UC-5-CW* refrigerator with cold wall cooling system is equipped with push-button defrost, automatic reset and condensate evaporator.
Capacity—5.4 cu. ft. (155 ltr.)
UC-5-F-CW* freezer is equipped with manual hot gas defrost.
Capacity--4.6 cu. ft. (130 ltr.)
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Capacity—4.9 cu. ft. (140 ltr.)
*With explosion proof interior only.

UC-5 features a two-tray ice cube cooling system with manual defrost and stainless steel defrost water tray. The cooler section has two adjustable stainless steel shelves. The entire UC-5 series features polyurethane insulated thin wall construction and air-tight neoprene thermo-break door seals.
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Refer to Sweet's Catalog 11.20/Je for quick reference.

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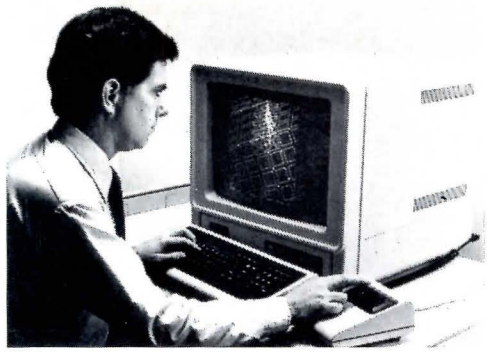
PRODUCT REPORTS *continued from page 129*



COLOR GRAPHICS SYSTEMS / Introduced for engineering and industrial markets, this line of high performance graphics subsystems for all *PDP-11* computers and *VAX-11 780* super mini-computer produces dynamic color displays. The raster-scan group of *VS11* and *VSV11* subsystems will display either a 16-color graphics image or a 16-tone monochrome image, depending on the monitor used. With the color terminal option, *VSV11* and *VS11* subsystems are priced from $13,600 and $14,200, respectively. ▪ Digital Equipment Corp., Maynard, Mass.

circle 317 on inquiry card

TABLE BASE / "Series 50" pedestals are constructed with machined cast iron base plates in a petal shape; columns are lathe-cut for positive recess in the base. Table base and column are available in several finishes, including black or brown wrinkle, bright or satin chrome, and statuary bronze. "Series 50" bases comes in three diameters, up to 28-in.; designer is Hugh Acton. ▪ Berco Industries, St. Louis.

circle 318 on inquiry card

CHROME-FRAMED BED / Made in Scandinavia from a design by Bruno Mathsson, this chrome-steel framed bed is a freestanding piece of furniture, serving as a casual seating unit by day and a comfortable bed by night. It is upholstered in channel-stitched fabric, with its own fitted quilted coverlet, and is available in either queen or king sizes. ▪ Dux Interiors, Inc., New York City.

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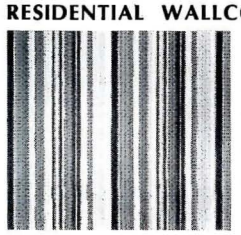
RESIDENTIAL WALLCOVERINGS / Gravure-printed on pre-trimmed, 28-in.-wide washable or scrubbable grounds, the "A Special Touch" wallcovering collection is priced to retail from $9.95 to $14.95 a single roll. Pictured is "Garden Lane," a weave-like stripe, available in seven colorways which coordinate with various floral patterns in the line. ▪ James Seeman Studios, Div. Masonite Corp., Garden City Park, N.Y.



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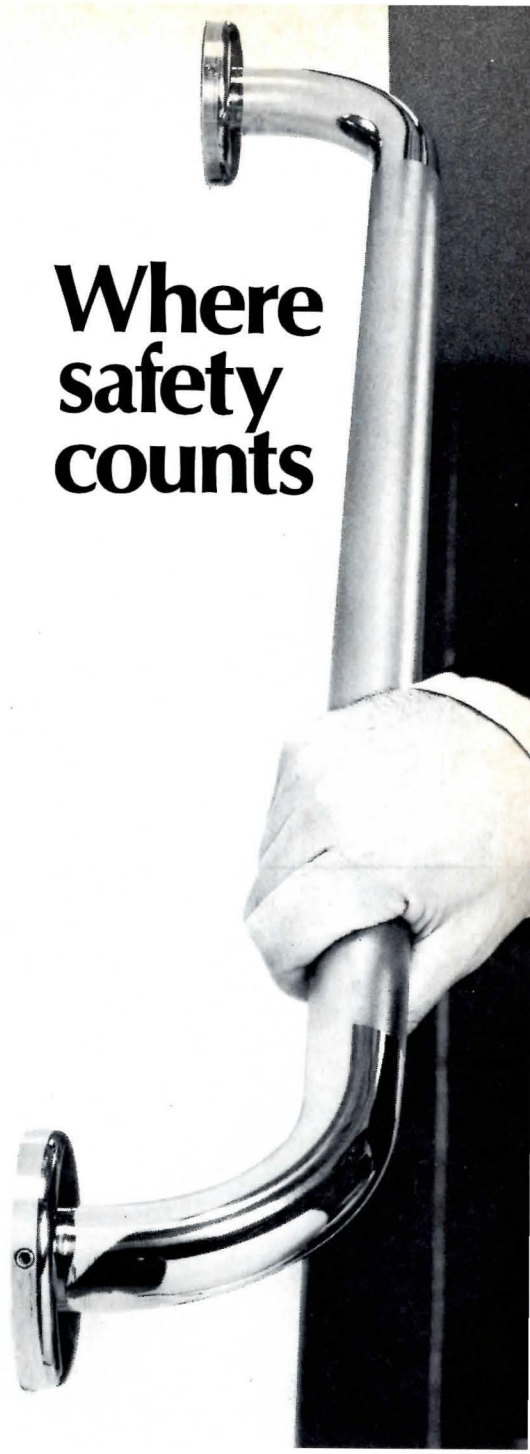

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Bobrick's stainless steel grab bars are available in 1", 1¼", and 1½" diameters, with satin or peened, non-slip finish. Flanges are heliarc welded for extra strength. Concealed or exposed mountings. Full line of safety railings and anchoring systems. Send for catalog.

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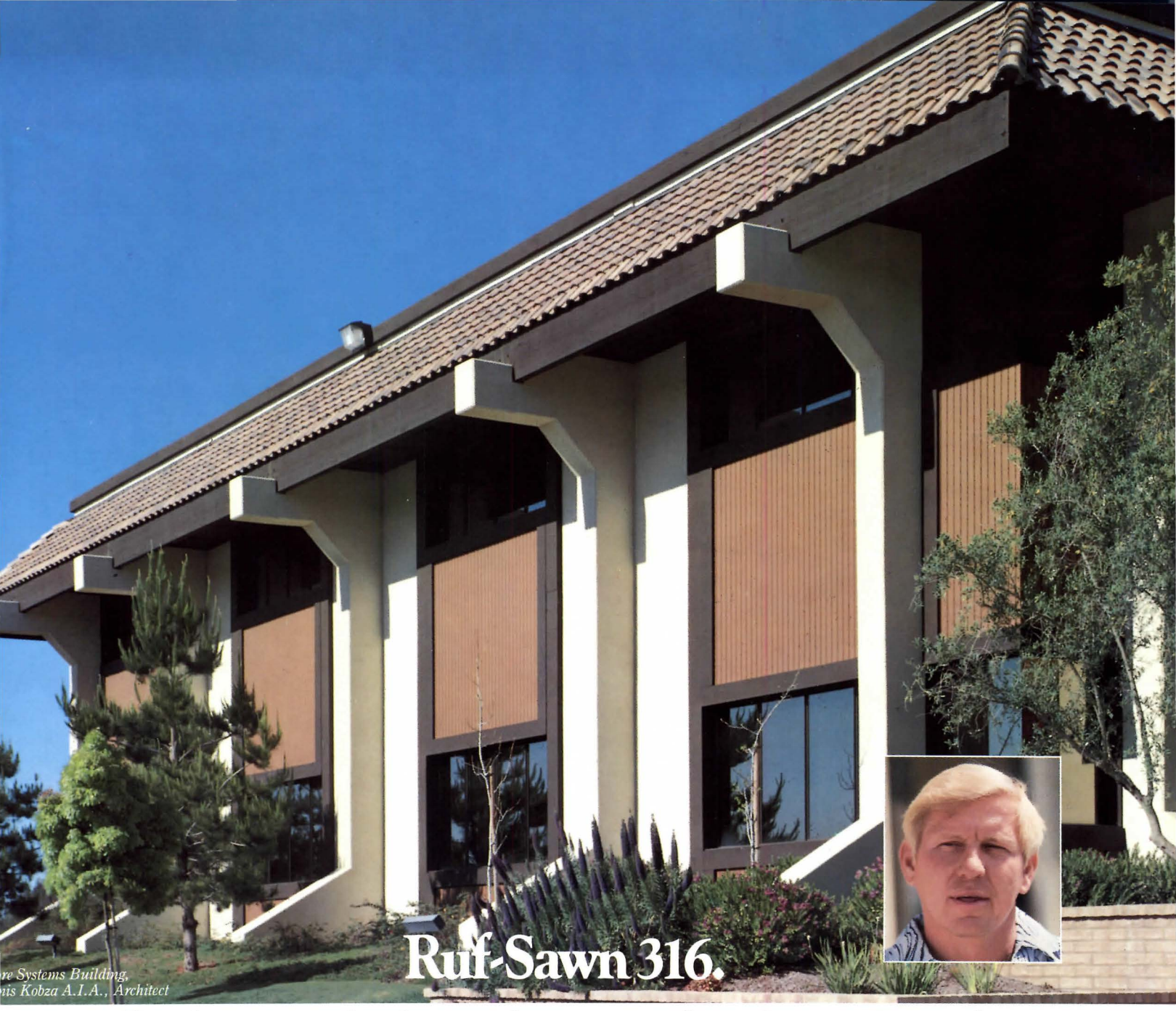
Pittsburgh, PA
Contractor: Crump, Inc., Pittsburgh, PA



re Systems Building,
nis Kobza A.I.A., Architect

"I demanded quality, performance and wood beauty. And I got it."

by Clyde Berg, Berg and Berg Industrial Builders, Cupertino, Calif.

"To keep our tenants happy, we have to provide more than an attractive building. It has to be low maintenance, too, because our 20-year lease agreements include upkeep by the tenant.

"So for this building, we used an architect known for integrating the beauty of wood into commercial applications, and specing them with durable materials.

"He recommended Simpson's Ruf-Sawn 316 for both its quality, appealing looks and performance record. He's used it continually since it was first introduced and never had a word of complaint. He won't get one from us, either."

Ruf-Sawn 316 is real wood exterior siding with a tough, resin overlaid surface. It has the strength, light weight, structural integrity and in-place cost advantages of plywood. But when it comes to performance, nothing else comes close.

Tests have shown the overlay enables Ruf-Sawn 316 to stand up to wear and weather better than any raw-wood siding available. So it's ideal for both residential and commercial use.

Ruf-Sawn 316 needs less paint or stain than raw-wood siding. Finishes last up to three times longer on our overlaid surface, too. And it's covered by Simpson's 25-year warranty.

"My tenants like the way it looks, and it performs exactly the way my architect, and Simpson, promised. From my standpoint, Ruf-Sawn 316 pleases everyone. And in this business that's no easy feat."

For more information on Ruf-Sawn 316 or Stucco 316, write Simpson Timber Co., 900 Fourth Ave., Seattle, WA 98164.

Ruf-Sawn 316/Stucco 316

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The Tuscan hills inspired the colors for Siena.™ Colors that free you to use space inspirationally—because they're so beautifully neutral.

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