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FULL CONTENTS ON PAGES 10 AND 11

# ARCHITECTURAL RECORD

MAY 1978

5

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## Letters to the editor

Jean Paul Carlhian's discussion of the battle still raging over the West Front (RECORD, March, page 101) sets forth the historical developments of the Capitol building architecturally and politically, it identifies the options with penetrating insights from the perspective of time, and it brings to the issues a clarity of understanding yet to be focused on the subject.

Until now the debate over to "extend" or to "restore" has caused a virtual standstill, a precarious balance of power between caution and adventure; on the one hand, caution that lest we attempt to "extend" we shall surely fail architecturally and obliterate the remains of previous noble efforts, and, on the other hand, adventure that lest we do not "extend" we shall have failed in meeting the challenge vested in our generation to deal with a Capitol in transition.

Carlhian is causing the disquiet on the West Front. Through his inspired presentation of the issues, architects lulled in the comfort of "less is more" are beginning to respond to his call for re-examination of the issues. His stirrings in the relative comfort of AIA's "restore" position is awakening a deepening desire to question prevailing opinions.

The profession should explore each of the three approaches he discusses to the fullest. Let us engage the finest minds, talents, and skills the country has to offer. Let us permit the optimum freedom to design, to seek solutions. Let us seek the heights to which we can rise in addressing the resolution of the design issues involved, and let us carry no fear of our capability to succeed. Reservations, fear of failure, limited expectations never dampened the courage of those who have gone before us.

Let us fall in with Carlhian as he portrays the challenge in the cadence of the *Marseillaise* and *marchons! marchons!*

*Ehrman B. Mitchell, Jr., FAIA  
Mitchell/Giurgola Architects  
Philadelphia, Pennsylvania*

I had always considered Gwathmey's work to be clever intellectual bead games, elegant, expensive, formal compositions remote from the real world of tight budgets and meddlesome clients. They exhibited gifted design and articulated theory, but seemed not particularly relevant to those of us out in the trenches trying to make a living.

Yet their speculative office projects in your January issue are relevant to us, and confirm their stature among the finest architects active in the country. Operating with tight marketplace budgets and limited program, their office buildings are beautiful, elegant and lean. The designers intelligently pursue a few details, highlight a few articulated elements and let the rest of the building remain economical rectangular volume. While it is difficult to draw definitive conclusions without knowing the actual budget and other limiting factors, these projects by Gwathmey-Siegel are effective examples of architectural design at its best, from which all of us can learn.

*David B. Peck, Jr., Associate  
James Walter Schildroth, Architect  
Wiscasset, Maine*

I finally got around to reading the February issue last night and cannot resist a note of congratulations for all of you, for an excellent issue, and to William Marlin in particular for a very beautiful and unusual coverage of the Pompidou Center. It fully deserves all his good words. I walk near it every morning when I am in Paris and particularly love to look down the old streets of the Marais to be surprised by the colored gimmickry at the bottom of many.

*Robert F. Gatje  
Marcel Breuer and Associates  
Paris, France*

The December 1977 issue, focusing on the Designer/Developer's role in re-making the City, was great and long overdue. The environmental health of America can only be restored through the re-establishment of our existing downtowns as the centers of economic, cultural, commercial and entertainment activity.

The article on Salem, Massachusetts, was of great interest to me, as I have been involved in the design and planning process there since 1972.

Three names should be added to those mentioned by Miss Davern: Bob Kerr, staff planner, and John Emerson, staff architect of the Salem Redevelopment Authority, and Bruce Pickersgill, Mondey's representative in the early design stages. All three made major contributions to the plan.

A photo credit was also in error, as Mr. Laurence Lowry of Beverly, Massachusetts, was responsible for the aerial view of the Markets.

*John F. Collins, President  
The Delta Group  
Philadelphia, Pennsylvania*

## Calendar

### MAY

**3-5** Annual National Engineering Conference, sponsored by the American Institute of Steel Construction; Los Angeles Bonaventure Hotel. Contact: The American Institute of Steel Construction, 1221 Avenue of the Americas, New York, N.Y. 10020.

**15-16** Lighting Conference for Energy Consultants, sponsored by General Electric Lighting Institute; Nela Park, Cleveland. Contact: J.H. Jensen, Manager, General Electric Lighting Institute, Nela Park, Cleveland, Ohio 44112.

**15-18** Symposium on the Structural Use of Wood in Adverse Environments, sponsored by the Society of Wood Science and Technology, in cooperation with the Western Forest Products Laboratory of the Canadian Forestry Service; the University of British Columbia, Vancouver. Contact: Dr. R. M. Kellogg, Western Forest Products Laboratory, 6620 N.W. Marine Dr., Vancouver, B.C. V6T 1X2.

**17-20** International Federation of Interior Designers (IFI) World Congress, Washington, D.C.

**26-28** Fifth Annual Aspen Energy Forum, theme, "Humanistic Choices," sponsored by Roaring Fork Resource Center; Aspen, Colo. Contact: Roaring Fork Resource Center, P.O. Box 9950, Aspen, Colo. 81611.

### JUNE

**1-2** Seminar, "Using Proven Design Technologies for Energy-Efficient Building Envelopes, Lighting, HVAC," sponsored by ARCHITECTURAL RECORD; Water Tower Hyatt House, Chicago. Program will be repeated July 10-11 in Los Angeles. Contact: ARCHITECTURAL RECORD SEMINARS, 1221 Avenue of the Americas, New York, N.Y. 10020, Phone: 212/997-3088.

**10** Energy Management Forum—Decision '78, sponsored by Southern California Edison Company; Century Plaza Hotel, Los Angeles. Contact: Energy Management Forum, Room 393, Southern California Edison Company, P.O. Box 800, Rosemead, Calif. 91770.

**11-16** The 16th annual Summer Institute on Historic Preservation, sponsored by Cornell University, in cooperation with the National Trust for Historic Preservation; Ithaca, N.Y. Contact: Kirk A. Cordell, Program Coordinator, Program in Urban and Regional Studies, Cornell University, 209 N. Sibley, Ithaca, N.Y. 14853.

ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, ARCHITECTURE and WESTERN ARCHITECT AND ENGINEER)

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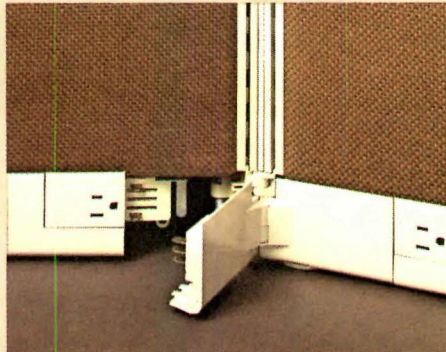
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## A tale of three cities (and conventions)

I am at least as tired as anybody of going to meetings and conventions.

Nonetheless, I wouldn't miss three events that press upon us in the weeks near ahead—the Dallas convention of the American Institute of Architects (May 21-24); NEOCON X, the giant interior design meeting and exhibition held annually at The Merchandise Mart in Chicago, this year on June 14th, 15th, and 16th; and the CSI Convention in San Antonio, June 18 to 22.

I wouldn't miss the AIA Convention not just because the policy-setting business sessions will continue to be very important (for example, I'd bet anything that the "shall we let ourselves become design-build firms?" question comes up again) (One More Time!); but because the professional development program seems likely to be extraordinarily useful. The planning technique used seems to me to make great good sense: Back in September, the Institute made a survey of all its members through the *Memo* inviting them to choose from a long list of possible program subjects the ones they wanted. The list was culled on the basis of replies from over 1000 members, and in the early Convention promotion, members were invited to choose the final subjects to be covered from a "short list." Among my favorites: Energy-Conscious Design, Financial Analysis of Building Projects, Post-Occupancy Evaluation, Improving Interior Architecture Practices, Energy Redesign/Retrofit, The Architect as Land Developer, New Trends in Housing. (I hope they all made the final list.) Each subject will get a three-and-a-half-hour treatment; which means, as the Convention name suggests, there is really "A Time to Learn." Anyway, three cheers to AIA for this sensible approach to programming, for the obvious seriousness of the program, and for leavening all this with a Thursday morning design seminar led by Philip Johnson, who, the night before, will have been made the 1978 Gold Medal winner. It's been a long time, it seems to me, since there's been a good solid philosophical discussion of design at an AIA convention—and it's needed and anyone who skips out on Wednesday will, I bet, regret it.

About NEOCON: The registration of architects at this huge annual event is enormous (several thousand last year, with a big increase expected this year).

But more ought to come, and architects remain outnumbered by interior designers.

More architects ought to come because the Merchandise Mart (despite the horrendous problems of getting from one floor to another as the elevators stagger under the annual invasion) is really a very efficient place to get a good overview of what's happening when it comes to interiors. All of the manufacturers have their best foot (and their newest product lines) forward; and the professional program is excellent. There is a brief rundown of program highlights in this month's *The Record Reports* (page 37), and the scope is impressive—from specific information on subjects that have long confounded many architects (like *The Secrets of Carpet Specification*) to semi-double-dome research subjects (like *Behavioral Parameters of Space Planning: The Effect of Environment on the Worker*) to what could be a terribly important session, sponsored by the American Society of Interior Designers, on "Is Licensing the Logical Step in the Professional Recognition of Designers?" That question of licensing is indeed, as the NEOCON program suggests, "at the forefront of the issues facing the designer." The issue of licensing of interior designers also has enormous implications for architects who compete with designers. For all these reasons, if I were an architect involved in interiors (and darn few aren't, these days) I'd make my way to Chicago next month.

Last (chronologically) but by no means least, is the 22nd Annual Convention of the Construction Specifications Institute. For one thing, CSI pulls together a very, very impressive display of product and material exhibits from the top-line manufacturers and producers—making it a super efficient way to review your knowledge of what's available to be designed in and specified. Additionally, this year's technical program seems especially informative—offering not just material on producing good specifications—but broader-gauge material on the proliferating legal pitfalls that too often get written into specs, and an update on Federal policies and procedures as they affect both the design and spec-writing phases of practice. Besides, the CSI meeting is in San Antonio—which is my favorite among the three cities.

AIA has named its convention "A Time to Learn." Indeed it is. These three events seem to me to offer some real chances to learn. In fact, as I finish writing this, I find myself looking forward to the learning. . . .

—Walter F. Wagner, Jr.

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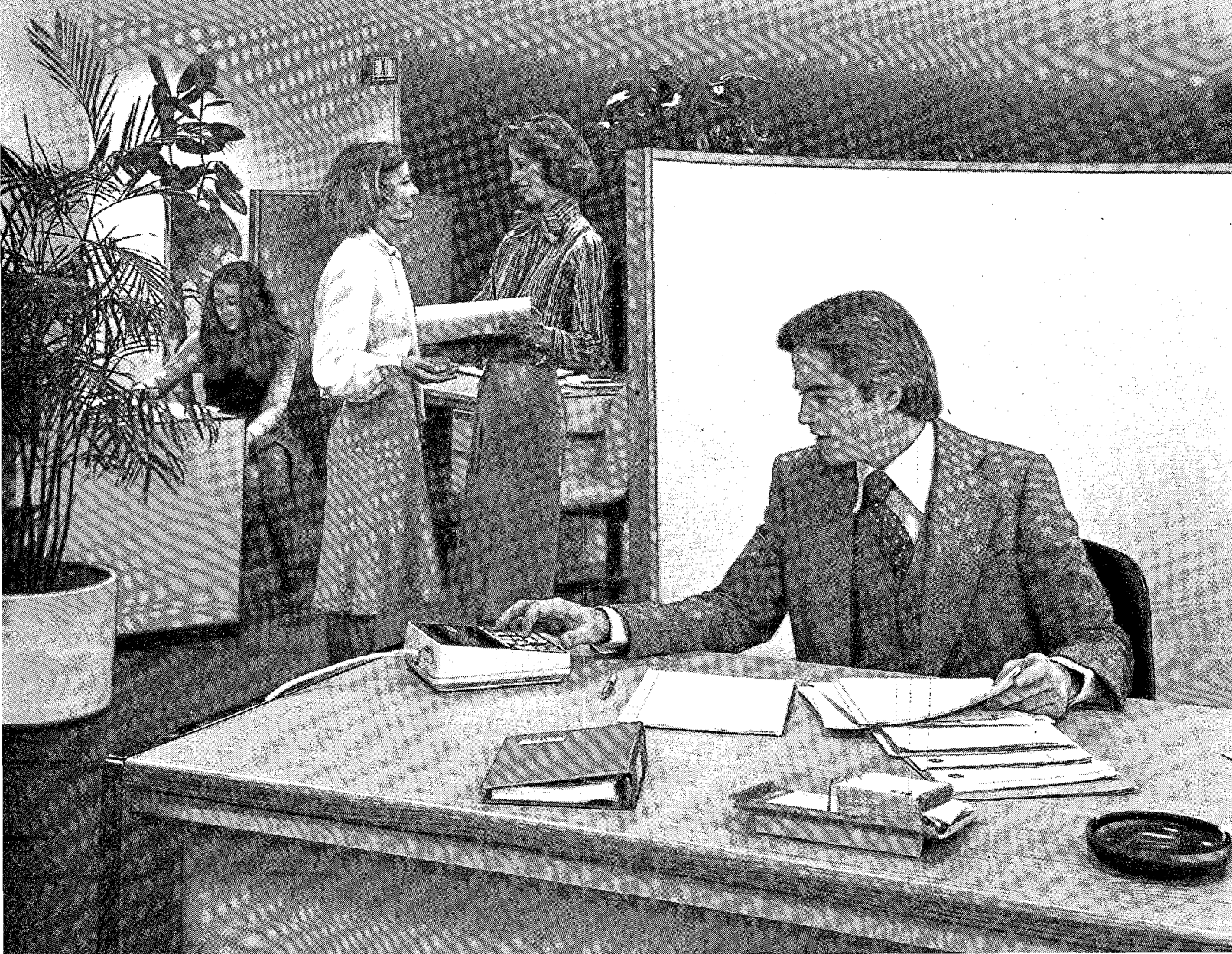
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**Carter's long-awaited urban policy focuses on hard-core unemployment and inner-city development.** The Administration's most innovative proposal, the establishment of a National Development Bank, is considered unlikely to receive Congressional approval this year. Details on page 34.

**Architect Philip Johnson has put a cat among the pigeons with a controversial design for a Manhattan office tower,** new headquarters for AT&T, having more than a hint of historical eclecticism. Details on page 34.

**In spite of weakness in the residential sector induced by harsh weather, February contracts rose 24 per cent** above last February's figure, according to the F. W. Dodge Division of the McGraw-Hill Information Systems Company. A 10 per cent gain in residential contracts, which totaled \$3.9 billion, reflected little more than increased costs. A 60 per cent gain in the nonresidential sector, however, was bolstered by strong improvement in commercial and industrial building. "The next few months should show a sustained high rate of contracting for total new construction, with the current strength in commercial and industrial building backed up by a temporary housing rebound now that the severe winter is past," predicts Dodge chief economist George A. Christie.

**The improvement of Washington's Pennsylvania Avenue continues apace,** as GSA conducts a competition for the redevelopment of the Federal Triangle, the Pennsylvania Avenue Development Corporation seeks proposals for the restoration of the Willard Hotel and the development of adjacent property, and the street's first privately financed office building in ten years goes into construction. Details on page 35.

**BOCA, ICBO and SBCCI contemplate a merger to unify their efforts in designing model building codes** and to consolidate their common activities in the areas of membership and publications. Details on page 37.

**NEOCON X opens June 14 at Chicago's Merchandise Mart.** The three-day congress will offer seminars on such current issues as open office planning, adaptive use, and the licensing of interior designers. Details on page 35.

**The late Bellevue-Stratford Hotel in Philadelphia will be renovated and reopened as the Fairmont late next year.** The 74-year-old hotel closed last year following a much-publicized outbreak of "legionnaires' disease." The \$20-million redevelopment plan, under the direction of architects Day & Zimmerman Associates and interior designers Graham & Solano, Ltd., includes repair of the facade (listed on the National Register of Historic Places), renovation of public spaces and guest rooms, and the installation of new plumbing and hvac systems. Developers are Rubin Associates of Philadelphia; Fairmont Hotel Co. of San Francisco will manage the new facilities.

**The 48-year-old Chrysler Building will benefit from a \$23-million "total restoration"** planned by its owners, the Massachusetts Mutual Life Insurance Company. Details on page 37.

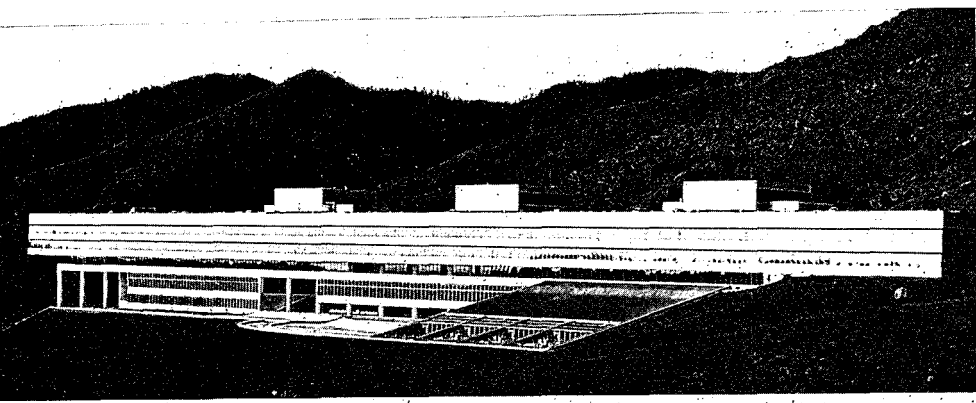
**A bill before the U.S. Senate would establish a home for the National Museum of the Building Arts** in Washington's Pension Building. The bill, offered by Senator Charles McC. Mathias, Jr., and eight other senators, is based on recommendations in a report from the Committee for a National Museum of the Building Arts (see RECORD, December 1977, page 34), and would save the Pension Building, a National Landmark due to fall vacant later this year.

**The AIA Research Corporation has entered the second phase of a major study on energy consumption in building.** The HUD-sponsored research will survey 175 buildings constructed in the past five years and will determine how much energy might be conserved through redesign. Details on page 37.

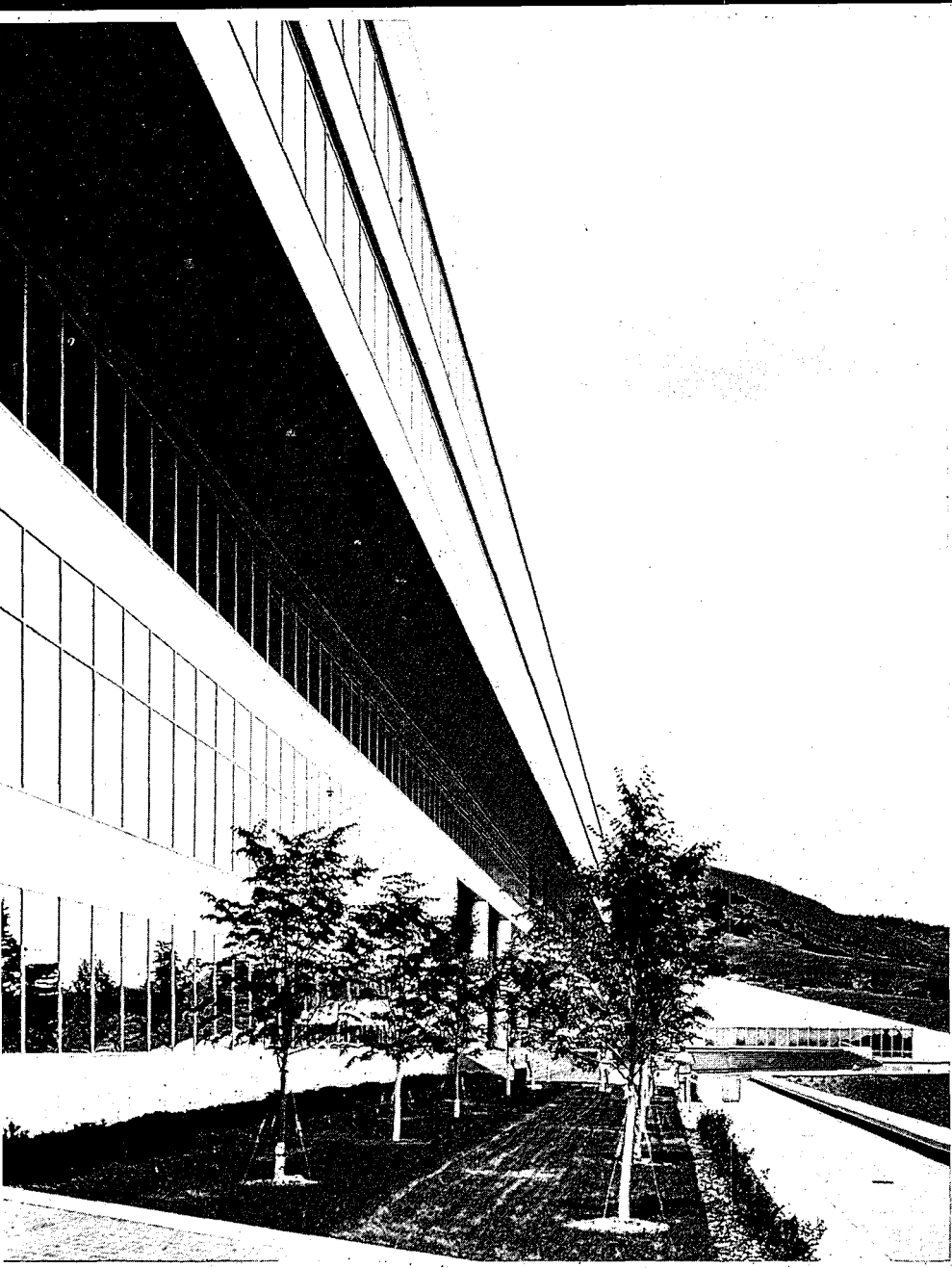
**A newly published directory of architectural firms contains descriptions of 6,000 U.S. firms.** The 674-page volume, titled *Profile/Architectural Firms/The American Institute of Architects*, was edited by Henry W. Schirmer, AIA, and published by Archimedia, Inc., in collaboration with the AIA. The Institute has designated the annual publication its official directory. The directory sells for \$56, or for \$48 to AIA members. For information: Archimedia, Inc., P.O. Box 4403, Topeka, Kansas 66604.

**The Unity Temple Restoration Foundation needs \$35,000 by May 21** in order to complete a \$50,000 endowment fund that will qualify it for a matching grant from the Edgar J. Kaufmann Foundation. The new Foundation, say Lloyd Wright and Eric Wright in an appeal for donations, exists only to administer restoration efforts for Wright's landmark building in Chicago. Contributions should go to the Unity Temple Restoration Fund, 875 Lake Street, Oak Park, Illinois 60301.

**Cornell University offers its 16th annual Summer Institute on Historic Preservation Planning,** in cooperation with the National Trust for Historic Preservation. The course is scheduled to take place June 11-16. For information: Kirk A. Cordell, Program Coordinator, Program in Urban and Regional Studies, Cornell University, 209 West Sibley, Ithaca, New York 14853.



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## HUD-AIARC energy study enters its second phase

The AIA Research Corporation has embarked on an ambitious program to determine how much less energy a group of newly built test buildings might consume if conservation features were taken into account. This data will be used by the Department of Housing and Urban Development to prepare energy budgets.

The AIA Research Corporation's program will involve the designers of about 175 post-1973 buildings that were surveyed in an earlier phase of the HUD-sponsored study. They will undertake redesign of the original buildings to obtain maximum technically achievable levels of energy conservation based on the original building programs.

In the just-completed first phase of the program, AIA Research Corporation assessed 3,200 randomly selected nonresidential and multifamily high-rise buildings designed since the 1973 oil embargo to determine how much energy the buildings actually used.

The second phase is intended to show how much these buildings might be improved with respect to energy conservation.

The third phase of the effort will include the testing of trial standards by architects and engineers on actual building projects. This demonstration period will run approximately one year prior to the final promulgation of standards in late 1979. —*William Hickman, World News, Washington.*

## Model building code groups plan to merge their efforts

A merger of the nation's three leading model building code groups is in the works. If successful, it may help bring about a standardization of the building codes used in various parts of the country.

Groups considering the merger are the Building Officials and Code Administrators International (BOCA), the International Conference of Building Officials (ICBO), and the Southern Building Code Congress International (SBCCI).

The groups have engaged a consultant to consider the feasibility of the merger. The initial goal of the combined groups will be to open a central headquarters to consolidate common activities in the membership and publication fields.

Additionally, they hope to publish a building officials' magazine, promulgate a national plumbing code, establish a research council for building officials, provide reciprocity in building inspector certification, write a solar energy code, publish a book of structural code requirements and strive for a consensus on one- and two-family dwelling codes. —*William Hickman, World News, Washington.*



## "Total restoration" planned for Chrysler Building

Two of New York City's Art Deco treasures, recently in peril, are saved. Radio City Music Hall remains open and operating through the good offices of state and city governments. Private enterprise, on the other hand, promises new life to the Chrysler Building.

Massachusetts Mutual Life Insurance Company, which owns the building, has announced a \$23-million, "total restoration" of the skyscraper, including modernization of the hvac system and the office floors, restoration of the lobby floor, and cleaning and repair of the marble and stainless steel lobby. The building's 32 elevator cabs, each individually decorated with inlays of exotic woods, will also be restored.

Massachusetts Mutual acquired the building in a complex series of transactions that included foreclosure on a second mortgage, held by the insurance company, and the purchase of the first mortgage.

Then, says Edward J. Kulik, senior vice president of the company's real estate investment division, "We fell in love with the building."

The company was also encouraged by less sentimental signs of commercial health in the midtown Manhattan neighborhood—the Chrysler Building is across the street from Grand Central Terminal and from the Mobil Oil Company Building, itself recently purchased by that company for its own use. Moreover, a new Hyatt Hotel will replace the Commodore Hotel, which is also across the street, and another hotel, as well as two new office buildings, is planned in the immediate vicinity.

The Chrysler Building, completed in 1930, was designed by William Van Allen.

## UN Center for Human Settlements will build in Gigiri, Kenya

In last month's *Human Settlements* column, Eric Carlson discussed the policy issues and organizational arrangements of the new UN Center for Human Settlements, which will be headquartered just outside Nairobi. This month Mr. Carlson, who is with the UN Habitat and Human Settlements Foundation in Nairobi, describes early plans for the Center's physical plant.

The new center for Human Settlements (HABITAT Center) will provide headquarters both for the new UN Commission on Human Settlements and for the UN Environmental Program, which is already located in Nairobi. The preliminary plans for this project emphasize the environmental concerns of the UN and of UNEP as they relate to the building process.

Preliminary planning for the new headquarters has been completed by an international consortium composed of Great Britain's James Stirling, Italy's Giancarlo De Carlo and Kenya's Mutiso Menezes International, and have been approved by the General Assembly. The plan calls for the complex to be erected on a 100-acre site at Gigiri, six miles north of Nairobi. The land was donated by the government of Kenya, and "temporary" buildings already occupied by UNEP on the site will be incorporated in the new facility.

The proposed construction will be simple, emphasizing local materials and systems. The buildings will be from one to three stories in height and will employ natural lighting and ventilation to the maximum extent possible. There will be no passenger elevators, but ramps will be provided at key locations to facilitate movement of materials and circulation by handicapped persons. (One of the suggestions offered for the application of appropriate technology would replace high-technology communication systems with a system of tunnels, ramps and bicycles for the exchange and delivery of paperwork.)

The buildings would make maximum use of natural ventilation during Kenya's warm season (December through March) and would be oriented so as to employ passive

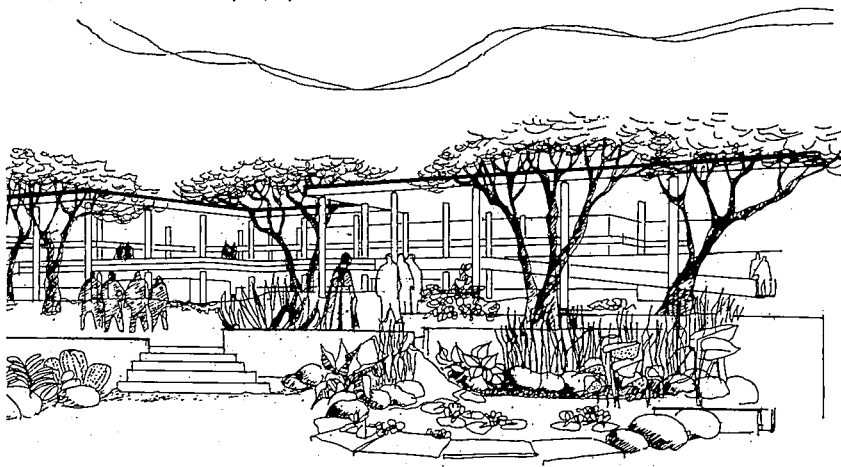
solar heating during the cold months (June through August). Maximum use would be made of natural lighting while controlling glare, and two levels of artificial lighting would be available to conserve energy.

The preliminary report suggests that the architect should consider the possible use of solar energy, methane gas or refuse incineration to heat water, with possible heat recovery for early morning heating. Solar energy might also supplement the power needed for air conditioning the conference rooms.

Still another proposal offered in the report is the re-use of waste water. One suggestion is to build oxidation ponds in which waste water would be treated and recycled for uses not requiring potability. Storm water, augmented by recycled waste water, would be used to flush toilets, fight fires and irrigate landscaped areas. In addition, equipment would be designed to reduce waste of potable water.

In addition to the offices of UNEP and the Commission on Human Settlements, the new buildings would be expected to house the Nairobi offices of other UN organizations, such as UNICEF, UNESCO, the UN Development Program, the World Bank, the Office of the UN High Commissioner for Refugees, and the UN Information Center—all in a total net space of 26,723 sq m, to which the estimated Habitat requirements of 1,920 sq m will be added for office space and facilities for the 100 staff members who are expected to compose the Habitat Center during the period 1982-85. (The UN Audio-Visual Information Center on Human Settlements will remain in Vancouver, British Columbia.)

Whether Nairobi will prove to be an efficient base for operations for an expanded world-wide Habitat program, and whether donor countries will give their support to it, are now major challenges that will confront the Commission for Human Settlements at its first meeting. There are still many problems to be resolved, but HABITAT, for so many years a peripatetic body, finally has found a home.



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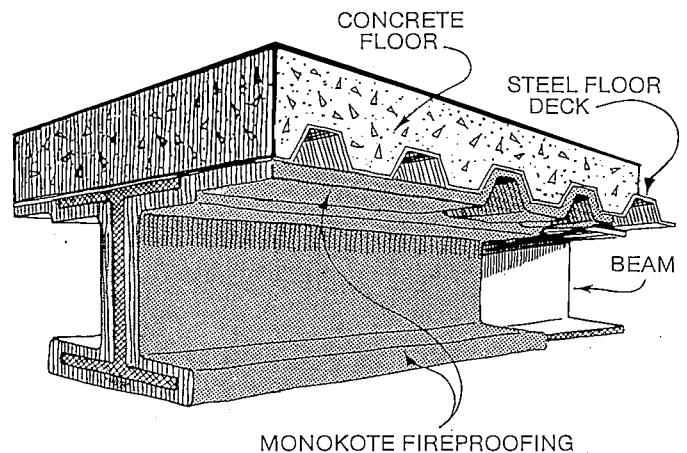
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For more information contact W. R. Grace & Co., 62 Whittemore Avenue, Cambridge, Massachusetts 02140. In Canada, 294 Clemens Road, Ajax, Ontario L1S 3C6.

\*1974 AISI "Fire-Resistant Steel Frame Construction," second edition, p. 12.

## GRACE

*For more data, circle 32 on inquiry card*

**The Winners:**  
**1978 Plywood Design Awards**



Bruce Ross  
Howard Backen  
Bob Arrigoni

Tom Collum  
Jim Williams  
Richard Taylor



## Residential/ Single Family

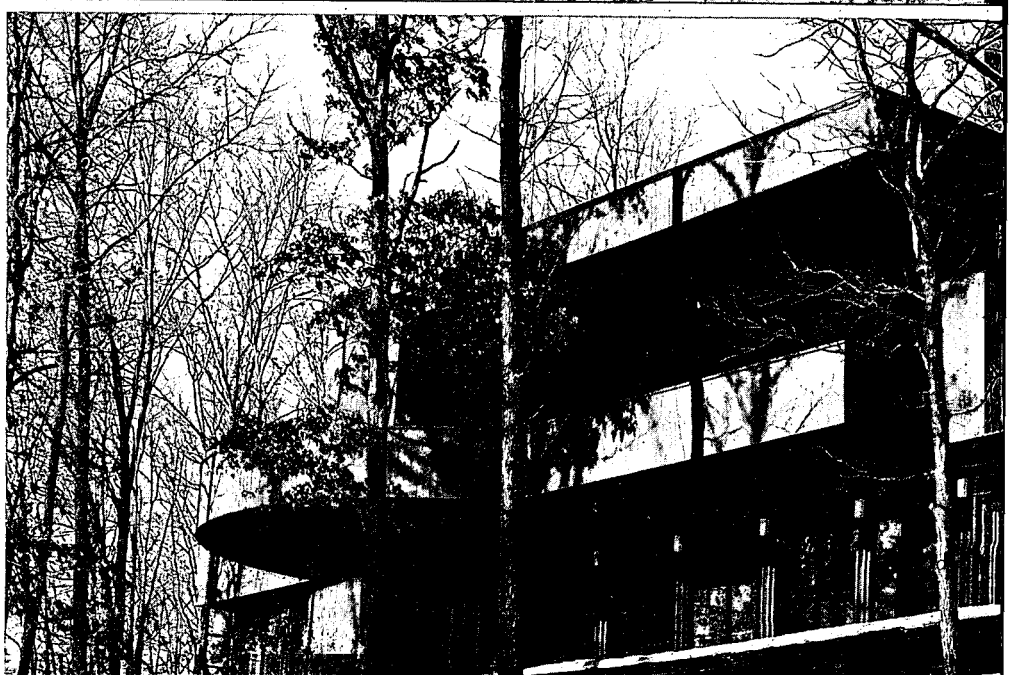
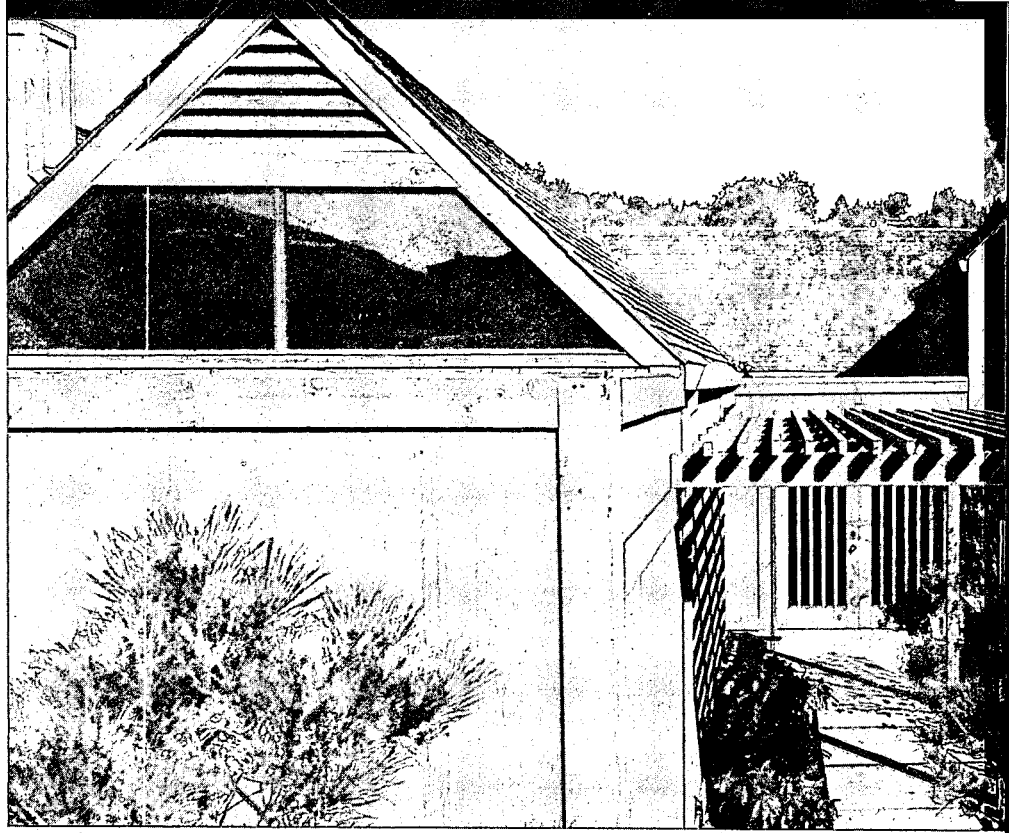
FIRST AWARD: Backen, Arrigoni & Ross, Inc., Architects, AIA. LOCATION: Orinda, California. JURY: "We like the simplicity and the unpretentious, straightforward buildability of this project. It's not manneristic. The sense of privacy from the street and the openness from the main living spaces to the decks would make it a very pleasant place to live. It's a re-emphasis of the atrium." 1

CITATION: Steven H. Packwood, Architect. LOCATION: Stuart, Florida. JURY: "A very elegant spatial enclosure." 2

CITATION: Paul Marti, Architect. LOCATION: Chesterfield, Missouri. JURY: "A balance of curved shapes and linear form, well detailed." 3

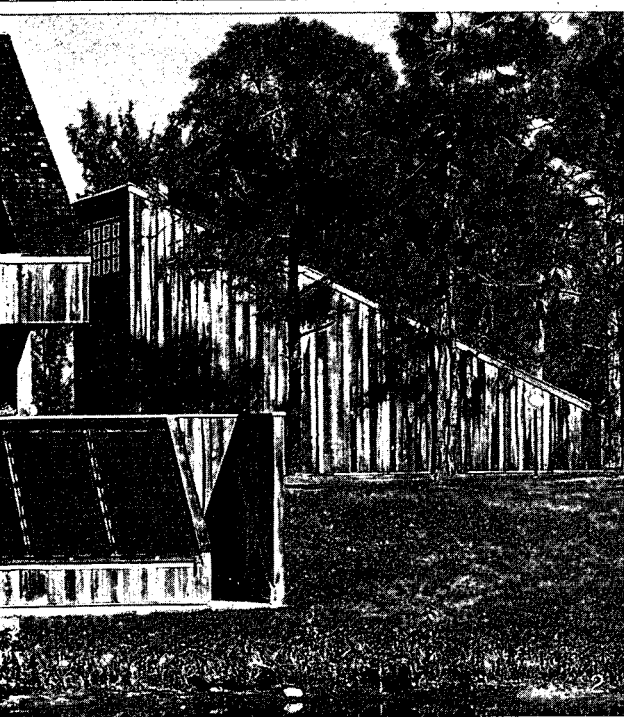
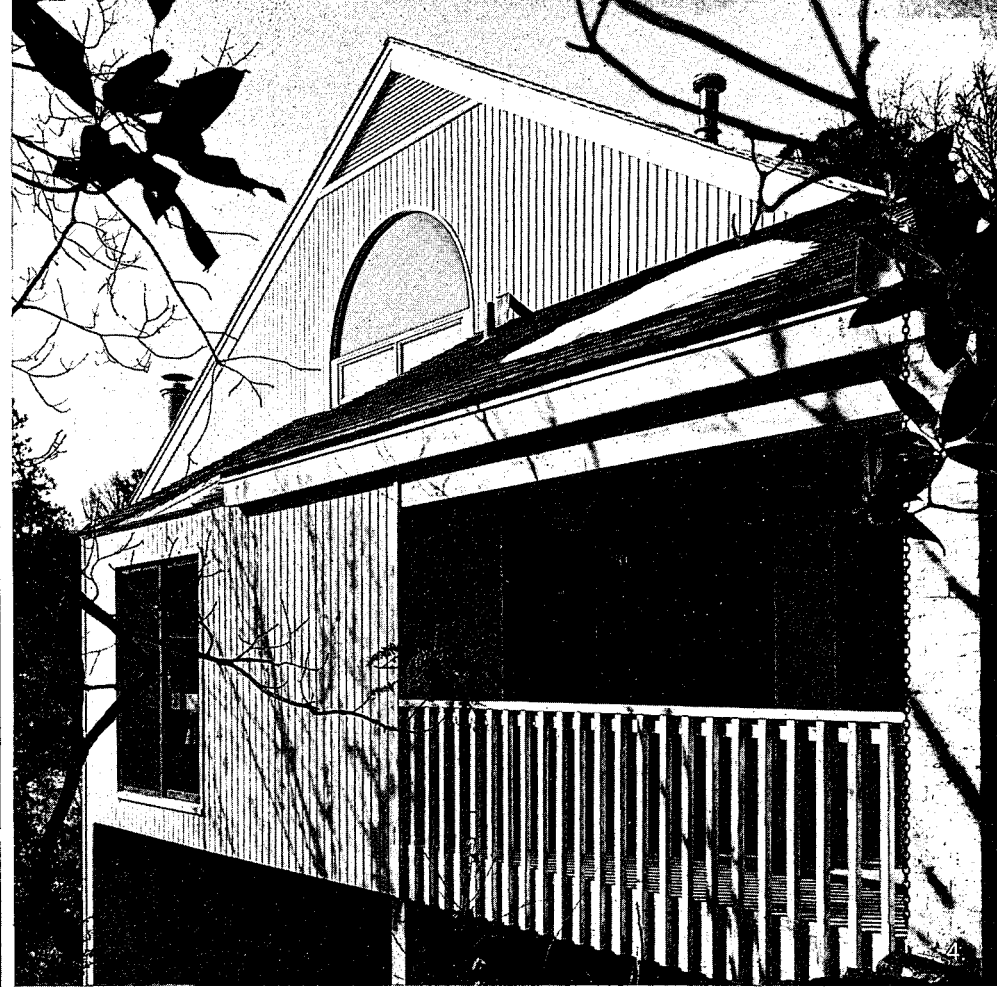
CITATION: William U. Donald, Wittenburg, Delony and Davidson, Inc. LOCATION: Little Rock, Arkansas. JURY: "A handsome structure, one that uses its small spaces creatively." 4

CITATION: Roland/Miller/Associates. LOCATION: Napa, California. JURY: "A light and airy wood form among the redwoods." 5



RESIDENTIAL/MULTIFAMILY: No award or citations presented.

JURY: John D. Bloodgood, Chairman, Des Moines, Iowa; Victor Christ-Janer, New Canaan, Connecticut; Sherwood Stockwell, San Francisco, California.



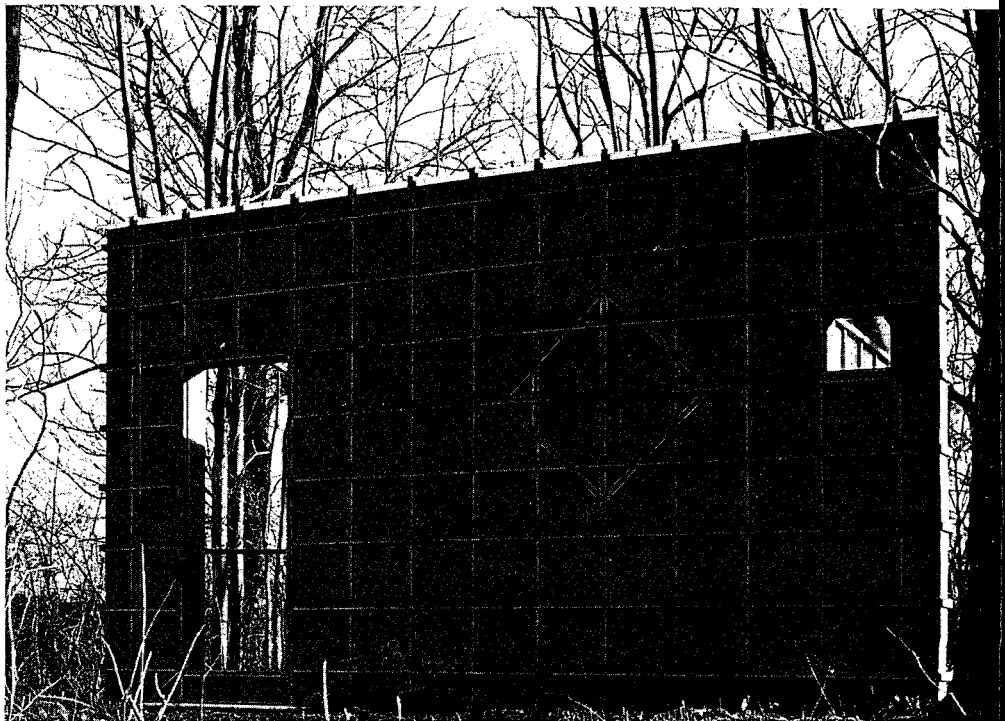
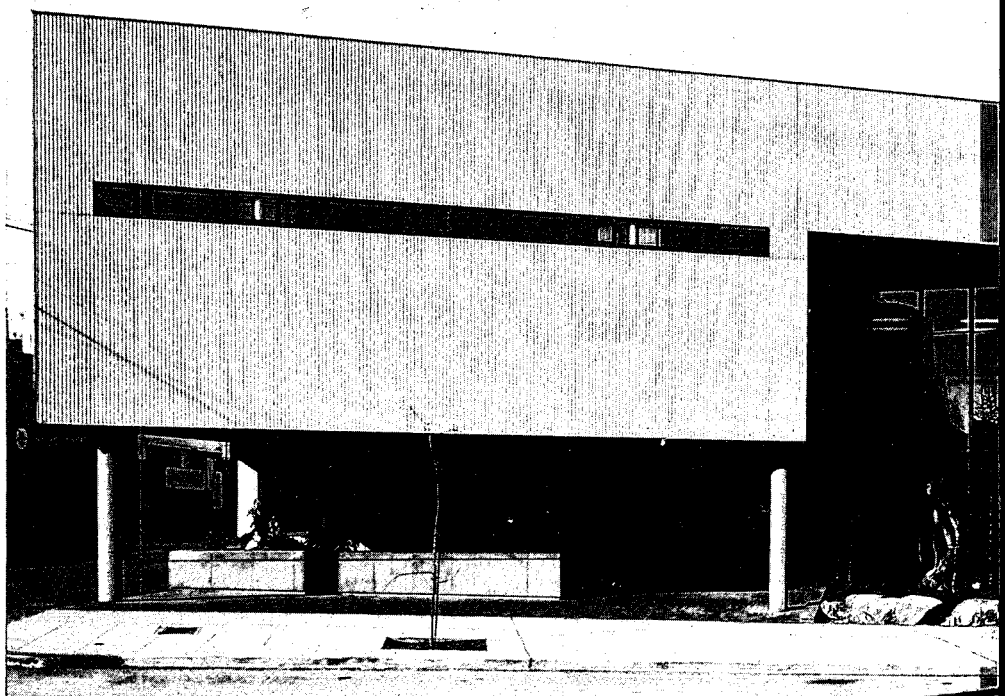
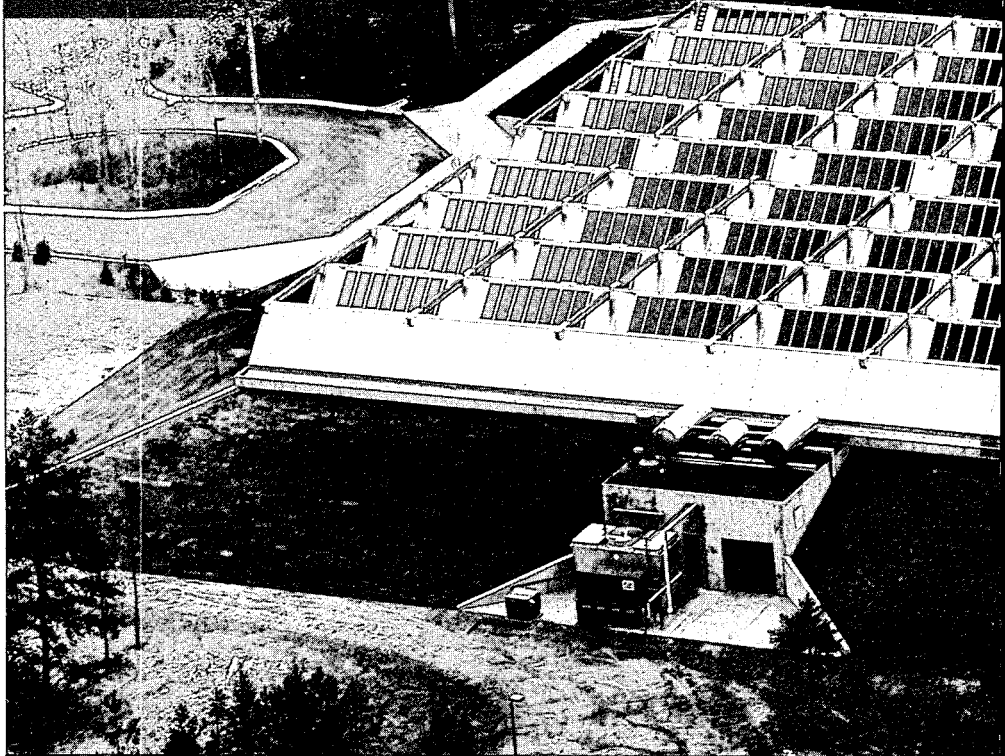
## Commercial/ Institutional

FIRST AWARD: Taylor & Collum, Inc.  
PROJECT: Shenandoah Solar  
Recreation Center, Shenandoah,  
Georgia. JURY: "An excellent  
integration of structural and energy  
considerations through the use of  
plywood. This is united with the  
landscape more successfully than  
most." 1

CITATION: Aaron Freed, FAIA, Durham  
Anderson Freed/HDR. PROJECT: Otto  
M. Miller Science Learning Center,  
Seattle Pacific University, Seattle,  
Washington. JURY: "A building that  
merits commendation, especially with  
its warehouse beginnings." 2

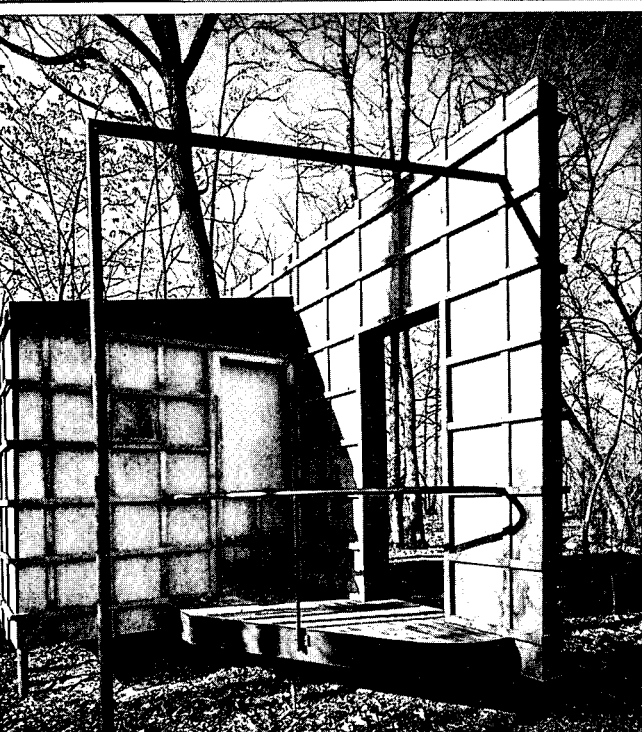
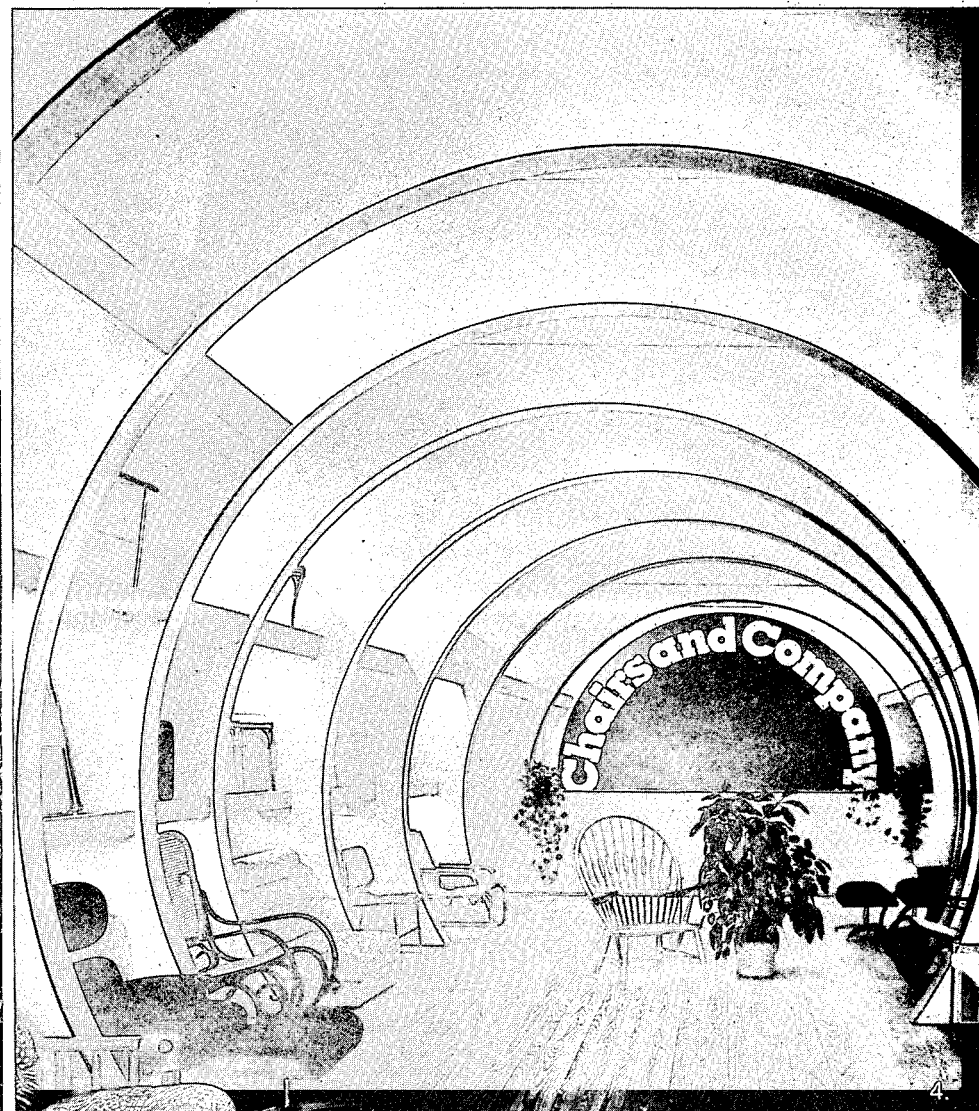
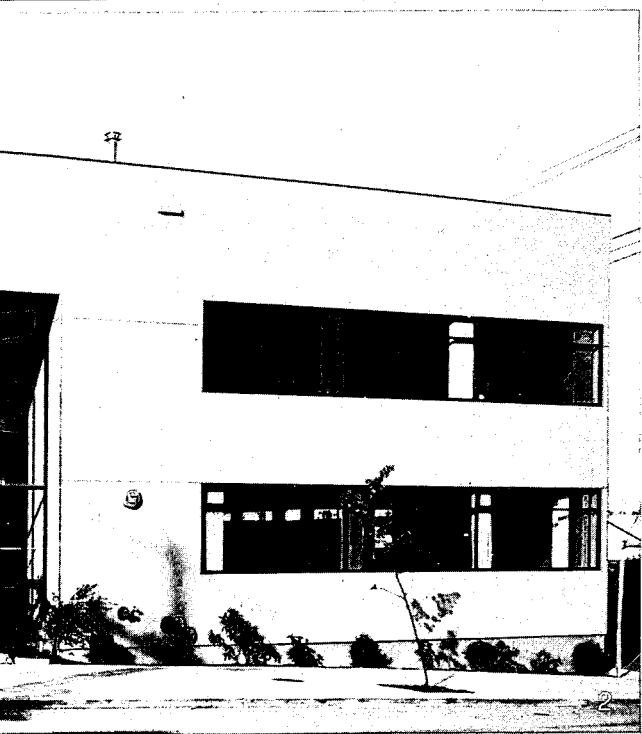
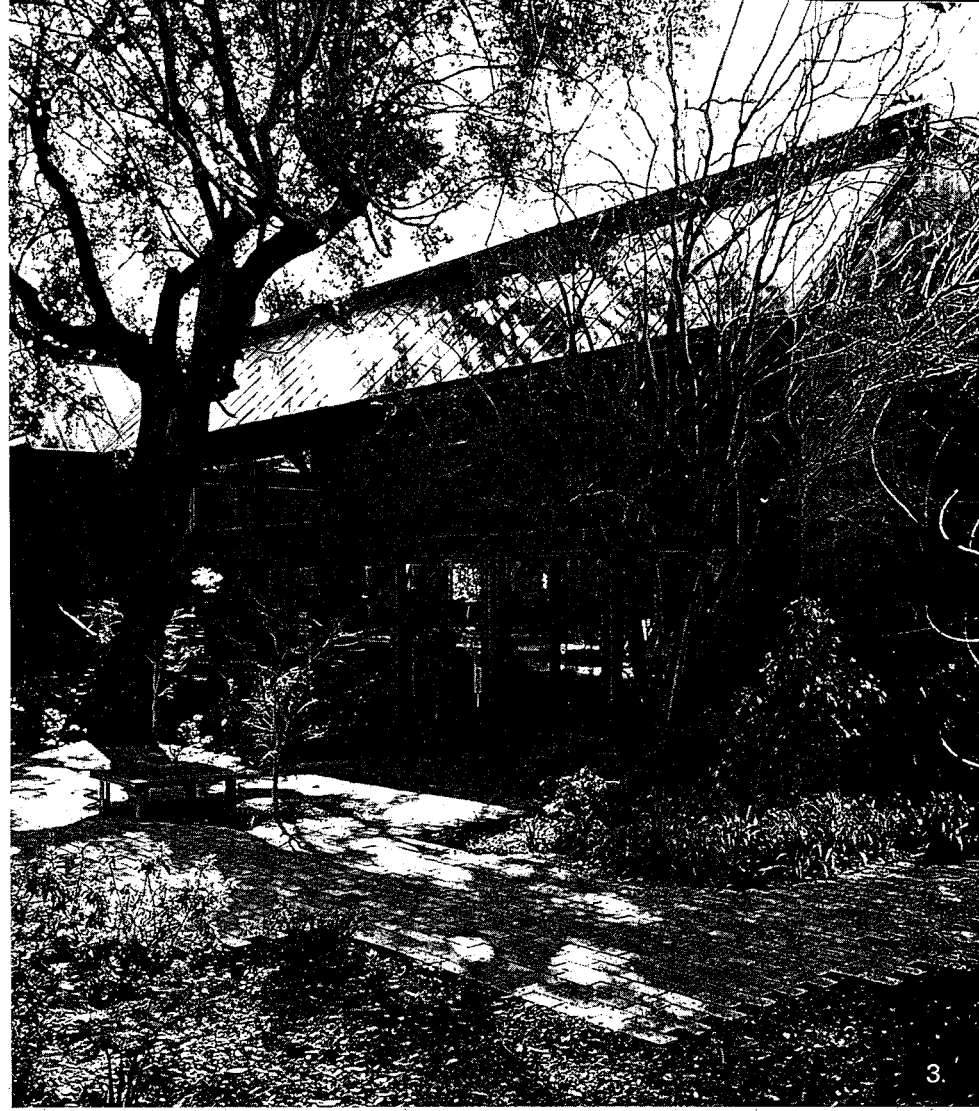
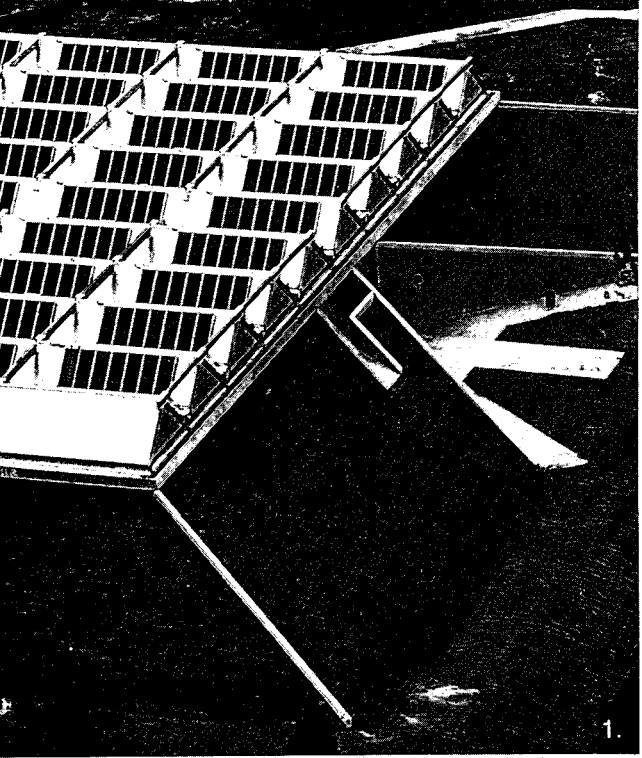
CITATION: Walz and MacLeod,  
Architects, AIA. PROJECT: Office  
Building, Mill Valley, California. JURY:  
"A simple barn in the trees—a pleasant  
environment for professionals. It  
doesn't intrude its own presence on the  
site." 3

CITATION: Alan Hansen, Swaney  
Kerns Architects, Ltd. PROJECT:  
Chairs and Company, Inc., Washington,  
D.C. JURY: "The plywood allowed the  
concept to be effectively realized. The  
marketing point of the store is  
enhanced by the simplicity of the  
background." 4



## Vacation Homes

CITATION: Timothy Wood, Architect.  
LOCATION: Stillwater, New Jersey.  
JURY: "The most imaginative structure  
submitted. The facade makes it  
become an important place."



# More Ideas

1. Architects/Planners of the William A. Bibo Corp., Leiter duplex, Peoria, IL.

2. Wittenburg, Delony and Davidson, Inc., Donald residence, Little Rock, AR.

3. Allan M. Walter and Associates, Inc., Andres Castillero Junior High School, San Jose, CA.

4. Paul Marti, Architect, Andrews residence, Chesterfield, MO.

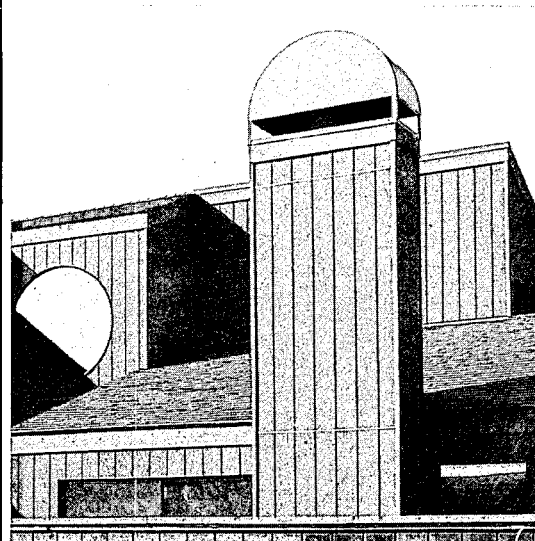
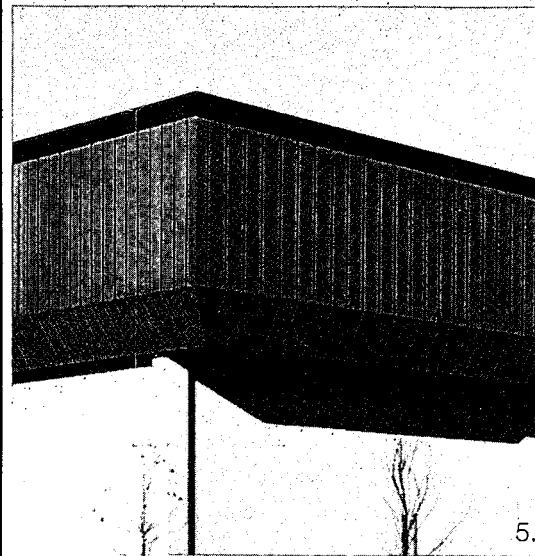
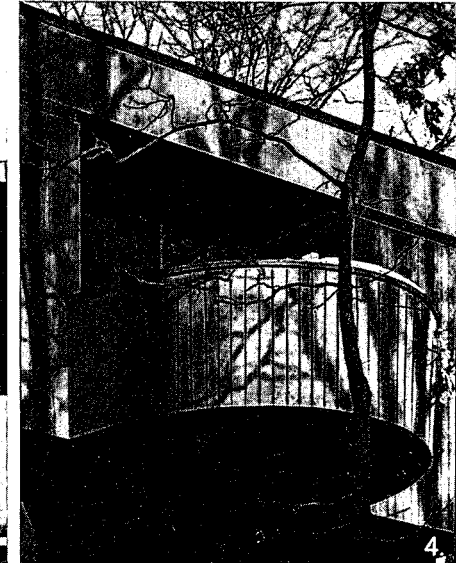
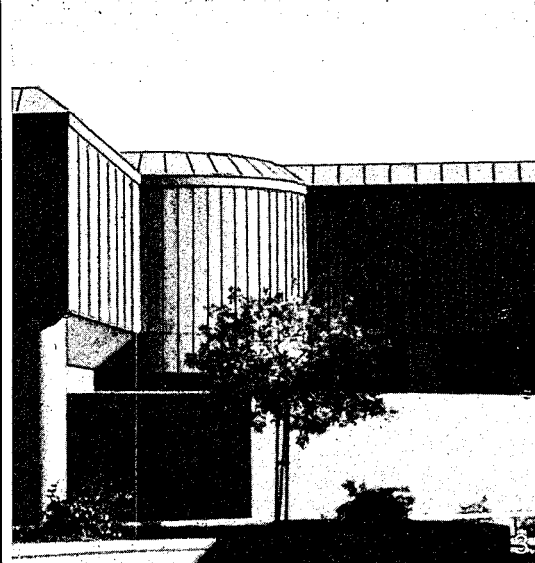
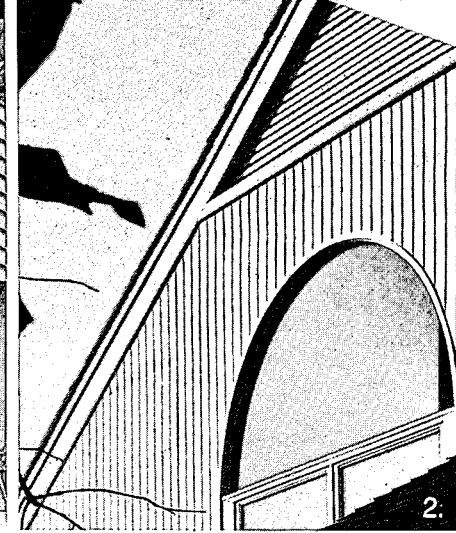
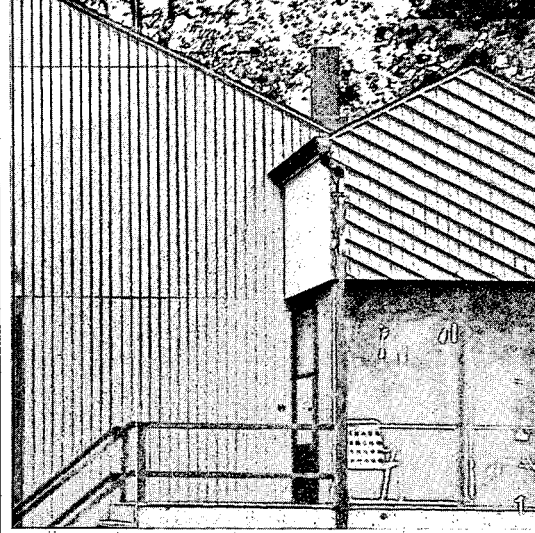
5. Burke Nicolais Archuleta, Montgomery Ward Retail Store & Offices, Beaverton, OR.

6. Riggi Architects, Finch Hill County Park, Fell Township, Lackawanna County, PA.

7. Donald Sandy, Jr., FAIA, James A. Babcock, Architects and Planners, Kitowski house, Fair Oaks, CA.

8. Armen Dervishian and Associates, Penny Candy Store, Fresno, CA.

For even more design ideas using plywood and plywood systems, please write the American Plywood Association, P.O. Box 2277, Tacoma, WA 98401.



The Plywood Design Awards Program is sponsored by the American Plywood Association and Professional Builder & Apartment Business Magazine.



In its 30th Honor Awards Program, the AIA selects 15 buildings—eight of them in extended use

In the three years since the AIA established a special category for extended use in its annual Honor Awards Program, interest in adaptive use has grown increasingly evident, and this year, for the first time, awards in this category outnumber those for new buildings. The

jury for extended use said, "The challenges presented by the very nature of this work are perhaps the basis for the richness of design seen by this jury." Both current and extended use juries took particular notice of energy conservation in the entries, and they stated in

their final report, "At least one building of superior architectural design did not receive an award because of its disregard for energy considerations." Jurors for the current use category were chairman William C. Muchow, FAIA, Denver; Fred Bassetti, FAIA, Seattle; Joseph

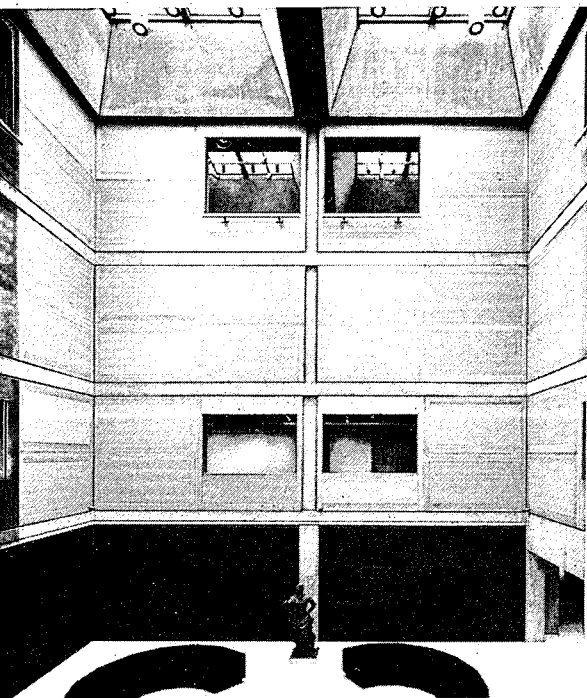
Esherick, FAIA, San Francisco; Patrick Quinn, AIA, Troy, New York; William Warner, AIA, Exeter, Rhode Island; and student Robert M. McAnulty III, Charlottesville, Virginia. Extended use jurors included chairman George M. Notter, Jr., FAIA, Boston; Donn Emmons,

FAIA, San Francisco; A. Quincy Jones, Jr., FAIA, Los Angeles; Charles W. Moore, FAIA, Los Angeles; Terry Morton, Washington, D.C.; and William Michael Comer, student. Herbert Duncan, Jr., FAIA, was a member of both juries as advisor on energy conservation issues.

*Current use:* IBM Santa Teresa Laboratory, San Jose, California; MBT Associates (McCue Boone Tomnick), architects. "The reflective and vividly colored surfaces magically blend the buildings with their natural surroundings. . . . A delicate balance of technical knowledge, artistic ability and imagination has been achieved." (See RECORD, August 1977, pages 99-104.)



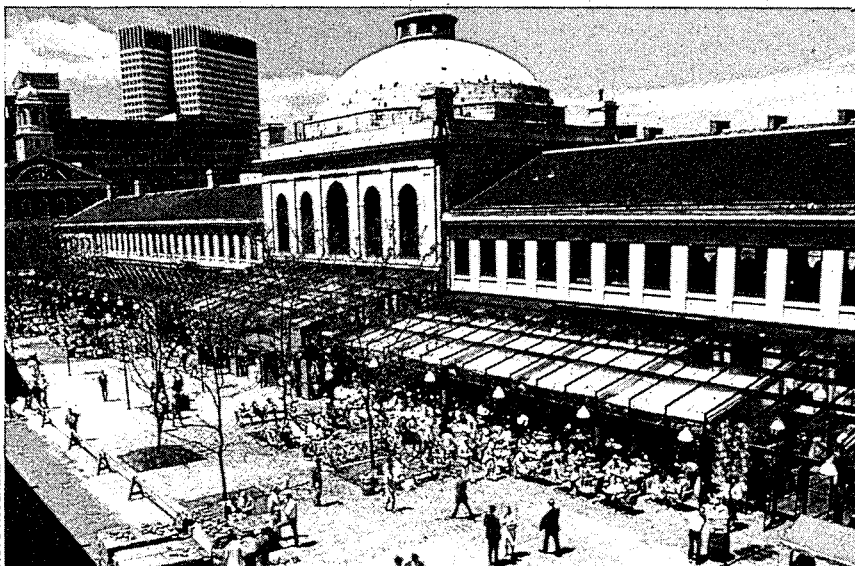
Gerald McCue



Tom Brown

*Current use:* The Yale Center for British Art, New Haven, Connecticut; Louis I. Kahn, AIA, and Pellechia and Meyers architects, architects. " . . . a

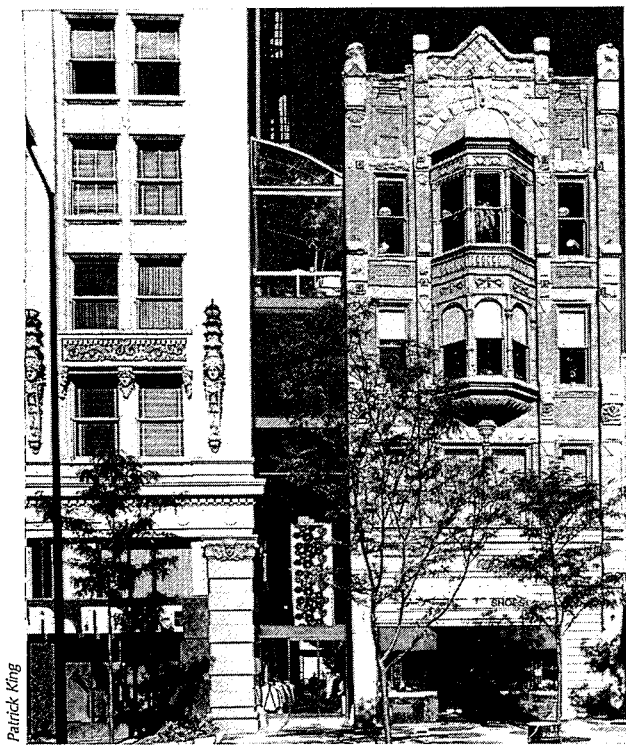
gentle urbane masterpiece. It offers a quiet foil for its more demonstrative neighbors. . . ." (See RECORD, June 1977, pages 95-104.)



Steve Rosenthal

*Extended use:* Faneuil Hall Marketplace, Boston; Benjamin Thompson & Associates, Inc., architects. "An exciting urban design solution, the reinforcement of an original marketplace in a modern context may be pretty obvious, but it's one of

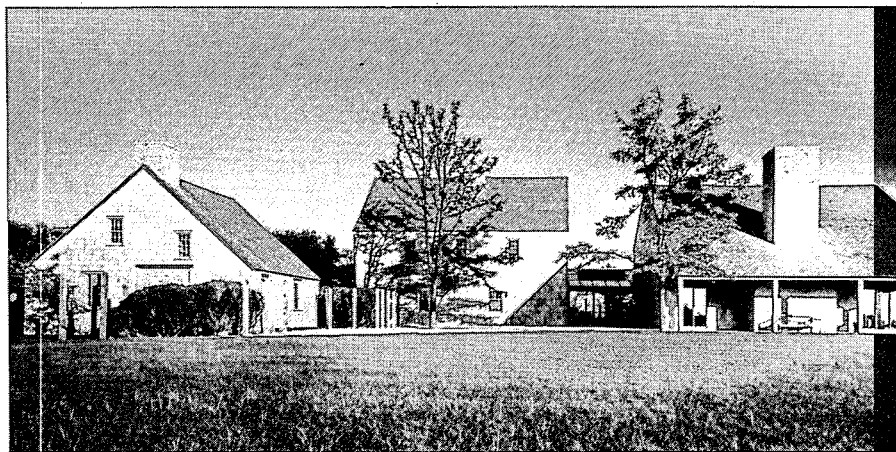
those obvious 'right things,' . . . However, the distinction of this project lies in its respect for the original fabric, allowing the sense of the original building to come through with dignity and power." (See RECORD, December 1977, pages 116-127.)



Patrick King

*Extended use:* Kearns/Dayne-Alley Annex, Salt Lake City; Boyd A. Blackner, Architect AIA and Associates, architects. "... an imaginative and unique solu-

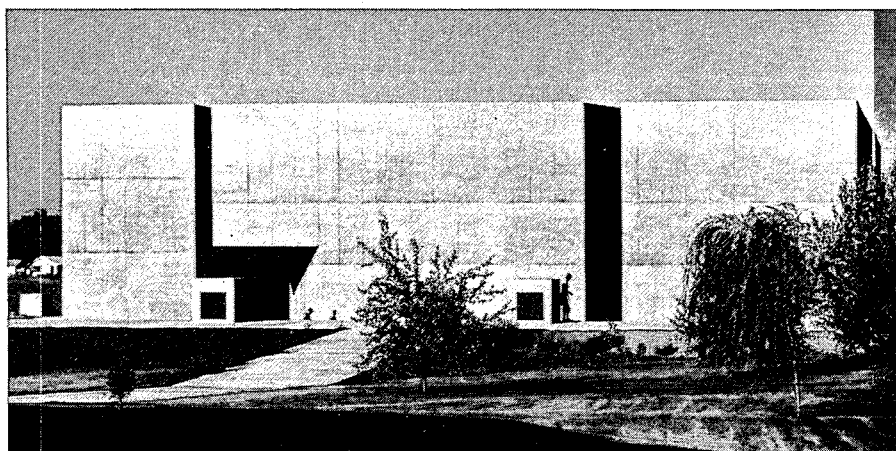
tion that ensures the continued existence of a National Register property by tying it to the support system of [a neighboring building]."



Bill Maris

*Extended use:* private residence, Eastern Long Island, New York; Howard Barnstone, FAIA, architect. "... exhibits a level of care ... that is

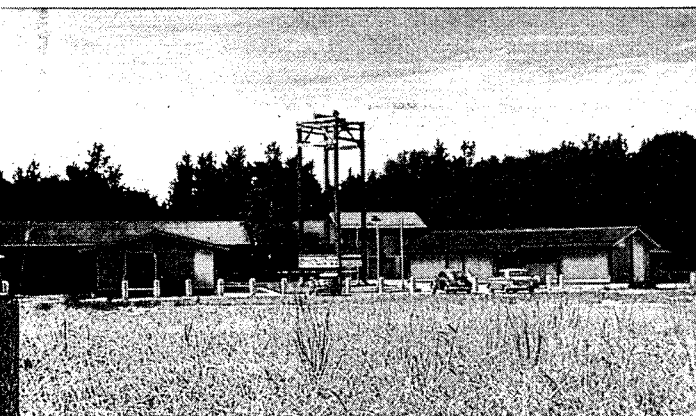
amazing and wonderful. In detail after detail, the issues have been faced and thoughtfully dealt with. The sense of oldness ... comes through clearly."



G. E. Kidder Smith

*Current use:* Art-Drama-Music Complex, Columbia Basin Community College, Pasco, Washington; Brooks Hensley Creager Architects, architects. "... an unusual outside-in building. ...

Massive concrete walls act as energy fly-wheels since nights are cool and days are often hot while narrow interior 'streets' give protection from the heat and glare."



John Zemanek

*Current use:* Three "H" Services Center, Houston; John Zemanek, AIA, architect. "This community center, designed to provide facilities for a rural

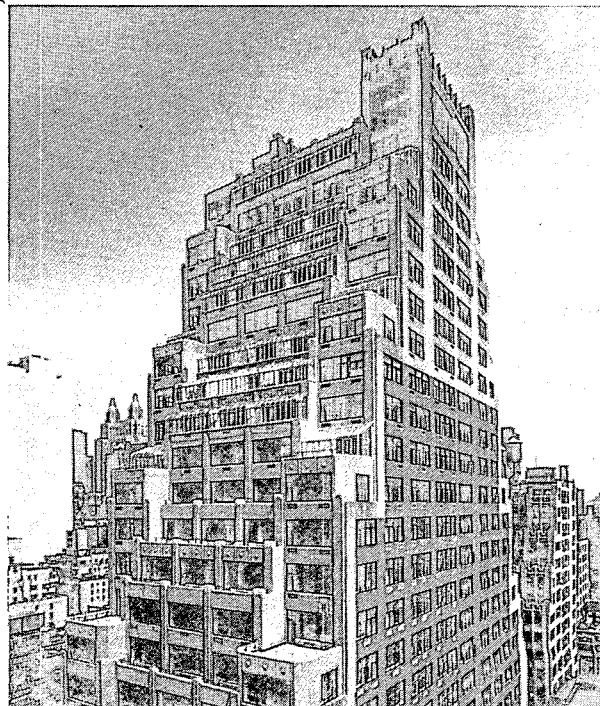
poverty area, is well conceived, well planned and a direct response to a real need. ... a [success] both architecturally and socially."



Chester Bowles, Jr.

*Current use:* Bowles residence, Geyserville, California; Chester Bowles, Jr., AIA, architect. "This [vacation house] was built by the architect and his family over a period of some years. Virtual-

ly everything in the house was done by this self-help group. ... Detailing is simple, straightforward and inventive. ... admirable simplicity and directness."



Norman McGrath

*Extended use:* Turtle Bay Towers, New York City; Bernard Rothzeit & Partners, P.C. architects. "The spatial ingenuity of this project [creates] a set of exciting and highly habitable spaces. ... While dealing with problems which very few people solve credibly, the architect has exhibited a flexibility allowing creative solutions, despite ... imposed restrictions. (See RECORD, September 1977, pages 112-115.)"



Robert Lautman

*Extended use:* Robert Elliott residence, Chevy Chase, Maryland; Hugh Newell Jacobsen, FAIA, architect. "Sensitive details originating from the existing house

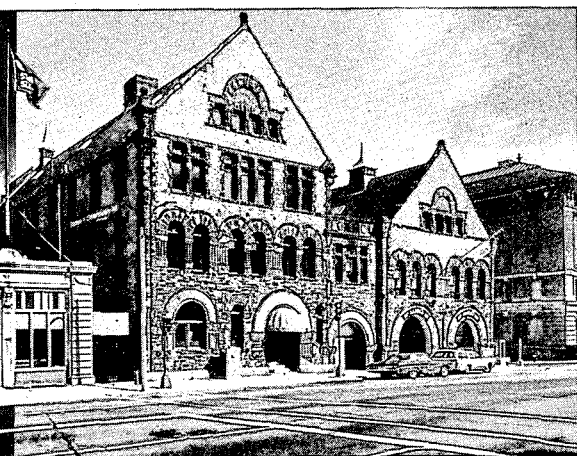
become part of the new design in a solution that is simple and creative. . . . It is beautifully done." (See RECORD, mid-May 1977, pages 82-83.)



James Cheng

*Current use:* Sixty-01 Apartments, Redmond, Washington; George Bissell FAIA/Frank August and Associates, architects. "Seven hundred and seventy apartment units, unified by wood-shingled roofs, have

been beautifully integrated into a site initially considered unsuitable for building. Buildings, site and landscape have been skillfully conceived [for] a sensitive balance between structure and nature."



Steve Rosenthal

*Extended use:* Institute of Contemporary Art, Boston; Graham Gund Associates, Inc., architects. "The uniqueness of this project is that it has created a sense of place that is both personal and public. It seems

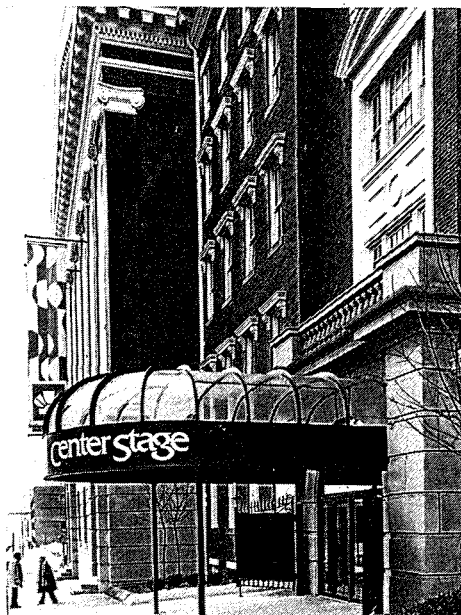
well suited to its program. The relationship of its spaces, which fit proudly within the framework of the original building, provides an exciting contrast with the simple clarity of its details."



Norman McGrath

*Extended use:* Cooper-Hewitt Museum, New York City; Hardy Holzman Pfeiffer Associates, architects. "Perhaps the most controversial of the awards, this project identifies the creative energy involved in [conversion],

while maintaining the *context* of the original fabric. The re-organization of the staff spaces fully supports a working museum, while the public areas consist of a series of small details that go completely unnoticed. . . ."



Richard Anderson

*Extended use:* Center Stage, Baltimore, James R. Grieves Associates, Inc., architects. "This project is a magnificent example of the architect's ability to successfully transform an old section of a building into something modern. . . . a beautiful room. . . ."

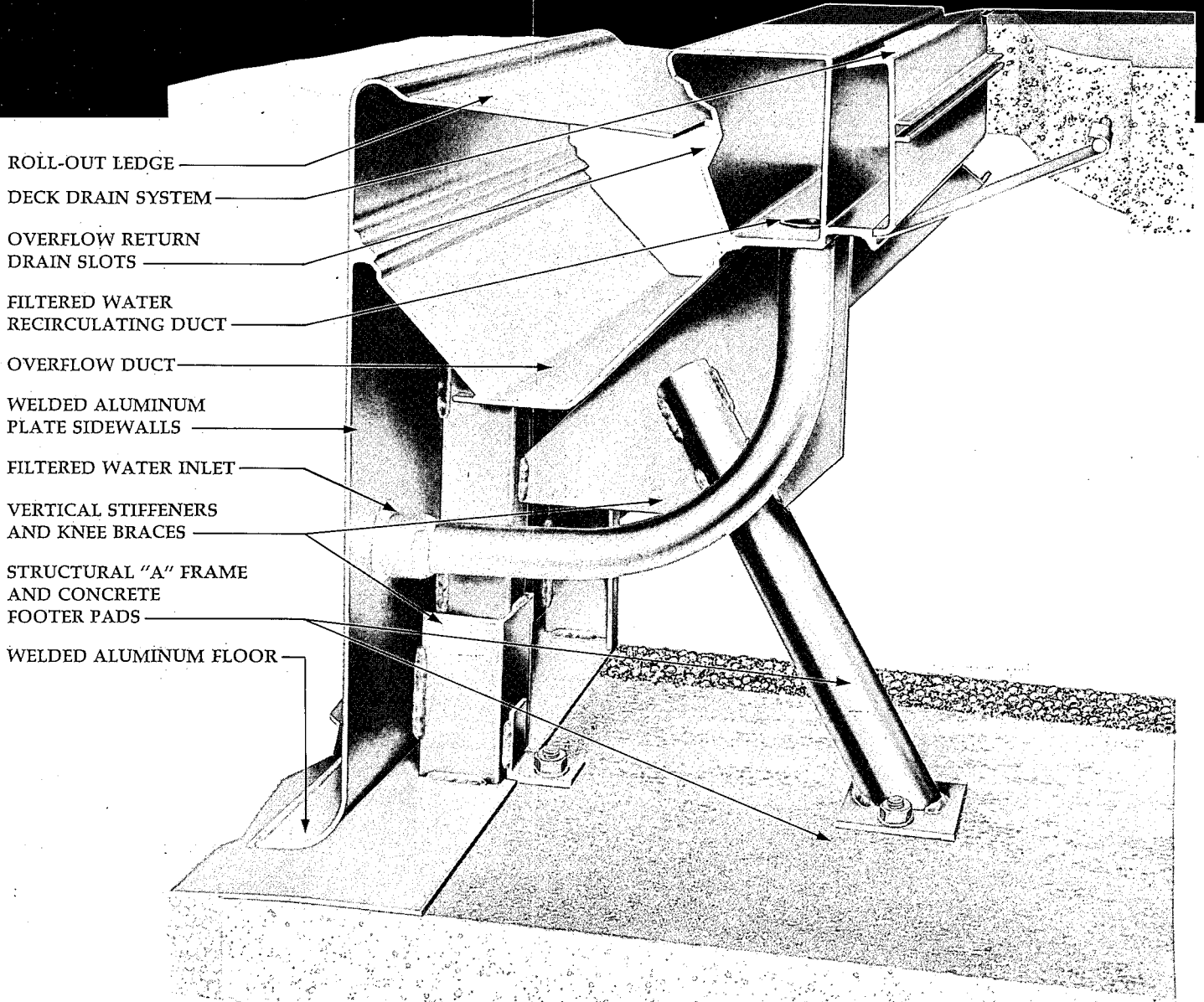
*Current use:* The Art Institute of Chicago; Skidmore, Owings & Merrill, architects. "This addition to a major museum responded to two almost separate problems. The first accommodated additional needed facilities for the Art Institute. The second established it as a significant work of urban sculpture in a major open space."



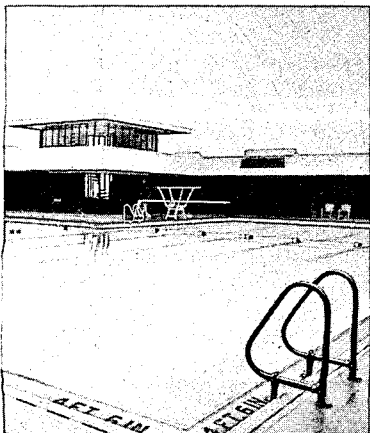
Howard N. Kaplan

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## CHESTER

POOL SYSTEMS

1300 Lafayette Avenue  
Middletown, Ohio 45042.

Housing forms

THE FORM OF HOUSING, edited by Sam Davis; Van Nostrand Reinhold, \$24.50.

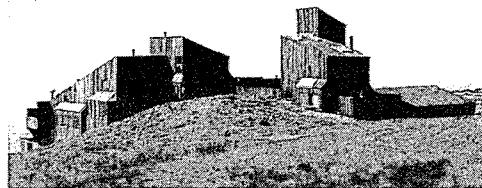
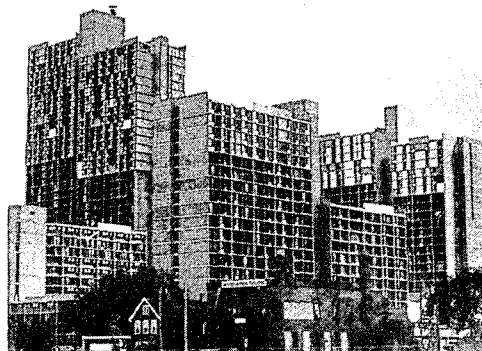
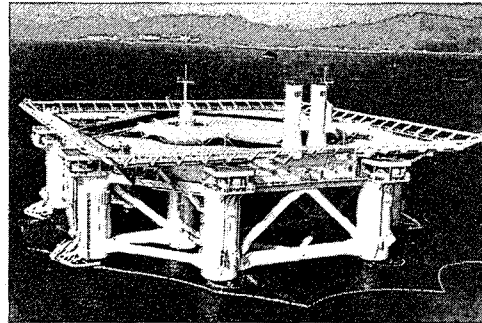
Reviewed by John Sergio Fisher

Achievement of the goal of adequate housing for everyone remains as elusive as ever. Rising costs are forcing more homebuyers to consider townhouses or mobile homes as surrogates for their real wish for a single-family house, since housing costs have increased more than double both the rate of inflation and median family income since the beginning of this decade. Still new single-family house sales achieved an all-time record in 1977, in spite of the fact that fewer than 25 per cent of the population can afford new housing now, as opposed to the 50 per cent that could in 1970. The question of the housing conditions of the "underclass," and the poor, most of whom are also minorities, has been upstaged by questions of energy and inflation and by other problems in our country. Minority-group families who are fortunate enough to own their own "used" dwellings face potential property value losses, while a high percentage of suburban families are at the same time enjoying a healthy appreciation of house values, sometimes while exercising anti-growth policies which are often exclusionary.

Into this scenario comes an important new book that should be read by everyone concerned with housing. *The Form of Housing* is an excellent source for an understanding of the state of the art of housing today. It also contains interesting and possibly accurate prognostications about housing in the future. The book consists of a series of ten related essays which examine the form, context, developers, users, conservation, interiors, industrialization, and future of housing by authors who are expert within their fields. All, except Gerald Allen, have taught at the University of California at Berkeley in the College of Environmental Design. The essays are like a well prepared, well documented series of lectures. Each author proselytizes his particular point of view; cumulatively all share important, valid principles, most of which have proven to be successful, but have nonetheless been influential only to a limited degree and therefore could stand much more exposure.

The call to arms for "user needs" is one of the pervasive messages throughout the book. Claire Cooper Marcus, in "User Needs Research in Housing," carefully documents some of the developments in user and

John Sergio Fisher A.I.A. is a practicing architect in Los Angeles.



consumer preference studies, research, and feedback for developing criteria for new housing. But the best example in the book of the value of such techniques found in Chester Hartman's chapter on "Housing Struggle and Housing Form." He documents a user-needs study conducted by an architect for a non-profit group developing high-density housing for the elderly. It is presented in sufficient detail to indicate the promise of such techniques as the showing of slides of alternative solutions in order to arrive at "guidelines and prescriptions" that become specific determinants of design. The desire on the part of future tenants for mail boxes inside rather than outside the front door, for instance, may seem obvious for security reasons. But the overwhelming preference for a front door flush with the sidewalk might not, or it might be antithetical to some designers' preference for a spatial transition from the activities of the street to those inside. (Post-Modernists, too, might be disappointed to learn that these users preferred "modern-looking" buildings to "traditional" ones.)

The conflict between designers and user needs is often a problem of communications.

Presenting a solution (like a door flush to the street) rather than a requirement (like a safe, mug-proof entrance) which might lead to a more satisfactory solution is an aspect of the user-needs credo which bears investigation, since the validity of research techniques and the leap from requirements to satisfactory results needs developing. Marcus's objective evaluation of the problem of the relationship between researcher and designer—including the use of user response as a criterion for design awards—is provocative. But her summary dismissal of the value of market researchers and their techniques seems to be too narrow an attitude on such an important subject.

Hartman's description of citizens groups versus statutory bodies (like the Goodman Group vs. the San Francisco Redevelopment Agency, and the Cedar-Riverside Environmental Defense Fund vs. HUD) provides detailed examples of housing policy victories, no matter how grueling, by the people over the government—partly on issues that involve the old being worth preserving and the smaller, more humane housing solutions being preferred. Federally assisted housing accounts for a small percentage of total housing starts, particularly since 1973 and the moratorium imposed by former President Nixon. What really caused the explosion of Pruitt-Igoe in St. Louis, and what should have been its more humane alternatives, are succinctly summarized by Roger Montgomery in an excellent chapter called "High Density Low-Rise Housing and Changes in the American Housing Economy." Montgomery beautifully depicts the essence of housing development growth and its manifestations on and by developers, designers, and the Federal government since World War II. His insight into the efficacy and potential of below market interest rate programs and other subsidies are worth noting.

Many excellent examples of housing are shown or mentioned, designed by many of today's prominent architects. But, for a change, the real hero of the book emerges as a public agency rather than an individual or firm. The New York State Urban Development Corporation was responsible for approximately 35,000 units of housing built from 1968 to 1975. Its policy of developing design criteria based on user-needs research, plus its selection of excellent designers, resulted in housing of an unprecedented design quality, as in shown in several chapters of *The Form of Housing*.

Unfortunately, the same cannot be said of the 35,000 units of housing produced by Operation Breakthrough. Richard Bender and John Parman cite still other reasons, some of them

continued on page 67

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inaccurate, why Breakthrough failed in "A Framework for Industrialization." Their simplistic polarization of the development and future of industrialized housing in America seems to miss the point, since industrialization has been and will be characterized by a much more complex spectrum. But their excellent account of Carl Koch's contribution to industrialization and their witty, sometimes brilliant metaphors make for entertaining reading.

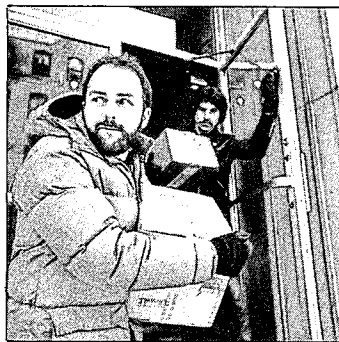
Some of the Urban Development Corporation's benign policies are part of the comprehensive and clearly written discussion of housing density types, from one-story cluster housing to high-density towers, in Sam Davis's opening chapter, "The House Versus Housing." As the title suggests, Davis deals with the conflicts between the users' desire for the characteristics of the single-family house and the economic need for and constraints of higher densities. The "house in the air" concept, by Louis I. Kahn in the 1950s, was in part attempted by Safdie in 1967 and by the Townland artificial lot in Operation Breakthrough. Neither Safdie nor the Townland solution, however, achieved what Kahn had sketched (and which filled the American dream): the automobile up to the unit. The basic humane requirements and principles of the built and unbuilt high-density Davis presents are essential to the knowledge of designers and students of housing.

"Housing and Urbanism" by Donn Logan extends the logic of Davis's essay into the context of cities and university campuses. His interesting analysis and examples of the fascinating row-house blocks of Boston, of superblocs, of mixed use, and of urbanization in the suburbs demonstrate the most positive urban design trends in the past decade and their earlier influences. The new urbanism, according to Logan, is moving toward diversity, choice, smaller scale, and compactness forced by energy constraints and social researched all synthesized into "Humanistic City."

One important subset of the urban humanism is conserving the existing fabric, as is convincingly argued by Gerald Allen in "A Conservative Approach: Housing the Past As We House Ourselves." Allen advocates a pluralism which includes examples of "conserving whole neighborhood contexts, conserving individual buildings, conserving parts of buildings, and conserving the images of old buildings." How can one disagree? It whets the appetite for even more examples, such as conserving individual buildings with images and parts of other yet older buildings. The possibilities are endless.

Davis contributes two more chapters. One is "Interiors Accommodating Diversity," written with Cathy Simon, and the other is a solo on "Mobile Homes." Both are definitive, comprehensive, accurate, and objective narrations. A thorough and original analysis of social, psychological, adaptational, and equipment needs and their impact upon interior spatial alternatives is presented. Many interesting concepts are portrayed which eventually lead to the themes

*continued on page 69*



## Bad guys finish fast

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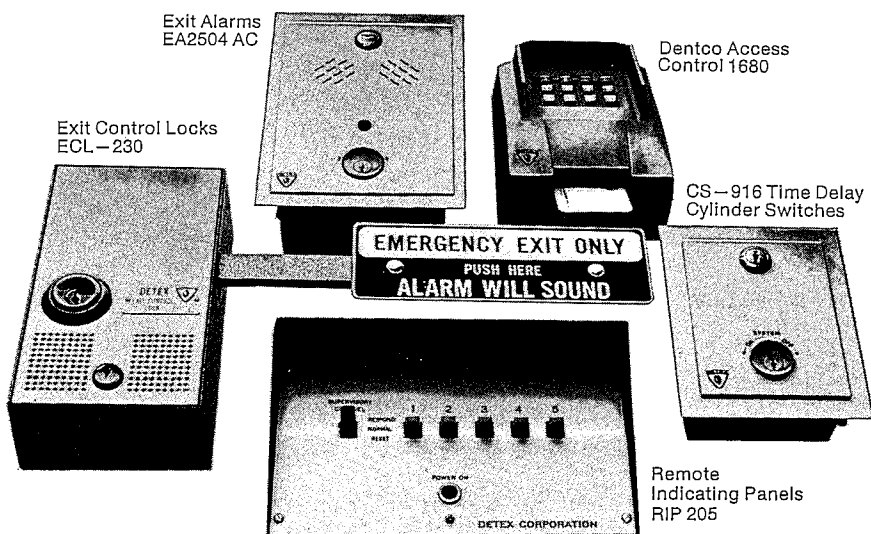
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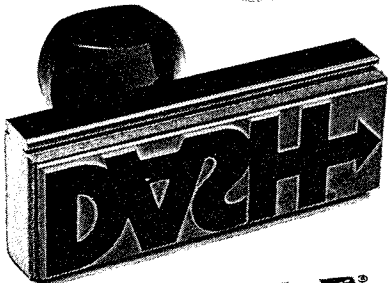
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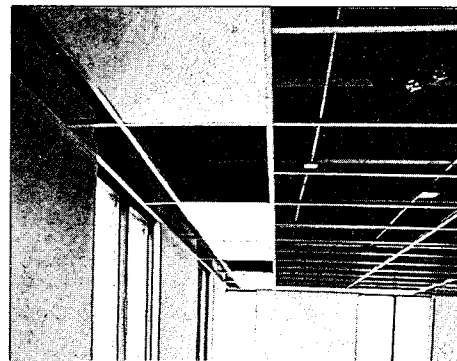
of flexibility, change, and choice (still other pervasive messages in the book). How can architects convince developers or HUD to provide intentionally ambiguous floor plans for maximum user adaptability? Read Davis (and Marcus) to find out. Also, read Davis to find out why architects have had so little impact on the fastest-growing housing form, the mobile home. This chapter is a fascinating and thorough analysis which points out the vanishing distinction between the conventional house and the mobile home. The fact that the mobile home also partly represents a racist flight from the cities is also touched on: well over 90 per cent of mobile home parks are occupied by non-minorities.

A mobile home in the water is a houseboat. A mobile home in space is part of a space colony, and a home underground can hardly be mobile. Richard L. Meier (not to be confused with Richard Meier) provokes one's imagination with soundly based prognostications from an ecological perspective in "Futures in Housing." There is a Dr. Strangelove-like objectivity in the revelation that "global shortages, massive catastrophes, and harsh environments should stimulate diversity in form." Meier can be regarded as being a brilliant soothsayer. In 1967 he stated that the 1970s would be the decade for the popularity of the profession of environmental design, and applications to architecture and landscape architecture schools have swelled. He also predicted at the same time that because of our nation's consumption and because of world fuel and food shortages the industrialized world, and particularly the United States, would be forced to lower its standard of living towards that of the underdeveloped and developing countries. That prognostication is also coming true, in spite of our reluctance to acknowledge it. Meier does not pursue those past thoughts nor their specific implications in this essay. Our urban and rural poor are relegated by him to a continuing future of "trickle-down" housing, which has not really sufficed. However, he has been right so far.

Other than by Meier, the issue of energy and environmental control systems and their impact on the present and future forms of housing is almost completely neglected in the book. An analytical look at statutory constraints (zoning laws, building codes, etc.) and their influence is also lacking. Detailed economic feasibility and cost considerations are also not covered. *The Form of Housing* is nevertheless heroic enough, and it cannot be expected to cover everything in the broad, complex topic of housing. Unless one advocates simply doing nothing, as Fredrick Engels did, so that the housing situation becomes so bad that the only solution is revolution, then *The Form of Housing* is must reading for the design professional. Cedric Price once said that there is no point in designing housing unless the new contribution is substantially unique; otherwise it is better for the users that a hitherto proven design is repeated (cribbed)." The book is a valuable reference for either tack, and it has been long awaited.

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TA

## Construction injuries: architect's liability or not?

Many liability claims against architects involve allegations by injured construction workers that the professional's negligence caused their injuries. With the demise of the architect's "privity defense" in the 1950s (i.e. the absence of a contract between the plaintiff and the architect no longer bars the bringing of a lawsuit), it became necessary to pay considerable attention to the potential liability exposure to third parties such as construction workers. For an architect to be liable for a third party's injuries, it must be shown that the architect had a duty to the injured person and that he breached that duty by failing to meet the ordinary standard of care expected of an architect under the circumstances. A legal duty to an injured worker can arise out of contract terms, can be imposed by law or can result from the architect's conduct. Recognizing the relationship between "duty" and "liability" is the starting point for taking steps to reduce the exposure to claims by injured construction workers.

by Arthur T. Kornblut, Esq.

When the courts first began to allow injured construction workers to sue architects even though no contract existed between them, the terms of the architect's contract with his client assumed an even greater importance. This seeming paradox arose because the architect's contract is the primary source for determining his duties—not only to his clients but also now to third parties. The absence of a contractual relationship with third parties no longer will bar their lawsuits, but the owner-architect contract can create duties to third parties. Early third-party liability cases debated whether the terms "supervision" and the "right to stop the work" in the architect's contract gave him a right, and thus a legal duty, to manage, direct and control the construction work in a safe manner.

There has been a decided lack of consistency on the part of the courts as to whether terms such as "supervision" and the "right to stop the work" in the architect's contract are sufficient to impose liability for a construction worker's injuries resulting from unsafe conditions. However, it has become quite clear that the existence of such terms in the owner-architect contract has given injured plaintiffs ample openings at least to get into court with their cases against architects.

### Use of a non-standard contract should be a red flag to professionals

The standard owner-architect contracts published by the AIA were modified years ago to avoid undue liability exposures to suits by injured construction workers. However, many non-standard contracts used by governmental

and commercial clients still contain provisions creating exposures to these types of claims. The highest court in Maryland recently provided a classic example of how this can occur in a case involving two engineering firms retained for professional services on a bridge spanning Baltimore's outer harbor (*Krieger v. J. E. Greiner Co. Inc.*, 2/9/78).

The plaintiff in the Maryland case was a workman injured in a construction accident. The defendants were the engineering firm responsible for the design of the bridge and "over-all supervision" of its construction and an engineering firm consulting on the construction of the bridge. Although the injured workman apparently had collected workmen's compensation insurance after his accident, the court itself suspected ". . . that this litigation was produced by a desire for 'deeper pockets' to supply compensation for the injuries sustained."

The court framed the issues by stating that for there to be liability on the part of the engineers, they must have breached a duty which they owed to the injured workman. The duty, if any, had to arise from their respective contracts with the state roads commission (the client) or by their conduct; there was no allegation of a duty imposed by law other than their contractual duties. The workman pointed to provisions in the engineers' contracts that required them to "observe and comply with all Federal, state and local laws or ordinances that affect those employed or engaged by (the engineer) on the Project . . ." and "(the engineer) will be responsible for all damage to life and property due to his activities . . ." From this, the plaintiff claimed the engineers had a duty to see that the method of construction work conformed to all laws and ordinances, and thus the engineers should be held liable for unsafe conditions which violated those regulations. In rejecting these conten-

tions, the court wrote an important opinion that should be of considerable help in defending against future claims alleging that an architect or engineer is responsible for safety violations at construction sites.

The Maryland court weighed earlier cases in which other courts came down on both sides of the liability coin. It said, "There is a decided split of authority as to whether an architect or engineer responsible for day to day supervision of a construction project is liable to a workman for unsafe working conditions or liable to others for yet other shortcomings of a contractor. (Citations omitted.) Although there is no clear majority view, it would appear that the weight of authority is on the side of nonliability." Then, in unusually candid terms, the court criticized those decisions in which liability was imposed on an architect by a strained reading of the professional services contract to reach a conclusion in obvious disregard of the parties' intentions. Furthermore, such court interpretations are not consistent with generally accepted usage.

### Injudicious language in owner-architect agreements often imposes liability

Referring back to the contract language in the instant case, the court said that nothing in the engineers' contracts imposed any duty on the engineers to supervise the methods of construction or to supervise safety in connection with construction. The duty of the engineers under their contracts related to the end result—a completed bridge which complies with the engineer's design. Finding the engineers had no duty to the injured workman, the court would not hold them liable.

This case and others that involve suits by injured construction workers against architects have a common thread running through them, namely injudicious language in the owner-architect contract that could be interpreted to show a duty running from the design professionals to the plaintiff. When these cases arise, the architect's position is often weakened by his being the only defendant in court (the contractor having been insulated by the immunities given to employers under the workmen's compensation laws) and by the court's natural sympathies being on the side of the party who was either injured or killed. If liability, or extensive litigation at the least, is to be avoided, the architect's contract and related project documents and his conduct during construction phase services should not create or infer a duty for the safety of construction workers or methods.

Mr. Kornblut is a registered architect and practicing attorney in Washington, D.C.

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# Construction costs still rising, but at a slower rate—for the moment

Based on a recent survey of the prices of five key building materials, and wage rates for ten widely used building trades, average construction costs have increased 3.3 per cent in the past six months and now stand 8.5 per cent above a year ago, according to Dodge Building Cost Services. This is a shift downward in the rate of increase, however.

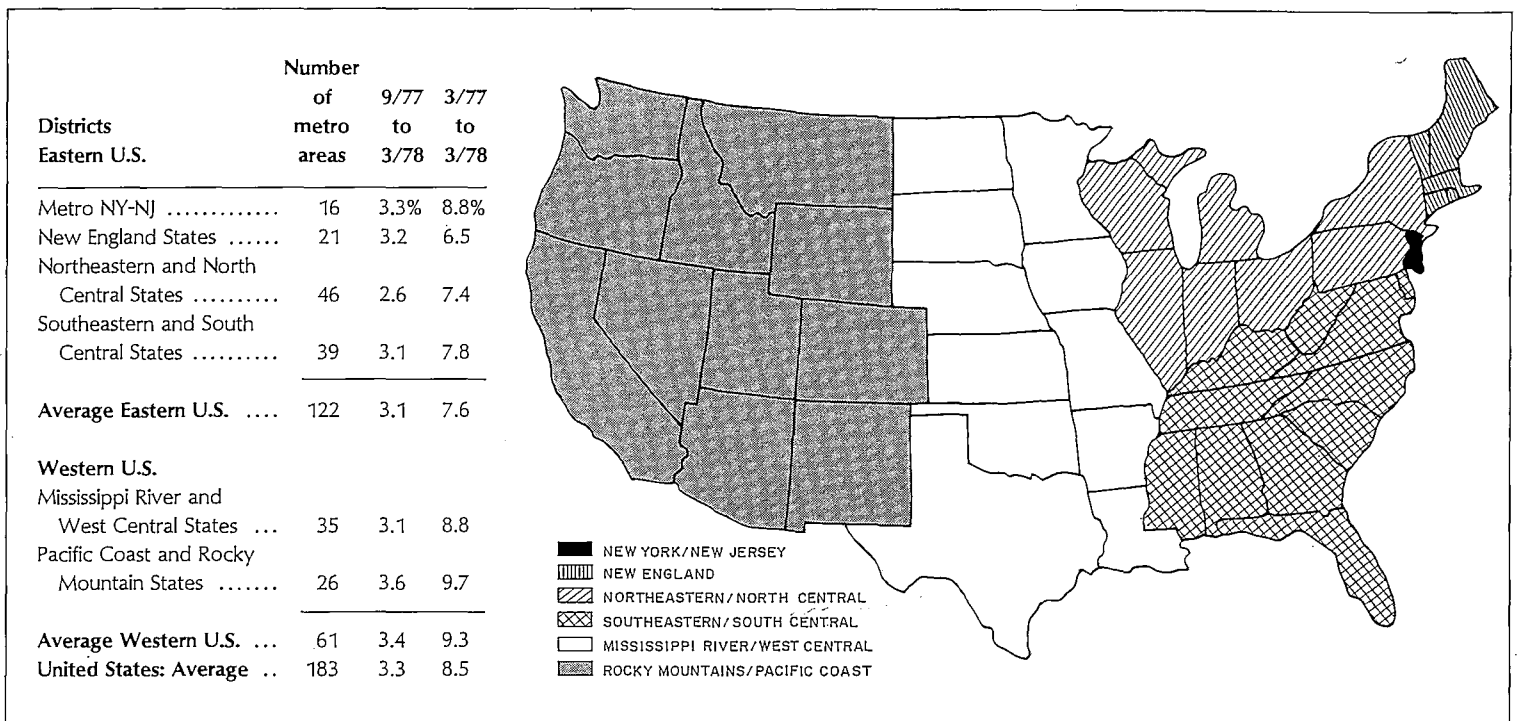
Actions taken to halt the flow of mortgage money to speculators in southern California have tended to bring that area into equilibrium between supply and demand, and weather nationwide has halted construction. That, and the fact that open shop contractors continued to gain ground have helped keep a lid on union labor demands in the last 12 months.

Material prices seem to be taking a breather before the next big jump that will be spurred by the coal strike. Steel manufacturers are already preparing new price lists, cement will be next, and lumber will follow. At the same time, construction's steady pace means that demand for these materials remains high.

There should be a 4 per cent materials price increase in the period from now to September, and a 10 per cent increase for the months between now and March 1979.

Actions taken to halt the flow of mortgage

before the next big jump that will be



**HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES** 1941 average for each city = 100.00

Metropolitan area	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977 (Quarterly)				1978 (Quarterly)			
										1st	2nd	3rd	4th	1st	2nd	3rd	4th
Atlanta	353.1	384.0	422.4	459.2	497.7	544.8	575.0	598.7	657.1	701.5	712.0	704.3	732.5	742.8			
Baltimore	308.7	322.8	348.8	381.7	420.4	475.5	534.3	581.1	585.0	605.7	614.8	628.1	653.2	661.0			
Birmingham	284.3	303.4	309.3	331.6	358.3	402.1	421.2	448.9	551.9	543.8	551.9	575.9	598.9	608.5			
Boston	277.1	295.0	328.6	362.0	394.4	437.8	462.5	513.2	555.9	567.7	576.2	581.3	604.5	611.1			
Chicago	339.5	356.1	386.1	418.8	444.3	508.6	529.6	560.1	635.2	662.2	672.1	683.4	710.7	717.8			
Cincinnati	302.6	325.8	348.5	386.1	410.7	462.4	500.1	550.6	609.8	615.6	624.8	650.7	676.7	683.5			
Cleveland	331.5	358.3	380.1	415.6	429.3	462.2	509.5	531.0	632.9	619.4	628.7	615.1	639.7	650.6			
Dallas	281.7	308.6	327.1	357.9	386.6	436.4	477.9	499.6	538.5	560.1	568.5	611.6	636.1	640.6			
Denver	312.5	339.0	368.1	392.9	415.4	461.0	510.0	553.6	616.0	656.3	666.1	691.7	719.3	731.5			
Detroit	316.4	352.9	377.4	409.7	433.1	501.0	538.7	597.5	617.2	634.2	643.7	649.4	675.3	733.7			
Kansas City	278.0	295.5	315.3	344.7	367.0	405.8	444.9	509.1	547.3	568.2	576.7	592.1	615.7	625.6			
Los Angeles	320.1	344.1	361.9	400.9	424.5	504.2	531.8	594.1	673.1	709.2	719.8	748.2	778.1	787.4			
Miami	305.3	392.3	353.2	384.7	406.4	447.2	485.5	558.9	592.5	604.6	613.7	616.7	641.3	653.5			
Minneapolis	309.4	331.2	361.1	417.1	412.9	456.1	488.6	538.0	564.1	593.0	601.9	617.9	642.6	654.8			
New Orleans	274.2	297.5	318.9	341.8	369.7	420.5	442.1	494.7	534.8	580.2	588.9	609.2	633.5	639.8			
New York	321.4	344.5	366.0	395.6	423.1	485.3	515.3	533.5	580.8	607.7	616.8	607.7	632.0	644.6			
Philadelphia	301.7	321.0	346.5	374.9	419.5	485.1	518.5	567.5	579.2	615.8	625.0	655.8	682.0	688.8			
Pittsburgh	293.8	311.0	327.2	362.1	380.3	424.4	465.6	509.5	526.3	549.5	557.7	579.7	602.9	615.2			
St. Louis	304.4	324.7	344.4	375.5	402.5	444.2	476.7	528.9	537.1	605.8	614.9	611.9	636.3	642.7			
San Francisco	402.9	441.1	465.1	512.3	561.0	632.3	672.5	753.3	820.8	904.5	918.1	954.2	992.3	1002.2			
Seattle	292.2	317.8	341.8	358.4	371.5	424.4	450.2	515.1	570.5	603.7	612.8	620.6	645.4	656.1			

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.



# Fisher-Friedman Associates: How one firm works successfully (very!) with developers

*Developer housing is, of course, a huge market. It is also a market where a lot of very good architects have come a cropper. Builders are tough and knowledgeable clients—with their eye first on the market and on costs (low, low costs).*

*In this tough, market- and cost-oriented world there are very few design superstars. Fisher-Friedman Associates of San Francisco is one of them. Their work for builders has won a wall full of design awards—and they simultaneously enjoy a top reputation for bringing in work that is not just on time and within the budget, but which rents up or sells out by opening day. An amazing 80 per cent of their work for homebuilders is repeat business. This article explores some of their ideas about working in housing. . . .*

Since the formation of their firm in 1964, Robert Fisher and Rodney Friedman have specialized in housing, both multi-family and single-family. By 1966 the firm had graduated to the design of larger housing projects to meet the then new Planned Unit Development (PUD) ordinances in California. During the last 14 years they have designed literally hundreds of housing projects which have clearly influenced housing design throughout California. Presently the firm is involved in 35 different projects, most of them housing, now spread throughout the United States and a few projects in Europe. They are now branching out from their specialty residential base and planning center city and mixed-use developments.

The firm is best known for its major projects completed in recent years and five of these award-winning and most profitable designs are recollected here. Each has been more successful than even the developers expected. Promontory Point in Newport Beach (top page 96) was fully rented immediately upon completion; the first phase of The Islands in Foster City (bottom page 96) also sold out quickly, and the recently completed second phase sold out before construction was completed; Mariner Square (top page 97) and Ethan's Glen (right same page) were rented by the end of construction; and just finished Whaler's Cove (bottom page 97) is sold out.

One undeniable factor in the profitability of each of these projects has been the great need for housing in the West and the boomtown atmosphere which has existed in California over the past few years. Costs have escalated despite the increase in the number of units (in both northern and southern California), with speculative buying one of the chief reasons. Of the projects shown, the highest single unit selling price to-date has been at Whaler's Cove at \$150,000. It is, on the other hand, noteworthy that these projects have either rented or sold faster than comparably-priced projects in the surrounding areas, with many units selling on the basis of only a model while the construction work was in progress.

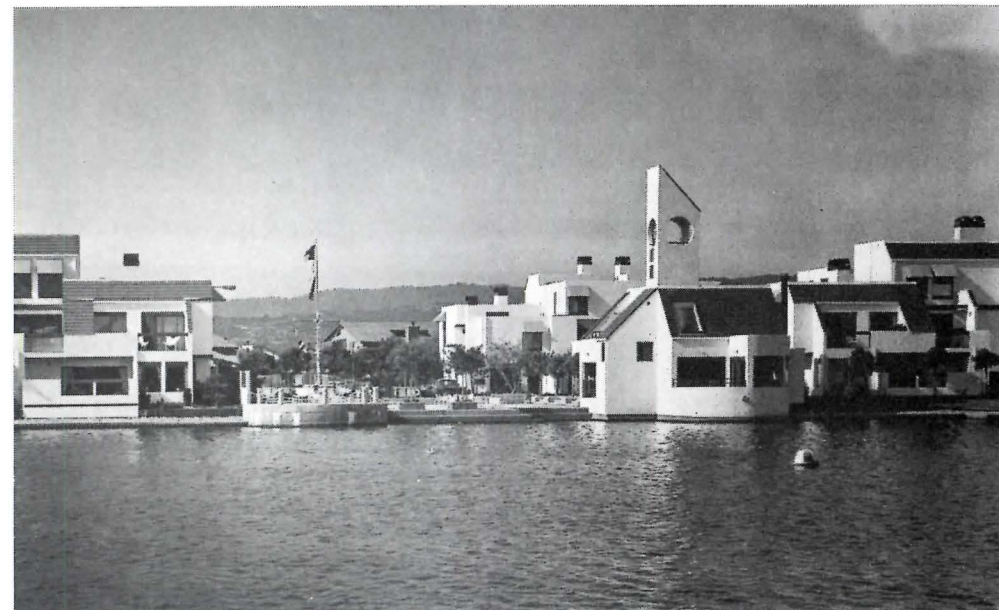
"Fisher-Friedman Associates is one of a handful of architectural firms throughout the country that has been successful with these types of projects," says John F. Goldsmith, editor-in-chief of *Housing*, which has published



Whaler's Cove (above)  
Foster City, California  
La Moraleja Housing (right)  
Madrid, Spain



Paisajes Espanoles



The Islands (above), Foster City, California

Joshua Freiwald



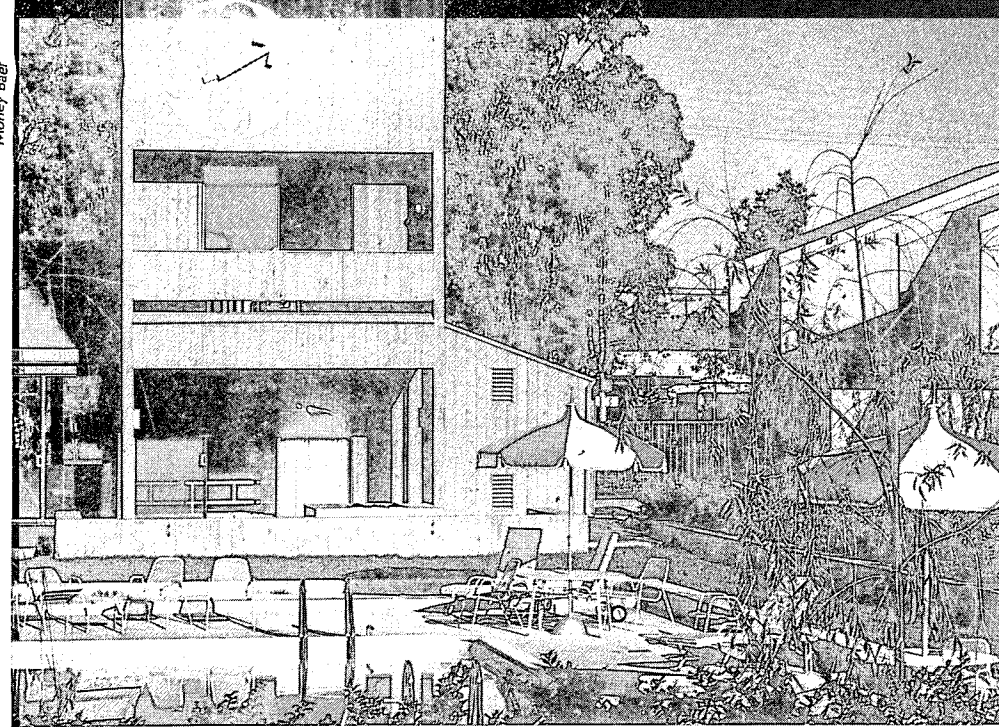
Turtle Rock Glen Townhouses (above), Irvine, Calif.  
Promontory Point (right), Newport Beach, California



Joshua Freiwald



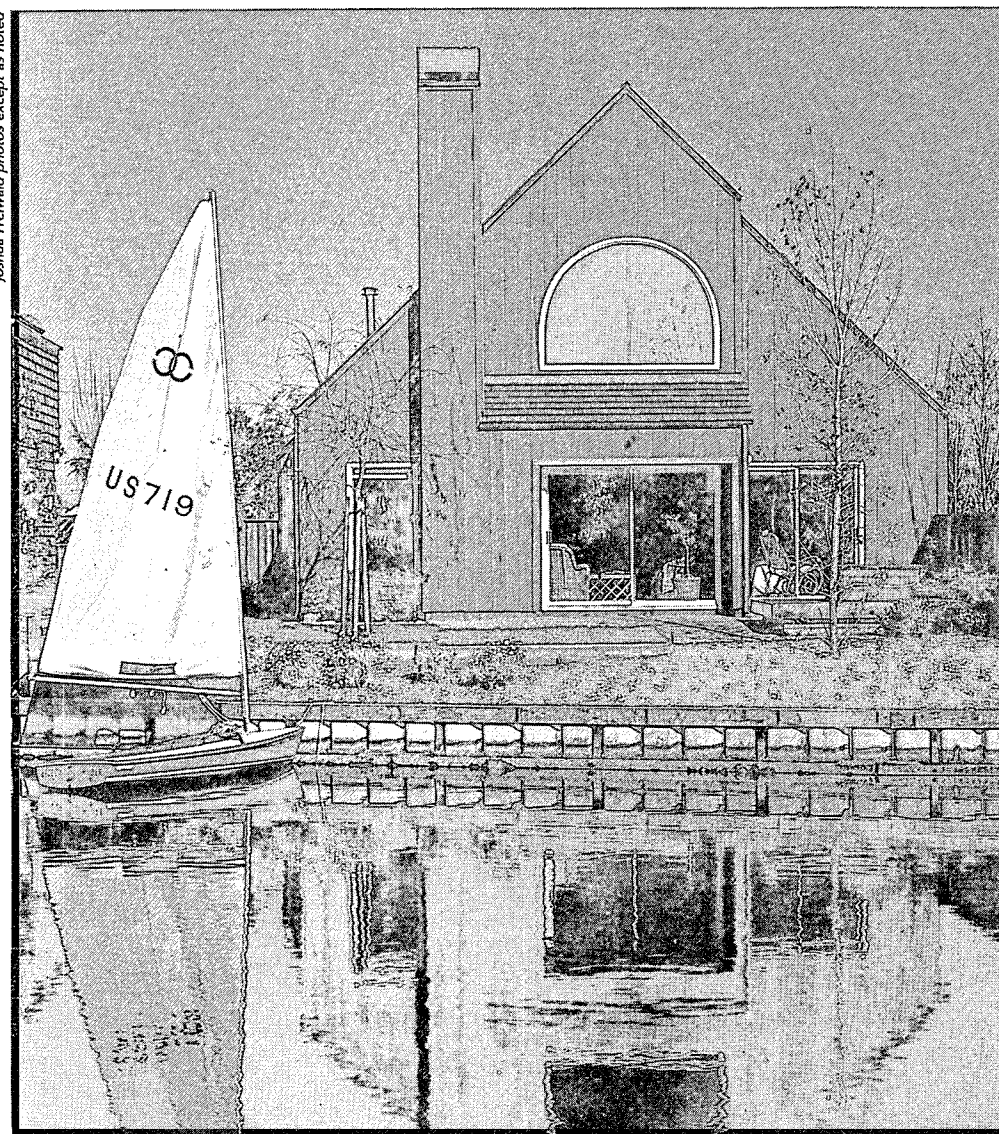




### Five award-winning designs have been unbelievably profitable

Five award-winning designs of Fisher-Friedman Associates have demonstrated that good design can be successful financial ventures for the client. Promontory Point in Newport Beach (top left), The Islands in Foster City (bottom left), Mariner Square in Newport Beach (above) and

Whaler's Cove in Foster City (below), each located in California, and Ethan's Glen in Houston (right) were all featured in RECORD HOUSES AND APARTMENTS in recent years. They have also won numerous design awards and (see text) have sold or rented in record time.



many of the firm's projects, many of them winners in the *Housing/A.I.A. Homes for Better Living Competition*. He attributes the firm's success to its "flair for design, combined with a real feel for the builder/developer marketplace." Clearly it is the firm's design skills with a sophisticated understanding of the buyer and developer that makes them so sought after.

One long-time business association of the firm has been with developer Michael Podell. During the last 15 years he has worked closely with them on a number of projects and finds them "so knowledgeable in the developer business that it's like having a consultant who really knows all the ramifications of the real estate business, from the arithmetic to what's going on in the market to understanding what will and will not sell. To top this off, they are excellent architects who are capable of designing for any price range." Another developer, John Irving of Vintage Properties, elaborates further on his reasoning for being a long-time repeat client: "Our projects have been successful, in large part due to the architects. The firm is flexible and has no stereotypical design; they are able to tie a good architectural solution to market demands. In addition, I often use them as a 'sounding board' because of their bank of growing knowledge."

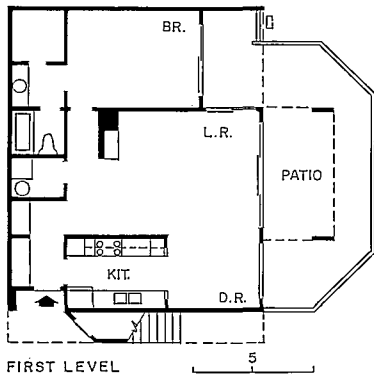
As the design of housing changes to reflect cultural changes the firm is seeking better residential design. Rodney Friedman tries to carry forth what he calls "behavioral traces"



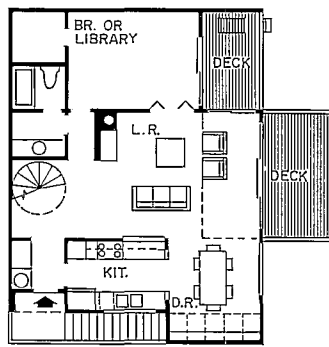
throughout the design process. "I try to look for traces of behavioral patterns that have existed and now exist in housing, and to incorporate those patterns in designs which meet modern-day technologies and lifestyles. We try to submerge our 'authorship role,' organizing (or rearranging, if necessary) the priorities for each project to establish a desired universal level of quality," said Rodney Friedman.

"I think the key to our success is in the contact with the client," continues Friedman. "The personal loads are heavier but the rewards are greater." The developers concur, and an astounding 80 per cent of Fisher-Friedman's business is repeat clients.

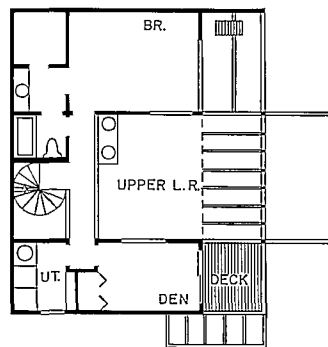
With a developer new to the firm the architects take painstaking effort to involve the client in each stage of the architectural process. "This educates both the client and the architect to each other's desires and goals," says Friedman, "and opens a friendly channel of communication which makes working out problems an easier process."



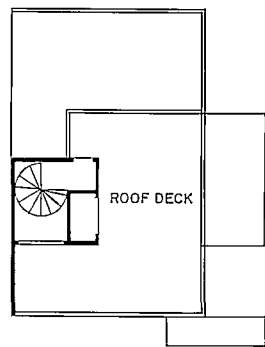
FIRST LEVEL



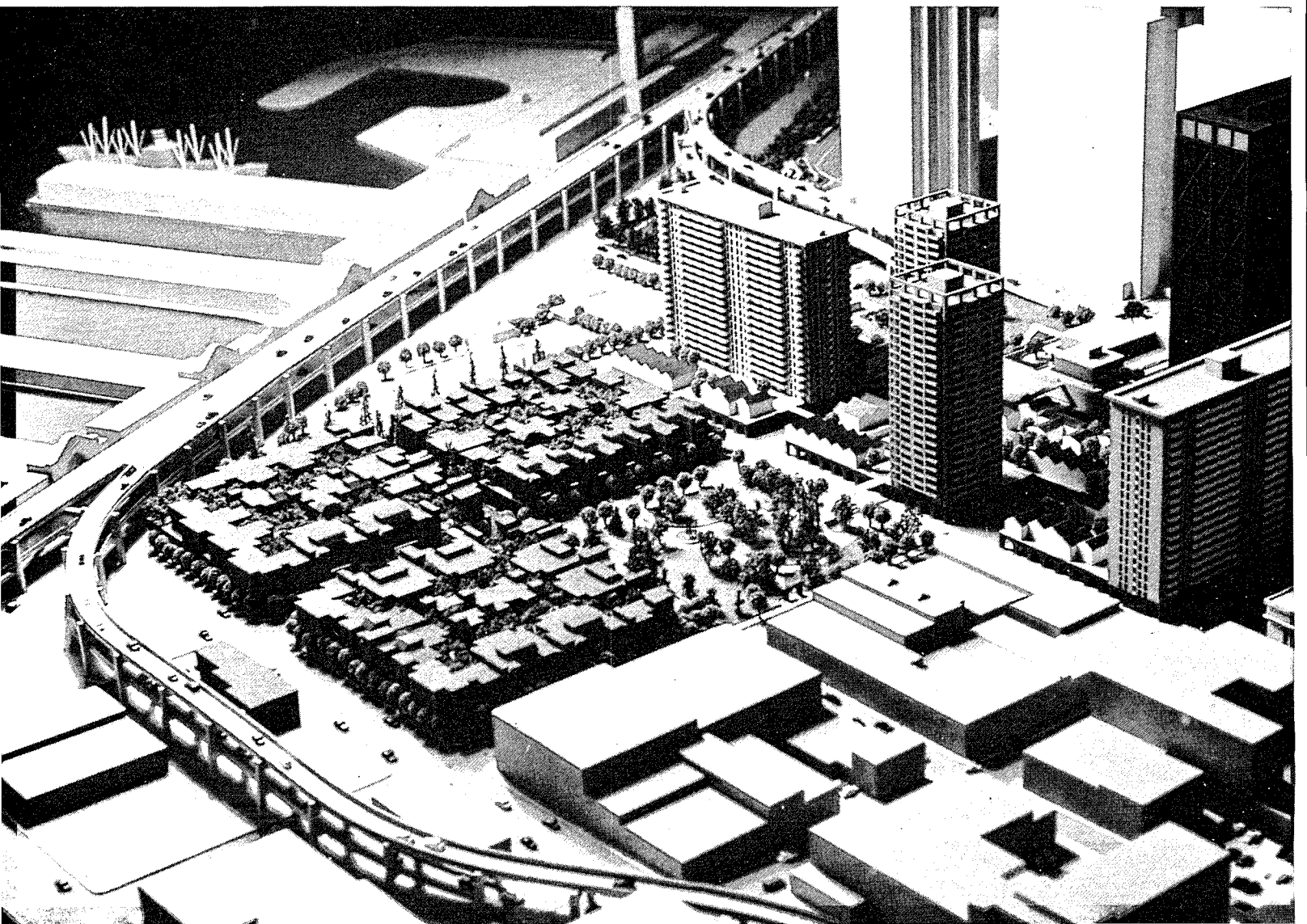
SECOND LEVEL



THIRD LEVEL



ROOF LEVEL





## Golden Gateway Center will be completed with exciting housing

One of the most influential projects that Fisher-Friedman Associates is presently working on is the last phase of Golden Gateway Center—a mixed-use complex in San Francisco. On a prominent site near the waterfront, it lies in the direction of a burgeoning new financial district. It was originally started as a Redevelopment Agency project but totally financed by private developers.

The first two phases—mainly high-rise but with some townhouses above a street level shopping arcade—are always completely rented. The new design departs from the high-rise nature of the first phases in response to primarily economic factors, but it does continue the arcade shopping and public spatial refinement that has made this project very successful and profitable.

During the initial stages the architects ferret out the specifics of what the developer thinks he wants. "We approach the client on a realistic, business-like basis, emphasizing our past success, and often driving the client to projects in the area." One viewpoint that the architects are quite adamant about: "the developer *will* change as a result of this whole process, and if he is not willing to explore and perhaps achieve something different than initially conceived, he is in the wrong office." While this is a hard-headed approach to client relations, it nonetheless seems to work, for the architects are equally convincing when they demonstrate that their projects have, very importantly, come in on budget and have been profitable to the client.

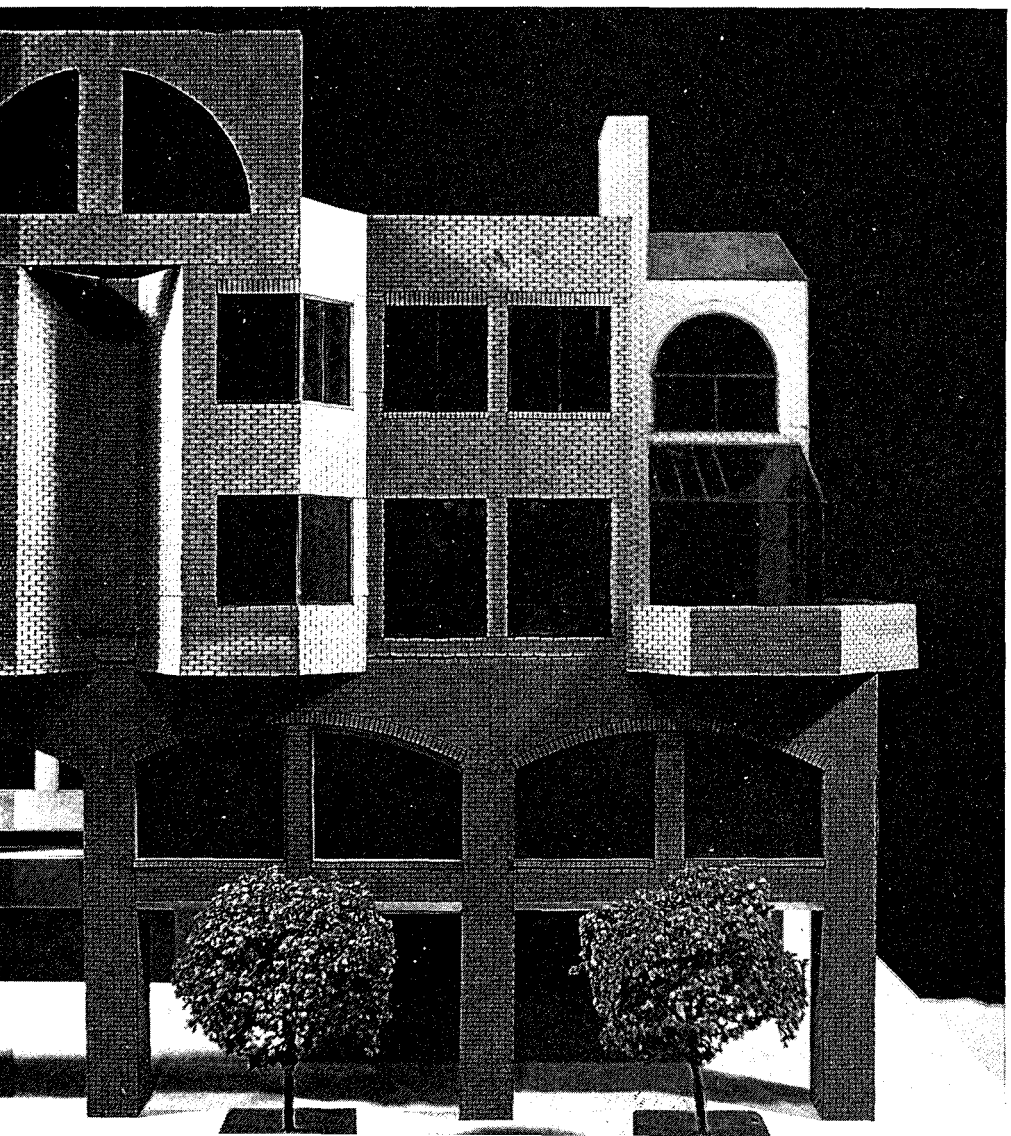
The operation of the 20-person office is on an open studio basis, with each person encouraged to comment on any of the work. Friday afternoon office meetings stimulate and enhance this discussion on a more formal basis. Friedman likes the firm at its present size—"a larger firm would mean losing control over the process and the personal touch we feel we have with each client."

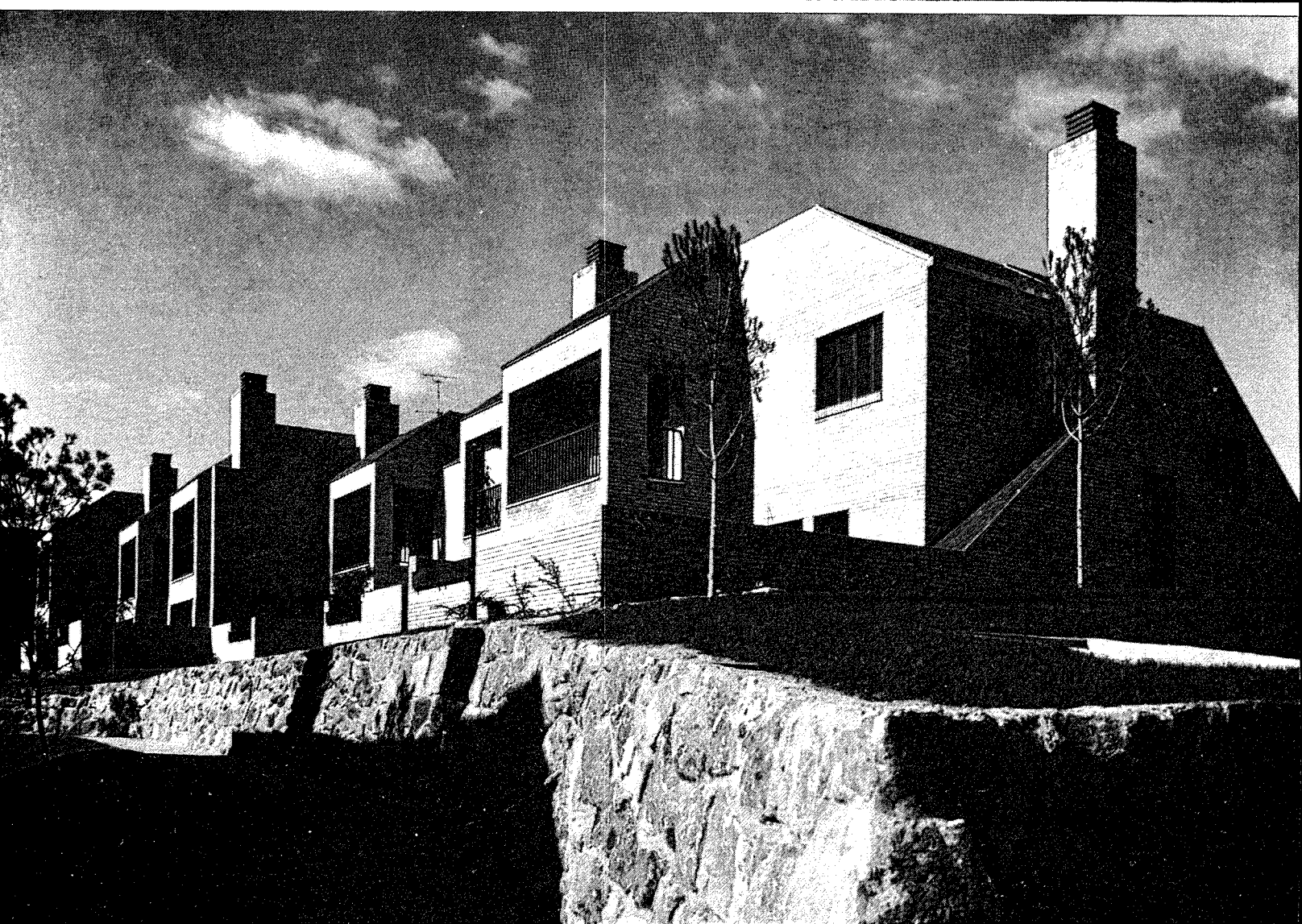
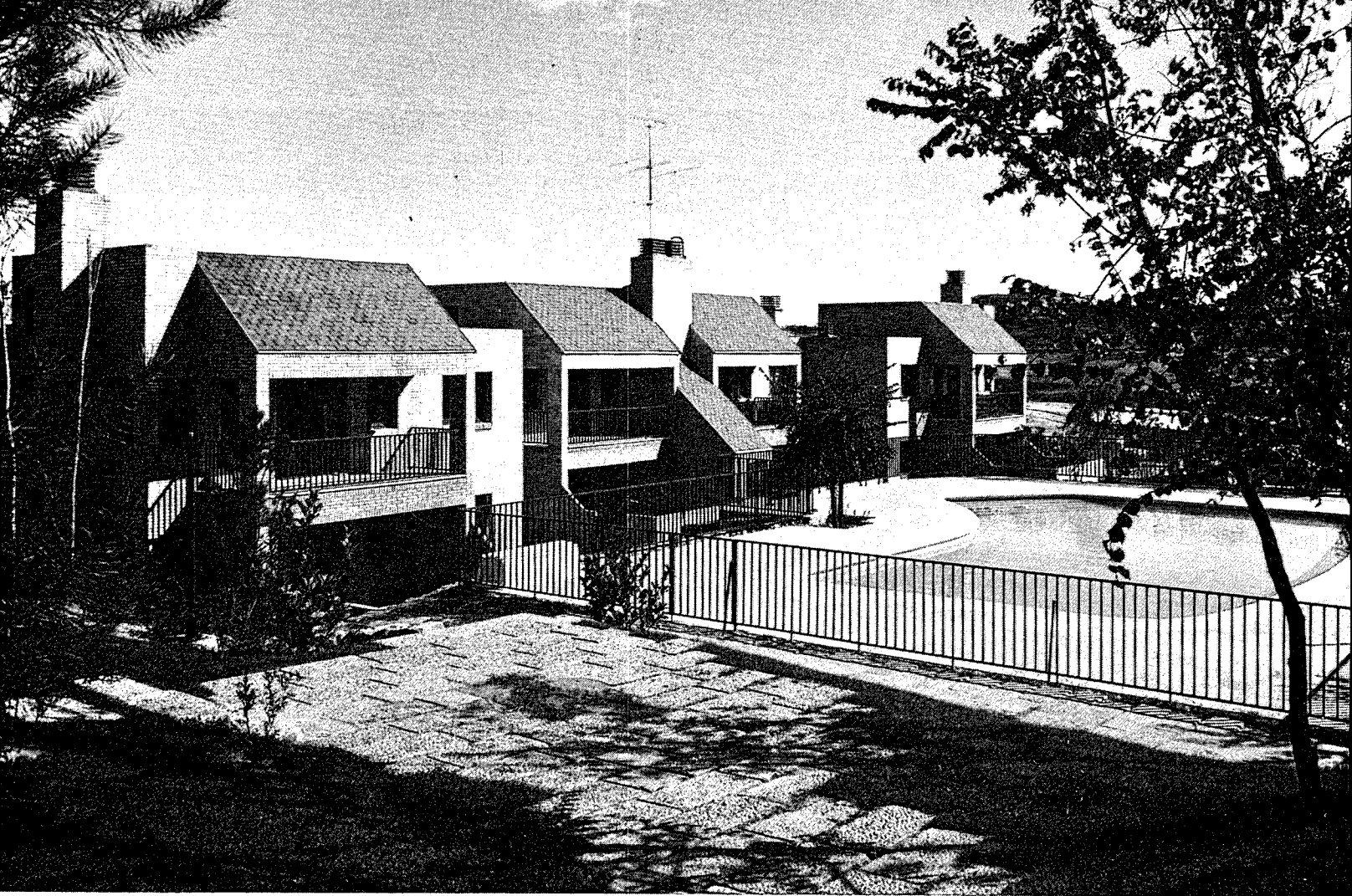
Because of the firm's many years in the housing industry, designing mixed-use developments seems natural, for the program is often based on housing. One of these new projects is an urban plan for downtown San Diego, another is a master plan for Tiburon, California, and yet another is a total area plan and design for a mixed-use community along the Alameda Estuary near San Francisco.

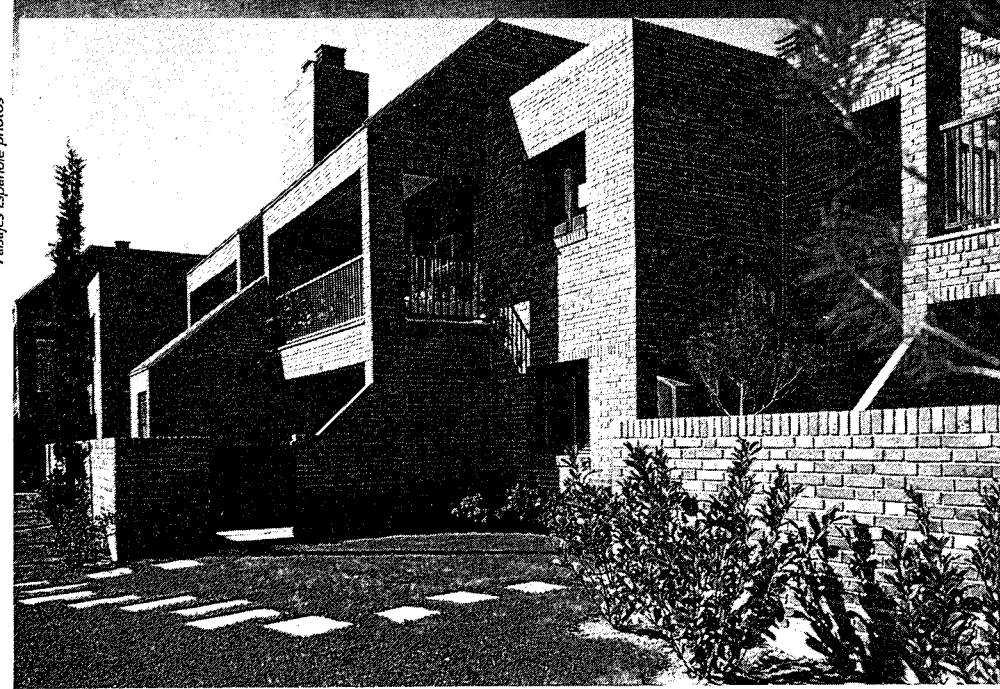
One of the most exciting new projects that Fisher-Friedman Associates has designed is the latest phase of Golden Gateway Center, a redevelopment project in the heart of San Francisco. While the Redevelopment Agency conceived of converting an old produce area into an exciting new complex of housing, recreation, stores and shops as early as the 1950s, it was not until the 1960s that it sponsored a design competition. A scheme by Wurster Bernardi and Emmons won, and four high-rise residential towers, with two-story townhouses sprinkled throughout, set atop a shopping arcade were designed and built.

The Phase III design by Fisher-Friedman Associates will continue the street-level shopping arcade (highlighted by large arches) but will depart from the original high-rise concept to incorporate only low-rise townhouses on a podium. The low-rise solution responds to many pressures that did not exist at the time of the initial concept: escalating construction costs, sun and wind studies which logically indicated low-rise construction in the area, and Telegraph Hill Neighborhood Association opposition to cutting up views of the San Francisco Bay—all contributed to the new scale which will be more sympathetic to the surrounding structures and to the adjacent Embarcadero waterfront and freeway.

The project is the first center city mixed-use development to be completed by the firm and for one of the co-developers, Vintage Properties, a continued association between developer and architect from the Whaler's Cove project.



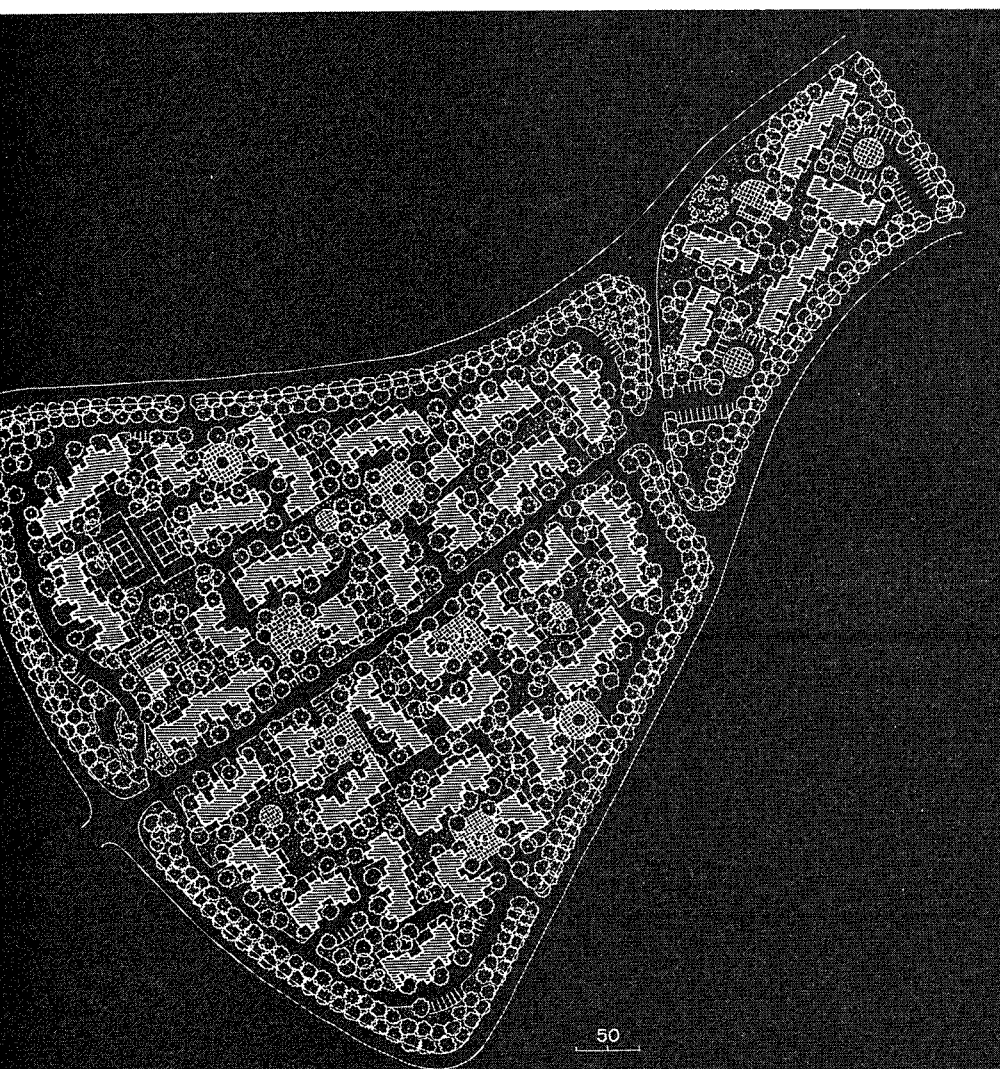




## Madrid housing designed with American know-how sells out

Located only five miles from central Madrid, the La Moraleja housing project for upper-income families was designed by Fisher-Friedman Associates in a manner similar to their American work. Unique to modern design in Madrid, this low-rise project is sensitive to the terrain, carrying forth some elements of typical Spanish design and materials. The manner of

siting the project as a whole and the clustering pattern of the units is particularly American, but the subtleties of these patterns are responsive to the climate (shaded decks and walkways as an example). The firm also concentrated on the design of the community spaces, such as the pool area (top left). The project is nearly complete.



In branching out, the firm was eager to accept an offer by an American developer to design a multi-family housing project located five miles from central Madrid.

Obviously, many of the firm's American techniques and ideas established a base for their design, particularly the concentration of siting the units, circulation and concern for community spaces, but there are some significant differences relating to the size of the residences and construction techniques. The units vary in size from 1,250 to 1,800 square feet, smaller than projects of this type in the United States. To meet existing Spanish construction techniques, masonry bearing walls with a specially selected brick (used throughout) were employed with precast concrete floors and roof joists. Metal balcony rails and varnished wood windows and shutters are typically used.

A third newly completed project for Fisher-Friedman Associates is Turtle Rock Glen Townhouses, located in Irvine, California, a mecca for good housing design. Fifty units were clustered on two knolls which overlook a broad plane of other housing and agricultural land. Instead of regrading the site and destroying the hills to accommodate a more typical kind of site planning, the architects arranged the units only on the hilltops to complement the natural terrain (28 units on one knoll and 22 units on the other). A lushly landscaped greenbelt runs through the site, used advantageously to camouflage a large recreation center.

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PROMONTORY POINT, Newport Beach, California. RECORD, mid-May 1975, pages 98-99. THE ISLANDS, Foster City, California. RECORD, mid-May 1976, pages 123-125. MARINER SQUARE, Newport Beach, California. RECORD, mid-May 1970, pages 94-95. WHALER'S COVE, Foster City, California. RECORD, mid-May 1977, pages 124-126. ETHAN'S GLENN, Houston, Texas, RECORD, mid-May 1975, pages 108-110.

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GOLDEN GATEWAY NORTH (Phase III of Golden Gateway Center Redevelopment Project), San Francisco, California. Owners: *Golden Gateway North (a partnership of Perini Corporation and Vintage Properties)*. Architects: *Fisher-Friedman Associates*. Engineers: *L. F. Robinson & Associates (structural); Montgomery & Roberts (mechanical); Darmsted-Parenti & Associates (electrical)*. Landscape architects: *Anthony Guzzardo & Associates*. General contractor: *Perini Corporation*.

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LA MORALEJA HOUSING, Madrid, Spain. Architects: *Fisher-Friedman Associates*. Engineers: *The Austin Company*. Landscape architects: *Anthony Guzzardo & Associates*. Developer and builder: *LinPro*.

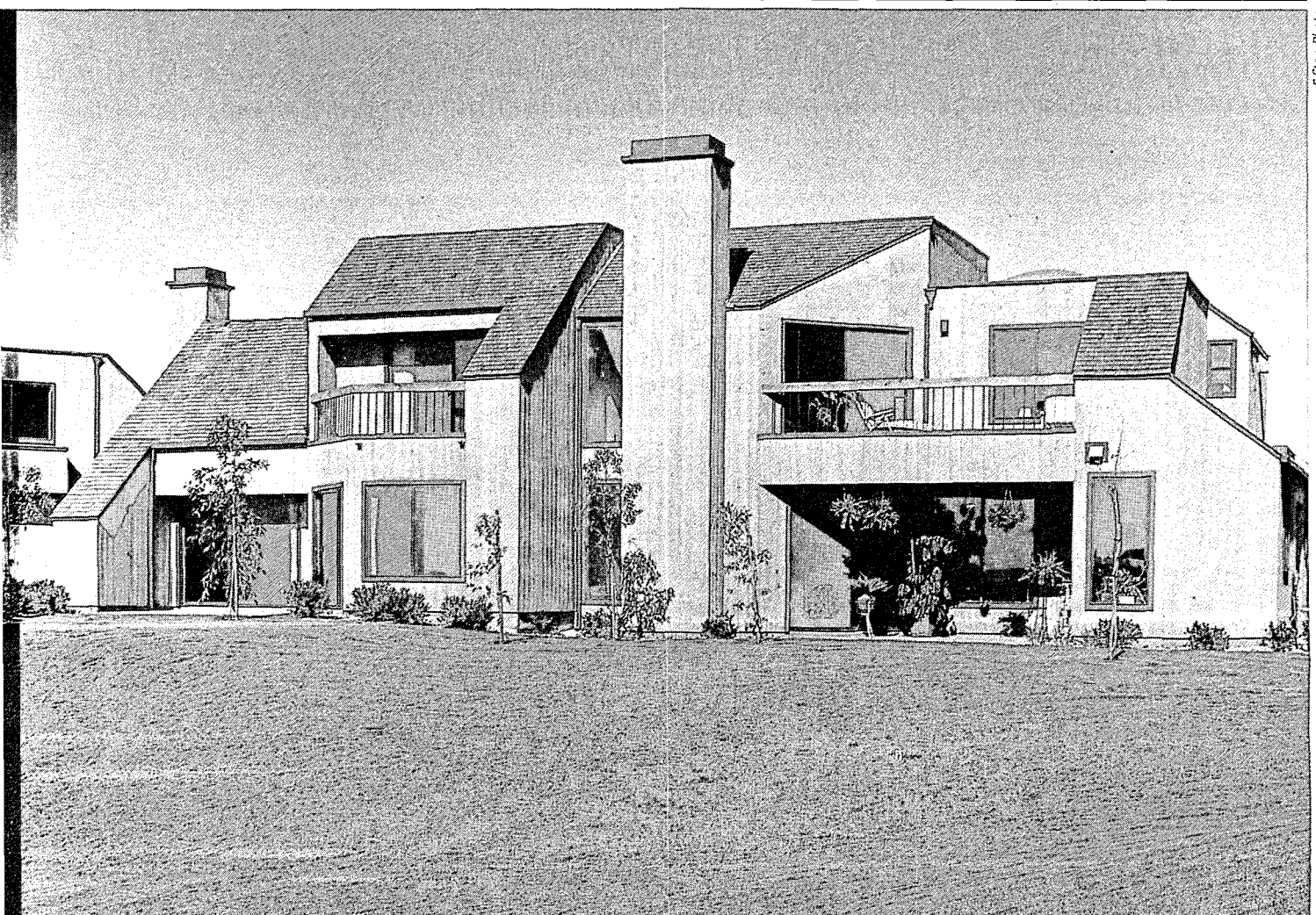
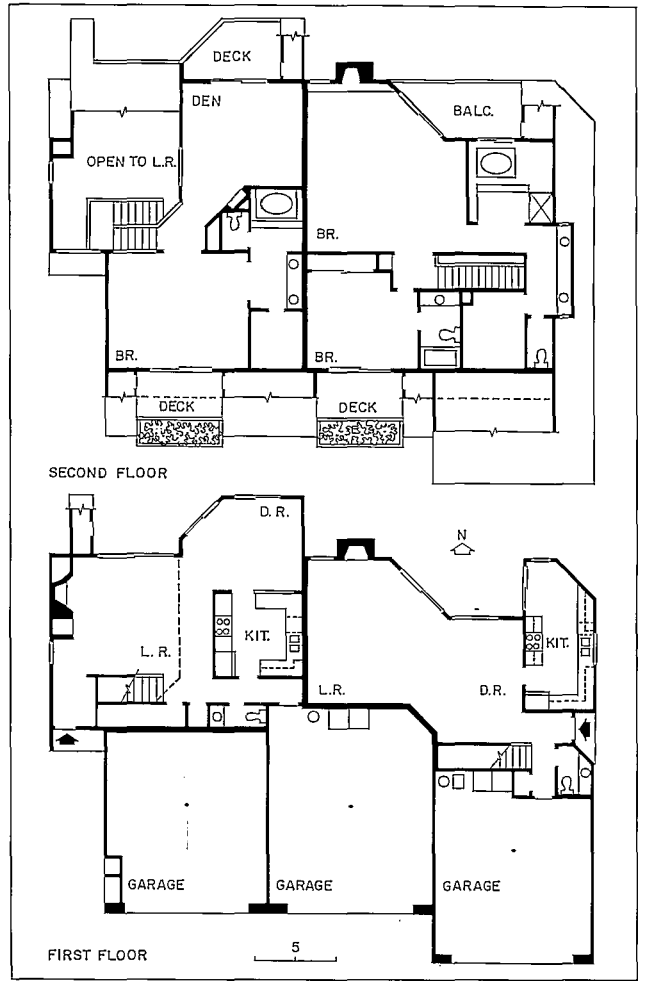
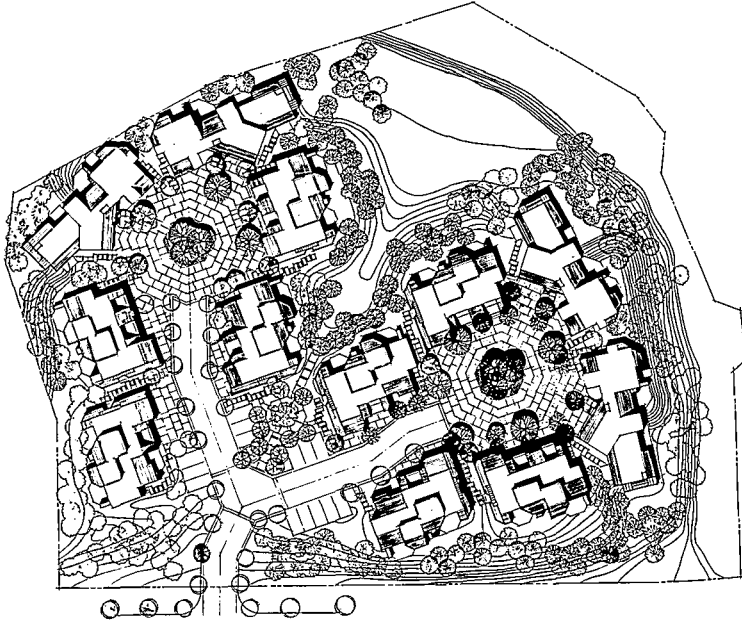
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TURTLE ROCK GLEN TOWNHOUSES, Irvine, California. Architects: *Fisher-Friedman Associates*. Engineers: *L. F. Robinson & Associates (structural); Hall and Foreman, Inc. (civil); Bio-Acoustical Engineering Corporation (acoustical)*. Landscape architects: *Frank Radmacher Associates*. Energy conservation consultant: *Baum and Associates*. Builder: *Irvine Development Company*.

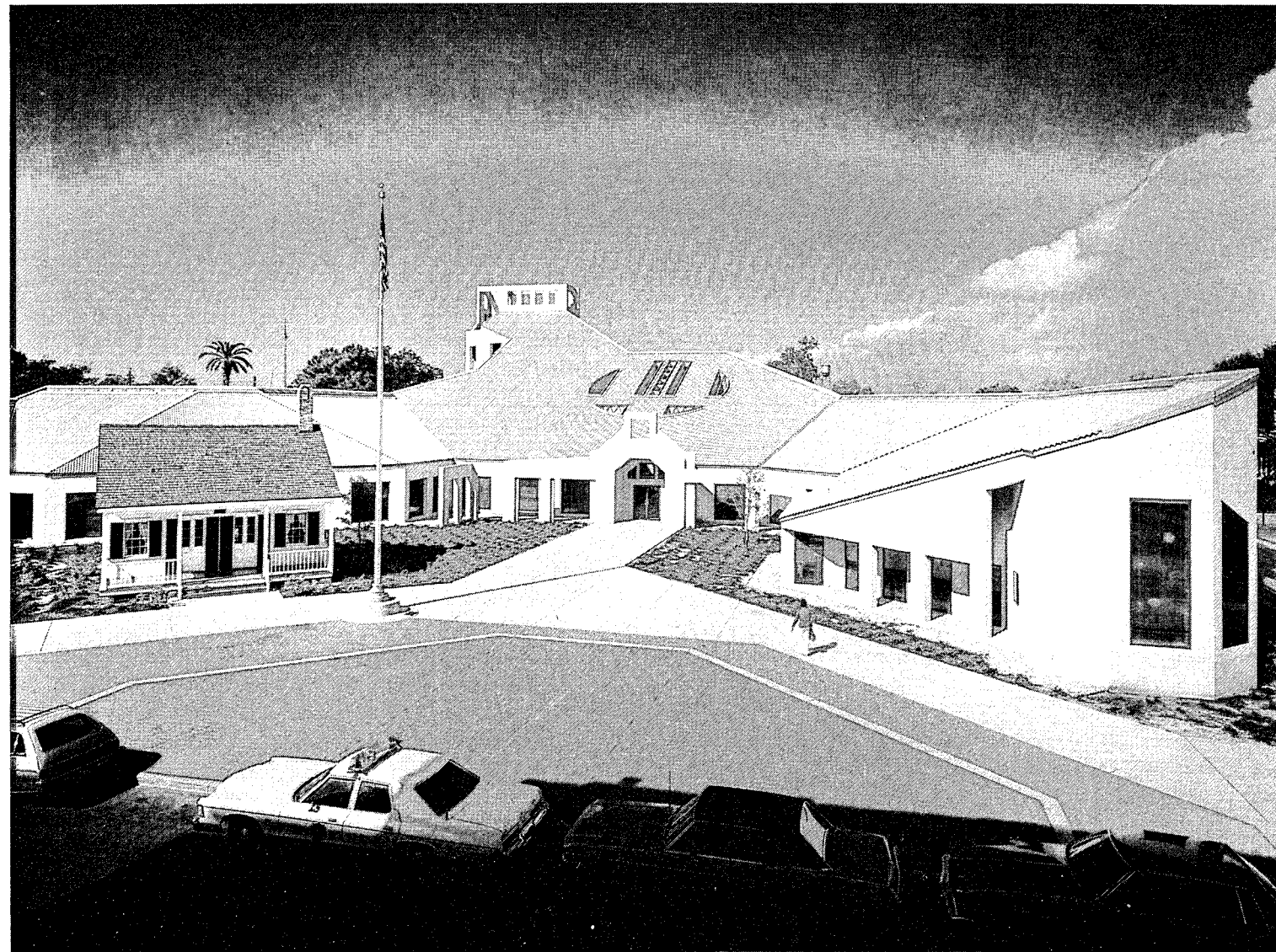
## Southern California housing is latest of designs profitable for client

Turtle Rock Glen Townhouse development in Irvine, California, is the most recently completed project of Fisher-Friedman Associates, and one that suggests the intricacies, subtleties, and human scale that can be achieved in the design of large housing projects. In this case, the view outlooks tapered the selection of spots on which

to group large units with a variety of floor plans. Six different floor plans, ranging from 1,400 to 1,750 square feet in size, are attached in a manner that gives an over-all visual impression of a single-family residence. Exterior materials include resawn cedar siding (stained in earth tones) and cedar shingle roofs.

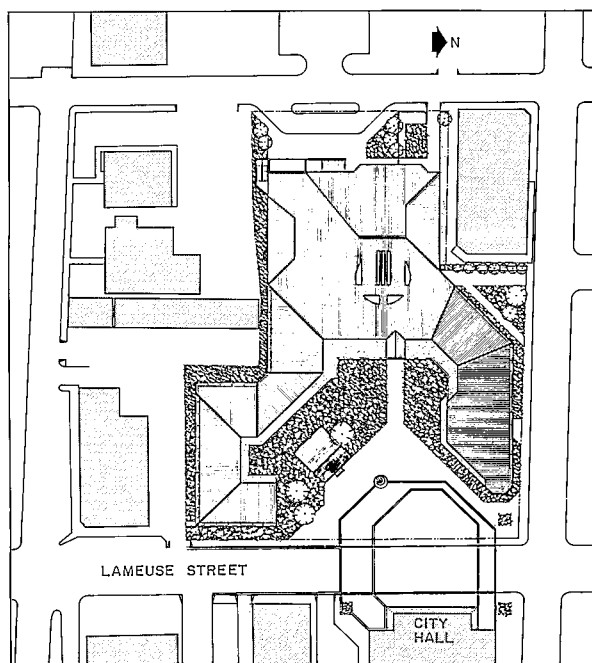


F-Stop Photo



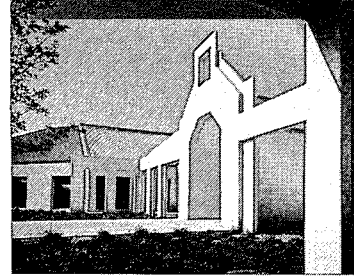
© by Morley Baer

# BILOXI LIBRARY AND CULTURAL CENTER

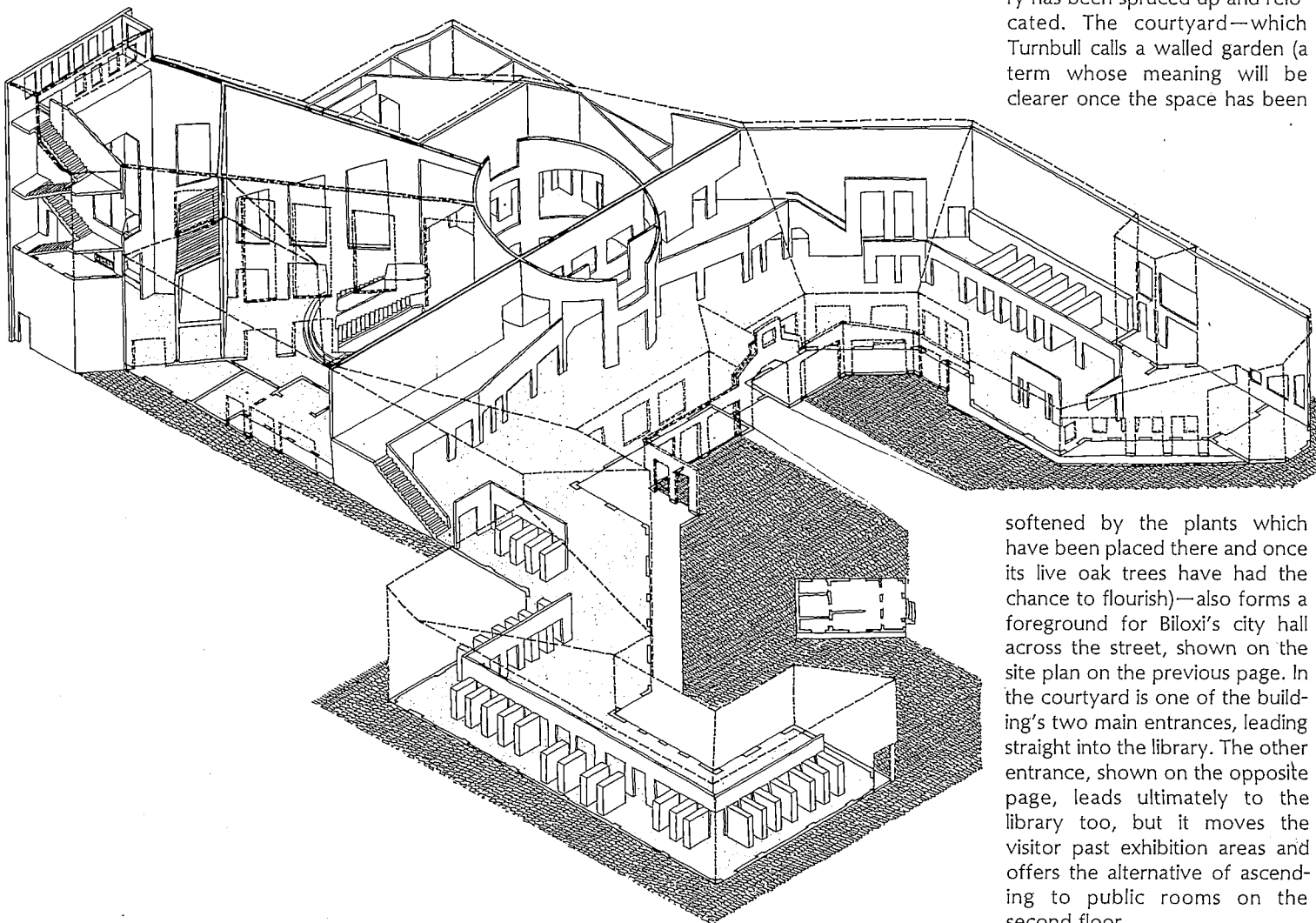




©Morley Baer photos



In May, 1975—just three years ago—RECORD reported that teams of students from six Southern architecture schools, led by six nationally known architects, had camped out for a week in Biloxi, Mississippi, to develop a series of alternative designs for the new library and cultural center which the town was then proposing. One of the team leaders, William Turnbull, of MLTW/Turnbull Associates in San Francisco, subsequently received the commission for the building, and now the job is done and is shown on these pages and on this month's cover. The Biloxi library and cultural center is a centerpiece for a plan for what is hoped will be a comprehensive downtown renewal. Turnbull's building sprouts a pair of wings which embrace a newly created courtyard—originally conceived of as Biloxi's bicentennial gesture—where the town's original wood-frame library has been spruced up and relocated. The courtyard—which Turnbull calls a walled garden (a term whose meaning will be clearer once the space has been



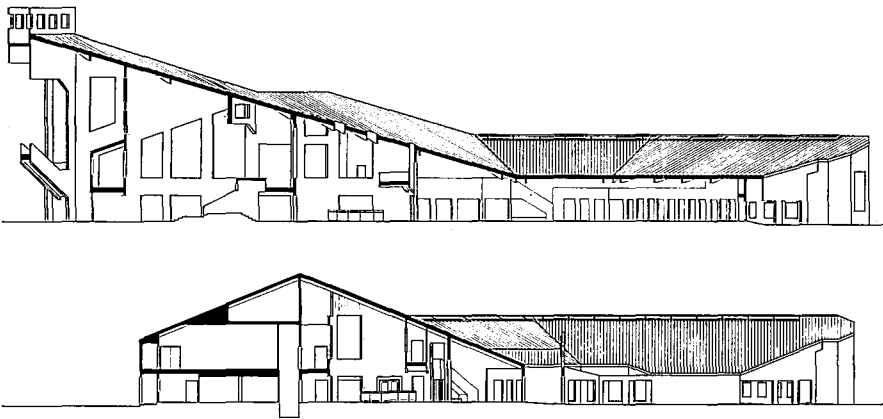
softened by the plants which have been placed there and once its live oak trees have had the chance to flourish)—also forms a foreground for Biloxi's city hall across the street, shown on the site plan on the previous page. In the courtyard is one of the building's two main entrances, leading straight into the library. The other entrance, shown on the opposite page, leads ultimately to the library too, but it moves the visitor past exhibition areas and offers the alternative of ascending to public rooms on the second floor.



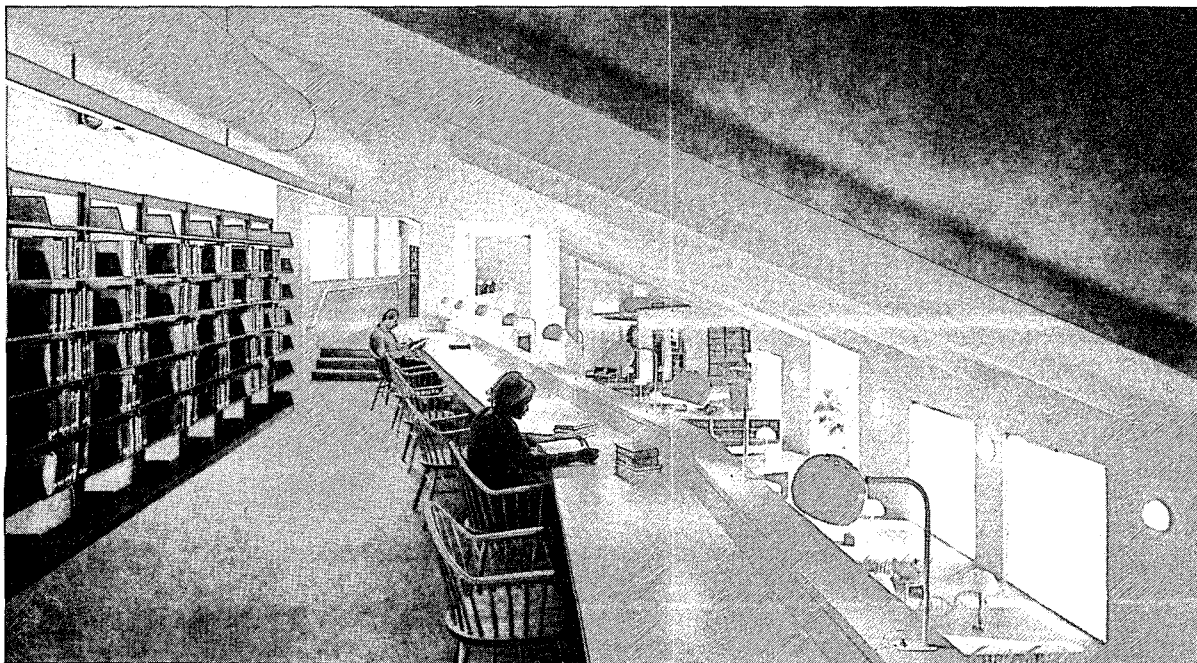




photos © by Marley Baer



The photograph above shows the children's section of the library of the Biloxi library and cultural center. On the right large windows face the courtyard. The photograph below shows the reading areas provided underneath the gently sloping roof on the upper level of the central part of the library, with the bridge that runs through the two-story circular space in the background. On the left are two sections taken through the building.



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# PUBLIC CONSTRAINTS AND GOOD DESIGN:



John McNanie

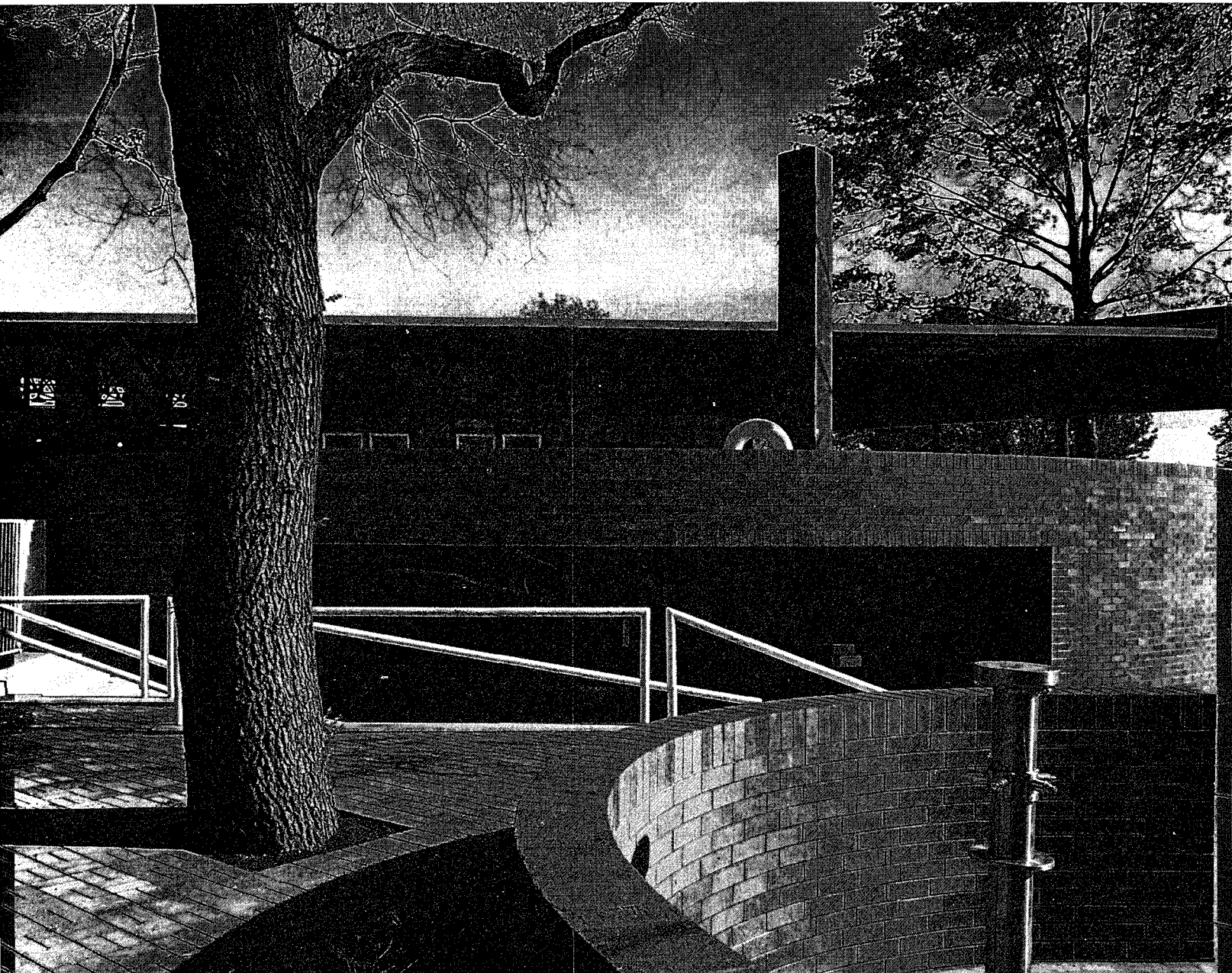
## TWO COMMUNITY BUILDINGS BY CIARDULLO EHMANN

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Architects John Ciardullo and Wayne Ehmann have a proven ability for taking on difficult commissions and producing good buildings within the most limiting constraints of budget and design criteria (see their low-income housing project, *RECORD*, August, 1976 as an example). Their projects are often in lower-income, sometimes-deteriorated urban neighborhoods. The architects stress the important role that new construction—in this case community facilities—can play in producing a strong sense of neighborhood cohesion, which they feel is a vital factor in the very survival of cities. And while the concept is hardly new, the architects add a new ingredient: a sense of community possession through unusually close attention to the particular group of users' needs and wants.

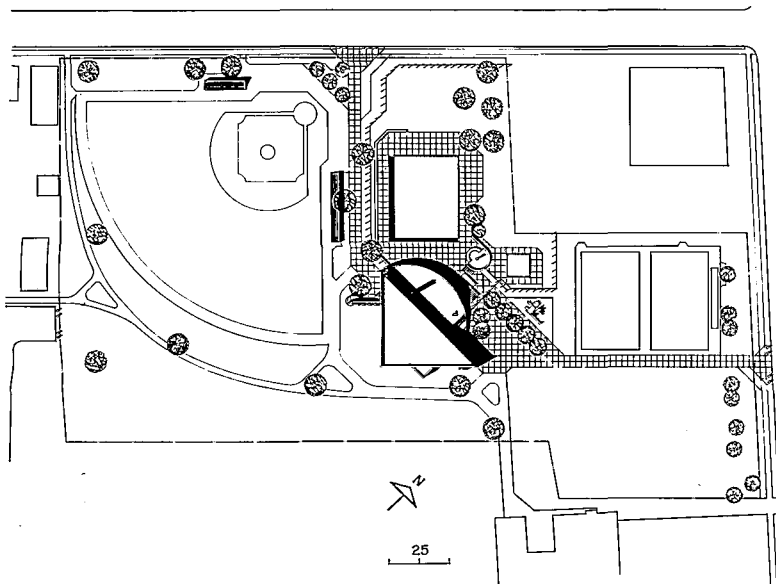
Two out of a number of community facilities designed by Ciardullo Ehmann for municipalities in New Jersey are shown here and on the following pages. They are Saint Peters Park Recreation Center (photo, above) and the South Paterson Library (left). Each embodies the architects' strong sense of dedication. —C. K. H.





John McNanie

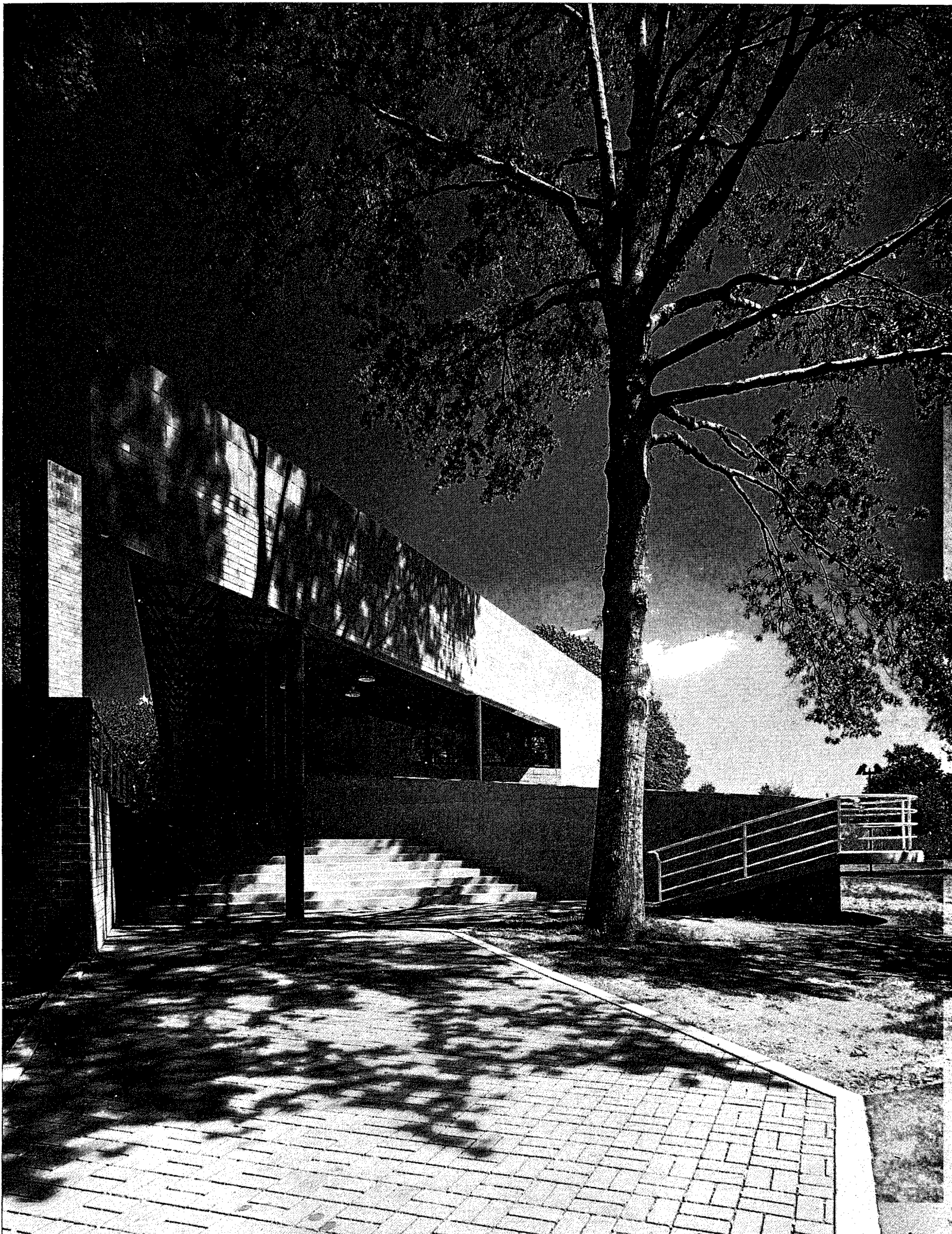
## SAINT PETERS PARK RECREATION CENTER PROVIDES FOR ACTIVE PURSUITS



Interjecting facilities for the kind of lively involvement that keeps neighborhood youngsters alert and interested, this airy pavilion and large swimming pool occupy part of a more traditional park that once primarily catered to the sedate habits of strolling and sitting. The pavilion houses changing rooms and machinery for the pool—as well as offices and a large multiple-use space, overlooked by a balcony snack bar (see plans overleaf). The balcony extends out of the building to a large semi-circular terrace, where ventilation stacks from the changing rooms below have been bent into playful white sculptures.

The arrangement allows quieter pursuits at the second level, out of the heavy traffic to and from the changing rooms. A ramp to the second level projects from the building, and allows access for the handicapped. The long diagonal wall facing the pool is glazed with unusually large sheets of clear shatterproof plastic, allowing both views toward the pool and surveillance of indoor activities from two of the adjacent streets. The other two walls of brick are almost solid, shielding the sun from the south and supporting two sides of the steel roof structure.

After a year's use, the \$1.1-million facility remains almost as fresh and spotless as the day it opened, in a neighborhood where graffiti and vandalism are common. The architects attribute a large part of this



Nathaniel Lieberman

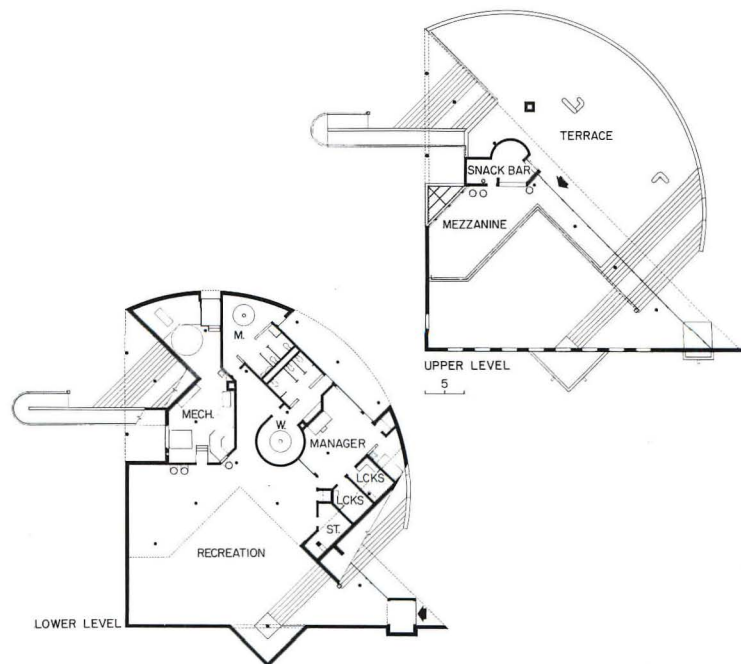


Nathaniel Lieberman

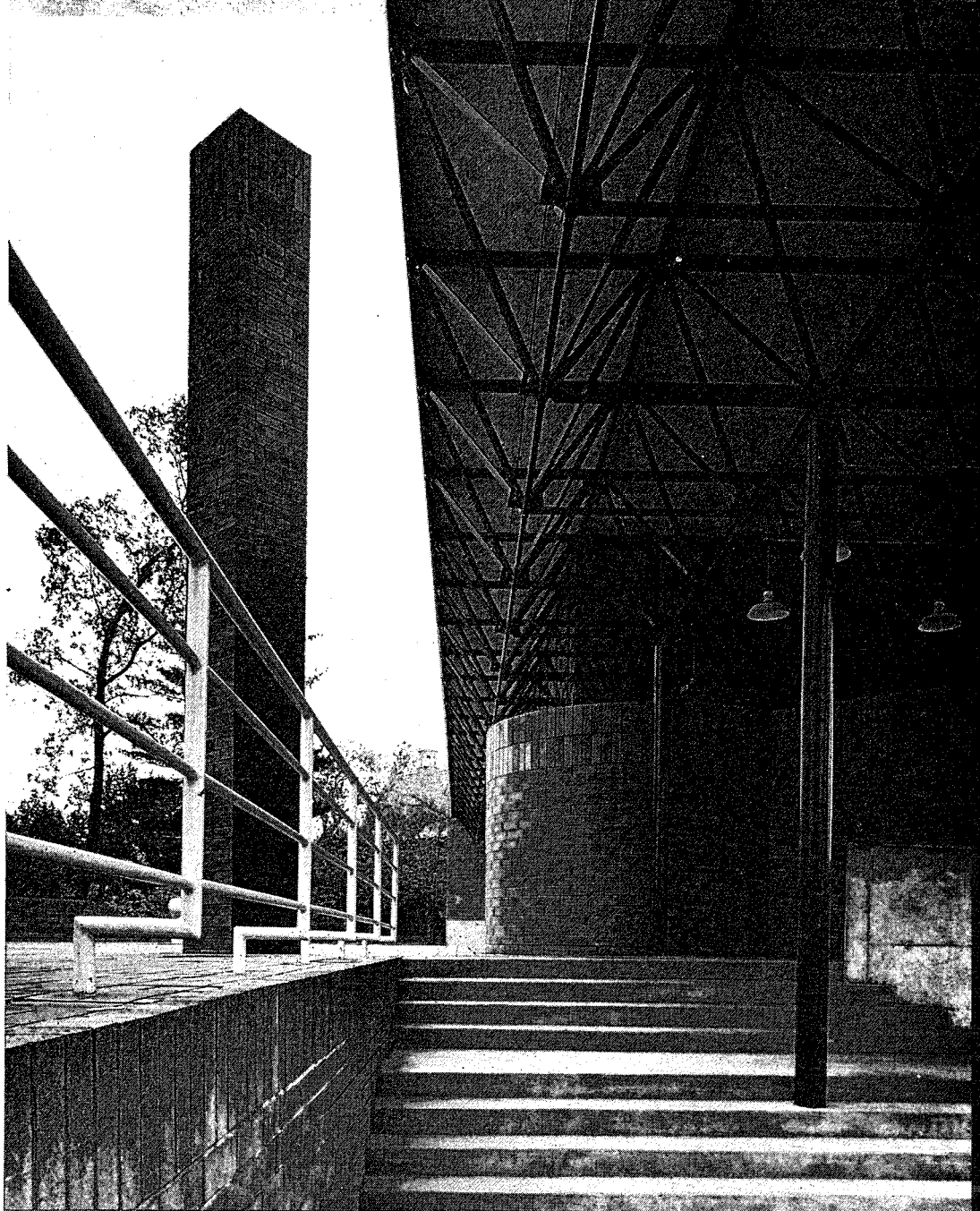
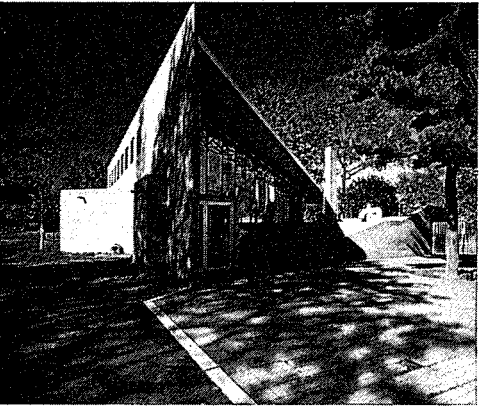
success to the sense of possession and pride that the users have in this new neighborhood focus. Accordingly, this project provides them with one of their greater sources of satisfaction and pleasure. It is also proof of their feeling about the importance of really getting to know the particular neighborhood in which a project is to be built—a crucial element in their design process.

In keeping with these particular architects' highly pragmatic design approach, Saint Peter's is an interesting mix of practicality and playfulness. The combination of the triangle and the semicircular forms grew as much from a desire to reinforce natural circulation patterns and to create a meaningful relationship between pool and building, as it did from a desire for a fresh image. Similarly, the two-levels were the result of the need for a separation of different types of activities. And they were the result of a desire for interesting spatial relationships.

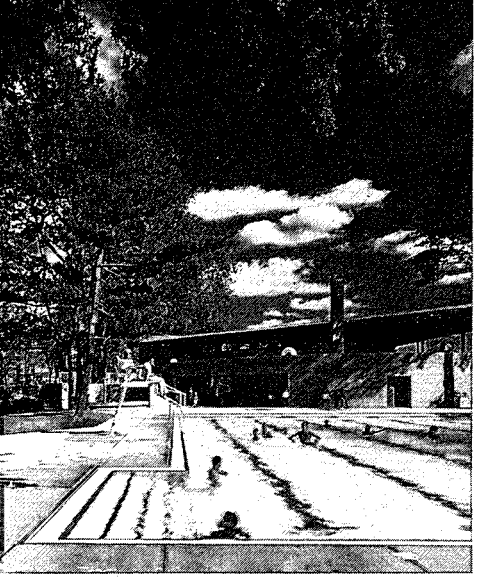
SAINT PETERS PARK RECREATION CENTER, Newark, New Jersey. Owner: *City of Newark*. Architects: *Ciardullo Ehmann—project architect: Paul Spears*. Engineers: *Environmental Engineering (soils); George Deng (air handling); Marian Swiechowski (plumbing, electrical, swimming pool)*. Landscape architect: *Miceli Weed Kulik*. Cost consultant: *Thomas Barrella*. General contractor: *Guasto Construction*.



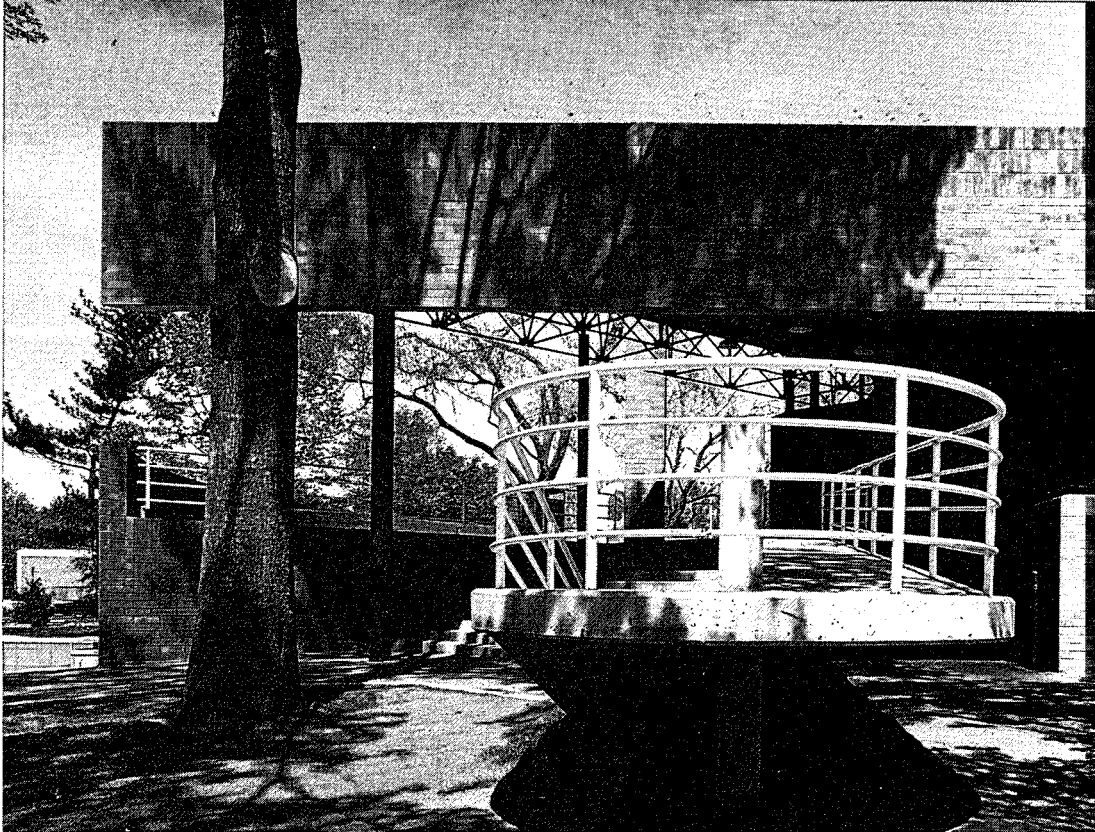
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John McNarie photos except noted



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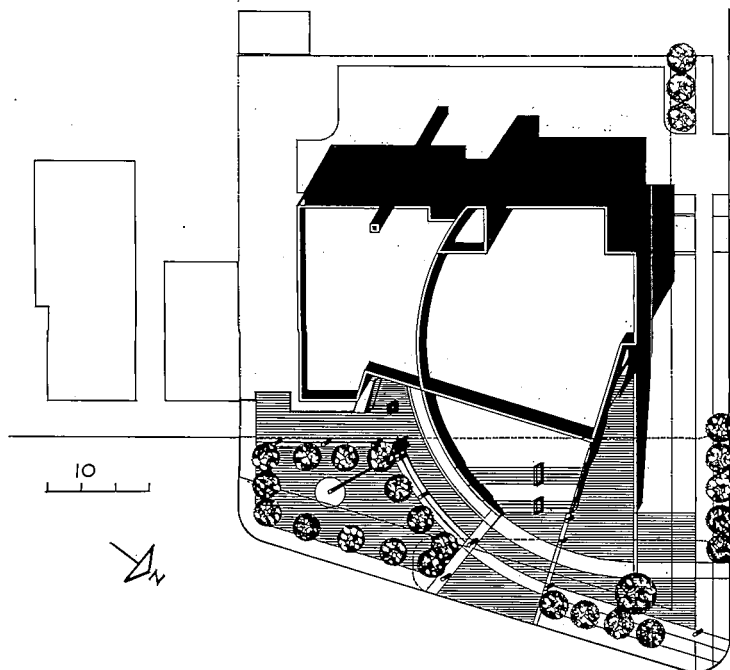
Nathaniel Lieberman

## THE SOUTH PATERSON LIBRARY IS REALLY A MULTIPLE-USE COMMUNITY CENTER

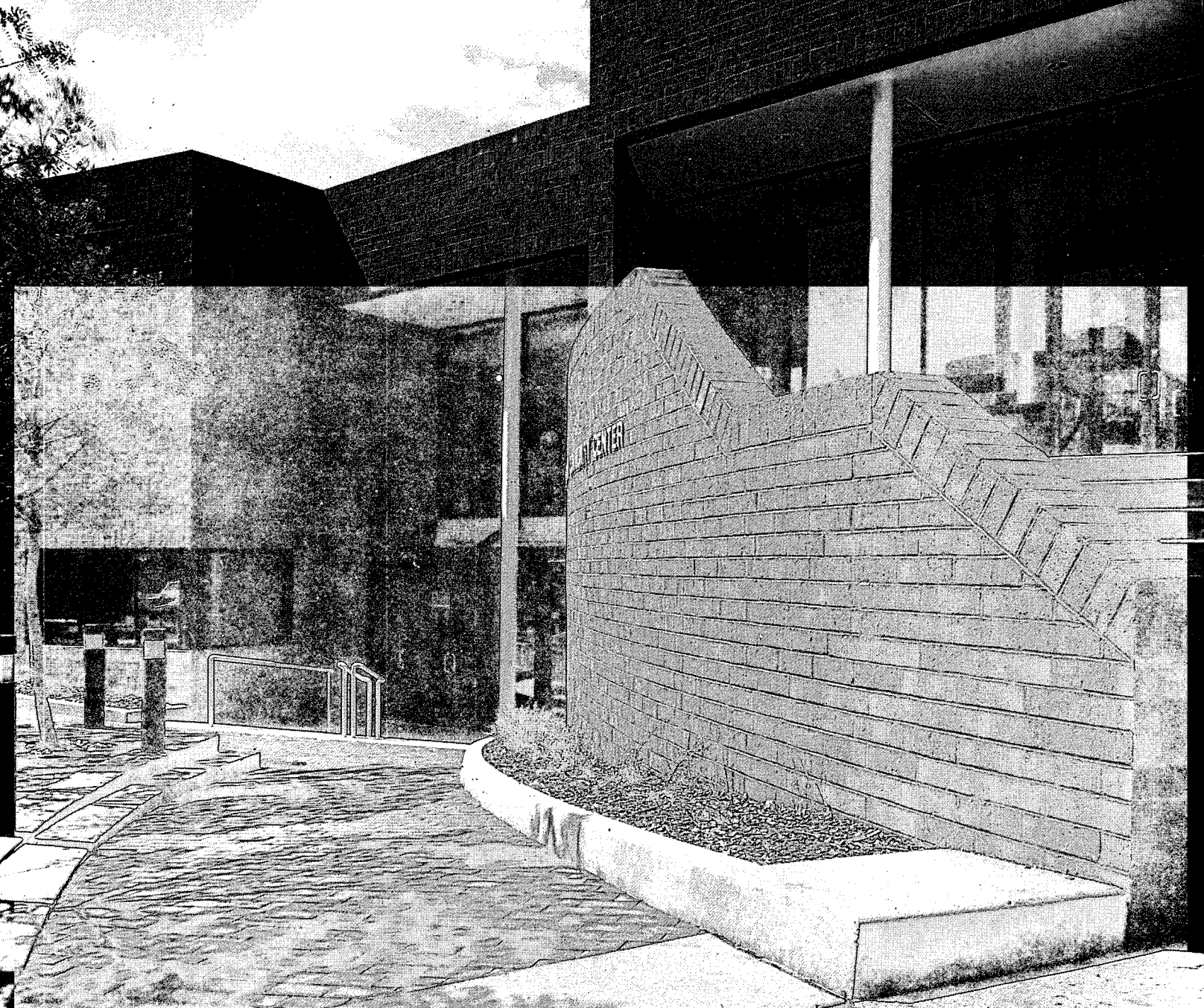
The pressure of heavy usage on a former storefront facility caused the city of Paterson, New Jersey, to build the new library shown here. But in the current spirit of cost consciousness, the city really wanted a complete around-the-clock neighborhood center within the planned walls: police-community relations offices, ambulance service facilities, community meeting spaces (including facilities for an elderly day care program)—and of course books and audio-visual equipment.

To overcome the obvious problems of guarding books in a quiet place for reading—while all of the other proposed activities were taking place—Ciardullo Ehmann separated the strictly library-related functions onto the second floor, and the multi-use spaces onto the lower floor. A curved wall, which cuts through the building, defines traffic patterns to the upper and lower levels without emphasizing the importance of either—or making the building appear cut in two.

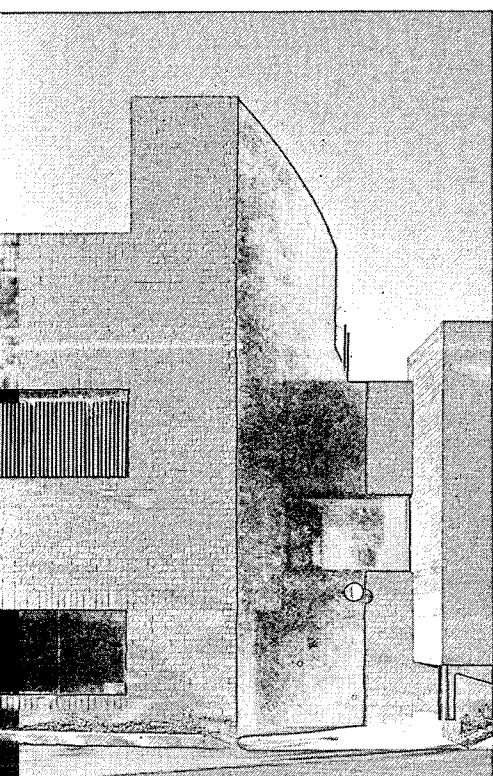
Indeed, perhaps the most interesting aspect of the planning (besides the combination of uses) is the way in which the building recognizes both its dual role and relation to the neighborhood in terms of massing. The main entrances face a busy commercial street on which the small paved and landscaped forecourt offers a welcome relief. The court was created by closing a through street, and connecting the building's site



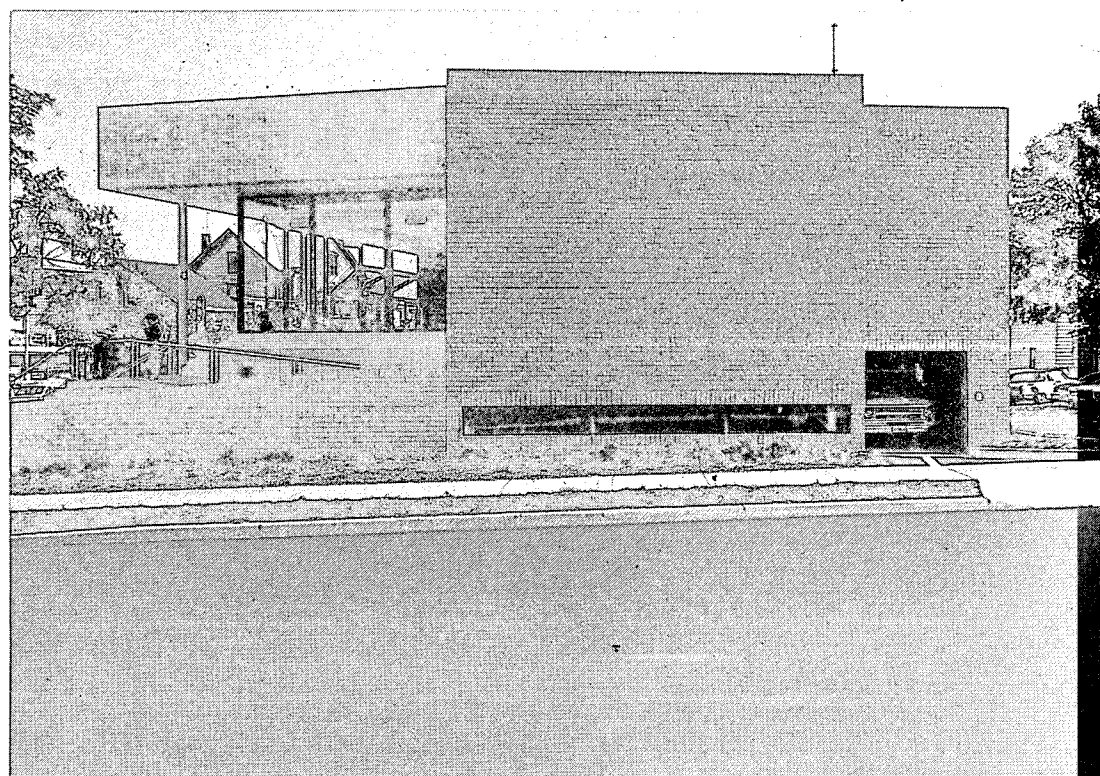




John McNanie



John McNanie



Nathaniel Lieberman

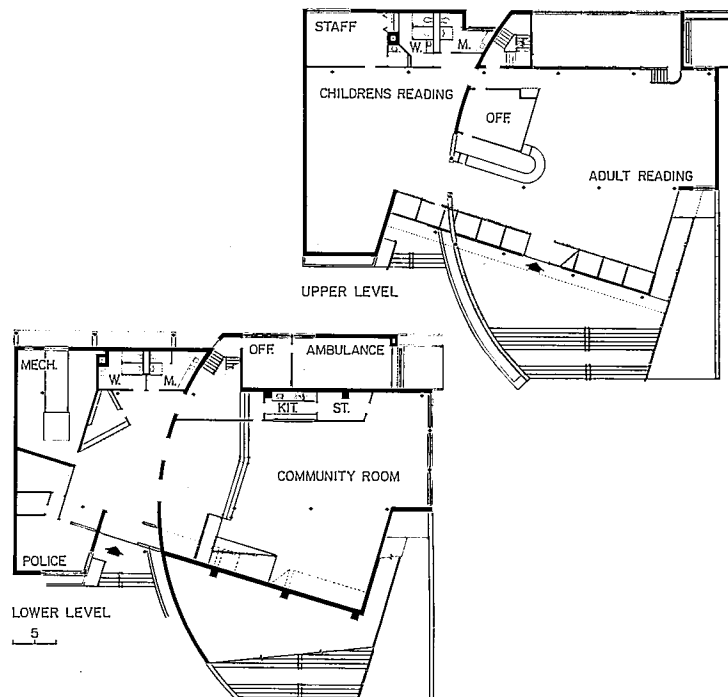


Nathaniel Lieberman

with what was formerly a small triangular park. The front of the building has been angled to relate to the main street, except for a projecting element on one side that continues the visual rhythm of the smaller-scaled adjacent structures immediately to the south. Much of the actual volume of the building is concealed below grade—especially on the front, where the forecourt rises to meet a point on the facade that is halfway between the two floors. An entrance for the ambulance garage is incorporated as part of the sculptural volume (see photo of side view, previous page).

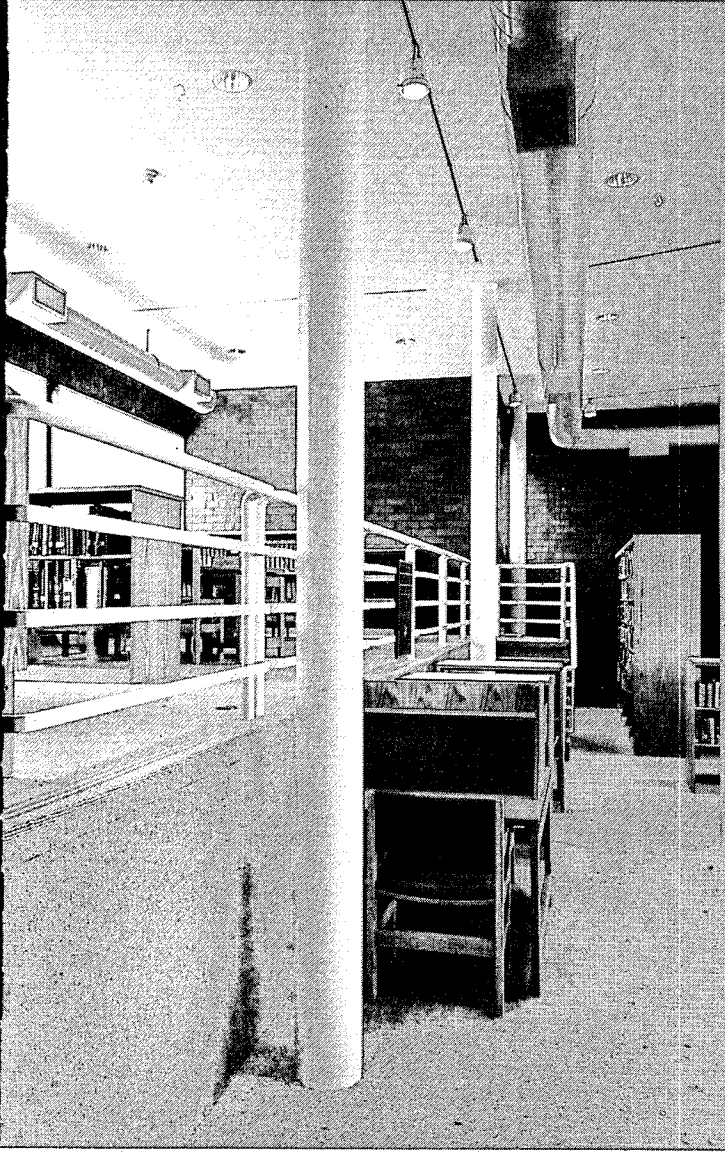
The construction cost was \$555,000 including the cost of the forecourt. The structure is a combination of masonry bearing walls and round steel columns, which support steel beams and lightweight steel joists. The floors and roof are metal decking, and the cladding is brick which was chosen to fit into the surrounding structures and the community.

SOUTH PATERSON LIBRARY COMMUNITY CENTER, Paterson, New Jersey. Owner: City of Paterson. Architects: Ciardullo Ehmann—project architect: Paul Spears. Engineers: Environmental Engineering (soils); George Deng (mechanical/electrical). General contractor: Franklin Universal Building Corporation.

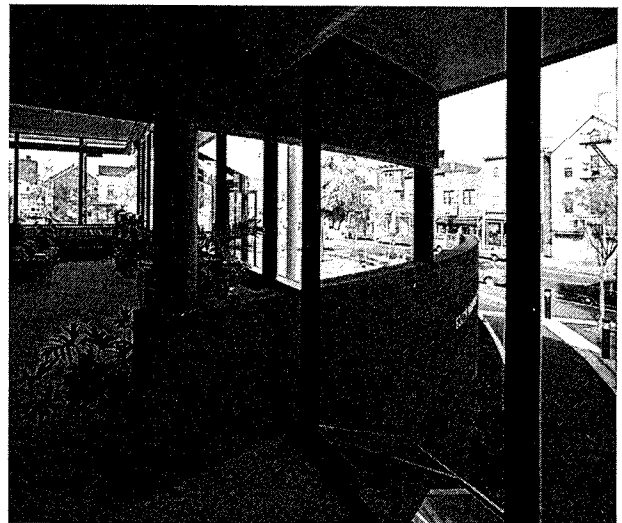




David Franzen



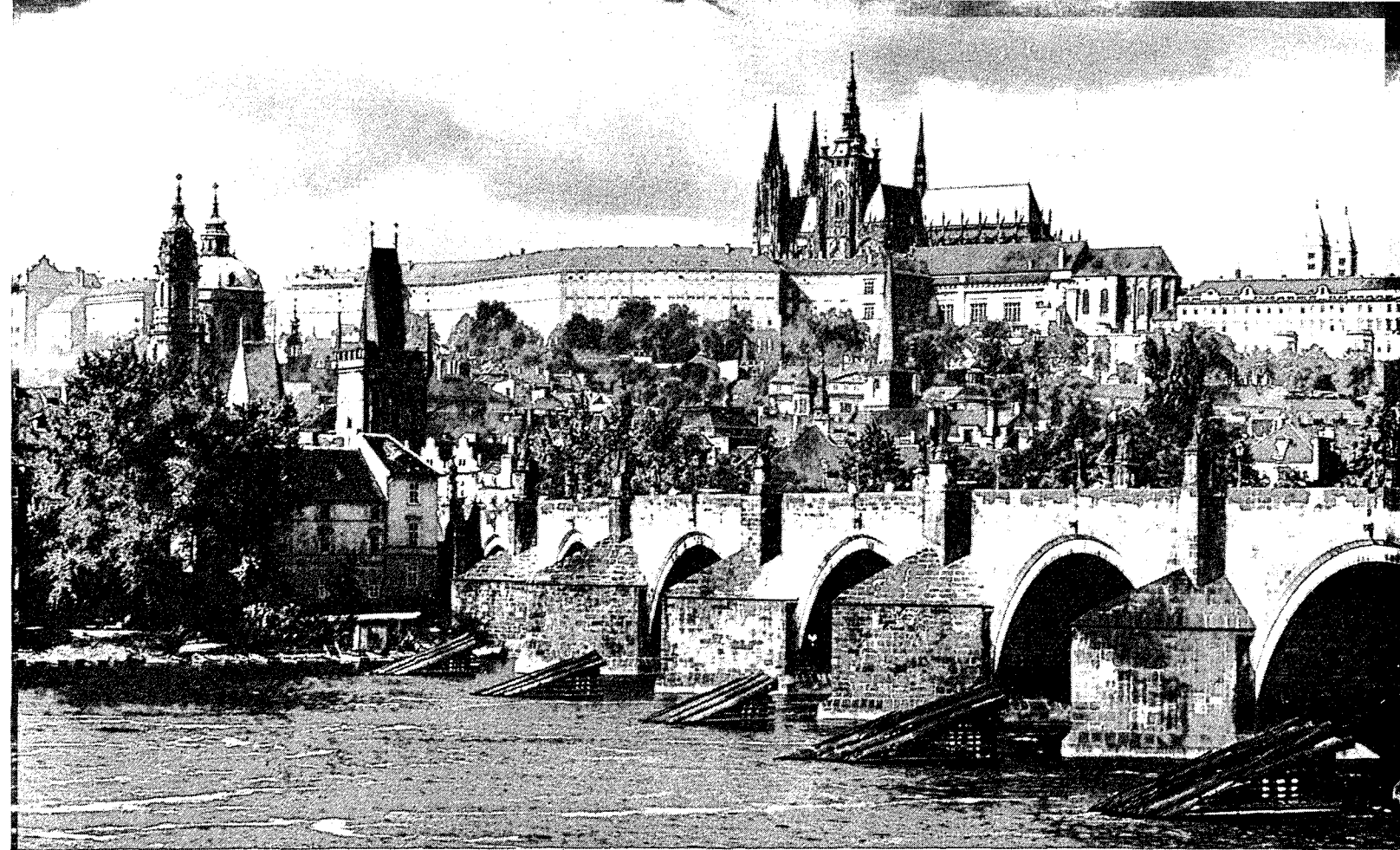
The lower-level community room gains light through a glazed slot facing the forecourt (photo, preceding page). The upper-level library is divided into a children's section and an adult reading room (photos this page). The reading room gains views of passing activity on the adjacent main street through large glass windows on the front of the building. These views are enhanced by raising the rear of the reading room, which also defines more intimate areas.



John McNanie

John McNanie





# THINKING ABOUT THE PAST IN THE CAUSE OF THE FUTURE

A conversation  
with Ladislav Rado

*Down the street, around the corner, or, at the very most, in the next town, there is someone who has been practicing architecture for a long, long time, once a young buck, out there on the cutting edge of new design philosophy and technical innovation. Given a glimmer of interest, he wouldn't mind, in all probability, sitting down for a long, long talk about some of the things young architects were concerned about 30 or 40 or 50 years ago, and about how the good new days might turn out.*

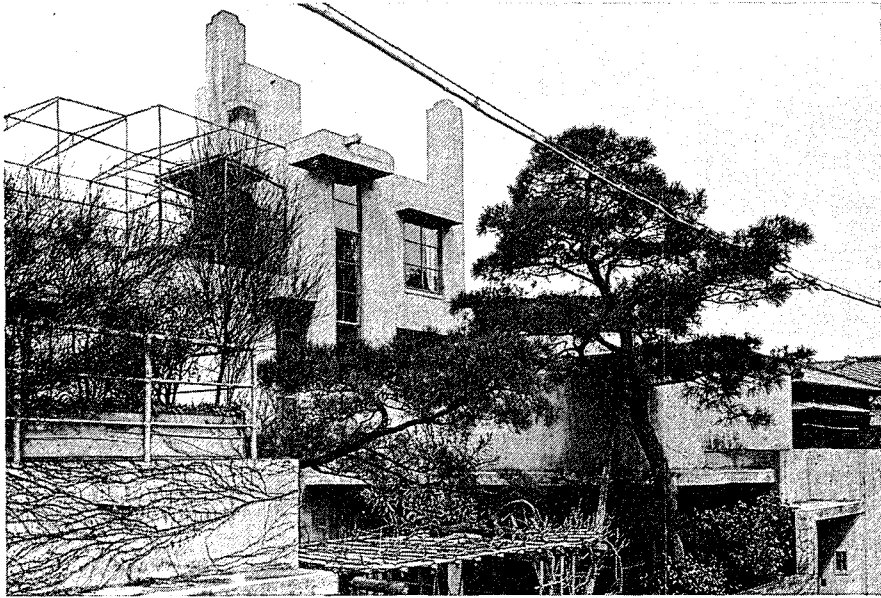
*Some of these older architects haven't had their work and views talked about for some years, because what they were doing was not in vogue as interpreted by architectural historians, critics, and, perhaps one must admit, the editors of architectural magazines.*

*But this is a time when architects of all ages are searching for new directions in design, especially for those that can open up our structures and spaces to a more emotionally responsive, associational character. At such a time, it is a conceit, and a waste, to assume that time has passed the "old boys" by, that there is not that much to be learned from listening to them. Surely we must take the time to look back, to think back.*

*One might not get from them a lot of talk about architectural revolution. If there is an urge to be oracular, it's usually unostentatious, congenial, even gentle—as if to say, "Let's talk over some possibilities, shall we?" And that's pretty hard to resist. This article, then, is the first in a series that will appear from time to time in RECORD, just some good honest talk with some grand older men of architecture.*

Not all that long ago, the name of Ladislav Rado, now in his early seventies, jumped to quite a few minds, as did that of his wide-ranging partner, the late Antonin Raymond. The firm of Raymond and Rado, set up in the mid-1940s, did quite a number of buildings that were an inspiration—as simple as that, an inspiration. Today Rado looks over many younger shoulders in the firm of Raymond, Rado, Caddy & Bonington, on the 15th floor of a nondescript office building on the corner of 42nd Street and Third Avenue in Midtown Manhattan. While these younger shoulders haven't shrugged off the old inspiration, other things preoccupy Rado's more recent associates—department stores, banks, small- and medium-size office buildings, an occasional church. It's good stuff, gotten out by a concerned staff.

But Rado has been looking over more than just their shoulders; he has been looking over his own, at the pathways that he and Raymond traveled. The "future" of architecture, as it once seemed, somehow looks a little clearer as he spins out a variation on the monolithic, monotheistic image of modernism. He doesn't sound as though he intends to make a "statement," any more than his and Raymond's work ever looked that way. And yet, whispering across the conference room table, strewn with the evidence of the good old days, one can't help but ask, noticing how much fun we're having, "How long has it been since anyone really listened to this man?" There is a sense of our having found an overlooked resource, of perspective, and even resolve. Half a century comes crashing in.



Antonin Raymond's Tokyo house, 1924, of reinforced concrete, was described by the famous author, Paul Claudel, as "less a box than a vesture." Its plan flows freely to embrace the most favorable exposure to the elements and functional needs. Services are also frankly expressed.

There are still a lot of people practicing architecture, or vitally interested in the field, for whom the name of Raymond and Rado won't draw a blank. Certainly Raymond's own pre-war work in Japan, where he moved in 1919 to help on the construction of Frank Lloyd Wright's legendary Imperial Hotel, caused quite a stir all through the 1920s and 1930s. In 1935, it was put together in book form and circulated widely by arrangement with ARCHITECTURAL RECORD.

Raymond had left his native Czechoslovakia, where Rado was also brought up, in 1910, first working for Cass Gilbert on the Woolworth Building in New York, and then for Wright at Taliesin. But his immersion in the culture of Japan, because of his work on the Imperial, was total, and only reluctantly did he return to America in 1938, by way of a commission in India and some nerve-racking months in Europe, resigned that what was "going wrong" in Japan was becoming as dangerous as it was disheartening.

Rado, like Raymond, had come out of the Polytechnical School of Prague, and had been practicing there since 1931. He left just before Hitler's invasion, heading off to Harvard for a Master of Architecture degree. He then worked for Norman Bel Geddes for a time. But toward the end of the War, the two met, got along famously, and Rado was quickly advanced to run the New York office while Raymond, also quickly, arranged to renew his practice in Japan. It was a round-about convergence of Czechs if there ever was one. Both felt deeply about the cultural and architectural

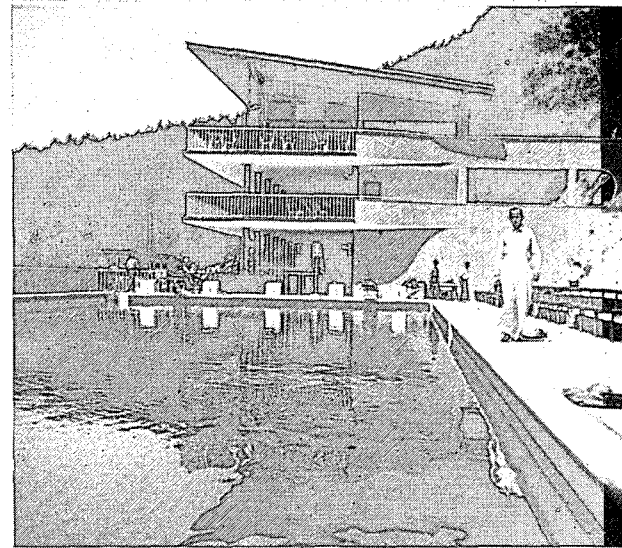
heritage of their homeland, especially of Prague (photo, previous page). Both had gone through, and adjusted to, experiences very different from that of the society they had been raised in. Both had well-organized opinions about what this century's upheaval in architecture had resulted from, and should result in. But both had also managed to steer clear of "modern" architecture's celebratory purification rites which, from the 1920s on, heaped scorn on those who believed that an appreciation for the past, an ability to assimilate and interpret precedent, were perfectly fine—even "modern."

The moon of modernism was getting very high indeed by this time, and, with the war over, Mies van der Rohe, Walter Gropius, and the forces they had led out of Germany to renew the then-languishing revolution of such "rustics" as Wright, were about to have at the American scene with their now-languishing fealty to an "objective," "rational" architecture.

All of which left the two Czechs, Raymond especially, in something of a fix. Hadn't they, and a lot of others, been in on something "modern" too? Hadn't those old buildings of Prague—hadn't they been "modern" once? How could any one period, or any one movement, assign itself the term "modern," or herald, by way of any number of exhibitions and books, the advent, at long, *long* last, of an "international style" that would service every conceivable situation (and many inconceivable)?

When Raymond and Rado talked shop,

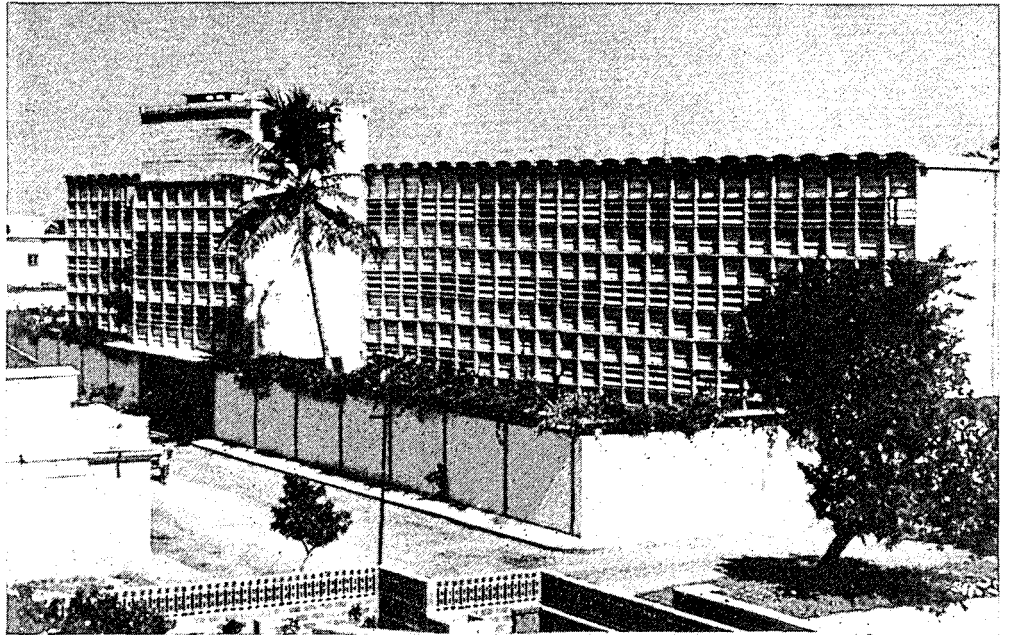
A resort in eastern Czechoslovakia, 1937, done by Ladislav Rado shortly before departing for America, was a spare geometric take, done in concrete, on the dramatic formation of rock adjoining it—the rock supplying the aggregate for the concrete. That's Rado, on the right, walking by the pool.



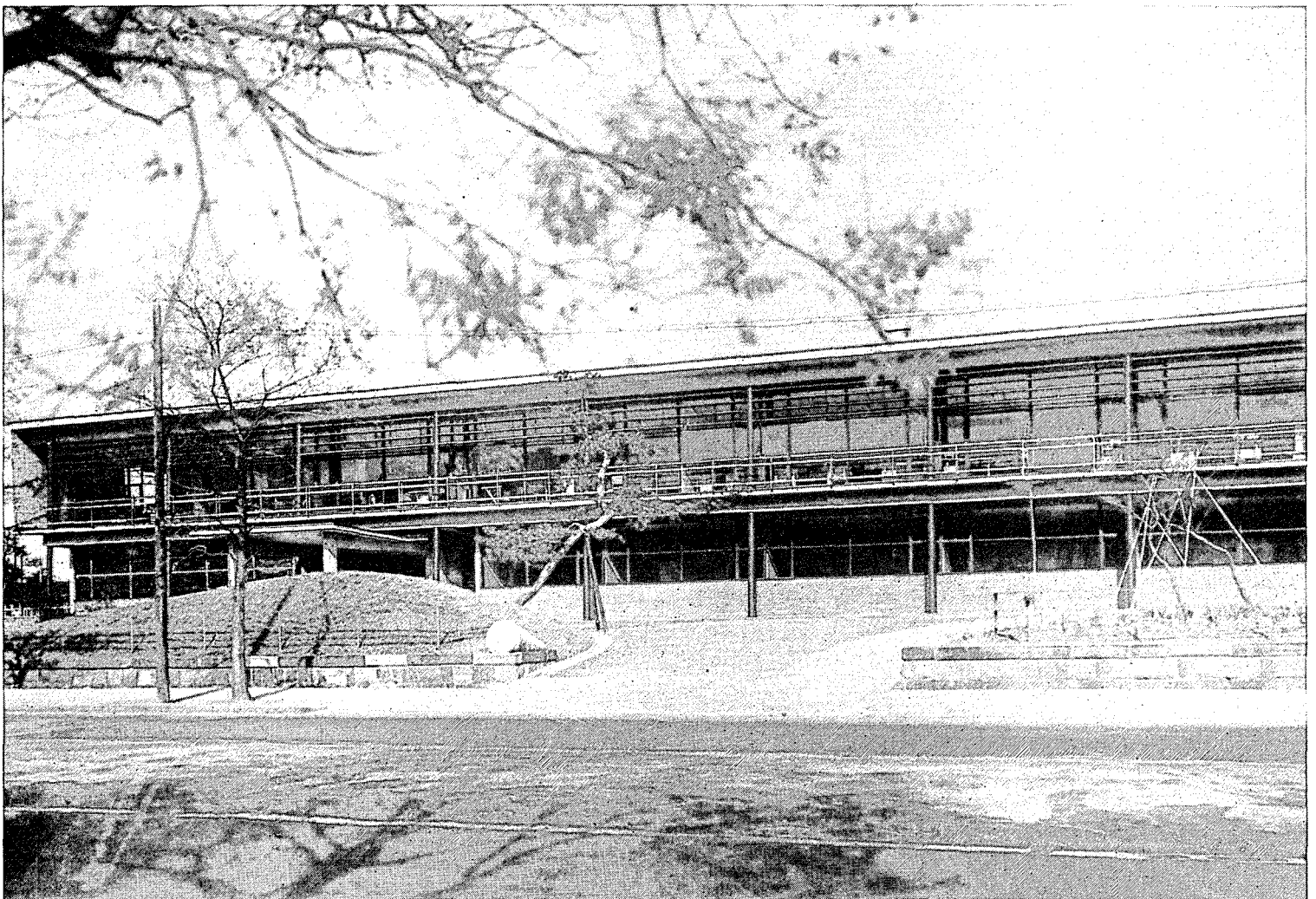
and when Rado talks shop now, one didn't, and doesn't, hear *zeitgeist*-style simplifications of what "the spirit of the age" is bound and determined to look like (one notices, as Wright once testily did, that people who use the word *zeitgeist* are also prone to frequent sneezing). No, the words most often mentioned have been words like these: naturalness, economy, air, sunshine, common sense, and humor. Hearing such words again, now, one is put in mind that the priesthood that equated simplicity with an "objective" architecture were frequently indifferent to simplicity, in other than purely formal or material terms, in dealing with the objectives of architecture.

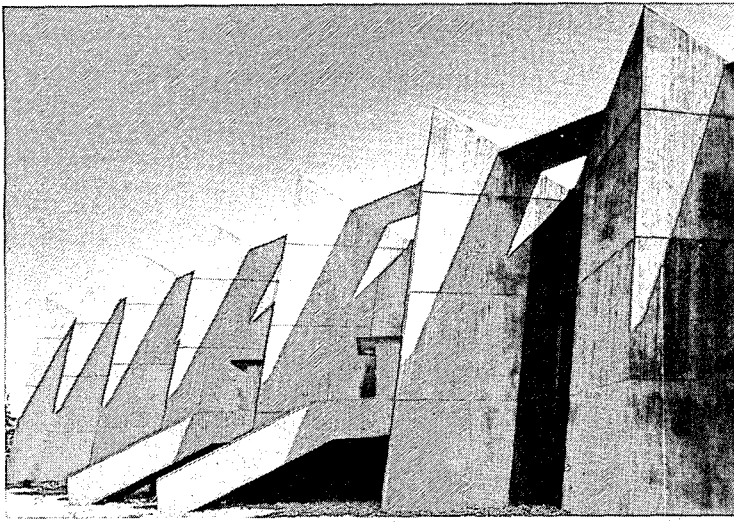
Ladislav Rado, reaching across the table for a big old dusty book about Prague, is about to explain what "modern" buildings really are. "Now look at this photograph here, the one you're showing in the article. You know, all this goes back to the 11th century. Romanesque, Gothic, Renaissance, Baroque—they all rub against and relish each other, each having been motivated by different ideas, not to mention techniques. Imagine growing up amid such diversity—but also amid such integration. This environment awakened a simple perception in me, as I know it did in Antonin, that true values are the touchstones of a really objective architecture. Those values are themselves objective, to be approached as absolute and eternal. But that is exactly what makes them naturally susceptible to different expressions as human needs, aspirations, priorities, and means develop over time. Prague is proof, and I've spent the last 50 years looking for such proof, that

In 1938, Antonin Raymond, leaving Japan, began work on the Ashram of Sri Aurobindo Ghose, a spiritual leader second only to Gandhi, in Pondicherry, India. Built of reinforced concrete, with precast roof and window elements, it remains one of the most eloquent, yet unsung, essays on how natural elements, locational characteristics, and native culture can define design direction.

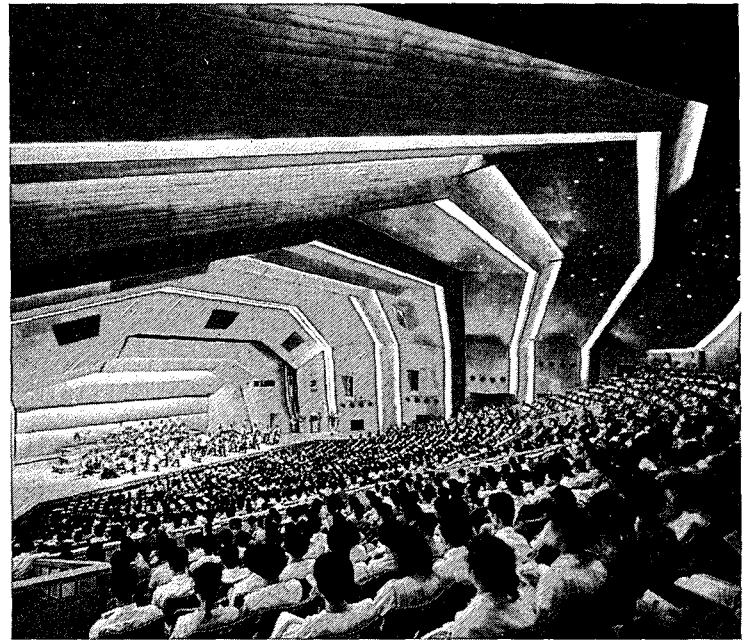


In 1949, Raymond and Rado built the *Reader's Digest* Building in Tokyo, across the moat from the Imperial Palace. It was a tight, terse weave of concrete and steel, earthquake-proof to a fault, with simple overhangs and sunscreens to control heat and glare—a natural design.





The Gunma Music Center in Takasaki, Japan, of 1961, is a continuous folded plate of exposed, unfinished reinforced concrete, encompassing both the walls and the roof within a single technique. The character of the space, acoustics and lighting is an unforced, integral expression of the building's structural system. The adjustment of acoustical reflectors behind the stage allows the house, seating 2,000, to be tuned for various purposes—from Kabuki to symphony to the more raucous tonalities of today.



the sensitivity, civility, the solid respect by which one building of one time relates well to other buildings around it of earlier times is one of those true values which architects should be encouraged to perceive and apply. Many architects have been discouraged in this respect. I believed, and still do, in a modern architectural revolution; and it may—I say may—yet be fulfilled if this true value, this element of relativity, is allowed to work itself into the conscience of those who create our buildings."

Listening to Rado explain, with an historian's detail, all this rubbing and relishing of styles in Prague, that magnificent city's dovetailing of traditions and techniques, one wonders whether the Modern Movement hasn't—as some argue—become a sweeping euphemism for a theoretically sanctioned suspension of good public manners.

"You want an example of good public manners in architecture? Of a neighborly attitude between epochs? Which is a way of saying, you want an example of a truly *modern* building? Well, here it is, rising high above Prague! That's the Cathedral of St. Vitus, rising up there—magnificent Gothic, but let me explain further. As a student, I used to gaze, in disbelief, at the Baroque towers bristling upward from the Gothic original. Now those bristling towers came along centuries later, obviously, but because their designer had—no, lived—that sensitivity I mentioned, that civility, that solid *respect* he virtually fused the two very different concepts into a disciplined, delightful unit—to such an extent, in fact, that only by some overwrought and intellectualized

analysis can we differentiate between the Gothic and the Baroque, or even want to. It is important, as a matter of principle, for architects to want to pass that kind of test. Don't you think so?"

But didn't this Modern Movement, which so many are criticizing these days—didn't it really begin on the basis of such true principles, or at least on the basis of trying to fetch them from the brackish depths of the Beaux-Arts influence?

"Well, that's a point that's really been perplexing me," Rado responds. "There are so many aspects of what we now think of as modern architecture that were, and continue to be, on solid ground. And many of them go way back, well before the Bauhaus, to that essential notion of Louis Sullivan's—a set of problems, a set of requirements, a set of functional, social, and cultural circumstances, what we now hear called context, can, if really listened to, yield its own architectural expression.

"It was only when, getting on into this century, that those who spent a lot of time telling us what was truly modern, and what wasn't, began having the effect of limiting Sullivan's, and certainly Wright's, intuitive idea of context—in other words, began having the effect of limiting our idea of what should be listened to, within a given situation, for clues to a unified concept. It got so limited, as I think most thoughtful observers now agree, it's little wonder that, in the 1960s and right up through the present time, people began looking ahead by looking back, in disbelief if not pain, at what

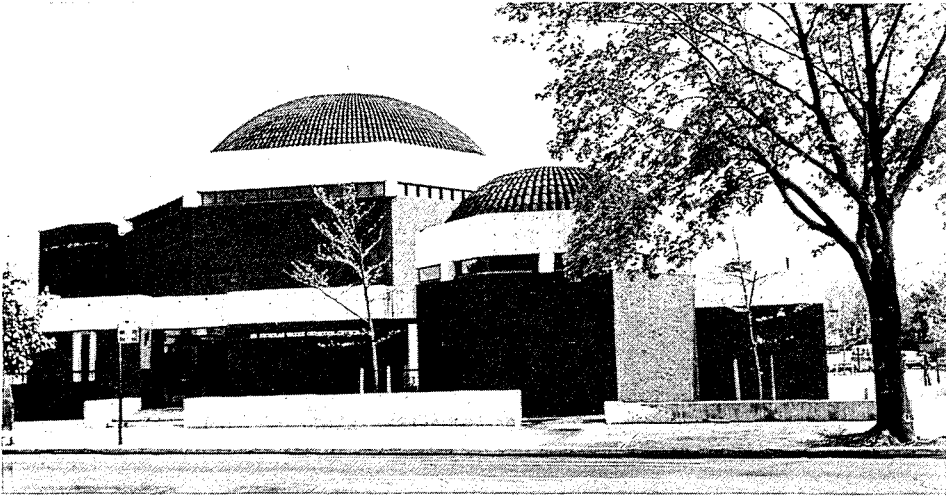
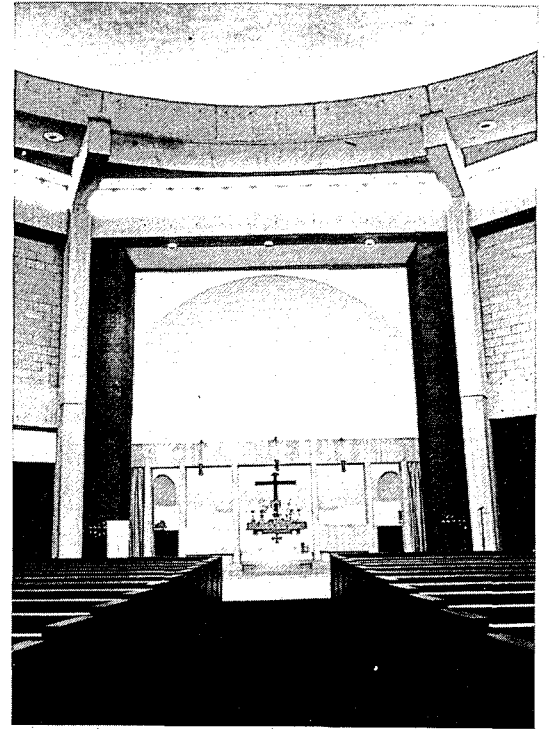
an icy, indifferent build-up had been created; not because of a concerted effort to rationally solve differentiated problems, but because those inclined to declare and define the modern revolution almost *had* to vindicate a deterministic, formalistic view of what rational expression should be.

"Certainly technology emboldened this view even more, egging on the assumption that the debate about style, in the past and in the future, was all wrapped up—and wrapped up with scientific precision and predictability, at that! So it became quite respectable for architects to disregard glare, heat, cold, noise, and privacy. And if we could get away with *that*, imagine what else we could respectably disregard—the physiological and psychological nature of real people, their practical and spiritual need for places that could enliven the human senses and animate the sociability of those places. Indeed, we could respectably get away with disregarding the relationship of our favorite new buildings with the ones next door, or nearby—indeed, its relationship to the scale of the street, or surrounding scene. It can't be said too often that architects, quite understandably wanting a serious philosophical or theoretical basis for the practical design decisions to be made, picked up on, not a basis, but a bias—a bias for technology as some sort of redeemer that would counteract all our sins and shortcomings. I know that a lot of people have been saying this same thing, especially lately, and probably saying it better, but, again, it can't be said too often."

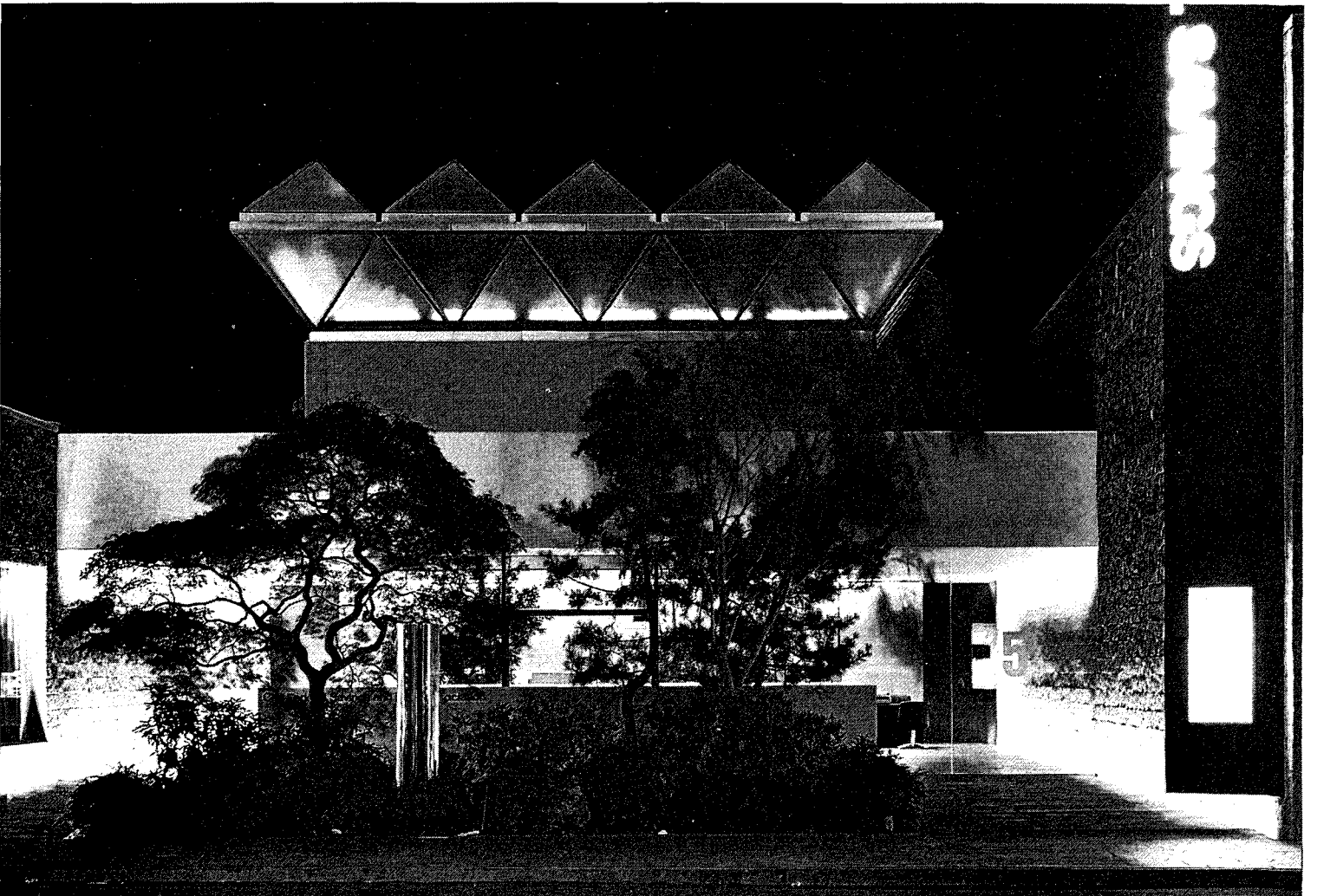
There are many biases, including that for

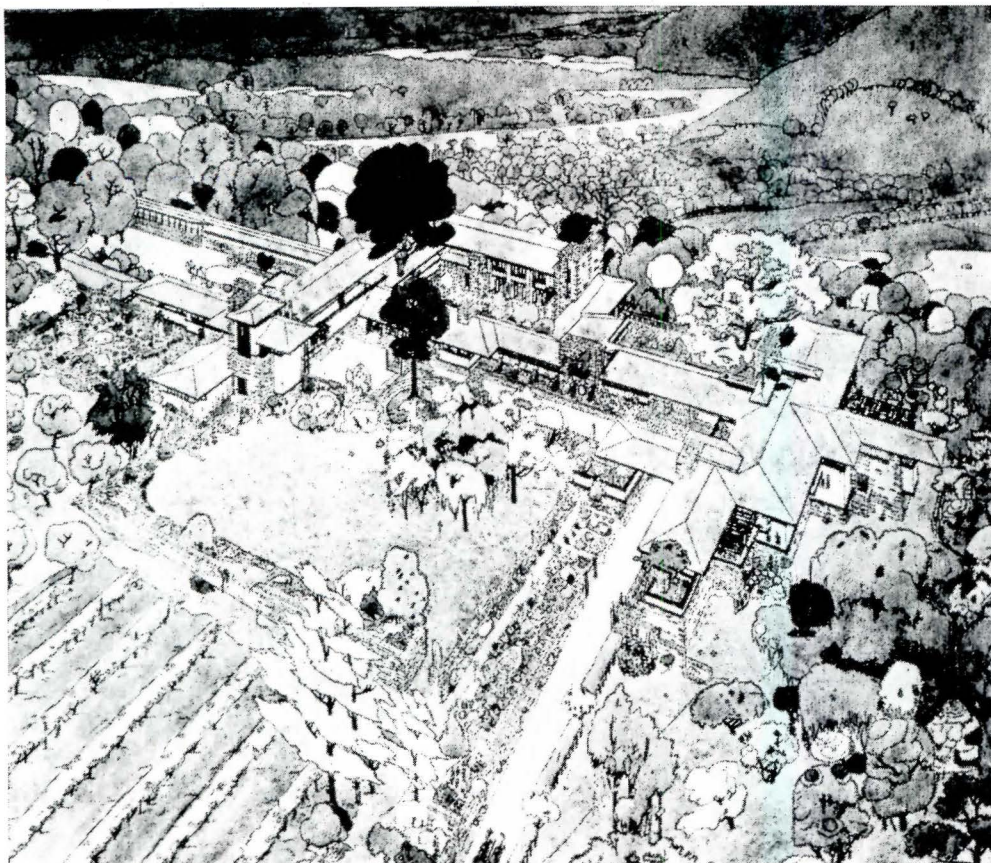


The St. Nicholas Greek Orthodox Church in Flushing, New York, of 1972, is built of brick, exposed concrete, and clay roof tiles—a deliberate effort to convey a sense of tradition within a contemporary design idiom. The octagonal nave is surmounted by a dome which rests on a circular tension ring that is, in turn, detached from the octagon and supported on brackets cantilevered out from the columns.



A branch of the City Federal Savings and Loan in South Plainfield, New Jersey, of 1973, is a simple, serene oasis amid a strip shopping area. With side walls of block, mullion-free expanses of glass, and slate floors, the landscaped, skylit interior is defined, unified, and liberated.





In 1916, Antonin Raymond went to work for Frank Lloyd Wright at Taliesin, making this drawing of that legendary, lesson-laden estate. One of the things that Raymond detected in Wright was his enormous capacity, as yet not fully appreciated, to assimilate cultural precedents as skillfully as he interpreted the physical or natural context of his sites. Raymond felt that Taliesin was, and would remain, a metaphor for bringing together psychological, sensory, and spiritual values with the inspiration of nature. Certainly today, 67 years after its original construction in 1911-1912, it is a useful reminder that the current concern for contextual and associational qualities in architecture had a powerful precedent in our own century.

technological redemption, that have had their covers blown in recent years. The breeze, or gust, feels good. But one hears so much from the post-, post-post, even post-post-post modern crowd of practitioners, historians, editors, and critics, that one wonders whether they are advertising a certain brand of breakfast cereal or whether, under any number of new brand names, the theoretical bent for vindication and codification is really letting up. Whole careers are being fanned out of the unsympathetic debunking of the last 50 years, just as, 50 years ago, careers were fanned out of the unsympathetic debunking of the 50 years before *that*. As fast as their legs can carry them, some architects are heading straight for the 19th century, or even the 18th, and finding those times just swell. Others, even faster, have rushed back just 50 years, come to a screeching halt, and are wandering around in places where even Le Corbusier feared to tread. The very-well-ventilated air is full of "Eureka, eureka!"

Does this sound strange, or not so strange, to someone who has been practicing architecture a long, long time? Ladislav Rado, who has never been much given to shouting, but who also seems hesitant about breaking up *any really good party*, nevertheless lets on that he is a little unsettled by the spin-offs of style that are being served up these days.

"I think there are some disruptive, misleading things going on," he says. "The basic principle of looking into the nature of specific problems in a clear, attentive way is again being contorted, distorted, falsified, or disregarded in

order to etch a personalized image, to energize a particular theoretical position, or to entertain the rest of us with the architect's amazing knowledge of, and skill with, historical references.

"I am all for an architecture of *allusion*, but a good building, to be more than just 'with it' for five years, has to allude to many tangible, practical dimensions. If the allusion is also to an historical or stylistic precedent, at least let the architect's tracing be controlled, and pertinent to enriching the solution at hand, the surroundings being set into place. Otherwise, a lot that I see going on, and in print, is just a precious pastiche.

"You know, if it was wrong, looking back, for architects to have felt they were free of the past, it is just as misguided to go frolicking, free of the present. Maybe I just have a passion for order, for facing reality, for going at those essential elements of place, program, actual people, but I believe that this is completely consistent with the developing interest in an architecture that can, in a personable way, relate to the natural differentiation of circumstances—differences that we once thought should be smoothed out. The emotional, sensory, and symbolic vocabulary of architecture has to be strengthened, is being strengthened with all that is going on, and, really, it was bound to happen. But let's not forget, while so many of our leading young architects are making much of their ability to remember, that modernism, in its most useful phase, was an impulse to dismiss irrelevancies, to reduce excess, to be exact and honest in the use of

materials and methods.

"I think we can have an architecture that is exuberant in its references to human nature and human history, *and* have it without excess. We can have both as long as we are as *exact* in our comprehension of how our buildings will feel as we are in our concentration on material finishes, structural details, agreeable proportions, and dramatic spaces. I guess that's a lot of exactness to ask for, but people are going to have to figure out whether they want to be truly 'modern' architects."

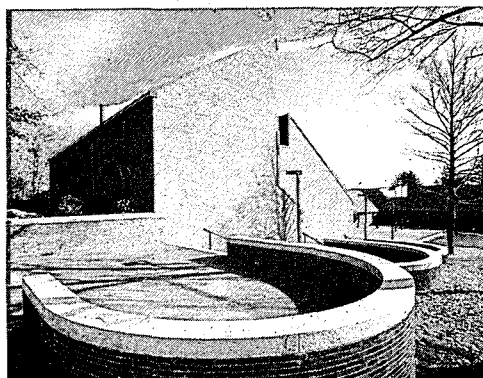
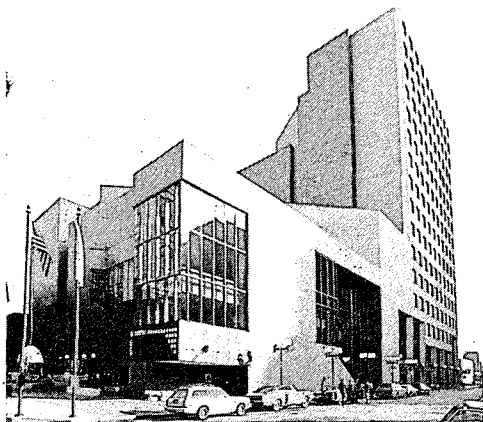
Looking across the room, Rado points out an exact, exuberant drawing done by Antonin Raymond, in 1916, of Wright's Taliesin (above). "That's very personal, Taliesin, and yet what a lesson it has been all these years, as it was for Antonin, in how to make allusions, to assimilate circumstances, to absorb the inspirations of history. There's the civic sensibility and cultural conviction of a Jefferson in that design; there's Wright's reverence for Japan's reverence for nature; there's even a more than casual reference to the close-grained villages and hilltowns of Italy, where he spent the year of 1910-1911, just before the place was built. Antonin used to say that walking around there was like being in a beautiful dream, but you knew damned well that only a man of enormous creative discipline could have made it possible. We've needed metaphors like that; now more of us want them. Which is a wonderful sign.

"Well, I'm really glad you boys got by here today. Such conversations were *once perfectly* routine, but I hope none of it sounded too old-fashioned." —William Marlin

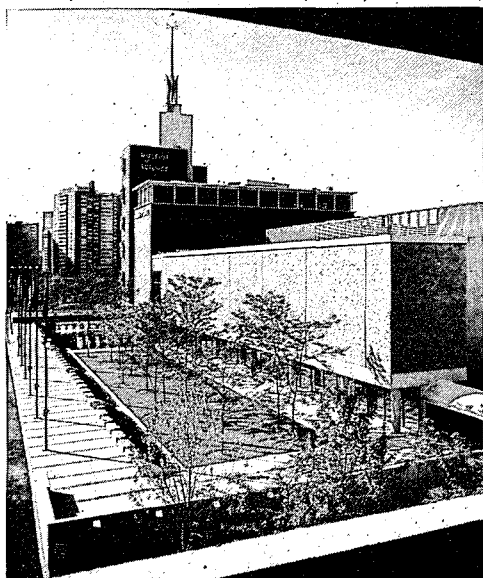
# DESIGNING FOR CULTURE

The word "culture" is an encompassing one which signifies everything man does and is in his time and place and society. As used in the context of this Building Types Study, the word gathers together the fine and performing arts, crafts and the artifacts of science as they are presented in buildings designed for their display. The buildings themselves are as much a part of the culture as their contents, as everyone should know by now, and they reveal our present attitudes toward the so-called fine arts and science. All four buildings are singularly unpretentious. Three of the four are connected to older structures to which they are designed to be subordinate. One acknowledges its proximity to a residential neighborhood by looking a bit like a collection of carefully related houses. By their design, these buildings suggest that we are no longer in awe of the arts and sciences as our parents and grandparents once were so we no longer house them in monumental spaces. With our reverence gone we expect to have easy access to them and to participate in them.

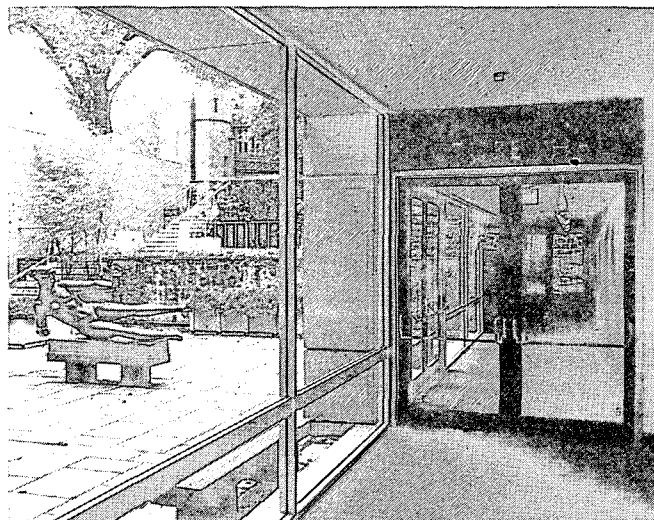
There are vestiges of grandeur where appropriate of course, particularly in the concert hall and foyer of the Civic Center in Syracuse, New York. But the buildings are essentially background structures which do not steal attention from their contents. This is a cultural shift from what we thought proper and fitting in the sixties. And high time, too. —*Mildred F. Schmertz*



*D. Randolph Foulds*



*Steve Rosenthal*



*Norman McGrath*

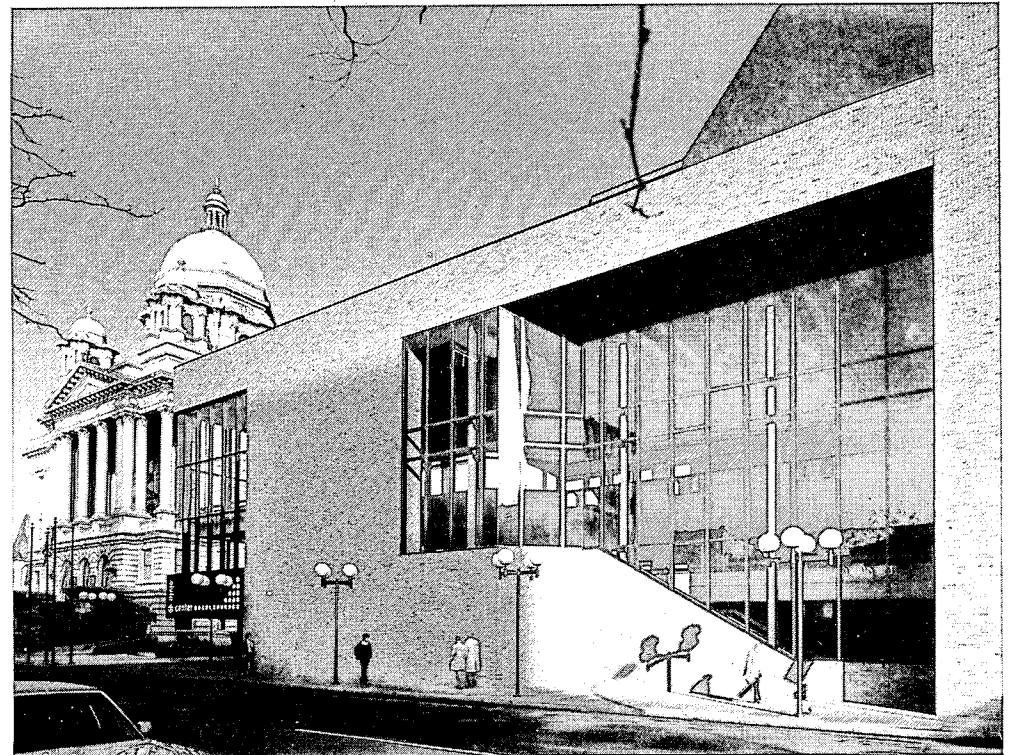
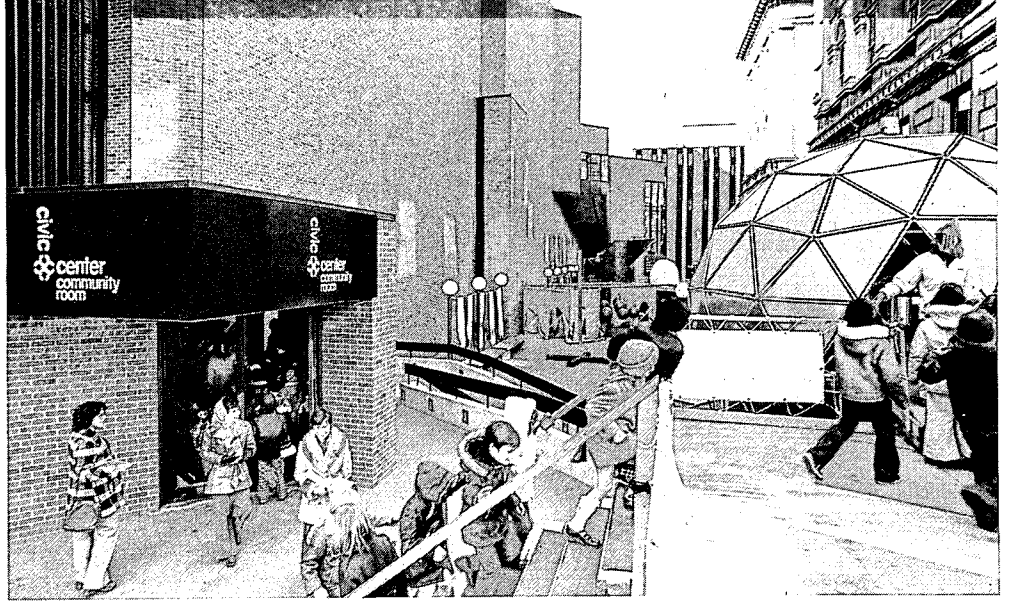
**A multi-purpose performing arts center, part of a mixed-use complex, attached to a landmark courthouse in downtown Syracuse, New York**

The Onondaga County Civic Center is the first facility to be built on the North American continent that combines government offices and performing arts facilities under one roof, thus in effect providing ongoing financial support for the arts. While this was done as an economy measure, the performing arts facilities have not been subsumed and thereby hidden within the over-all office structure—which might have been even more economical. In this respect, the mixed-use complex in upstate New York is unlike the handful of speculative office buildings constructed in New York City in the past decade which incorporate theaters in return for the zoning incentive of additional floors of rental space. In the latter, the theater portions are identified from the exterior solely by illumination and graphics.

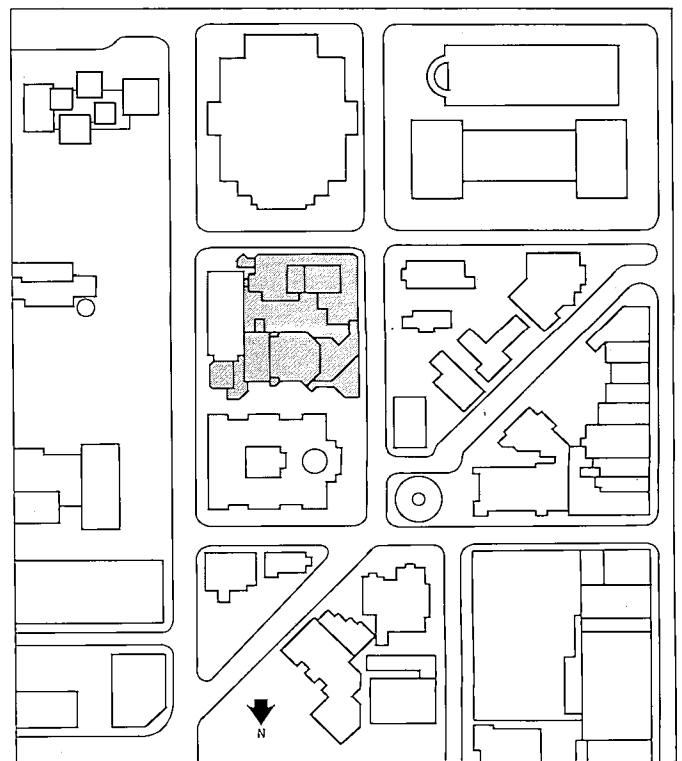
The theater and office complex in Syracuse is adjacent to and connects underground with a fine Neoclassic courthouse, which overlooks a small square with a statue of Christopher Columbus set in a circular fountain. The architects, D. F. Lebensold and Paul Malo—whose respective firms: McAfee, Malo/Lebensold, Affleck, Nichol were combined in joint venture—did not want their huge \$26 million project to overwhelm the 19th century courthouse and square. They put the performing arts center rather than the office block adjacent to the square and related it in height, width and length to the courthouse.

A pedestrian promenade (opposite page top right) separates the courthouse from the new building. The public foyer in the performing arts center overlooks the square.



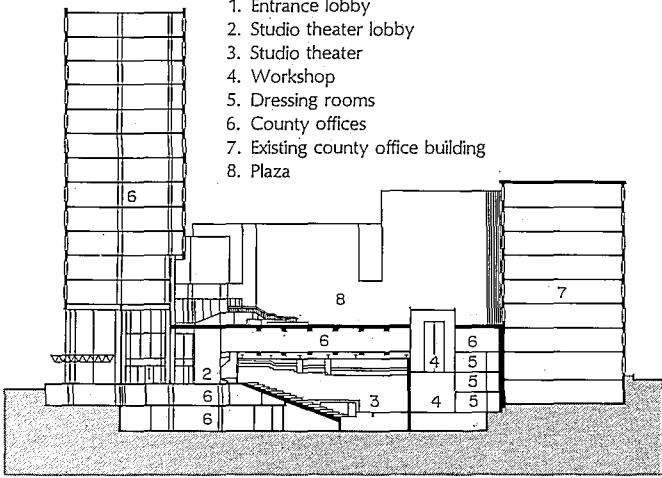


The Civic Center is a three-part building complex: The original eight-story county office building on the site, the new sixteen-story county office building and the performing arts spaces. The latter consists of three theaters: a 2,117-seat concert theater, with two balconies and a proscenium stage; a 480-seat studio theater for experimental productions; and a 300-seat community/rehearsal theater. Collectively, these spaces and the public foyers have been designed to serve as gathering places for the many social, educational, business and political affairs in the community as well as for the performing arts.

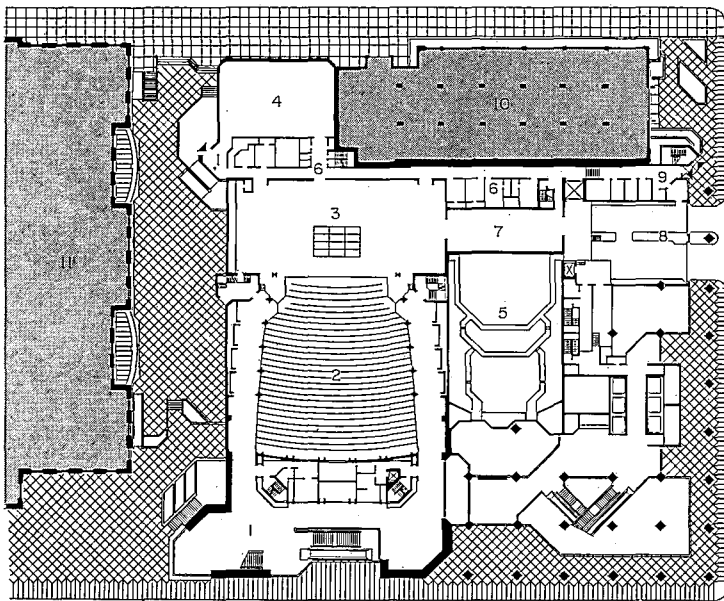


Theater and office building

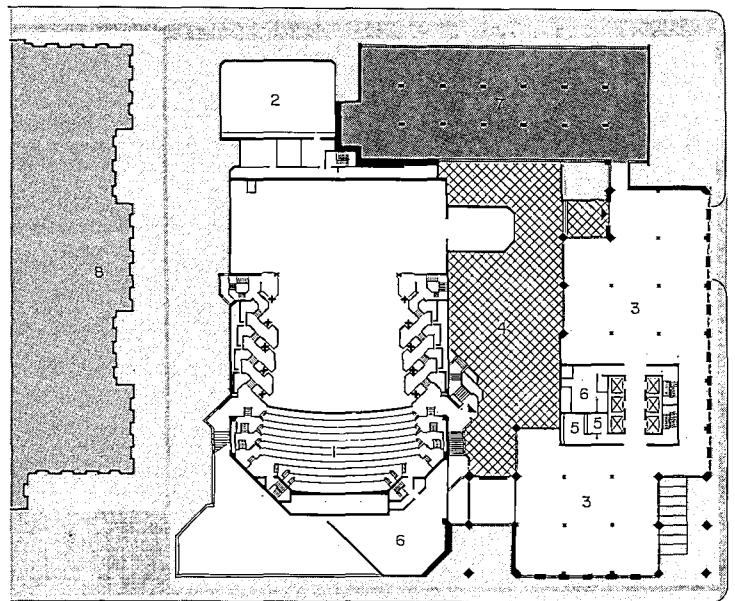
1. Entrance lobby
2. Studio theater lobby
3. Studio theater
4. Workshop
5. Dressing rooms
6. County offices
7. Existing county office building
8. Plaza



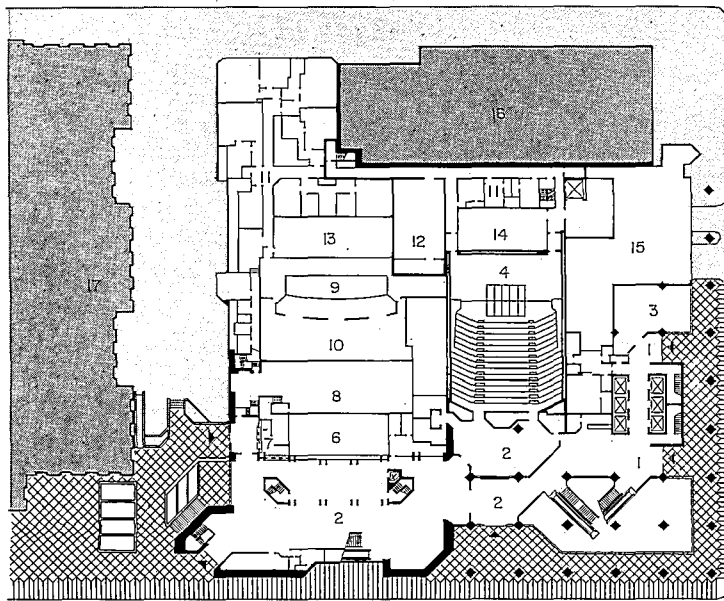
SECTION THROUGH STUDIO THEATER AND OFFICE BUILDING



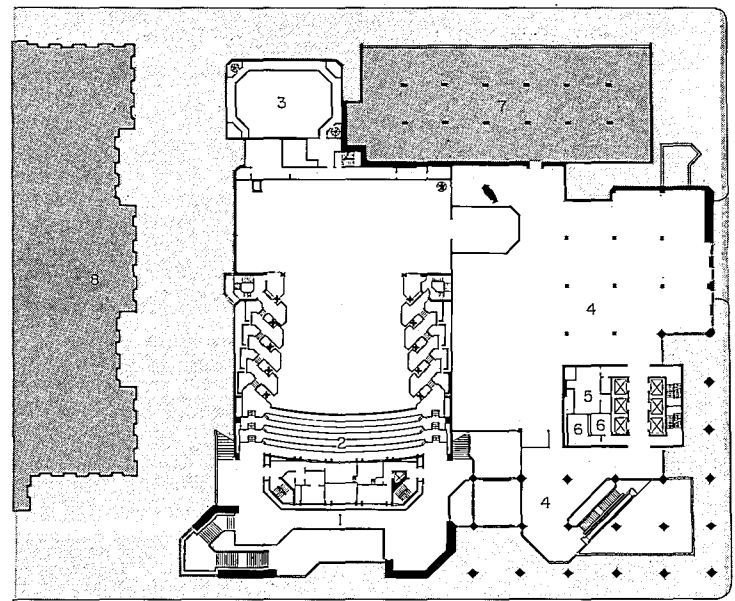
ORCHESTRA LEVEL



BALCONY LEVEL



GROUND LEVEL



MEZZANINE LEVEL

Ground floor

1. Office lobby
2. Lobby
3. Shop
4. Studio theater
5. Toilet
6. Coat room
7. Box office
8. Administrative offices
9. Orchestra pit
10. Chair storage
11. Dressing rooms
12. Rehearsal room
13. Trap room
14. Workshop
15. Storage
16. Existing county office building
17. Existing county court house

Orchestra level

1. Lobby
2. Orchestra level concert theater
3. Stage
4. Community room
5. Upper part of studio theater
6. Dressing rooms
7. Workshop
8. Truck dock
9. Offices
10. Existing county office building
11. Existing county court house

Mezzanine level

1. Lobby
2. Mezzanine level concert theater
3. Upper part of community room
4. County offices
5. Mechanical
6. Toilet
7. Existing county office building
8. Existing county court house

Balcony level

1. Balcony level concert theater
2. Upper part of community room
3. County offices
4. Outdoor plaza
5. Toilet
6. Mechanical
7. Existing county office building
8. Existing county court house



The principal entrance to the performing arts center (below) leads to the three-story foyer (opposite page top). The entrance to the county office building opens into its own dramatic foyer (above). The public circulation spaces of both the performing arts center and the county office building are particularly grand—an impressive architectural achievement on a site so small in relation to the program that it had to be almost completely covered except for the outdoor promenade. The structure is poured-in-place concrete with walls of brick veneer. The concrete is exposed for the most part on the interior of the performing arts facility with some surfaces of brick or dark oak.

ONONDAGA COUNTY CIVIC CENTER, Onondaga County, Syracuse, New York. Owner: *Onondaga County*. Architects: *McAfee, Malo/Lebensold, Afleck, Nichol* (joint venture)—partner-in-charge of design: *D. F. Lebensold*; second-in-charge of design and administration: *Paul Malo*; project architect: *Isaac Franco*; partner-in-charge of administration: *Arthur B. Nichol*; lighting design: *Imre Reichmann*. Consultants: *Montreal-Nicolet, Dressel, Mercille Ltd., Syracuse-Snyder Burns & Associates* (structural); *Montreal-Langlois, Crossey, Bertrand, Inc., Syracuse-Robson & Woese, Inc.* (mechanical/electrical); *Russell Johnson Associates* (acoustical); *Vincent Piacentini* (orchestra shell design); *Jacques Guillon/Designers Inc.* (graphics); *Hanscomb, Roy Associates* (preliminary costs); *Turner Construction* (construction costs); *Robert Brannigan Associates* (theater consultant); *William Duffy Inc.* (office planning). Construction management: *Pahl-Turner* (joint venture). Contractor: *E. L. Nezelek, Inc.*



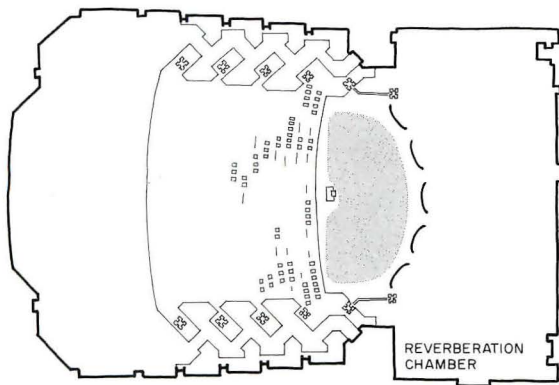


FIGURE 1

*The Crouse-Hinds Auditorium is a recently completed example of the multi-purpose approach to housing the performing arts. The following description of the acoustical design of the Theater is by Russell Johnson who served as acoustical consultant for all three theaters in the center. It has been adapted from Syracuse Guide.*

The theater incorporates a demountable concert enclosure which can accommodate symphony orchestras in two ways. The acoustically preferable location of the symphony orchestra (photo opposite page) is on the two large pit lifts raised to the level of the stage floor (Figure 1). Over the two lifts is a motor operated "eyebrow" canopy, which, for this position of the orchestra, serves as the ceiling of the concert enclosure. An array of casted sound reflectors, lined up in the proscenium opening, serves as the upstage wall for the symphony orchestra. Beyond these units is a reverberant chamber, formed by the lower portion of the stage house. The cubic volume of the fly loft is shut off with four huge counterweighted panels, constructed of plywood.

The second available configuration for a symphony orchestra is achieved by lowering the two large pit lifts three feet below the stage floor level, moving audience seats onto these lifts and locating the orchestra within the stage house in the manner which has become traditional in multipurpose halls (Figure 3). In this mode, the large panels which shut off the upper part of the fly loft become the sound reflecting surfaces above the orchestra and the casted sound reflecting panels are moved further upstage. The portion of stage house behind these casted units still serves as a reverberating chamber, but it is, in this second mode, a smaller chamber.

To convert this facility from a concert room to an opera house/theater, one or both of the hydraulic pit lifts is lowered to a position about seven or eight feet below the elevation of the stage floor. The four plywood panels which for symphony acoustics shut off the upper part of the fly loft, are rotated, then raised to a position just below the grid at the top of the fly loft. The casted vertical acoustic towers nest into each other, either in the storage room or in corners of the stage floor.

The main floor seats approximately 1,035 when the

orchestra is on the forestage and 1,202 when the orchestra is in the stage house. In addition, the top balcony seats 482, the mezzanine seats 349 and the boxes 84.

The basic shape of the audience chamber is rectangular with parallel side walls, as in the traditional single-purpose concert hall, with a horizontal ceiling—also traditional. The fourteen box areas are suspended within the larger box shape. There are two tiers of them, cantilevered from large columns which also support the roof trusses.

Along the walls behind the boxes are a series of motor operated banners that average 60 feet in height. One set of banners, which are brown in color, has been designed to soak up sound primarily in the mid-frequency range. The other set of banners, orange in color, absorbs high-frequency sound.

The brown banners are fully extended along the side and rear walls for rock and jazz concerts, cinema, speech plays and lectures. For symphony concerts, choral concerts, some recitals and some grand opera, the brown banners are fully retracted into storage pockets. For musical comedy, piano recitals, other types of grand opera and popular music, some of the brown banners will be retracted and others extended.

The more exposure of the sound absorbent fabric, the shorter the reverberation time and the more "dead" the room will be. The less exposure, the longer the reverberation time and the more "live" the room.

At opposite sides of the proscenium are eight hinged wood sound reflecting panels. These may be adjusted so that they are parallel to each other across the forestage, or they may be set at various angles to reflect sound energy out into the audience seating area.

There are eight horizontal wood sound-reflectors along the side walls of the audience chamber. These reflectors (which can be seen in the photo opposite) are just above the second level of boxes. They are primarily intended to reflect sound energy down toward the main floor which has a hard reverberant surface. The undersides of the boxes serve a similar acoustical function.

To provide a solid foundation to the acoustical response of the room, most of the boundary surfaces of the audience chamber and the lower part of the stagehouse are massive. Heavy materials—brick, concrete block sealed with poly-

ter-epoxide, poured concrete, precast concrete ceiling slabs, thick wood—were selected to support the low-frequency strength of the acoustical environment. Musicians in referring to this low-frequency strength, use such words as "warmth," "resonance," "darkness."

Because some of the acoustical elements must be moved occasionally, and some must be shifted around by stagehands frequently, the thickness of the wood sound reflecting surfaces was pared down in some instances. The thicknesses used range from 1/2 in. to 3/4 in. where lightness was a consideration. Other wood

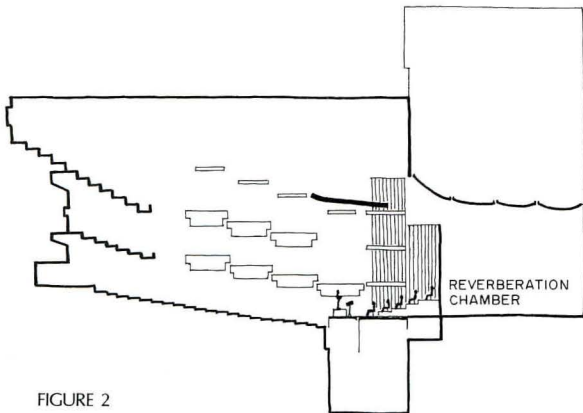


FIGURE 2

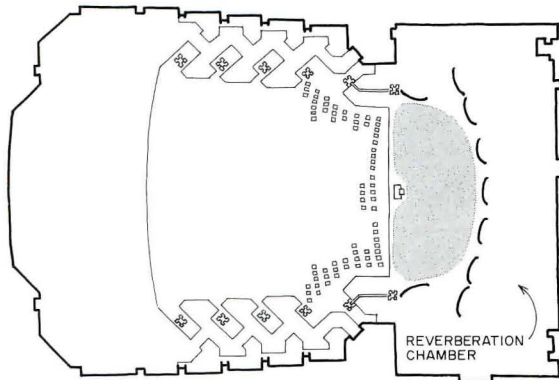


FIGURE 3

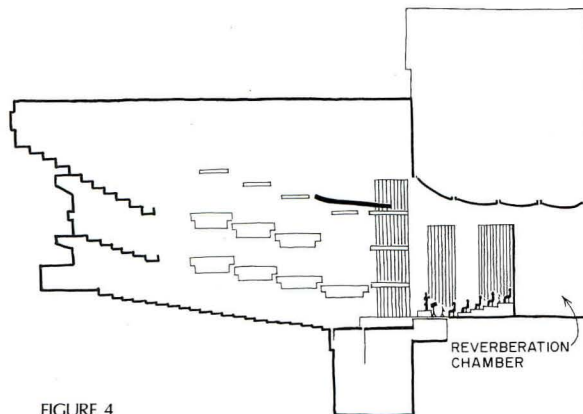
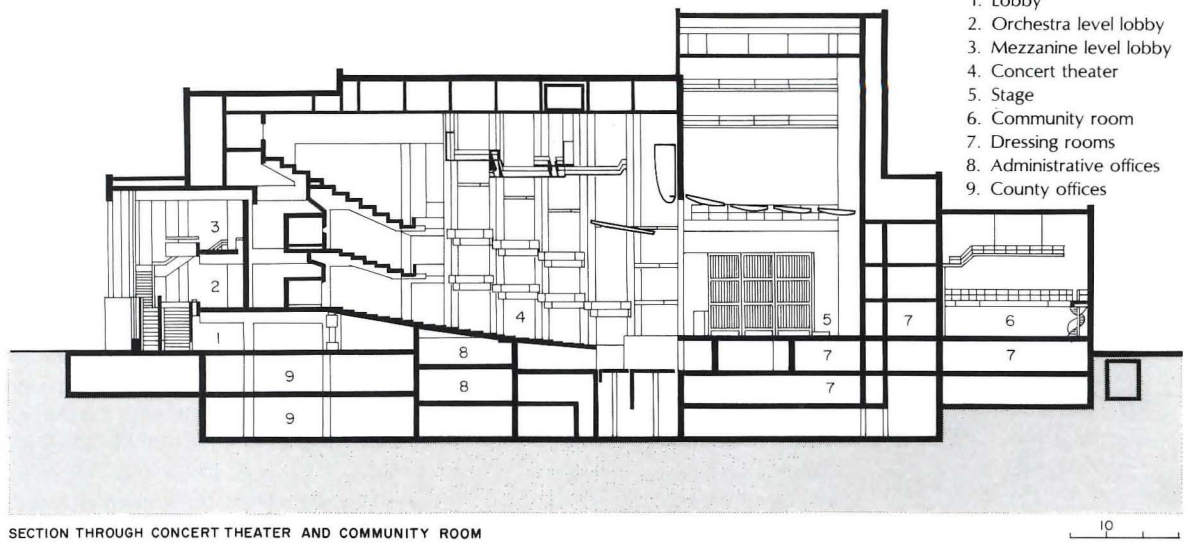


FIGURE 4





panels are thicker.  
 The architects incorporated a carefully devised system of acoustical isolation between the Concert Theater and the smaller Carrier Theater (not shown). These two halls lie side by side within the complex. The procedure used was to construct the Carrier Theater as a completely independent building within the building. The independent structure includes only the stage platform, plus its audience area. The foundations, walls and ceilings are separate. This thorough isolation procedure prevents rock-level sound from the Concert Theater from seeping into the Carrier.



## A new auditorium and exhibition space for the Art Gallery at Yale University

Yale needed a new lecture hall with an up-to-date audio-visual installation, and new and remodeled gallery space for American art and ancient art. Architect Herbert S. Newman decided to place the new auditorium under Weir Court, a unique and once almost secret enclave on the Yale campus. Long considered beautiful for its shape, sense of enclosure and intimacy, it is graced by three ancient elms. Since the giant elms contribute so much to the beauty of the Court as seen from the adjoining Art Gallery building designed by Louis Kahn, Newman devised a scheme which preserves the trees and retains the level, materials and textures of the Court. This effort shaped the auditorium as can be seen in the isometric (opposite page top).

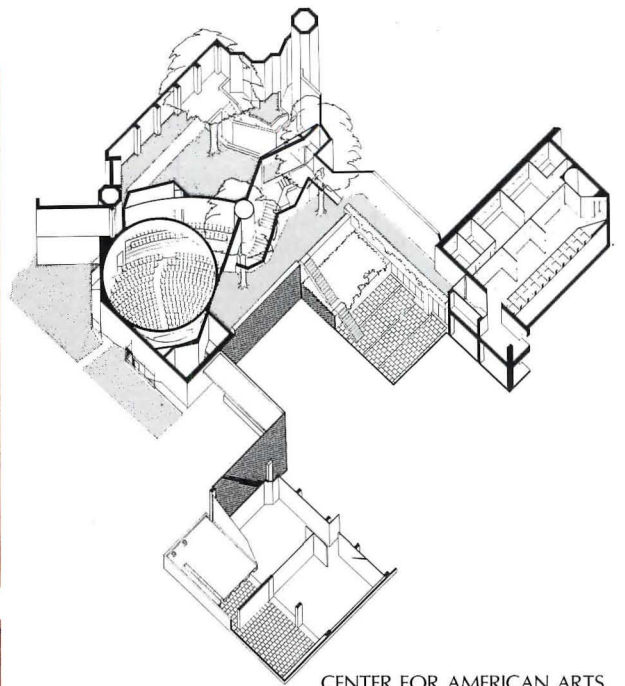
The scheme opens Weir Court to public

use. Auditorium entrances and exits are related to the old circulation system of winding stone stairs and passageways which connect the Court to the street. This circulation network permits the new auditorium to be used at night when the Art Gallery building is closed. It is entered by means of the winding stair.

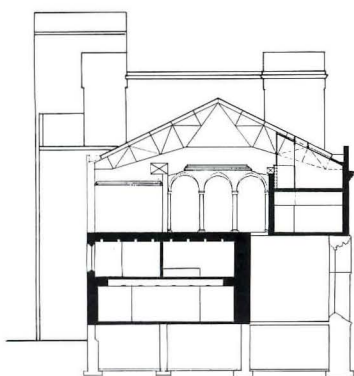
The new auditorium takes over the functions of Yale's famous Room 100, a reverberant and uncomfortable two-story hall where generations of students attended lectures on the history of art and architecture. Vincent Scully, under protest, has been relocated to the luxurious and efficient podium below. His former domain is now a two-story art gallery as can be seen in the section (opposite page bottom). The new auditorium also serves as Yale's principal motion picture theater.

Norman McGrath photos





CENTER FOR AMERICAN ARTS, Yale University, New Haven, Connecticut. Architects: Herbert S. Newman Associates—partner-in-charge of design: Herbert S. Newman; project architects: Glenn H. Gregg (partner), William Newhall and Joseph Schiffer (associates); assistants: Peter Clegg and Tom Hopper. Consultants: Spiegel & Zamecnik, Inc. (structural); Van Zelm, Heywood & Shadford (mechanical); Sylvan R. Shemitz (electrical/lighting); Bolt Beranek & Newman (acoustics); George Fuller Co. (costs). General contractor: W. J. Megin, Inc.



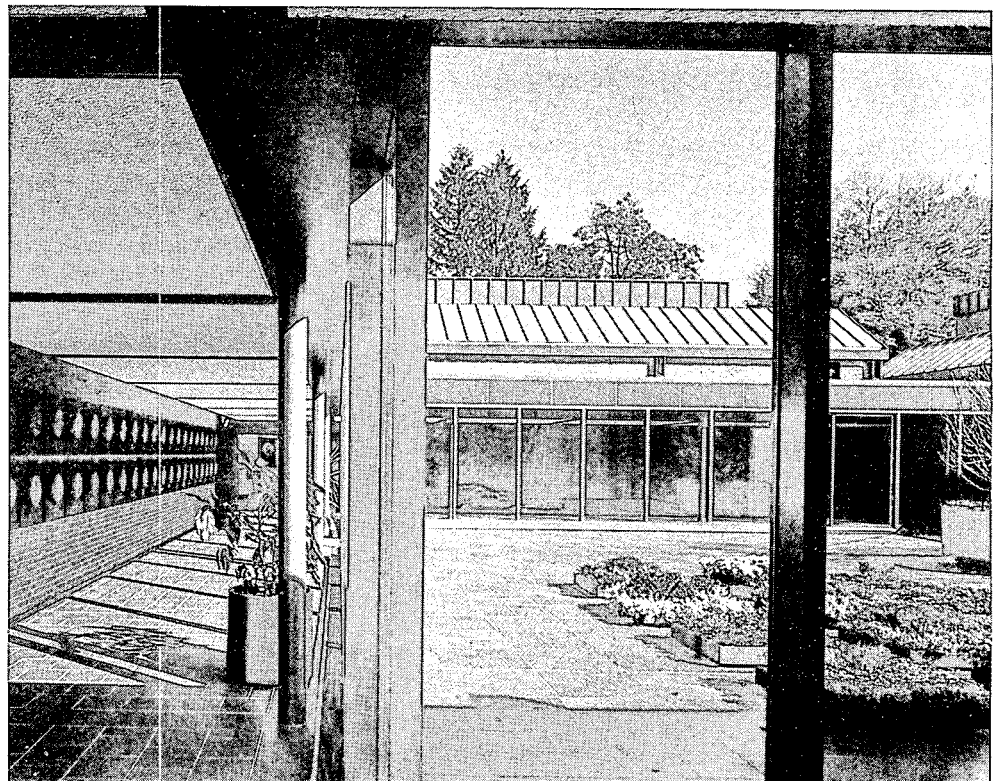
**A rather large museum and library, inserted into a residential neighborhood, takes its place quietly yet elegantly among the small-scaled buildings which surround it**

This apparently small museum is much bigger than it looks. Designed by Jean Paul Carlhian of Shepley Bulfinch Richardson and Abbott, the Museum of our National Heritage contains 82,000 square feet of space including four spacious galleries, an 80,000-volume library, an auditorium for 400 people and several large storage areas, work shops and vaults. The fact that the museum is located in a residential area adjacent to an historic district in the small-scaled old New England town of Lexington, Massachusetts made it necessary to conceal the building's size and bulk, de-emphasize its institutional characteristics and conceal its services.

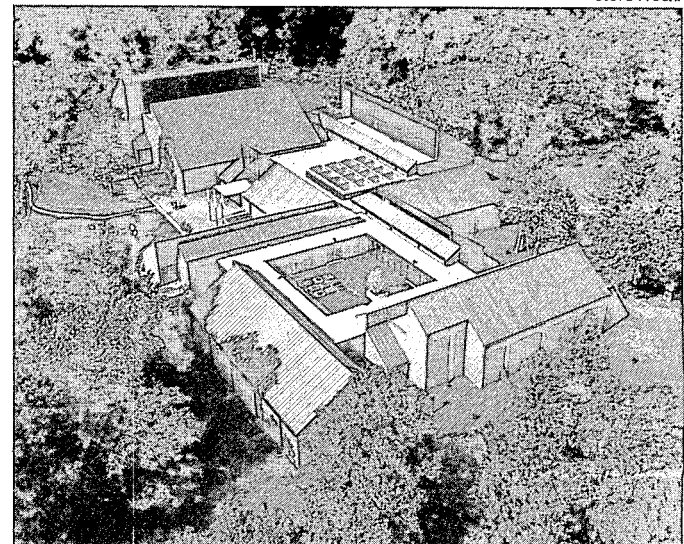
The building is composed of six residentially scaled elements linked together forming two courtyards—one open, the other enclosed as can be seen in the bird's-eye photo (below).

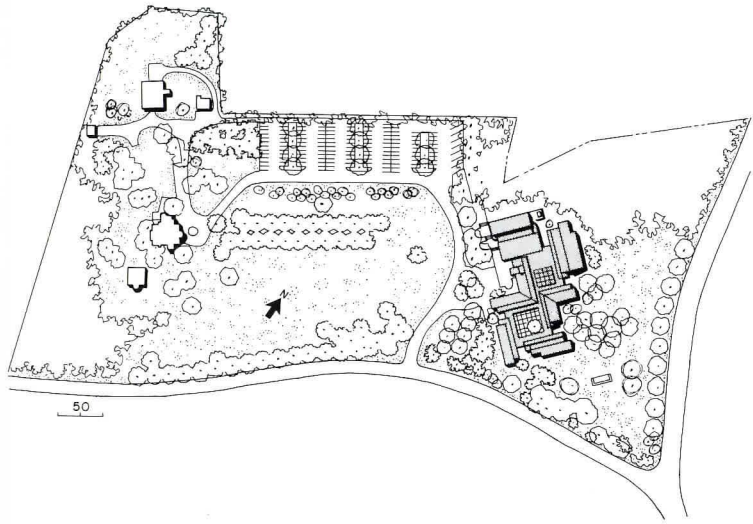
The auditorium disappears into a hill and is located at the farthest point from the public streets to make it a less imposing presence. As the site plan (opposite page) indicates, the parking lot is placed over the brow of a ridge and screened by trees.

Except for the glass facades which surround the open courtyard and fenestration at the corridor ends, the museum is windowless, at the owner's request, for security reasons. Richly textured brick, beautifully laid, make the blind exterior surfaces interesting and pleasing to look at, however, and regularly spaced masonry expansion joints, accented by extruded polyvinyl rain leaders establish a rhythm and define smaller units of scale. The standing seam copper roofs add another color and texture.



The building is a museum and library of American history sponsored by the Scottish Rite of Freemasonry in the United States to commemorate the 200th anniversary of the nation's founding. It was completed in 1975 for a construction cost of \$4.449 million or a square foot cost of \$51.64. These figures exclude site work and a contractor premium. The structure is steel frame with brick exterior walls. The special open fronted rain conductors (in detail photos above and left) hold water from the gutters by surface tension and thus prevent clogging and freezing.

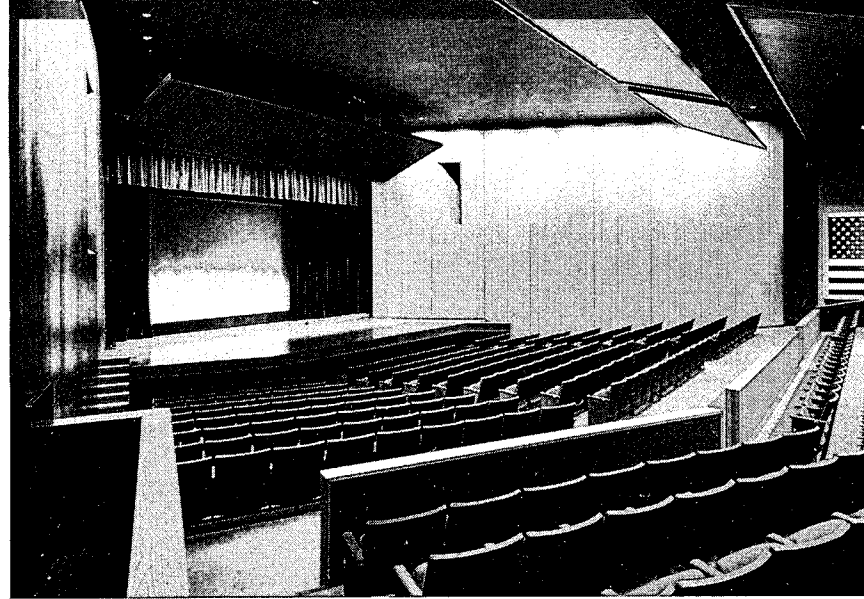




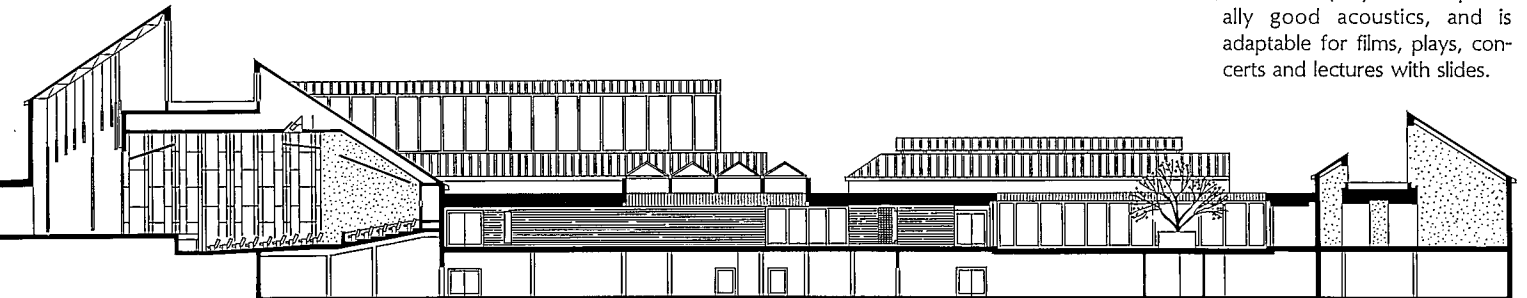
Nick Wheeler photos



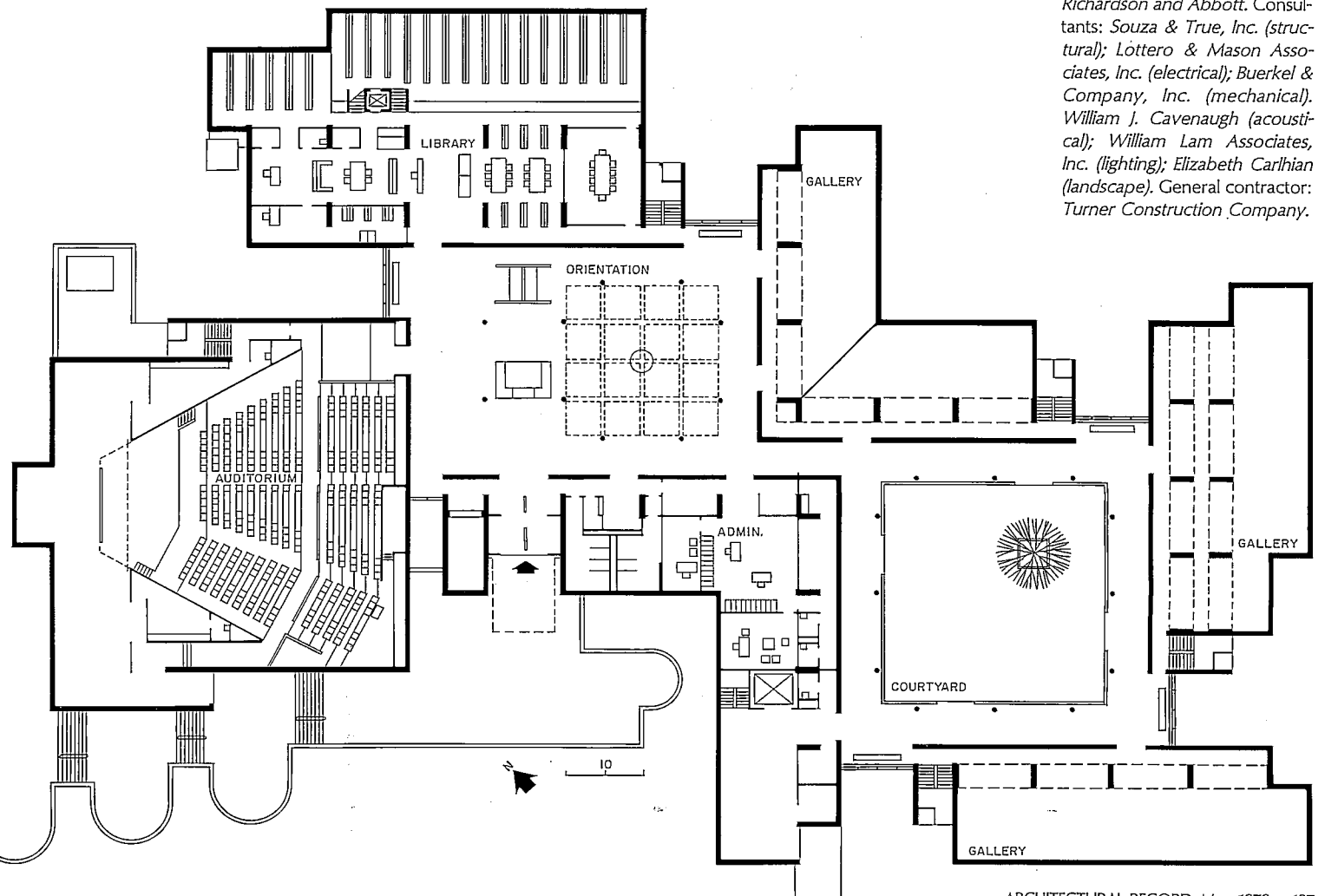




Each of the four exhibit galleries has a steeply pitched ceiling with a clerestory to light the opposite wall. The structural supports in each gallery in addition to carrying the clerestory walls and a share of the load of the pitched roof are spanned by a suspended ceiling serving as a channel for the hvac ductwork. The spaces between these supports become small-scaled rooms suitable for the exhibition of smaller paintings and objects as can be seen in the photo (opposite page bottom). The enclosed court (opposite page top) is skylit and is used by the museum as a general orientation space. The auditorium (left) has exceptionally good acoustics, and is adaptable for films, plays, concerts and lectures with slides.



MUSEUM OF OUR NATIONAL HERITAGE, Lexington, Massachusetts. Owner: *Scottish Rite Masonic Library and Museum, Inc.* Architects: *Shepley Bulfinch Richardson and Abbott.* Consultants: *Souza & True, Inc. (structural); Löttero & Mason Associates, Inc. (electrical); Buerkel & Company, Inc. (mechanical); William J. Cavanaugh (acoustical); William Lam Associates, Inc. (lighting); Elizabeth Carlhian (landscape).* General contractor: *Turner Construction Company.*



**The Boston Museum of Science,  
a major urban cultural facility,  
expands its exhibition and  
teaching facilities  
within a thirty-year growth plan**

The idea of a popular center of public science education is deeply rooted in New England's heritage, but never before has there been such a desire to know and learn as there is today. In the late sixties the overwhelming public response to, and need for, the Boston Museum of Science and its active teaching program exceeded the museum's physical capacity. At that time, every weekend hundreds of would-be visitors were turned away, while morning school visits became increasingly difficult to schedule. The Museum was faced with major problems brought about by this continuous growth in attendance, a restricted site, and its need for greatly expanded exhibit facilities.

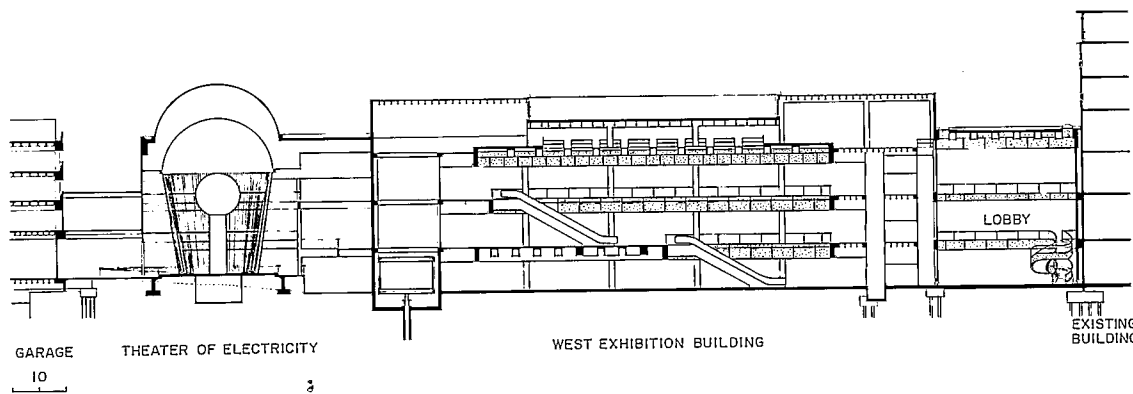
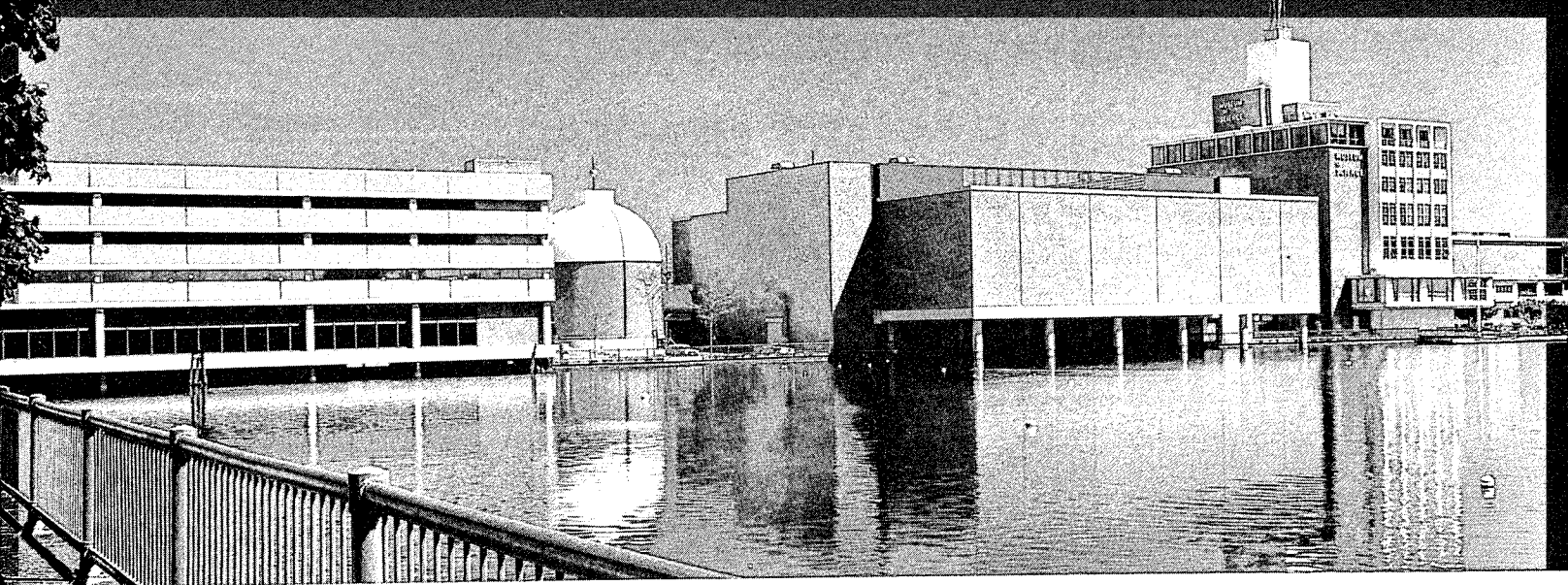
The architectural firm of Johnson Hotvedt DiNisco and Associates began by evaluating the existing facilities designed in the late fifties by

Perry Shaw Hepburn and Dean. These included the Central Building, East Wing and the Planetarium shown on the plans (opposite page). The late fifties structure (minus the planetarium beyond the reach of the lens) can be seen at the right hand edge of the photo opposite. In the foreground is the Charles River Basin. The architects then developed a plan for the ultimate expansion of the Museum. Now complete is the West Exhibition Building connected to the fifties structure by a three-story lobby, a handsome entrance plaza (below) and a parking garage. A wing will be constructed to rehouse the existing Van De Graf generator in a new Theater of Electricity. It will interconnect the new exhibition building with the parking garage and will contain improved seating for audiences watching the electrical displays.

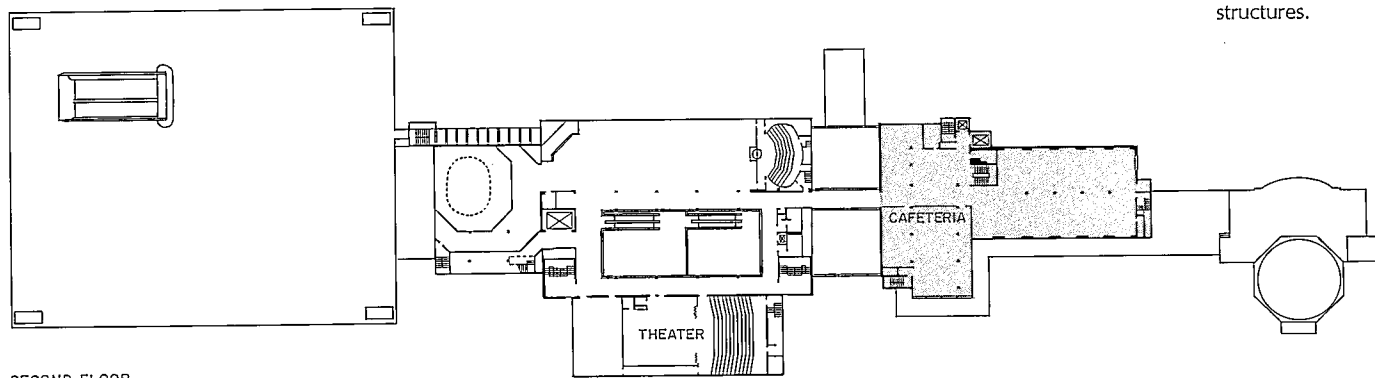
*Steve Rosenthal photos*



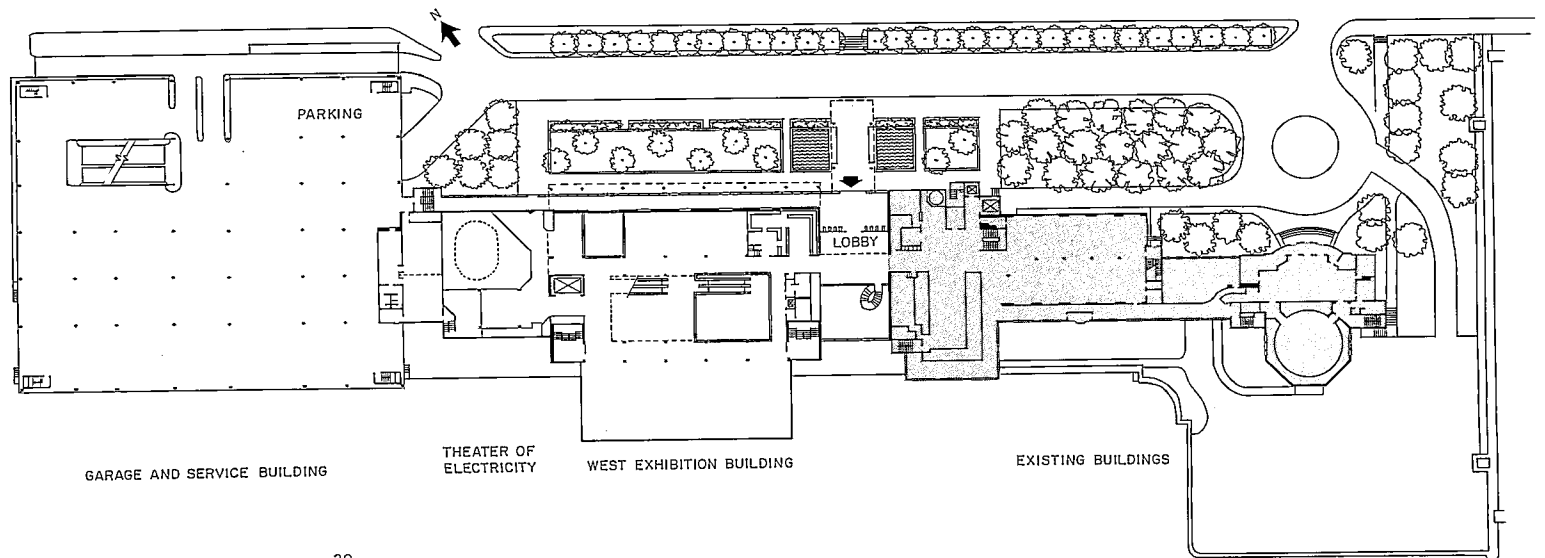




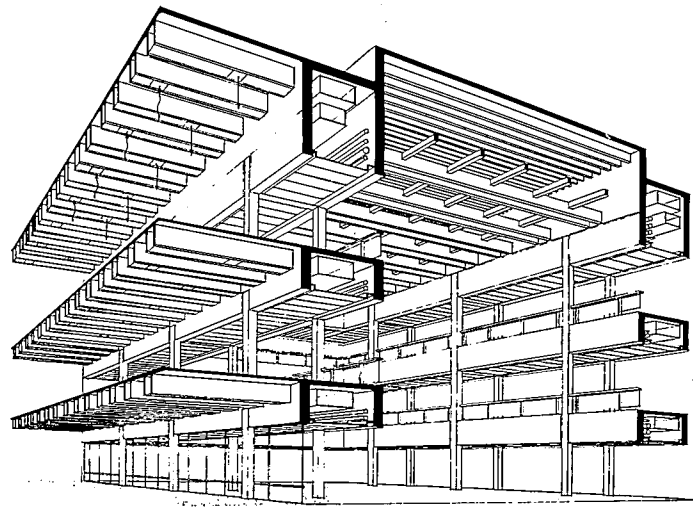
The entrance plaza is constructed at the first level of the new West Exhibition Building, providing level access for the handicapped and a pool and garden oasis in a raw and unappealing urban area. The long paved drive bordering the public street serves as a collector for cars and buses. On weekdays as many as a dozen buses may simultaneously unload children in front of the Museum. The tree planted area between the driveway and the public street serves as a screen and as a unifying element to tie the fifties building with the new structures.



SECOND FLOOR

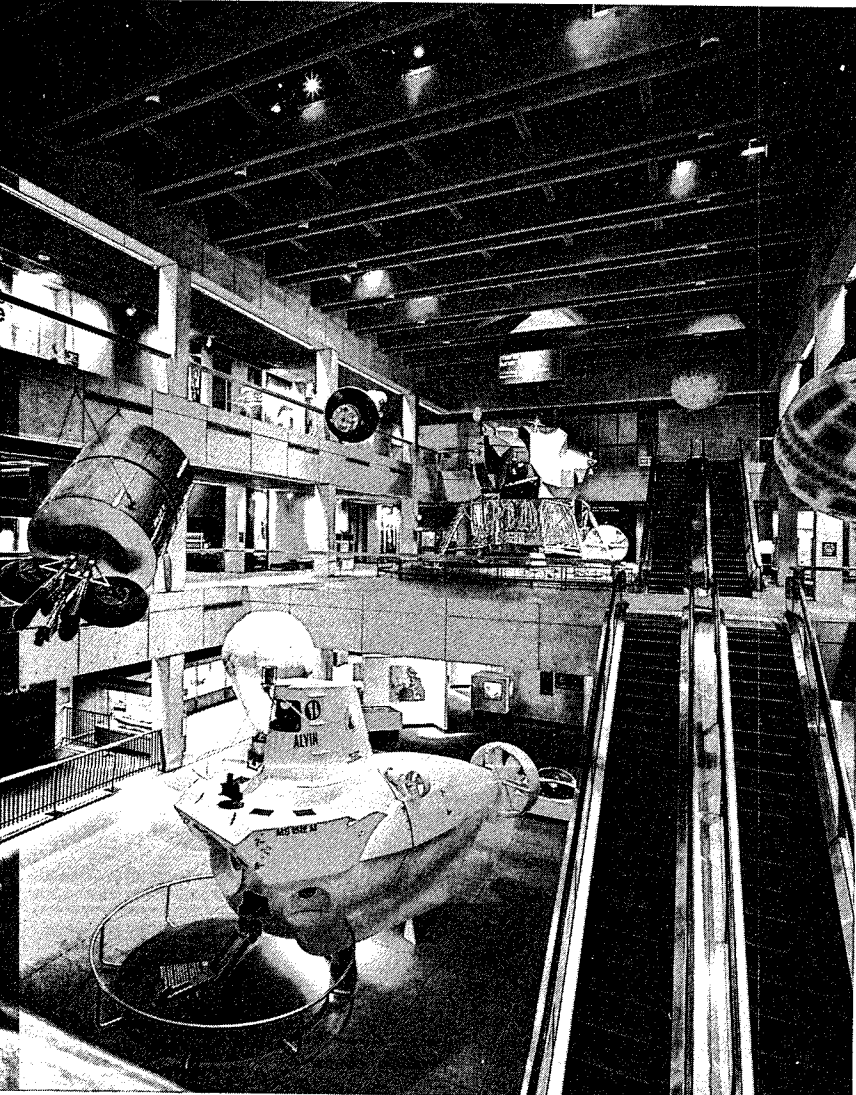


FIRST FLOOR

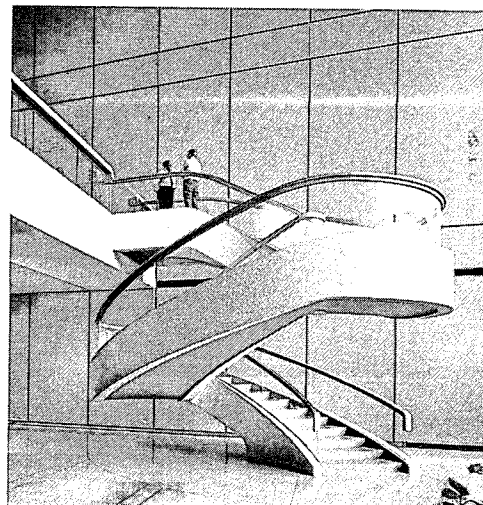


The lobby (left) links the fifties building to the east with the new West Exhibition Building, and connects the three exhibit levels of each structure. As can be seen in the photo, the lobby has a magnificent three-story glass wall that overlooks the Charles River Basin. The cantilevered stair (below) is at the lowest level of the lobby. It was designed by computer. In the West Exhibition Building the exhibit areas are organized around a large three-story hall (below left) containing a continuous escalator system connecting all three levels. The ceiling of the hall (perspective above) consists of a concrete grid system, which carries catwalks, which in turn give access to the lighting and exhibit systems. On each floor parallel to the long axis of the great hall are the major duct spaces. The floors of the exhibit and circulation areas of the Exhibition Building are carpeted.

*tect for construction phase of West Exhibition Building and all phases of Garage and Service Building, Cahners Theater, Wright Theater and Hall of Energy Building: George Adler. Consultants: C. A. Maguire & Associates (structural, foundations, mechanical/electrical); Bolt, Beranek & Newman (acoustics); William Lam Associates, Inc. (lighting); Herman Protze (concrete technology). General contractor: Aberthaw Construction Co.*



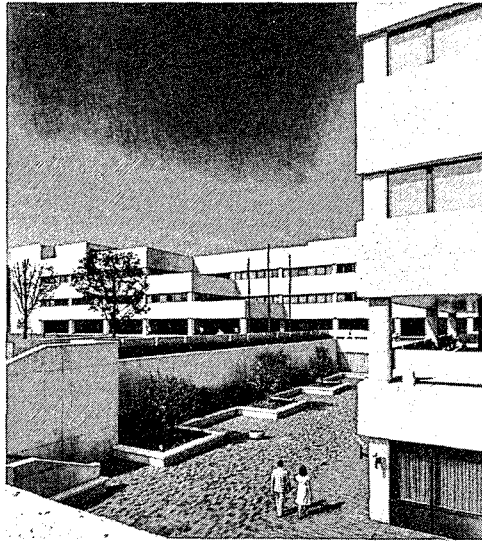
WEST EXHIBITION BUILDING, BOSTON MUSEUM OF SCIENCE, Science Park, Boston, Mass. Architects: *Johnson Hotvedt DiNisco and Associates, Inc.*—principal-in-charge and designer for the entire project: *E. Verner Johnson*; project architect for design phase of West Exhibition Building: *Kenneth F. DiNisco*; project archi-



## A quality ceiling gives quality light with low energy consumption

For the corporate headquarters of Air Products & Chemicals, Inc., near Allentown, Pennsylvania, the design architect, Bernward Kurtz of The Eggers Group, wanted a sculptural feeling in the ceiling design without calling attention to the luminaires.

The solution, developed by Kurtz with his lighting consultant, James D. Kaloudis of Meyer, Strong & Jones, consulting engineers, is special pyramidal coffers supporting low-brightness, parabolic-type, twin-beam luminaires. And because partitions for some parts of the building could be as thick as 6 in. for fire protection purposes, Kurtz wanted ceiling runners 6-in. wide also, so that partitions would not interfere with the slope of the coffers. Since runners 6-in. wide were not available as stock items in pressed-steel sections, Kurtz found a fabricator to manufacture them, and he had the exposed 6-in.-wide strips finished in different colors to designate different floors. He also had the fabricator produce the metal framing and end panels for the coffer he designed—striking for its simplicity, and the ingenuity dis-



Don Fraser, Academy Studios Ltd.

played—to support the louvered parabolic luminaire and air diffuser saddle on top of the luminaire—scarcely a lightweight item.

The owner, represented by engineer Philip F. Newman, now manager of general services for Air Products & Chemicals, made

clear that the building should be not only flexible and efficient in the management of space, but also efficient in its use of energy. Flexibility for receptacle and communication wiring is provided by cellular flooring with in-floor fixtures, and H-cuts in the carpet to conceal the fixtures while allowing wiring egress.

The building consumes significantly less energy than similar existing buildings, according to John E. Plantinga, partner-in-charge for Meyer, Strong & Jones, even though it has some large areas with high heat loads and high fresh air requirements, such as the computer area, kitchen complex, cafeteria and print shop. Energy is saved by the lighting system (only 1.8 watts per sq ft), by the building envelope (precast panels are insulated, windows are double-glazed and take up only 25 per cent of the exterior), and by the hvac system (a variable-primary-air type that utilizes enthalpy control for optimizing free cooling via outdoor air). Electrical demand control also is provided as part of the building automation system.



Lawrence S. Williams



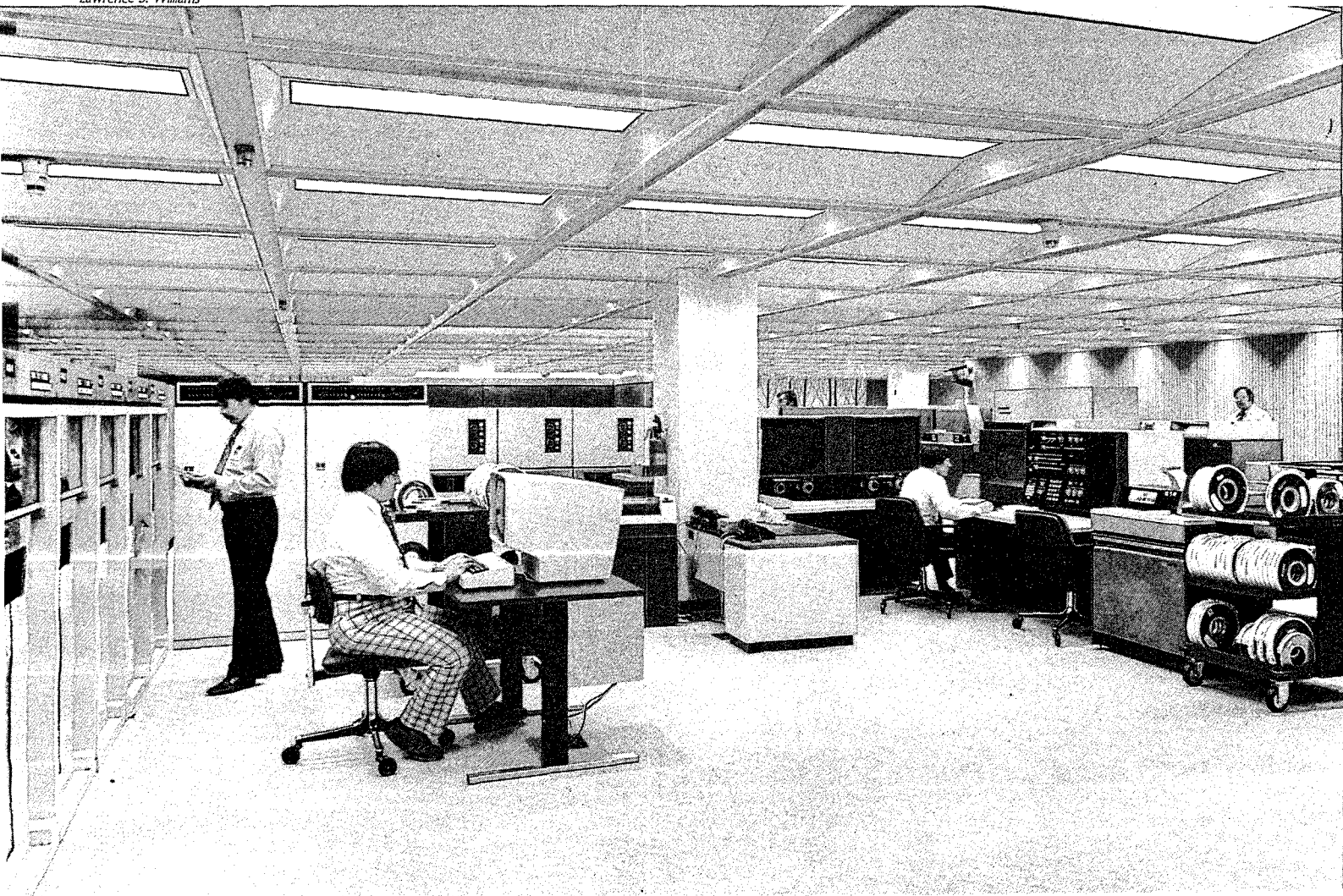
*Don Fraser, Academy Studios Ltd.*

A 380,000-sq-ft corporate headquarters building, added to an existing campus of office, research and industrial buildings, for Air Products & Chemicals, Inc., in Trexlertown, Pennsylvania, has garnered several awards for its energy-conserving features. The headquarters is a series of four building

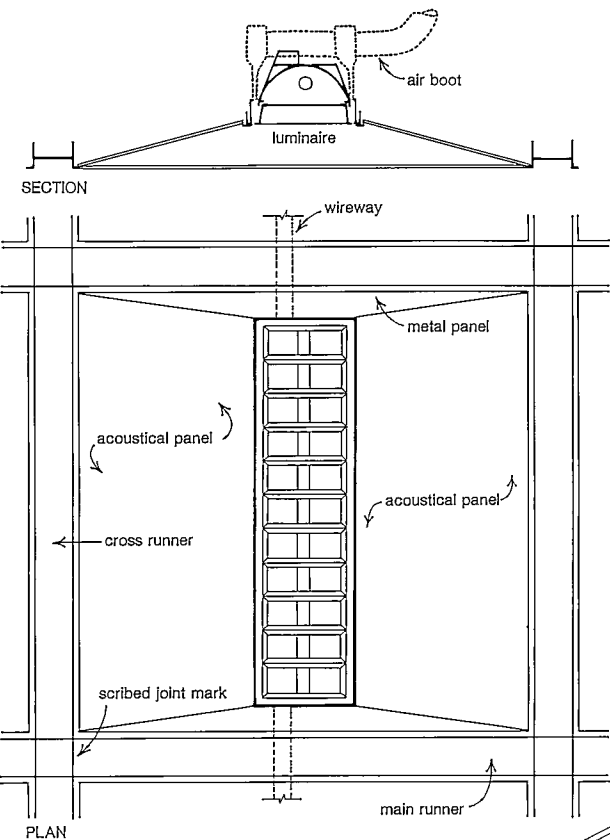
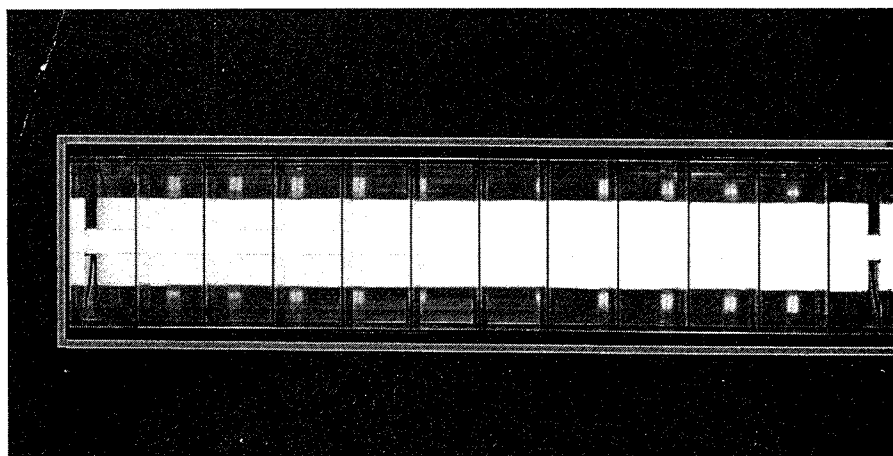
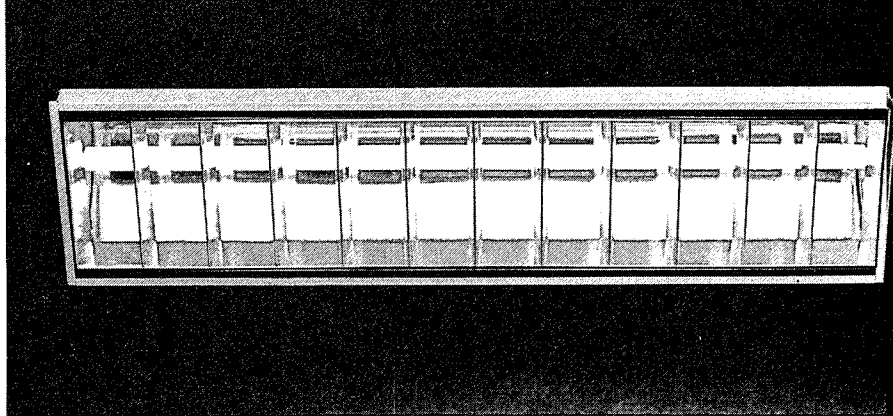
units in a zigzag configuration. Exterior is insulated precast concrete panels and bronze-tinted, double-glazed windows. For most of the building, single-lamp luminaires were employed, using only 1.8 watts per sq ft, and providing about 75-80 footcandles in large open spaces. In several small partitioned

interior spaces used by executives' secretaries, a single two-lamp luminaire was installed above the desks. In the drafting room, two-lamp troffers (one lamp above the other) alternate with single-lamp troffers to give more light. Ceiling runners suspend smoke detectors in the computer area.

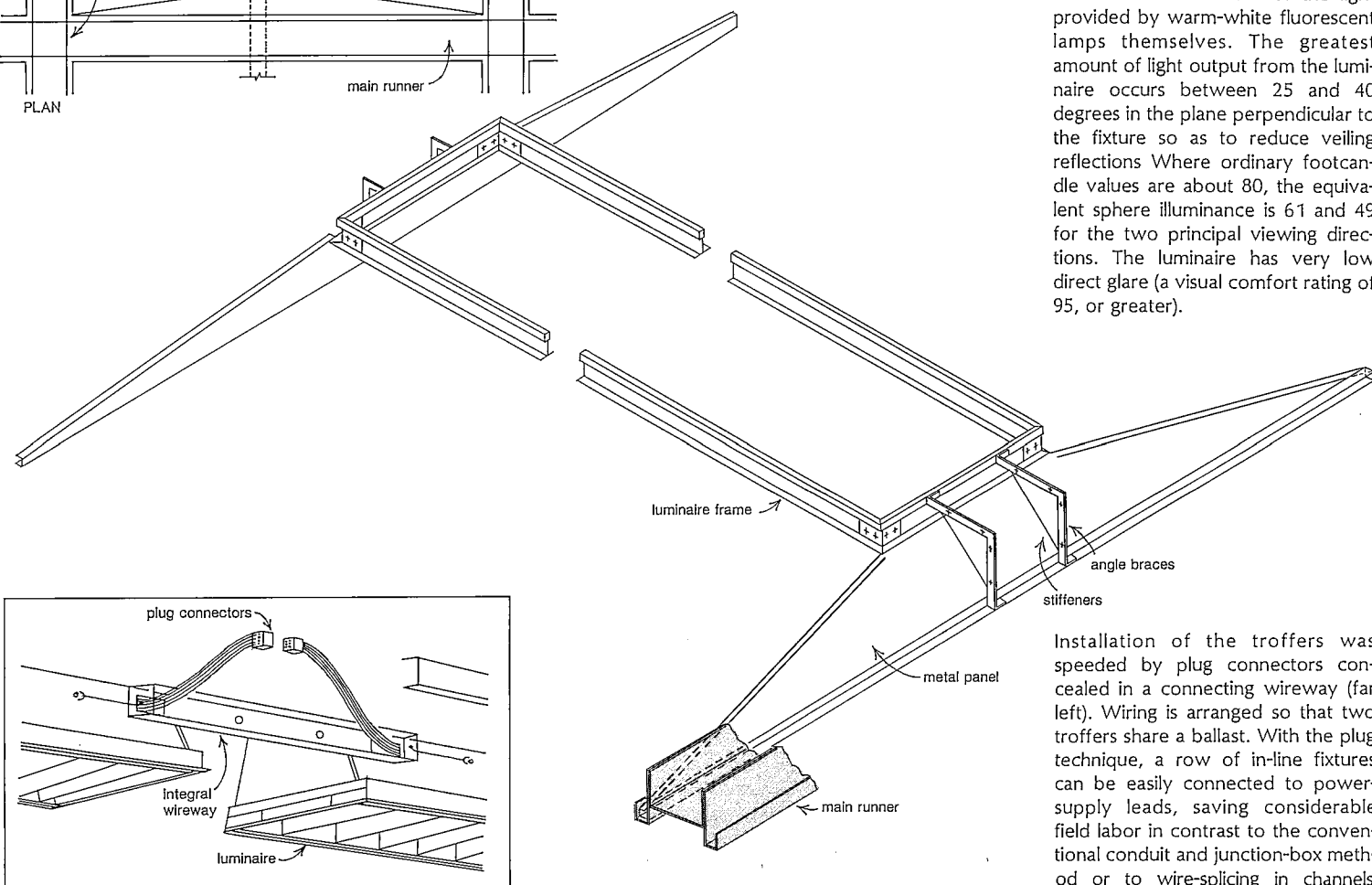
*Lawrence S. Williams*



The coffer frame shown at the bottom of the page supports the luminaire and its associated air supply/return saddle. The frame for the luminaire is supported by the metal end panels together with the two stiffener pieces and angles shown. The metal panel is bent for rigidity and to provide a right angle section at the bottom to be received by the main runner, and also to provide a flange at the top to support lay-in acoustical panels. The 55-in. cross runners fit between the 10-ft main runners.

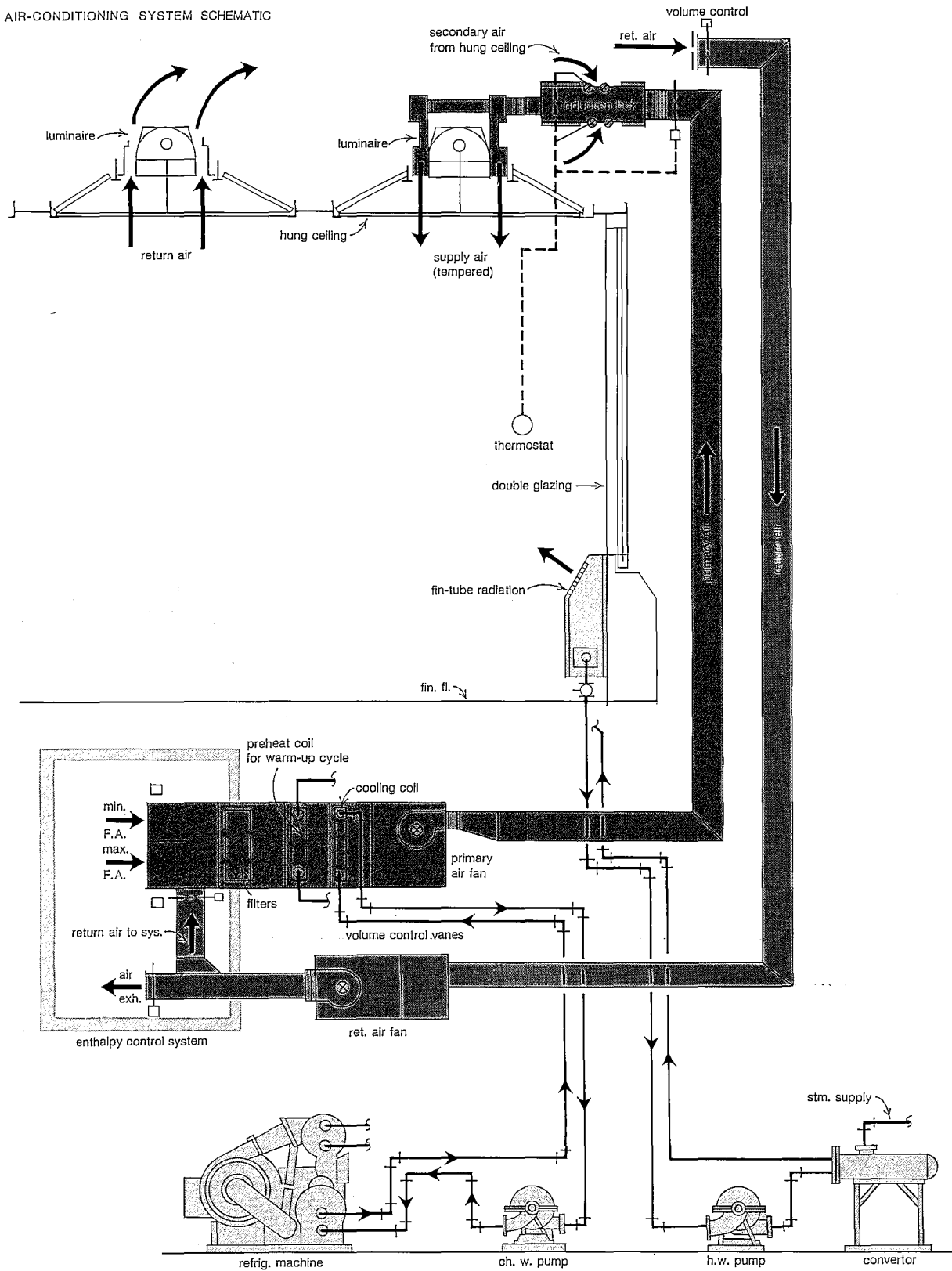


Lighting distribution of the specially designed and developed twin-beam luminaire can be sensed from the photos, above. The troffer-type luminaire has semi-specular aluminum reflectors and cross baffles. The anodized aluminum reflector elements and louvers were given a slightly gold tint at the architect's request to enhance the "warmth" of the light provided by warm-white fluorescent lamps themselves. The greatest amount of light output from the luminaire occurs between 25 and 40 degrees in the plane perpendicular to the fixture so as to reduce veiling reflections. Where ordinary footcandle values are about 80, the equivalent sphere illuminance is 61 and 49 for the two principal viewing directions. The luminaire has very low direct glare (a visual comfort rating of 95, or greater).



Installation of the troffers was speeded by plug connectors concealed in a connecting wireway (far left). Wiring is arranged so that two troffers share a ballast. With the plug technique, a row of in-line fixtures can be easily connected to power-supply leads, saving considerable field labor in contrast to the conventional conduit and junction-box method or to wire-splicing in channels.

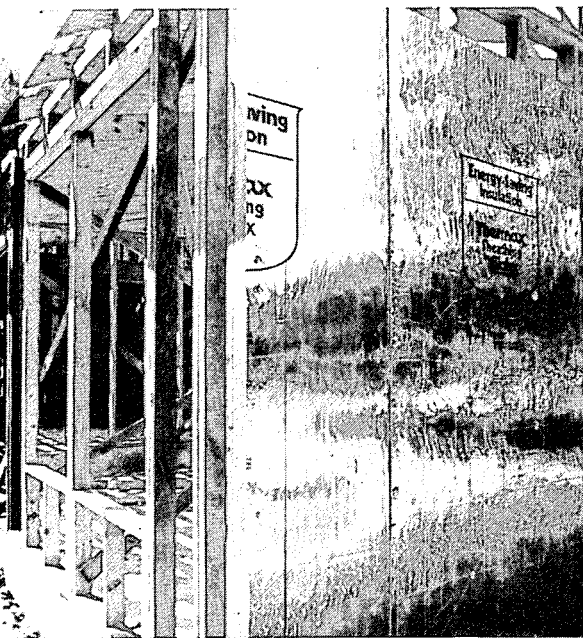
AIR-CONDITIONING SYSTEM SCHEMATIC



Spaces are conditioned by means of a variable-volume system. Supply air to spaces is constant, while the ratio of primary (cooled) air to return air is varied by the above-ceiling induction boxes in response to the room thermostats. The only source for tempering is the return air from the ceiling plenum. Primary air can be throttled to 40 per cent of maximum. Perimeter offices are heated by fin-tube radiation. Air is supplied to rooms and returned to the ceiling plenum through slots at the sides of the troffers. An

enthalpy control system senses the temperature and humidity of outdoor air and "decides" when it can be used for "free" cooling. Because of the low energy taken by the lighting, the engineers were able to reduce the refrigeration capacity, air distribution and electrical distribution. A study on the cost implications of design features and on energy-system strategies, done for the client by consultant L. G. Spielvogel, concluded that the building generally meets the energy budget guidelines suggested by Federal agencies.

For more information, circle item numbers on Reader Service Inquiry Card, pages 215-216

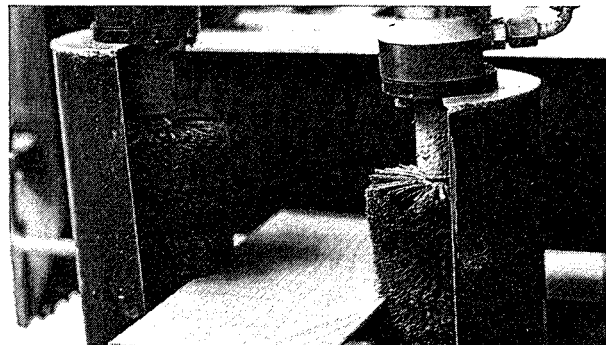
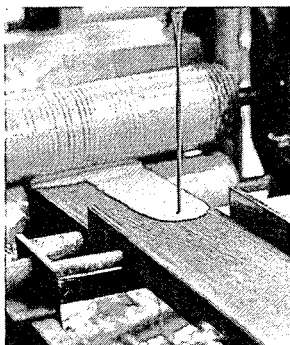


## Composite foam core residential sheathing board

Thermax insulation sheathing is a polyisocyanurate foam core, reinforced with glass fibers for stability in use. The board is faced on each side with aluminum foil, and offers an R-value of from 6.7 to 8.0 per inch of thickness. Construction of an R-19 frame house is

shown above as Thermax sheathing is applied; studding space will have 3 5/8-in. of friction-fit fiberglass insulation. The plastic core sheathing is approved by FM, UL and major model codes. ■ Jim Walter Corp., Tampa, Fla.

circle 300 on inquiry card



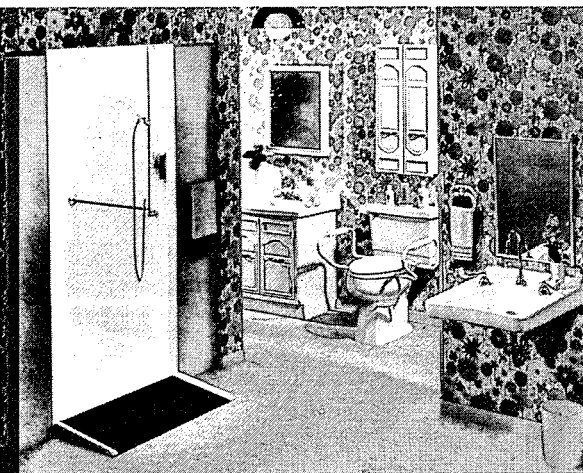
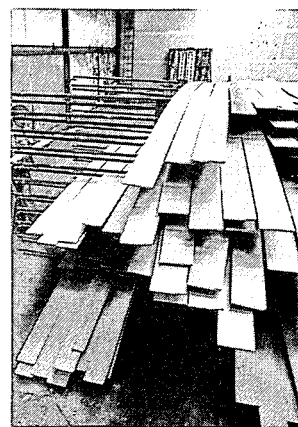
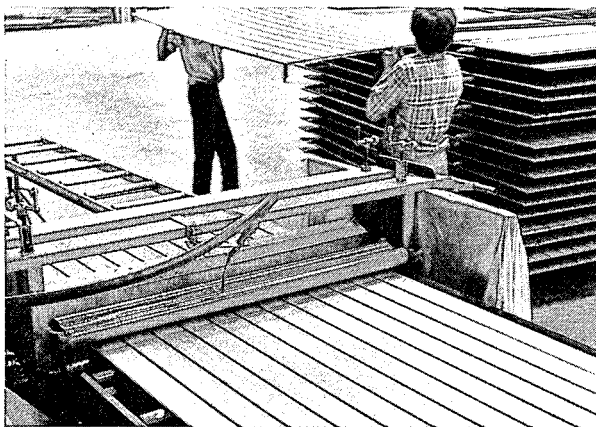
## Machine pre-staining offers uniform coverage of construction lumber

The machine staining system shown is said to eliminate coverage aberrations in the coating of lumber or plywood. The machine process can be used to apply stain to rough-textured and smooth sheet material, lineal siding, or any type of lumber material in any width up to 48-in., and any thickness from 1/8- to 4-in. Any stain or latex coating that can be

applied by hand may be used; the controlled conditions ensure a high-quality stain on the front, top and sides of all pieces. In the three-step process, the stain is first flooded on and forced into the wood with pressure rollers. Then the stain is brushed thoroughly into the grain and evenly distributed. If necessary, back-priming can be done simultaneously. Finally the

stained substrate is stored on racks and allowed to dry naturally. Pre-staining by machine is said to last up to twice as long as stain applied by conventional methods. Machine stainers using this system are said to be located in nearly every part of the United States and Canada. ■ Olympic Stain Co., Bellevue, Wash.

circle 301 on inquiry card



## Bathroom designed for the handicapped

The shower stall is one-piece fiberglass designed so a wheelchair can be moved inside easily. The user can slide from the chair onto a fold-down bench inside the stall. Pressure balance fitting mounted at a

convenient height controls water flow and temperature. Also offered in this bathroom package is an 18-in.-high toilet. ■ Universal-Rundle Corp., New Castle, Pa.

circle 302 on inquiry card

## Customized accent lighting uses standard components



A concealed wall washing and accent lighting system, Lyte-Trough provides a made-to-order appearance with off-the-shelf components. Baffles and corners are made of 1/2-in.-thick particleboard finished with matte white vinyl veneer that can be painted. The 60- and 120-in. standard lengths can be easily cut. Light sources are wall wash and accent fixtures on Lytespan track.

■ Lightolier, Jersey City, N.J.

circle 303 on inquiry card  
more products on page 153

# INTRODUCING TOMORROW'S DOOR CLOSER

Now available only from Rixson, the remarkable Century 2000 . . . so easy to specify . . . so economical in every respect.

Designed without compromise, in the Rixson tradition.

- No sizing or spring adjustment required. Simple selection of proper closer:  
Regular Closer — for most interior door applications.  
Heavy Duty Closer — for high frequency interior doors.  
Exterior Closer — with new, high efficiency control.
- Unique hydraulic backcheck system. Pre-set at 75°, field adjustable between 50-180°, regardless of arm application or degree of opening.
- Facilitates uniform opening and closing forces throughout building
- Exclusive fluid filtering hydraulic system assures smooth closing action
- High style: narrow projection *with* narrow stile
- Heavy metal cover and cold-rolled steel arm
- Multiple spring backup system
- Exceptional quality plating and finishing at reasonable price

And many more advantages, including independent stroke and on/off latch valves . . . precision cast closer body . . . accommodation for reveals to 8" . . . U.L. approval and five-year warranty.

Ask the door control specialists:

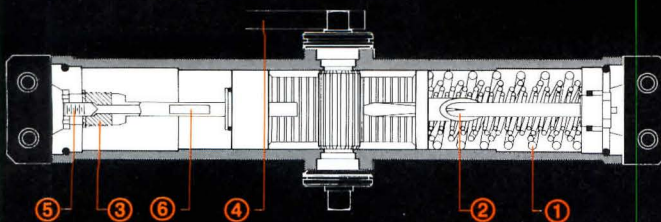
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## Rixson's Century 2000

- ① Multiple spring system
- ② Unique hydraulic backcheck
- ③ Fluid filtering system
- ④ Heavy Steel arm
- ⑤ Independent stroke valve
- ⑥ On/off latch valve





For more information, circle item numbers on Reader Service Inquiry Card, pages 215-216

**LOCKER/STORAGE SYSTEMS** / Made with rigid welded box frame construction and hand-baked enamel finishes in a wide range of colors, sizes and door configurations to fit within most design requirements, the British-made *Link 51 Locker* is shown in an illustrated product brochure. Also shown are a number of bridge units that provide hanging space in conjunction with locker compartments. ■ Dahnz Industries (U.S.A.) Inc., New York City.

circle 400 on inquiry card

**INDUSTRIAL GLAZING** / A guide to the properties, installation and care of *Protect-A-Glaze* pebble-finish polycarbonate sheet explains the product's applications in industrial glazing. Listed Burglar Resistant by UL, *Protect-A-Glaze* meets ANSI Z97.1 for transparent safety glazing in buildings. Included in the literature are light transmission values, weatherability, design stress, thermal values, and comparative data on other glazings. Over 50 nationwide service centers are listed, all stocking the complete *Protect-A-Glaze* line. ■ Cadillac Plastic and Chemical Co., Detroit, Mich.

circle 401 on inquiry card

**SECURITY SCREENS** / A product catalog describes a line of security screens for use in front of windows and other vulnerable building openings as protection against vandalism and forced entry or exit. The basic screen design incorporates high-strength, stainless steel wire cloth, anchored under tension in a main frame of stainless steel, steel or aluminum which, in turn, is securely mounted to a sub-frame by concealed hardware. These security screens can be supplied with either a life-safety emergency release system and/or a tamper-and-jam resistant bit key lock. The catalog includes installation photos plus cutaways, diagrams, complete descriptions of various screens, and installation data. ■ Kane Mfg. Co., Kane, Pa.

circle 402 on inquiry card

**SEALANTS AND ADHESIVES** / A short-form technical catalog describes sealants, coatings, and adhesive products, and includes information on base materials, composition, adhesion, water and corrosion resistances, temperature ranges, packaging and methods of application. Featured are extruded sealant tapes and beads which are premixed and preformed to the size required for the job. ■ General Sealants Corp., City of Industry, Calif.

circle 403 on inquiry card

**REFLECTIVE ROOF COATINGS** / A brochure discusses how reflective roof coatings save energy by reflecting heat and lowering temperatures inside the building, reducing air conditioning costs. The booklet explains how aluminum and white roof coatings help retain asphaltic oils in the floodcoat, provide moisture and corrosion resistance, reduce maintenance, and extend the life of the roof. Economical application suggestions are given. ■ The Monroe Co., Inc., Cleveland, Ohio.

circle 405 on inquiry card

**WOOD FIREPLACE MANTELS** / A selection of over 25 in-stock wood mantels for factory-built metal or built-in-masonry fireplaces is shown in an illustrated brochure. Styles include colonial, traditional, contemporary, French and Georgian. All mantels are hand-crafted of kiln-dried poplar, and are either primed white or left unfinished for staining. Special sizes and designs may be specially ordered. ■ Readybuilt Products Co., Baltimore, Md.

circle 406 on inquiry card

**INSULATION VALUES** / Intended primarily for users of walk-in coolers, freezers and refrigerated buildings, a data sheet uses R values to compare the insulating efficiency of various materials. ■ Bally Case & Cooler, Inc., Bally, Pa.

circle 404 on inquiry card

**REDWOOD CLEAR GRADES** / A color brochure illustrates some of the options offered by Redwood Clear Grades in surface textures, patterns and widths, including such applications as exterior siding, interior paneling and ceilings, fascia, trim, decks and outdoor furniture. Inserted into the literature are redwood application instructions covering exterior nailing, pattern uses and interior paneling installation procedures, as well as finishing suggestions. ■ Simpson Timber Co., Seattle, Wash.

circle 407 on inquiry card

**CONCRETE COMPOUNDS** / Benefits, application recommendations, and physical characteristics for concrete admixtures and sealers are given in data sheets on *Pozzolith-HE*, for accelerating set; *Master-seal 66* curing and sealing compound; and *MB-AE 10* admixture for entraining air in concrete. ■ Master Builders, Cleveland, Ohio.

circle 415 on inquiry card

**ENERGY-SAVING CONSTRUCTION** / Energy saving tips applicable to the design and construction of buildings, and information on the insulative qualities of wood are compiled in a technical bulletin. An energy consumption study between masonry and wood structures demonstrates wood's natural insulative properties in both hot and cold weather. Various wall construction methods used to obtain a range of resistance values are illustrated. ■ Simpson Timber Co., Seattle, Wash.

circle 409 on inquiry card

**LIGHT-GAGE STEEL FRAMING** / For use both as the main structural system for low-rise buildings, and as the back-up for many curtainwall systems, light gage structural steel framing is said to have high strength, light weight, and non-combustible properties. A technical bulletin also describes its dimensional stability and flexibility in fabrication and erection. Sections cover handling and transportation, shop layout and fixtures, cutting, welding, other fastening systems and erection. ■ Metal Lath/Steel Framing Assn., Chicago, Ill.

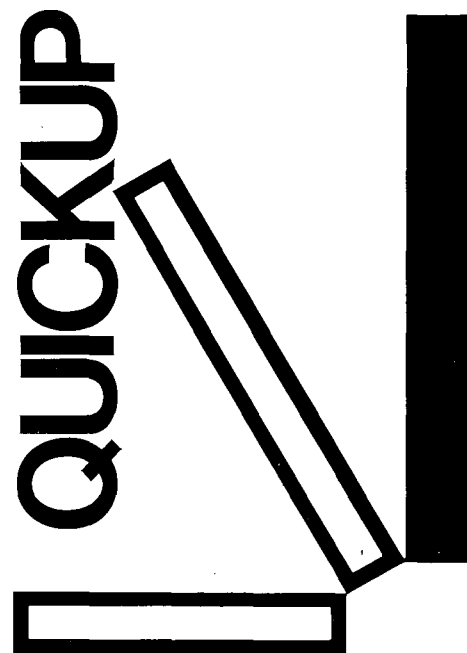
circle 410 on inquiry card

**COMPONENT TUBING** / An illustrated product brochure covers a complete line of steel component tubing, and includes specifications for materials, diameters and gages, available surface finishes, shapes and weight-per-ft. It also discusses the inline manufacturing process which allows for flexibility in raw materials as well as end-product size, shape, gage and surface finish. Applications for this steel tubing include scaffolding, conveyor systems, display racks, furniture, etc. ■ Allied Tube and Conduit Corp., Harvey, Ill.

circle 411 on inquiry card

**HARDWOOD PANELING** / An illustrated brochure offers information on the manufacture and installation of hardwood paneling. Characteristics of quality wood panels are detailed. Seven of the most popular wood varieties are shown, and other paneling products are described. ■ BiWood International, Memphis, Tenn.

circle 412 on inquiry card  
more literature on page 157



If your work includes multi-residential or light commercial projects, we urge you to look into the use of steel framing. For a number of very good reasons.

**First, speed.** All framing components can be prefabricated into panels—up to 40 feet long—which are simply positioned, plumbed, and welded or screw attached. Each section includes the necessary openings for doors, windows, air conditioning and ventilation units. Once the structural frame is in position, the assembly can be quickly closed in—allowing inside work to proceed immediately . . . without regard to weather conditions.

**Steel framing** can trim several months from the construction schedule. Which means earlier occupancy and, often, substantial savings in interim financing.

**Overall costs** are lower than for alternative construction techniques. The assemblies are lightweight, so no heavy equipment is needed for placement. And components of the steel framework will not warp, shrink or swell . . . are incombustible . . . and are impervious to termites, rot, or varying climatic conditions.

**Design freedom** is virtually unlimited. These systems can accommodate a wide variety of exterior finishes—from traditional stone and brick to intricate stucco, metal, wood and concrete panels, and composite facing materials.

**Write for our Technical Bulletins 131 and 136** which give complete information on steel framing.



Metal Lath/  
Steel Framing Association  
221 North LaSalle Street  
Chicago, Illinois 60601

For more data, circle 73 on inquiry card

# SAVE MONEY ON YOUR NEXT BUILDING. HAVE IT BUILT BY HAND.



Handmade masonry buildings do cost less. But how?

The mechanics of creating walls with mortar and brick, or block, or stone have changed little over the centuries. But technology in the production of masonry products has improved radically. So has on-site automation of materials handling. And so has masonry craftsman efficiency.

The exactness and flexibility of masonry construction avoids the expensive on-site refitting necessary with some materials. The mason can adapt to on-site construction variables. So he can save time. And money.

With prefabricated masonry panels, a building goes up even faster. Yet, the integrity of materials and the advantages of handmade quality and beauty are not forfeited.

Some modern masonry systems, such as engineered loadbearing masonry, are proving to be among the most economical building systems ever developed. They boast low initial costs which allow any project budgeter to rest easy.

Of course, initial cost savings are only part of masonry's economy story. Operating costs are nearly *always* significantly

less for a masonry building. Once built, masonry construction savings build and build.

It all adds up to less—less initial cost, less operating cost.

Have your next building built by hand. By bricklayers. And save.

For more information about a masonry system that will lower your building costs, write to IMI.



INTERNATIONAL MASONRY  
INSTITUTE

Suite 1001, 823 15th St., N.W.,  
Washington, D.C. 20005,  
(202) 783-3908

(The Mason Contractors Association  
and The Bricklayers' Union of the U.S.  
and Canada.)

For more data, circle 74 on inquiry card

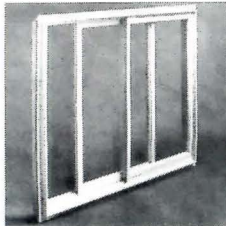


**KD FURNITURE LINE** / The bolster-back chair shown is one of several featured in the "Freestyle" series of kd chairs and tables. All pieces in the line are said to be easily set up in the home, using the assembly tool provided with the furniture. Upholstery options include expanded vinyl, print or solid-color duck, and nylon velvet; the frame can be ordered in either *Chromesteel* or almond powdered epoxy paint finish. ■ Howell Division of Burd, Inc., St. Charles, Ill.



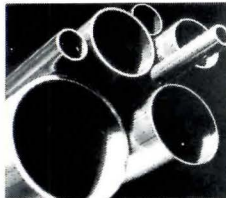
circle 304 on inquiry card

**DOUBLE GLIDING WINDOWS** / Ease of operation is said to make the sliding window unit shown especially suitable for use in nursing homes and hospitals, as well as commercial buildings, high-rise and garden apartments. Double-pane insulating glass is framed in vinyl-clad wood; window sash operate smoothly with adjustable steel glides on a vinyl rib. Both interior and exterior panes can be cleaned from the inside. ■ Anderson Corp., Bayport, Minn.

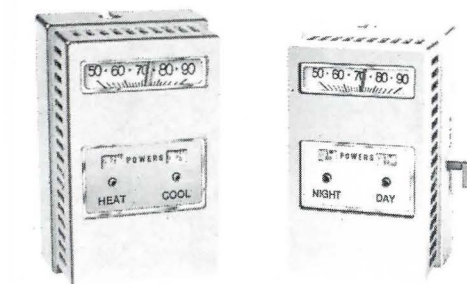


circle 305 on inquiry card

**WELDED STEEL TUBING** / A full range of outside diameters and gauges of electrical-resistance-welded steel tubing is now available uncoated. The "raw" tubing is supplied either dry, or treated with a rust-preventive oil; after fabrication, the completed tubing assembly may be uniformly finished as required. Uncoated tubing available includes a high strength product (75,000 psi minimum tensile strength) for scaffolding and other structural load bearing applications. ■ Allied Tube and Conduit Corp., Harvey, Ill.

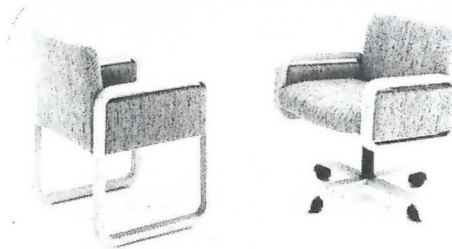


circle 306 on inquiry card



**THERMOSTAT** / A two scale pneumatic thermostat, the "NRC saver III" saves energy by limiting temperature settings in heating-cooling and day-night systems. The units feature two individual and separate set point dials which can easily be seen with the cover on, as required by ASHRAE Standard 90-75. Limits are field adjustable by authorized personnel, without removing the cover, or can be factory fixed to meet government specifications. Scales are available in degrees Fahrenheit or Celsius. ■ Powers Regulator Co., Skokie, Ill.

circle 307 on inquiry card



**CONTRACT SEATING** / Part of the manufacturer's "Bentwood" series of office furniture are the sled base guest chair and four-caster swivel chair shown above. The chairs have foam-padded side panels, seat and back; frames are constructed of laminated oak or walnut layers finished in light, honey or dark oak tones or oiled walnut. A full-body lacquer walnut finish is optional. ■ Mueller Furniture Corp., Grand Rapids, Mich.

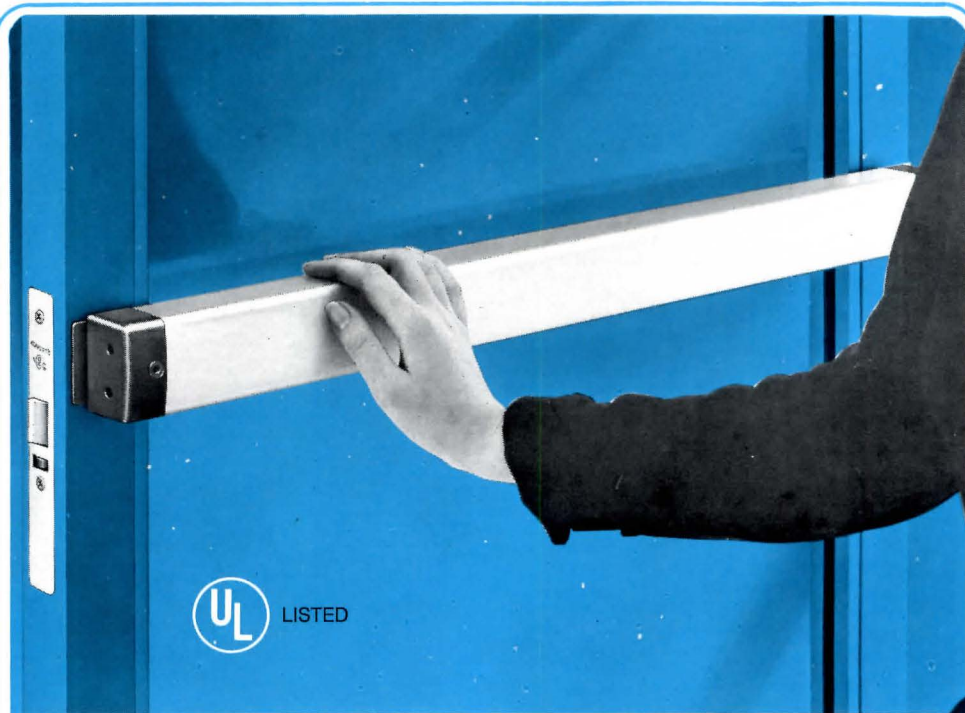
circle 308 on inquiry card



**TWO HANDLE FAUCET** / "Antique Brass" finishes are now available in seven models of the "Valley II" two-handle washerless faucet line. Shown are a 4-in. centerset lavatory faucet with pop-up assembly, and a widespread combination adjustable from 6-in. to 16-in. centers. Handles are a smoke gray acrylic, designed especially to complement the antique brass finish of the fittings. ■ U.S. Brass-Wallace Murray Corp., Plano, Texas.

circle 309 on inquiry card

*more products on page 155*



## THIS IS AN EXIT DEVICE? THIS IS AN EXIT DEVICE!

Why have exit devices always been ugly, expensive, bulky, pipe-rack monstrosities? Darned if we know. We (Adams Rite Manufacturing Co.) believe that simplicity, not complexity, is the ultimate sophistication. We designed our exit device to complement the clean lines of narrow stile glass doors (and fit easily and securely into the same standard mortise cut-out as our M.S.® deadlock). We also designed it to release at a mere 8 lb. touch anywhere on the bar, which moves only one inch. This one inch is in the exit direction too, not the conventional but unnatural downward arc. Load the door up to the code-required 250 lbs. and release pressure still stays well under

50 bs. anywhere on the bar. Yes, it's an exit device. It's also an exciting device. Some architects have indicated they're specifying it even where exit devices are not required by law. It's simply the neatest way to open a door they've seen. Who are we to argue? For details of the 8400 mortise device (shown) and its twin, the 8500 concealed vertical rod for paired doors, write:

**ADAMS RITE**   
MANUFACTURING CO. CITY OF INDUSTRY  
CALIFORNIA 91749  
TEL: (213) 699-0511

For more data, circle 75 on inquiry card

# How to give your clients a fire & security system that pays for itself—usually in 3 years or less.

Recommend they make it part of a total Johnson Controls money-saving building automation system. We help you do the whole job—from design to hardware to installation. Results? See below.

## Energy savings pay for lifesafety systems in new Houston buildings.

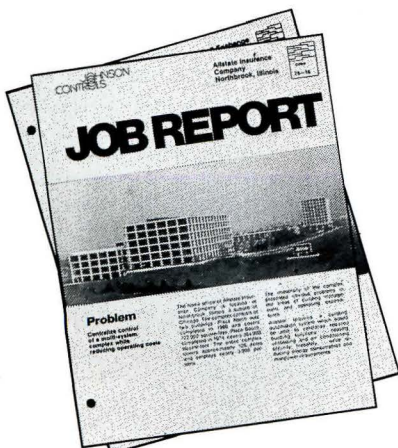
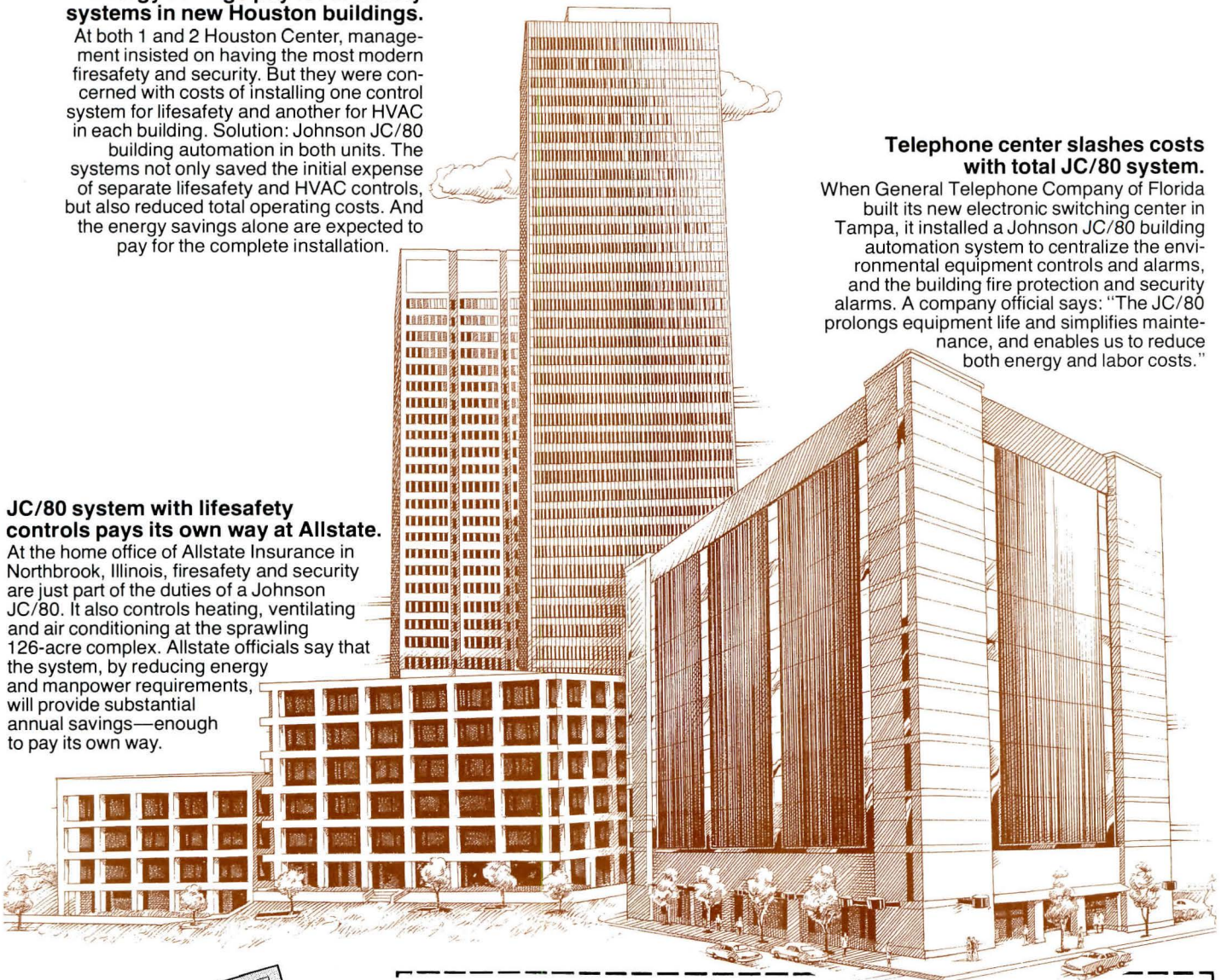
At both 1 and 2 Houston Center, management insisted on having the most modern firesafety and security. But they were concerned with costs of installing one control system for lifesafety and another for HVAC in each building. Solution: Johnson JC/80 building automation in both units. The systems not only saved the initial expense of separate lifesafety and HVAC controls, but also reduced total operating costs. And the energy savings alone are expected to pay for the complete installation.

## Telephone center slashes costs with total JC/80 system.

When General Telephone Company of Florida built its new electronic switching center in Tampa, it installed a Johnson JC/80 building automation system to centralize the environmental equipment controls and alarms, and the building fire protection and security alarms. A company official says: "The JC/80 prolongs equipment life and simplifies maintenance, and enables us to reduce both energy and labor costs."

## JC/80 system with lifesafety controls pays its own way at Allstate.

At the home office of Allstate Insurance in Northbrook, Illinois, firesafety and security are just part of the duties of a Johnson JC/80. It also controls heating, ventilating and air conditioning at the sprawling 126-acre complex. Allstate officials say that the system, by reducing energy and manpower requirements, will provide substantial annual savings—enough to pay its own way.



## FREE.

Job Reports on these or similar buildings with full details on how the problem was solved, and names of consultants involved.

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Johnson Controls, Inc., Box 423, Milwaukee, Wis., 53201

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**JOHNSON**  
**CONTROLS** We make buildings earn more.

**CENTRAL SYSTEM HUMIDIFIER** / The *Waltronic*

*DM130LE* humidifier is designed for flexible mounting on the plenum, return or supply duct of any forced air heating system; an optional kit permits mounting under the duct as well. The unit is rated at

13.0 gallons/day under ARI standard 610, or up 16.6 gal/day at 180 deg. It is equipped with a 24-VAC, 3.0-watt motor, a pull-out reservoir for easy cleaning, and permits external water level adjustment. A built-in damper provides for summer shut-off, or for manual humidity control if no automatic humidistat is used. ■ Walton Laboratories, Moonachie, N.J.

*circle 310 on inquiry card*

**FIRE-RETARDANT BURLAP** / Modular panels and

room dividers are two surfaces suitable for covering with *Jutex*, a genuine white hessian burlap fabric offering E84 tunnel test results of zero afterflame, zero smoke, and a 2-in.

char length. The fabric meets all other GSA specifications for panel coverings. *Jutex* is PVC-backed for easy application, sound deadening and flaw-hiding properties; the backing also eliminates raveling of the fabric. The weaving process gives *Jutex* an irregular slub pattern; the material is available in 14 colors. ■ Specialty Jute Products & Development, Inc., New York City.

*circle 311 on inquiry card*

**TRANSFER SWITCHES** / These circuit breaker transfer switches, ranging from

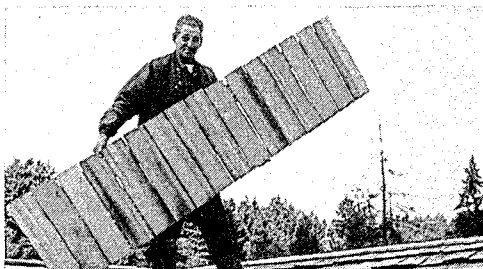
30 though 2000 amps, perform as main contacts transferring the electrical load between normal and emergency power sources. The solid-state units include multi-tap control transformers and a line voltage plug that allows immediate reconnection of the switch to standard voltages of 208 through 600 volts, either 50 or 60 Hertz. Performance of all intelligence circuitry is unaffected by reconnection, and no necessary parts are required to complete the changeover. A standard logic pack provides for plug-in printed circuit cards which monitor the normal and emergency sources, and provide time delay functions as required by codes or customer needs. The withstand, closing and interrupting ratings of these switches are said to be greatly above UL standards. ■ Kohler Co., Kohler, Wis.

*circle 312 on inquiry card*

**HID FLOODLIGHT** / The "PowerHouse-Plus" aluminum floodlight is now available in a 16-in. size, in

addition to a 24-in. high-wattage model. The compact HID commercial and industrial lighting fixture features a trispecular reflector, deep heat-sink housing and tempered, break-resistant sealed lens. The lamp socket is adjustable on-site for fine-tuning of the beam spread. Unit is made for high- and low-pressure sodium, metal halide and mercury vapor lamps. ■ Keene Lighting, Union, N.J.

*circle 313 on inquiry card*



**CEDAR SHAKE ROOF PANELS** / According to the manufacturer, one worker can install a 2300 sq ft cedar shake roof in about 24 man-hours using the premounted panel shown above. Each roof panel has its own 1/2-in. plywood sheathing, with 8 ft of No. 1 Grade handsplit cedar shakes already glued in place. The panels are laid over felt roofing paper, aligned, and nailed only at the rafters. Pre-formed panel roofs are said to remain tight and weather-protective in all applications of 4/12 pitch or steeper. ■ Shakertown Corp., Winlock, Wash.

*circle 314 on inquiry card*



**BASEBOARD HEATERS** / Seven different length heaters are included in a new line of baseboard units for supplementary comfort heat. A choice of low- or medium-watt density is said to allow maximum perimeter wall coverage at an economical cost; heaters are UL- and NEMA-approved. ■ Brasch Mfg. Co., Inc., Maryland Heights, Mo.

*circle 315 on inquiry card  
more products on page 159*

# Granite.

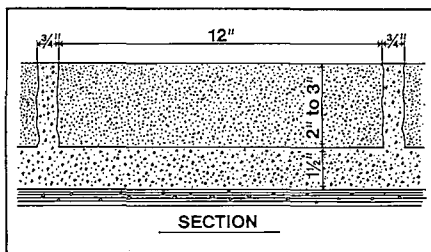
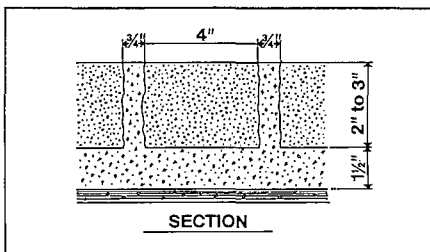
## Beautiful for heavy traffic areas.



Architects: Lawrence Halprin & Associates



Architect: Joe Karr & Associates, Chicago, IL



Cold Spring granite is a natural for landscape applications. Its warm colors and natural textures blend beautifully with the environment. And at the same time, granite provides the designer with the flexibility he needs to create areas of unusual and lasting beauty.

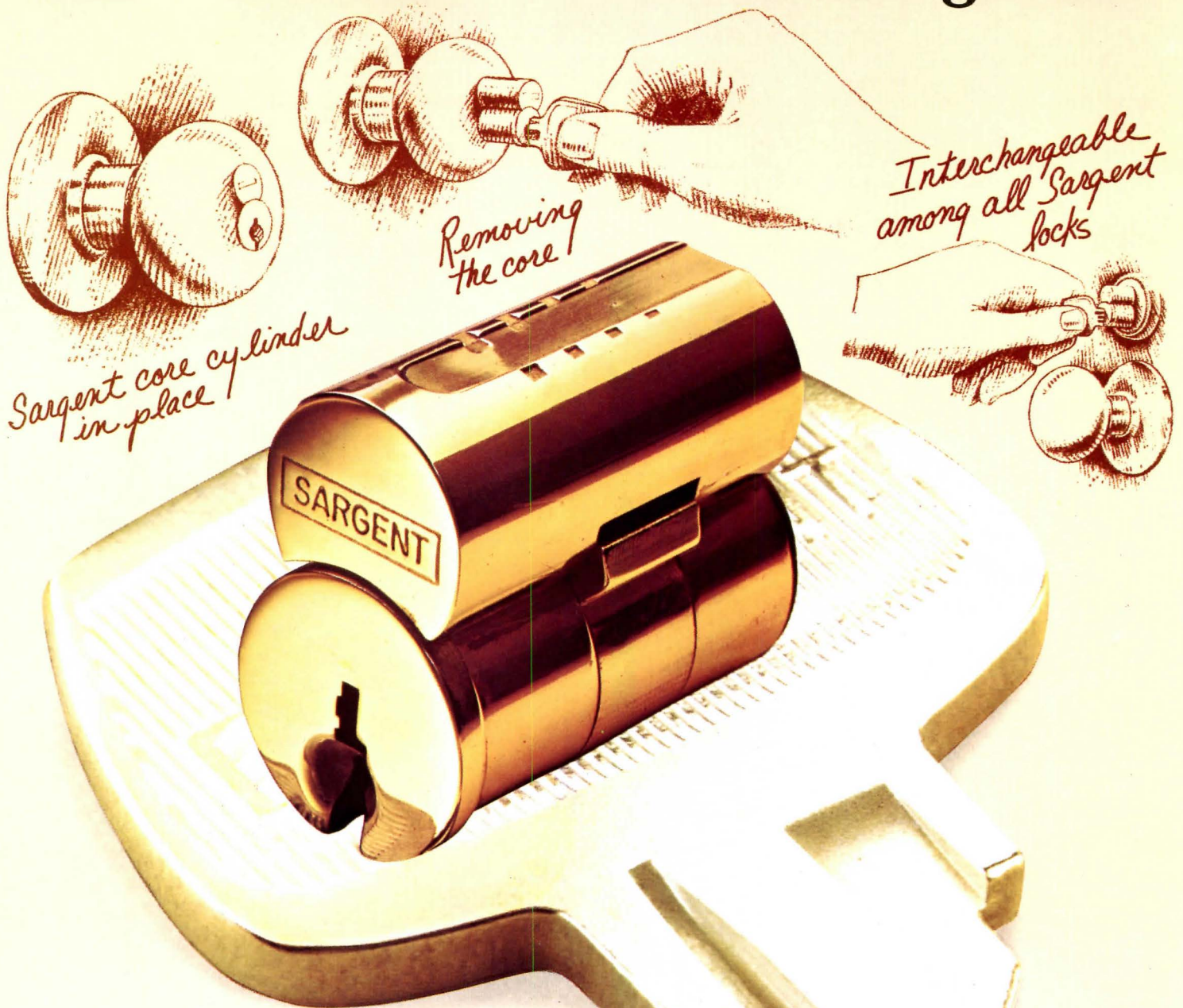
At Cold Spring we now have a wide variety of Module Pavers and Durax Blocks available. For more information, plus a packet of full color literature illustrating our products in use, call toll free **800-328-7038**. In Minnesota, call (612) 685-3621. Or write to the address below.



**Cold Spring Granite Company**, Dept. AR-5 202 South 3rd Avenue, Cold Spring, MN 56320

*For more data, circle 77 on inquiry card*

# What do you call a core that's both removable and interchangeable?



Call it convenient security! This new Sargent removable core is interchangeable among all Sargent architectural lock lines. Which makes for easy rekeying whether in a single building or an entire complex. Lets you update security whenever you choose without having to disassemble a lock or remove a knob or cylinder from a door. And the Sargent core can be masterkeyed or grand masterkeyed as required.

Another plus! During the construction period, doors which must be locked are fitted with keyed cylinders. But nonessential door locks have a *plastic plug* which is discarded when construction is complete and permanent cores are installed.

Sargent, your first line of defense in security.

**SARGENT**

Division of Walter Kidde & Company, Inc.

**KIDDE**

For more data, circle 78 on inquiry card

**PLUMBING FIXTURES** / Constructed of brass and copper and finished in any of 10 epoxy colors plus brass and chrome, *Vola* fittings have been selected for the Design Collection at the Museum of Modern Art in New York City. Catalog sheets describe the modular German plumbing system, a coordinated range of mixing valves, outlets, plates and accessories. All *Vola* mixers are supplied with conversion fittings for adaptation to American plumbing standards; prices and specifications are included in the product literature. ■ Architectural Complements, Lincoln, Mass.

circle 416 on inquiry card

**HVAC PRODUCTS** / A color bulletin describes this manufacturer's air conditioning, heating and ventilating product capabilities. Featured are *EnerCon* reverse-cycle air conditioners, self-contained air conditioners, unit ventilators, packaged roof-mounted equipment and air handling units. A run-around-coil heat recovery system and steam distribution speciality products are also shown. A self-mailing order form allows readers to acquire additional data on specific hvac products of interest. ■ American Air Filter Co., Louisville, Ky.

circle 417 on inquiry card

**STORAGE LOCKERS** / Winner of the 1977 Institute of Business Designers Gold Metal Award for special equipment, the British-made *Spacecube* modular locker system is constructed of polypropylene structural foam, said to be four times more rigid than steel sheet. A color brochure explains the space-saving, pilfer-proof features of the 12- by 12- by 18-in. units, which can easily be connected in a number of arrangements to suit a variety of personal storage requirements in clubs, stores, etc. A price list is included. ■ Dahnz Industries (U.S.A.) Inc., New York City.

circle 418 on inquiry card

**RUBBER WALL BASE** / A product data sheet contains features, installation information, specifications and color samples of a new rubber wall base for commercial and institutional installations. Return-to-wall, ribbing, and cove are designed for ease of installation and lasting appearance. ■ Vinyl Plastics Inc., Sheboygan, Wisc.

circle 419 on inquiry card

**MAJOR APPLIANCES** / Built-in and window room air conditioners, electric ranges, refrigerator-freezers, dishwashers, laundry equipment, and waste disposers and compactors are some of the major appliances presented in a 52-page color catalog. All product specifications are outlined in "feature-finder" sections; dimensional drawings are included. ■ General Electric Co., Louisville, Ky.

circle 420 on inquiry card

**CARPET INSTALLATION** / An "Architects Guide for Floor Covering Installation" discusses different carpet laying methods, and their application to various types of commercial and institutional floor coverings. The *Smooth-edge* method of carpet installation is explained, and a full line of adhesives, moldings and tapes is shown. Flame spread ratings are given where applicable. ■ Roberts Consolidated Industries, City of Industry, Calif.

circle 421 on inquiry card

**ANTI-CONDENSATION COATING** / Technical information on the "anti-sweat" properties of *Seculate* is given in a four-page product brochure. The non-flammable mineral-based compound is applied by brush or spray for a coating 1/32-in. thick on virtually any interior surface on which condensation occurs, including piping and plastic panels. *Seculate* prohibits the formation of water droplets on its surface, and disperses absorbed moisture quickly back into the atmosphere. It is FDA-approved for use in food plants, and meets various Federal and military specifications. ■ Seculate of North America, Berkeley, Calif.

circle 422 on inquiry card

**FIRE RESISTIVE DESIGN** / The newly-revised "Gypsum Association Fire Resistance Design Manual" provides technical data about 234 wall, ceiling, beam and roof deck assemblies used in residential, commercial, industrial and institutional construction. The 72-page book is referenced by BOCA, ICBO and Southern Building Code Congress standards, as well as those of HUD and several major cities. Each assembly is listed according to its hourly fire rating and sound transmission class; a detailed sketch shows how the testing was carried out. Descriptions include information about fasteners and spacing, insulation (if part of the test), the finished material, structural components and their spacing. ■ Gypsum Association, Evanston, Ill.

circle 423 on inquiry card

**VINYL WALLCOVERINGS** / Sixteen patterns and 76 colorways, arranged by color group in a 10- by 12-in. book, present the *Vymura* "Feelings" collection of prepasted vinyl wallcoverings. Patterns are primarily stripes, tweeds, and coarse cloths; textures include fine grains and pebbly burlaps. ■ ICI Americas Inc., Wilmington, Del.

circle 424 on inquiry card

**FLOOR HARDENER** / Producing a thick iron armoured surface by the dry surface shake method, *Masterplate 200* hardener gives industrial concrete floors extra abrasion resistance and impact protection. A product data sheet describes *Masterplate 200*, including recommended uses, application rates and methods, and necessary precautions. ■ Master Builders, Cleveland, Ohio.

circle 425 on inquiry card

# Convenient security!

**What do you call a core that's both removable and interchangeable?**

Call it convenient security! This new Sargent removable core is interchangeable among all Sargent architectural lock lines. Which makes for easy rekeying whether in a single building or an entire complex. Lets you update security whenever you choose without having to disassemble a lock or remove a knob or cylinder from a door. And the Sargent core can be masterkeyed or grand masterkeyed as required. Another plus! During the construction period, doors which must be locked are fitted with keyed cylinders. But nonessential door locks have a plastic plug which is discarded when construction is complete and permanent cores are installed. Sargent, your first line of defense in security.

**SARGENT**  
Division of Walter Kidde & Company, Inc.  
KIDDE

The Sargent Removable Core Cylinder demonstrates the extent and depth of this company's commitment to producing quality door hardware.

Designed for quick-change security, this core is interchangeable among all Sargent architectural lock lines. What's more, an exclusive feature saves time and money during the construction period.

The Sargent line of architectural hardware has kept pace with demand for the past one hundred and fourteen years, even before the Golden Spike completed America's first trans-continental railroad, before Alaska became a U.S. possession and Mrs. O'Leary's cow kicked over Chicago's most celebrated lantern.

Better ideas are nothing new to Sargent. It was Sargent that developed the Keso Security System. The highly pick-resistant masterkey system that offers more levels of masterkeying than any other system around, and a total of 24,500 safe, usable day key changes regardless of the level of masterkeying.

It's this kind of innovative thinking, the ability to anticipate today's market needs, that has made Sargent a leader in the industry. Sargent, for ideas a little ahead of their time.

**SARGENT**  
Division of Walter Kidde & Company, Inc.  
**KIDDE**

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# WHY COAT STAINLESS STEEL?

As nearly all architects are now aware, TCS (Terne-Coated Stainless Steel) is chrome-nickel stainless coated on both sides with an 80% lead/20% tin alloy.

But the question may still remain as to why any coating of stainless is desirable.

In the first place, the application of such a coating creates an end product which is demonstrably superior to both stainless and copper in durability and corrosion resistance. Secondly, TCS weathers to an attractive and uniform warm gray. Stainless, on the other hand, retains its original bright finish indefinitely, while the weathering of copper has been highly unpredictable in recent years. TCS also solders perfectly without special preparation whereas copper must be pretinned, and stainless requires a time-consuming and relatively costly procedure to obtain a leak-proof joint. Furthermore, TCS, unlike copper, is neutral toward other metals, and wash-off from it will not stain adjacent surfaces.

Expressed in the simplest terms, where roofing and weathersealing are involved there is no standard architectural metal available in the world today, including stainless and copper, which can match TCS in its performance characteristics and built-in safeguards against failure.

## TCS

TERNE-COATED STAINLESS STEEL

## FOLLANSBEE

FOLLANSBEE STEEL CORPORATION • FOLLANSBEE, WEST VIRGINIA





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- requires minimum space to quickly, safely, gently move an almost unlimited variety of items vertically to heights in excess of 50 feet.

- Random shapes and dimensions
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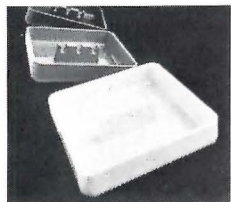
Call or write for information.

**wh** \*  
W&H CONVEYOR SYSTEMS, INC.  
120 Asia Place  
Carlstadt, N.J. 07072  
(201) 933-7840

\*We sell practical solutions to materials handling problems

For more data, circle 80 on inquiry card

**DESK ASHTRAY** / A new addition to the "Satellite"



line of desk accessories is this square ashtray with a safety center cigarette rest: an unattended cigarette will burn safely, with ashes dropping directly into the tray. The "Satellite" tray will not char or discolor, and is available in eight colors that coordinate with other desk items in the series. ■ McDonald Designs, Buffalo, N.Y.

circle 316 on inquiry card

**SELF-CLOSING FOOT VALVE** / Using only 3½-

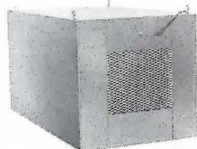


gallons of water per minute, the "Model 3070" self-closing single pedal foot valve is recommended for such institutional water applications as lavatory sinks, drinking

fountains and bed pan flushers as well as food service uses. The spring-loaded valve automatically shuts off when the operator's foot is removed; the cartridge-type valve has stainless steel seats. Housing is a polished chrome-plated brass, with pedals of anodized aluminum alloy. Pedals swing up and out of the way for cleaning the floor. ■ Fisher Mfg. Co., Los Angeles, Calif.

circle 317 on inquiry card

**AIR PURIFIER** / Designed for the control of sizable

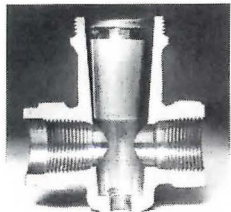


airborne contaminants indoors in industrial, commercial and institutional situations, the "F24-2PB" air purifier has two disposable pre-filters and a large "Vee-Bag" filter. After a coarse pre-filter

screens all larger particles, the second pre-filter removes contaminants down to 20 microns in size. Any remaining particles are removed by the five-fold "Vee-Filter." The ¼-hp motor draws 15 amps at 115V. Filtered air is returned to the room at ambient temperature; it is not exhausted outside. Maintenance consists of removing and replacing the filters at intervals dependent on the amount of airborne pollution. The 95-lb unit is ceiling mounted. ■ Flintrol, Inc., Jonesboro, Ark.

circle 318 on inquiry card

**GAS SHUTOFF VALVE** / Described as a truly

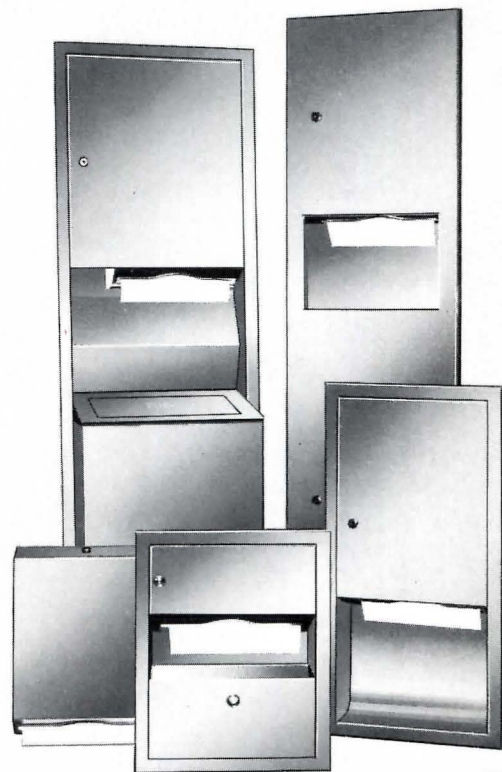


dependable automatic shutoff for gas lines in the event of explosion or earthquake, the *Plumbgate* valve has been found by actual test to work well under simulated earthquake conditions, but to be insensitive to vibratory

motion at high frequencies such as those caused by heavy traffic, airplanes, etc. Shown here sliced in half to expose its operation, the *Plumbgate* is a cast manganese bronze valve with one moving part, the heavy "gate" perched on a nob at the top of the shaft. When shaken at earthquake frequency, the "gate" falls into the pipeline, shutting gaslines to prevent explosion or gas leak during earthquakes. The unit is sealed from outside tampering, with no support mechanisms; suggested retail price is under \$100. ■ Quakesafe, Inc., City of Commerce, Calif.

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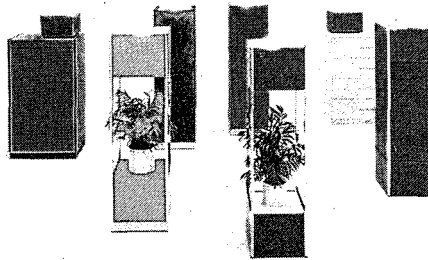
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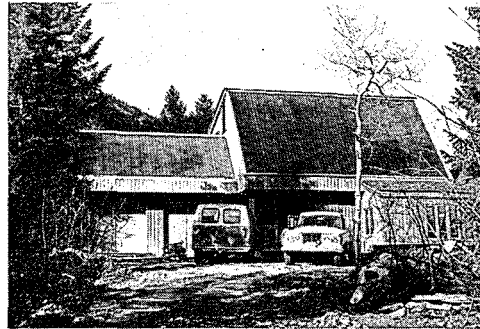
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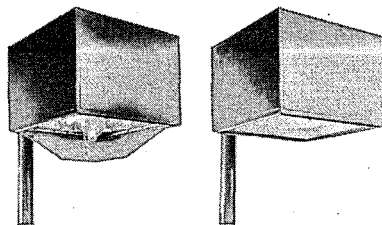
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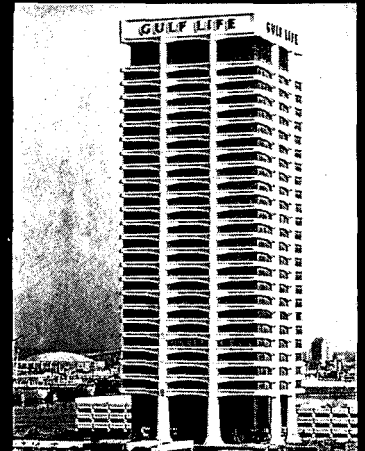


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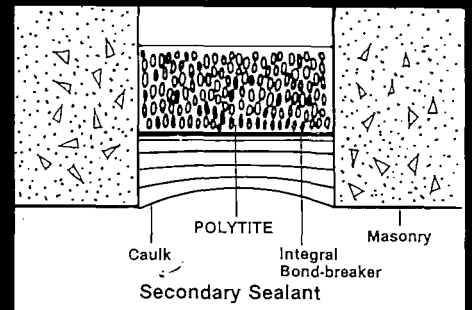
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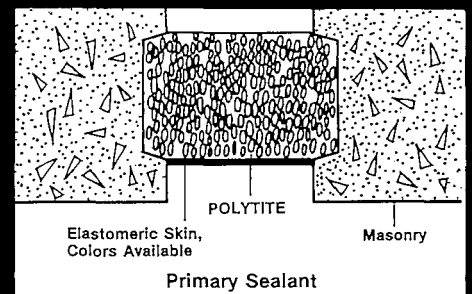
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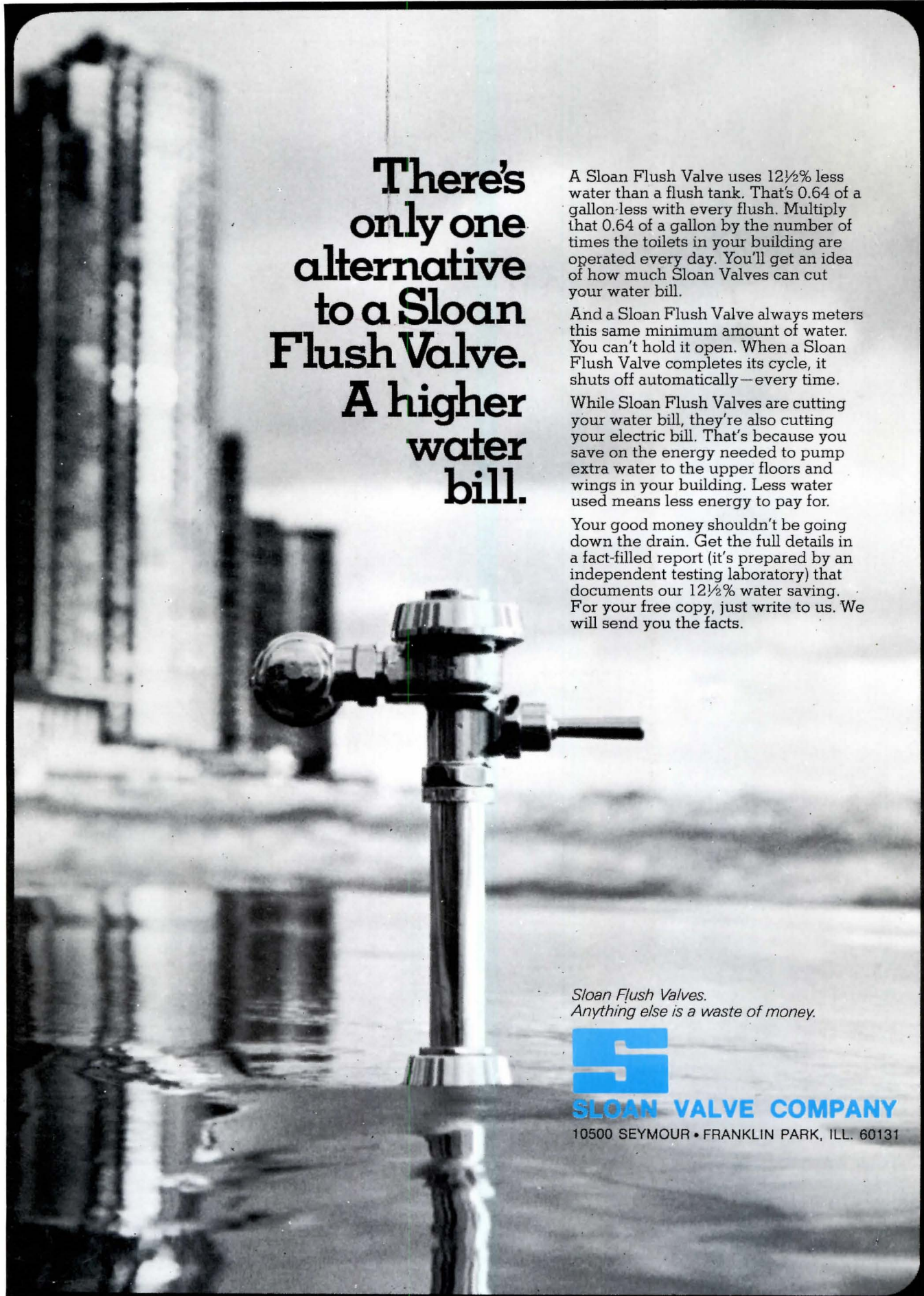
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