

ANNUAL



**The commercial floor from Armstrong.
It lets you put down beauty
that can put up with abuse.**

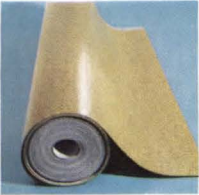


If you were a tenant in a new building you designed, you'd want a flooring that adds a special beauty to the character of your interior.

But if you were the building's owner or manager, you'd want something more. You'd want a flooring that could stand up to what tenants can dish out.

That's the rewarding combination architects continue to find in Brigantine® from Armstrong. The good-looking commercial vinyl flooring that's tough enough—and versatile enough—to meet the highest commercial standards.

Rolls 6' wide and up to 90' long mean far fewer seams than tile.



Inlaid pattern and color extend through the wear layer.



Brigantine's vinyl composition makes spills easy to clean up.



Flash coving like this helps eliminate places where dirt can hide.



Put down Brigantine's rugged wear-resistant vinyl composition, and it really stands up—to the flow of traffic, the wheeling of normal office equipment, the scuffing of feet. And because of Brigantine's vinyl composition, spills just stay on the surface. Where, along with dirt, they wipe up in a breeze. And that helps keep maintenance to a minimum.

Add to these tough-minded characteristics Brigantine's attractive good looks, and you've got a floor covering that's very special indeed. One whose pattern and wide range of colors are inlaid deep down through the wear layer. One whose physical roll dimensions—6' wide and up to 90' long—make for far fewer seams. And where seams do occur, they can be chemically welded, using Armstrong Perimiflor® Installation System, resulting in a monolithic, continuous surface.

So, now, when you need a commercial floor covering that can take its punishment without losing its poise, specify Brigantine from Armstrong. To learn more, send for a free copy of our booklet describing Brigantine and other Armstrong commercial floors. Write Armstrong, Dept. 83FAJ, Lancaster, Pa. 17604.

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Armstrong

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Cover: Photo © by Bo Parker of the foyer, Radio City Music Hall, New York City

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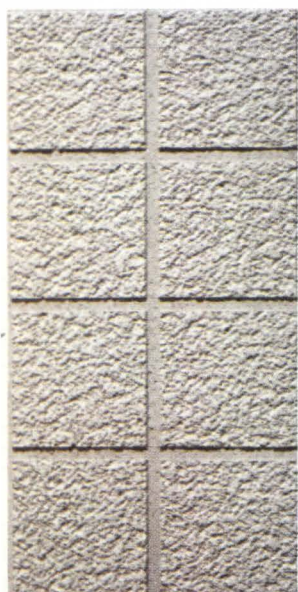
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Bold Look I

New Bold Look™ I ceiling from Armstrong. The look of heavy-textured tile. The convenience of lay-in panels.

Bold Look I brings a whole new look to the overhead world. It's a look we've artfully designed for both beauty and economy. Because what we've done is to use standard 2' x 4' lay-in panels with an exposed grid in a way that disguises the 2' x 4' repeat. The grid is slightly recessed, blending with score marks which divide the panel into surface squares the size of ceiling tile. What results is an acoustical ceiling that gives you a rich look without a rich price tag.

In the case of Bold Look I, each handsome rough-textured 24" x 48" panel is scored in both directions with one-inch-wide routings that divide the surface into eight tilelike sections.

So what you end up with is a ceiling that combines the beautiful efficiency of a tilelike look with the cost efficiency of an exposed-grid system—a combination you can't beat for good looks or good sense. To learn more, write Armstrong, Dept. 87NAJ, Lancaster, Pa. 17604.

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EVENTS

Oct. 2-6: Workshops on Passive/Hybrid Solar, Corbett Center, New Mexico State University, Las Cruces. (Workshop on Oct. 2-3 designed specifically for architects; on Oct. 4-5 for trade and builders; on Oct. 6 for realtors and consumers.) Contact: New Mexico Solar Energy Institute, Box 3SOL, Las Cruces, N.M. 88003.

Oct. 4-6: Seminar on Solar Energy, Atlanta, sponsored by New York University. (Repeat seminars: Oct. 23-25, Los Angeles; Nov. 13-15, New York City; Dec. 18-20, Denver; Jan. 10-12, Washington, D.C.; Feb. 14-16, San Francisco; Mar. 7-9, Atlanta.) Contact: New York Management Center, 360 Lexington Ave., New York, N.Y. 10017.

Oct. 4-8: Northwest Region/AIA annual meeting, Sun Valley, Idaho.

Oct. 4-8: National Office Products Association convention & exhibit, Conrad Hilton Hotel/McCormick Place, Chicago. Contact: NOPA, 301 N. Fairfax St., Alexandria, Va. 22314.

Oct. 5: Course on Professional Liability, New York City. (Repeat courses: Oct. 18, Omaha; Nov. 3, Seattle; Dec. 1, Atlanta; Jan. 18, Dallas; Jan. 31, San Francisco; Feb. 16, San Juan, Puerto Rico; Mar. 14, St. Louis; Mar. 15, Phoenix; Apr. 27, Detroit; May 11, Philadelphia.) Contact: Office for Professional Liability Research, 5028 Wisconsin Ave. N.W., Washington, D.C. 20016.

Oct. 5-6: Seminar on Architecture for Justice, Boston. Contact: Harold Glover, AIA Headquarters, (202) 785-7229.

Oct. 5-6: Institute on Recycling the Built Environment, University of Wisconsin, Madison.

Oct. 5-7: Louisiana Architects Association/AIA annual convention, Sheraton Hotel, Baton Rouge, La.

Oct. 5-9: National Energy Expo, D.C. Armory, Washington, D.C. Contact: National Society for Energy Awareness, Suite 700, 1010 16th St. N.W., Washington, D.C. 20036.

Oct. 5-10: International brick masonry conference, Hyatt Regency Hotel, Washington, D.C. Contact: Brick Institute of America, 1750 Old Meadow Road, McLean, Va. 22101.

Oct. 7-9: Urban Land Institute fall meeting, Fairmont Hotel, San Francisco. Contact: ULI, 1200 18th St. N.W., Washington, D.C. 20036.

Oct. 8-10: Central States Region/AIA annual conference, Iowa State University, Ames.

Oct. 9-11: Workshop on Life-Cycle Cost Application, Atlanta, sponsored by AIA and American Consulting Engineers Council. (Repeat workshops: Nov. 15-17,

Anaheim, Calif.; Dec. 6-8, Denver.) Contact: ACEC, 1155 15th St. N.W., Washington, D.C. 20005.

Oct. 15-17: North Dakota chapter/AIA annual convention, Holiday Inn, Bismarck, N.D.

Oct. 15-18: Prestressed Concrete Institute convention, Hyatt Regency Hotel, New Orleans. Contact: PCI, 20 N. Wacker Drive, Chicago, Ill. 60606.

Oct. 16: Entries deadline, downtown development awards. Contact: Downtown Research & Development Center, 270 Madison Ave., Suite 1505, New York, N.Y. 10016.

Oct. 16-18: Building & Construction Exposition & Conference, McCormick Place, Chicago, sponsored by the Producers' Council. Contact: Daniel J. Edelman, Inc., 711 Third Ave., New York, N.Y. 10017.

Oct. 16-20: American Society of Civil Engineers convention & exposition, Conrad Hilton Hotel, Chicago. Contact: ASCE, 345 E. 47th St., New York, N.Y. 10017.

Oct. 18: Seminar on Effective Store Planning and Design, sponsored by Drexel University, Philadelphia.

Oct. 18-20: Michigan Society of Architects/AIA annual convention, Kalamazoo, Mich.

Oct. 18-20: Conference on Solar Industrial Process Heat, Denver, sponsored by the Department of Energy. Contact: Solar Energy Research Institute, 1536 Cole Boulevard, Golden, Colo. 80401.

Oct. 18-21: Conference on Urban Design, Citicorp Center, New York City. Contact: Urban Design Magazine, 355 Lexington Ave., New York, N.Y. 10017.

Oct. 18-21: Western Mountain Region/AIA annual meeting, Santa Fe, N.M.

Oct. 19-21: Alabama Council of Architects/AIA annual meeting, Auburn, Ala.

Oct. 20-21 and 22-23: Two-day workshops on design and analysis of subterranean structures, O'Hare Hilton, Chicago. Contact: Jody Proppe, Architectural Extension, Oklahoma State University, 103 Architecture Building, Okla. 74074.

Oct. 22-25: Council of Educational Facility Planners, International, conference, Holiday Mart Plaza and Merchandise Mart, Chicago. Contact: CEFP, 29 W. Woodruff Ave., Columbus, Ohio 43210.

Oct. 23-25: Architects in Industry Seminar, St. Francis Hotel, San Francisco. Contact: Michael Cohn, AIA Headquarters, (202) 785-7366.

Oct. 23-27: World Congress of the International Union of Architects, Mexico City. Contact: Maurice Payne, AIA, Institute Headquarters, (202) 785-7364.

Oct. 25: Housing Lab '78: The Secondary Money Market and How It Affects Architects, Washington, D.C. Contact: Harold Glover, AIA Headquarters, (202) 785-7229.

Oct. 30-31: Institute on Passive Solar Design and Construction, University of Wisconsin, Madison.

Nov. 9-10: Course on the Government Official and A/E Contracting (AIA among the sponsors), Hyatt Embarcadero Hotel, San Francisco. Contact: Arnold Prima, AIA, Institute Headquarters, (202) 785-7374.

June 3-7, 1979: AIA convention, Kansas City, Mo.

LETTERS

Welcome Kudos: No matter the extent to which we architects take the JOURNAL for granted, I must express my appreciation for a fine job.

This was strikingly brought to mind by the July issue. The selections and editing, the general design of all layouts, the sensitive choice of the most meaningful elements, the photography and the color all added up to what I consider a terrific publication.

The JOURNAL continually enhances in attractiveness and pertinence, and we are indeed fortunate in having this fine production represent our profession.

A. G. Odell Jr., FAIA
Charlotte, N.C.

ERA and AIA Convention Sites: The militant supporters of the Equal Rights Amendment (ERA) do not seem to realize that there are two sides to every issue. Just because they feel so strongly about the issue does not mean that they are right or that others cannot disagree with them without being penalized. That is not our way of life, our form of democracy, our sense of fair play. The idea of boycotting states which have not ratified the ERA by not considering them for AIA convention sites (*see* June, p. 12 and July, p. 12) smacks of the lowest form of unfair play.

Using this rationale, others would want to boycott states which have not passed a right to work law or a law prohibiting alcoholic beverages, etc.

After seeing and hearing how some of these women libbers, including Presidential wives, conducted themselves at their congress in Houston, at a cost to the taxpayer of \$5 million, it seems they would do almost anything to achieve their ends.

Since only a resolution was passed at the AIA convention in Dallas, the final decision is up to the board of directors. Let's hope that the board will act wisely and remove this political activity from our professional organization and also take into consideration the possibility of losses in membership through resignations in states so boycotted. J. Roy Haase, AIA
Baton Rouge, La.

Competition in the ENR 500 circuit is tough.

During the past year we won the nod from 32% of the nation's 52 largest design-constructors to supply their E&O coverage. Among ENR's top 500* firms, Shand, Morahan's share of clients grew to an impressive 28% in the same period.

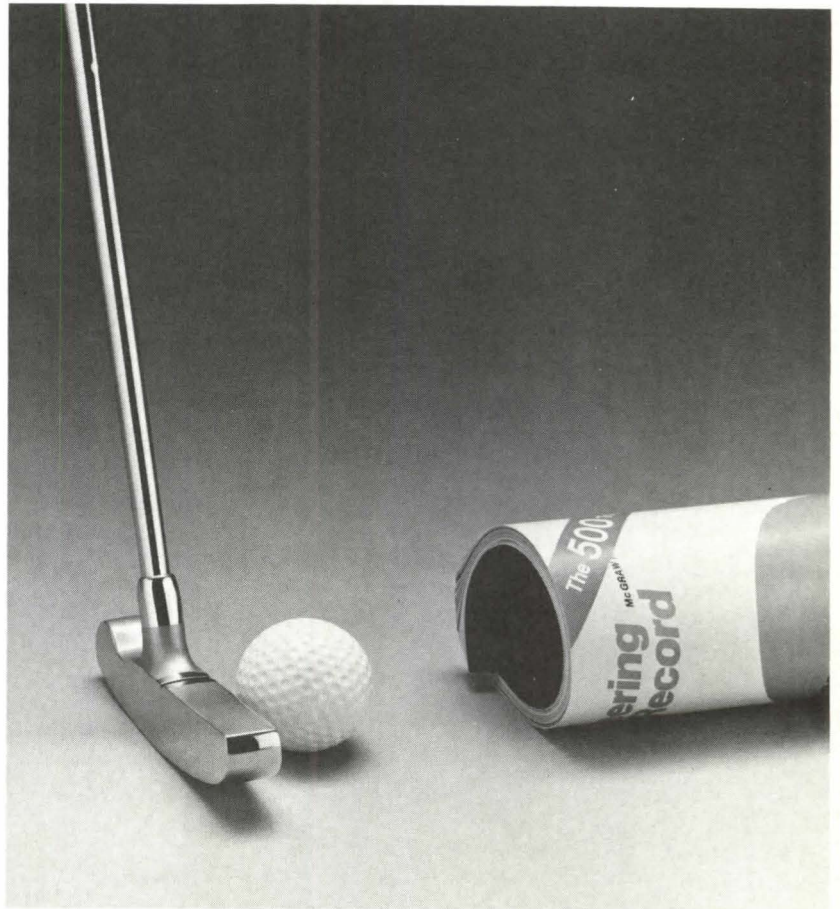
What's the competitive edge that keeps attracting not only the largest architectural and construction firms but firms of all sizes to our E&O liability program? It's insurance carefully customized by experts for the broadest possible coverage; with limits of \$20,000,000 or more. Add our competitive rates and you have an E&O program that's way better than par. And our quick, courteous service makes the business of professional liability a pleasure.

Shand, Morahan & Company is already the second largest underwriting manager for Architects and Engineers Professional Liability E&O in the U.S. Is the number one pro on the tour getting worried? He should be. After all, we're winning more and more big matches from him every day.

Have your agent or broker call us and find out why.

*Engineering News-Record, May 18, 1978

But Shand, Morahan keeps winning the big matches.



SM Shand, Morahan & Company, Inc.

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AIA JOURNAL/SEPTEMBER 1978 5

Machu-Picchu Charter's Humanist Ideas Fostered By a U.S. Contingent

The Charter of Athens (1933), a predominantly technological approach to planning and architecture (highrise housing projects, freeways, urban dispersal), is out of date, according to one international group of architects. They gathered in Lima, Peru, last December and drafted the Machu-Picchu Charter, a more humanistic approach (citizen participation, historic continuity, adapting building and settlements to nature and the ecology).

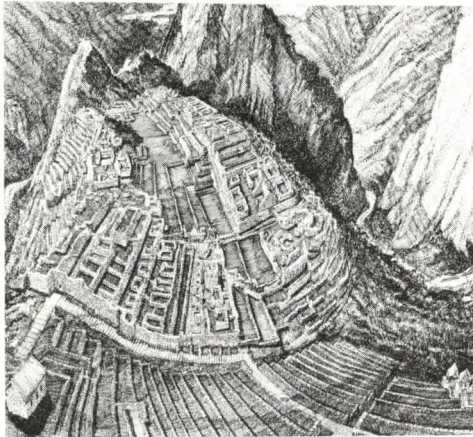
And recently in Washington, D.C., a small representation of the Machu-Picchu delegates met to devise strategies to introduce the new charter into the mainstream of American planning and architectural education. "The Charter of Machu-Picchu is intended to serve the design professions, not as a prescription, but as a stimulus to interdisciplinary review of professional objectives and performance," states the charter. It has already been highly publicized in Europe and Central and South America.

The Charter of Athens was drafted by the conference of the International Congress of Modern Architecture, CIAM, although it was not written by Le Corbusier until 10 years later. It laid down rules and planning principles to assure for all citizens equal rights to good housing, health, education, recreation, transportation and job opportunities. But in a sense, the Charter of Athens promoted the high-rise apartment projects, glass boxes, un-integrated cities and the explosion of the city into the countryside.

The Machu-Picchu Charter is a warning against the evils of technology—pollution, ugliness and a misuse of land and natural resources. Out of a week-long conference last December at the National University of Peru in Lima came the new direction. The University of Peru will be awarded the Jean Tschumi award for its lead in promoting the charter by the International Union of Architects in Mexico City on Oct. 23-27.

Highlights of the Machu-Picchu Charter follow:

- Urban and architectural design: In 1933, the effort was directed toward dividing the city and its architectural objects into their component parts, says the charter. In 1977, "The objective must be to reintegrate these components which, having lost their interdependence and interrelationships, also have lost their vitality and significance. . . . The new concept of urbanization seeks a continuity of the built environment, implying that each building is no longer an isolated



Machu-Picchu by John Desmond, FAIA

object, but an element of a continuum, requiring a dialogue with other elements to complete its own image."

- City and region: Because of the great increase of urbanization, the charter calls for a more effective use of available human and natural resources. "Planning must reflect . . . the essential dynamic unity between the city and its surrounding region and establish functional relationships between neighborhoods, districts and other elements of urban structure." Planning decisions at national and regional levels seldom benefit the great majority of the people, suggests the charter. So now, "The objective of the planning process must be to interpret and respond to human needs."

- Urban growth: The world's population has doubled since the Charter of Athens, which, the charter concludes, has had grave consequences for ecology, energy and food supply.

- The sector concept: "Planning, archi-

ecture and design today should not treat the city as a series of component parts [as the Athens Charter did], but must strive to create an integrated multifunctional environment." Urban vitality demands the integration of people and activities, the charter asserts.

- Housing: "Housing must no longer be regarded merely as a utilitarian commodity, but as a powerful tool for fostering social development. Equally important are the objectives of achieving basic quality of life and harmony with the natural environment."

- Urban transportation: The charter supports public transportation as "a basic element of urban development planning and growth."

- Pollution: The worsening contamination of our environment "is a direct consequence of unplanned, explosive urbanization and excessive exploitation of the earth's natural resources." The charter calls for the authorities regulating urban development to take immediate steps to prevent further deterioration of the environment and to restore its basic integrity with acceptable standards of public health and welfare.

- Preservation: It is essential that efforts "to conserve, restore and recycle existing historic areas and architectural monuments be integrated with the process of urban development in order to assure their proper financial support and continued viability."

For more information about the charter, contact Dorn McGarth Jr., Chairman, Department of Urban and Regional Planning, George Washington University, 2023 G St. N.W., Washington, D.C. 20052.

AIA Journal Wins Award

AIA JOURNAL was selected as the nation's top association magazine by the American Society of Association Executives in its 1978 gold circle awards competition. The Institute's 1978 convention graphics program tied with another group's entry as the award-winning convention literature of the year in the same

continued on page 11

*The Pink Stuff
is available!
We've doubled
production.*

THE PINK STUFF

The two important things to know about roof insulation today.

THE GREEN STUFF

The **Pink Stuff** is Thermax[®] Roof Insulation. From Celotex. It's the most efficient on the market with a **Factory Mutual Class 1** fire rating.

We don't have to tell you the critical importance of insulating efficiency today and in years to come. The government is making it quite clear.

So start now with a simple fact ... the most efficient roofing insulation is foam, and one of the most efficient, stable, practical foamed insulation boards comes from Celotex.

Over new or existing roofs, Celotex will help you get the maximum insulation value at costs equal to or below the less efficient insulating systems you may use now.

High R factors.

One look at the chart comparing insulating value per thickness of Thermax, Tempchek, fibrous glass, composite (foam plus perlite), and fiberboard roof insulations shows how The Pink Stuff and The Green Stuff provide up to 2.5 times as much insulation value per inch.

Strong. Stable. Lightweight.

Both Thermax and Tempchek Roof Insulations are reinforced with glass fibers for extra dimensional stability. And both are 3 to 6 times lighter than less efficient insulation.

Thermax Roof Insulation...the only FM-rated foam insulation (non-composite) for Class 1 over steel.

Thermax Roof Insulation is the first non-composite foam insulation in

the U.S. to qualify for Factory Mutual Class 1 fire rating installed directly over unsprinklered steel decks.

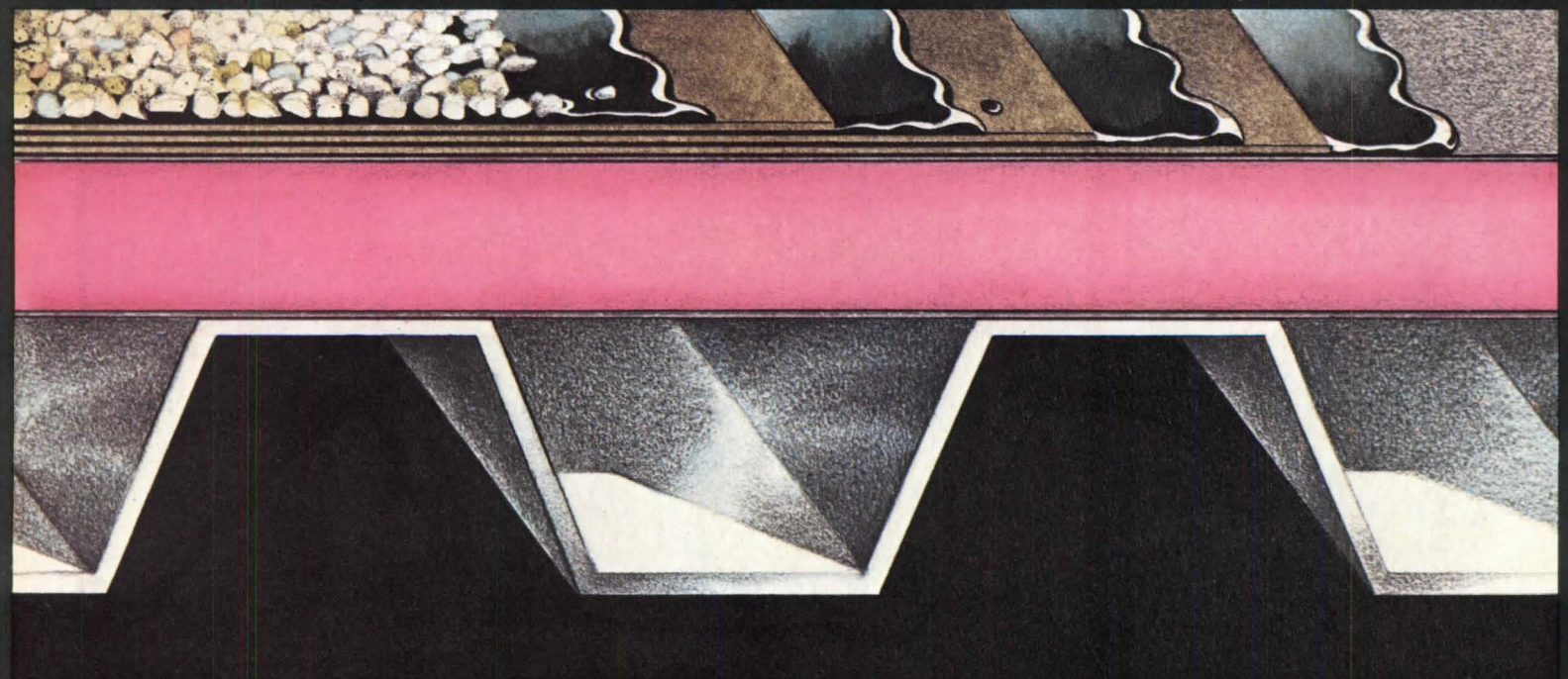
Why pink? To dramatize the exclusive isocyanurate foam core, sandwiched between two asphalt-saturated inorganic facers. It gives you the high insulation value of urethane, plus fire rating, without the need for a second material like perlite between it and the steel deck.

The best way to fasten Thermax to the deck is with Insulfast* nails, providing maximum protection against wind uplift and lateral movement. Mechanical attachment with Insulfast nails is FM approved.

With less deadload factor, you not only have easier installation, you can reduce the size and gauge of roof supports, have greater flexibility in choosing heating and air-conditioning equipment, and can reduce the size of metal or wood fascia around roof perimeters.

Thermax Roof Insulation costs no more for comparable insulation values than other fire-rated materials, is easy to cut and handle, gives more footage per truckload, and uses less warehouse space. All of which means a better application per dollar for everyone.

*Product of Berryfast, Inc.



The **Green Stuff** is Tempchek[®] Roof Insulation. From Celotex. It's the most efficient on the market for every other application.

When you don't need fire-rated insulation, you still need Celotex for high R factor. In Tempchek Roof Insulation.

Same high R factor. With some differences.

Tempchek is a lightweight urethane foam, reinforced with glass fibers to make it just as strong and dimensionally stable as Thermax. Check the chart again and you'll see that it has the same top-rated insulating efficiency per thickness as Thermax.

With the same lightweight, easy cutting, easy handling, easy application characteristics as Thermax Roof Insulation. And the same compatibility with hot asphalt.

The differences? Tempchek has organic instead of inorganic facers, a different chemical composition, and a different color, all simply because it doesn't have to be fire-rated like Thermax.

And one more thing.

Lower costs.

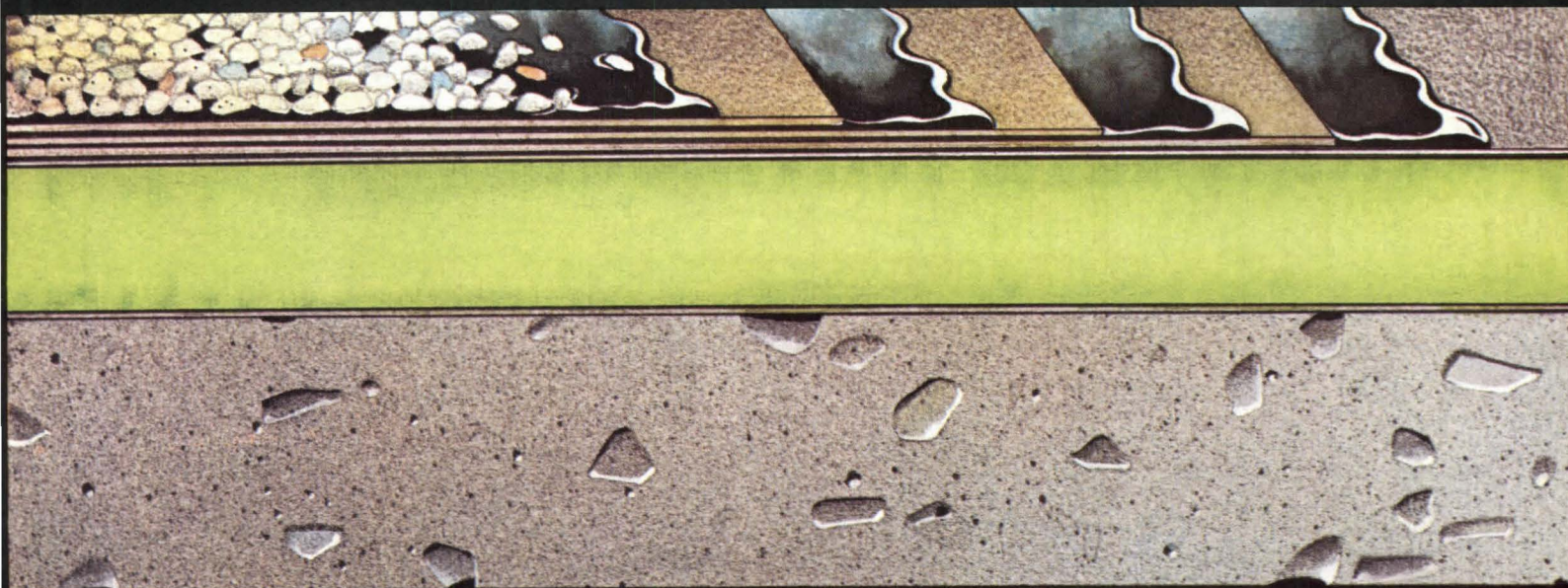
It costs less per application than conventional, lower-efficiency materials. And not just because of the lighter weight. Tempchek boards measure 3' x 4', so more roof area can be covered in less time than with normal 2' x 4' cuts.

R FACTOR COMPARISON (Typical Thicknesses)					
"R"	Thermax Roof Insulation†	Tempchek Roof Insulation†	Perlite & Urethane Composite Board	Fibrous Glass	Perlite & Fiberboard
8.3	1.2"	1.2"			3"*
10.0	1.4"	1.4"	1.9"	2-1/4"	4"*
11.1	1.6"	1.6"		2-7/16"	
12.5	1.8"		2.2"		
14.3	2.0"	2.0"	2.5"		
16.7	2.3"	2.3"	2.8"		
20.0		2.8"	3.2"		
25.0		3.0"			

*In two layers.

†NOTE: Under normal use, Thermax and Tempchek Roof Insulations will retain an average of 80% of their thermal resistance (R factor) values.

Another surprise on the next page. The most effective way to use the most efficient roofing insulation on the market. From Celotex.



This is the Upside-Down Roof. From Celotex. It's the most effective way to use the most efficient roofing insulation on the market.

The most effective place to put roofing insulation is on top of the roof assembly. It protects the membrane on new or existing roofs like no right-side-up roof ever could.

But it requires an insulation product that is able to withstand moisture, hot asphalt applications, the weight of conventional roofing equipment, and traffic. Tempchek Roof Insulation does all those things.

What makes the most protective roof practical?

1. A conventional application of 300 lbs. of slag or 400 lbs. of gravel per 100 sq. ft. protects roof installations from flaming brands, harmful rays of the sun, and impact damage caused by hail and roof traffic. Approved by U.L. as Class A Roof Covering.
2. Top pouring of hot asphalt keeps gravel in place and provides first line of protection against moisture.
3. New Tempchek Roof Insulation is what makes the Celotex Inverted Roof Assembly work so well. It provides thermal protection, dimensional stability and resistance to moisture.
4. Flood coat of hot asphalt keeps Tempchek Roof Insulation in place and provides more protection against moisture. The asphalt is

beneath the insulation and will not alligator.

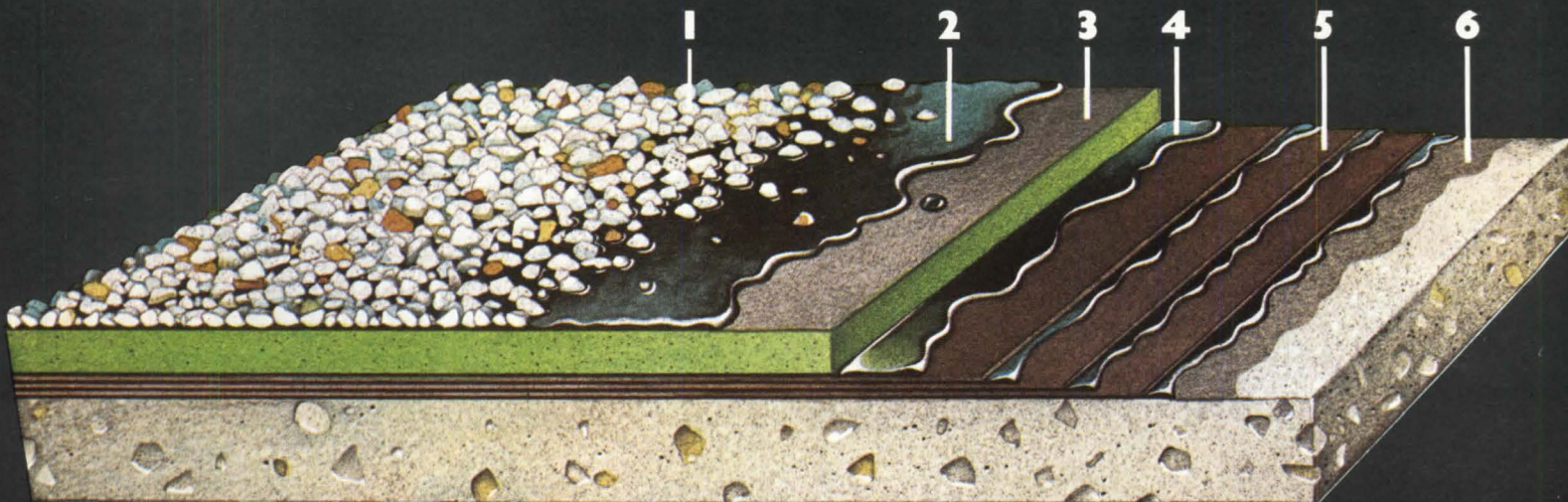
5. Built-up roofing membrane provides the third line of protection against moisture. Serves as a vapor barrier as well. Roof membrane is protected from thermal shock, punctures and blistering by the Tempchek insulation above.
6. The Celotex Inverted Roof Assembly systems are readily applied to most conventional nailable and non-nailable decks. Shown is a concrete deck, with asphalt primer.

Celotex provides a 10-year Inverted Roof Assembly guarantee. For a specimen, and complete details about Thermax and Tempchek Roof Insulations, and the Inverted Roof Assembly, contact your Celotex representative or write:

John Hasselbach
The Celotex Corporation
1500 N. Dale Mabry Highway
Tampa, Florida 33607.

Celotex[®]

BUILDING PRODUCTS
The Celotex Corporation, Tampa, Florida
a **Jim Walter company**



Going On from page 6

competition. The awards were presented in August at the annual meeting of ASAE's editors and publishers section in Boston.

Fabric Roof Is Studied For Office Megastructure

Air-supported fabric roofs could top future office complexes, according to a feasibility study conducted by GSA.

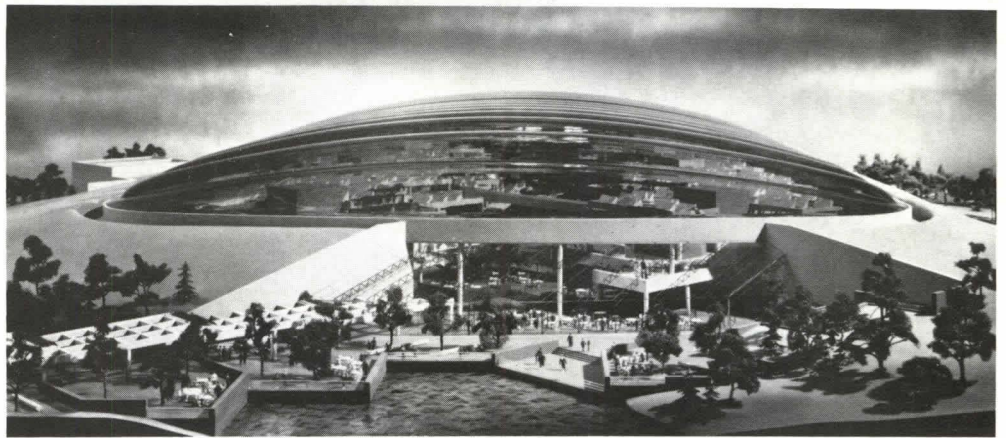
Earth walls in combination with air-supported roofs is a recent development; the American pavilion at Expo '70 in Osaka, Japan, demonstrated one of the earliest such megastructures. Since then, the idea has been applied in sports arenas, warehouses and other large facilities. In order to determine the feasibility of an office building with earth walls and an air-supported roof, GSA commissioned a study coordinated by Building Services Inc. of Towson, Md. Davis Brody & Associates, the team that built the Osaka Expo pavilion, also participated in the study.

The team designed a megastructure with 350,000 square feet of office space, expandable to 500,000 square feet within the original structure (model above right). Although the cost of the initial 350,000 square feet would be comparable to that of a conventional building, the expansion would cost \$10 million less than a comparable enlargement of a conventional structure. Further advantages of the megastructure include a four-month saving of construction time and a \$16.5 million saving in combined construction, operating and maintenance costs over a 30-year period, according to the calculations of the study team.

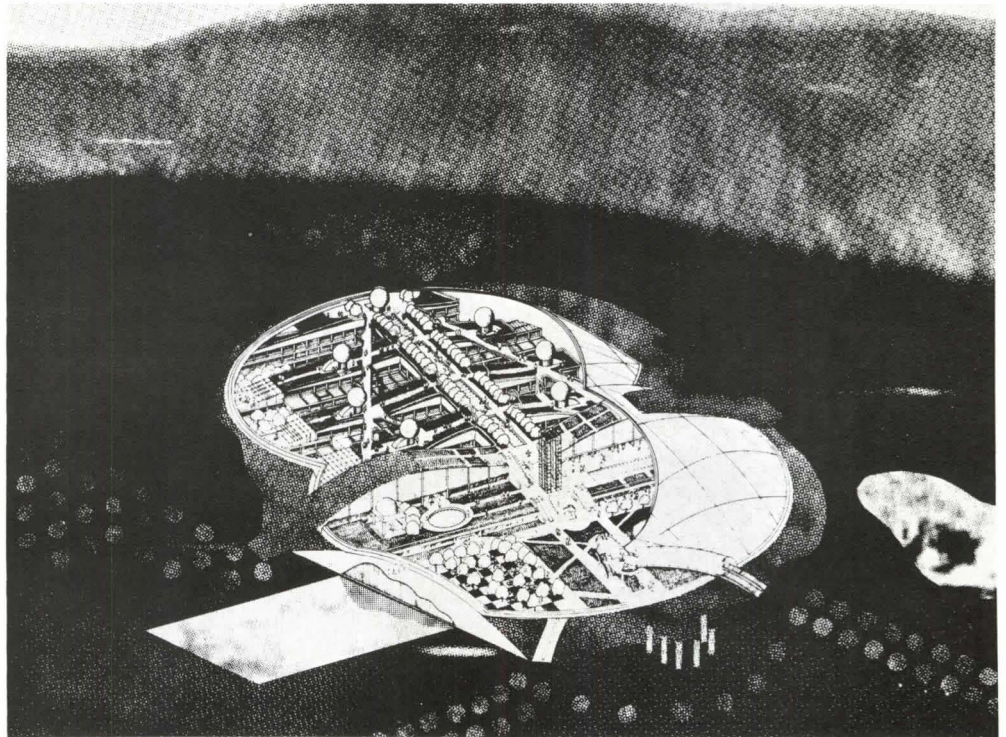
The prototype's three-layer fabric roof also promises substantial energy savings. The middle and top layers in each cell are partially covered with a light and heat reflecting material. In winter, the movable middle layers are arranged to admit sunlight and heat; in summer, they will admit sunlight only. In Denver, the hypothetical location of the team's design, 85 percent of the megastructure's heating requirement could be filled by solar energy. The design can be adapted to other climates as well.

For more information on the feasibility study, contact GSA, Public Buildings Service, Washington, D.C. 20405.

Following up on the GSA study, Owens-Corning Fiberglas Corporation and E. I. du Pont de Nemours & Co. sponsored a competition in which architecture and engineering students were asked to design a low-cost, energy-efficient permanent fabric structure for a federal office building in Denver. The design was to provide space for several



Steve Rosenthal



agencies, with room to spare for commercial and cultural activities; it was to respond to the natural environment and to the needs of the local community. The winning design, submitted by Christopher F. Kronser and Mark R. Ernst of the University of Wisconsin (sketch above), encloses the required space within a spherical fabric roof. The membrane is transparent around the perimeter and above the tree-lined promenade that bisects the structure, giving the occupants a view of the Rockies. The design includes indirect lighting and retractable solar shades.

An eight-member team from the University of Michigan took second prize for their "Rocky Mountain 2" design, an up-and-down tent configuration with radial and concentric cables supported by towers arranged in hexagons and central cores. The cores support three floors of office space. A group of four Harvard and Massachusetts Institute of Technology students received third place, and a team from the University of Illinois was awarded an honorable mention.

"The concepts generated by these

young designers offer several new directions in architectural design and habitability," said Paul Kennon, FAIA, chairman of the competition jury and president of the Houston architectural firm of Caudill Rowlett Scott.

Equity Homesteading In Cooperative Apartments

With the cooperation of the private sector, community and neighborhood groups and local, state and federal governments, the first test of tenant "sweat equity" ownership of homesteaded cooperative apartments is underway in two distressed neighborhoods in New York City. Prior to this time, HUD's urban homesteading program in which homeowners procure a house and then fix it up themselves has been limited to single-family dwellings. The Manhattan neighborhoods selected for the pilot project in cooperative apartments—the South Bronx and the Lower East Side—have been plagued by housing abandonment, population loss and high unemployment. *continued on page 12*

Going On from page 11

The program is being cosponsored by two nonprofit organizations—People's Development Corporation and Interfaith Adopt-A-Building, Inc. In addition to HUD assistance, the inaugural project has the financial backing of the Chemical Bank of New York City, which is seeking a participation agreement with three other area banks.

The City of New York will deed five abandoned buildings with 74 dwelling units to the Peoples Development Corporation in the South Bronx, and seven abandoned structures with 79 units to Interfaith Adopt-A-Building on the Lower East Side. The multifamily tenements will be restored by tenants who receive job training and pay from funds

provided under the Comprehensive Employment Training Act.

New York City will allocate \$1.5 million in such funds to train 77 homesteaders in the South Bronx project and \$1.7 million to train 80 homesteaders in the Lower East Side. The cooperating nonprofit organizations will get interim financing for the reconstruction of the tenements from the Chemical Bank. HUD has allocated \$2.598 million in rehabilitation loans for the two neighborhoods.

Each homesteading project will have its plans and specifications approved by HUD field offices and by New York City's department of housing preservation and development.

HUD Secretary Patricia R. Harris calls

the demonstration a "small but significant step forward in our continued search for new ways to use homesteading to help restore neighborhoods and solve the housing problems of urban areas." Juan Villanueva, vice president of Chemical Bank, said, "We want to see this demonstration become a national program, with numerous community organizations working with the appropriate levels of government."

Ince Is Named President Of Research Corporation

Charles R. Ince Jr. has been appointed president of the AIA Research Corporation, succeeding John P. Eberhard, FAIA, who has resigned after serving the organization for five years.

Ince was named vice president of AIA/RC in May 1978, having joined the corporation in October 1976 as executive administrator of energy programs. Before joining AIA/RC, he was assistant administrator for energy conservation, building program, Federal Energy Administration (now part of the Department of Energy). He was responsible for energy conservation policy and programs affecting private, public, commercial, institutional and residential buildings.

Ince, who has been associated with several architectural firms, served as vice president of John Carl Warnecke & Associates; was project director of Daniel Mann Johnson & Mendenhall, and senior planner at Stanford University. He is an architecture graduate of Stanford.

David Olan Meeker Jr., FAIA, executive vice president of the Institute, said he expects Ince "to continue the outstanding work being performed by AIA/RC in view of his demonstrated executive skills."

Under Eberhard's leadership, AIA/RC has initiated major architectural research programs in the areas of solar energy, energy conservation and seismic safety design. He was installed as AIA/RC's first president in June 1973.

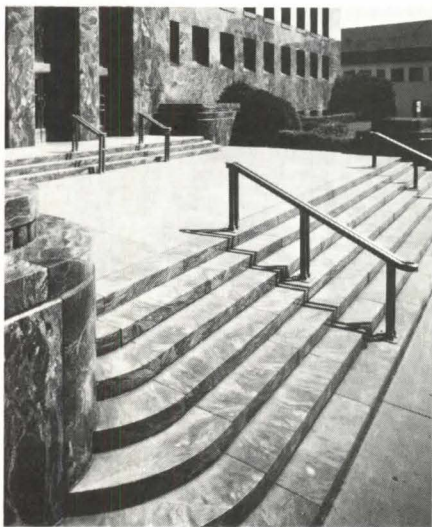
Second Review of 90-75R Is Voted by ASHRAE

At the recent semiannual meeting of the American Society of Heating, Refrigerating and Air-Conditioning Engineers in Albuquerque, N.M., an intensive three-hour debate took place regarding ASHRAE's standard 90-75R, "Energy Conservation in New Building Design." The debate centered on section 12 of the standard which provides a procedure for evaluating how much energy a building

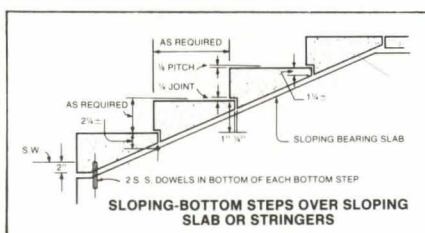
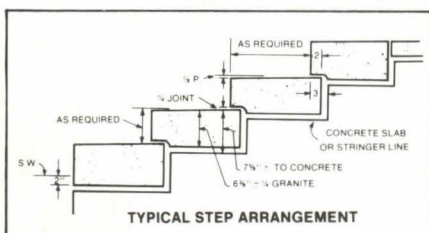
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Architect: Odell Associates, Inc., Charlotte, N.C.

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Going On from page 12

uses from the energy source of well or mine to building line.

A motion to separate section 12 from the balance of the standard and to set up a new project committee to write a second standard failed to pass. It was then voted to proceed with the development of 90-75R and to conduct a second open review on the basis of voluntary consensus procedures.

In the first review of the standard, 342 commentators expressed opinions on the standard; of this number, 221 commentators had addressed their attention to section 12.

Bruno P. Morabito, president of ASHRAE, said that the standard committee would continue to consider comments received during the first open review and that changes would be made in 10 of the 12 sections. The second open review will be conducted later this year, he said.

"It would be satisfying if we could resolve all problems by noon tomorrow," he said. "But because of their extreme complexity and delicacy, finalizing the standard calls for great deliberation. We intend to forge ahead, observing all the rules of the consensus procedure, and assist the nation to meet its energy conservation goals."

He also commented that "the design profession is already basing building designs on standard 90-75. Moreover, energy conservation programs in 45 states are either based directly on the standard or have been strongly influenced by it. This first version lacks section 12."

Morris Backer, who took office as president of ASHRAE during the meeting, said that ASHRAE's proposed standards for energy conservation in existing buildings may be completed by the end of the year. These standards in the 100P series consist of six separate standards for different building types.

Debate on Housing Costs Sought by HUD's Harris

A report released by the HUD-appointed task force on housing costs has led Secretary Patricia Roberts Harris to call for a "national debate" on how to stabilize the rapidly rising cost of housing.

The report, the product of nine months of work, identifies nine problem areas contributing to the high cost of housing and proposes a broad range of solutions.

"Poorly conceived and cost-inducing regulation" has imposed "unnecessary standards and time-consuming processing," according to the task force. The

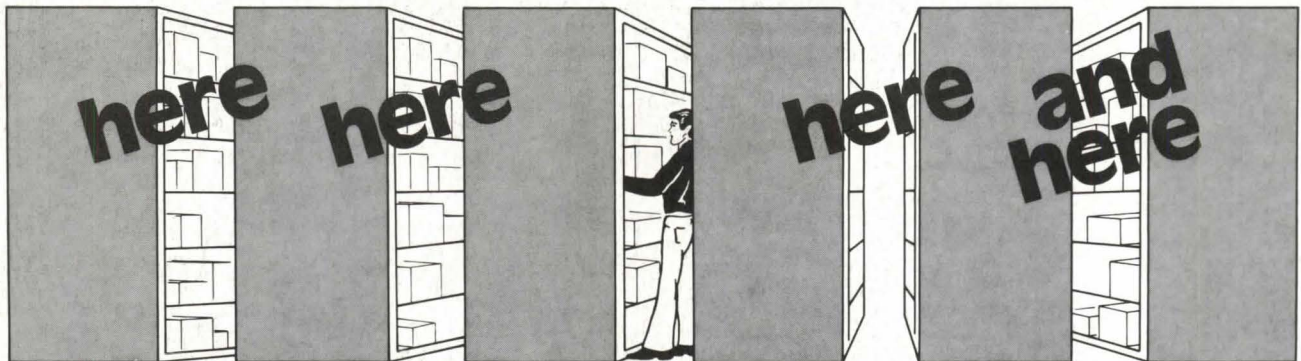
report cites the HUD noise assessment guidelines, various Environmental Protection Agency requirements, coastal zone management acts, critical area legislation, environmental impact statements and special siting statutes as examples of government regulations that lead to higher housing costs.

Every requirement a builder must comply with, the report points out, involves a substantial amount of time, and time costs money. The costs of regulatory delay can be enormous: Researchers at the Rice Center for Community Design and Research estimated that "at a 12 percent interest rate, a six-month unscheduled delay increases interest payments on a \$1 million loan for a parcel of land by as much as \$60,000—and many developments face 18- to 24-month delays."

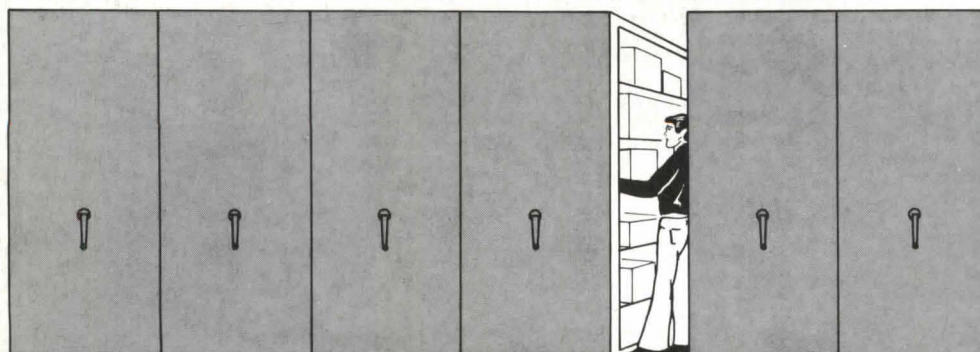
The task force recommends raising the "threshold" for a full environmental impact statement to vary according to the population of the area in which the project is located. A massive effort to streamline environmental review procedures is also in order, the task force believes. The report also urges HUD to work with the National Science Foundation to evaluate the costs and benefits of environmental review.

The report also holds governmental
continued on page 20

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Going On from page 16

action responsible for placing additional constraints on the supply of already scarce land. Limitations on sewers and roads, special zoning ordinances and property taxes all work to keep the price of land high.

Environmental regulation, however, is only one aspect of the skyrocketing housing costs of recent years. Materials and labor costs, for example, account for the largest share of costs. The task force estimates that innovative building technology and streamlined construction codes could reduce the cost of building a house by as much as \$6,000, yet insufficient effort has been made to encourage either the use of cost-reducing techniques or the passage of a uniform construction code. Many jurisdictions base their codes on the original HUD Minimum Property Standards (MPS), thus requiring the builder to comply with the obsolete code as well as with the revised MPS. "HUD itself is responsible for imposing building requirements and review procedures for both new construction and rehabilitation that increase costs and cause unnecessary delay," the report concludes.

To remedy this, the task force urges further revision of the MPS to encourage lower cost construction. The report also suggests that HUD reduce planning and construction time by relying on architects and engineers both to certify that the plans meet HUD's MPS specifications and to assume responsibility for the work in progress. Whether such an inspection would constitute a warranty on the building and how this would affect the architect's liability for work are questions not discussed in the task force report.

Among the other factors cited by the task force as contributing to rising housing costs are cyclical construction cycles, exacerbated by countercyclical monetary policies, which result in higher land costs, higher wages, more expensive building materials and higher interest rates. The relationship between the supply of money and the cost of housing is such that HUD's secretary should play a major role in setting national monetary policy, the task force believes. Furthermore, since changes in the Internal Revenue code create an unstable climate for investment, HUD representatives should be included in the discussions that determine national tax policy.

Credit for Hyatt Hotels

The article in the July issue entitled "A Hotel Chain Built upon an Architectural Concept" (p. 68) incorrectly credited the Hyatt Regency in Indianapolis to 3D/International. The project was done by JV III Architects, a joint venture of Koetter Tharp Cowell & Bartlett, Caudill

Rowlett Scott and 3D/International, the same joint venture that did the Houston Hyatt Regency. Also, the Hyatt Regency in New Orleans was credited to Welton Becket alone. It was designed by Welton Becket and Curtis & Davis. We apologize for these errors.

Traffic Rerouted, Canopy Added at Saarinen's TWA

Eero Saarinen's TWA Flight Center at the JFK International Airport in New York City was completed in 1961, just prior to his death. In 1963, the structure won an AIA honor award of merit for its design. Since the opening of the terminal, the number of passengers using the facilities has quadrupled. Congestion on the roadway before the terminal caused such an acute problem that airport police would shut down the entrance to the building for short time intervals to allow traffic to clear.

The New York City architectural firm of Witthoefft & Rudolph was engaged early this year to work on a solution to the problem with TWA and the airport operator, the Port Authority of New York & New Jersey. Those involved with the project, says a TWA spokesman, were sensitive to the fact that the terminal "is a significant architectural structure. Any re-



Bill Rothschild

visions or additions to the roadway area in front of the structure would be highly visible and would have a profound effect on this prominent structure."

It was decided to separate the traffic flow, dividing the use of the curbline into "arrivals" and "departures" segments. Such a division required the construction of a shelter for arriving passengers away from the sheltered curb of the terminal.

The architects designed a canopy island (photo above) about 330 feet long and 22 feet wide. They used shapes and ma-

terials to complement the Saarinen building, creating a barrel vault design that is scaled in proportion to the overhang protecting entrances and exits of the existing building. The canopy is supported by 11 "Y" shaped, precast concrete columns spaced 30 feet on centers. The barrel vault is of curved Plexiglas. At the foot of each Y, columns are connected by poured-in-place concrete edge beams.

The results of the design, says the spokesman for TWA, has been proved by the fact that during the past July 4 holiday, a peak travel time, congestion was eliminated. "The simple profile, while being open and airy to retain the visual qualities of the Saarinen building, provides passengers protection against inclement weather." The cost of roadway improvement is put at \$1.8 million; the cost of the canopy came to \$375,000.

Five Japanese Architects Plan U.S. Lecture Tour

"A New Wave of Japanese Architecture" is the title of a lecture series and exhibition traveling through 10 American cities this fall. The lectures will be given over five-week periods in each city by five prominent Japanese architects: Arata Isozaki, Takefumi Aida, Minoru Takeyama, Hiromi Fujii, Hiroshi Hara. The

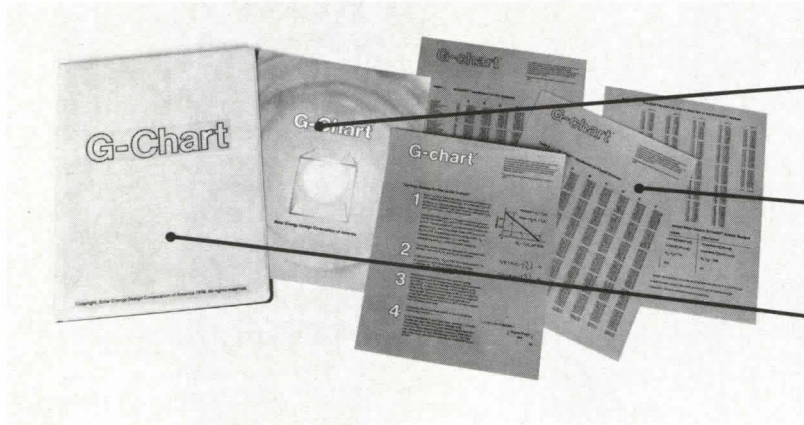
exhibit will include work by these designers as well as work of Fumihiko Maki, Tadao Ando, Toyoo Ito, Monta Mozuna, Osamu Ishiyama and Atelier Zo. It is documented by a catalog edited by Kenneth Frampton.

The program, sponsored and organized by the Institute for Architecture and Urban Studies in New York City, is funded by the National Endowment for the Arts, The JDR III Fund, the Japan/U.S. Friendship Commission, the Japan

continued on page 24

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Going On from page 20

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A preliminary schedule of the lecture series follows: University of California, Berkeley, Mondays, Sept. 25 through Oct. 23; Southern California Institute of Architecture, Los Angeles, Wednesdays, Sept. 27 through Oct. 25; University of Houston, Thursdays, Sept. 28 through Oct. 26; the Architectural Club of Miami, Mondays, Oct. 2 through Oct. 31; University of Maryland, College Park, Md., Wednesdays, Oct. 4 through Nov. 1; the Institute for Architecture and Urban Studies, New York City, Fridays, Oct. 6 through Nov. 3; Graham Foundation, Chicago, Mondays, Oct. 9 through

Nov. 6; Walker Art Center, Minneapolis, Wednesdays, Oct. 11 through Nov. 9; University of Utah, Salt Lake City, Fridays, Oct. 13 through Nov. 10; University of Washington, Seattle, Mondays, Oct. 16 through Nov. 13. For exact times, dates and places of lectures, contact local sponsoring organizations or Andrew MacNair, the Institute for Architecture and Urban Studies, (212) 398-9474.

AIA Members' 'Hotline'

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This special answering number is open between 8:30 A.M. and 5 P.M. (Eastern time) every workday. Most questions probably will be answered immediately, but more detailed inquiries will be transferred to the staff specialist who will provide the answer.

The new hotline does not mean that an AIA member who is accustomed to dealing with a specific staff member may not continue to do so. Members may also continue to use AIA's regular number: (202) 785-7300.

Energy-Saving Features Of Two Houses Described

MED is the acronym for a "minimum energy dwelling," as used in a recent 432-page document published by the Department of Energy (DOE). Entitled *Minimum Energy Dwelling (MED) Workbook: An Investigation of Techniques and Materials in Energy Conscious Design*, the report was prepared by the Butler, Pa., A/E firm of Burt Hill Kosar Rittleman Associates (formerly, Burt, Hill & Associates). The workbook, intended for architects and builders, demonstrates from the testing of two specially designed houses in southern California (in Mission Viejo) that such energy-saving techniques as design, construction methods, building materials and the use of solar energy with conventional space heating and cooling and hot water systems can be included, at reasonable cost, in the design of dwellings.

The two MEDs are single-family houses of about 1,150 square feet, built in 1976 by the Mission Viejo Co., in cooperation with DOE and the Southern California Gas Co. in Los Angeles. One goal of the project was to encourage architects and builders to use energy-saving concepts in future developments.

The MED houses are identical, and most of the energy-saving features are not readily visible, except for the rooftop solar collectors. One of the houses is a demonstration model; the other is occupied by a "typical" family buying its first home and consisting of an employed father, an unemployed mother and a child. Special instruments record the use of energy, and the collected data will be compared with the energy consumed in conventional residences in the Mission Viejo development.

The design firm investigated various types of energy-saving techniques, rejecting many because of "inappropriateness

continued on page 28



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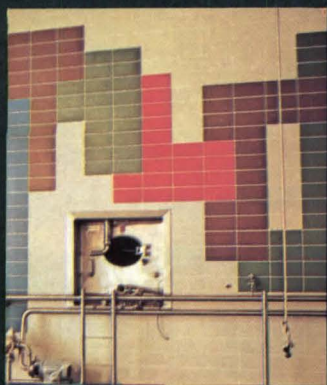


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Circle 14 on information card

Going On from page 24

to the climate, cost, buyer resistance or technical problems." The workbook presents the final design decisions. The equipment selected for use, according to the report, "is either cost competitive or makes sense on a life cycle cost basis," the one exception being the "solar-gas energy system, which is more expensive than conventional equipment." In the future, however, the report continues, "solar energy equipment will become increasingly cost competitive with conventional energy systems." Exclusive of the solar system, many of the energy-saving features of the MEDs could be adopted almost immediately by the designer of single-family houses.

The book is divided into three major parts. The first, on general considerations, explains the concepts incorporated into the MED homes and also discusses "community relationship," giving an exposition on such topics as housing types, transportation, land use and urban and residential developments. The second section concerns building design, and five chapters are devoted to comfort and climate, residential energy usage, insulation, mass and sun and windows. The final segment, on mechanical design, discusses internal loads, ventilation and infiltration, solar collectors, the mechanical system, plumb-

ing and construction. In the section on construction, there are photographs made during assembly of the houses and there are explanations of matters to take into consideration by the builder in the incorporation of new energy-conserving techniques.

Among the concepts included in the final design of the MED houses which contribute to energy conservation are the following:

- Exterior walls are built of 2x6-inch studs spaced farther apart than the conventional 24 inches, allowing "for more insulation and a stronger structure, while using the same amount of wood found in typical home construction."
- The slab floor and the two-foot underground footings under exterior walls have been poured with two inches of insulation laid along the inside edge of the footing and under the slab; slab insulation extends two feet into the interior living area.
- A wide roof overhang shades windows and doors.
- From exterior walls on each side of the windows, vertical shading "wings" reduce the amount of the sun hitting the windows. The sun is blocked out further by double-pane windows, with adjustable shutters between the panes.
- At the rear of the MEDs, large sliding doors are shaded by patio covers, and

front windows are protected by a shaded entryway.

- Double entry doors are used—one leading into an entry area and the other into the living room. To reduce air infiltration, the front door is foam-filled steel with magnetic weatherstripping.
- Red tile on the roof serves to lengthen the time it normally takes to heat up the MEDs on warm days.
- One pipe which blends hot and cold water at the water heater distributes the desired water temperature for use at an outlet in either the kitchen or bathrooms. Also, energy-saving, water-restricting devices are used on all domestic water outlets.
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continued on page 32



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Magnification of 250X "Antron" III nylon showing hollow filaments and round, anti-static filament.

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Going On from page 28

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• Landscaping and exterior paint are designed to maximize energy conservation.

The workbook may be obtained for \$9 from the National Technical Information Service, U.S. Department of Commerce, Springfield, Va. 22161.

Three Prison Facilities Cited; Seminar Planned

Three correctional facility projects have received citations in the 1978 exhibition of architecture for justice facilities sponsored jointly by AIA and the American Correctional Association. The three were among 20 projects selected for exhibition at ACA's annual congress, held in August in Portland, Ore. The 20 projects will be exhibited also at the AIA committee on architecture for justice regional seminar to take place in Boston on Oct. 4-6.

The three projects to be cited are:

• A rehabilitated state prison in downtown Trenton, N.J., designed by Gruzen & Partners and the Grad Partnership, both of New York City. The screening jury commended the architects for the

"successful integration of a large-scale project into the small-scale community" and praised the New Jersey department of corrections for not abandoning the downtown facility in favor of a suburban or rural site which would not serve the needs of the urban inmates.

• Adaptation of the 1980 winter Olympics dormitory into a federal institution near Lake Placid, N.Y., designed by Robinson Green Beretta Corporation of Providence, R.I. Designed to house some 1,900 athletes in the winter games, the facility will be converted "at a minimum cost" into a correctional institution.

• A high security facility buried into a Minnesota hillside at Bayport, designed by Winsor/Faricy of St. Paul, Minn., and Gruzen & Partners. The facility is inconspicuous, stresses energy conservation and has security incorporated into the basic plan. Each complex has its own intimate outdoor space, separated from a larger central space by berms.

The screening jurors were Robert Messmer, AIA, Washington, D.C.; William B. Robinson, Pennsylvania commissioner of corrections; Earl Smith, executive director of the Ohio Chiefs of Police; William Switzer, AIA, Port Chester, N.Y., and Edward Tower, AIA, San Francisco.

Information about the AIA committee

on architecture for justice regional seminar scheduled for Oct. 4-6 may be obtained from Harold Glover at AIA headquarters (202) 785-7229.

AIA Sets Deadlines for '79 Honors Nominations

In addition to its nationally recognized annual honor awards for distinguished design by American architects, the Institute bestows other awards and medals. AIA members and components are invited to participate in the submission of entries for the various honors to be presented to AIA's annual convention in Kansas City, Mo., June 3-7, 1979.

Submission for the 1979 honor awards program must be postmarked no later than Oct. 20. The postmark deadline for honorary membership in AIA is Oct. 3. Submissions for the architectural firm award and other AIA honors, such as awards made to artists and craftsmen whose work is related to architecture, must be postmarked no later than Nov. 1. The postmark deadline for the 25-year award is Oct. 20. Nominations are also open for the AIA/Association of Collegiate Schools of Architecture award for excellence in architectural education;

continued on page 36

New from Whitney Library of Design

Downtown U.S.A.: Urban Design in Nine American Cities.

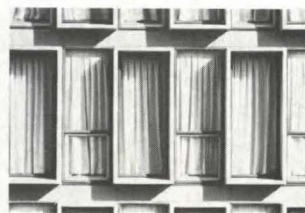
By Kenneth Halpern, Foreword by Edward Koch, Mayor of the City of New York.

This timely book presents a comparative analysis of urban design policies and their implications in nine cities: New York, Chicago, Philadelphia, San Francisco, Houston, Washington D.C., Boston, Atlanta, and Minneapolis. DOWNTOWN U.S.A. offers a cross-section of urban design thinking, implementation, and some of the problems in cities that have not used it as a guide to development. 272 pages, 350 B&W illus., 9-1/4 x 10. \$27.50.



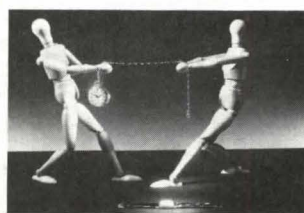
Precast Concrete in Architecture

By A.E.J. Morris. Precast concrete is the most widely used architectural material in North America and Europe today. And, having developed an identity quite distinct from insitu concrete, it is appraised here in its right—in the most thorough study available on the subject. PRECAST CONCRETE covers its 19th and 20th Century backgrounds, developments in the 60s, current methods and practical experience, and a series of case studies of precast concrete in the 70s. 576 pages, 7-3/4 x 9-3/4. 425 B&W photos, 240 line illus. \$42.50.



The American Store Window

By Leonard S. Marcus. This splendid volume is a photographic record of over 200 store windows—the finest from some of America's finest stores. It is also an analysis of the store window industry from its early years in its trade publication, The Display World. Marcus explores its growth, achievements and the current stature of its modern professionals—lighting designers, graphic designers, mannequin and prop studios, and visual merchandisers. Includes carefully drawn profiles of select designers. 192 pp. 8-1/4 x 11. 200 B&W photos. \$25.00



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LIVING SPACES: 150 Design Ideas from Around the World. Edited by Franco Magnani. 120 pages. 8-1/2 x 11. Over 100 color plates. \$22.50.

NEW ARCHITECTURE IN SCOTLAND by Peter Willis. 96 pp. 8-1/4 x 7-3/4. Over 200 B&W illus. \$9.95 paper.

DESIGN REVIEW 24: Industrial Design 24th Annual. Compiled and written by Barry Dean. 192 pp. 8-1/4 x 11. 175 B&W illus. \$19.95.

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Going On from page 32
 nominations must be postmarked by Oct. 2.

Information regarding criteria for the various honors, submission binders and other pertinent data may be obtained from Maria Murray, director, awards programs, at AIA headquarters, (202) 785-7390.

Funds Sought to Expand 'Livable Cities' Program

Last year, the National Endowment for the Arts' "livable cities" program provided grants to improve the physical quality of towns and cities. Now, if Congress approves, HUD will join in the administration of the program with a significant budget increase.

The program now receives less than \$1 million annually. The new program seeks \$20 million; however, the Senate has approved \$5 million for the first year and \$10 million for the second. The House subcommittee on housing and community development approved the bill, which now goes to the Senate-House conference committee for final approval expected this month.

The "Livable Cities Act of 1978" would expand the earlier act to "encourage community and neighborhood artistic and cultural activities which contribute to the conservation or revitalization of urban communities and neighborhoods."

Over the past year, approximately 350 projects received funding under the National Endowment's program. About half of these were for adaptive use of buildings and revitalization of neighborhoods. The largest amount awarded was \$30,000.

Under the new program, emphasis would be placed on projects related to other federally assisted housing or community development activities or undertaken in communities with a high proportion of low-income residents. Projects would include neighborhood and community based arts programs, urban design, user needs design and the preservation of historic or other structures which have neighborhood or community significance.

"Artistic, cultural and historic resources constitute an integral part of the 'suitable living environment,' which HUD seeks to provide through its housing and community development programs," the proposal states. "The development or preservation of these resources is an important factor in restoring and maintaining the vitality of the urban environment.

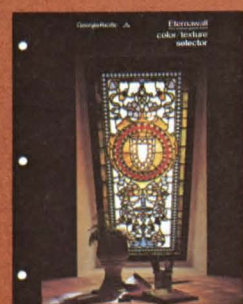
"These activities can serve to create a sense of neighborhood identity, spirit, confidence and pride which frequently is the impetus required before decaying or deteriorated neighborhoods can be im-

continued on page 96

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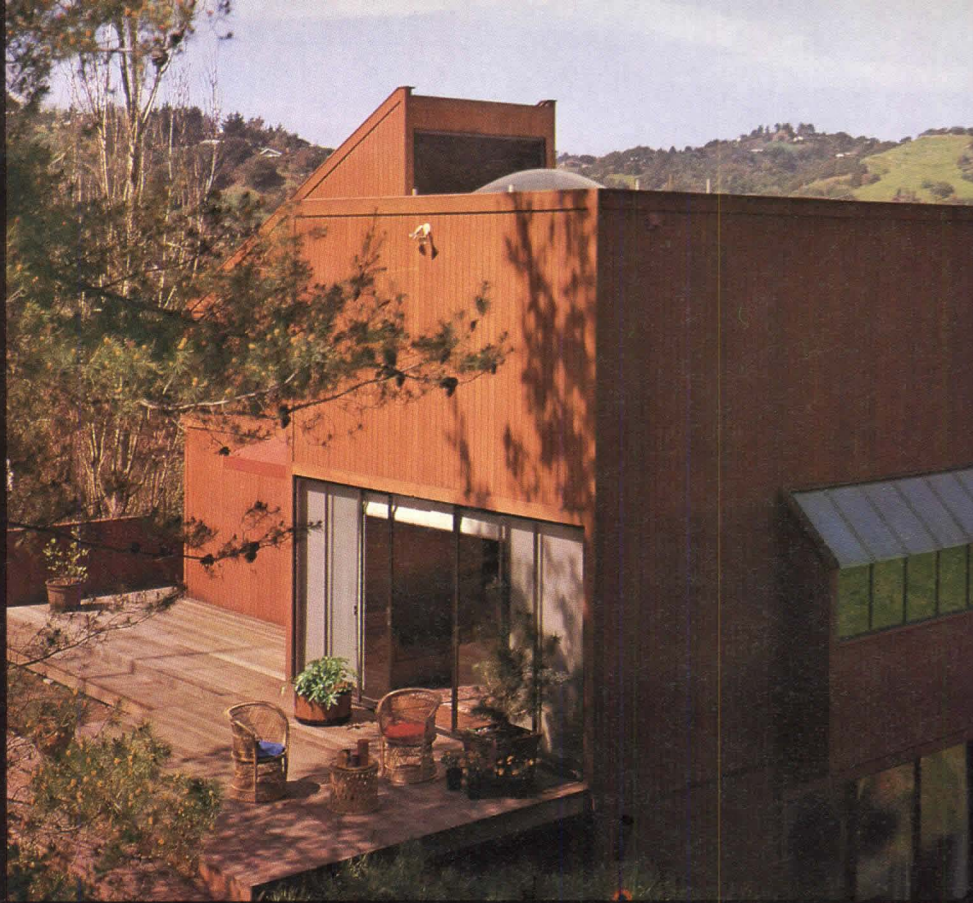
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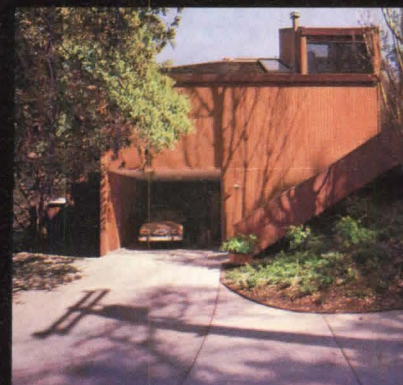
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AIA JOURNAL



Louis I. Kahn, a self portrait

The legacy of Louis Kahn goes well beyond his built works. It includes ideas and people influenced by his ideas, words, unrealized designs, models and drawings. For a time it seemed as if one of the less material items in this legacy might be scattered, or even lost.

But now the Kahn papers—comprising more than 10,000 items—have been acquired by the Commonwealth of Pennsylvania and given on permanent loan to the University of Pennsylvania, where he held the Paul Philippe Cret chair of architecture and nurtured the “Philadelphia school.”

The university plans to house the Kahn collection in the building designed originally as its main library by the great 19th century Philadelphia architect Frank Furness, and now named for him. It sees the material as a nucleus of a center for architectural research. The university already has acquired the papers and models of Paul Cret and of the visionary engineer Robert Ricolais, which could be moved to the Furness building.

“What is lacking,” says the university, are funds to prepare both the space and the papers for use by scholars, students and practicing architects. The amounts needed are \$50,000 for remodeling and \$150,000 for preparation of the materials.

The university warns that it must “act with particular dispatch to prevent the deterioration of the drawings and models that will inevitably take place if they remain in unprotected storage.” It has launched a campaign to raise the needed funds for gifts.

This space is not often used for solicitation, but we can think of no more suitable way to help create a memorial to this singular master. *D.C.*



Evaluation: The Whitney Suffers from Success

Marcel Breuer's museum strains to accommodate swelling crowds. By Bernard P. Spring, FAIA



Cervin Robinson



Bernard P. Spring

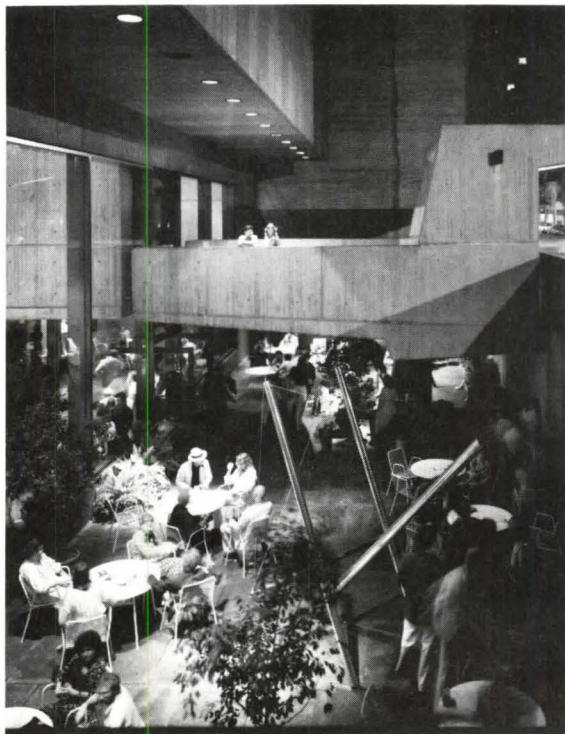
When the Whitney Museum of American Art opened 12 years ago, in September 1966, it was immediately acclaimed as a landmark building and praised for its sober, responsible dignity. There have been only a few changes in the building itself over the years. But the increase and intensity of activity makes it a different kind of place than was envisioned by the trustees and their architects—Marcel Breuer, FAIA, and Hamilton Smith, FAIA (with consulting architect Michael H. Irving, AIA)—when they began planning in the early 1960s.

The first sign of the difference is the regular presence of a hot dog vender's cart at the corner of 75th Street and Madison Avenue, just outside the entrance (left below). In New York, this can only mean that this once sedate location has become a lively center of popular culture. On Tuesday evenings when a major oil company underwrites free admission, a large crowd begins to gather an hour before opening time and with considerable camaraderie lounges along the granite balustrade surrounding the sunken outdoor sculpture court (right below).

At lunch time on just about any day of the week, the interior portion of the sculpture garden (center below) is also filled with people. The original, compact cafeteria was a mere convenience, hidden behind a pierced granite screen. Now, the screen has been demolished. The cafe tables spill out all the way to the two-story-high exterior glass wall, eliminating half of the indoor sculpture court. The crowds waiting to be seated make it difficult to fit much sculpture into the other half of the space. The sculpture court is now more a lounge area, a "people" court and an important part of the social experience of museum going.

The Whitney is one of the best known works of contemporary American architecture. It won the most coveted awards and has been widely and fully published. Most of the "articles" have consisted mainly of pictures and drawings. The few words that were used described the activity program and the form of the building as virtually one and the same. Looking back over 12 years, the initial published presentations of the Whitney show, more than anything else, how completely the concept of the marriage of form and function was accepted as the essence of quality in architecture. It was the peak and perhaps the beginning of the end of an era.

Mr. Spring, dean of the school of architecture at City College of the City University of New York and a former editor at *Architectural Forum*, evaluated the new and old exterior spaces of Rockefeller Center for the JOURNAL's February 1978 issue.



Cervin Robinson

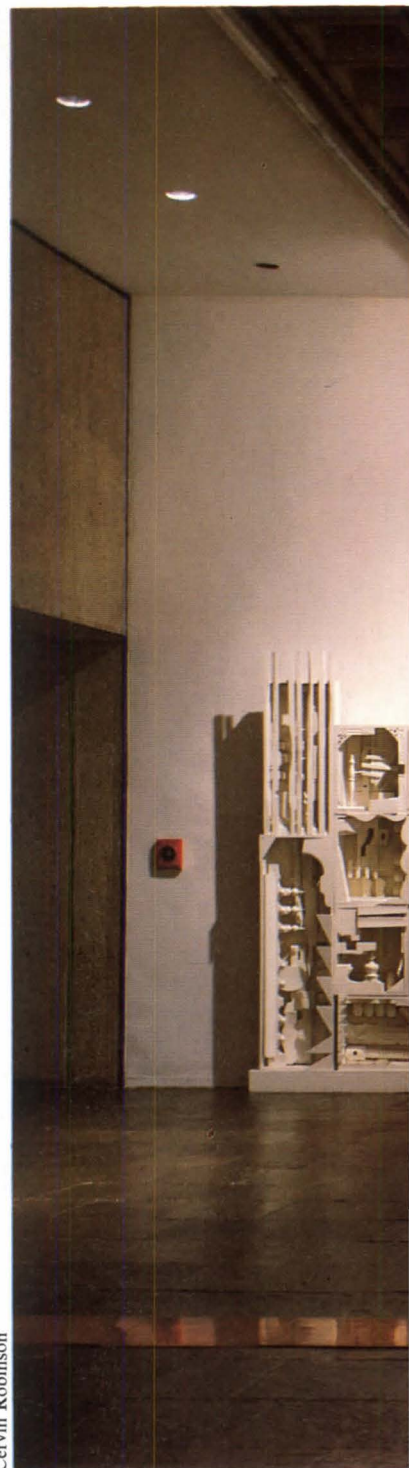


Bernard P. Spring

Right, the lofty fourth floor gallery in an unaccustomed state of near-emptiness. Below, one of the original photos of the museum showing its mansion-like appointments. Bottom, a not unusual crowd during the Saul Steinberg exhibit.



Ezra Stoller



Cervin Robinson



Bernard P. Spring

From 'private club' to popular attraction.

The premier publication of the building in a professional journal was carried by the late (lamented) *Architectural Forum*. The editors presented six pages of photographs and plans and a mere 800 words of explication by John Morris Dixon, FAIA, then a *Forum* editor. Dixon's only nonprogrammatic commentary is worth recalling, as it foreshadowed the most significant changes in the building in the coming years. He noted a "... rich character more like that of a private mansion than of an anonymous public treasury."

My own recollections of the building in its first few years (reinforced by another look at Ezra Stoller's classic photographs of the opening exhibition) remind me how much like a club or a private mansion it was at first. The people who conceived this original design must have been thinking of serving that small group of aficionados who before the 1960s were devoted to American art. There was, for example, the elegant and precious



space taken on the lower lobby level for the exclusive use of the small group of “friends” who made large contributions. This has been converted to staff offices.

Most impressive were the small galleries along the northern end of the second and fourth floors. (Similar small galleries on the third floor were eliminated between the schematic and contract document phases of design.) They were furnished with deep carpets on parquet floors, wood paneled walls and ceilings, comfortable sofas, lounge chairs, desks and tables. They were intended to resemble and be used like the intimate rooms of the two earlier buildings of the museum. A home, albeit open to the public, for the Whitney family and for the artists and friends with whom they shared an interest in the development of American art.

Even as the building was under construction, the recognition of the importance of American art and artists was growing rapidly along with the size of the audience for museums in general and American art in particular. The Breuer firm has

always been dedicated to workable, “functional” planning. And, indeed, the circulation patterns and servicing systems of the building work with clocklike precision. But not, of course, for the kinds of crowds which were about to turn out for some of the more popular shows, such as the recent, constantly packed exhibition of the drawings of *New Yorker* artist Saul Steinberg.

The present director, Thomas N. Armstrong III, believes the building functions perfectly for about 1,000 visitors per day. But no museum building set on a 13,000-square-foot lot with only about 30,000 square feet of gallery space distributed on five levels can handle the 3,000 to 5,000 people who now visit on a busy day. In addition to the strain they put on orderly maintenance and operations, these crowds have affected the nature of curatorship, exhibition design and finally have forced the redevelopment of the small galleries from intimate stopping places to part of the irresistible traffic flow patterns of the adjacent large galleries. Gone are the parquet floors. They have been covered with commercial carpet. Gone is the wood paneling on the walls.

Covered-over windows and immured partitions.

It has been covered with plaster to accommodate more works of art. Gone, too, is most of the domestic furniture. It has been replaced by the familiar museum bench which tells you not to linger if you must sit at all.

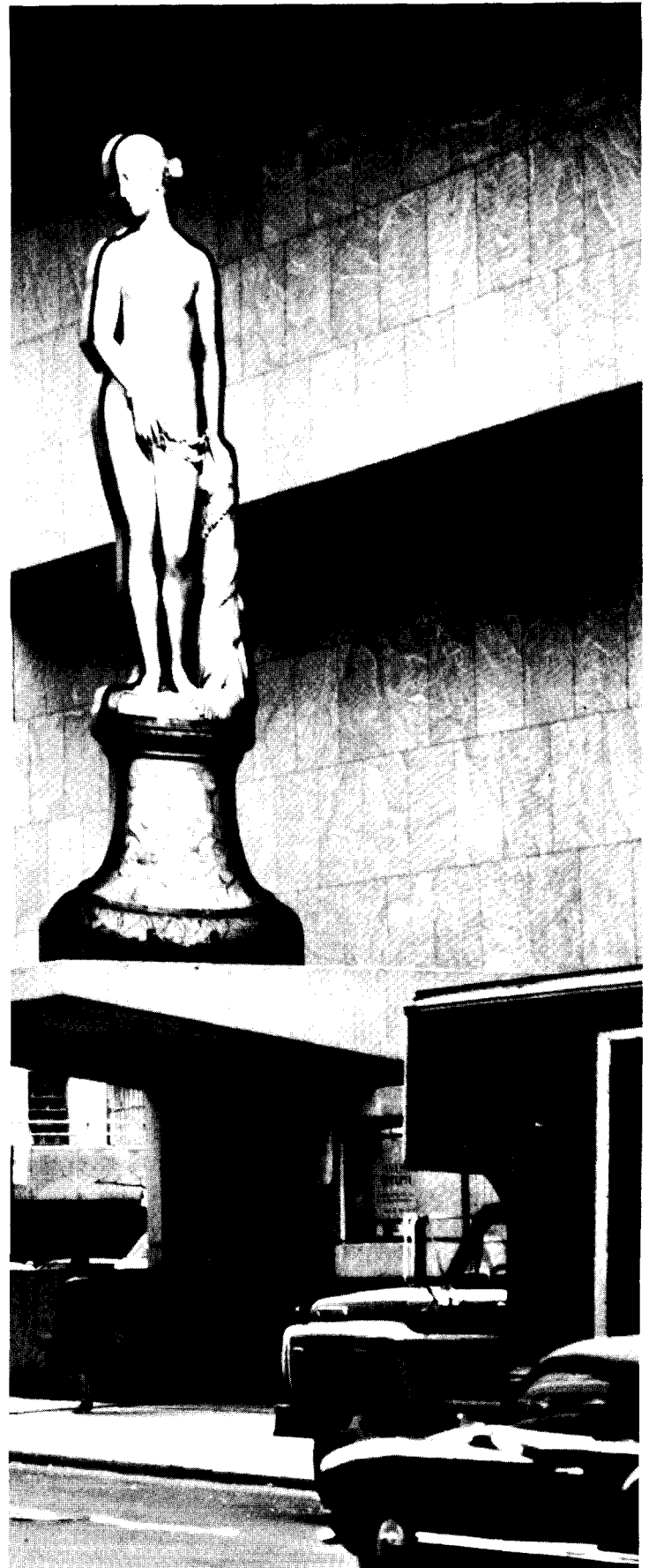
From time to time an exhibition is designed in a way that creates another, most perplexing loss. The noted, randomly placed, hooded windows (which Breuer could proudly explain as breaking with all historical precedent for fenestration because they were not needed or used for bringing light into the building) are sometimes paneled over on the interior to win a little more wall space for an exhibition. At the time the building was being designed, experts believed that the only scientifically correct illumination for paintings was artificial lighting, free of ultraviolet. The windows, Breuer said, were needed only to give the gallery user a sense of orientation within what had to be an artificially lighted interior. What a different building this might have been if the architects then had available the selective screening light filters which allowed Kahn and Pei to flood their recently completed museums with natural light that will not damage paintings over time.

The demountable partition system for the large galleries is also out of use. The sophisticated, flexible method devised for dividing space was considered a great step forward in museum design when it was introduced at Whitney. And, by all accounts, the movable partitions served the museum well for 10 years. The four-foot-wide panels (17 feet, 6 inches high in the top-floor gallery) could be rapidly jacked up into tracks in the modular gridwork of precast concrete which formed the suspended ceiling of the large gallery areas. The partition layout could be demounted and revised in a few hours by the museum staff.

There were a few unforeseen problems, however. The panels did not rest on the floor; they were held up by small rods. Indeed, the space flowed under them, over them and around them the way, as theory then had it, that space should flow. The giant steel beams that spanned the 58-foot-width of the galleries were installed, as they normally are, with camber. The floor was not actually flat but bowed slightly upward. The eye would not normally pick up this minute dimensional variation. But it was most clearly in evidence when seen against the dead level straight line along the "floating" baseline of the partitions. This disturbed the sensibilities of staff and visitors alike. Thereafter, false baseboards were tacked on to close the gap between the floor and the partitions.

Another disturbing visual element for many of the people who hung shows was the rhythm of vertical joints every four feet along the partition walls. The joints were seen as distracting unduly from the art. The exhibition designers began to tape over the joints and put a smooth continuous surface on the partition walls. Not only did these modifications to the system slow down the relocation of the panels, but in due time they wore out the surfaces beyond easy repair. Today the movable wall panels are still in the museum, but they are literally immured within new partitions built with fixed studs and gypsum board. No one had the heart to demolish the old-timers and cart them away for junk.

Surely, the panel system could have been rehabilitated and





Geoffrey Clements



Cervin Robinson

Opposite, "Greek Slave" presides over the Whitney entrance during an exhibition designed by Robert Venturi, FAIA (see text overleaf). Above, the exhibition. Left, the third floor gallery.

Expansion is inhibited by the soaring cost of land.

returned to use. Some day this may well be done. Changes in museum policy and in the favored style of exhibition designers, however, have foreclosed this option for the time being. From the time it was founded by Gertrude Vanderbilt Whitney in 1930 until recently, the museum's leaders saw as their top priority giving talented American artists the exposure and recognition they deserved but were not getting elsewhere. The best way to do this was to mount a large number of shows and keep them open for a relatively short time. When the museum realized that there was less resistance to recognition for the American artist and many other avenues open to them for exposure, priorities changed. Today, it seems more important to concentrate on the depth and quality of scholarship related to a show and to increasing the breadth of the audience for an artist's work. Shows are larger and more complex and remain on view for longer periods. The need for rapid changes in partitioning has been greatly diminished as a result.

It is difficult to deny the role of a change in style as another factor making the movable partitions less desirable. Ten years ago, who would have believed that a two-foot-square modular grid did not provide infinite design flexibility? But when Robert Venturi, FAIA, was invited to design an installation two years ago, he could not accomplish his design intentions except by working against the system of the building. For a starter, he mounted a giant cardboard-cutout like reproduction of Hiram Power's "Greek Slave" on top of Breuer's concrete entrance canopy. Illusion and historical allusion surmounted the original architect's statement that truth in structural form is enough to create architecture. The 19th century's favorite work of American art was, of course, part of the exhibition on 200 years of American sculpture. It symbolized the history of American art. The gesture was both loved and hated. It drew the appropriate attention, but it was little understood.

Inside, Venturi carefully defied the organization of space imposed by the ceiling grid. He created a forced perspective for the people entering the gallery by placing his partitions (fixed, of course) off the module. Further, he detailed the ends of the partitions and the soffits between spaces to increase the sense of enclosed chambers within what was originally designed to be a free-flowing, delicately modulated space.

The recent Saul Steinberg show was expected to and did attract enormous crowds. The exhibit was laid out with walls that encouraged a predictable flow of traffic. Panels were hung at 45 degrees to the modular grid at the locations where the designer wanted people to make a turn. Stylish, and sensible too. Such examples suggest that the modular, demountable panels will stay buried until they are considered an archeological find.

The greatest problem for the Whitney Museum today is not its building so much as its prime location in the heart of New York City's art center, in the middle of a high rent district of luxury apartments, town houses and expensive boutiques. The program has been so successful that it has outgrown its home. The collection is larger than the storage areas can hold. The storage space was designed for 10 years of projected growth and the projection was correct. The sales area for books, reproductions and the like could triple in size but the lobby can barely hold the activity that it now sustains. The programs of the museum have expanded to include film and video, but the building has only a minuscule auditorium carved out of the second floor gallery space.

The cast-in-place concrete fin walls that frame the outer boundaries of the building have an air of finality about them. It would be impractical to add the elevators needed to expand upward into the large volume of unused zoning envelope above the building. Hamilton Smith explains with appropriate pride that the Madison Avenue fin wall was provided with concealed knock out panels at the head of the main circulation stair on



each floor. The building was designed to expand southward on to the property occupied by a row of small and (by Madison Avenue standards) shabby old buildings. But the asking price for the property to the south is reported to be \$300 per square foot (yes, that is more than \$13 million per acre) a price some five to six times higher than the going rate for land in the area when the museum bought its present site. For the needed expansion, land costs alone could easily be higher than the entire project cost of the present building. The museum does not yet have that kind of financial support.

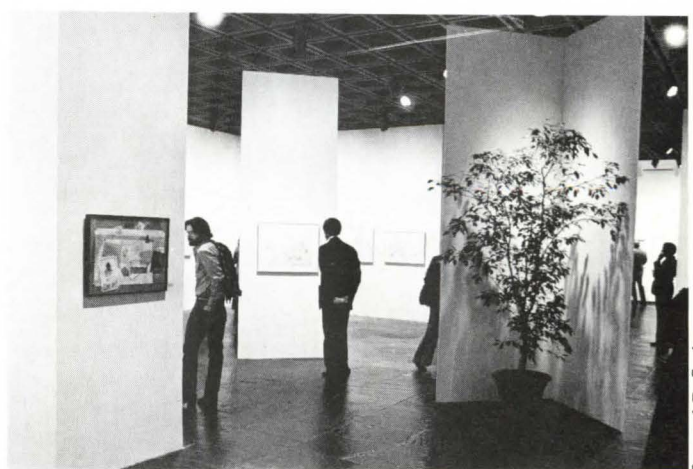
Had the Whitney chosen in the early '60s to move to one of the sites considered outside the art center, expansion would not have been such a perplexing problem. But then, in such a peripheral location, the museum's mission to develop a wide audience for American art might not have been so successful and expansion might not have become an issue at all. Breuer and Smith's building continues to hold up well as a public monument to the importance of American art. Its only failure has been in keeping up with the success of the programs it houses. □



Cervin Robinson



Cervin Robinson



Bernard P. Spring

An alert museum guard, a young appreciator and (above) the angular partitions installed for the Steinberg exhibition.



Photographs of remodeling by Rondal Partridge

Evaluation: Salvaging a Troubled Housing Project

A preliminary assessment of a pilot remodeling in San Francisco. By Clare Cooper Marcus

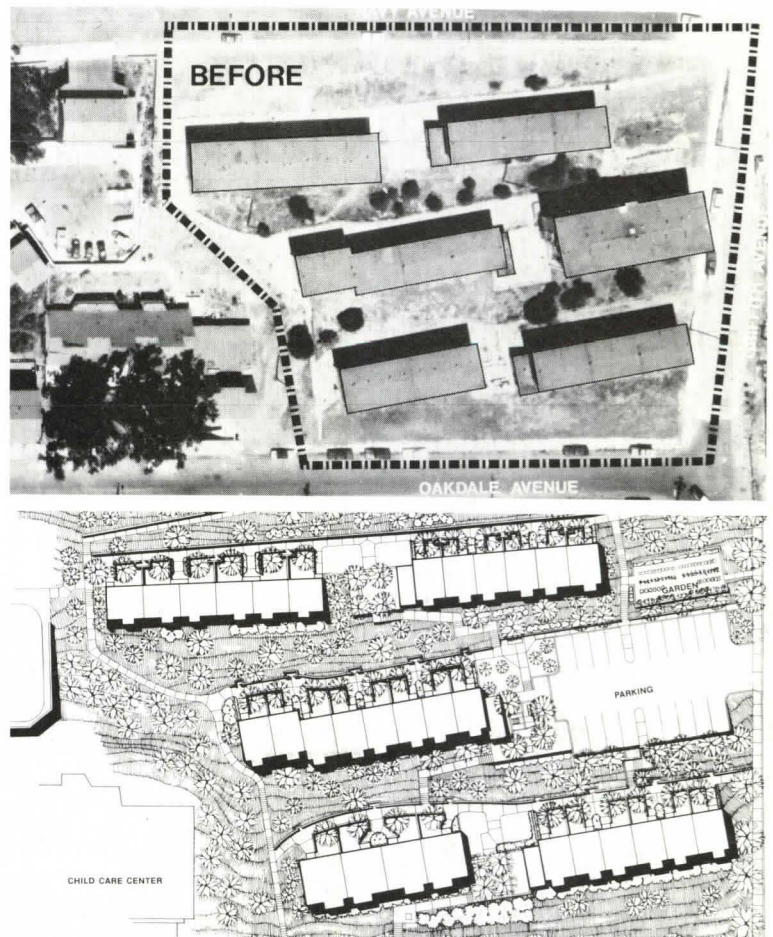
Until World War II, the peninsula in southeast San Francisco known as Hunters Point was used principally for such activities as meat processing and auto wrecking. With the influx of war-time workers to the city in the 1940s, much of the site was quickly converted to more than 5,000 units of temporary housing with a life expectancy of 10 years. Some of these units are still standing and occupied, but many of them were demolished in the '50s and '60s and replaced by supposedly more permanent public housing.

In 1953, a group of two- and three-story public housing apartment blocks was built on a series of steep and windy slopes in Hunters Point overlooking San Francisco Bay. The wood and stucco buildings were typical of West Coast public housing design of that era, with spaces between the buildings minimally landscaped and maintained, and "furnished" with the usual chain link fences and tubular steel play equipment.

This project, known to the housing authority as Hunters Point A, suffered from deterioration and poor maintenance over the years, particularly the three-story buildings where 12 families shared a common entrance and interior stairway. The housing authority was being pressured by the local HUD office and the San Francisco redevelopment agency to demolish the buildings, particularly because the aura of blight was seen as a liability to the success of a new, adjacent 236 housing development. But housing authority officials resisted this pressure, particularly since they saw it as their mandate to provide housing, not to destroy it.

By 1976, the whole of Hunters Point had been designated by HUD as a "target program project." This program was aimed at areas "on the brink of disaster" and provided federal funds for the improvement of hardware (buildings) and software (social programs, management training, etc.). The housing authority contracted with the San Francisco architectural firm of Marquis Associates to make a proposal for the rehabilitation of Hunters Point A. (The firm is perhaps best known in the housing field for the design, as Marquis & Stoller and with landscape architect Lawrence Halprin, of St. Francis Square in San Francisco, winner of a 1964 AIA merit award.) The design team was comprised of Peter Winkelstein, AIA, partner in charge; Jim Caldwell, AIA; Steve Perls, AIA, and Robert Thompson. Winkelstein is also coordinating architect for a total of 1,100 units to be rehabilitated in three other sections of Hunters Point. Each of these is being designed by a different firm to provide diversity. The other architects selected are Frank S. Clark III & Associates, Jack Young & Associates and Eden & Eden.

Clare Cooper Marcus, an associate professor in the departments of architecture and landscape architecture, college of environmental design, University of California, Berkeley, wrote last month in the *JOURNAL* about two contrasting urban spaces in Minneapolis. Some of the facts and ideas in this article were drawn from a paper prepared for the author's housing seminar last winter by architecture students Lynn Yandell, Mindy Leiterman and Anne Cervantes.



Hunters Point A before renovation (dotted lines in photo) and site plan showing parking lot in place of three-story building.

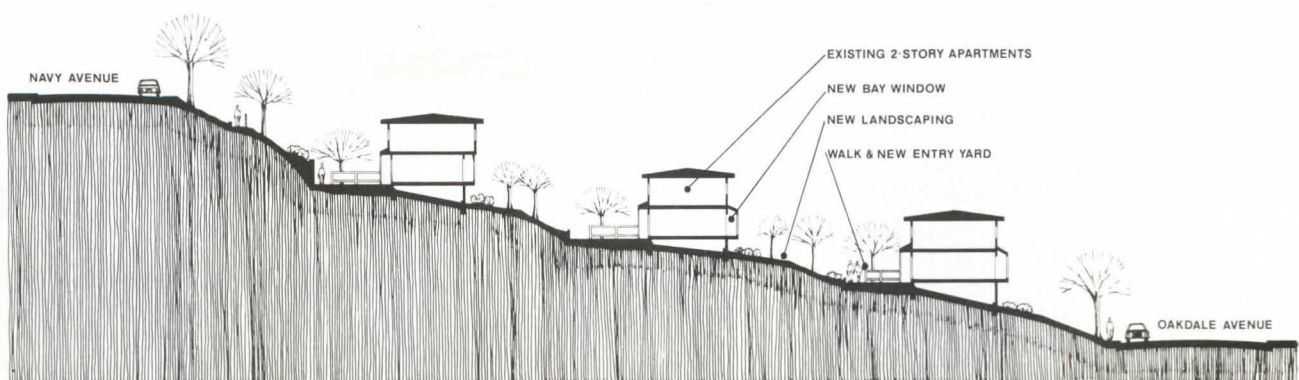
A small site within Hunters Point A project area was selected for the initial phase of this major rehabilitation program. After considerable interagency politicking, the housing authority decided to go ahead with the rehabilitation of this section, using block grant community development funds from the city. This was conceived as a pilot project, to show that buildings that seemed beyond hope could be saved and modernized. It was hoped that all participants involved (housing authority, HUD, architects, et al.) would gain insights that could be applied to the next phase of the rehabilitation program.

The site selected for this pilot phase contained five two-story town house plan buildings totaling 30 units and one three-story walkup apartment building of 12 units, all situated transverse to a steep, south-facing slope. The spaces between buildings were covered with weeds, and apart from entry paths to the units, the areas were ambiguous as to use and upkeep. An unmaintained tot lot was virtually overgrown in the northeast corner of the site. No on-site parking was available.

During the design process, two major efforts were made to



The site's steep slope, before renovation (left), after and in section. To create identity, units were painted individual colors and separated with white battens. Private yards were created with low fences; garbage cans were placed in concrete enclosures.



Using color to give the row houses identity.

survey the needs of the eventual residents. A committee of six residents of Hunters Point A met more than a dozen times between April and October 1976 at workshops with the architects and housing authority representatives to react to aspects of the design as it progressed. They discussed the question of private yards, which the residents wanted; better provisions for children's play; increased security on the site and in the buildings; an alternative to the exposed, vermin-ridden garbage cans; larger kitchens with room to eat; larger, more modern windows in the units, and the need for private drying lines.

Toward the end of the period of tenant meetings, a local social planning firm (Dukes & Dukes) was hired to do a condition of building survey. Largely at the initiative of two subconsultants, Sara Ishikawa and Carl Anthony of the University of California (Berkeley) architecture department, a resident-needs survey was also carried out, the actual interviewing being done by Hunters Point residents. This survey was completed and made available to the architects and the housing authority by January 1977, about the time working drawings were being completed. The timing was unfortunate, and one has to wonder why the housing authority contracted for this work to be done when, by their own admission, they knew the survey results would come in too late to be of use in influencing the design.

Both forms of user input were and are essential: Resident workshops provided settings for immediate feedback on proposed designs from knowledgeable residents, but those willing and able to attend such meetings may not have been representative of the residents as a whole (adolescents? mothers of young children unable to afford a baby sitter?). A survey, on the other hand, covers a much broader spectrum of the population, but may have the limitations of not getting feedback on a specific design proposal or of presenting respondents with a preconceived list of possible problems to be rank-ordered (as some questions in this survey did). In view of the remodeling and site changes proposed by Marquis Associates and Anthony Guzzardo & Associates (landscape architects), and effectuated by the housing authority (which acted as its own contractors), it would seem reasonable to compare what people asked for in meetings and the survey and what was actually done.

A major initial decision was to demolish the one three-story building on the site to create a parking area. Since the site needed opening up, both esthetically and functionally (for parking), the decision to demolish the troublesome three-story building seemed a wise decision. The remaining five two-story town house buildings were completely rehabilitated. The interior work was as follows: remodeled kitchens with new cabinets and appliances, and space for washing machines; refinished original bathtubs, with added shower outlets and other bathroom fixtures replaced where necessary; bay windows added to the living room south walls; individual water heaters, new forced air heating systems, new plumbing and new light fixtures where needed. Many of the original hardwood floors, still in good shape despite hard wear, were refinished. The plan of most units remained unchanged except for the addition of the bay windows, the loss of some storage space to accommodate a new water heater and a slightly expanded kitchen. In four-bedroom units, a partition was installed to separate the kitchen and living room, a request of the residents.

In the survey, 84 households living in comparable housing in Hunters Point were asked to rank in order the worst problems with their units. These were: bedrooms not big enough, kitchen too small, not enough rooms, not enough storage space, inadequate heat, living room too small, not enough privacy from neighbors and eating space too crowded. As it turned out, half of the problems could not be remedied without major structural changes, never envisioned in this pilot phase. Storage space was actually reduced; the living room slightly enlarged by the bay



Formerly flat south facades (top) got bay windows on the lower floors; fences were upgraded.

window, which certainly made it a more pleasant space; the kitchen was slightly enlarged, through elimination of a little used hall closet, and heating was considerably improved. Tenant meetings revealed that there was serious pressure on the single bathroom in four-bedroom units; as a result, half bathrooms were added to these units.

Though unable to make certain other changes desired by residents, the architects did a good job of changing run-down, minimal interiors into bright new living spaces comparable to those on the new housing market. Casual interviews with residents indicate that they are, on the whole, very pleased with their houses.

Surveyed residents wanted the exteriors of their houses to look different from those on either side, and the architects did a good job of creating identity on a tight budget. In fact, the designers' work on the building facades was their most significant contribution to the improvement of the overall environment. To individualize units, the architects separated houses with white battens and painted adjacent units in varying earth tones. (Existing studies show that color is the architectural feature most readily perceived by nondesigners.) Porch roofs, formerly flat and sometimes used for storage or for illegal access to upper windows, were pitched and resingled in warm terra cotta tones.

A major complaint of the original residents was the lack of private yards, a typical situation in public housing of the '50s and '60s. Given a choice between a large private yard with no common space and a medium-sized yard with some common space, the split was about 50-50. The designers opted for the later choice, but there were complications. Since the land slopes steeply away from the units on the south-facing side, the archi-

Chilly yards and paucity of landscaping.

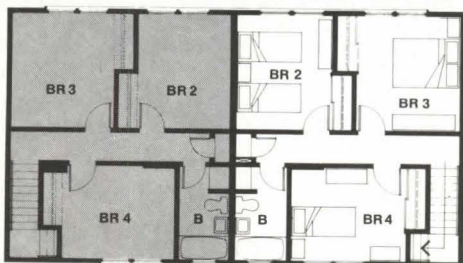
pects first proposed south-facing balconies for maximum sun exposure and a view of the bay. However, balconies were disallowed by HUD and the housing authority for fear they would be used for storage and therefore would look messy. Instead, small fenced yards were provided on the flatter, shady north sides, adjacent to the front entries. But this precluded the three activities residents most wanted for a yard: barbecues and picnics, growing flowers and drying clothes. (Communal drying yards have been provided as an interim measure until a communal laundry is built in the second phase of the project.)

In northern California, and on this particularly wind-swept site, shade is not particularly desirable. A shade-loving tree was planted in each yard, but in recognition of the fact that few will attempt to plant gardens, the housing authority covered the surface of each yard with fir bark. So here is part of a mixed message: "We've given you the yard you asked for, but it is too shady to use and we don't think you'll plant a garden, so we've tidied it up with fir bark."

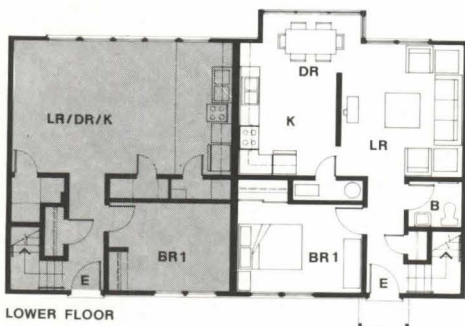
One senior housing authority official admitted to his own ambivalence over this amenity; he is concerned that residents will not keep yards cleaned or maintained, that current lease agreements don't encourage them to do so, and that in five years the site may look "just as bad as ever."

South-facing yards will be provided in a second phase of this pilot scheme, where the topography is less of a problem. It will be interesting to return in a few years to see if the housing authority's dire predictions have panned out.

The low fences were intended as a modern version of the picket fence—enough of a barrier to keep dogs and children



UPPER FLOOR

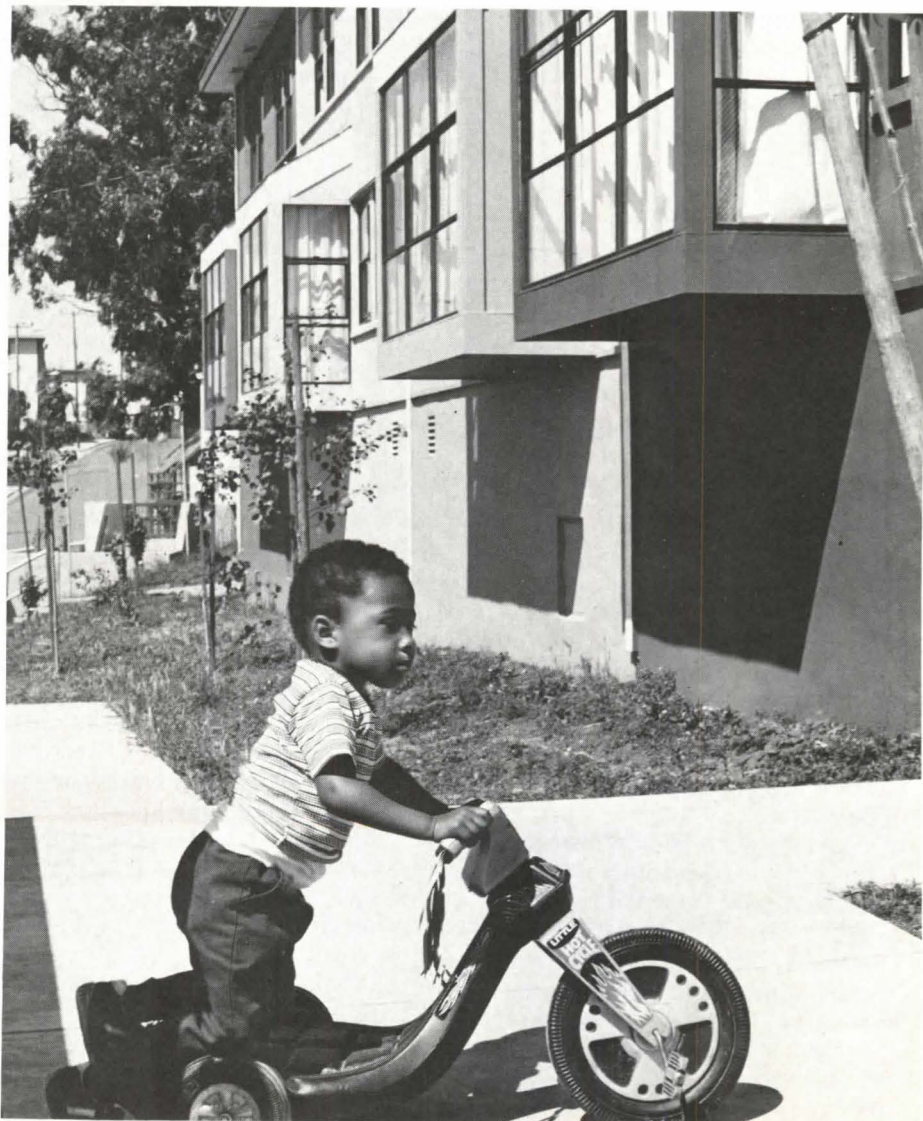


LOWER FLOOR

BEFORE

AFTER

Kitchens were brought up to modern standards. In four-bedroom units (plans above), a half bathroom was added on the first level.



from trampling flowers, but not substantial enough to preclude surveillance of the common spaces from within the unit or to allow a would-be burglar to break into a unit unseen.

On a tour of the site with one of the project architects, he pointed to the considerable defacement on the building facades and window frames on the fronts of abandoned, still boarded-up buildings, and indicated that a primary function of the yards was to "keep people away from the building facades so that vandalism would be discouraged." A sad, perhaps reasonable argument, but a better use of the front spaces would have been wider pathways to allow for children's play. There is no indication that consideration was given to children's needs in pathway design.

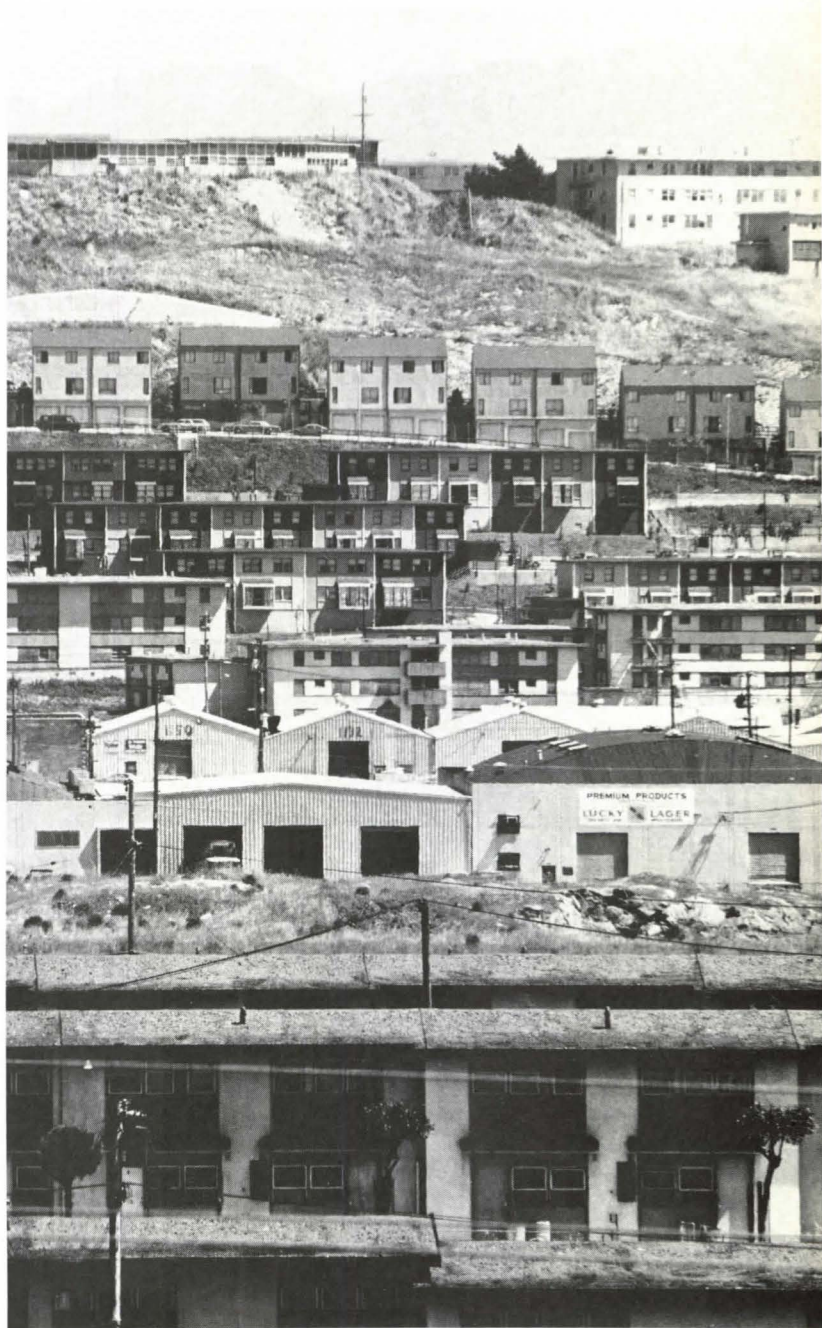
Ample research from case studies of residential areas indicates that children are by far the most frequent users of common or semipublic areas; that preschool children play more frequently in and around the entry to their house, and that children of all ages play more frequently on hard surfaces than on soft surfaces. Hunters Point is no exception. Children are much more frequently seen playing on the footpaths, steps and house entries than on the one unchallenging piece of play equipment provided.

At Hunters Point A, as in most multifamily housing schemes, little consideration is given to the documented fact that even the most attractive and well-equipped play area will absorb children's energies for less than one-fourth of their outdoor time. The single unchallenging piece of equipment on this site will probably interest children very little.

It has no moving parts, which are attractive to children, and it is set in fir bark, which tends to attract fleas and be less malleable as a play substance than sand. The fir bark is not sufficiently contained, and the manager reports his first daily chore is to sweep the "liberated" fir bark back into the play area. A concrete or wooden lip would double nicely as a container and as a seat for those minding their children at play. Although this is a microdetail of site design, I am convinced that it is in these minor, but cumulatively crucial details, that design most frequently fails.

The landscaping plan (*see* opening page) is not an accurate portrayal of reality. Perhaps one-fifth of the proposed trees have been planted, although the housing authority says that it intends to complete the planting plan. The steep slopes between buildings have been sensibly landscaped in (mostly) drought-tolerant trees and native grasses. However, even the most hearty species will not survive unless watered for the first two years. Unfortunately, the automatic watering system was cut from the budget by the housing authority because of cost constraints, fears of vandalism and because the recent water conservation measures necessitated by drought made this appear an unusable feature. It remains to be seen if the limited manual system now being installed is sufficient to keep the plant materials alive.

Surveyed residents of comparable nearby housing indicated as their number one demand "more landscaping and trees." This and a young children's play area ranked more important than on-site parking. Further, about 75 percent of Hunters Point heads of households currently don't own cars. Yet at Hunters Point A, play space seemed to be considered an optional extra



Several generations of housing ascending the steep slope of Hunters Point. Bay windows identify rehabilitated units.

A need for new attention to site planning.

and funds for landscaping were trimmed from the budget.

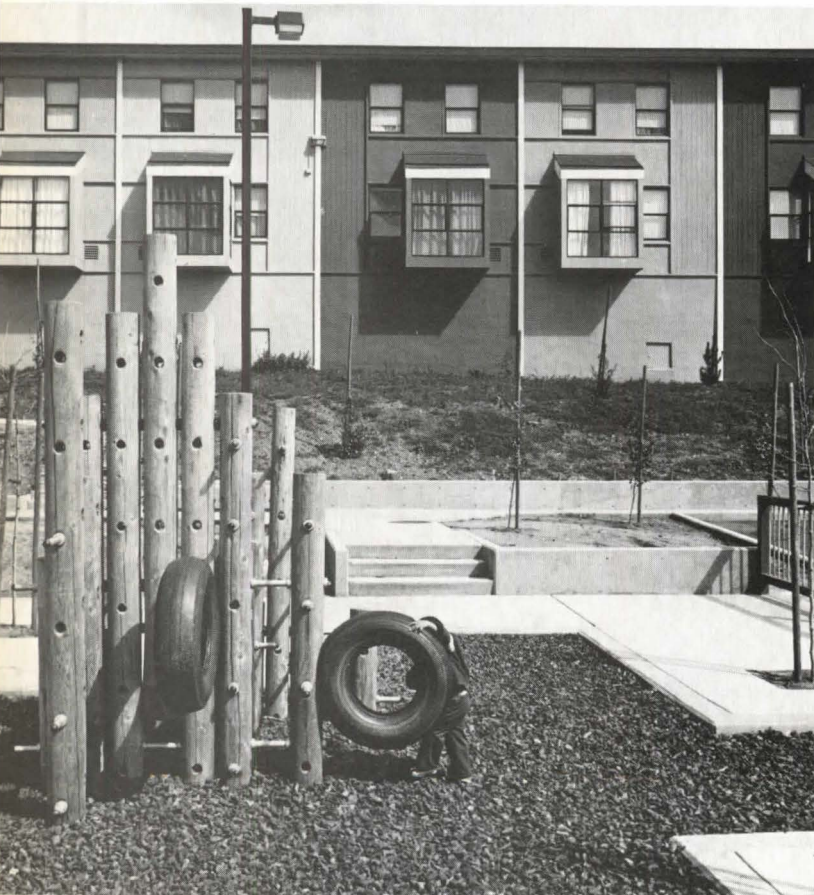
HUD "Minimum Property Standards" devotes 20 pages to parking needs and one brief paragraph to the on-site needs of children. The San Francisco housing authority "Planning and Design Directives" devotes only half a page out of 29 to outdoor spaces, including the weak directive, "Play equipment should be considered for family projects." Imagine the outcry if a comparable directive read, "Parking spaces should be considered!"

The parking area seems to be the most frequently used "social" space on the site; adults are most often seen here, chatting inside or beside their cars, listening to music, hanging out or working on their vehicles. In view of the importance of this space as one of the few areas where neighbors meet, it might have been appropriate to include a small seating area here rather than beside the more remote communal drying yards.

Certain functional aspects of the site plan are well handled. Residents requested garbage cans near their doors, but not intruding on the house. In the redesign, each pair of houses shares a small concrete enclosure opposite the front doors and easily accessible for collection. It is a sensible solution, far enough from the entry porch and yard so as not to intrude on those spaces. Residents' fears about security got reasonable design responses, with much improved site lighting and better quality doors and windows.

Hunters Point A looks good now, but with a slight shift in sensitivities and budget priorities, we could predict it looking

The children's area uses fir bark as a malleable play surface. One of the manager's daily jobs is to sweep bark back into the lipless container.



just as good or better in 10 years. I fear that will not be the case because quality landscaping and its maintenance did not go into the rehabilitation from the start. The bright paint on the facades is not going to carry it forever. (This June, the project received an award of merit from the three Bay Area chapters of AIA.)

What is wrong with Hunters Point A—a disproportionate investment in the buildings at the expense of site planning, outdoor amenities and landscaping—is a failing of much multi-family housing. Ignored by designers and housing agencies are repeated surveys in residential areas of all types and income groups which show that most people select a place to live as much by overall neighborhood appearance as by the individual house, and that greenery and quality maintenance rank very high in neighborhood attractiveness.

To achieve quality housing for low-income as well as middle- and upper-income Americans, site planning must gain importance and architects and landscape architects must work more closely together from the start, with landscape designers claiming an equal responsibility with architects for creating quality residential environments. Also, it will take a radical shift by designers, institutional clients and federal and local agencies toward viewing the eventual residents as the prime arbiters of need—including children and adolescents who are rarely surveyed or counted in citizen participation efforts.

To make quality housing successful in the broadest sense, the dwelling must be seen as only one part of an integrated complex of services including employment, transportation, day care, shopping and children's recreation. (The project architect of Hunters Point A pointed proudly at a day care center adjacent to the site, but a few judicious questions revealed that it is full, has a waiting list and that its use is controlled by residents of an adjacent 236, middle-income project. It is unlikely that Hunters Point A will ever have access.)

What is called for is a well-documented resident evaluation of this site after it has been occupied for a year or so. This information should then be used by the designers of subsequent rehabilitation schemes. Until clients and designers start doing this on a systematic basis, we are going to see the costly repetition of mistakes and unproven design clichés while the residents, as usual, are shortchanged. □

The architect responds: "I would like to emphasize that this pilot project was an experiment to demonstrate and to learn, on the severest part of the site, how totally deteriorated units could be turned into viable, good-as-new housing. Ms. Marcus' observations are well drawn and will be of help to us and the public housing authority as we proceed on the next phase (1,000 units).

"I wish she had relied less heavily on the previous survey and taken the time and trouble to interview the tenants now living in the new units. John Dreyfuss in an article on this project (*Los Angeles Times*, Aug. 13) interviewed the tenants and an interesting picture of user satisfaction, renewed pride and sense of security does emerge.

"I believe what is most significant about this project is that it points the way to successful rehabilitation of our existing deteriorated public housing stock, rather than wholesale demolition." *Robert B. Marquis, FAIA.*



Architects in Government: A Group Portrait

They play a variety of roles with varying degrees of satisfaction and frustration. By Andrea O. Dean

Some 6,000 architects work in government—about half for the feds—in programs that each year spend billions designing and constructing facilities and still more maintaining them over their lifetime. What of these architects who choose public service? What do they do, and what new roles might be opening up for them? How much do they earn? What are their chances for advancement? Motivations for working in government? Satisfaction? Frustrations? Opportunities?

A survey of 1,200 government architects was conducted in 1976 by the AIA's architects in government committee. The data provided some answers, but could not give flesh and blood features to the proverbial faceless bureaucrat, which is one reason why the JOURNAL interviewed seven architects working in the public sector, two at the local level, three at the state and two at the federal level. Several are exemplary and most are more highly placed than the average architect in government. They cannot be considered typical—though who can? But first, the survey.

The survey found that the major substantive areas of work are architectural design, energy conservation, barrier-free architecture, interior design, life safety, environmental impact, architectural engineering, master planning, graphic design, post-construction evaluation and historic preservation, in that order. Most of those surveyed spent some time in management and administration, and predictably, the higher their government service (GS) level, the more time they spent managing and administering, the less time on design work. The majority came to government from private practice. About 18 percent had M. Arch. degrees; 60 percent were B. Arch. holders. That left a surprisingly high number with only architectural studies degrees or no formal architectural training at all. The majority earned between \$20,000 and \$30,000, with twice as many M. Arch. as others in the \$25,000 to \$35,000 range. Only 4 percent of the sample was black, yet more blacks than whites were in the \$20,000 to \$30,000 range, and women of all ethnic groups earned less than men. The largest number of minority and female architects were employed at the local and federal levels, but local government had the fewest highly paid architects. "Interesting work" was the major attraction to architects in local and state government and education. "Benefits" were number one for federal workers, with "interesting work" and "salary" close behind. A large number of architects were frustrated just because they are identified as architects, and 70 to 75 percent felt that they had not attained their career goals. "Yet a hefty 47 percent of architects who left public service did so by retiring or had their jobs phased out. This reinforces the finding that once a person enters the public service sector, he or she stays a long time," concluded the writers of the survey. But now, some real people:

Robert Esnard, AIA, is deputy president of the Bronx, N.Y., and as such is chief executive officer of the borough and alter ego of its president. Before being appointed to this post in the fall of 1977, Esnard was director of the Bronx planning commission for five of the 10 years he spent on the commission. Earlier, he worked in a small private practice and for planning and architectural consultants.

Esnard talks fast—Bronx English—is 40 years old and feels that "my most salable quality is that I'm a Bronx person who

likes the Bronx, always worked on Bronx things. I just happen to be an architect." He even wrote his master's thesis in city planning on the Bronx.

His rise to political power may be explained at least in part by the approach he took to government work. "Government," he says, "is a series of holes, of opportunities. The people who are successful are the ones who take something and do it. With all the problems in the Bronx, there are a million things you can do." Esnard involved himself in controversial issues, became the commission's spokesman and did it with flair. He made friends, made enemies, "always took the blame," got involved with a lot of political people. "But I never worked on a political campaign, never belonged to the political club. I did the professional things," he says.

One of his frustrations is that many who work in government see it as a place to "do just nothing," as Esnard puts it. "You just don't have the close performance evaluation. You get a lot of people who can take tests or had 400 years in civil service and another 200 in military experience but can't do the job. And because of the fiscal crunch, we often can't give raises to the people who really deserve them." He doubts, though, that government is much different in this respect from any very large corporation, and feels that at higher levels it's more competitive than the private sector.

Esnard started earning about \$18,000 when he joined the planning commission, made \$26,000 as director and now earns \$39,000. He could, he thinks, probably do a lot better in private practice, and his present job will probably end in January. "A typical deputy borough president usually moves on to be a judge," he explains. "For lawyers, there are a lot of options, for architects many fewer. In or out of government, I think people have a vision of what architects do and don't do and it's usually not what reality is."

Esnard's main frustration at the planning commission was that "things take so long, because you want community involvement, political support, you want to make sure all the agencies agree, and you don't want to make a mistake—and then you do make a mistake." He tells about a school that took eight years to get into programming, another three or four to complete. By the time it was opened, "there wasn't a kid in the neighborhood, because the place had bombed out. But nobody could have conceived what would happen to the South Bronx when we started planning the school."

The bureaucracy for Esnard "is just there to push over. It's like a big octopus that's all over and doesn't know where it's going. So, if you're fast enough you can always be two steps ahead of it."

Most important to Esnard is that his work in government gives him "the chance to do a lot of things that I wouldn't have been able to do out of government." The Bronx, he explains, has 1.5 million people, more than Cleveland or Boston. "It means you have to solve urban America's problems. We just have the disease worse than anyone else. Most of the time we've worked on things that we thought were right and the community thought was right. You have freedom to operate. Maybe you do some good."

What about the future of government architects? "Government has only a few places for architects," he says. "So architects have to make places for themselves." He did that himself. "No-

body would have designed an architect for the job I'm doing, even for what I did at the commission," he says. "Most of the local commissions were not architect-run; they were headed by lawyers, planners, social scientist types." But, if you've run a job on a site, claims Esnard, you can head an agency.

The most valuable skill for a government architect—an ambitious one that is—is to be calm, according to Esnard. "Be patient. Don't try to do it all right away." He feels that technical experience, even a good architectural training, is far less important than being able to get along with people and work out problems. "Some good government architects," he says, "have come straight out of school, others from private practice."

Richard Cramer, AIA, chief of the Corps of Engineers' special projects section in Washington, D.C., disagrees on many points with Bob Esnard's view of government work. Cramer became involved with the Corps in Champagne, Ill., after completing graduate work at the University of Illinois, Urbana, in 1966. Before that, he had worked for two years with a small firm in his native Oklahoma. When the time came for him to choose between full time teaching or remaining with the Corps, Cramer chose the latter. "To be quite honest," he says, "I surveyed the comparative potential salaries and chose the Corps."

The special projects section in Washington consists of four GS-13 architects and a records clerk. It is responsible for developing criteria and providing overview of military maintenance facilities, flight simulator installations and all of the "recreation and morale type facilities," and A/E selection for these projects, Cramer explains. The Corps does less than 25 percent of design work in-house and is contracting out more and more design guidelines work.

"What we mainly do is administration," says Cramer. "But, at every level of government you still have to exercise design judgments. So, the crucial thing is that we attract people who understand what practical design is. Everyone keeps telling us, 'don't forget you're in an engineering organization.' Engineers want practical design; they don't want a fancy, flairy, expensive-looking product." Cramer puts a high premium on his staff being highly trained technically and having experience in private practice.

For Cramer, the prospects of promotion are slim. "There are probably more opportunities for GS-15s or 16s outside the Corps than within," he says. "So, you begin to ask yourself, 'Is your career objective to be a GS-15 or is it maintaining a job long enough to really understand how the organization works so you can make it work better, more efficiently?'" Cramer opted for the latter, acknowledging that job security was an important determinant.

What he likes best is "the variety of things we do and the impact they have. I think government has a rare opportunity for influencing public architecture. Even in the Corps, without the presence of the architect, we just wouldn't get the quality we do. A lot of architects probably think that government doesn't appreciate the fineness of their art, and this is probably so. But I think what we're all about is trying to refine the rules and ways of doing business so we can bring about the finer aspects of the profession and make government more sensitive."

Barry L. Wasserman, AIA, is deputy to Sim Van der Ryn, California's maverick state architect. Van der Ryn is a former counterculture ecologist, far-out Berkeley professor, founder of the communal Farallones Institute and "small is beautiful" advocate. He is now implementing his ideas about "social architecture" in a very big way. His office is concentrating on drastically reducing the energy consumption of new and old buildings—mainly through passive methods—while tailoring spaces to the perceived needs of users and improving state building design to compare favorably with the best in the private sector (see Dec. '77, p. 50). The most apparent result of Van der

Ryn's approach is Sacramento's more than \$90 million capitol area plan for which Wasserman is responsible as head of the state's design program. The capitol area plan includes three very unusual buildings (with two more to follow). One is partly underground, all include housing and commercial uses and are designed to greatly reduce energy use.

Wasserman also heads Sacramento's art in public buildings program, capital outlay programming, state office building construction, state institution master planning, statewide design competitions and handicapped code development.

Wasserman is 43; his salary \$35,000. He is a former president of Lawrence Halprin & Associates, where his credits included a "concept plan" for the city of Cleveland that accommodated change in a no-growth area.

His expectation in accepting the job of deputy state architect was that it would offer "an opportunity to work on a range of policy issues at a level where I had a small enough, controllable enough vehicle. My impression was that at the federal level, if you were going to get involved in decision making, it was very hard. It's so huge and amorphous. My impression of local government was that you don't have much of a chance to deal with the full implication of issues."

The state building program, says Wasserman, "enabled us to really look at new ways of conserving energy, to look at what users really need and want, and, through competitions, to expose the profession to a lot of ideas and generate new ones. We've used the program so that it really affects the built environment, both in the public and private sectors, and we've become a defender of the profession as a whole." One of the goals of the new building program was to create a catalytic effect, "which is how I think state dollars should be used," says Wasserman. "Sort of like the foundations; for every dollar they give they like to see 10 generated."

To Wasserman, working with the bureaucracy is "like working in an environment like the one under the streets. You weave your way through. You can find your way, but you're constantly banging up against things that are totally impenetrable, and you can't break them without the whole system collapsing. Regardless of your ideals, you have to face the fact that the bureaucracy is in place, and there is a limited amount you can do." Some people in government, he says, seem to get a sense of accomplishment just from overcoming bureaucratic obstacles. "I found myself doing that. You come home at night and feel terrific. 'I accomplished something today.' 'What did you accomplish?' 'Well, I got through a bureaucratic roadblock.' If you only get your positive charges from overcoming bureaucracy, you're never going to do anything creative."

Another real difficulty, he says, "is finding enough time to get involved in projects that interest you. Like this plan for the capitol, I wanted to actually work on it, not just be a stimulator and director and idea person. But, everybody's calling on you, department heads calling, governor's office calling, legislators calling."

Working with legislators has also been "enlightening" for Wasserman. "Things are not always done on a rational basis," he says. "Someone can sound pretty far out with a very straight idea, and he gets nowhere, while someone else who approaches a radical idea in a fairly traditional way gets much farther. I really think communication skills are absolutely imperative."

What has been the effect for Wasserman's office of Proposition 13? "It means we have to ask the crucial question, 'Should we build the building?' This isn't necessarily a bad thing. You tend to get enthralled with what you're doing without looking at whether it should be done at all. Our staff is smaller now and our ability to do work in-house is potentially hampered. But, we were moving toward more contracted design anyway. We do about one-third in-house. The big loser, though, is innovation. That's the first thing people want to cut back on, because it's the most visible use of dollars that can be attacked. We are also

Using the leverage of public expenditures.

seeing more emphasis on front end costs as opposed to life cycle costs. What hurts me to the core is that our art in public buildings program has been gutted. It's the only program I know of in state government that really involved citizens in the decision making where they could really see the impact. But art is looked at as a frill today with Proposition 13 passing."

Crucial to Wasserman, however, is that his office has the support of the governor. "If we didn't have that support or access, it would be dull."

How does he view the role of architects in government, the prospects for the future? "I've always found that the word architect conjures up pretty positive images on the part of most people that are then violated by most architects. The people who communicate the image—creative, different, artistic people who work with their hands—are looked at positively by society and government. I think government is a strong, good experience for architects, and if you want to make things happen, that's where the opportunities are. The public expenditure of dollars is huge; so is the catalytic effect. I feel you can't just sit out there and complain if you don't get into the arena and do something. You've got to create the situation where those people managing government are going to say, 'Hey, what we need is someone with these skills in a higher decision-making point.'"

Theresa Rosenberg, AIA, also works for state government, but in a small office of a state far distant from Wasserman's California. She is director of the special office of the handicapped for the state of North Carolina, which falls within the department of insurance. The main role of her office, consisting of Rosenberg and one secretary, is to provide technical support for the state building code council, an uninspiring job description, perhaps. What does it really mean?

"This week," Rosenberg begins, "I've been working on a large public awareness campaign, contracts that I administer for radio and TV spots, for a 'make life accessible' campaign. I spend a lot of time on the phone with people who are describing building situations to me while I try to draw them so that I can tell them whether what they propose might be reasonable, meet codes. I do a fair amount of site visits, usually for older buildings that have problems, surveying for possible modifications. I do quite a number of seminars for all sorts of people—architects, contractors, building code inspectors, consumer groups—to give them awareness about handicapping conditions and accessibility. I also do workshops. I get out of Raleigh, go around the state, and I like that because it puts me in touch with people. Last week a number of sets of plans came in for review, correction and comment, and there was a consumer uproar about problems in a particular building. In that kind of case I become an arbitrator and try to soften emotions that become hot."

No one tells Rosenberg what to do on a day-to-day basis, though her authority can be overridden by the state building code council. She is in her early 30s, earns \$21,000 and came to her position from the National Bureau of Standards, where she did research on building codes and standards. Before that, she taught at North Carolina State University after having been in private practice. She chose government work because "I realized that someone was making policy decisions, and I couldn't put my finger on who that person or agency was." In the two and a half years she has been at her job, she has tried hard to "make this position one which my colleagues in North Carolina regard as significant, and they do call me readily and without apology. I've put a lot of effort into making people in general feel comfortable about 'calling the government,'" she says.

What she misses most is "the sense of 'that's my building,' or 'that detail—I really did that detail well. It's working.'" She is impatient with some government architects who feel they are

second class, and thinks many of the findings in the 1976 AIA survey of architects in government were "pretty bad news. I sense," she says, "that there are a lot of government architects who begin to fit into the 'professional civil service' mold, which is: 'I think I'll just sit here.' In fact, government often ends up doing what the private sector will not do itself. I'm in that kind of role."

Then, too, explains Rosenberg, "You may be perceived as being in an adversary role with private architects, and you may be the heavy a lot, telling someone 'that's a fine design, but energy requirements are such that I don't think it's feasible.' You have to love what you are doing." For her, the greatest kick is interacting with people, "sensing a relationship to a community or to a consumer," as she puts it. "I think," she says, "it would be very difficult to have that at the federal level."

John Cable, AIA, is chief of the architectural and engineering systems branch within the division of buildings and community systems of the federal Department of Energy. The division has sole responsibility for all conservation and energy problems in buildings, excluding solar energy. Cable's branch of five professionals handles the load side of building design, including envelope problems, ventilation, infiltration, illumination, calculation methodologies and a variety of standards and building code problems.

At 35, Cable is a GS-15, earns about \$36,000 and has been branch chief for about a year. Before that, he was project architect for the Energy Research and Development Administration (ERDA), which had an annual budget of \$2.5 billion for design and construction of facilities. From there, he soon moved to the research arm of the organization. Cable was a partner in his own Savannah, Ga., firm before joining the federal government in 1975.

"One thing that's really important to understand about the way we view our role is that it's supportive," he says. "The building industry has done research to support product development; nobody's really done much research in this country to try to understand energy and buildings. We try to identify a large area of misunderstanding or lack of understanding, provide the applied research that's necessary, develop certain kinds of information and then get it to the people that use it. My research budget is approximately \$20 million, all contracted." Very little research is actually done by architects, because, as Cable explains, architects are not researchers, and he has had problems trying to use architects "because they don't think, generally, in scientific terms."

Cable has more autonomy and authority than most federal employees at his level. "I think that DOE is a unique opportunity," he says, "as federal agencies go, because it is so new. There is a lot of flexibility."

Cable enjoys his work "because of the subject matter and not because I'm in government." He finds, however, that "the guy at the National Bureau of Standards with the most expertise is responsive to me because I'm with DOE. He wouldn't be if I were just private architect John Cable. And there is an obvious and visible impact from our work. Example: We've got a very aggressive ventilation program and we're working to put a scientific basis to indoor air quality—how many air changes per minute, per hour are needed under certain conditions. A uniform nationwide standard is needed and doesn't exist today. In hospitals alone there is over 600 percent variation in how much air change is required under exactly the same conditions."

But, he admits, "I don't really like working in government. I don't like the bureaucratic hassles and the real constraints that they place on us as managers. I have never worked anywhere where they didn't realize that to accomplish an assignment you needed resources and those resources include people. Moving full speed ahead, our system doesn't hire anyone in less than

continued on page 94

Research and Redesign For Energy Conservation

Along the way to development of federal energy performance standards, AIA Research Corporation has taken the designers of 168 buildings through a unique experience in self-education. They were asked to rethink their approach to design of the buildings with energy conservation as the paramount consideration. Some of the results are shown and discussed on the following pages.

The significance of the exercise is not what happened to the buildings themselves in the process of redesign. Instead it is how the process itself evolved to produce an architecture responsive to energy concerns.

The redesign work was the second phase of a multimillion-dollar research project managed by AIA/RC for HUD and the Department of Energy. The first phase included collection of information on 1,700 buildings designed in 1975 and 1976 which was used for computer simulation of their designed energy consumption. The buildings represented a cross section of types and climatic conditions and from them were chosen the 168 subjects of second-phase redesign.

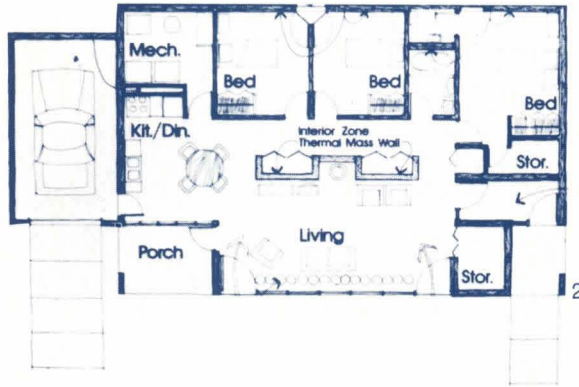
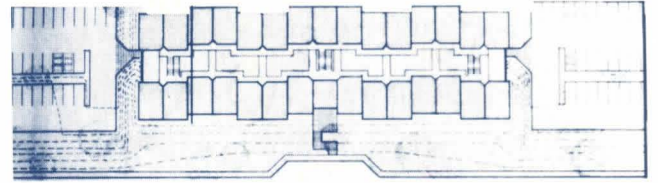
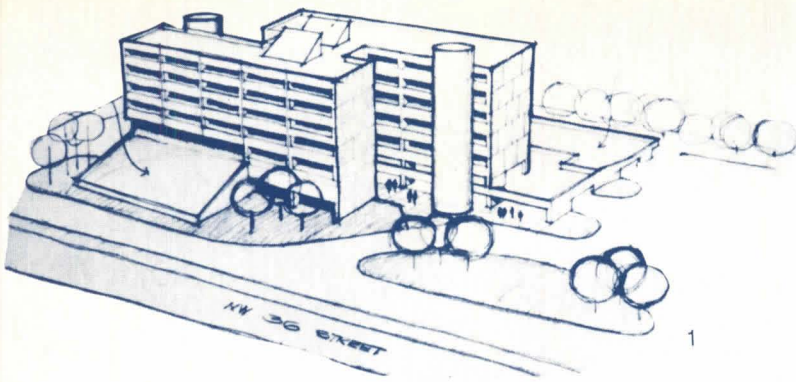
The designers of the 168 were asked to provide more detailed information on them as originally designed, so that there could be a more precise simulation of their energy performance and a second simulation according to present component energy standards. They were also asked to supply similar information on their redesigns so that their energy performance could be simulated and compared to that of the originals. The data yielded by these analyses will be used by HUD and the Department of Energy in formulating performance standards for new buildings.

The flavor of the redesign process is perhaps best conveyed in the rules established for participants. They began, "We are asking architects and engineers to add energy conservation to their normal design criteria and to emphasize it in their approach to building design. We are not asking for an academic solution that emphasizes energy at the cost of human comfort and performance. We are going to designers instead of to a laboratory because we want good building designs that are also energy conscious."

The researchers clearly were after redesign rather than retrofit. Participating designers were to work from the original client programs for their buildings, but could make changes in any but functional requirements. They were also given some latitude in the areas of budget and codes. Throughout, the emphasis was on their exercising professional judgment in producing an energy-conserving design. The researchers were, in a sense, surrogate clients. If they could be convinced that a given change in the original conditions of the project was justified in terms of energy savings, then it was permitted.

The designers were given access to a variety of information sources including a library of material on architecture and energy. There were three meetings in various parts of the country involving exchanges of information among participants and between them and a pool of energy consultants assembled for the project. The goal was to expose the designers to the full range of ideas for energy conservation in buildings.

The ground rules of the project make it idle to compare the redesigns to the original buildings in architectural terms. Instead, in the pages that follow we have chosen samples that illustrate the ways in which the injection of energy consciousness can change the design process—and the ways in which architecture itself can be an instrument of conservation. *D.C.*



Some Lessons Drawn from the Redesign Process

By Marguerite N. Villecco

Energy as a design issue has stimulated great controversy in recent years, and the redesign process in the energy performance standards project has been no exception. Seen strictly as a response to a national crisis of questionable and changing proportions, energy conscious design is easily described as a problem that technology can solve, or as an additive to architectural design. It is also clear that the problem is only as lasting as the crisis itself. Should fossil fuel become plentiful or cheap, the issue for architectural design disappears.

If this were really the problem, then, its resolution would be clear. The mentality that put us on the moon could develop or apply technologies to save energy in buildings. Given federal priority and American efficiency, the job could be done with ease. But what has this to do with architecture?

At the product level, perhaps very little. The devices incorporated into building design in the name of energy probably will do little more than fall into that category of anachronisms found as illustrations in textbooks but not recognized as significant trends in architecture.

But there is an aspect of the push for energy conscious design that does have architectural significance. The federal concern for reducing energy consumption in the built environment has provided the design professions with an opportunity to re-evaluate the relationship of their buildings to the world they live

in and to develop design responses to it. At a time when architecture is often called irrelevant and architects a luxury, at a time when more buildings are built without architects than with them, something called energy conscious design may provide an avenue of professional renewal and re-evaluation.

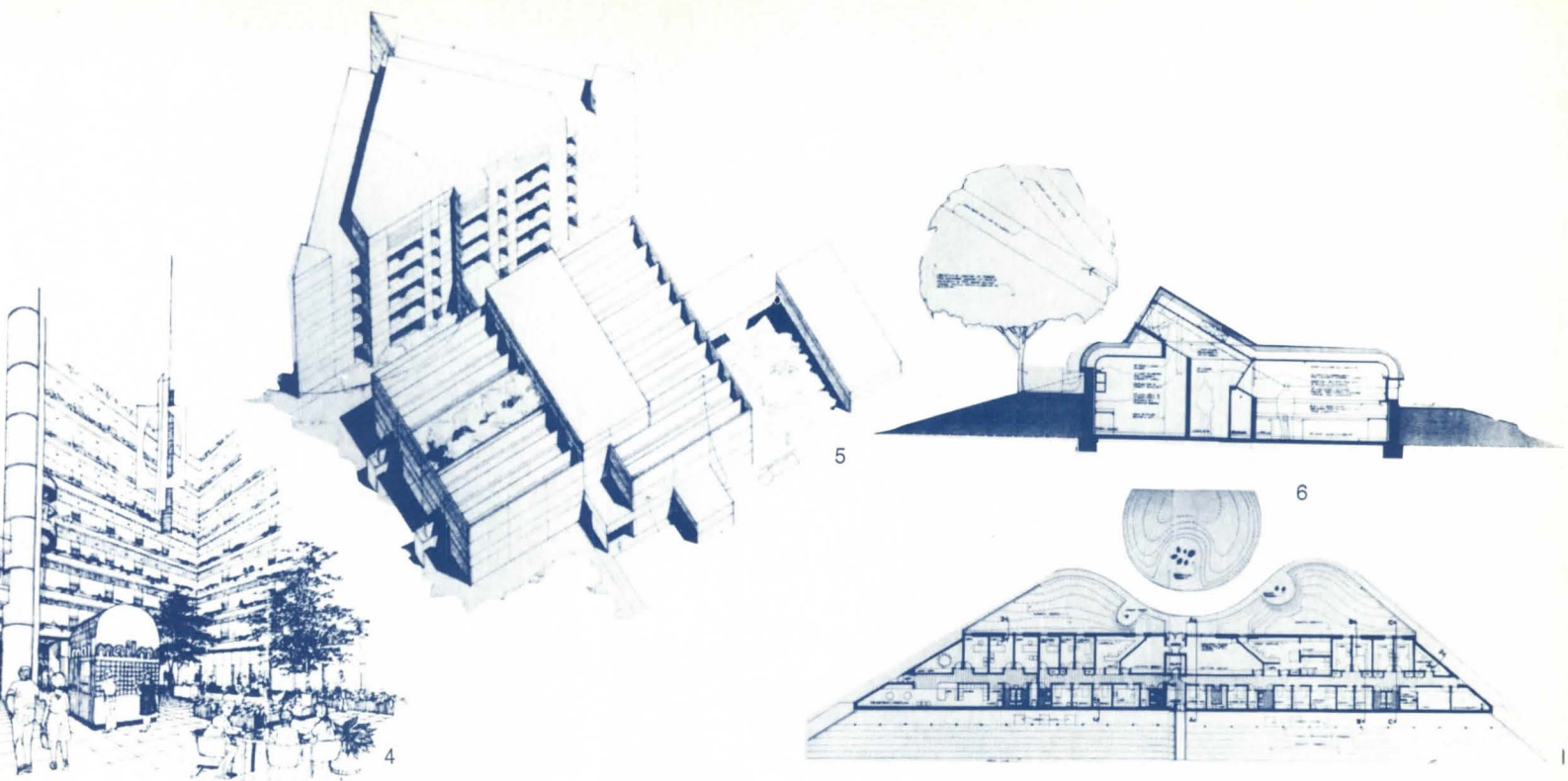
The redesigners on the energy performance standards project came to that process with a range of abilities, knowledge and experience, both in architecture generally and in energy conserving aspects of design. Most expected the redesign process to concentrate on building system efficiencies and were prepared to do whatever necessary to work through and learn from this new design constraint. What few of them expected is that the redesigns would be better buildings than the original, not because they saved energy—which they did—but because they were more attractive, livable and humane buildings.

This didn't happen because they added energy conserving features to their buildings. It happened because many took the mandate for energy conservation as an opportunity to better understand and to explore the building's relationship to its environment, its identity with place and function, and the human dimensions of design decisions. Instead of trying to correct inefficient systems, they tried to evaluate the performance of the whole building, and, working together as teams of engineers and architects, they tried to improve that performance.

The strategy was conceptualized in three words: location, form and metabolism. Location referred to site and orientation; form to shape, size and envelope treatment, and metabolism to energy-consuming processes, such as electrical and mechanical system design, including artificial lighting. The words were borrowed from Ralph Knowles, an adviser to the project.

And so the redesigners found themselves engaged in a process of re-evaluating their design at the fundamental level of its relationship to time and space. Time as the measure of daily and

Ms. Villecco is a senior research associate at AIA Research Corporation and a former senior editor of *Architectural Forum* and *Architecture Plus*. The opinions expressed in her article on these two pages are solely her own and not the policy of AIA/RC, HUD or the Department of Energy. She and the editors wish to acknowledge the contributions of John Britton and Karen Hobsen of the project staff in the preparation of the building descriptions that follow her article.



yearly cycles of sun, wind and other natural forces. Space as the location and form of the building. The architect's understanding of the relationship as both dynamic and basic starts to describe a value system for and an approach to architectural design.

As the redesigns evolved, it became clear that energy had provided the impetus for a much more basic kind of design investigation. Location, form and metabolism are traditional architectural design modes; the redesigners found themselves exploring issues much broader than energy conservation.

Suddenly for many, the project provided an intellectual and design challenge they hadn't expected. From what they perceived to be a technological problem, the issue grew to one of architectural design itself. And the architects responded to the design problem with incredible enthusiasm and creativity—some of it imperfect as a way to conserve energy but all of it probing and responsive to the challenge. Contrary to some expectations, it was the architects, through building design rather than system efficiencies alone, who took the lead role.

When one considers the recent history of energy conscious design, this is a significant event. Even the published examples of energy conscious design have relied more on engineering solutions than on architectural solutions. Rarely has the architect fully explored the opportunities of location and form. But nearly all the redesigners did this, bringing parity to the design process. The different design disciplines learned from working with each other and the building designs benefited.

The energy conserving building designs illustrated below show the diversity of design concepts explored by the redesigners. An office building in Miami (1) went from rectangular plan to two offset rectangles in an effort to increase natural daylight. The plan of a house in Omaha (2) shows activity zoning responsive to solar and thermal loads. A college dorm in New Jersey (3) incorporates an interior street and daylight stairwells and a high-rise residence for the elderly in Atlanta (4) boasts the ambiance of a landscaped atrium. The differentiation of activity by structure is evident in a hospital in San Diego (5), where nursing units are separated from service units and an interior courtyard provides daylight and a view from the dining room; the tower configuration opens up to the sun on the south and closes off on the north. And a Michigan clinic (6) explores clerestory strategies. More of the concepts are illustrated in greater detail in the

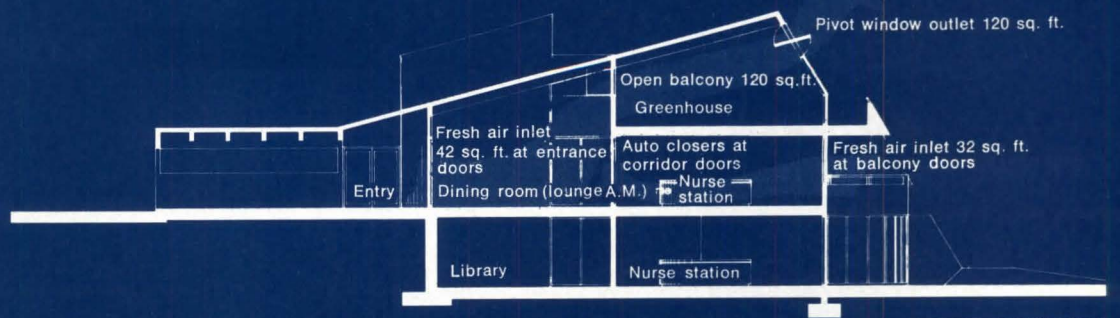
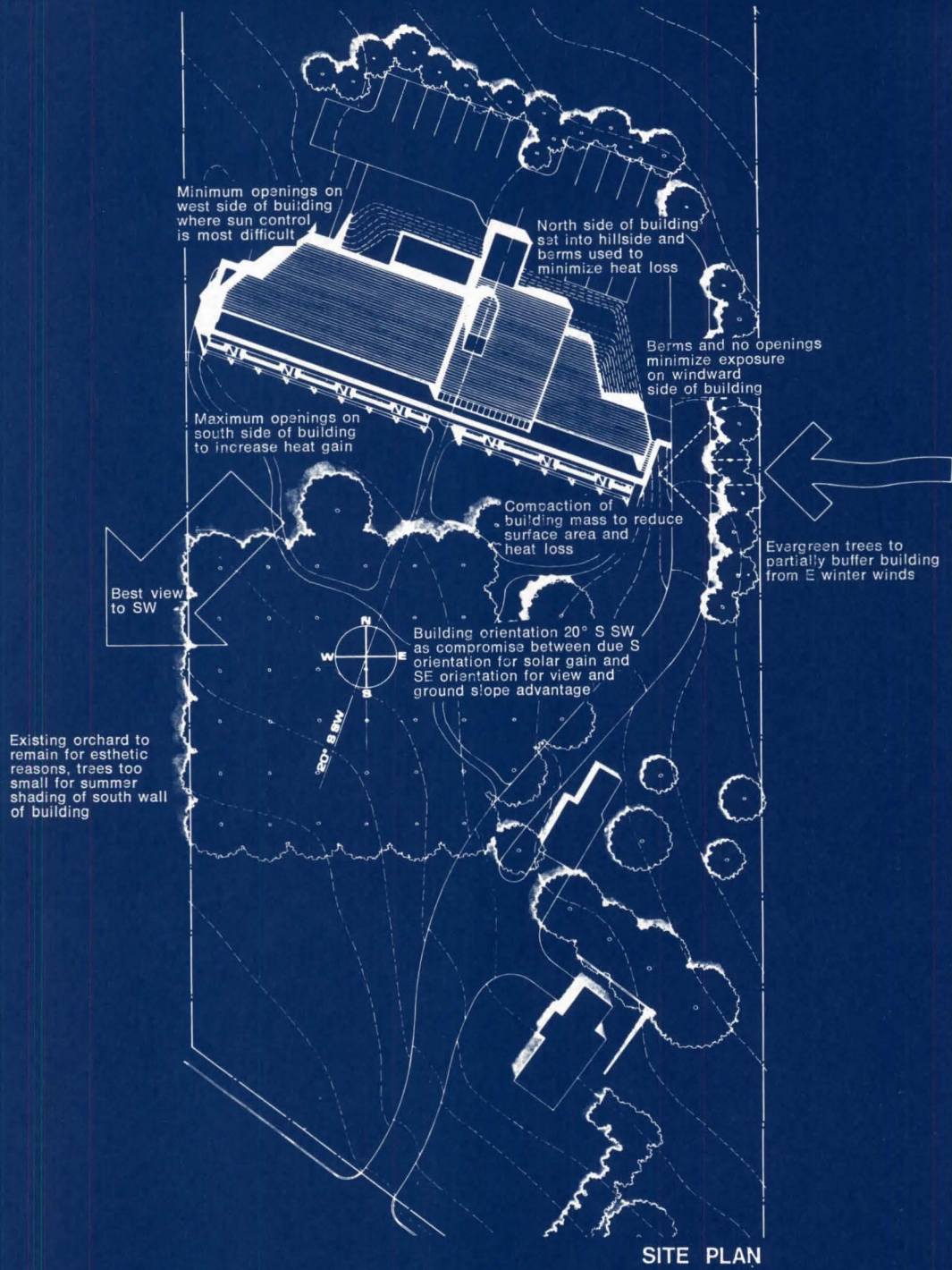
following pages, but in all, concepts that cause the building to interact with its environs, and its users to extend their space into that environment, are evident.

It is not only the nature of the redesign solutions that speaks to a changing esthetic, but the process from which they evolved. Frequently the design analyses included hour-by-hour sun, shade or wind studies that helped the architects generate form by its relation to time as well as space. They acknowledge that a building is not a static entity and cannot be so represented. It changes visually and functionally with cycles of environmental stress and seeks to find a comfortable balance between them. Because these cycles are predictable and measurable, designers can anticipate them and use them to advantage.

Some of the redesigns still resemble technology more than design; they are awkward and self-conscious. But the dichotomy is not real. Once a technological development enters the vocabulary of design of an individual or a generation, it is no longer considered a technology per se. Somehow, trial by history hones certain technological adaptations into an esthetic subconscious and the use of that technology can then be considered intuitive, not analytical. Not only the pueblos, but architects such as Richardson and Kahn responded to environment by informed intuition; they were not called technologists because the models were part of their design vocabulary; they didn't have to work to discover or rediscover it.

Energy conscious design, as represented by the redesigns, is still on a learning curve. The modern movement provided the illusion of indoor/outdoor integration with glass walls for visual continuity and powerful machines for comfort. Early energy conscious designs followed the same models, but replaced the glass with concrete. The illusion of indoor/outdoor compatibility was sacrificed along with the giant machines, but basic design assumptions remained unchanged, like the horseless carriage that discarded the horse in favor of an engine but made no other concessions to the new order of things.

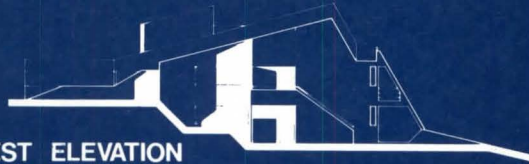
The redesigns complete the cycle of change and re-establish the indoor/outdoor dynamic, but as reality, not illusion. One senses that their esthetic is real, not merely stylistic, the basis of an architectural vocabulary as compelling as it is stimulating—that the value is in a sense of humanity, in a certain regard for the quality of life. □



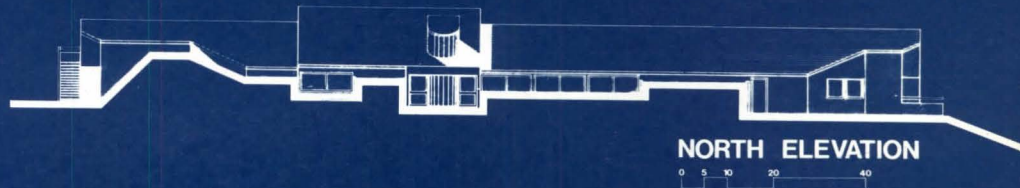
SUMMER VENTILATION



EAST ELEVATION



WEST ELEVATION



NORTH ELEVATION



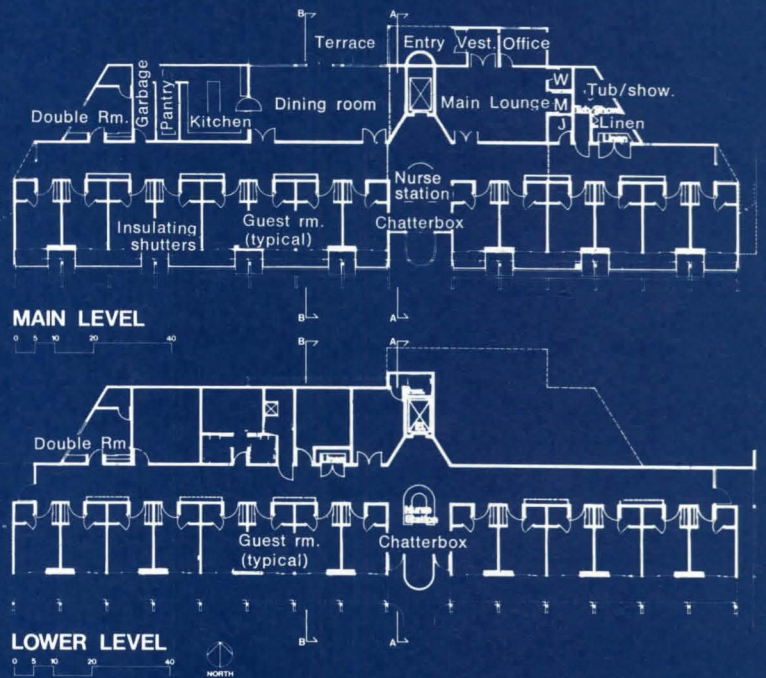
SOUTH ELEVATION

Sun Movement as Design Determinant

The sun's movement became a dominant form giver to this Colorado nursing home by Campbell-Yost-Grube. Extensive diagrams of the effects of the sun's daily and seasonal paths indicate an awareness on the designers' part of the importance of time determinants during the design process.

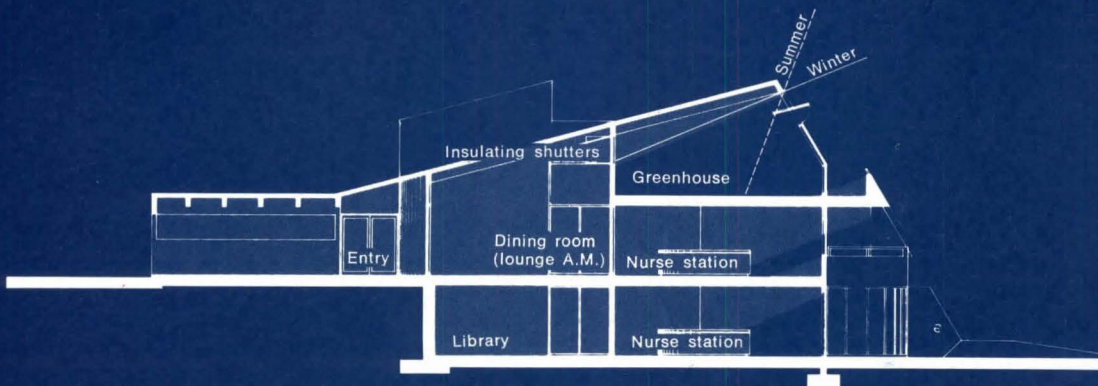
Spaces are oriented to maximize energy efficiency in response to seasonal patterns. Guest rooms face south-southwest, which is a compromise between due south for maximum solar gain and southwest for view. Partially conditioned spaces and service areas are grouped on the north side to buffer the building from cold north winds. In winter, building design heightens direct solar gain in the guest rooms and corridors by permitting sunlight to enter and warm these spaces. The warmed air in these rooms is ducted to the north side of the building for supplemental heating. In summer, natural ventilation is promoted by permitting the warm air to escape through the operable greenhouse windows and corridor clerestories. Both of these passive strategies depend on the designers' understanding of the natural solar cycle.

Fine tuning of the passive solar systems is achieved with movable sun screens and insulating panels. The effectiveness of this system depends on user interaction with the structure's solar control devices. This may not be unrealistic in a building which seeks to minimize the institutional character that a nursing home can have.

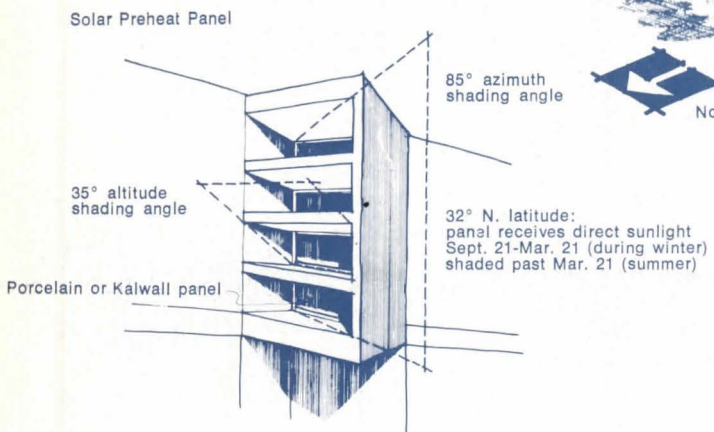
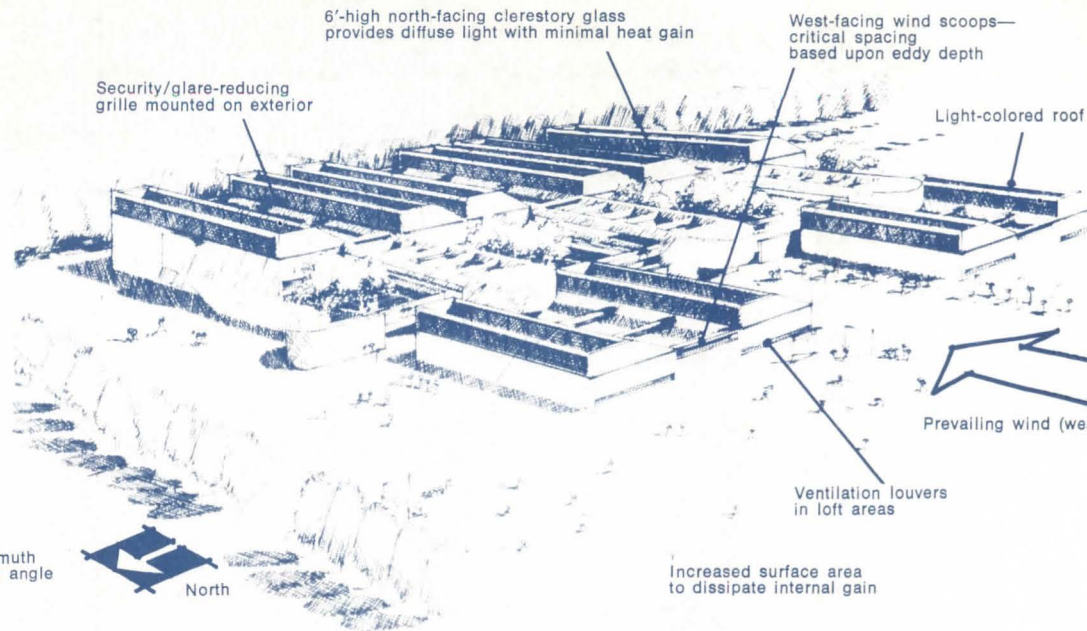


MAIN LEVEL

LOWER LEVEL



SOLAR ANGLES

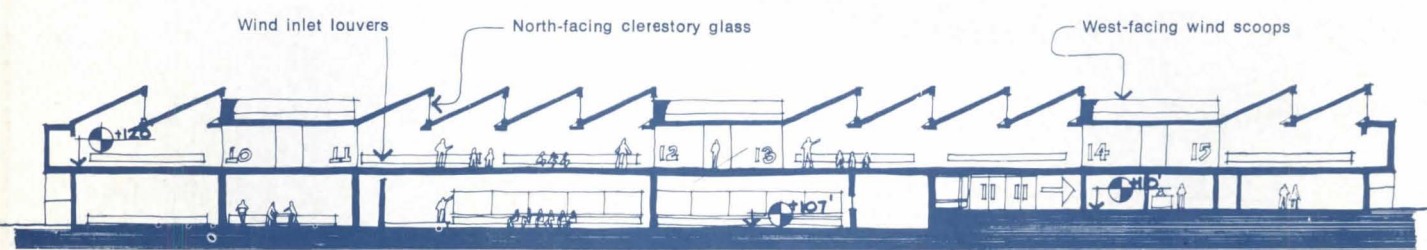
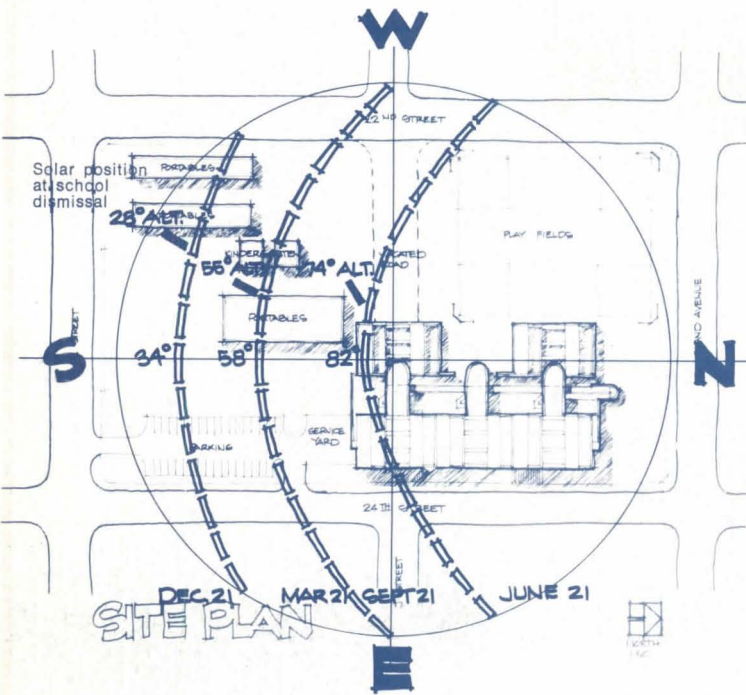


School for Mild San Diego

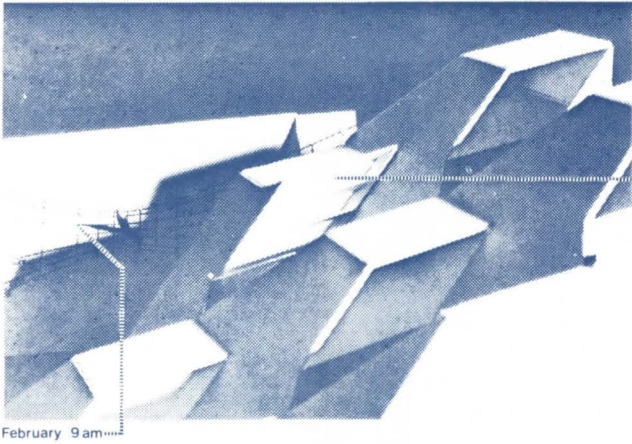
As energy conservation becomes a major consideration in building programs, climatically responsive design will again become a strong form giver to regional vernacular architecture. Buildings of similar programs but in contrasting climates will undergo different formal development in response to the climatic stresses.

Two school buildings, one in Detroit and the other in San Diego, adapt to their environments over their yearly weather cycles. Both have intermittent use patterns and large internally generated heat loads caused by high occupancy and lighting levels, which tend to cause overheating by midday. Of course, a building which handles variable Detroit weather cycles efficiently could not be expected to be wholly responsive to the mild southern California climate.

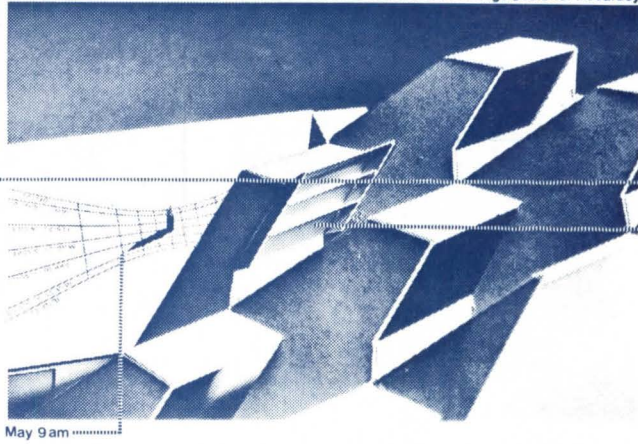
Deems/Lewis & Partners, designing for the mild San Diego climate, took a dramatically different tack from the one in Detroit. With dependable breezes year-round, the designers tried to optimize natural ventilation and heat dissipation. Their primary strategy for the overheating problem was to keep the surface to volume ratio as high as possible, which would promote greater convective heat loss at the building skin. Vent sizing and placement were determined by analyzing the external wind pressure patterns on the envelope. Operable roof vents and wind scoops provide relief from heat stratification in the classrooms. The designers have included north skylighting to reduce the daily wattage consumption for supplemental lighting. In contrast to the beadwalls used in Detroit, where the skylight system must respond to extremely cold temperatures, the San Diego school uses single-glazed skylights to contribute to the internal load reduction.



Model Louvres Constructed at Large Scale for Accuracy



February 9 am



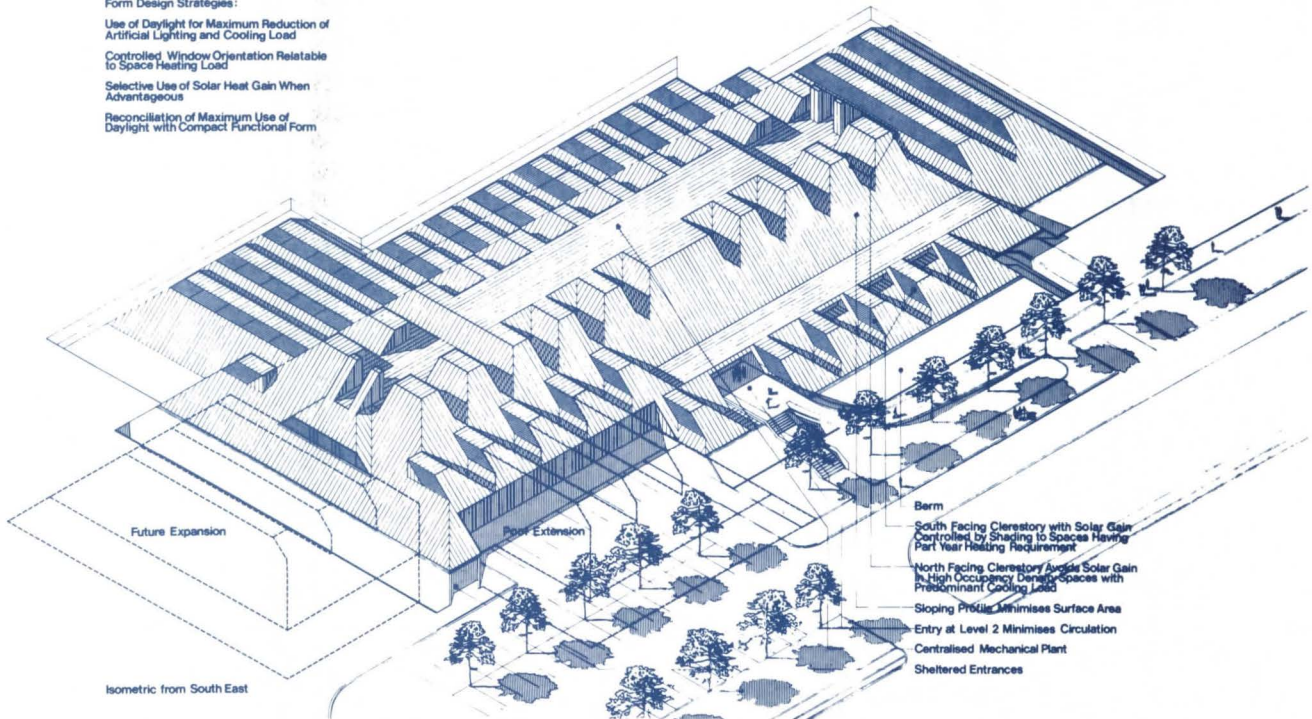
May 9 am

Solar Gain through Window

Window Shaded

Form Design Strategies:

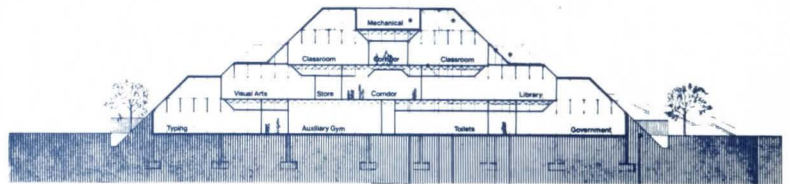
- Use of Daylight for Maximum Reduction of Artificial Lighting and Cooling Load
- Controlled Window Orientation Relatable to Space Heating Load
- Selective Use of Solar Heat Gain When Advantageous
- Reconciliation of Maximum Use of Daylight with Compact Functional Form



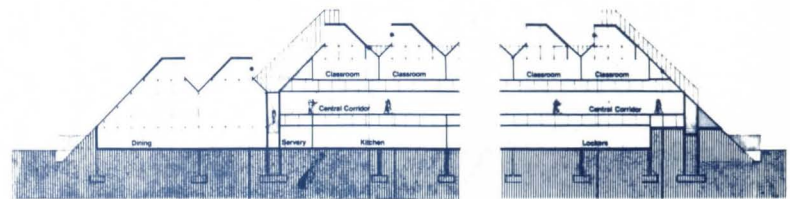
Isometric from South East

School for Rigorous Detroit

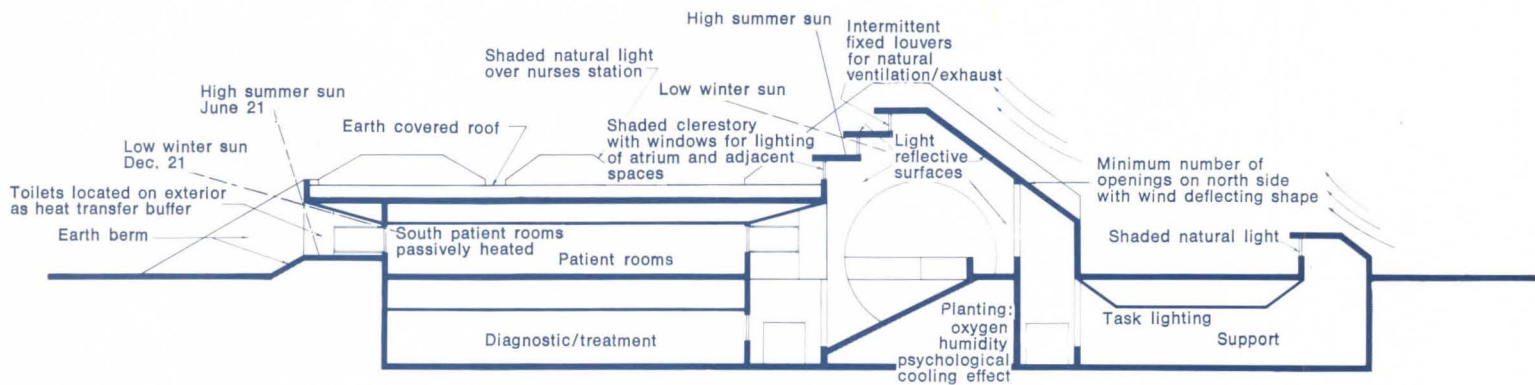
Sims-Varner & Associates came up with a variety of strategies to ameliorate the cold Detroit winters and still manage the school's tendency to overheat. By minimizing the surface to volume ratio of the building, they limited the impact of external climatic stresses. The building form became one great roof system; where vertical walls do occur, they were bermed. The pyramidal shape of the roof expresses the internal organization. Spaces amenable to natural daylighting are placed at the perimeter of the building envelope, while spaces best served by artificial illumination are at the core. The designers weighed the costs and benefits of skylighting in the teaching areas, and determined that skylights could be effectively used to help fine tune comfort patterns. Their design analysis produced a variety of both north- and south-facing skylights, some of which incorporated beadwall type glazing.



Typical Cross Section

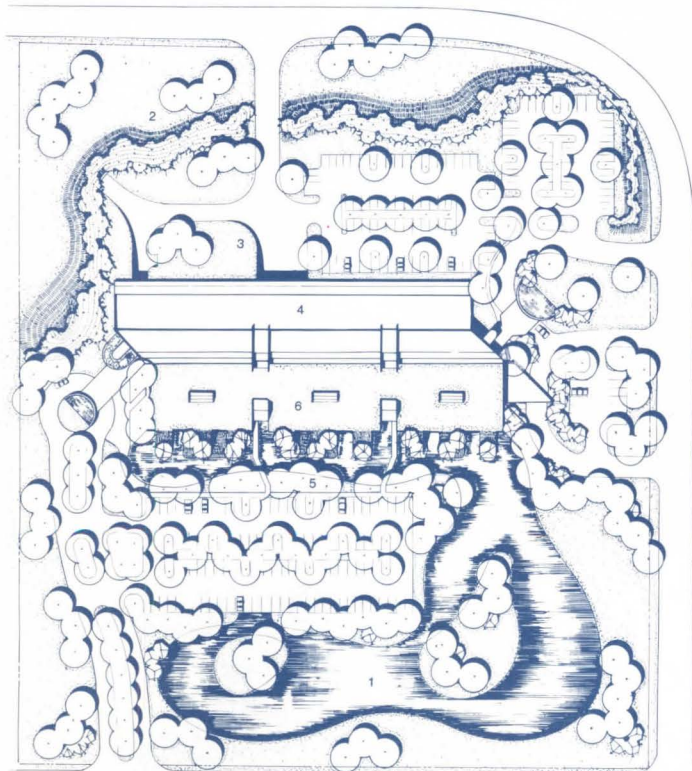


Long Section



Energy conserving features

- | | |
|---|---|
| 1 Pond to control ambient temperature | 4 Building depressed along northern exposure |
| 2 Berm with evergreen trees for wind control | 5 Deciduous trees for solar radiation control |
| 3 Lawn irrigation for reduction of ground surface temperature | 6 Earthen roof for insulation |

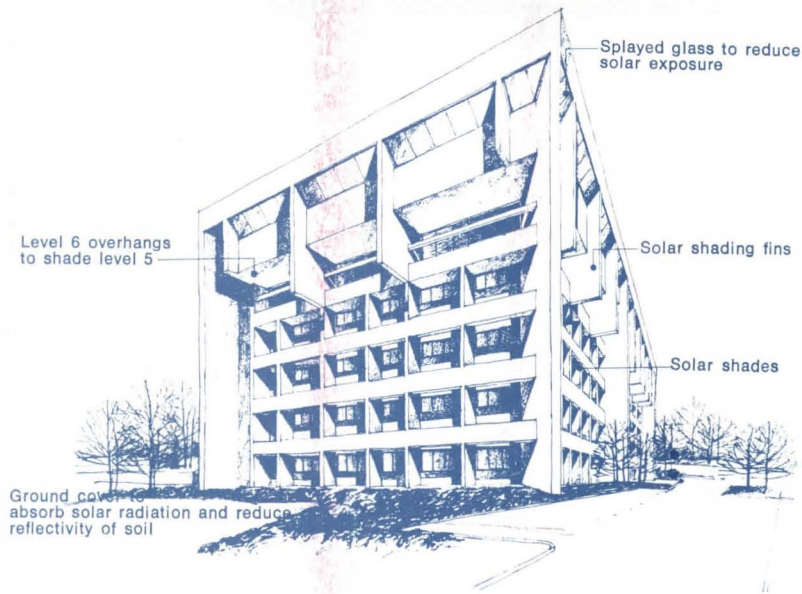


Partially Buried Hospital

In this Texas hospital redesign, the first key to an energy conserving solution was not found in mechanical technology or solar/climatic responses, but in the analysis of the building program. Program analysis gave clear direction to the redesign firm, Gresham & Smith. Spaces requiring precisely controlled working and comfort conditions (i.e., surgery, radiology, laboratories) could be placed below grade away from external environmental impacts, while psychologically sensitive spaces, such as nursing units, could be located above grade.

The building that resulted from these considerations is a linear east-west plan organized along a central spine which contains an unconditioned atrium space. The north-facing patient rooms open into the landscaped atrium, which simultaneously solves the problems of infiltration and northern exposure and retains the benefits of natural daylighting. Operable windows in this space may be a problem, so alternative ventilation solutions have been proposed by the designers.

Even with the atrium, the overall circulation area has been reduced, which helps compensate for the cost of increased foundation work. The designers project a yearly energy savings of 39 percent.

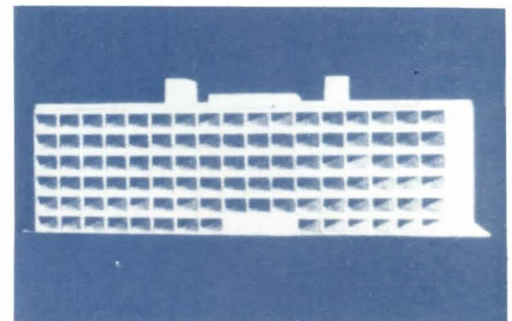
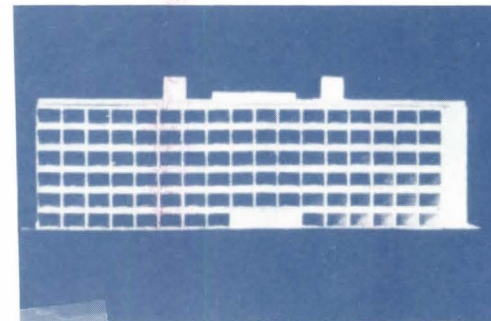
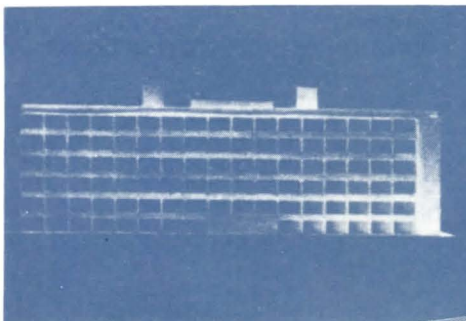
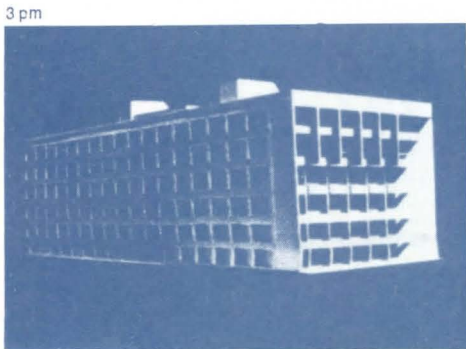
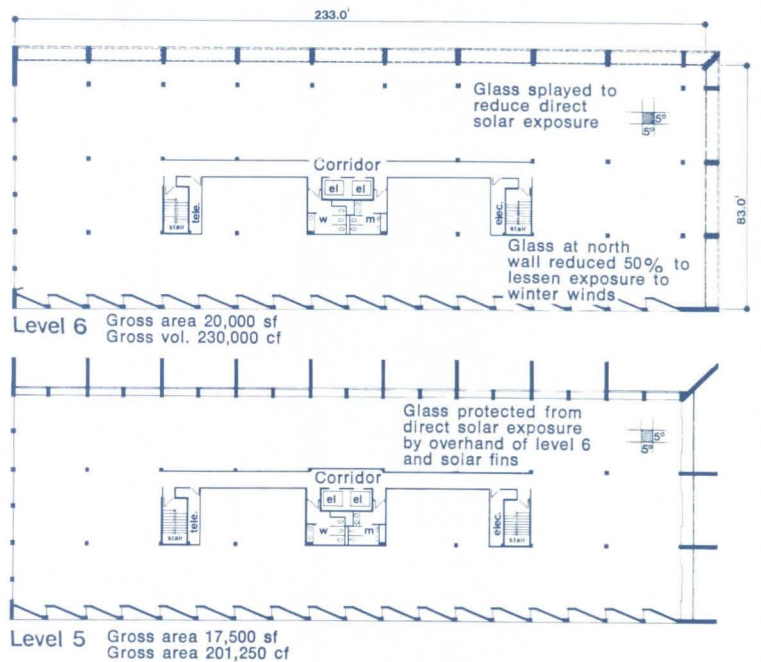


Variegated Office Facades

Because office buildings are heat generating machines, Brooks Waldman Associates began this redesign project in Colorado with the premise that "cooling was the dominant condition." The designers worked toward an envelope solution which would mitigate any additional solar load without sacrificing the possibility of reducing internal lighting loads when adequate natural daylighting was available.

Computational analysis of solar gain variation due to the building's orientation led to the placement of the main axis 58 degrees west of south. This orientation for this size and shape building with this type of overheating load profile minimized the total solar load. When the orientation was set, solar shading was analyzed for each hour of the day. The resulting shading forms which produced optimum solar control led the designers to develop different facade treatments for each exposure.

This envelope treatment acknowledges the fact that physical objects exist in time as well as space and skillfully demonstrates its implications for energy conserving design.



The House Design Program

Parallel to the redesigns in phase two of the project was a program of development of energy conscious designs for single-family houses. These were not based on the programs for existing buildings. Instead, AIA/RC enlisted 20 design teams (comprised of an architect, a mechanical engineer and, in some cases, a home builder) and gave them prototypical sites, building programs and selling prices based on characteristics of the housing markets in various regions. There were four dwelling types (one-story detached, two-story detached,

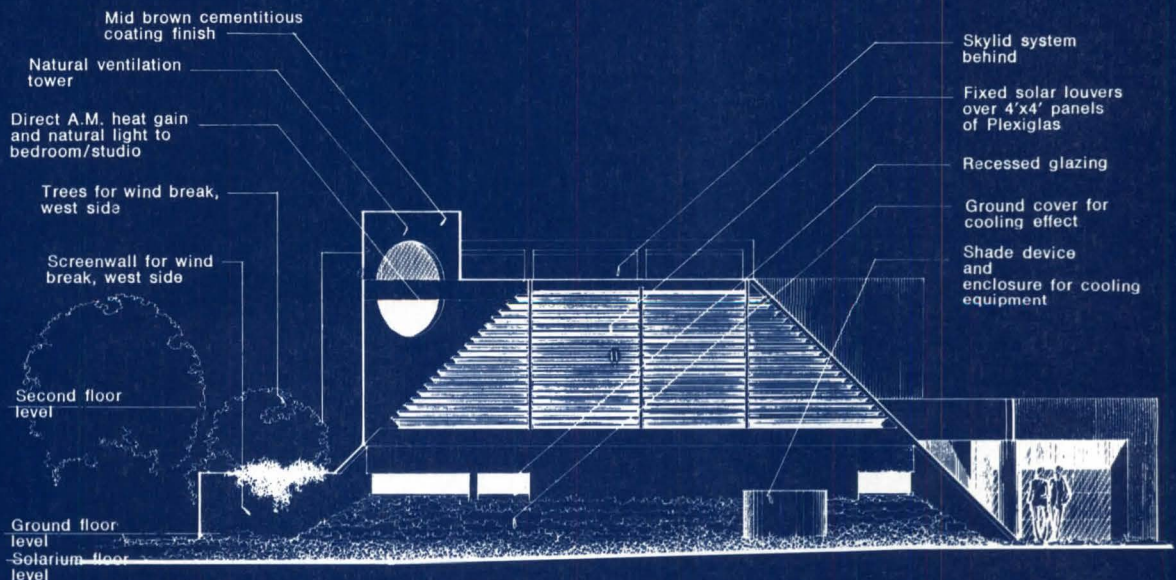
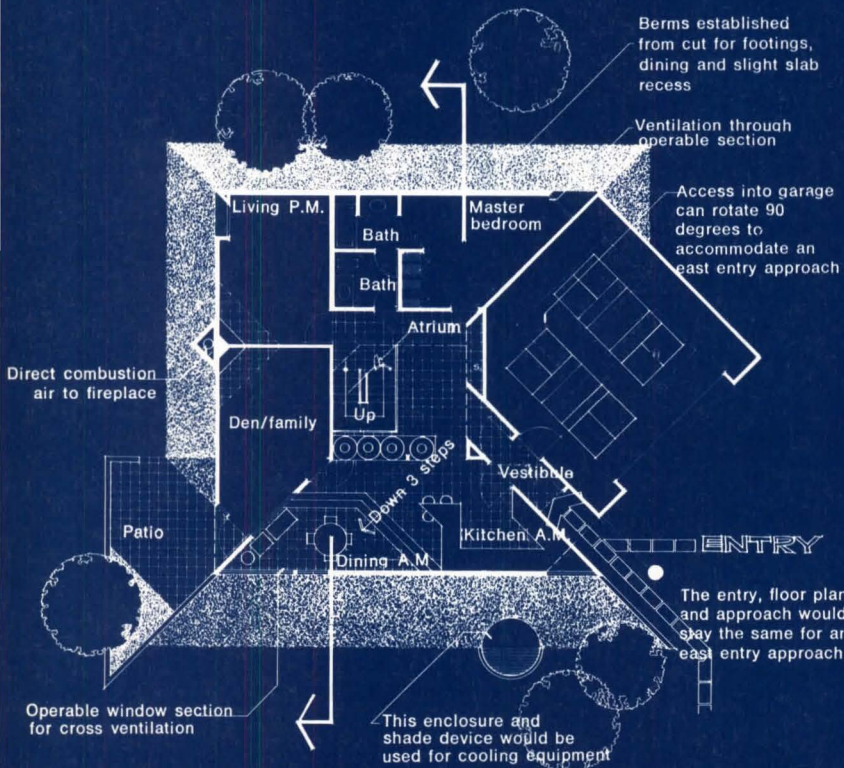
multilevel detached and town house attached). The designs had to provide "acceptable levels of human comfort and had to be buildable in terms of available skills, materials and techniques."

The examples shown on these pages, notes Karen Hobson of the project staff, "are not intended as energy-conserving prototypes for today's housing market. Rather, they suggest ways in which the continued emphasis of energy might change the form and shape of housing."

Minimizing Surface Exposure

An imaginative design response to a program requirement for four alternative entrance orientations provides the basic concept for Dean & Hunt Associates' two-story house in Albuquerque, N.M. Beginning with a square plan, interior spaces were defined by their relation to the sun's daily path. A plan prototype evolved which enabled entrances to be located at either end of the diagonal created by these spaces. The prototype maintains siting flexibility while allowing interior spaces to respond to the dynamics of the solar cycles. As an example, spaces which receive sunlight early in the day are zoned for morning use in the winter.

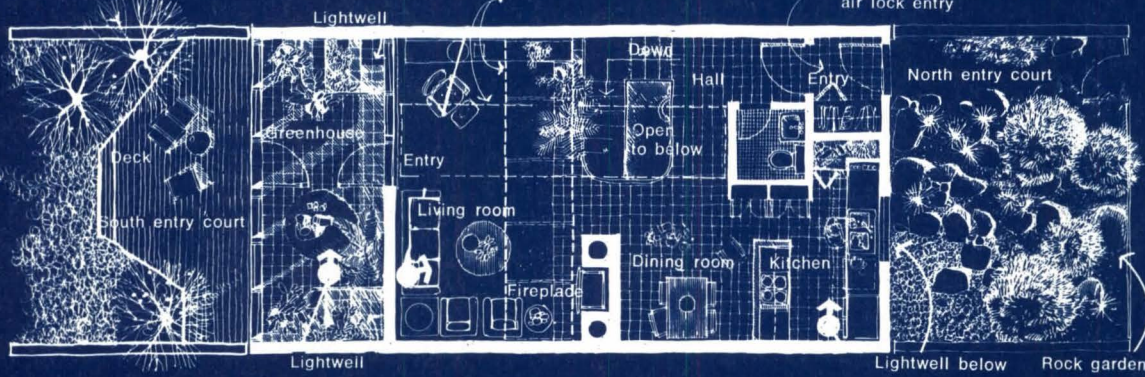
The square plan and continuous berming minimize the surface exposure and increase the effectiveness of other energy conserving strategies. Passive heating strategies center around direct solar gain in all spaces and on massive interior building components. A watertube wall in the south-facing solarium provides a large internal storage mass which has the capability of shifting from heating to cooling modes on a seasonal basis. The large diurnal temperature swings of the desert Southwest are used to cool the building's mass on summer nights. During the day, a series of high windows and vents induce ventilation and allow warmer air to be drawn off.



Deciduous trees shade deck in summer from low sun

Sunscoop spans full width of south-north unit—runs from exterior living room wall to 1/2 bath wall in east-west unit

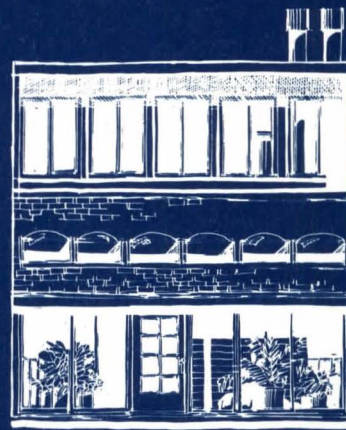
Two French doors provide air lock entry



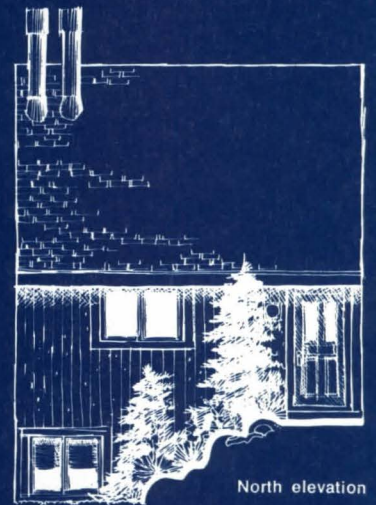
Capitalizing on a Clear Climate

The predominately clear Denver climate is used by the firm of Downing-Leach to provide much of the energy needed to heat their town house. The design maximizes the potential to collect solar energy in this climate through the use of a south-facing greenhouse and sun scoop. Living areas are placed above grade and heavily insulated to benefit more directly from solar gain and to more easily maintain interior comfort conditions. Sleeping areas are located below grade to take advantage of the stable insulating capacity of the ground. Heat is withdrawn from the sun scoop by fan through the massive fireplace wall and into the lower level floor slab where it is released over time into the sleeping spaces.

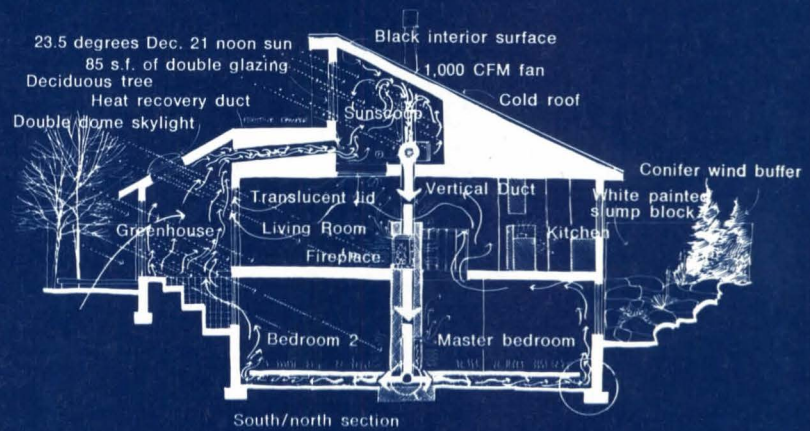
During the relatively mild Denver summers, the town house opens to the environment and is cooled by natural ventilation. The sun scoop becomes a thermosyphon. Warm air is induced to be vented through it, rising from both the interior spaces and the greenhouse.



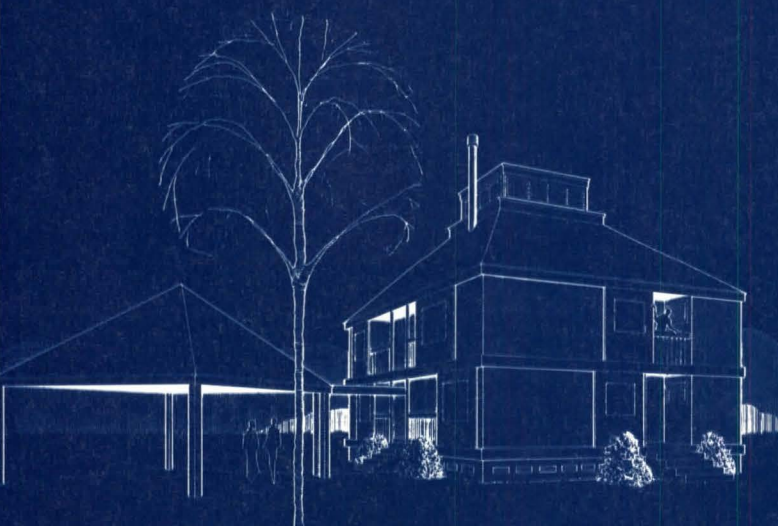
South elevation



North elevation



South/north section



Drawing on Regional Tradition

Behind the deceptively simple dwelling at left is a great deal of history. Architect Arnold Aho, AIA, drew heavily on housing characteristics indigenous to the South in his design of a two-story house in Atlanta; the beveledere, the tall central hall, raised crawl space, porches. Here the beveledere provides natural light to the central living space and vents hot air from all living zones. Windows open onto alcoves which can be enclosed by sliding insulated barn doors. Thus, the house can close itself during climatic extremes and gradually open during milder conditions.

RADIO CITY
MUSIC HALL

RADIO CITY
MUSIC HALL

Music Hall RADIO CITY Music Hall RADIO CITY
THE GREAT EASTER SHOW CALL THE NUMBER OLIVER REED AND RAQUEL WELCH IN "CROSSED SWORDS" THE GLORY OF EASTER PAGEANT
RADIO CITY MUSIC HALL
RADIO CITY MUSIC HALL



KEEPING IT KICKING

Last January, Alton G. Marshall of Rockefeller Center Corporation announced: "There is no hope of survival" for Radio City Music Hall. The showplace of the nation was to close after the traditional Easter extravaganza. Deficits were running into the multimillion dollars. And the market for "family" entertainment in midtown Manhattan was not promising. The 46-year-old theater was to be replaced with offices, a hotel and tennis courts.

Protests began to be heard; committees were formed. In March, New York City declared it an interior landmark. In May, it was entered on the National Register of Historic Places. The Rockettes never quite stopped kicking. A last minute reprieve was arranged between the State of New York and Rockefeller Center Corporation in order to go on with the show. The state earmarked up to \$1.8 million to subsidize losses incurred through this year's Christmas program and assigned the Urban Development Corporation the task of investigating whether it would be feasible to build something more lucrative on top of it and whether some other form of entertainment such as sports events, rock concerts or Las Vegas productions might invest the hall with a renewed popularity. Consultant to UDC is the architectural firm of Davis, Brody & Associates.

Swelling the preservation efforts have been the potentially contradictory interests of, on the one hand, Radio City as a fond memory and special place for children and, on the other, Radio City as a particularly elaborate and well-preserved example of Art Deco at its most elegant.

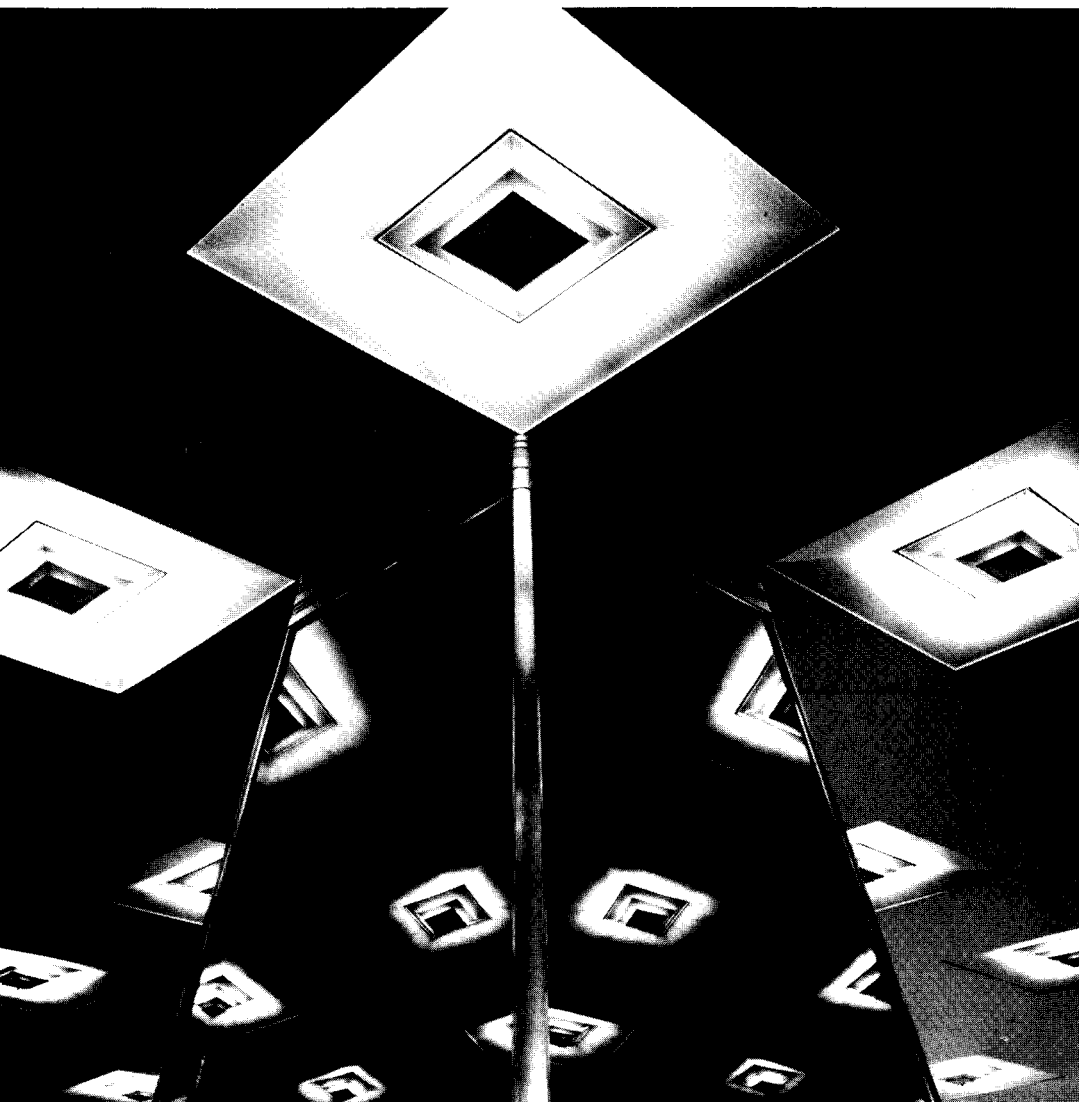
To ignite the artistic sentiments of the public for Radio City, R. Michael Brown, chairman of the preservation committee of the American Society of Interior Designers and a New York City landmarks commissioner, induced ASID and the National Endowment for the Arts to underwrite an exhibit of photographs of the hall by Bo Parker (some of which are shown here) and actual borrowed furniture.

The first, and highly significant, audience for "Radio City: Keep It Kicking" were legislators who were "paraded by" the exhibit at the New York State Museum in Albany just before crucial votes on state help for the Music Hall. It has since been shown in New York City and Washington, D.C. The exhibit in Washington marked not only ASID's national convention but the reopening of the 1885 Pension Building, which is now the headquarters for the Heritage Conservation and Recreation Service, Department of the Interior, through which all federal money for preservation is channeled, and also under consideration as a future museum of building arts. The Heritage Service has become a third sponsor for the exhibit, which will continue to circulate nationally, including a stop in Miami as a highlight of an October-scheduled Art Deco week. Meanwhile, there is no specific D-day for Radio City, but money for the spectaculars runs out after Christmas season. *Nory Miller*

Radio City Music Hall: Produced by three architectural firms (Reinhard & Hofmeister; Corbett, Harrison & MacMurray; Hood & Fouilhoux), an interior designer (Donald Deskey), a dozen artists and master showman S. L. 'Roxy' Rothafel.



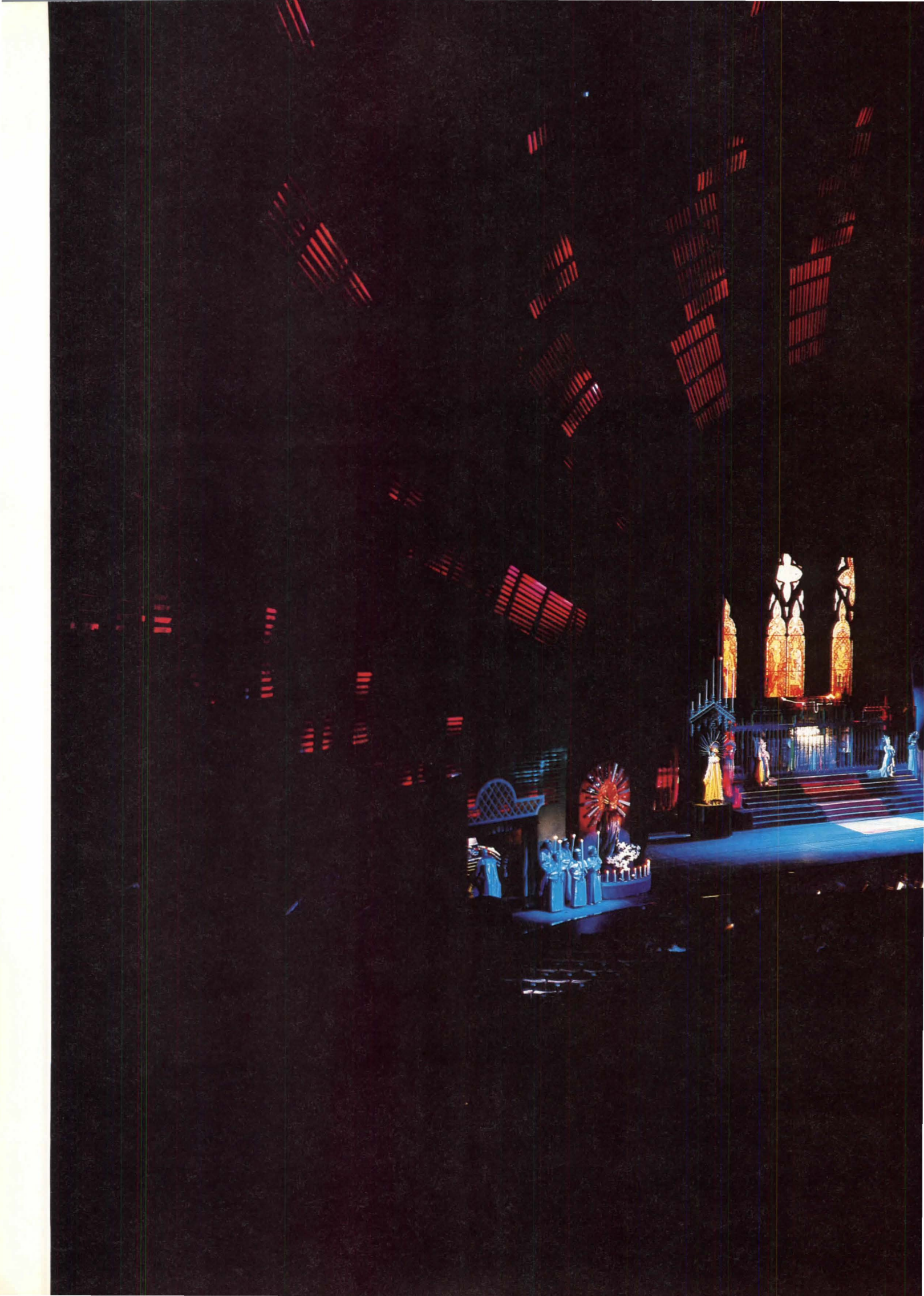
Photos by Bo Parker ©

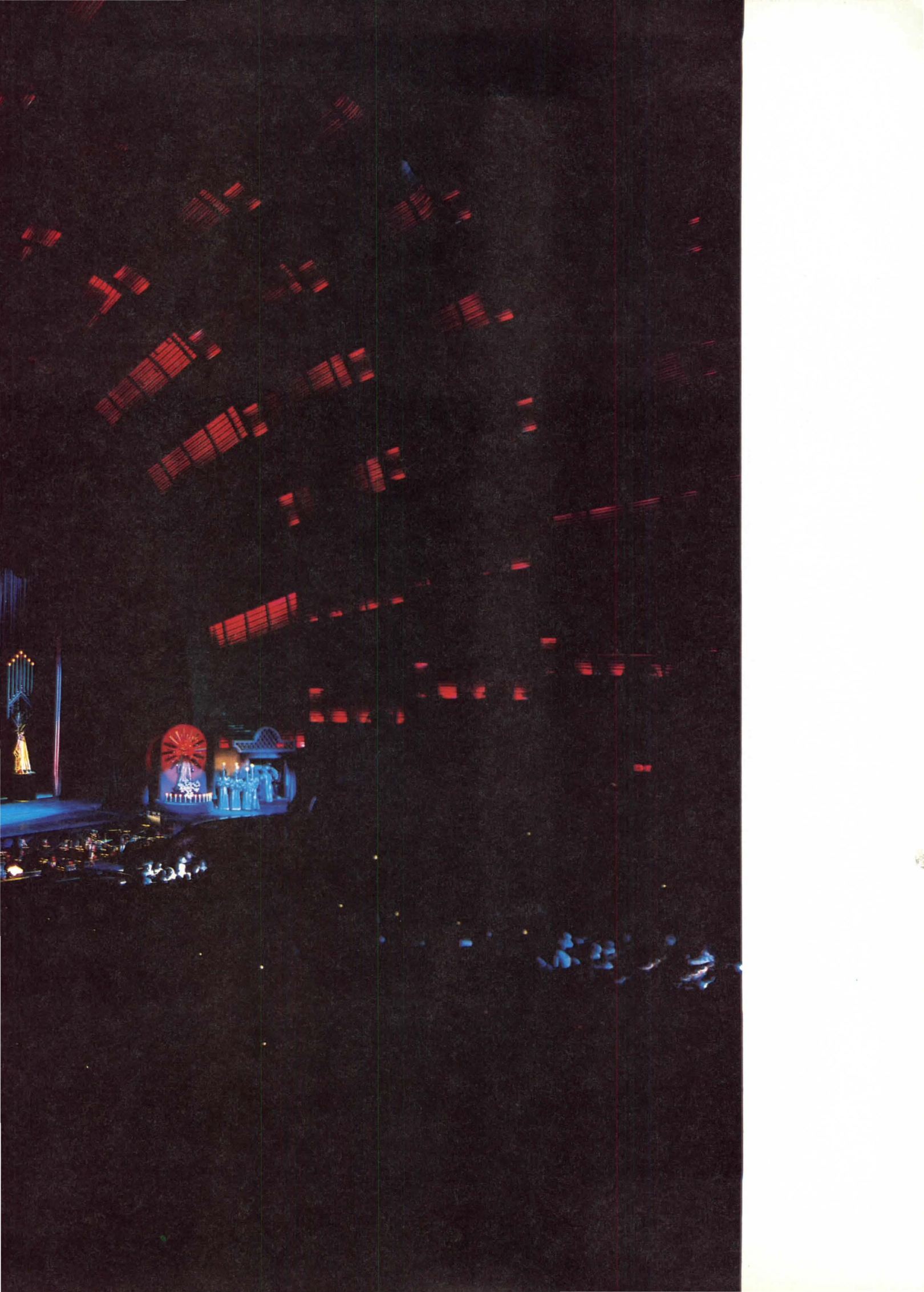


Deco drama and detail: First the low, dim yet sparkling ticket lobby (previous page), then, suddenly, the radiant foyer (cover), rising four stories, with expanses of gold-backed mirror, marble facings, giant crystal chandeliers (each weighing two tons) and a mural by Erza Winter showing the 'upward march of mankind toward the golden mountain where the "Author of Life" dwells beside the fountain of Eternal Youth.' The mural, based on an Oregon Indian legend, follows the sweeping curve of the palatial stairway which leads to the mezzanines above and the lounges below. The grand lounge, appointed with furniture and carpet designed by Donald Deskey and theatrical mural by Louis Bouche, glows softly from diamond-shaped lights in the ceiling (left).

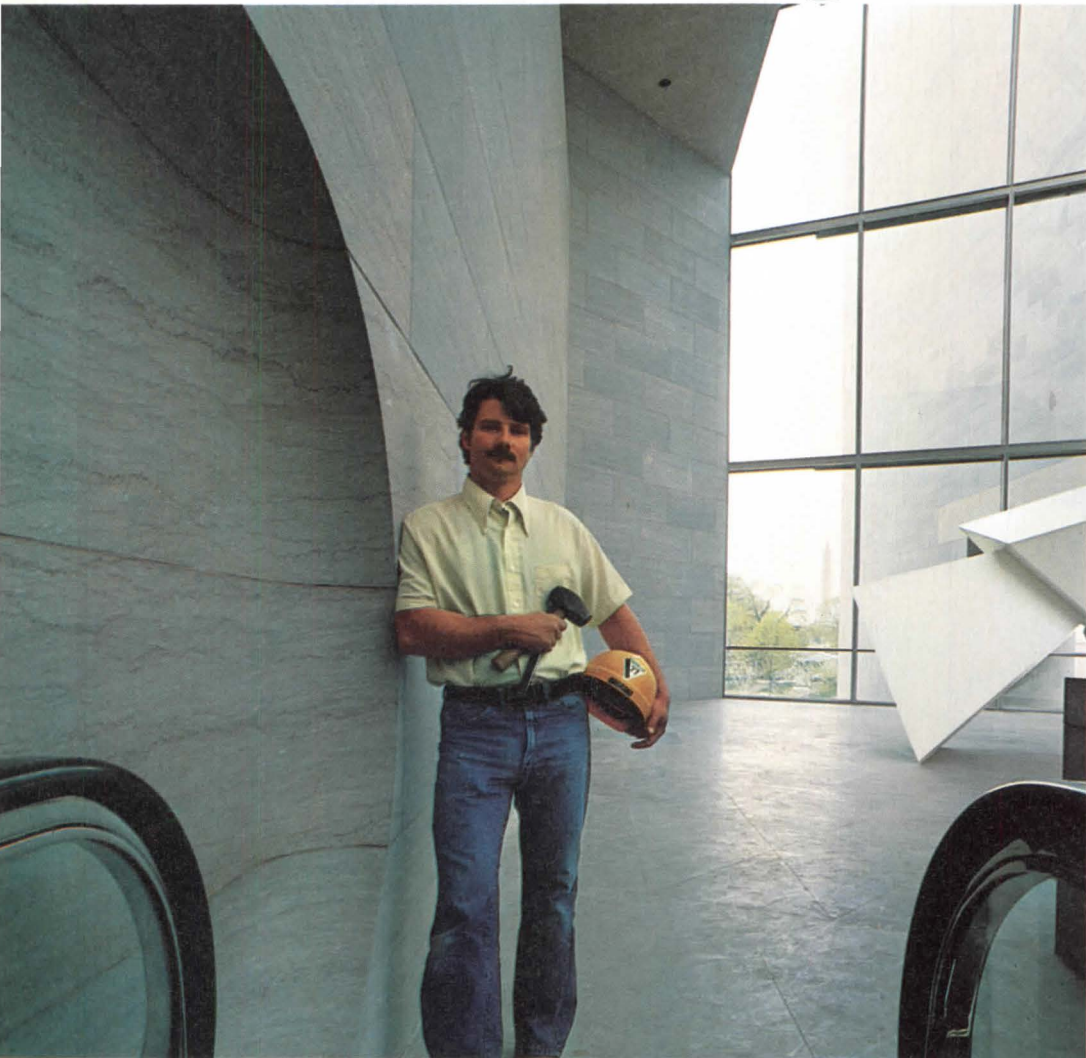
The ladies' lounge (below) is decorated with Witold Gordon's 'History of Cosmetics' mural. Originally, Stuart Davis' 'Men without Women' was located in the men's smoking room of the grand lounge, but it has since been given to the Museum of Modern Art. As the lounges are intimate, the Music Hall itself is immense. It seats more than 6,000 people. Its stage is 144 feet wide, 60 feet high and 67 feet deep, and has movable sections, an orchestra pit which can move up, down, forward and back, disappearing footlights, rain and steam curtains, a rear projection booth for scenic effects, all masked by the famous 'golden contour' curtain weighing three tons and operated by 13 electric motors. Raymond Hood is credited with the design of the egg-shaped ceiling which is made of concentric overlapping arches ranging in shape from semicircular at the proscenium to elliptical at the rear. Incorporated into this are not only organ grilles but lighting fixtures to give its famous rainbow effect as the hall changes color along with the stage during each show. Overleaf: a recent version of the traditional 'Glory of Easter' pageant.







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The work that he and other stone masons did on the East Building, an addition to the National Gallery of Art* in Washington, D.C., shows why:

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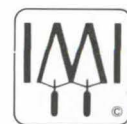
People with the kind of pride that Rich Jarboe has in his skills, and the kind of love that he has for the materials he works with ("It's natural stone. It's beautiful. It's easy to take care of.") are the foundation and strength of the masonry system of building.

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Buildings as 'Metaphors of Our Body's Exploration'

Body, Memory and Architecture. Kent C. Bloomer and Charles W. Moore. New Haven: Yale University Press, 1977. 147 pp. \$15 hardbound, \$6.95 paperbound.

In this wonderful book Bloomer and Moore have a novel idea: Buildings are by people for people. And more than by and for people, they are "of" people.

Buildings have fronts and behinds, attics (which tend to be full of memories) and cellars (which tend to be for machines which whirr and churn such as boilers and dryers, and for things in the process of being thrown away.) They have curtains to be drawn across the eye like lids (private places which are not available to just anyone to penetrate), and public faces which, as you go up and down the social or political ladder, become more and more grandiose in the physical language of their symbolism, from the workingmen's town houses that line our industrial streets, with merely a threshold between the sidewalk and their minimal front halls, to middle-income houses behind front lawns shade trees and porches, to urban mansions pretending to be country seats in the city; or from city halls to the capitols of nations, with their steps, ornamented entablatures, domes and kneeling lions (which know a senator when they see one).

In the growing body of literature re-evaluating the modern movement and attempting to forge new directions, this book is of critical importance. "At its beginnings," the authors tell us, "all architecture derived from this body-centered sense of space and place. . . . [But] in modern cities throughout the world our sense of orientation, knowing where we are and who we are, is damagingly compromised. Offices, apartments and stores are piled together in ways which owe more to filing cabinet systems or the price of land than to a concern for human existence or experience."

Most modern architects, not only in the U.S., but throughout the world, know who Charles Moore is. This book gives us

a special insight into his buildings and previous writings because it reveals to us how involved he is not only with the humanism of places, but with its metaphors.

Moore's Kresge College in California, for instance, has excited us because it is so central to our great Western tradition of organic urban environments, the hill towns of medieval Italy or the Greek islands, and the compact seaport villages of Scotland or Cornwall. Now, as a result of this book, we perceive Moore's buildings and those of other modern architects as metaphors of our body's exploration and inhabitation of built space.

For this we probably owe more to Kent Bloomer than to Charles Moore. Bloomer is a sculptor who works in metal plates that he forge-heats and hammers on an



anvil until they become precisely wrought curvilinear planes, ready to be fitted and riveted together to form a complexity of interlocking and progressive relationships (photo of one of his bronze sculptures above).

Light washes over the outside surfaces, while the surfaces inside are pools of iridescent shadow, spiraling inward and through to a "somewhere" beyond, compelling our exploration. Through making his sculptures in this way, with hand, body and mind working in unison, Bloomer has become aware of the built environments of man with an immediacy and scholarship to which every student at Yale's school of architecture for the past 15 years will surely testify.

The importance of this book, a product of the joint effort of Bloomer and Moore "to teach the fundamentals of architectural design to first-year professional stu-

dents at Yale," is that it cuts across the styles of history as it explores the metaphors of gates and thresholds, the dynamics of movement inside buildings related to the dynamics of urban sequence, and the relation of body, mind and sensibility to surface, color, scale and penetration.

Suddenly, through successive chapters on the body's senses and its movements, including dance (in a brilliant essay on body movement by "Buzz" Yudell), we find Piranesi and the Parthenon linked to Corbu's Villa Savoie and Wright's Winslow house in ways which may well become basically influential to the future of architecture and urban design in this country. *David Lewis, AIA, AIP*

Protectiveness of Earth

Earth Sheltered Housing Design: Guidelines, Examples and References. Edited by Ray Sterling. Milwaukee: University of Minnesota, Underground Space Center, 1978. 310 pp.

This softbound book is the most significant single contribution to the literature of earth sheltered housing to be published in the past decade. This enthusiastic endorsement is not the casual opinion of an occasional reviewer of books for the JOURNAL, but rather one of a person who has been studying the literature of underground and earth-formed buildings for a number of years in connection with National Academy of Science committee activity on underground space. The literature in the field is limited. Most of it is either textbook historical, generalized articles in periodicals, or collections of sketchy papers presented at conferences. This solid book should be in any library covering earth sheltered or underground construction.

Two major realities provided the impetus for this publication: first, the need to conserve energy due to increasingly scarce hydrocarbon fuels and, second, the protection of life in hostile environments such as that which persists in Minnesota during the winter, especially with the possibility of interruptions in fuel supply

continued on page 82

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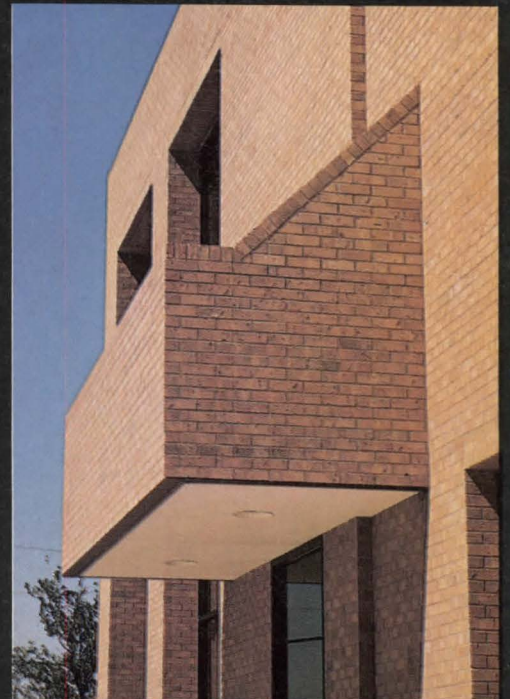
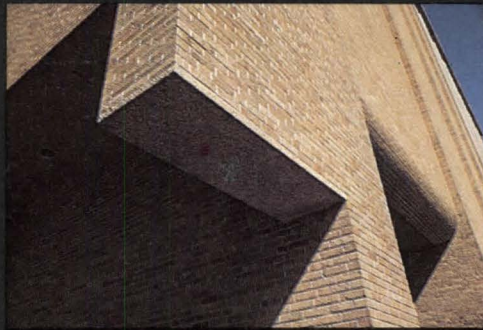
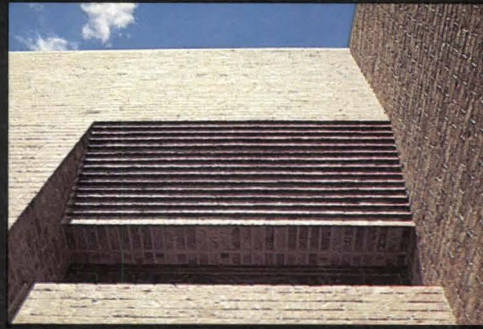
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to homes in blizzard conditions.

The various chapters deal with site planning, architectural design, energy conservation, structural design, waterproofing and insulation, public policy issues (building codes, property standards, etc.) and illustrative designs for both hot and cold climates. The volume is divided into three parts. The first discusses design guidelines; the second provides plans, details and photographs of existing earth sheltered structures for various parts of the U.S., and the third facilitates access to further information on design, planning and engineering.

For architects there is a particularly good discussion of programming and design focusing on the problems inherent in subsurface and earth sheltered housing. Structural and mechanical systems, planning, zoning and building code requirements and insurance and financial problems are also dealt with.

For those interested in the public policy implications of earth sheltered architecture, there is a section on federal activities, both administrative and legislative, including aspects of the federal energy legislation currently wending its way through Congress.

The extensive coverage (71 pages) of illustrative designs for both hot and cold climates is very well done. Some 20 building projects are presented and analyzed. This information alone makes the book worthwhile.

Finally, a personal observation. Earth sheltered architecture has gone beyond the realm of artistic fad (if it ever was) onto a basis of sound economics, safety and, in many respects, necessity. As the authors point out, "It is worth emphasizing that in the case of power failure during extremely cold weather, the temperature within an earth protected building will not fall below freezing so that no damage will be done and the building will still be habitable even over long periods. As we know, surface buildings in these conditions rapidly drop in temperature, pipes freeze causing great damage and the building is not habitable. Earth protection therefore reduces the need for an external energy source from a matter of survival to one of comfort control. This aspect is particularly noteworthy for remote buildings such as farm buildings, ranger houses and holiday cabins."

And a final note: If you are interested in underground building, don't overlook AIA's publication, "Building Underground for People: Eleven Selected Projects in the United States." Copies may be obtained by sending \$6 to the publications marketing division at Institute headquarters (order number: 4M711). *Michael B. Barker, AIP, Administrator, AIA Department of Practice and Design*

The American Institute of Architects Personnel Practices Handbook. Robert E. Koehler, Hon. AIA, Editor. Washington, D.C.: AIA, 1978. 81 pp. \$8 to AIA members, \$10 to nonmembers, from AIA Department of Publications Marketing, Institute Headquarters.

This handbook is a much expanded sequel to *Guidelines for a Personnel Practices Manual*, edited for AIA by Arthur Kornblut, AIA, in 1972.

It provides some good basic background information on existing practices in the profession, and offers a most helpful listing of items to be covered in a firm's written personnel procedures. Quite correctly, it recommends *written* procedures.

Especially useful is a sample text which allows a firm's personnel manager to insert and subtract items and otherwise modify a set of proven procedures. Sample forms are made part of the text, and there is a timely chapter to guide firms in their efforts to provide equal opportunities to minorities.

Personnel practices is a vital if unglamorous aspect of practice. While this book has not made the subject any more glamorous, it does provide the interested reader with a solid base on which to build good employee relations. *Stephen A. Kliment, FAIA*

Too Close for Comfort: The Psychology of Crowding. Paul M. Insel and Henry Clay Lindgren. Englewood Cliffs, N.J.: Prentice-Hall, 1978. 180 pp.

"'Far from the madding crowd's ignoble strife' was not the most lyrical line that Gray wrote, but certainly is the most famous, for it reflects a widespread if not universal feeling about crowds and crowding," say the authors of this book. There are many insights given into the psychological and physiological effects of crowding and congestion on people. As the authors say, crowding is difficult to avoid but hard to define: "One man's party is another man's noisy crowd."

The authors discuss such topics as the social cost of crowded homes (the human organism suffers); urban stress (architects and planners "ignore or are ignorant of human nature," and the stress of contemporary urban life "is frequently a direct result of the insensitivity of designers"); lines and queues (the queue "exists to remind us of more basic animal instincts"); crowding and aggression (everybody has to have a certain amount of personal space); crowding and health (extremely complex, but "crowding seems to operate indirectly, serving as a catalyst in various physiological processes"); privacy (it is a basic human need).

This is a small book but it is jam-packed with information. The authors say that "crowding has many dimensions and

facets that require close examination if we are to cope adequately with problems that involve population density, architecture, urban living and the congestion of everyday life."

Spaces for People: Human Factors in Design. Corwin Bennett. Englewood Cliffs, N.J.: Prentice-Hall, 1977. 195 pp.

Books on the behavioral aspects of design are being published at a clip—not equaling the number published on the relationship of energy conservation to design, but still enough to indicate a wide range of current interest in the subject. This one drew a comment from psychologist Robert Sommer, himself an author of books on the subject, who calls it a "good introduction to people-oriented design." Sommer says that it "challenges the reader to think of design problems in behavioral terms."

The book is intended for the designer of interior spaces. Its object, says Bennett, is "not to tell someone *how* to design," but to give the reader "what may be additional knowledge on accommodating people *while* designing." It explores how ergonomics (designing for the user) can help satisfy human user needs.

The introduction deals with an exploration of the nature and relations of the interior space design discipline and ergonomics and defines human needs. The criteria to be considered by the space designer, says Bennett, are health and safety, performance, comfort and esthetic pleasantness.

There are three major parts that follow. The first is concerned with the design of furnishings and spaces for human users. The second considers the luminous, sound and thermal environments. The final section, called "Putting It All Together," covers the role of research, creativity and problem solving and presentation of the design to the client.

Each chapter contains tests for the reader to use in judging the effectiveness of different design elements, as well as references for further study.

Planning and Design of Library Buildings. 2nd edition. Godfrey Thompson. New York: Nichols Publishing Co., 1977. 190 pp. \$25.

Few architects know much about libraries, Thompson says, and "far fewer librarians know anything about architectural planning." This book is aimed at helping correct both situations. The first edition was published in London in 1973, and it is fortunate that the second, enlarged edition has an American publisher as well.

Although the principles of library planning are the same as when the first edition was published, there have been social

continued on page 84

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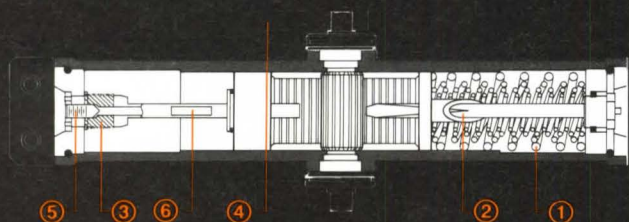
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changes that affect planning and design. For example, the "financial environment" is different. A result is that future library buildings will be more limited in size (except, perhaps, in the rich Middle East countries) and there will be less allowance for expansion. Another fact that affects library architecture is the growing tendency to preserve and use older structures rather than tearing them down to build new ones. These and other changes are reflected in this second edition.

All the basic planning requirements for library architecture are set forth—reading areas, furniture and fittings, floors, circulation, lighting, security and protection, physical conditions, finishes. One chapter on conversions is completely new. It covers the conversion of houses, shops, offices, churches, warehouses, factories and prefabricated buildings into libraries. There is step-by-step guidance all the way, making this book a requirement for the librarian or the architect involved in the design of library buildings.

Architectural Index for 1977. Edited by Ervin J. Bell, AIA, Boulder, Colo.: Architectural Index (P.O. Box 1168, Boulder, Colo. 80302), 1978. 92 pp. \$10.

Eleven major architectural, landscape, urban design and interior design periodicals, including the AIA JOURNAL, are indexed in the current issue of *Architectural Index*. As we have reported about this reference work in past years, it is an indispensable tool for architectural libraries and for architectural firms—it is edited by an architect for use by architects. Articles about buildings that have been published in the 11 magazines indexed are arranged by general building type, location and architect or designer. General articles are entered under such subjects as acoustics, economic analysis, office practice, specifications, etc.

Window Glass Design Guide. Edited by Denis Philip Turner. New York: Nichols Publishing Co., 1977. 111 pp.

This book was compiled by members of the Pilkington Technical Advisory Service in Great Britain and first published by the Architectural Press in London. It is based on an expanded version of the "window glass design guide" that appeared in the British *The Architects' Journal* in 1975-76.

The larger the window, the more complex are the problems for thermal and noise control and economy of maintenance. The authors of this book say that from a strictly functional point of view, the glazed area should seldom exceed 20 to 40 percent of the facade. If windows have to be large, there are ways to prevent sky glare and heat build-up through the use of special glass. *continued on page 86*



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Comprehensive in its approach, the book considers the visual, environmental and structural performances of newer window glass. It is divided into three major parts, the first of which considers window design. There is a design guide and a discussion of computer programs for environmental design, the flow of light in lighting design and window design for nontemperate climates.

The second section is on energy conservation, and there are considerations of a low-energy approach to office lighting and of the influence of glazing on energy consumption in offices. The third part is a discussion of solar control—the solar performance of blinds and thermal safety. There are many photographs, diagrams and drawings which add greatly to the usefulness of this timely book.

Zoning and Property Rights: An Analysis of the American System of Land Use Regulation. Robert H. Nelson. Cambridge, Mass.: MIT Press, 1977. 259 pp.

This interesting book on a rather dull subject is *not* an objective analysis of the American system of land use regulation. Nelson has some very clear ideas about the subject and builds the text around those ideas. He feels that the government plays far too great a role in determining the uses of land through zoning and other land use controls. He believes that Adam Smith's "invisible hand" is the best way to determine neighborhood and community land uses. Speaking personally, my appreciation for economic Darwinism in the allocation of land uses is limited. Nevertheless, I have found Nelson's book interesting, readable and to some extent provocative.

The major topics covered concern zoning protection for neighborhood quality; the extension of zoning protection to the community; zoning and public land use; the unhappy consequences of prohibiting sale of zoning rights; zoning evolution in historical perspective; new regulatory protection of regional and state quality; new local growth controls; the basic principles for a new tenure system, and the struggle for high quality environments.

The basic principles espoused by the author include: Private competition should be the primary determinant of neighborhood land use, neighborhood planning should be carried out in the private sector, zoning should be abolished and private tenure institutions resembling condominium ownership should be developed to replace neighborhood zoning and to protect neighborhood quality.

In essence, Nelson's book proposes to abolish the American system of land use regulation. If you have just returned from a zoning hearing and your brilliant project has been denied by narrow-minded, ignor-

ant, abusive and prejudiced zoning board members, this is the book to read for consolation. At least, there are a few writers who are attacking the various foundations upon which such boards sit. *Michael B. Barker, AIP, Administrator, AIA Department of Practice and Design.*

Concepts in Building Firesafety. M. David Egan. New York: Wiley, 1978. 269 pp. \$22.

This is a reference rather than a "reading" book. Its aim is to present the principles of design for building firesafety in a graphical format. As the author says, the illustrations are not supplements to the text; rather, they are the book's core. The design professional will find the book to be an invaluable aid.

The first section gives the basic theory of such subjects as fire behavior, flame spread, fire loads and methods of fire control. The following section on building site planning for fire suppression covers driveway layouts, fire hydrant layouts, roof coverings, exterior shading devices, lightning protection and many other pertinent topics.

The section on building materials and construction concerns, among other things, the fire resistance of steel columns, concrete masonry blocks, brick walls, concrete floors and walls, as well as fire-stop details, lighting fixtures, doors, walls and chimneys and vents. There are also sections on fire detection and suppression, smoke venting and escape and refuge. A final section is on firesafety for tall buildings. There are also lists of firesafety references and standards of interest to the building profession.

A foreword to the book by James H. Stevens, vice president of the International Association of Fire Chiefs, says there has been a lack of communication between fire departments and fire suppression personnel and the professionals who design and build fire susceptible structures. He thinks the book is "an important step across the line between architecture and fire protection," and that the book is a "significant contribution" in its definition and illustration of firesafety standards and techniques "which should be considered in any building plan."

Thomas Jefferson, Landscape Architect. Frederick Doveton Nichols and Ralph E. Griswold. Charlottesville, Va.: University Press of Virginia, 1978. 196 pp.

In July 1806, Thomas Jefferson wrote an acquaintance saying that he had made up his mind to retire to Monticello. "The improvement of my grounds has been reserved for my occupation on my return," he wrote. This book tells what Jefferson did there and also discusses his profound influence on the basic landscape design of the District of Columbia.

The amazing Mr. Jefferson "never pretended to be a landscape gardener," the authors say, but he was "nonetheless the nearest equivalent to a landscape architect in the current fashion of early America. It was, however, not until the appearance of Alexander Jackson Downing, many years later, that the New World was to have a skillful designer in the landscape field, professionally identified as a landscape gardener."

This most interesting book on Jefferson as a pioneer in landscape design affords yet another insight into this remarkable man. His second love, after architecture, was horticulture. "He surpassed all his contemporaries for the breadth and precision of his knowledge in this field." He had a curiosity about all things that grow.

Jefferson's design of the University of Virginia was "a triumph of intelligent study of architecture, of natural environment and of human behavior," the authors say. The chapter on his landscape designs makes fascinating reading. The authors say of the reconstructed gardens at the university, completed in 1965, that "it took two landscape architects and two consultants (an architect and another landscape architect) to restore what Thomas Jefferson could have accomplished single-handedly. Neither before nor since has any one man performed the multiple design functions of surveyor, architect and landscape architect as skillfully as Thomas Jefferson. . . ."

Identifying American Architecture: A Pictorial Guide to Styles and Terms, 1600-1945. John J.-G. Blemenson. Nashville, Tenn.: American Association for State and Local History, 1977. 119 pp. \$6.75.

This little handbook that can be tucked into a car's glove compartment is more for the tourist than the architect. Text is kept at a minimum, and the 214 photographs help the user associate real buildings with architectural styles, elements and orders. The pictorial glossary of terms is particularly helpful. The text provides in terse form the basic characteristics of 39 different styles, ranging from Spanish colonial to art moderne.

The Mathematics of the Ideal Villa and Other Essays. Colin Rowe. Cambridge, Mass.: MIT Press, 1976. 223 pp. No price given.

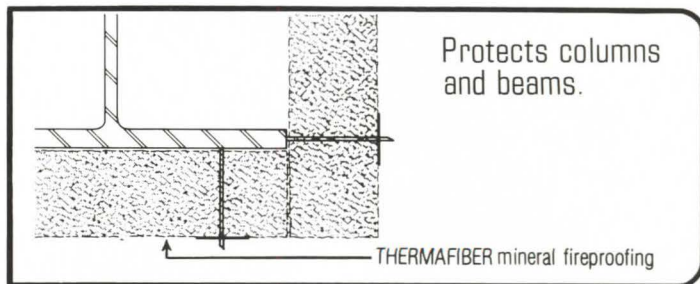
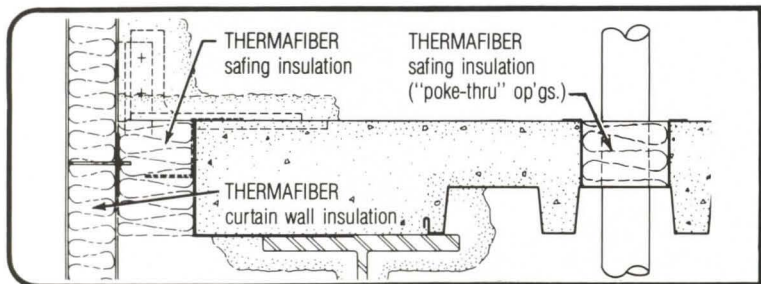
"Highly crafted elucidations of aspects of modern architecture" is the publisher's term for these collected essays of Colin Rowe, professor of architecture at Cornell University. Rowe himself says that this collection could have been published in the early 1960s, but that he is not upset by the delay. "For most of these essays have remained, in some degree, relevant

continued on page 90



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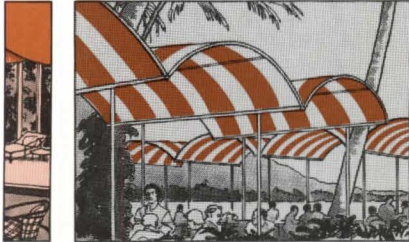
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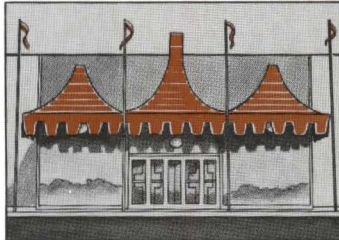
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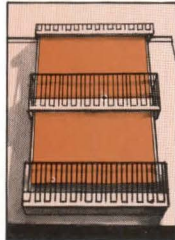
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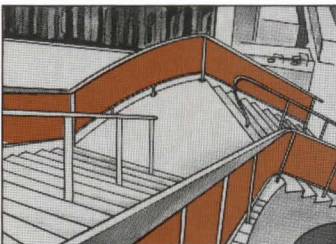
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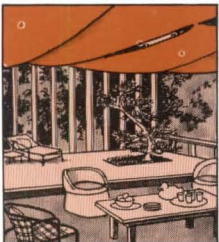
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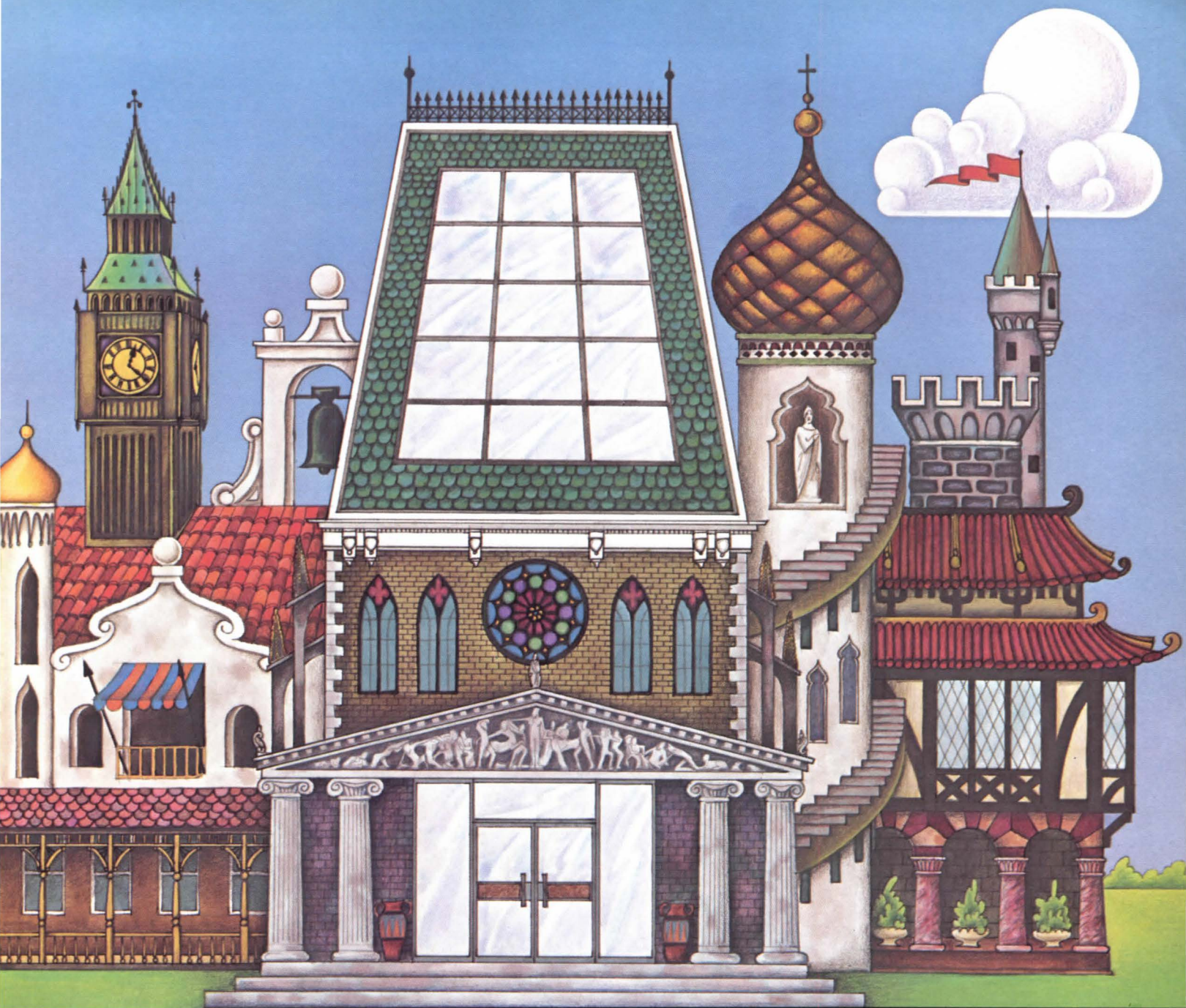
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and some of them have long enjoyed a piratical, xeroxed, student circulation which, to me, can only be gratifying."

It is gratifying as well to the reader that the essays are now collected in book form. In addition to the essay on "The Mathematics of the Ideal Villa," there are eight others. This reader enjoyed particularly the one on "The Architecture of Utopia." Rowe says that "as an imperfect image of the good society, Utopia will persist—but should persist as possible social metaphor rather than probable social prescription."

Melnikov: Solo Architect in a Mass Society. S. Frederick Starr. Princeton, N.J.: Princeton University Press, 1978. 277 pp. \$25.

Konstantin Melnikov (1890-1974) was one of the Soviet Union's most prominent architects in the two decades following the Russian revolution. He created housing projects, office buildings, exposition pavilions, factories—and Lenin's mausoleum. Of the more than 80 projects he designed, however, only 20 were built in his lifetime.

Melnikov was acclaimed internationally for the design of the Soviet Pavilion for the 1925 International Exposition of Decorative Arts, enjoying a triumphal visit to Paris for its opening. When he returned to

the Soviet Union, however, it was not long before his star was in the descendancy. He became a target of Stalinism, and his professional career was prematurely terminated in 1937.

During the 37 years between his forced retirement and his death, Melnikov devoted his time to "retrospection and introspection." In his last years, fortunately, he received "belated but sincere tributes," and architects and students sought him out. "Yet for all this burst of recognition, Melnikov to his last days felt himself to be an outsider, sharing little in common with the world to which his longevity had condemned him," Starr says.

This lavishly illustrated and well-written book gives the reader insights into this architect, as well as a broader view of the Soviet Union during the period of his life, especially in the '20s and '30s. Starr, who is secretary of the Kennan Institute for Advanced Russian Studies at the Wilson Center in Washington, D.C., has written an absorbing book that will be an addition to cultural history.

Doors: Excellence in International Design. Gretl Hoffmann. New York: Whitney Library of Design, 1978. 144 pp. \$24.50.

With text in German and English, this lavishly illustrated book presents an array of doors, both interior and exterior. The aim of the book is "to show the range of possibilities existing for the formal design

and decoration of doors today and to provide inspiration for creative development in the future." Where appropriate, the information is given in the form of plans and detail drawings showing the method of construction. The doors depicted are handsome and add esthetically to the building design.

Conservation Directory, 1978. 23rd edition. Edited by Fran Mitchell. Washington, D.C.: National Wildlife Federation, 1978. 264 pp. \$3.

This very comprehensive listing of organizations, agencies and officials concerned with natural resource use and management is a useful reference work. There are entries for about 1,600 organizations and more than 9,500 individuals. Listed are members of Congress and Congressional committees and federal agencies which deal with conservation and natural resources; international, national and interstate conservation organizations; citizens groups in the U.S. and Canada, and major colleges and universities offering professional training for careers in environmental matters. There are other lists as well, such as U.S. national forests, parks, seashores and wildlife refuges and periodicals, directories and audiovisual materials. To obtain a copy, send a check for \$3 to: National Wildlife Federation, 1412 16th St. N.W., Washington, D.C. 20036. □

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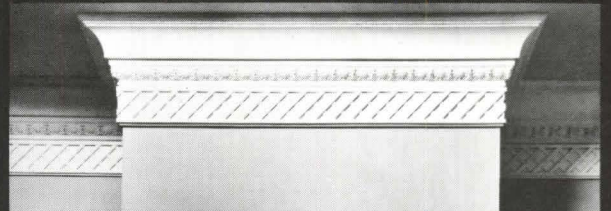
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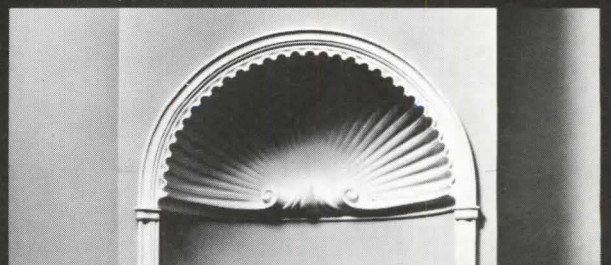
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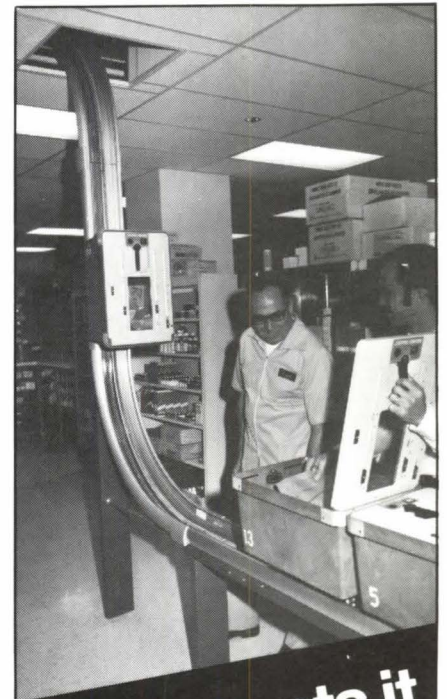
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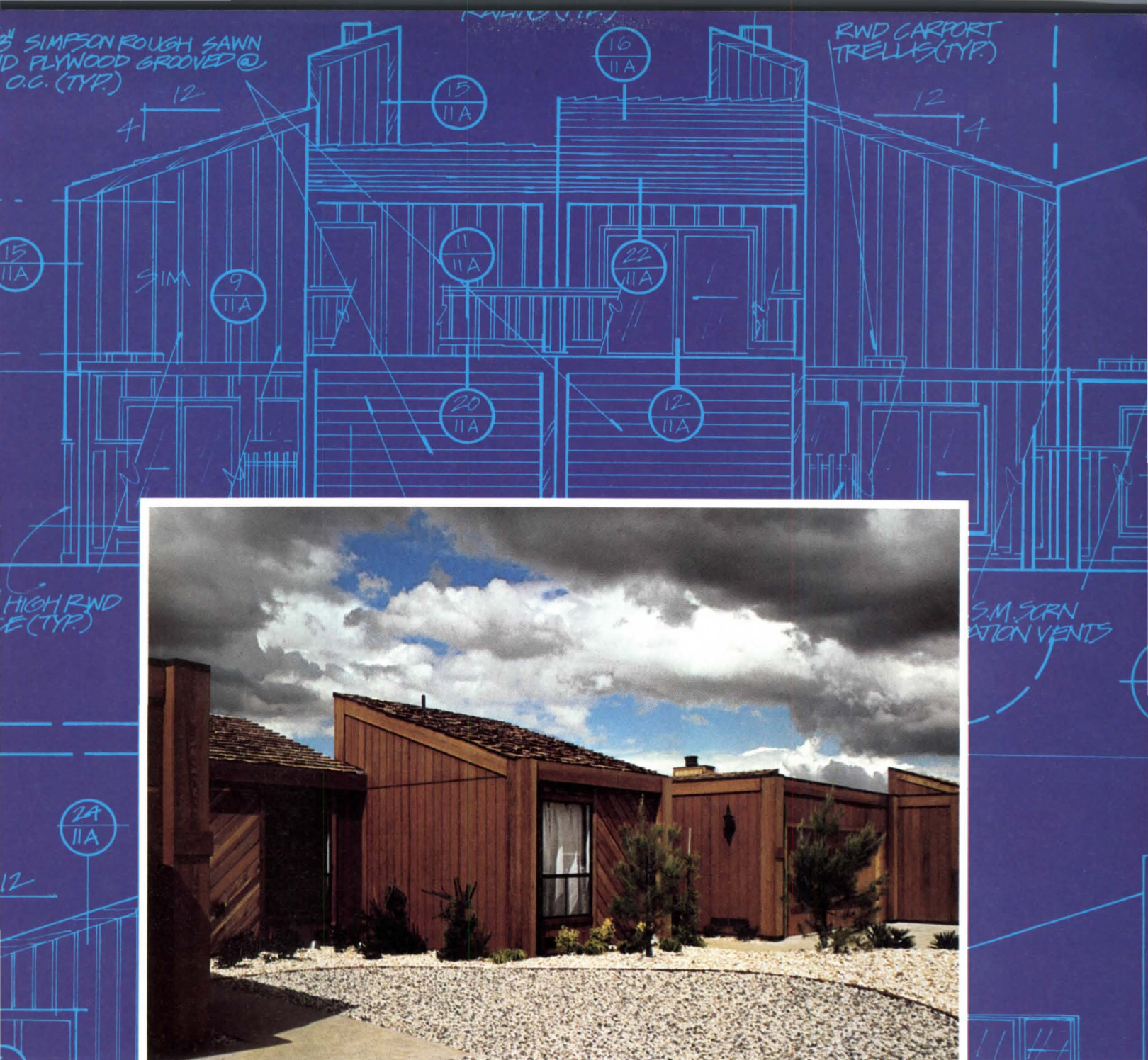
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Government from page 58

six months, and that's halfway through the budget year I have to deal with. There's a lot of Mickey Mouse I don't like. So why put up with it? Because I have a sense that this is a very, very important time for architects. I'm the highest level manager in the Department of Energy who is a licensed architect, and we're conducting research programs that are absolutely vital to the future of our profession and the building industry. I put up with a lot because I feel very strongly that we as a profession have got to be involved and direct the meaningful research. If an individual is not self-motivated, though, it's easy to become disillusioned and not put out 100 percent. The system doesn't encompass incentives."

What about opportunities for architects in government? "I'm going to give you a politician's answer," he answers, "which is there are really good opportunities, but they are few. In other words, if you happen to have the right combination of practical experience, you can then identify certain jobs through the government that are exciting and unique. You have to have your basic training in private practice. I don't believe in students coming out of college and going to work for the government. You have to be able to analyze problems and present them in a convincing manner. You have to be able to deal with people. You have to be a manager. Those are the 'motherhood' kinds of things. Architects tend to stay in their own little world. Lawyers don't, and they run things."

Harry Harmon, FAIA, worked his way up through the construction and building program of California's state and university college system to executive vice chancellor of California's higher education system of 19 campuses, 312,000 students. He was in private practice before joining the California system in 1962.

As director of the building and construction program, he had a staff of two other architects, about four planners, plus construction management and technical sections. "There was a lot of construction, about \$900 million since 1962," he explains. "The excitement of the job was that there was a lot going on and we dealt with a wide range of talented architects. One problem that you have is that you deal, on the one extreme, with the very prima donna architects who think you're obstructing great talent. On the other extreme, there are guys who say, 'Hell, I want to make money on this job and do anything the client says.' Neither extreme has created successful buildings. The important thing about the government architect in this process is that he is a partner in development. He thinks about things from the users' point of view, the taxpayers. The architect usually has a different set of concerns."

Harmon never applied for a job after 1962. Advancement, he says, was a matter of luck and preparedness. "The preparedness," he explains, "consisted among other things, of a good sound architectural training, and not becoming a specialist. It was also a matter of learning to deal with people and packaging architecture to make it successful." Architectural training, he believes, is excellent preparation for managerial work, since it puts a premium on "sorting out information, assimilating it, deciding what is important, what are the risks, the unknowns, making the best decision you can, sticking by it and moving on. It's this problem-solving faculty of an architect that makes him a good manager. People think he has some magic when all he is doing is using his training as an architect."

Harmon deals in the highly competitive, degree-conscious world of academic faculty, and came into it with only a B.Arch. "A bachelor's degree in this environment is like apprenticeship in a gas station," he says. "But, I never let that faze me. I think what they wanted was a problem-solver, and that's what they got."

"As for bureaucracy," he continues, "it's going to be here as long as we're on this earth. You have to address bureaucratic red tape straight on. You wait for a reasonable time and then you begin to agitate, to irritate, to do all kinds of things to

accomplish the goal of cutting through the red tape. As you do this you try to get for yourself the authority that rests with others who are controlling things. You have to be brave enough to confront a legislator who has ideas that may be detrimental or a bureaucrat who is delaying a project. If you're brave enough to have the confrontation, you usually find that 'faceless' bureaucrats become people and you begin to understand them and why they do things. It's a question of problem-solving, communication and courage. You have to be goal-oriented and not let yourself get bogged down with the little irritants along the way. And there is great satisfaction in working within that bureaucracy and accomplishing something."

Now 60, Harmon says, "When I begin to come in to work in the morning without enthusiasm, I should think about doing something else." What else? "Probably go into private architecture, some large firm, use the talents and knowledge I have and see if I can be of help in dealing with bureaucracy."

Jay Brodie, AIA, is commissioner of Baltimore's department of housing and community development (see Nov. 77, p. 38). It was the first such agency in a major city to gather under one roof all of the principal functions of housing and community development, and the 2,000-person commission has aggressively pursued, among other tasks, an urban renewal program aimed at answering specific neighborhood needs, a successful home-steading program, large-scale preservation and public housing. The then 40-year-old Brodie succeeded Robert Embry, now assistant secretary of HUD, in February 1977. Before that, Brodie was deputy commissioner for 10 years, after having been chief planner for urban renewal. He also worked in private practice in his native Baltimore and Houston.

Like Bob Esnard of the Bronx, Brodie is extraverted, fast-moving, fast-talking. Like Esnard, he has deep roots in his city and keeps an expert finger on its pulse—directly, not from an armchair.

Even as commissioner, says Brodie, "I make it a point to be deeply involved in design decisions both downtown and in neighborhoods, making decisions about buildings and streets and parks. We insist on design review and approval for everything, whether it's a rehabbed house or a multimillion-dollar construction in a renewal area. We have a design advisory panel, but it has to be the commissioner—me—who makes the final decisions." He finds it "very gratifying working with people and neighborhoods. It expands your acquaintanceship with different groups, minorities, ethnics, which is what cities are all about."

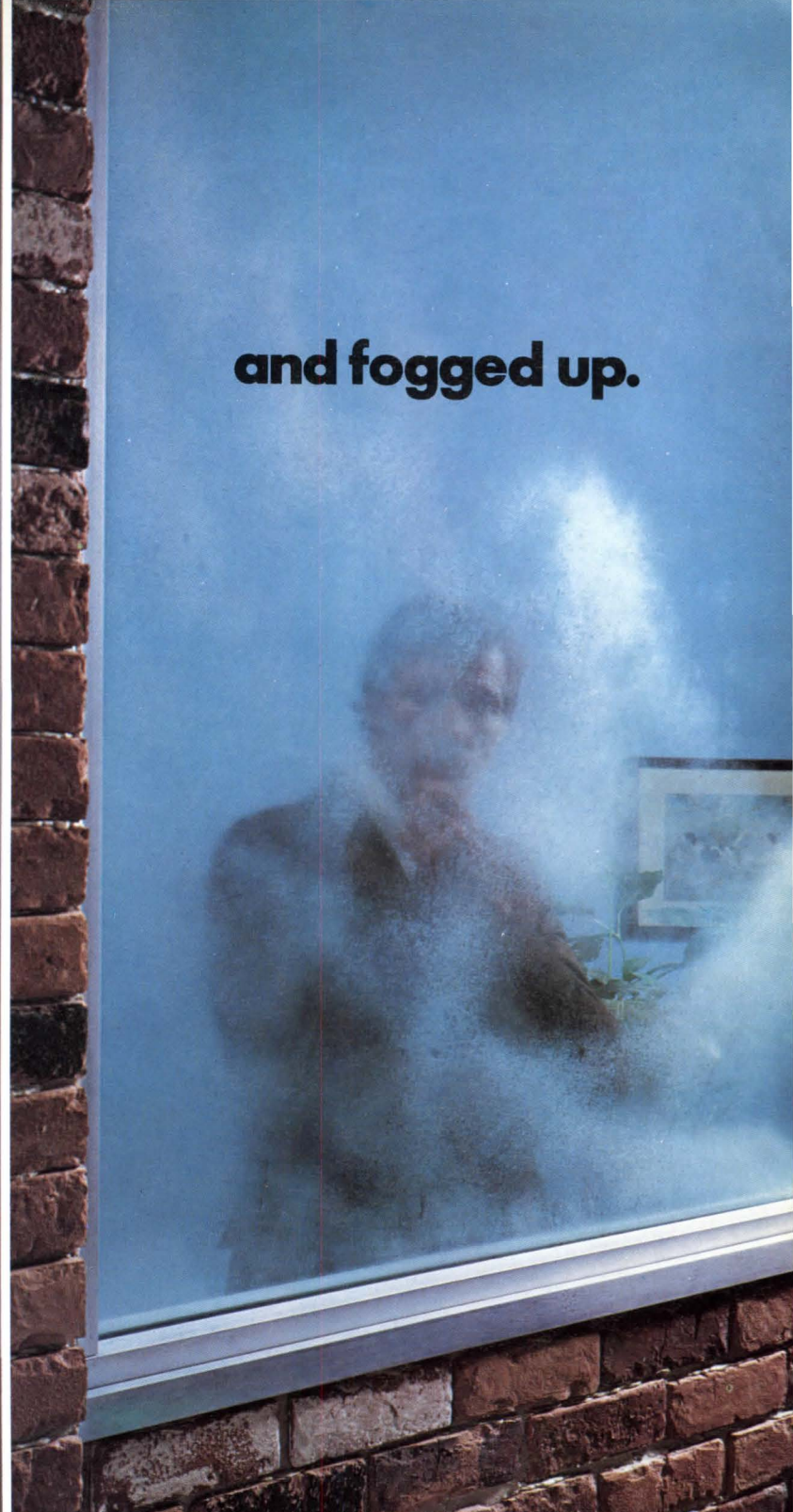
And he recommends a stint with government for most architects, "not necessarily permanently, but certainly at some point in an architect's career, preferably early. The nature of development," he explains, "is more and more a joint venture, a public/private partnership. Government work teaches you about financing and revenue bonds and developers' margins and all those things. It's a very valuable education and one that's not available in schools, nor is it ever likely to be available." Contrary to some government architects, he thinks opportunities for architects in government are expanding.

He chuckles when asked about the frustrations of his job. "Democracy is a balance between dictatorship and anarchy, as someone once said, or I've said it. Sometimes you wish for more ability to cut through some of the checks and balances; you wish there were more money. I think these frustrations would be balanced by other frustrations in the private sector.

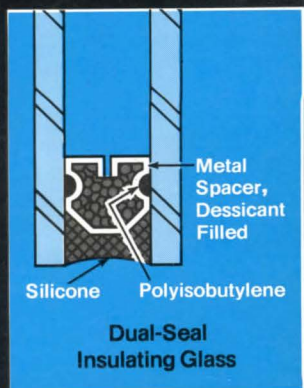
"I think for a long time there wasn't much of a role for architects," he continues. "Maybe a generation ago, few architects would have given up private practice. They would have said, 'That's what we were trained for, and there's more financial opportunity there.' I think attitudes have changed with increased opportunities and an improved image of what it's really like to work for government." □

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Going On from page 36

proved," the proposal continues. "In addition, these activities often provide the catalyst for economic investment and expanded economic opportunities."

Past grants under the National Endowment's livable cities program include: \$20,000 to the regional planning commission, Des Moines, Iowa, to redesign four small towns along the Des Moines River; \$10,000 to the City of Greenville, S.C., to redesign 80 storefront facades in a downtown revitalization program related to a \$28 million central business district project; \$20,000 to the Savannah (Ga.) Landmark Rehabilitation group to provide design services to renovate 82 remaining units of ongoing, low-income projects and to develop site plans for neighborhood improvements, and \$15,000 to the City of Wilmington, Del., to research and formulate a design plan to create a complementary and productive environment in the vicinity of the city's historic railroad station.

New at AIA Headquarters

Charles R. Heuer, AIA, has been appointed assistant director of the documents division at Institute headquarters. He has had experience as principal of his own firm in Cleveland. Having finished

three years of law school, he plans to complete work on a law degree while in Washington, D.C.

Appointed technical director for the revised edition of *Architectural Graphic Standards*, Bill Miner has worked for Keyes, Lethbridge & Condon (now Keyes, Condon & Florance) in the nation's capital. He holds a bachelor's degree in architecture from Princeton University and a master's in architecture from the Massachusetts Institute of Technology. He will continue his affiliation with the University of Maryland as a teacher while working for AIA.

Another new addition to the staff is Michael Cohn, who has succeeded Fred Marks as director of professional interest programs. In addition to earning a master's in architecture from Catholic University, he also holds a degree in psychology from the University of Maryland and has served as a field sanitarian and a juvenile probation worker.

Susan Allen has joined AIA as director of component services. A graduate of the University of Illinois, she has had administrative and organizational experience with several professional and volunteer organizations. She also has worked as a legislative analyst for the American Mining Congress and as executive assistant for Call for Action Inc.

Elizabeth Chalmers, who joined AIA in 1974 as a special assistant for state government affairs, and has served as assistant director of state and local government programs since 1976, has been promoted to director of state component affairs.

Architects in Industry Seminar Is Next Month

The annual architects in industry seminar sponsored by AIA will be held at the St. Francis Hotel, San Francisco, on Oct. 23-25. The seminar is intended to provide and exchange viewpoints, case histories and research on topics of concern to architects and industry. Workshops during the seminar, whose theme is "The Architect in Industry as a Partner," will concentrate on such subjects as design/build, corporate planning and project development and legal and financial aspects of corporate architecture.

The seminar will open on Oct. 23 with registration and a reception given by the Bay Area chapter/AIA. The next morning, the keynote address on the role of communications will be given by Robert F. Fearon, AIA. Among the guest speakers that day will be Derek Drummond,

continued on page 102

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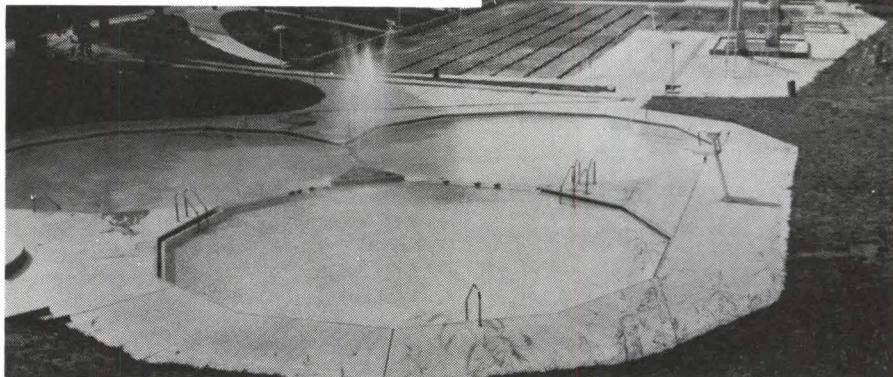
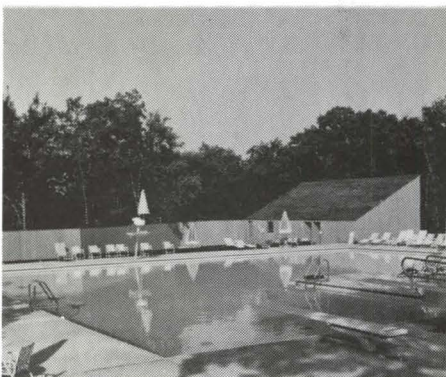
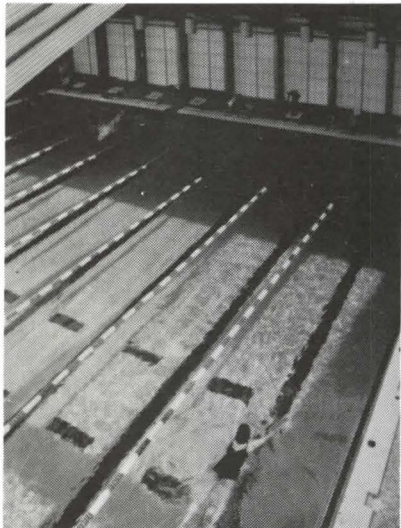
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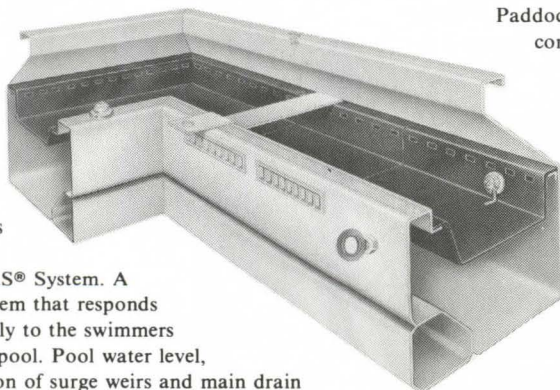


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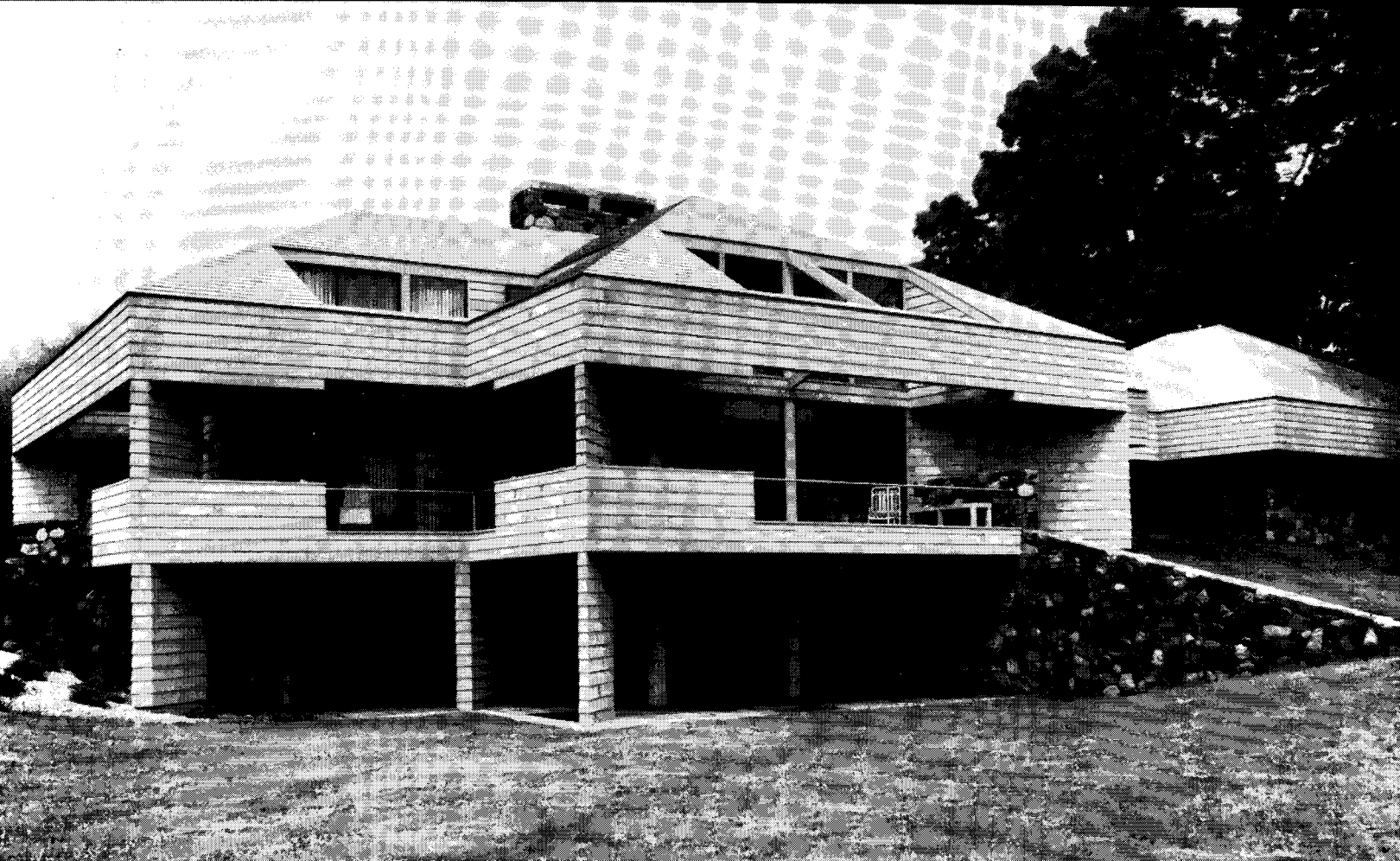
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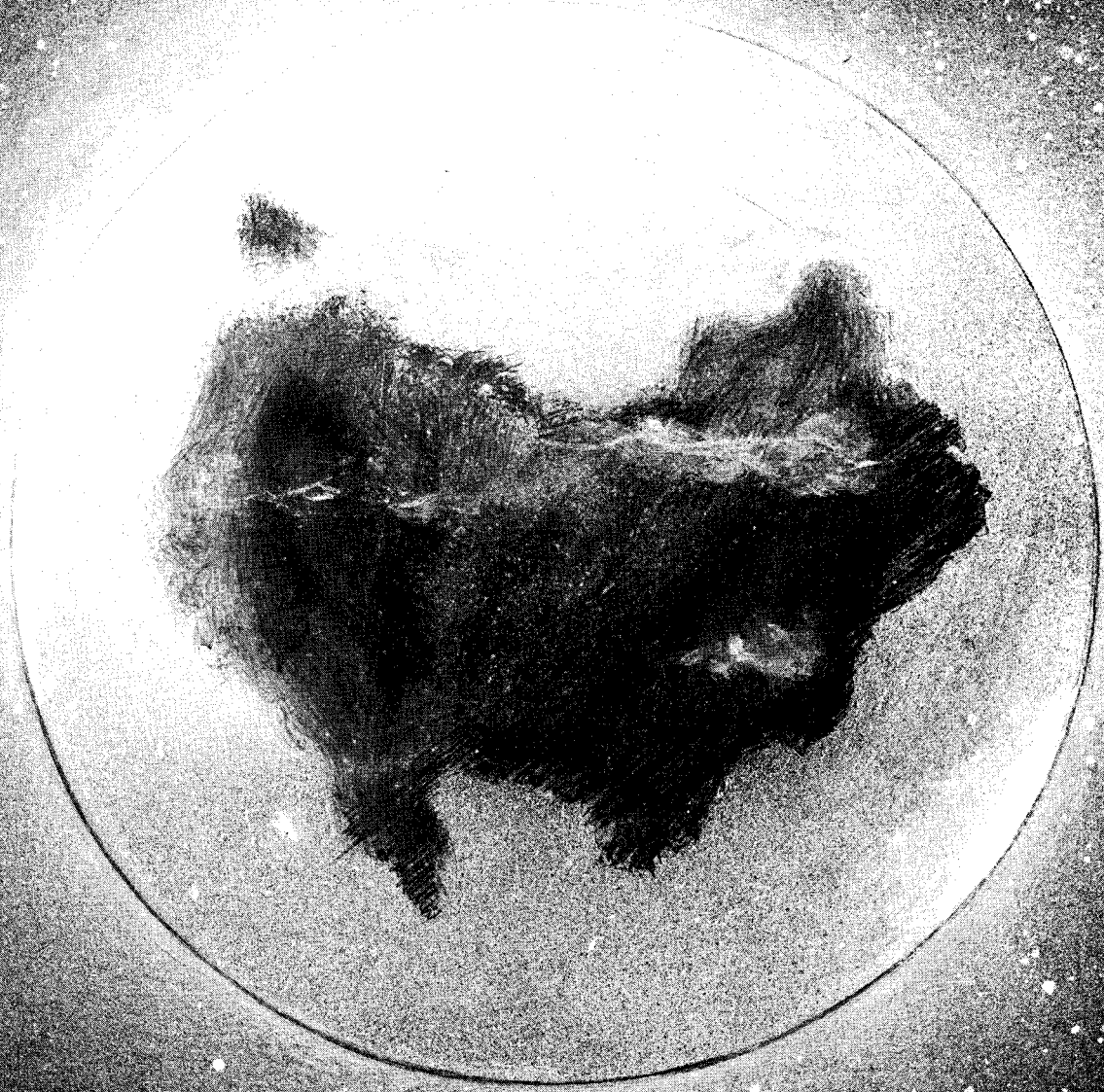
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director of the school of architecture, McGill University, Montreal, who will direct attention to corporate architecture and the corporate architect.

Among the activities planned for Oct. 25 will be a panel discussion by students from the University of California at Berkeley. Another major event will be a discussion of research in architecture, led by Herbert McLaughlin, AIA.

Michael Cohn, assistant director of professional interest programs at AIA, says, "The practice of architecture involves partnerships between the client and professional disciplines. When the client is represented by his own corporate architect, the partnership becomes unique. The corporate architect presents opportunities to communicate professionally industry's needs and the workings of corporate management to the private practitioner, research practitioner and student. The corporate architect can advise industry on the necessity of architectural research and encourage students to communicate with industry as a source of career opportunities."

Further information about the seminar may be obtained from Cohn at AIA headquarters, (202) 785-7366.

Five Trade Groups Back Program for Communities

Five major trade associations have joined forces to create the first nationwide privately funded program for the promotion of community revitalization.

Participating groups in this "industry task force on community revitalization" are the Mortgage Bankers Association of America, the National Association of Home Builders, the National Association of Mutual Savings Banks, the National Association of Realtors and the United States League of Savings Associations. The five associations have a combined membership of 750,000.

The task force plans to encourage builders, realtors, lenders, government officials and residents from each community to form local coalitions for neighborhood revitalization. Second, the task force will provide information on available techniques and programs which encourage builders, realtors and lenders to make community revitalization part of their business operations.

The task force is planning a series of one-day "community revitalization clinics" in major cities. Panel discus-

sions, workshops and case studies will cover the basics of organizing successful programs. The cost of the clinics will be paid by the associations.

Civil Rights Offices Use Telephones for the Deaf

Deaf persons can now receive and send typed messages through standard telephone lines. Equipment for this consists of a telephone dial, a TV screen for reading incoming messages and a special tape recorder. The equipment has been installed in Washington, D.C., the 10 regional offices of the Office for Civil Rights (OCR) of the Department of Health, Education and Welfare and in the Cleveland area OCR office.

The deaf person uses the system by dialing special OCR telephone numbers and then typing out the message on a keyboard. On the receiving end, the typed message is displayed on a 12-inch video screen. If the person making the call gives consent, a permanent record of the conversation can be made. The person on the receiving end can tape record the individual tones that each key makes and

continued on page 104



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Applicants should possess a terminal degree in one or more of the disciplines represented by the curriculum of the College and should manifest a strong commitment to design and the creative process. Applicants should also be capable of articulating persuasively the character of the College and, especially, the symbiotic relationship which obtains between the design professions and allied fields in the humanities and social sciences. Administrative experience will be valued by the Search Committee but it places highest priority upon qualities associated with intellectual leadership . . . imagination, character, achievement, a commitment to high standards. The range and quality of the applicant's experience in academic and/or professional office settings will be of special interest to the Committee.

VPI&SU is Virginia's land-grant University and is located in the visually attractive southwestern section of the Commonwealth. Its enrollment of 20,000 students is distributed among seven degree-recommending colleges. The University is one of two Virginia centers for advanced graduate and professional education.

Applications will be received until September 30. They should be accompanied by a current curriculum vitae and by the names of at least three persons who can furnish references. Confidentiality requirements will be strictly observed. The position will be vacant upon the retirement of Dean Charles Burchard June 30, 1979.

Applications or inquires may be sent to:

Dr. John D. Wilson
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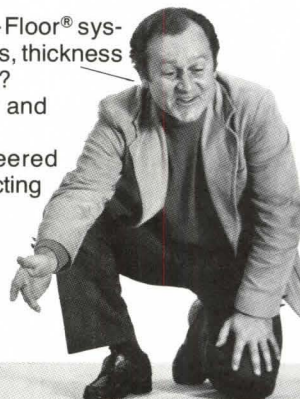
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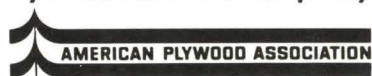
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Going On from page 102

from such a recording obtain a printout of the conversation.

In addition to the units now in the OCR offices, there are also 14 smaller, portable units for use by field investigators or in meetings attended by the deaf. OCR will make information about the equipment available to organizations of deaf persons, advocacy groups and other organizations which communicate with the deaf.

The equipment was developed to assist OCR in performing its duties under the Rehabilitation Act of 1973, Section 504, which prohibits discrimination on the basis of handicap in all federally assisted programs and institutions. "These units will allow OCR to communicate in an expeditious manner with those persons with hearing impairments to answer their questions, and assist them in understanding their rights," said David S. Tatel, director of OCR. "We will make special efforts to let deaf people know that they now are able to bring their questions and complaints to this agency on a basis comparable to the telephone service accorded those who are not deaf."

Design Concept Selected For New Submarine Base

The U.S. Navy has selected a design concept submitted by a joint venture of Gunn & Meyerhoff, Savannah, Ga., and Rogers & Lopatka, Winter Park, Fla., for a completely new submarine support base to be located at Kings Bay, Ga. Kings Bay will provide facilities to support the Poseidon Submarine Squadron now deployed in Rota, Spain.

According to a Navy spokesman, several architectural concepts were submitted for consideration as to architectural style, adaptability to functional requirements and cost. The winning concept will be incorporated in a facility development guide for use in the design of the individual structures by a number of A/E firms that will be engaged in the total project. According to a brochure released by the Navy, the concept is "esthetically pleasing" as well as "adaptable to the varied functional requirements of a modern naval installation with ties to traditional elements of the architecture of Georgia's historic coastal area." (Rendering above).

Identifying elements of the concept include brick veneer construction with brick or precast curved arches, sloping standing seam metal roofs and smaller single- or double-arched window openings. "Possible use of recessed windows and walls and natural shade protection to openings and reduced wall area reflects a concern for energy efficiency," the brochure says.



The agency in charge of design and construction is the Southern Division, Naval Facilities Engineering Command, headquartered in Charleston, S.C. As each facility on the base is designed, it will be submitted for approval by an architectural review board. The initial development is limited to facilities for the support of a single squadron and will occur over the period of 1978 to 1982 at a cost of about \$90 million.

PSAE Plans Conference On Financial Management

Production Systems for Architects & Engineers, Inc., a wholly owned corporation of AIA, will hold a conference on Oct. 12-13 at Institute headquarters to evaluate AIA's computerized financial management system (CFMS). The conference is open to users of the system as well as to nonusers.

The October conference will profit from an earlier one-day brainstorming and exchange-of-ideas conference held in July, aimed at establishing a renewed sense of direction for the CFMS. The conference was attended by users of the system, AIA and PSAE board members and staff, representatives of the financial management task force, representatives of other organizations and Neil Harper of Harper & Shuman, Inc., operator of the current CFMS. Conference participants were requested to prepare written reports of observations and recommendations.

The CFMS was transferred to PSAE in December 1977 in order to deliver another unit of systems designed to assist individual A/E firms in achieving greater efficiency at a lower cost. The first PSAE system to be made available to design professionals was MASTERSPEC, the automated master spec system.

Deaths

Robert W. Blaisdell, Arlington, Mass.
Earl G. Bozeman, Hays, Kan.
Raymond R. Chatfield, Cornwall, Pa.
Frank F. Clarke, Morehead City, N.C.
William G. Crawford, Fort Lauderdale, Fla.
Ralph H. Cushing, Billings, Mont.
John Egan, Washington, D.C.
Geoffrey W. Fairfax, FAIA, Roche Harbor, Wash.
Randolph Frantz, Roanoke, Va.
Grinnell W. Locke, FAIA, Owings Mill, Md.
Joseph D. Rivers, Morehead City, N.C.
Elmer A. Stuck, Jonesboro, Ark.
George W. Wolfe, Ojai, Calif.

Edward Durell Stone, FAIA: When Mr. Stone was a young man, Frank Lloyd Wright predicted that he would have a "brilliant future." Principal of the New York City firm of Edward Durell Stone & Associates, he attained a worldwide reputation for many commissions in this country and abroad. He became well known for his characteristic pierced screen walls, nonloadbearing partitions in front of or behind structural members, which provide shade and ventilation. Critics have said that his design is best exemplified by the U.S. Embassy in New Delhi, India, for which he won an AIA honor award in 1961. He said in 1970 that the embassy was his "favorite" structure.

Mr. Stone, who died in New York City on Aug. 6 at the age of 76, won other AIA honor awards: the U.S. pavilion at the Universal and International Exposition, Brussels (1958); Stuart Co.'s pharmaceutical plant headquarters, Pasadena, Calif. (1958); General Community Hospital of the Monterey Peninsula, Carmel, Calif. (1963), and the Museo de Ponce, Puerto Rico (1967). He was the architect as well of such structures as the John F. Kennedy Center for Performing Arts and the National Geographic building, both in Washington, D.C.; the Museum of Modern Art, New York City; the North Carolina legislative building, Raleigh; the Beckman Auditorium, California Institute of Technology, and the Amarillo (Tex.) Fine Arts Museum.

Mr. Stone studied art at the University of Arkansas and later attended the architectural schools of Harvard University and Massachusetts Institute of Technology. His architectural career started in Boston in 1923 and he moved in 1930 to New York City, establishing his own firm in 1936. From 1927 to 1942, he taught at New York University; he was associate professor of architecture at Yale University from 1946 to 1952, and was a visiting critic at several universities, including Princeton University, the University of

Arkansas and Cornell University. He served on advisory committees for schools of architecture, including MIT and Columbia University.

The recipient of many honorary degrees, Mr. Stone was active in many public service projects, being a member of advisory committees for such projects as the future development of academic facilities for the U.S. Naval Academy and for the Federal Housing Authority. During World War II, he was a major in the Army's planning and design service. He was a member of many organizations, including the American Federation of Arts, the National Academy of Design and the National Council of Arts and Government. He was the author of several books, including *The Evolution of an Architect* and *Architecture: Recent and Future*.

Newslines

GSA's design center has issued another pamphlet in its "lessons learned" series (see April, p. 14 and June, p. 16). The third pamphlet is an evaluation of two prototype lighting installations—one in the Strom Thurmond Federal Building and Courthouse, Columbia, S.C., and the other in the Federal Building, Norfolk, Va. For a copy of the pamphlet, contact: Norman R. Bott, Public Buildings Service, GSA, Washington, D.C. 20405.

Two fellowships for travel and study in the United Kingdom or British Commonwealth countries are offered by the English-Speaking Union of the U.S. to persons concerned with adaptive use and recycling of landmark structures. Architects are among those invited to apply. The deadline for receipt of applications is Dec. 31. Contact: Francis Booth, Chairman, Winston Churchill Traveling Fellowship Committee, English-Speaking Union of the U.S., 16 E. 69th St., New York, N.Y. 10021.

The 1978 Arcosanti Festival will take place on Oct. 5-8 near Cordes Junction, Ariz., at the site of the experimental town, Arcosanti, being developed by architect Paolo Soleri. The theme of the festival is "Art in the Environment." The first two days will be devoted to panels, individual presentations and workshops, followed on the remaining days by a variety of performances including music, modern dance and an environmental-scale light show. For information, contact: Cosanti Foundation, 6433 Doubletree Road, Scottsdale, Ariz. 85253.

Elmer E. Botsai, FAIA, president of the Institute, has been awarded the Royal Australian Institute of Architects' first honorary fellowship to be bestowed upon

an American in 50 years. He also has been awarded the first honorary fellowship in the New Zealand Institute of Architects in a decade. Other honors include honorary fellowship in the Royal Architectural Institute of Canada.

An \$18 million demonstration housing program to benefit people with chronic mental illness has been announced by First Lady Rosalynn Carter, honorary chairperson of the President's Commission on Mental Health, and HUD Secretary Patricia R. Harris. This is the first time HUD and the Department of Health, Education and Welfare will work together through the states to deinstitutionalize chronically mentally ill persons through a program of community-based housing.

The 1978-79 edition of the "International Engineering Directory" is now available from the American Consulting Engineers Council, 1155 15th St. N.W., Washington, D.C. 20005. In addition to explaining the services of consulting firms, recommending selection procedures and outlining the advantages of retaining independent professionals, the directory describes the professional services capabilities of ACEC's 75 member firms. The cost of the directory is \$10 prepaid from ACEC.

Minneapolis architect Daryl Erling Hansen won top honors in the 1978 innovations in housing residential design competition sponsored by the American Plywood Association, *Better Homes and Gardens* and *Progressive Architecture*. A special merit award was presented to Kevin J. P. Daly, AIA, of Jacksonville, Fla. Citations of merit went to: Earl H. Durand Jr., AIA, Alexandria, Va.; Gray Smith, Philadelphia; Tristram W. Metcalfe III, Plainfield, Mass.; A Dean Bell, Santa Monica, Calif., and Roger Kemble, British Columbia.

Paul P. Sun, AIA, of Watertown, Mass., is the 1978 recipient of the Arnold W. Brunner grant for a research study of Chinese vernacular architecture. The grant is given annually by the New York chapter/AIA to further the development of architecture in the U.S. through advanced study.

A revised standard to help architects and school administrators provide adequate lighting systems for educational facilities is now available from the American National Standards Institute. Called the "American National Standard Guide for School Lighting," ANSI/IES RP3-1977, the revision of a 1962 edition takes into account new methods of teaching and devotes a major portion to lighting criteria for visual performance and comfort.

Copies are available for \$10 from ANSI's sales department, 1430 Broadway, New York, N.Y. 10018.

Charles Kober Associates, an architectural firm in Los Angeles, has established an architectural intern fellowship at the University of Southern California. Two \$5,000 awards went to James Piridy and Philip DeBolske. Both are fifth-year students majoring in architecture at USC and will work part-time at CKA during the next school year.

An endowment in memory of Eliot F. Noyes, FAIA, has been established at Harvard University's school of design. Mr. Noyes, who died on July 17, 1977 (see Aug. '77, p. 76), was an AIA honor award winner and a recipient of the Institute's industrial arts medal.

Architect Moshe Safdie, perhaps best known for his design of Habitat in Montreal for Expo '67, has been named studio professor of architecture and urban design and director of the urban design program at Harvard University's graduate school of design.

"The Energy and Environment Bibliography," prepared by Betty Warren for the Friends of the Earth Foundation, lists hundreds of books, pamphlets, films, slide shows, etc., on energy and its impact upon society and the environment. A copy may be obtained from the foundation for \$3.50 at 124 Spear, San Francisco, Calif. 94105.

Two architects were among the nine prize winners in the 1978 plywood project contest sponsored by the American Plywood Association and *Popular Science* magazine. The \$1,000 grand prize was won by John Leggett, a partner in Designworks, an architectural firm in Santa Barbara, Calif. Charles Goulding, director of architecture for the Philadelphia firm of George W. Ewing Co., won an honorable mention. Both architects designed knockdown tables of plywood.

Information on theaters designed by Thomas W. Lamb, John Ebersson and C. W. and George L. Rapp is sought by the research design studio, University of Wisconsin-Milwaukee. Contact: Joseph Valerio, School of Architecture and Urban Planning, University of Wisconsin-Milwaukee, Box 413, Milwaukee, Wis. 53201.

The New York chapter/AIA has awarded its 1978 Le Brun traveling fellowship to Gary S. Flesher of McAlester, Okla. The \$5,000 fellowship is granted biennially for travel and the study of architecture outside the U.S. □

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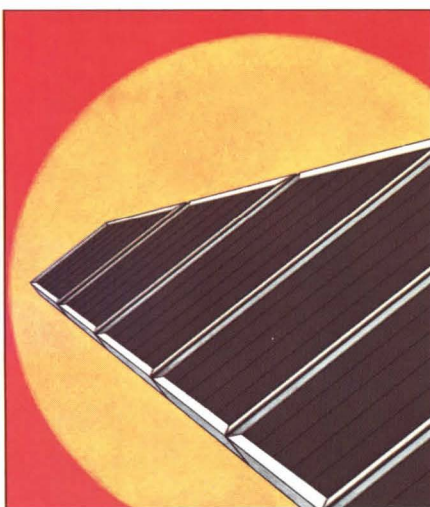
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The relation between cost, thermal performance, and ease of installation presents a logical, bottom-line comparison of solar energy systems. We believe the

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5 How much help can I expect from their local representative?

In keeping with its technical orientation, Sunworks assembled a network of experienced HVAC representatives and trained them in solar technology. They are particularly responsive to the needs of engineers and architects for specific data readily applicable to the project at hand. The range of services available through Sunworks representatives includes computer simulations of collector performance, system sizing, analysis of return on investment and engineering design assistance.

6 Can they demonstrate financial stability?

Sunworks is a division of Enthone, Inc., a leading supplier of chemicals to the metals finishing industry. Enthone is a subsidiary of ASARCO Incorporated, a Fortune 500 company, and one of the world's largest smelters and refiners of nonferrous metals. Sunworks has access to the resources and technology of both these companies.

For more information on Sunworks and its complete line of solar energy equipment, write Sunworks, P.O. Box 1004, New Haven, CT 06508. Or call Sweet's Buyline (800) 255-6880 for the name of the Sunworks representative nearest you.

SUNWORKS

“Hockeytown U.S.A.” is also famous for triple glazing

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