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*Patent pending

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"When I first heard about Surewall®, I thought it was a bunch of bull. Lucky for me, situations forced me to try it."

Bob Leising, President, VIP Commercial Contractors

Bob had to add to the existing Valley International Convention Center and unify the new additions with the old block building. Various solutions were proposed. None filled the bill. SUREWALL® Surface Bonding Cement was suggested as a covering for the old building, and construction material for the new. Surewall, which embeds glass fibers in a white cement matrix, eliminates mortar. Blocks are dry-stacked, and coated with ⅛" of Surewall on both sides. That's all that's needed for a finished wall inside and out, as the material itself is an attractive, water resistant finish coating.

Believing you couldn't drystack successfully, Bob built experimental Surewall walls. And tried to destroy them.

Having proved to himself that the innovation worked, he used Surewall to coat the old building, and to construct the new additions. With beautiful results.

When Bob discovered that he was saving $1.00 per sq. ft. on through-the-wall costs, he determined to use Surewall on the residential development as well.

"As the guy who pays for getting the building done, I like the price stability of Surewall. The price of lumber, for instance, depends on so many outside factors. With Surewall, I can budget my construction costs with confidence."

Bill Bass, President
Valley International Properties

As the driving force behind Valley International, Bill looks at Surewall with many insights. As a builder, he sees his budget. He also sees the cleanest job he ever saw—construction without the usual amount of waste a builder must eat at the end of every job.

As a developer, he also looks at Surewall through the eyes of a prospective homeowner. And then he sees the selling features. The solidity of a Surewall home. Reduced fire and other hazards. Attractiveness, thanks to the ability to texture Surewall, or paint it, or cover it directly with fabric. He also likes the freedom to design homes in each neighborhood differently.

"I used Surewall on my own home and was completely satisfied with its appearance and costs."

Marvin Boland A.I.A., President
Landscape International Inc.

Marvin Boland, architect for Valley International, became acquainted with Surewall through a demonstration of the product for the local architectural chapter.

The demonstration stressed the flexibility of the product and the fact that Surewall construction is stronger than conventional masonry construction.

He had his own home built with Surewall for its aesthetic value and reasonable cost.

"Surewall makes masonry construction competitive with tilt wall and metal buildings. It's a whole new ballgame."

Albert Wolfe, President
Wolfe Masonry Incorporated

Wolfe, a masonry contractor, shared Bob Leising's opinion that drystacking block was bull. Today, he is quick to say that while Surewall saves the builder money, it helps the masonry contractor to make money.

Simply stated, a Surewall wall is a finished wall. Since it goes on ⅛" thick inside as well as outside and can be textured, the masonry contractor now controls the entire wall system.

With his trained crew, he can work faster with Surewall, finish a home inside and out, clean up quickly, and move to another job.

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If there's ever been a time our industry needed a product like Surewall, it's now.

With the need to innovate in an industry undergoing change, Surewall is the right product at the right time.

Valley International has proved it works. But more than the eyes of Texas are on this building revolution.

There's a Hilton Inn in Asheville, North Carolina. An apartment complex in Hampton, Virginia, and a variety of projects in Florida.

Globe Industries in Raleigh is currently using Surewall as a finish for mobile classrooms to be used in Dade County, Florida.

Some voices are heard saying the industry should think smaller. Don't think smaller, think better. Think Surewall.

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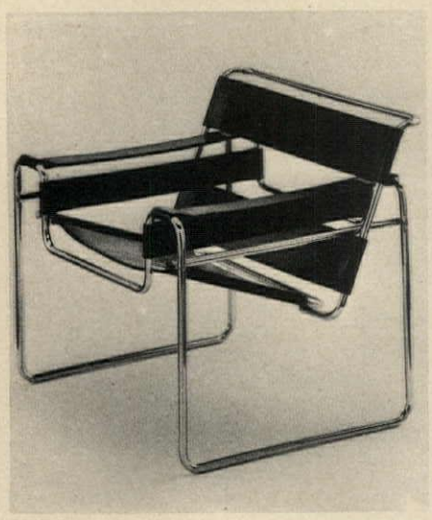
Views



Wassily chair by Marcel Breuer

Seat of pleasure

I prefer pillows, Dr. Lampert, but gee whiz this is a comfortable chair . . . to me at least. Thank God we are not all the same.

Richard Bozic
Cleveland, Ohio

Awards follow-up

While reading through the 22nd Annual Awards issue of P/A (Jan. '75), a thought occurred which I believe has been overlooked. While the judges of the P/A jury are made up of experienced persons in the field of architecture, where their opinions and knowledge are recognized, I feel the P/A and the jury should also look at another judging factor.

This factor includes the people that live, work and play in these micro-environments created. A reevaluation, at some future time, is needed to show us whether these solutions have really solved the problems. Just as the P/A jury overlooks many honorbound entries, an award or citation does not make the project a success during its lifespan. I am sure that most architects would like to know the outcome from past work that they and others have done. After all, the architects, planners and designers are planning for the future human environment.

Richard Kline
Designer
Fair Lawn, N.J.

[We published follow-up articles on several of our previous winners in the June 1973 P/A, and we intend to treat more of them in this way—Editor]

Concerted effort

Your description of the Music Building at Swarthmore College (Dec. 74 p. 62) and its systems was faultless and imaginative. Our electrical consultant, Donald F. Nardy & Associates, Philadelphia was omitted from the credits, however.

Ehrmann Mitchell
Mitchell/Giurgola, Architects
Philadelphia, Penna.

Fun vs. safety

I read with interest and was most impressed with your pictorial essay (Jan. '75, p. 22), on the opening of the new "Water Garden" in central Fort Worth, Texas. It is truly a beautiful and imaginative development, as well as an ideal gathering spot within the central city.

I was a bit surprised, however, by the picture of the "Active Pool" and the crowds of people finding their ways on the stepping stones down the embankment and around the pool. Although it provides an exciting and entertaining experience for the visitors, it would also seem to present some degree of hazard. With the current national emphasis on safety in all aspects of public and private activities, I am curious as to how this development was viewed and handled by the responsible agencies.

Harold C. Cunningham
Grosse Pointe, Mich.

No anger

Re your News Report item "Deck the halls . . . but where are they?" (P/A, Dec. 1974, p. 24): I am not an architect or a job recruiter, and I can't accept responsibility for the elegant little utterance, "You see anything from long faces to anger." I've seen concern, confusion, and bewilderment but no anger. I do offer services to architects and engineers but in business development and management planning, not job recruiting.

David Travers
David Travers & Associates
Santa Monica, Calif.

[Sorry, we can no longer reconstruct the origin of that quote, but we are relieved to hear that Mr. Travers has observed no "anger." Sorry, also, that a reference to his "getting jobs for architects" was misconstrued to mean employment, rather than commissions.—Editors]

Line of credit

As a matter of information regarding your article on the Fort Worth Water Gardens (P/A, Jan. 1975, p. 22), I would like to point out that the mechanical and electrical engineering as well as the water effects were designed by the firm of J.S. Hamel Engineering Inc., Burbank, Calif.

It is rare indeed to have had the opportunity to work on such an extensive project where the aesthetics are of prime importance but, alas, not even one line of credit.

Mr. Hamel's retirement is a loss to the industry but the firm carries on his fine traditions as Henry Sudtell Engineering, Inc., Glendale, California.

Mel Bilow, Vice President
Henry Sudtell Engineering, Inc.
Glendale, Calif.

Proper credit

Piano & Rogers, architects, were the subjects of Esther McCoy's Report from London (Jan. 1975, p. 34). The extra "d" in Richard Rogers' name was P/A's error.

Several additional credits for the Conference Center near Mecca (P/A, Dec. 1974, p. 78) have been called to our attention. In addition to the architects Prof. Frei Otto and Prof. Rolf Gutbrod, and their associate H. Kendel, O. Tarnowski was the project manager; structural consultants were Ove Arup & Partners of London; quantity surveyors were Widnell & Trollopse, also of London; photography was done by the general contractor, Enterprise Thinet/S.N.E., of Boulogne s/Seine, France.

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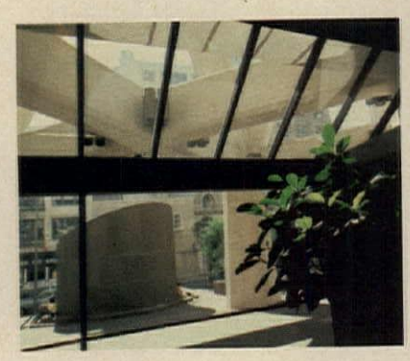

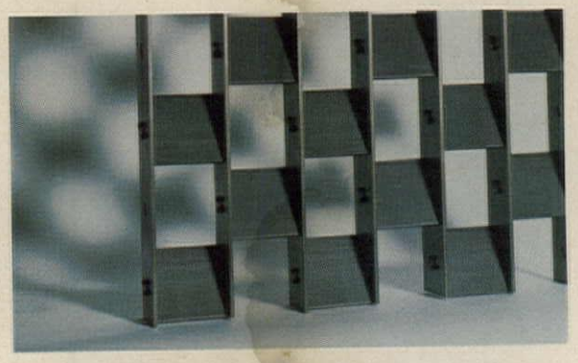

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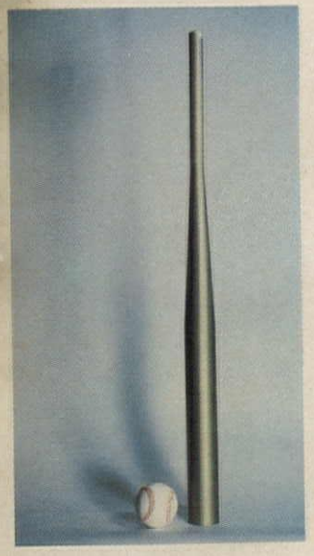

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P/A in May Energy Update

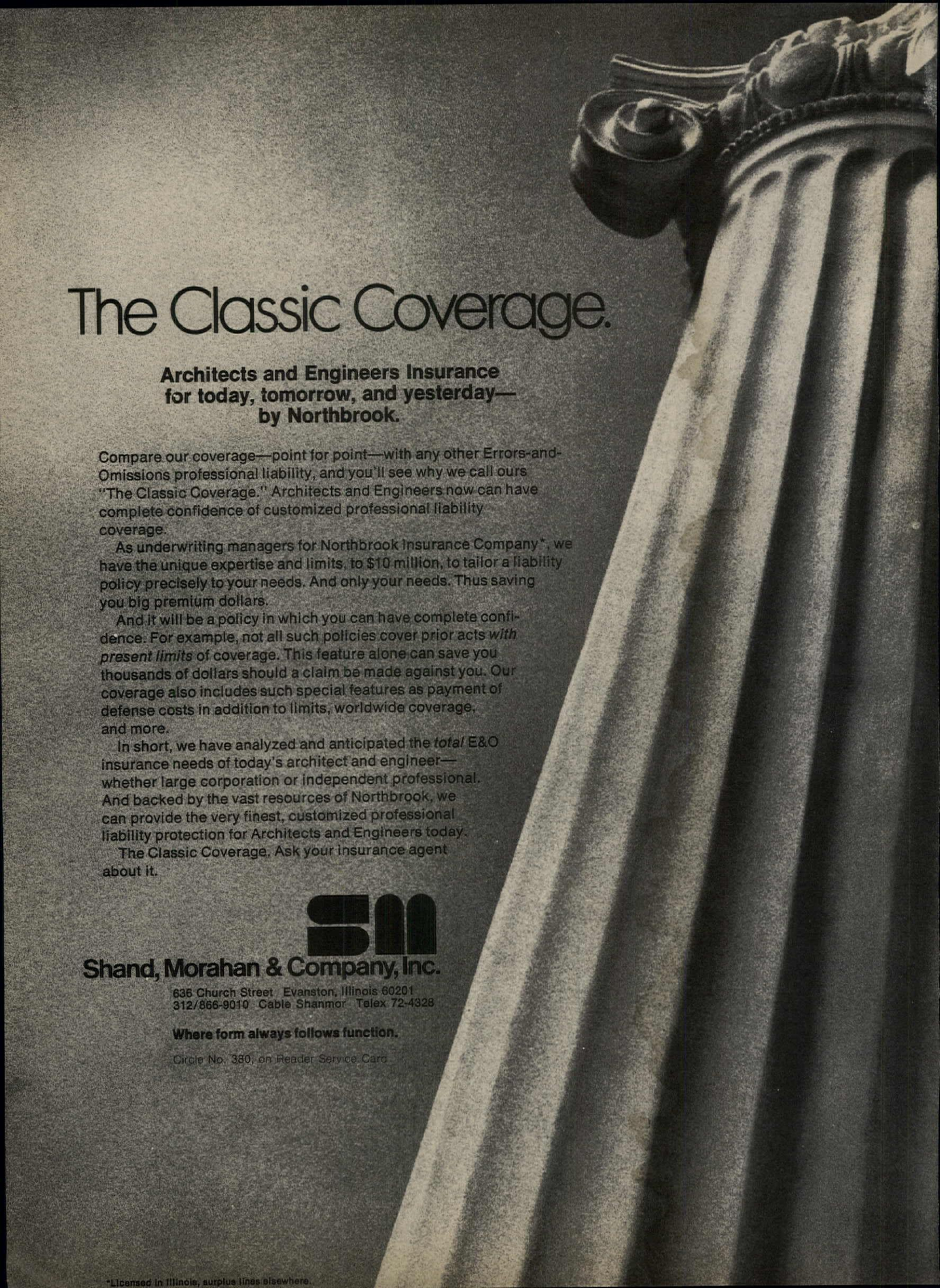
What can architects do now about energy management? That is the question P/A will answer in a special May issue on energy sources and conservation. Now that the public recognizes the need to conserve, architects will have a chance to show their skills. To help them along, P/A in May will cover the energy policy outlook, off-the-shelf hardware for harnessing sun and wind, and information on energy-conserving materials and techniques.

Possibilities attainable today will be demonstrated in three outstanding completed projects: The **Childrens' Hospital of Philadelphia,** by Harbeson, Hough, Livingston & Larson, recycles heat from a one-million-cubic-foot central court as an energy source for a superior clinical facility; **Rhode Island's Energy Conservation Station,** brainchild of the Research and Design Institute, recycles an old industrial building into a laboratory of energy-saving design (windows and insulation) and alternative energy sources (sun, wind, waterpower); **Interiors of the Arco Corporation headquarters** in Philadelphia, designed by Interspace, Inc., use a system of open office furnishings with built-in lighting to eliminate ceiling lighting, saving not only energy, but potentially valuable floor-to-floor height.

Energy is by no means a new issue for architects. Readers of P/A had advance warning of the recent "crisis" in our October 1971 special issue, "Life Support Systems for a Dying Planet." From now on, the energy problem is going to be part of every architectural problem. Let the May P/A show you how energy problems can be opportunities.

and in June

P/A will visit reclaimed **waterfronts** all over the United States, covering both **planning and buildings** on these currently active development sites. **Technics** will take up the special preservation problems of **Venice,** and their implications for waterfront construction the world over. Interior architecture for June will present two **office interiors** designed by well-known architects.



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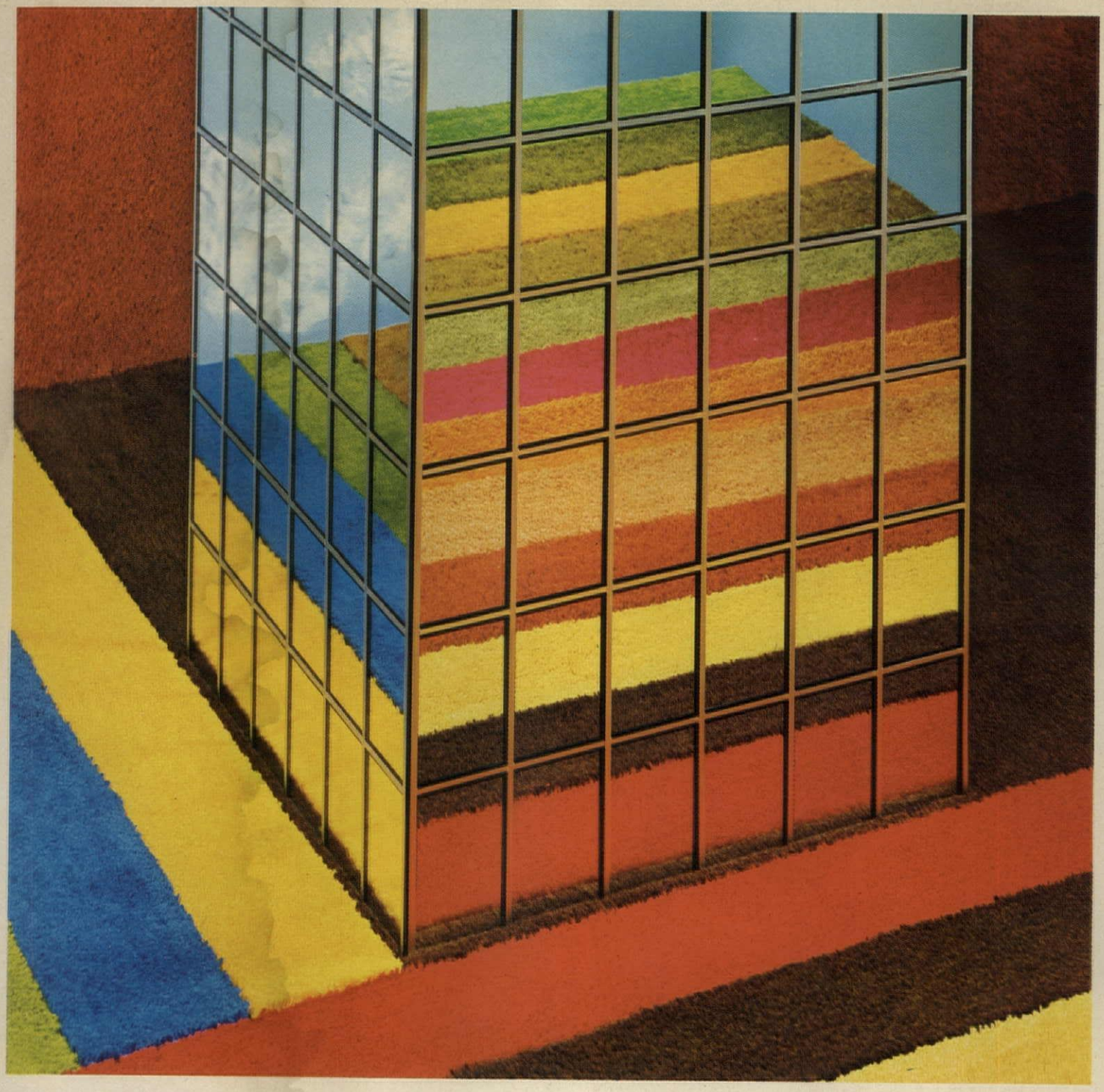

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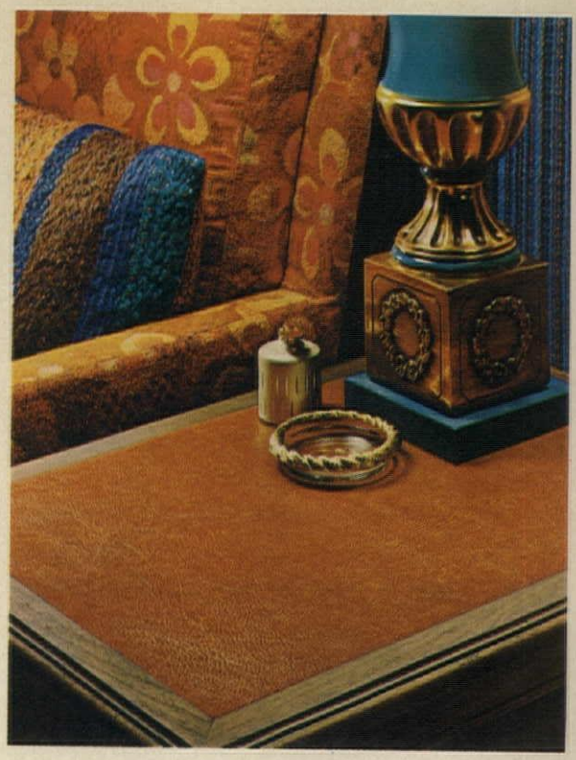

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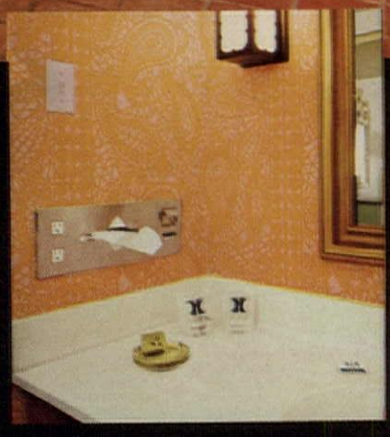
the new hotel washroom:

Haver, Nunn & Nelson, Architects, Phoenix, Arizona

How do you provide hospitality in a hotel washroom? The new Scottsdale Hilton does it with colorful decor and Bobrick stainless steel accessories.

In the public washrooms recessed waste receptacles and dispensers for towels, soap and feminine napkins complement the interior design. Grab bars for the handicapped and pull-down shelves are thoughtful conveniences in the toilet compartments. Guest bathrooms have Bobrick units that combine a facial tissue dispenser, bottle opener and two electrical outlets.

These and many other accessories for today's hotel washrooms are described in our Hotel Planning Guide. Send for a copy. Bobrick, 101 Park Ave., New York 10017. Bobrick products are available internationally.



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News report

تعليم القراءة عكسياً

Practicing architecture in the Middle East is like "everything you're used to in a good, booming situation with two zeros added," reported a cheerful-sounding J. Karl Justin, New York architect whose partner John O'Brien was in Iran on business. O'Brien, on returning had his own observations concerning those who hold the petrodollars: While language, he said, is written backwards (from the American point of view) numbers, reassuringly, are from left to right.

Overseas work for United States architecture and engineering firms is climbing at a rate of 10 to 15 percent annually, but much more work is there to be had. Returning last fall from the second (in four years) Iran International Congress of Architecture—by invitation only—José Luis Sert said of the Tehran Hilton "You meet half the world there."

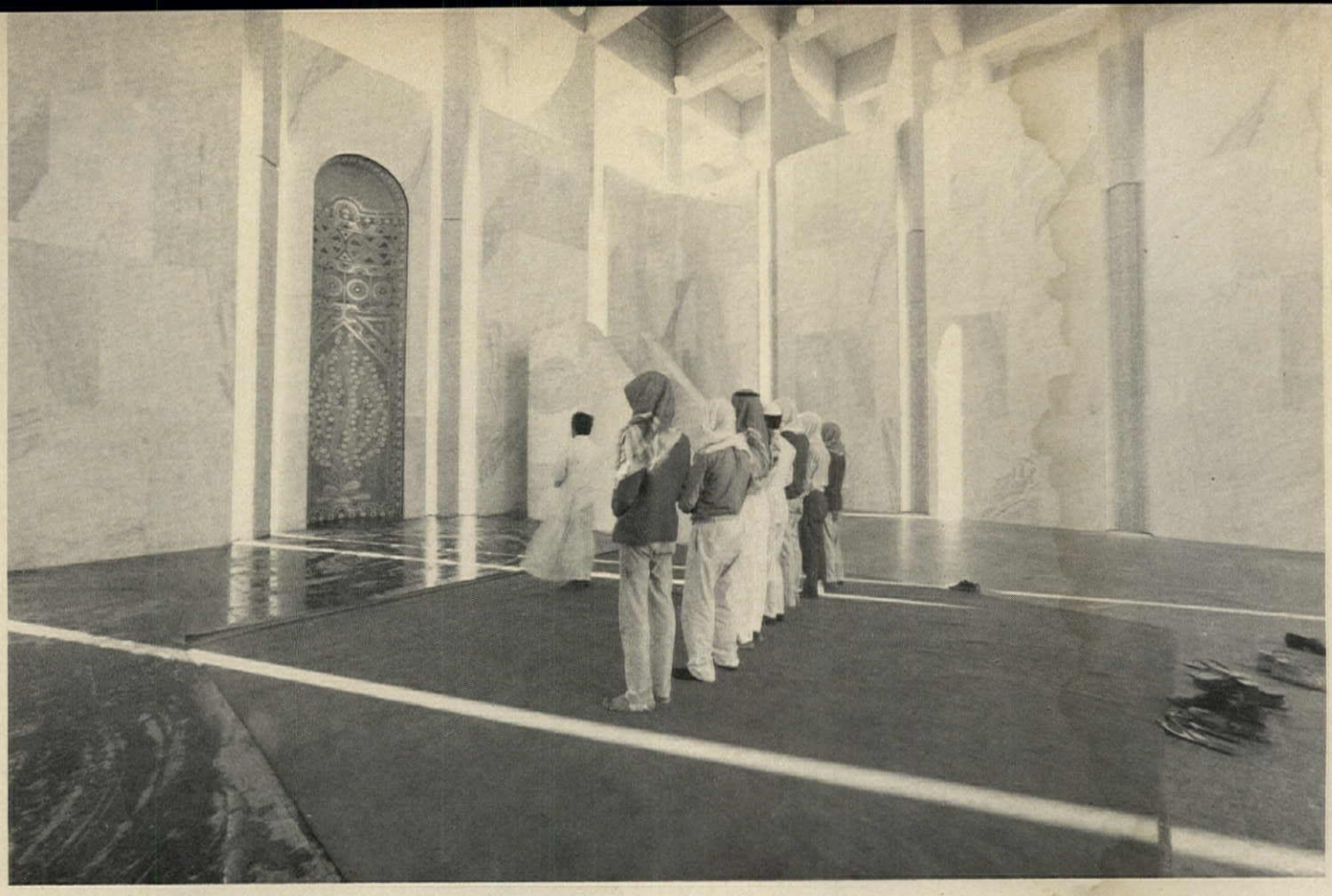
With the economic slowdown due in part to the oil embargo of 1973, American architects are scouting the oil-rich desert lands of Iran, Saudi Arabia, and the Persian Gulf countries for work and finding eager clients anxious to catch up with the West. So strong is the drive to Westernize that even teenage girls wear the ankle-length hood and veil over platform boots and bluejeans.

Saudi Arabia's late King Faisal (raised hand) followed by Sheik Khalifa of Doha, Qatar, at dedication in November of the College of Petroleum and Minerals by CRSDA International

At this stage most firms are reluctant to talk about projects, some still in negotiation and others with ink barely dry on the contracts. The firm with possibly the longest experience in the East is The Architects Collaborative, Cambridge, Mass., which began master planning the University of Baghdad 18 years (and six political regimes) ago but is just now seeing construction starts on two major portions of the campus. Only the faculty tower entrance, roads, and utilities have been completed so far. TAC now has other projects in the Middle East—to the extent that the office has started a class in Arabic for a dozen of its members.

The biggest project to date, a $3 to $5 billion new town for a two-mile-

(The headline is Arabic for "Learning to read backwards" or "How to practice architecture in the Middle East")



News report

square site near Tehran, Iran, will take architect Jaquelin T. Robertson, president of the planning and design division of Arlen Realty & Development Corp., New York, away from his job for two years while he heads the international team planning the new town, to be called Shahestan Pahlevi. The master plan contract has been signed between the City of Tehran and Llewelyn-Davies International, London.

James M. Sink Associates, Houston, is negotiating for several higher education projects including a billion dollar university for Riyadh, the capital city of Saudi Arabia. Daniel, Mann, Johnson & Mendenhall, Los Angeles, has opened an office in Beirut and is negotiating a contract for a project in Algeria. Ellerbe Architects/Engineers/Planners of Bloomington, Minn., and DMJM are joint venturing two medical complexes in Saudi Arabia, at Riyadh and at Taif—the summer capital. The projects total more than $925 million and are virtually towns within themselves including teaching facilities, residential structures, and mosques.

Minoru Yamasaki, Troy, Mich., is working on the new headquarters for the Saudi Arabia Monetary Agency in Riyadh. That firm's Arabian connections go back a dozen years to when Yamasaki designed the Civil Air Terminal Building for Dhahran Airport.

Wallace, McHarg, Roberts & Todd, Philadelphia, is doing the master planning for the $60 million Pardisan Environment Park in Tehran. WMRT also was involved in the site selection for a new city on the Persian Gulf of Iran for which Skidmore, Owings & Merrill is doing the master plan and architecture in collaboration with Mandala Collaborative of Tehran. William L. Pereira & Associates, Los Angeles, is working with Medical Planning Associates of Malibu—architectural specialists in the health care field—on the $171 million International Medical Complex in Tehran, said to be the biggest ever built under one contract. In all, MPA has $300 million in Middle Eastern projects. Pereira also is working on three projects, in excess of $100 million, in Qatar: a new town plan; a tower complex consisting of a public plaza, shops, and restaurant; and a study for a hotel and conference center.

If such work sounds glamorous as well as rewarding, it may be, if one has the fortitude and tastes of a bedouin. Saudi Arabia, the richest country, also is the most austere: "There's no entertainment, no drinking, no color, and no women," reported James Moore, planning associate of MPA. Michael Maas

College of Petroleum and Minerals interior view (top of page) and exterior (above)

of Haines, Lundberg & Waehler, New York, said he was astounded when he flew over the Arabian desert to Dhahran on the Gulf and saw nothing for three hours but sand, interrupted only by an occasional oil pipeline.

Even Tehran, the most cosmopolitan capital, poses hurdles for the American. For example, the business week begins on Saturday and goes through half of Thursday. Friday is the day of rest. Street addresses are hard to find;

TAC's University of Baghdad Faculty Tower

University of Tunis by TAC

Kuwait Fund for Arab Economic Development (see stamp, p. 24)

Tea room for Kuwait Fund employees where tea is served at 10 a.m.

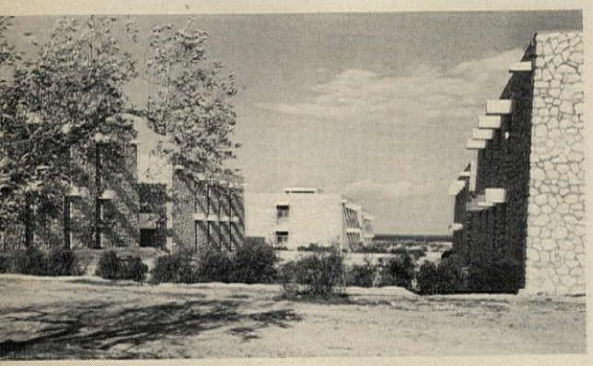
taxicab meters read in Persian numerals—"a five looks like an upside down heart and a zero is simply a dot," related John O'Brien; and when a Persian says "Yes, yes," as they frequently do, it means only "I think I understand, yes." Moreover, air pollution in Tehran is a major problem, traffic is the worst in the world, according to several recent visitors, and storm sewers are exposed along the streets.

On the positive side is the tremendous opportunity for innovation. As in the case of new health facilities, which are being erected without code or bureaucratic restrictions, buildings will be so advanced that in five or six years Westerners will be traveling East to see what buildings should look like, predicts MPA's James Moore.

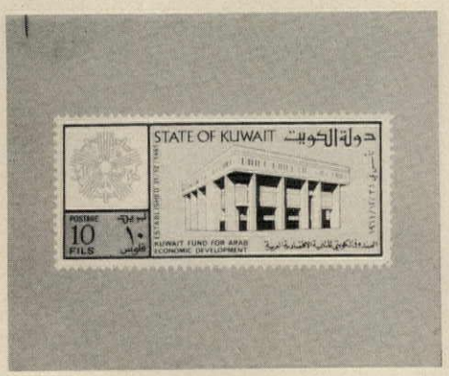
TAC's Middle East coordinator Robert Barnes calls recent worldwide interest in that part of the world "the new gold rush." But starting with the international connections of Walter Gropius, one of TAC's founding partners, TAC has enjoyed a long-time overseas practice which includes, besides the University of Baghdad, several projects in North Africa: the University of Tunisia, a joint project with French and Russian input; an agricultural school in Sousse, Tunisia; two teacher-training colleges in Mali and Nigeria; and an animal vaccine center, Mali. TAC also has two hospitals for Abu Dhabi and an addition for the recently opened Kuwait Fund for Arab Economic Development Headquarters, which TAC designed, and which appears on a commemorative stamp issued by the Kuwait government. Construction contracts pending are for two Kuwait commercial centers—really parking decks with shopping arcades on several floors and the possibility of housing and offices above. TAC's Middle East and African projects have totaled more than $150 million since the late 1950s.

Skidmore, Owings & Merrill is currently negotiating for a university in Al-

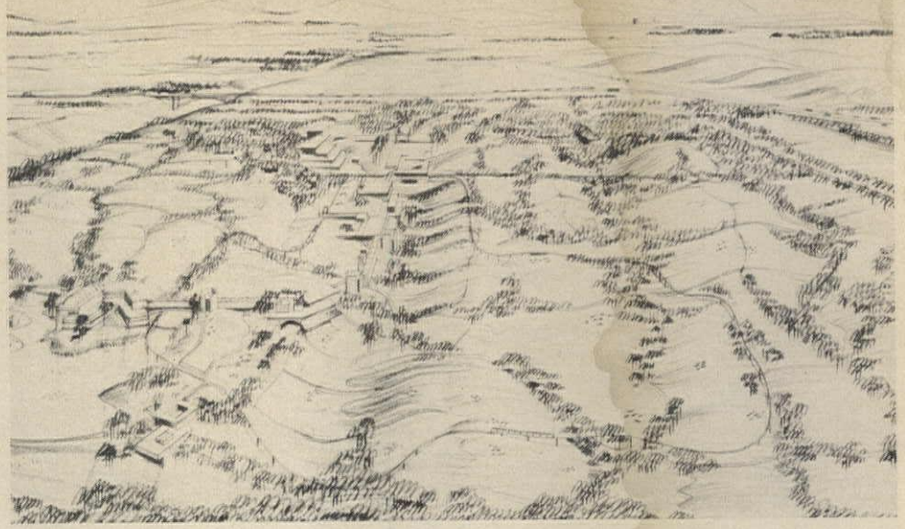
Photo: Louis Reens



Chott Maria Agricultural College, Sousse. TAC specified Tunisian native materials



Kuwait Fund commemorative stamp



WMRT's plan for Pardisan Environment Park, Tehran

Ellerbe president Ken Mahal, left; Abdul Zughaibi; and Dr. Rida Khalifa

Cairo Hilton by Warner, Burns, Toan, Lunde

geria and also is engaged with A.A. Farmanfarmaian & Associates to do an air force academy in Iran. SOM has an office in Iran staffed by members of its Chicago, New York, and San Francisco offices.

CRS Design Associates International (Washington, D.C.-based overseas division of Caudill Rowlett Scott Design Associates, Houston) designed the College of Petroleum and Minerals, Saudi Arabia, and is doing a $200 million military academy for the Saudi Army—a joint project with McGaughy, Marshall, McMillan of Norfolk, Va.; a youth center in the country of Qatar; 400 houses for the Arabian American Oil Co. (Aramco) in the company towns of Dhahran and Abqaiq, Saudi Arabia; and the master plan for the American Community School in Bahrain, all on the Arabian Gulf; and a women's university in Saudi Arabia. The university is considered a "real breakthrough" by Chester Lucas, president of CRSDA International, who said only a few women now attend men's universities where they are segregated and, if the instructor is a male, they are taught over closed circuit television. These projects run more than $386 million.

Haines, Lundberg & Waehler, New York, has $40 million in research and medical facilities and housing; Welton Becket & Associates, Los Angeles, is waiting for hotel contracts in Iran and Cairo and anticipates a hospital in Saudi Arabia; Warner, Burns, Toan, Lunde of New York is at work on a Cairo hotel and expects additional hotel work in several other cities; Gruen Associates, Los Angeles-New York, Washington, D.C., has maintained an office in Tehran while preparing a long-range regional plan, now complete and in initial phases of implementation, for the city. Being designed is an urban complex in Beirut for the Arab Investment Company. Gruzen & Partners, New York, reportedly is negotiating with the overseas subsidiary of Starrett Housing Corp., New York, for 6000 mid-luxury residential units in Tehran.

Work often comes by request—a minister will specifically ask for a firm, usually a specialist in its field, for a particular project. Whether the closely competitive American or European talent is chosen frequently depends on where the government official did his graduate studies. This winter four Saudi princes, among others, hosted a farewell party for a student returning to Saudi Arabia—among the guests were Los Angeles city officials and a representative from the DMJM office, Pat Flynn, who said the Saudis are concerned about their image and want to show their friendship. "They're marvelous hosts; they love Americans; and they're very gracious—not given to ostentatious display," he said, remarking that food was served in paper cups.

Contacts, predictably, are important in this business, and to develop them from scratch takes from $100,000 to $200,000 in expenses, and well over a year's hard effort, estimates the Professional Services Management Journal—which implies that a slice of the U.S. share of the work (which could easily double or triple) is worth it.

When asked whether the American Institute of Architects provides any assistance in learning how to secure jobs in the Middle East, one architect replied: "After everybody's figured it out, 'Headquarters' will come out with a publication on how to do it." By far the most commissions come through the governments.

[continued on page 26]

Many new roofs waste a lot of energy. Here's how to cut that loss by 50 percent—without spending an extra dime.

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News report continued from page 24

Iran rates the highest as most easy and pleasant to do business with. That country is closest to Western expectations in its technology and business and social practices; it also is much more comfortable climatically than the Arabian peninsula. Saudi Arabia is the most conservative, culturally, of the oil-producing nations and the least developed technologically. Egypt is culturally rich, but has little money of its own. Everywhere, skilled labor for construction is a problem; what's on the drawing boards often exceeds the present ability to build it.

Ken Mahal, president of Ellerbe in Minnesota, returned from a trip to Riyadh advocating establishment of local building component stockpiles from which architects could choose.

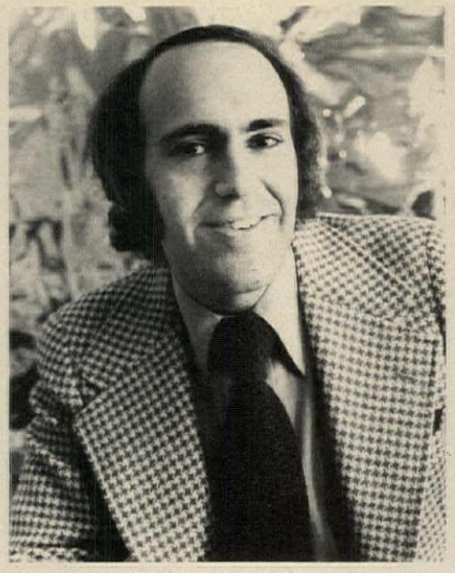
Not only is labor in short supply but also professional and technical help. One hospital is operating at one-quarter capacity for lack of personnel. In the wind are future "package" deals in which Western firms design, build, and staff the projects.

Getting registered is not easy in the East, and most countries require a project be done by a firm with 51 percent local ownership. Association with local firms is commonplace.

Certain to be an increasingly touchy issue is the ban by Arab bloc countries against anyone judged partisan towards Israel—including American professionals who are Jewish. Any architect traveling to one of these nations has to obtain from a clergyman a letter stating his religious views. One firm's top specialist in hospitals, for instance, has been excluded from trips to its Middle East job sites.

Some have criticized firms which go along with this policy, stating that inevitably it will affect who gets hired or promoted (P/A Feb. 1975, p. 6). Offices with commissions in the area point out that having Jewish partners or principals seems to be no deterrent to obtaining work. They view the travel bans as transitory, pending a peaceful settlement of Arab-Israeli disputes.

Progressive Architecture regrets the death last month of King Faisal after the writing of this article.



Stuart E. Cohen

Chicago architect joins P/A contributors

Stuart E. Cohen, who has his own architectural practice in Chicago and teaches at the University of Illinois, Chicago Circle campus, has joined P/A as a regular correspondent. He is a graduate of Cornell University where he studied with Colin Rowe, receiving his bachelor's degree in 1965 and his master's in 1967. When he worked in New York, a public housing project for which he was one of the designers won a P/A citation for the firm, Gruzen & Partners (P/A Jan. 1970 p. 98). He made his P/A writing debut in February (p. 54) with a feature on Hardy Holzman Pfeiffer Associates.

Photo: Joe Silverman

Carla Anderson Hills

Hills confirmed over industry protests

Despite building industry objections to the nomination of attorney Carla Hills as Secretary of the Department of Housing and Urban Development, the Senate voted to confirm her as the third woman cabinet member in U.S. history. The American Institute of Architects had asked the President to withdraw her nomination and continue the search for an individual with more "credibility". Architect David O. Meeker, a HUD assistant secretary and one of three or four individuals under consideration, was supported by the AIA and the Consulting Engineers Council for the HUD post.

The National Association of Home Builders said the appointment displayed a failure to grasp "the crisis nature of the problems" in housing—nevertheless, NAHB pledged support of the new secretary. The National Housing Conference said it was a pity that someone of Mrs. Hills' excellent professional record "will watch the collapse of a housing delivery system so sorely needed."

Even with Mrs. Hills' confidence in mastering the work, "I know how long it takes to learn it," declared Cushing Dolbeare, executive secretary of the Rural Housing Coalition, who also learned "on the job." RHC was one of seven organizations at the Senate hearings to protest the nomination.

Mrs. Hills is sympathetic with her opponents. "I'm an unknown quantity, so of course they're concerned. All I can do is assure them I will open up a dialogue; I have a capacity to listen and will listen; I come with no pre-commitments; and I'll bring to bear the best talent on each of the problems. . . . But I can't make promises for specific programs."

In particular, the building industry seems most perturbed over the HUD abandonment of existing housing programs (Secs. 235 and 236), even though they have congressional funding, in favor of the new leased housing program (Sec.8) of the 1974 Housing and Community Development Act. At issue is the handicap of working in a depressed economy with the complex, untried Sec. 8 provisions, versus the proved performance of the 235 and 236 interest subsidy programs. "It's a simple argument," said William Slayton, executive vice president of the AIA, "involving not the substance of the programs, but the question of when they can be put in effect. Sec. 8 regulations still are being debated."

The economic picture indicates a slow upturn of housing starts after a near-record low in December when the annual rate was 874,000 units. (The

[continued on page 32]

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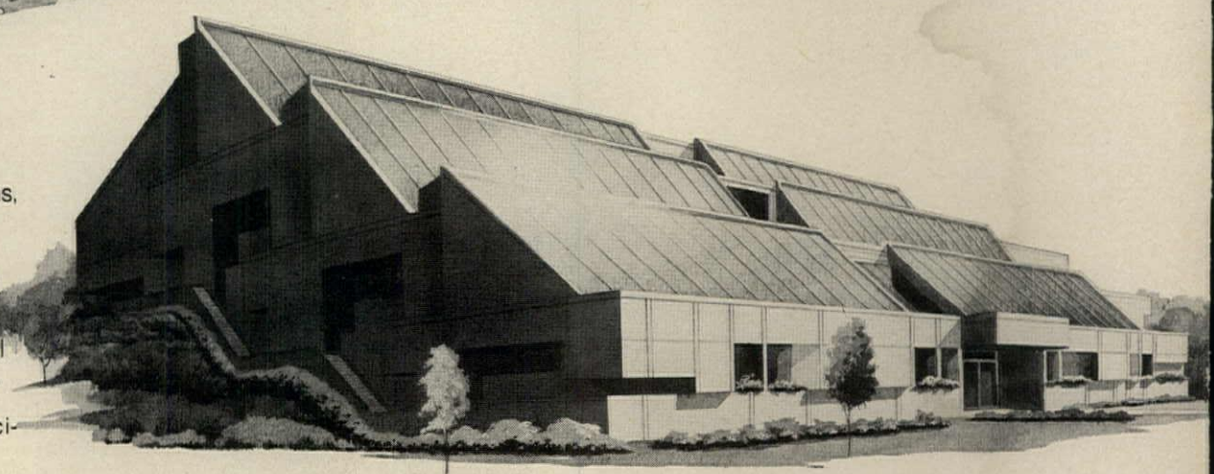
1972 winners: Mercy Hospital II, Coon Rapids, Minn., designed by S.C. Smiley Assoc., Minneapolis. Not shown: Westinghouse Nuclear Center, Monroeville, Pa., designed by Deeter Ritchey Sippel Associates, Pittsburgh. And the Energy Center, Mount Sinai Medical Center, Miami Beach, designed by The Smith Korach, Hayet, Haynie Partnership, Miami, Florida.

1973 winners: Weyerhaeuser World Headquarters Building, Tacoma, designed by Skidmore, Owings & Merrill, San Francisco. Not shown: General Electric River Works Program, Lynn, Mass., designed by GE's Lynn, Mass., Construction and Engineering Section. And the Boca Raton Community Hospital designed by The Smith, Korach, Hayet, Haynie Partnership, Miami, Florida.

1974 winners: Desert Research Institute, University of Nevada Systems, Boulder City, Nevada, designed by Jack Miller & Associates, Las Vegas, in association with Arthur D. Little, Inc., Cambridge, Mass. Not shown: Federal Building, Saginaw, Mich., designed by Smith, Hinchman & Grylls Associates Inc., Detroit.



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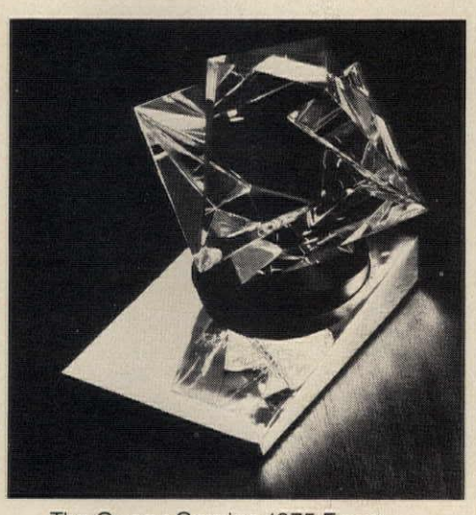

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News report continued from page 26

record high was 1972, when the rate was over 2 million starts). HUD forecasts 600,000 housing units committed by June 1976, but J.S. Norman Jr., president of the NAHB, says 1.8 million units a year are needed, and even HUD's 600,000 probably won't be realized unless Sec. 8 is "easier to understand and more usable."

UDC financial woes a political ploy?

Amid recent accusations of fiscal mismanagement and threatened bankruptcy, the New York State Urban Development Corporation has remained just barely this side of financial disaster. With $135 million in short term construction borrowings due in late February, the UDC notified the Chase Manhattan Bank that it would be unable to make these repayments. In the ensuing efforts to save the public benefit corporation, the real issue—the need to build housing—often became obscured in the political gamesmanship and crossfire generated during the attempted resolution. But for the moment, the UDC's ongoing construction has been underwritten for $90 million by the New York State Legislature.

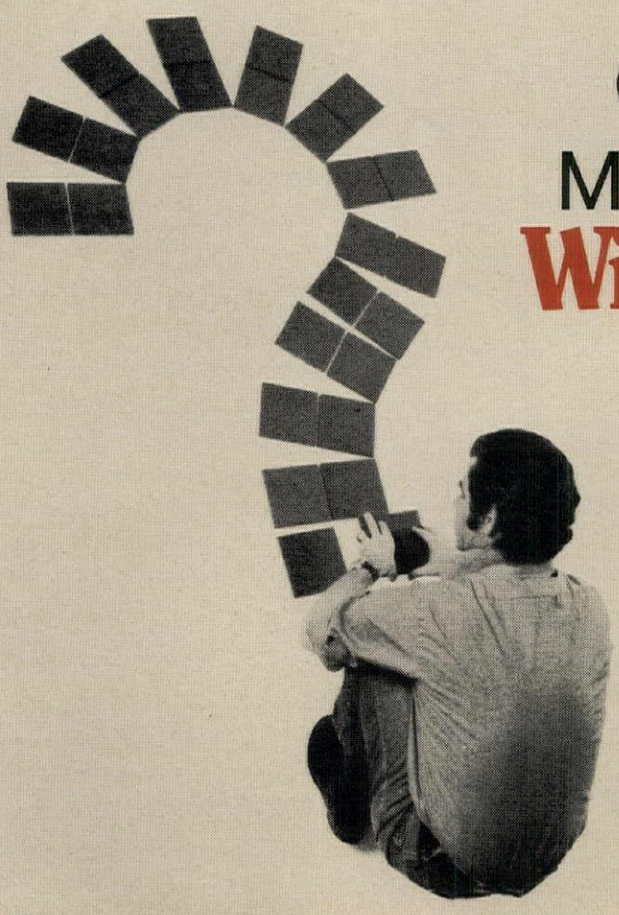
As a public benefit corporation created in 1968 by Republican Governor Nelson Rockefeller, the UDC was given broad powers in an effort to cut through the normally long and unwieldy bureaucratic process of building subsidized housing. While the number of housing units built by the UDC (33,000) far exceeds other housing authority accomplishments, there has also been a serious effort to develop standards of quality rather than just quantity, to maintain a high level of architectural design, and to review projects, once completed, for their successes and failures.

UDC's funding came through the issuance of "moral obligation" bonds, a type of bond which avoids the necessity and delay of a public referendum. Under this arrangement, the state is morally, but not legally, obligated to repay should the agency default. When the construction loans came due, the banks demanded payment. The UDC asked the state for backing, but the legislature only appropriated operating funds and the situation rapidly deteriorated into a standoff between the political and financial communities.

The current difficulties, of course, cannot be simply summed up by the accusation "fiscal mismanagement." In normal cash flow, short term financing (construction loans) is paid off by refinancing a project with a long term, 40-year mortgage once the project is under construction. A banking syndicate, headed by the Chase Manhattan, had purchased the original $135 million in construction bonds and then refused the refinancing last September although the same syndicate holds a major portion of the $1.1 billion in bonds already issued.

Ostensibly there are numerous reasons for the banks' unwillingness to provide further long-term financing. The bonds which the UDC issued are general purpose; the revenues can be used for any expenditure deemed necessary without being tied to one spe-

[continued on page 37]



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News report continued from page 32

cific project. With this broad license, the UDC built or began construction in areas which the banks reportedly feel are a high risk (i.e., low-income housing in ghetto sections). The bank's concern about UDC involvement in marginal areas, while understandable, is in direct conflict with one of the principal reasons the agency was created—to provide low-income housing. A UDC legal counsel also cited a bill signed last May by former Governor Malcolm Wilson revoking a convenant that public benefit corporations would not invest in money-losing ventures, a move that angered the financial community and made it increasingly more cautious.

Then, too, mounting friction has been reported between the banks and Edward J. Logue, the Rockefeller-appointed president and chief executive officer of the UDC. Logue was fired by incoming Democratic Governor Hugh Carey shortly after his election and after campaign promises, now apparently forgotten, to abolish the rewards system and partisan appointments. Carey simultaneously set up a committee of inquiry to look into the allegations of mismanagement in the UDC, an action which had the effect of further undermining any possibility of renewed support from the financial community.

With its administration challenged and with no long-term financing for projects under construction, the inevitable happened and the UDC defaulted on its $135 million loan. Carey was the most prominent and audible figure in outspoken efforts to save the UDC. His initial proposal was to create a New York State Project Finance Agency which would buy mortgages through the sale of the same type of "moral obligation" bonds, the difference being that these bonds would be backed by revenues from specific projects. In enacting the legislation to create such an agency, political motivations became obvious. "We have to show the banks that they can't push us up against the wall," said one state assemblyman. "Once the bill is signed, we put the burden on the banks, and they have to come forth with the money."

But the banks didn't buy, and the legislature was forced to appropriate $90 million as an interim measure to see the UDC through the next two months. Politicians call the banks' position "unreasonable"; the banks have attached all the UDC accounts in partial payment and the legislature, thumbing its nose at the commercial banking institutions, is contemplating enacting a bill to permit savings banks, long barred legally from this type of investment, to buy the new Project Finance Agency's bonds.

At present, it's a game of one-upmanship between the various political and economic interest groups. The ensuing rounds of midnight sessions lasting through early morning, pre-arranged phone calls, couriers, and hastily caught plane flights made the negotiations something more appropriate to an Agatha Christy novel. Everyone played his role, and as the drama unfolded, the intrigue heightened.

It seemed evident from the begin-

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ning that funding would be found to complete the work under construction as it would be madness to contemplate any other alternative. It also seems obvious, too, that UDC's credibility is so in question that no amount of funding will allow it to continue functioning as the effective force it once was. Somehow, in the gnashing of teeth, the question of housing has degenerated into a political issue rather than a social one. The ignominious end of one of the country's most effective agencies, for reasons which have little to do with the value of what it does, is nothing more than myopic self-interest on the part of everyone involved. [SLR]

No longer giving it away

Architectural firms which have rendered practically "free" interior design services to their clients soon may have a document enabling them to put these services on a paying basis. The American Institute of Architects and the American Society of Interior Designers (ASID) are entering the last stages of producing a contract which both architects and interior designers may use.

Photo: David Dildine

Irving Schwartz, AIA, ASID; Henry Feldman, architectural designer; Louis Beal, ASID; William Pulgram, AIA; Sally Walsh, interior designer.

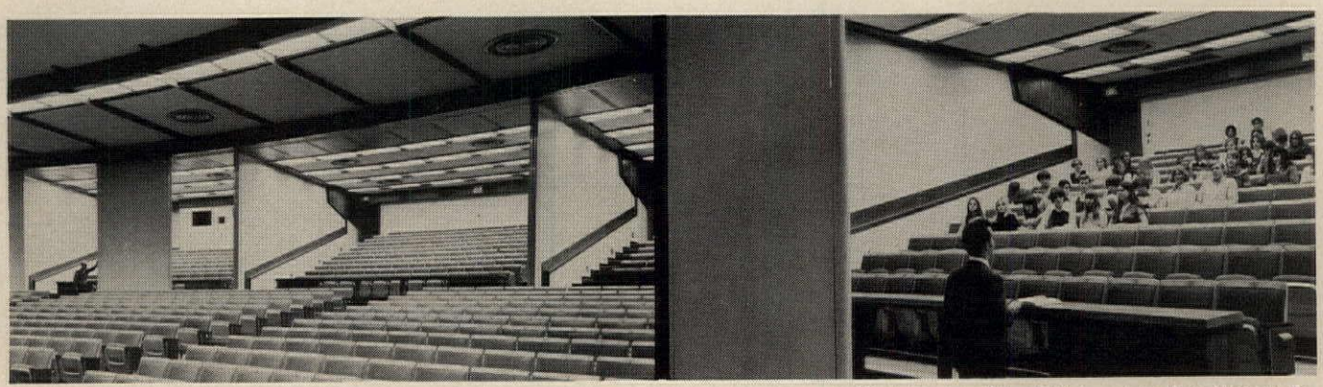
William Pulgram, architect and president of Associated Space Design, Atlanta, chairs the joint committee which has studied the issue and last month approved the final draft. The contract recommendation must be approved by both organizations. Copies are expected to be available in the fall.

Florida memo: 'planners' under fire

Florida has formed a special committee, chaired by architect James Garland of Miami, to look into the practice of planning. The target of this investigation appears to be out-of-state consultants who come to Florida to perform planning work that in some instances has included design. Recent cases have come up in which firms with national reputations and professional architecture/engineer licenses in other states have practiced "planning" in Florida without bothering to obtain Florida registration.

The new committee was formed at a January joint meeting of the three state boards responsible for the practice of architecture, engineering, and landscape architecture. The committee will recommend operating rule changes for each of the three boards regulating planning by those licensed in the three design areas. [Ralph Warburton]

[News continued on page 42]



Architect: Raymond Viner Hall Associates, Port Allegany, Pa.

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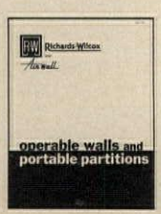

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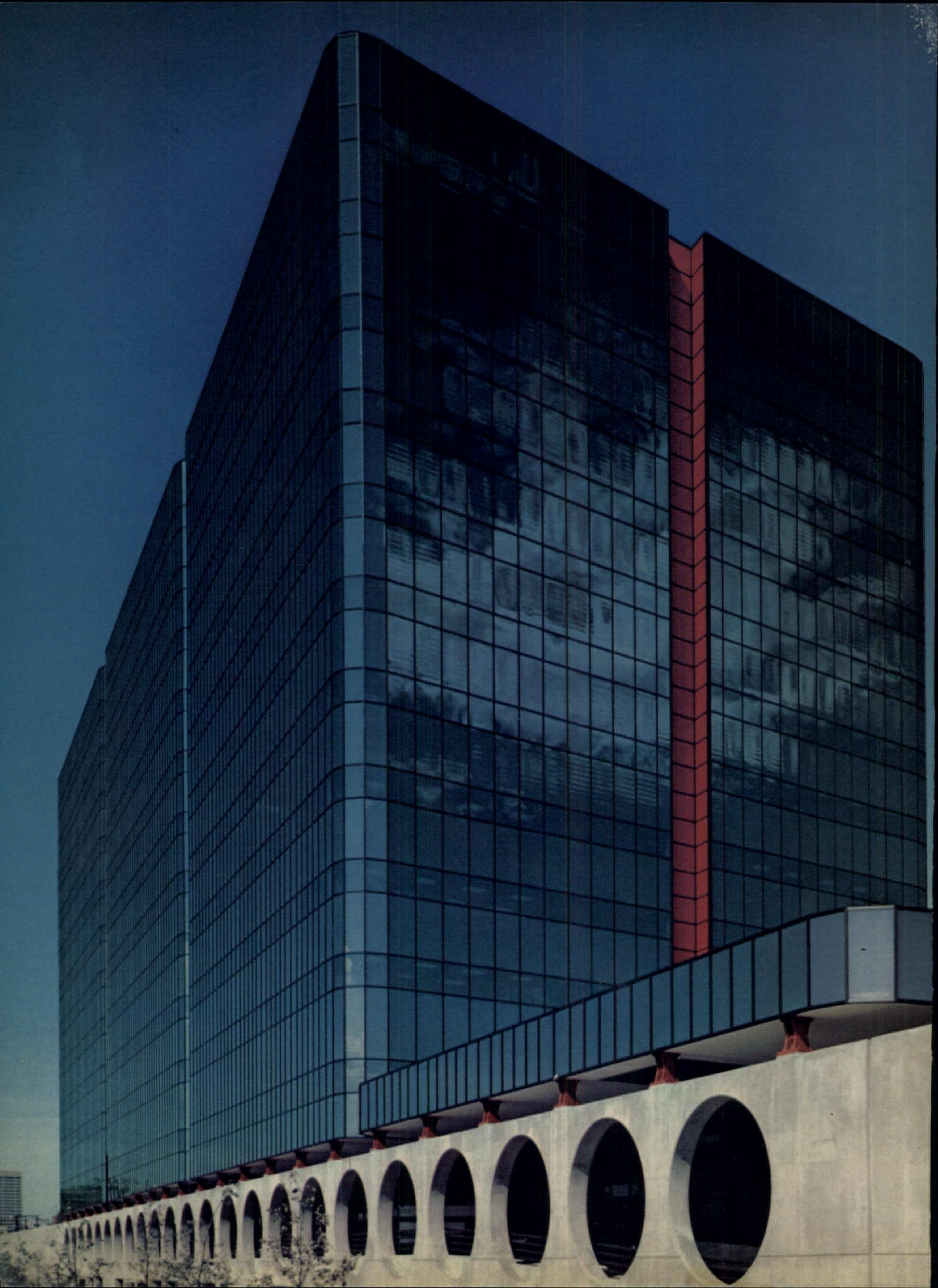

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Their new Denver headquarters presented problems.

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Owner: Blue Cross and Blue Shield of Colorado
Architect: URS/The Ken R. White Company
Design Consultants: Muchow Associates Architects

PPG: a Concern for the Future

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Report from Fullerton

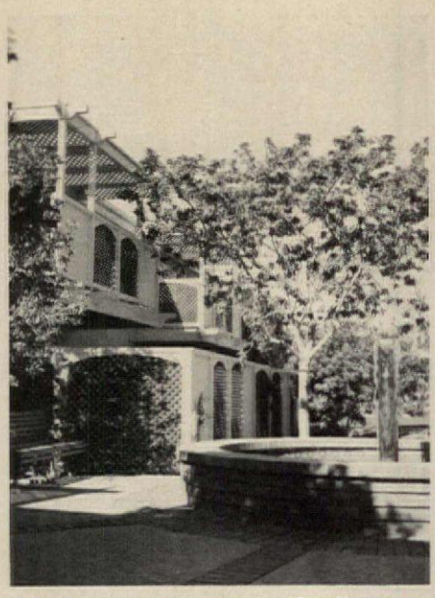

Photo: Larry Frost

Southern California-style living: The Greenhouse" (above), "The Arbor" (opposite), and "The Lake" (below). Coming next: "The Streams."

The new vernacular in Southern California's multi-family housing comes from the 1950s luxury motel. Transition from the dingbat box to one- and two-story clustered buildings facing gardens required certain tradeoffs—higher density and smaller units—these plus the things renters now expect: swimming pools, saunas, Jacuzzi pools, equipped kitchens, and wall-to-wall carpeting.

Three such housing projects "The Arbor," "The Lake," and "The Greenhouse," on adjoining acreage in Fullerton, Calif., (near a state college and two freeways) have had an appeal for ecology buffs under 35.

The Arbor, 124 units on 5.2 acres, was designed by Walter Richardson Associates of Costa Mesa for developer J. R. Davies, Jr. Don Brinkerhoff's Lifescapes, Inc. designed the landscaping, and the venture was managed by economist M. Robert Davis.

The Arbor differs from the later projects, The Lake and The Greenhouse, in its distribution of open space into small courts with fountains. The communal space secludes a clubhouse with double pool, sauna, and exercise room, and grass courts for paddle tennis and volley ball.

Richardson sees the problem as essentially one of designing a parking lot and fitting living into what is left over.

The Lake, for which there was no architect, pooled much of the open space of the 5-acre site for a three-fourths-acre L-shaped lake which many of the 136 units face. In the few months that lapsed between starting The Arbor and The Lake, construction costs rose from $11.50 to $13 a sq ft, but by reducing the size and increasing the number of units and cutting out extras, the cost per unit was almost the same. The landscaping budget was not cut; rents are comparable to those of The Arbor, and there is a waiting list.

The Greenhouse, designed by Emil Benes has 145 units on a 6-acre site across the street from The Arbor. Again, everything was trimmed but the landscaping, and the cost is still around $900 per unit. The Greenhouse theme is set by a glass pavilion type of recreation center and such low-cost nostalgia as Victorian backporch latticework to enclose entrance courts.

Lavishing so much of the budget on landscaping creates an imbalance that continues to attract the plant-loving renter under 36, without children who can pay $185 to $325 monthly.

Another 6-acre site adjoining The Greenhouse is being planned around water—tentatively called The Streams—unless the cost of water rises. This is also a Davis-Brinkerhoff venture, but for a new developer. The first developer has turned to contracting for oil pipelines. [Esther McCoy]

[News continued on page 44]

Photo: Julius Shulman

No longer are architects restricted to monochromatic and look-alike faces for their high rise structures. Terra Cotta precast into large panels provides the artistic freedom to design skins with rich ceramic colors and earthy textures that cost no more - and often less - than other natural materials.

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News report continued from page 42

Personalities

E. Alfred Picardi, partner, Perkins & Will, Washington, D.C., has been named recipient of the American Institute of Steel Construction's 1975 T.R. Higgins Lectureship Award.

Barry Brukoff, president of the San Francisco firm of B. Brukoff Interiors, Inc., has been elected to the Board of Trustees of the Northern California Chapter of the Institute of Business Design. He also has been appointed a member of the California Council of Design, and a member of the Council's Task Force on Design Awareness.

David E. Crompton, AIA has been named Assistant City Manager, Community Development, for the City of Compton, Calif.

Calendar

Apr. 20–23. Sixth annual conference of the Environmental Design Research Association, School of Architecture and Urban Design, University of Kansas at Lawrence.

Apr. 23–28. Twenty-eighth annual meeting of the Society of Architectural Historians, Copley Plaza, Boston.

Apr. 24–26. World Leisure Environments Symposium, College of Architecture and Planning, Ball State University, Muncie, Ind.

Apr. 24–26. Environmental Evolution and Technologies, exploratory talks, School of Architecture and Planning, University of Texas at Austin.

May 5–10. XII Congress of the International Union of Architects, Madrid.

May 13–18. National Historic Preservation Week.

May 18–22. Annual convention of the A.I.A., Atlanta, Georgia.

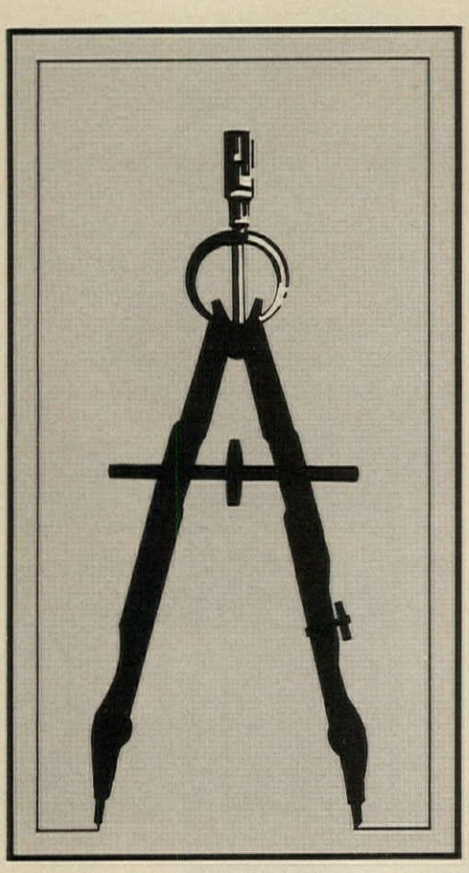
May 19–20. National conference on land use sponsored by The Center for Science, Technology and Political Thought, Marriott Hotel, Denver, Colo.

June 15–20. International Design Conference in Aspen, Colo.

June 18–20. Seventh annual congress on interior environment (NEOCON), Merchandise Mart, Chicago.

July 7–9 Third International Conference of the Design Methods Group, Berkeley, Calif.

[News continued on page 50]



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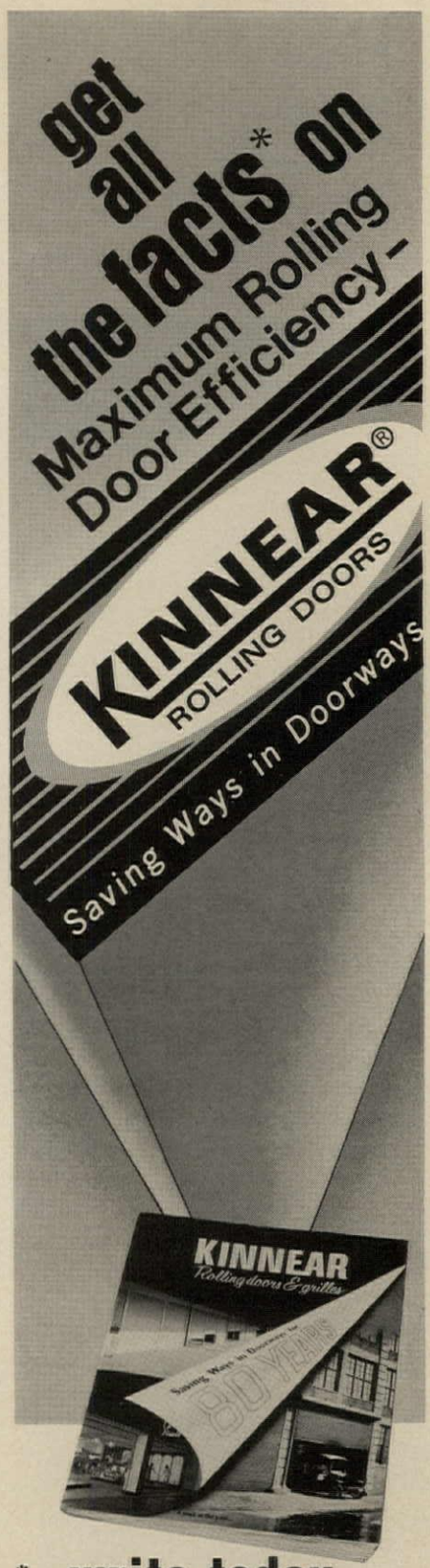

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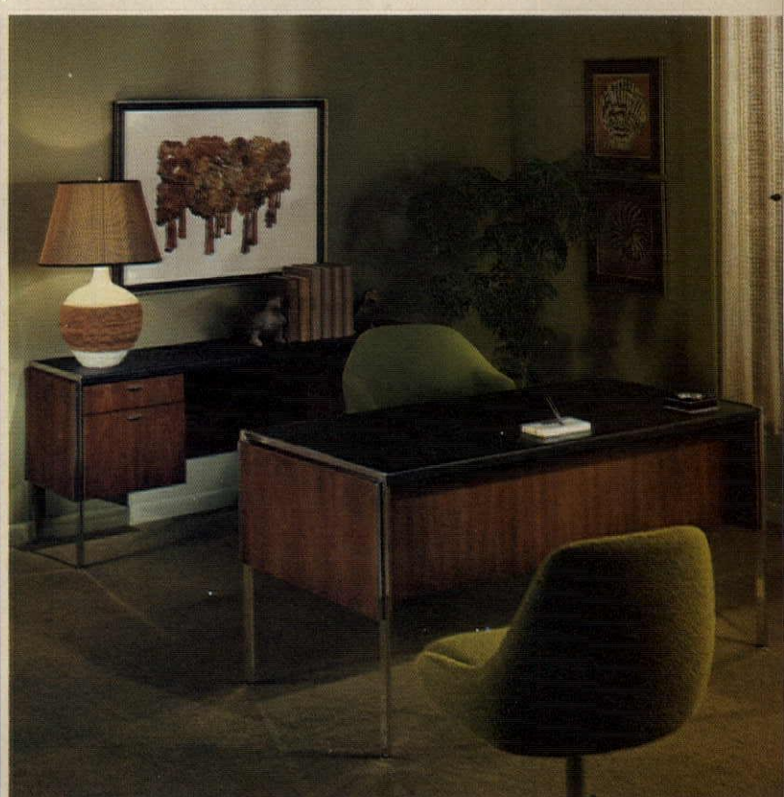

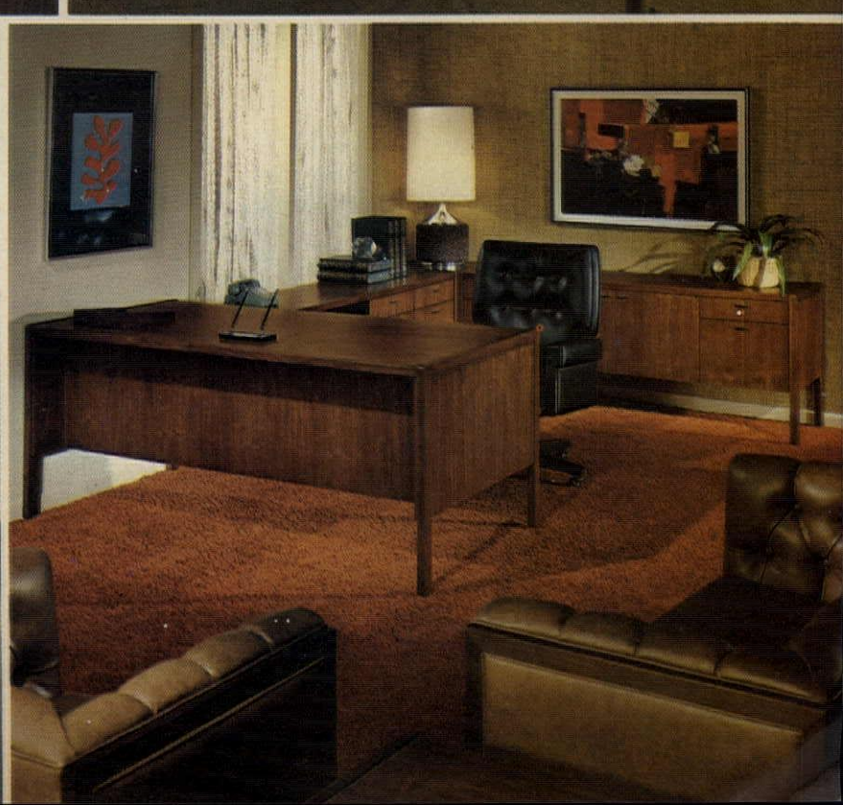

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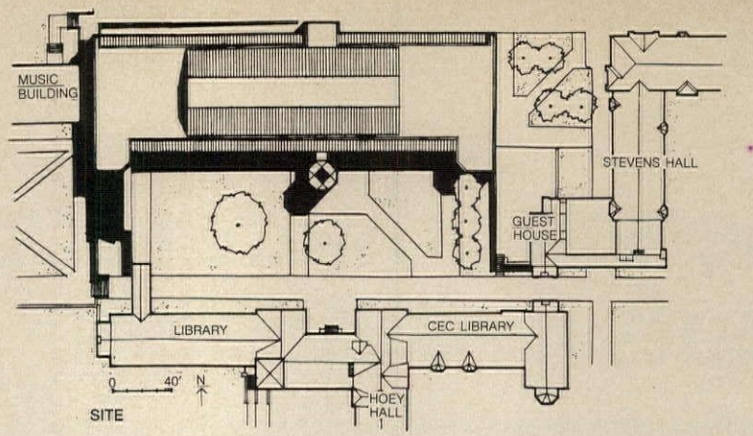


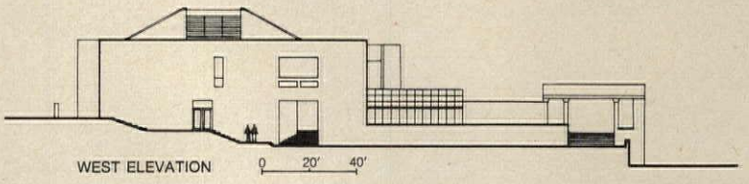


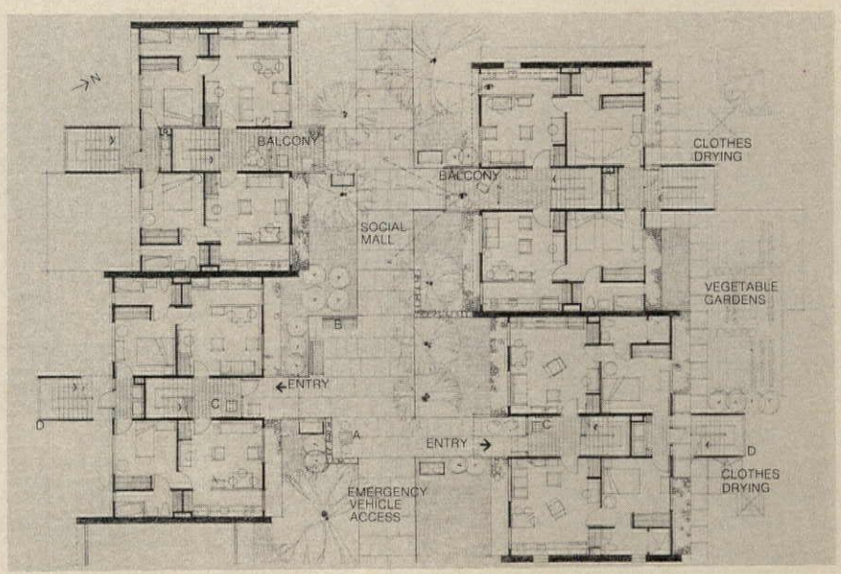
Photo credit: Balthazar Korab

1 Cranbrook—The first major building to be added to Cranbrook Academy, designed 40 years ago by Eliel Saarinen, is a 40,000-sq-ft science classroom building by Tarapata MacMahon Paulsen Associates, Bloomfield Hills, Mich. The building, like others on campus, is a low brick structure which includes 4 laboratories and 18 classrooms, a greenhouse, and offices.

1 Cranbrook Academy science classroom building.

2 Competition winner—Two-story rowhouses of one-bedroom units for elderly and handicapped residents was the design of Goody & Clancy, Inc., of Boston, chosen over 51 other entries. The 100 units are grouped along walks tying in the new housing with an existing project on the 6.8-acre site and with neighboring houses. The competition for state-subsidized housing was sponsored by the Housing Authority of Winthrop, a town five miles north of Boston. The structures are wood frame with pre-stained siding. Balconies are shared by two units.

3 Tampa Governmental/Arts Center—A waterfront plan by the joint venture of Walker & McLane Architects and Engineers and Stewart-Richmond Architects, both of Tampa, is waiting for authorization from the City Council. Since designs for the $12 million facility were submitted nearly a year ago, Tampa has been served by four mayors. The plan ambitiously unites under one roof such novel partners as the four arts and 11 city departments. All are clustered around an outdoor amphitheater focused toward the Jillsborough River. Rather than separate functions, the designers have interspersed them throughout the five-level structure.

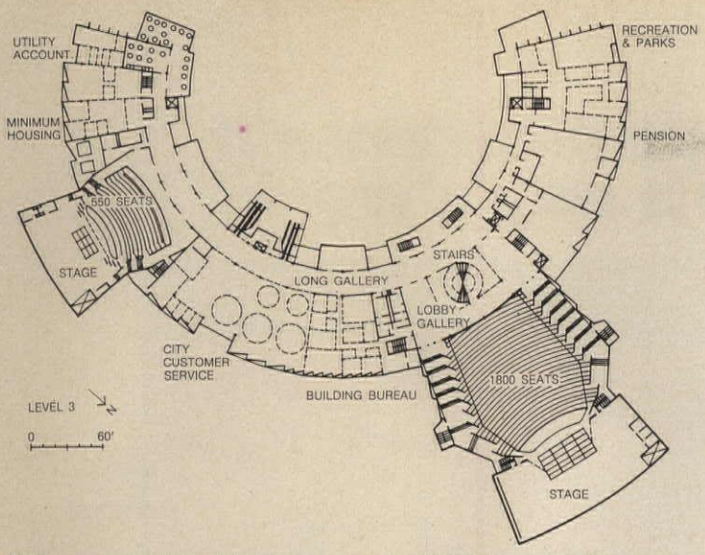


A) Kibitzing and chess B) chatting C) mail D) storage under landing

4 Tennis club—The Atlanta firm of Bainbridge & Associates recently completed the Amelia Island Tennis Club near Fernandina, Fla. The 12,000-sq-ft structure's wood lattice sunscreens make a reminiscent reference to a Southern coastal tradition.

5 Montreal's Olympic Park—The summer Olympics, 1976, will take place in Montreal under a three-in-one building conceived by Roger Taillibert, architectural consultant to André Daoust of the Montreal Public Works Department, which is overseeing construction. The structure, a tubular skeleton of nearly 1500 prefabricated concrete panels, consists of an 18-level mast which will house the players and contain restaurants on its two upper floors; a swimming center; and a stadium. The top of the mast will hold a membrane which may cover the stadium when needed; the mast base forms the roof of the swimming center.

2 Walks play important role in linking new housing with the neighborhood.

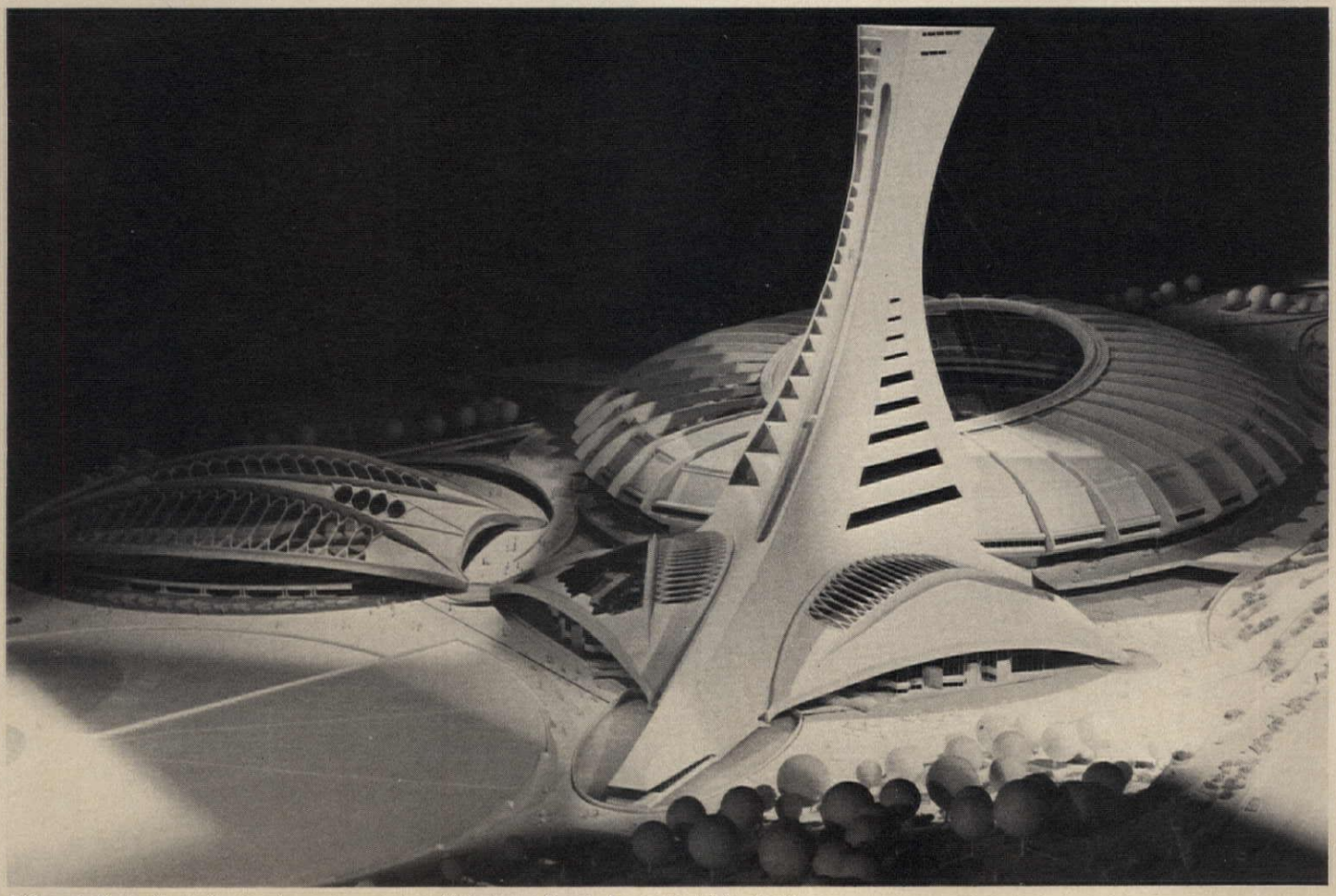


3 Tampa proposal combines government and the arts.

4 Amelia Island Tennis Club.

Government/Arts project facing Hillsborough River.

Waterfront plaza/amphitheater for the Tampa center.



5 Olympic Park with stadium, swim center, mast, and Velodrome Sports Arena (far left in photo).

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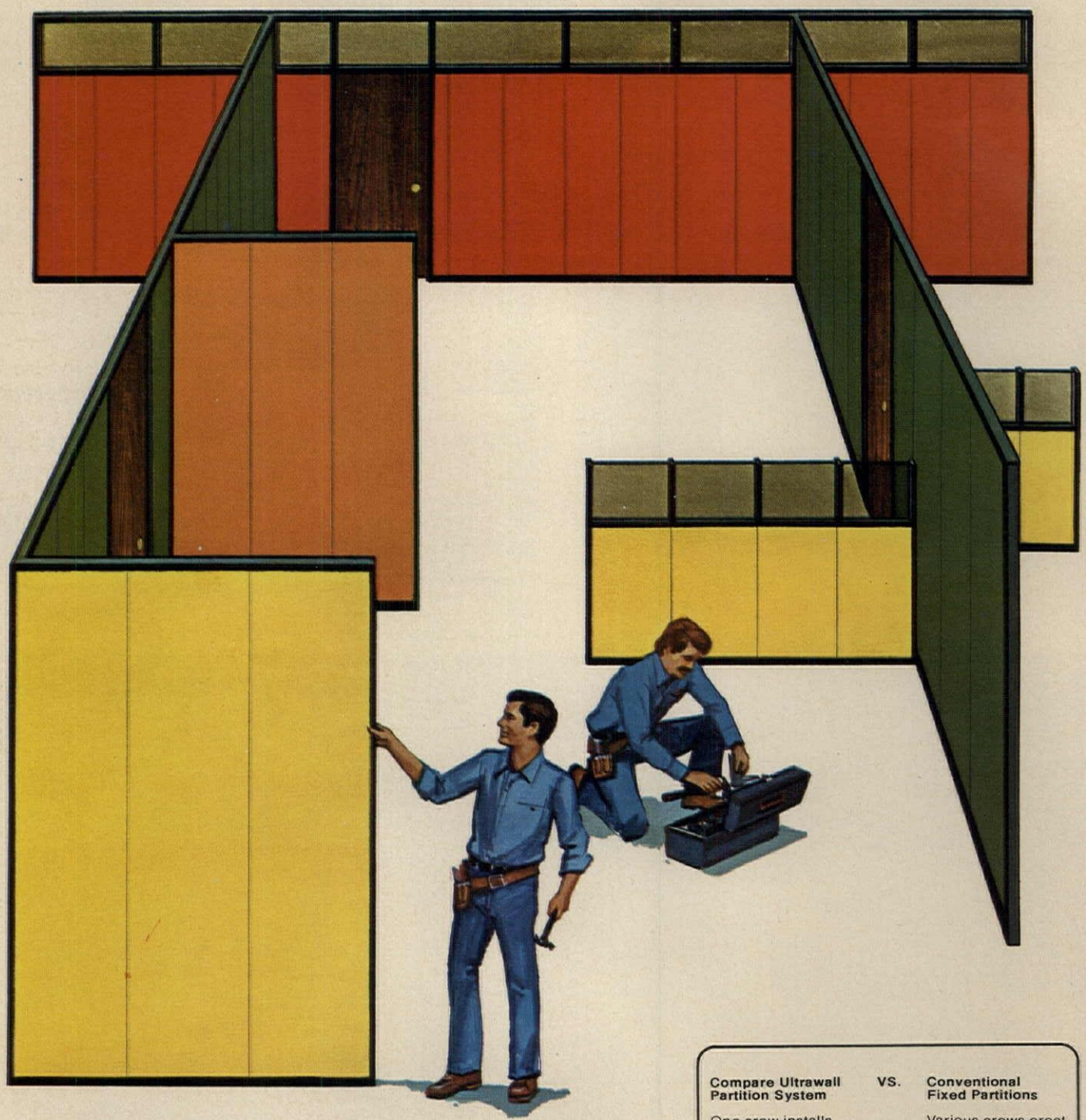

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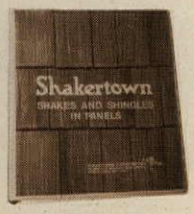

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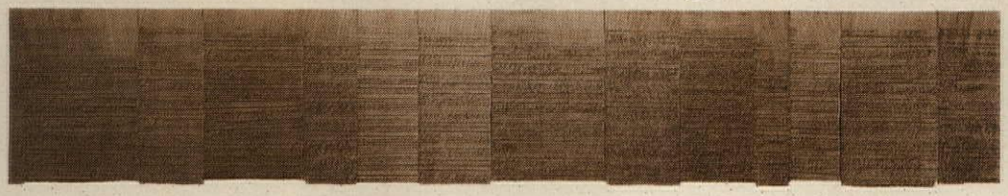

First Presbyterian Church, Berkeley, Calif. Architect: James Ream and Associates

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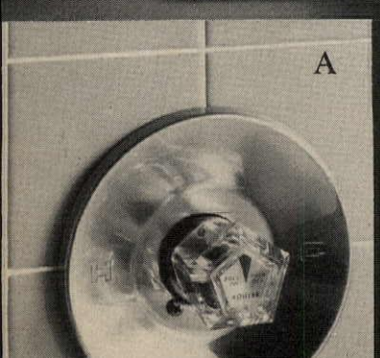

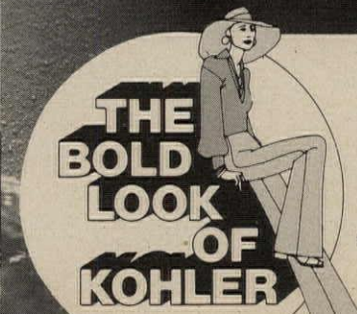

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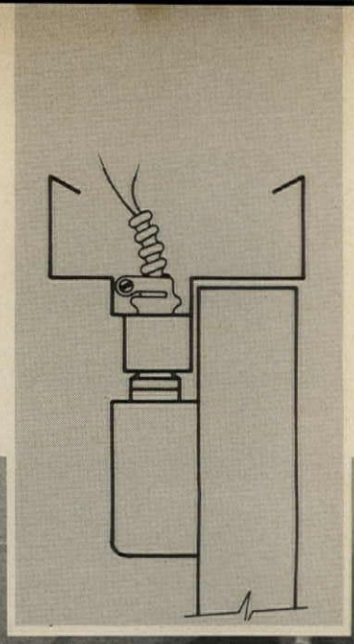

River Grove School, River Grove, Il. Orput Associates, Inc., Architects and Engineers, Rockford, Il.

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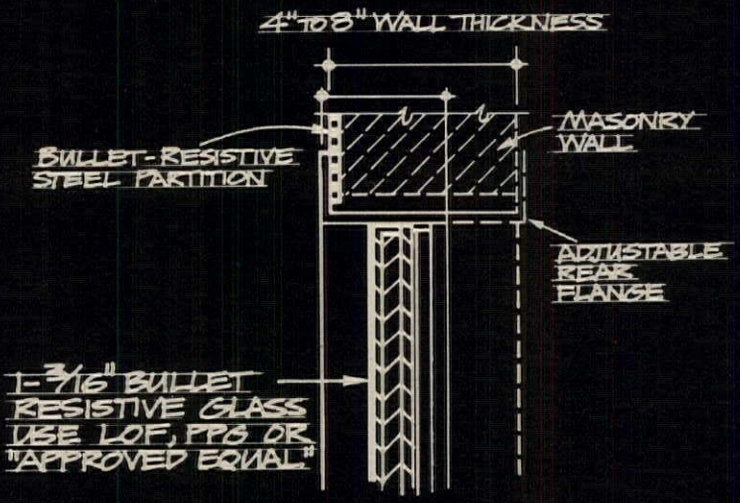

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Revival of historical allusion

April 1975

"If we challenge the past, we shall learn that 'styles' no longer exist for us, that a style belonging to our own period has come about; there has been a revolution."
Le Corbusier, *Towards a New Architecture,* 1923.

So much for the dogma; now for the heresy. Among the features of this issue, we have chosen a number of houses that show overt references to historical styles—Italian Baroque; Gothic Revival, Spanish Colonial, and—yes—early Le Corbusier.

That would hardly be remarkable if these works were turned out by designers of split ranches. But these houses were designed by some of our most respected architects, people who have taught in our foremost schools of architecture, whose previous work has been widely admired.

How did this betrayal from within come about? Where did the Pioneers of the Modern Movements go wrong?

Actually, the situation isn't quite that dire; these architects have not turned their backs on all the tenets of the Modern Movement. They are not reproducing historical models literally, nor are they merely pandering to popular nostalgia. We are not dealing here, then, with *revival* as such, but with an effort to legitimize *historical allusion* as a component of modern architecture.

We reached this point by almost imperceptible steps. To a great extent, historical allusion has been with us all along. Most of us have chosen not to dwell on Wright's references to Mayan ruins, for instance, or Kahn's references to chateaux; we have tended to view the most neoclassical works of Johnson and Pei as temporary aberrations; when Yamasaki and Stone persisted with their Arabian Nights confections, many of us turned away in embarrassment. It was okay all along, of course, to refer to local folk architecture in smaller works; even Gropius did that, and it was the very basis of the regional styles.

Historical allusions began to come out of the shadows in the mid-1960s, when Venturi began recalling the Shingle Style in his houses, and Charles Moore, the Spanish Colonial in his Santa Barbara faculty club. Still, both were drawing on *local* styles, if not folk traditions.

By then, the preservation movement was beginning to have its effect. As architects began signing petitions and drafting strategies to save Eclectic landmarks, they had to wonder what it was that made them so lovable.

At the architecture schools, courses in history, which had been tolerated with suspicion in the 1950s, regained their place in the curriculum. Now it is in the schools where the credo of modern architecture is being challenged. Doctrines of functionalism and structural determinism, one argument goes, cannot mask a lack of symbolic content. Since architecture of the past seems to have filled this widely felt need, we can examine past styles to see how the mechanism works. By 1974, we find two factions of teacher-architects, distinguished mainly by their sources of inspiration: Popular American for the Grays, early International Style for the Whites (July 1974 P/A, p. 26).

If one camp of architects can adopt the formal qualities of the Corbu's Villa Savoye, while an even broader sampling (with less philosophical underpinning) is cribbing from his LaTourette monastery, then the step to Italian Baroque is only one of degree (the latter being, after all, more compatible with traditional U.S. housebuilding techniques).

Why is P/A making a point of all this? Are we recommending that all architects enrich their work with historical allusions? Absolutely not. I, for one, feel that symbolic content must evolve but of our own times and needs; it cannot be borrowed arbitrarily. (For other views, see features and book review in this issue.) I am convinced, however, that the need for symbolic content is real—even crucial. The houses in this issue, beyond their apparent virtues as places to live, can have a catalytic effect. They can stimulate others to pursue their own ways of improving communications between architecture and people.

John Morris Dixon

Wharton Graduate Center, University of Pennsylvania

Images for education

The Philadelphia firm of Bower & Fradley illustrates lessons learned from recent architectural prototypes in their bold design for an education facility.

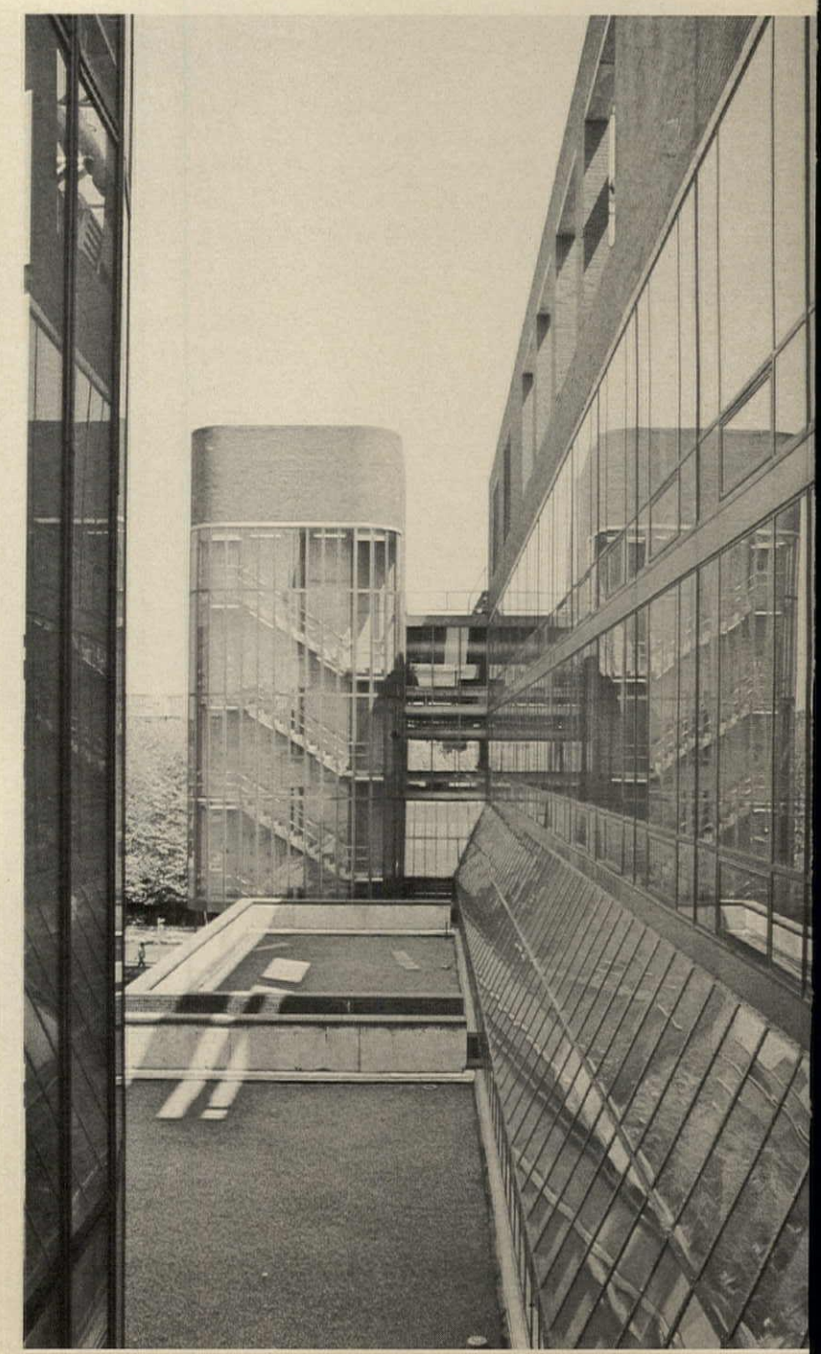
If one had to name two university buildings that had strongly influenced the course of architecture over the last 15 years, no doubt Louis Kahn's Richards Medical Research Building at the University of Pennsylvania in Philadelphia and Stirling & Gowan's Laboratories at University of Leicester, England, would easily come to mind.

Consciously or unconsciously, the Wharton Graduate Center at the University of Pennsylvania reflects certain lessons distilled from both of these buildings. More than that it demonstrates various attitudes and approaches to architecture that are seen in much of the other work of Kahn and Stirling. Although this hall does not attain the level of architectural accomplishment seen in their oeuvres, it still succeeds in certain important aspects.

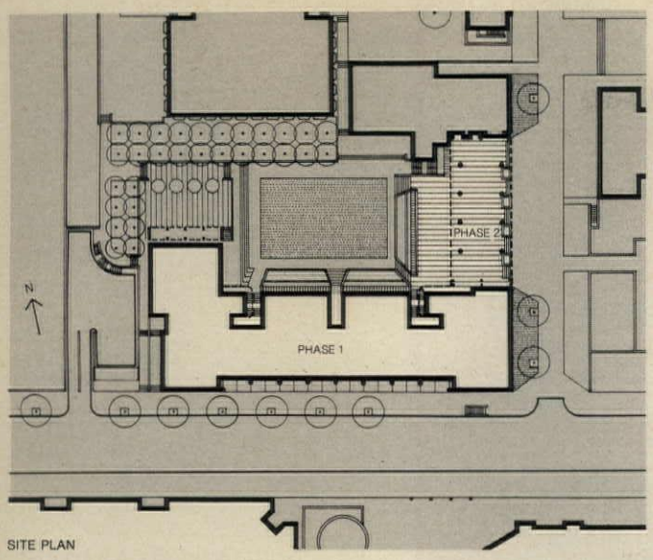
Essentially the form of the building has been generated by constraints of site and program. University of Pennsylvania's master plan calls for an open space system linked through a series of superblocks. The architects were therefore asked to place the 98,000-sq-ft building against the edge of the 1.4-acre lot along Spruce Street, using as little ground as possible. A second phase (not yet under construction) will extend the short end of the building along 37th Street to form an L-shaped structure wrapping around a green open space.

Other constraints, however, were implicit in the existing physical context. An old Gothic collegiate dormitory, the landmark Memorial Towers facing the building across Spruce, convinced Penn administrators to impose a four-story height restriction for new construction, and to require that brick be the major material. Geddes Brecher Qualls & Cunningham's Dormitory Triangle adjoining the Towers created further precedent for a low-scaled brick solution.

In satisfying the urbanistic requirements, Bower & Fradley designed the L-shaped Wharton Graduate Center to present closed, massive, predominantly brick walls to the streets (Spruce & 37th). Then they opened the spaces within the building to the interior court through extensive glazing. In developing their parti, the architects worked



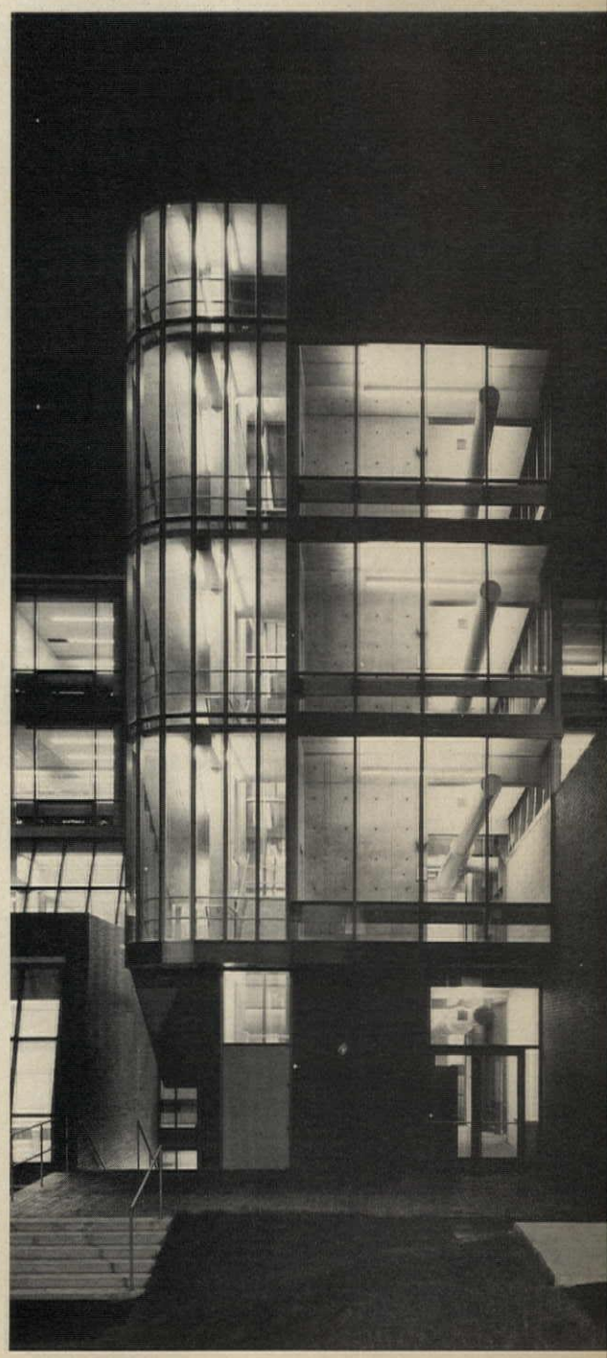
Glass-walled planes of north elevation (overlooking roof of seminar rooms).



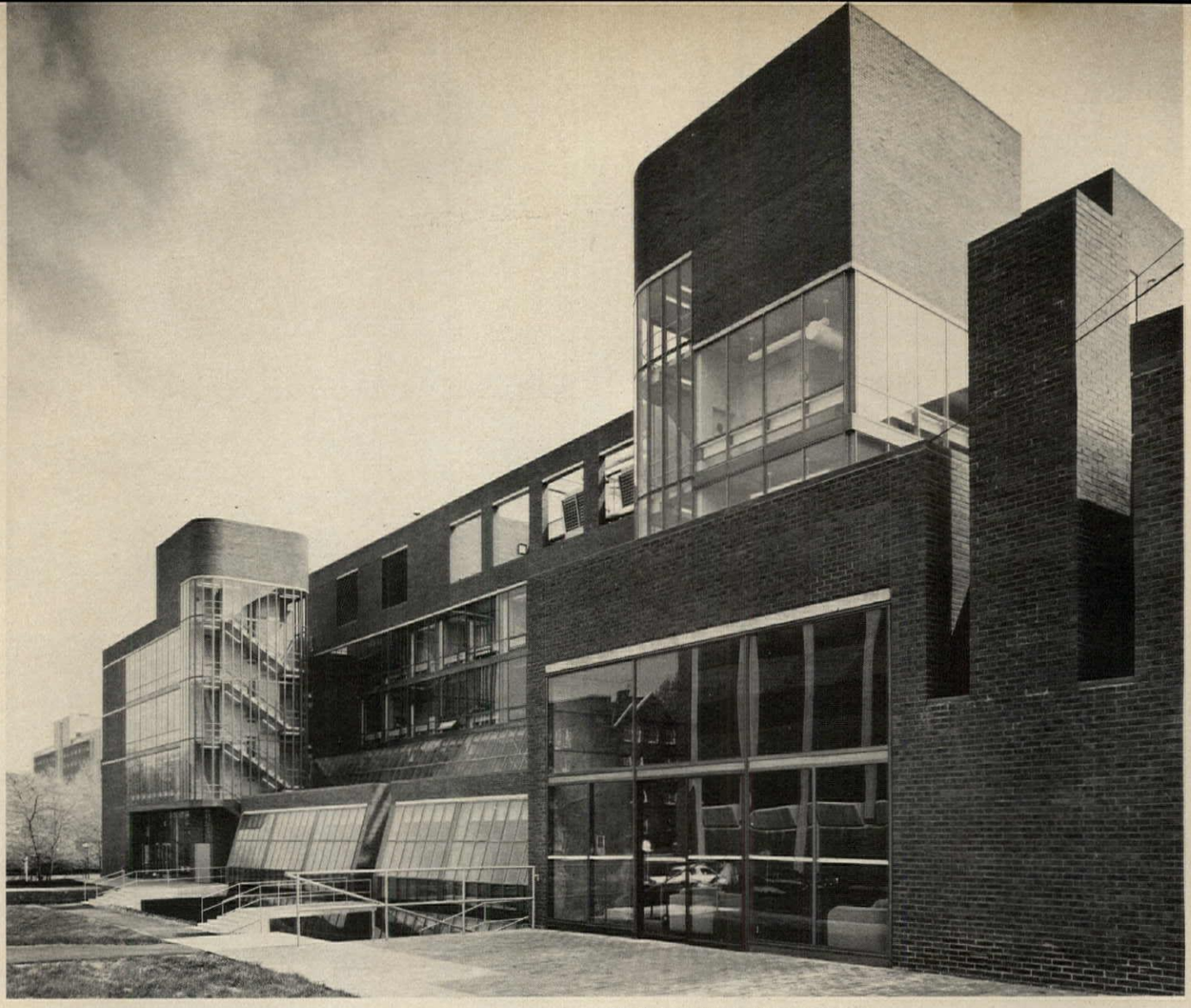
SITE PLAN

View across Spruce Street toward south elevation and Memorial Towers.

Double-height gallery with sonotube formed concrete columns.



Fire-stair/elevator tower.



North elevation facing open space.

Wharton Graduate Center

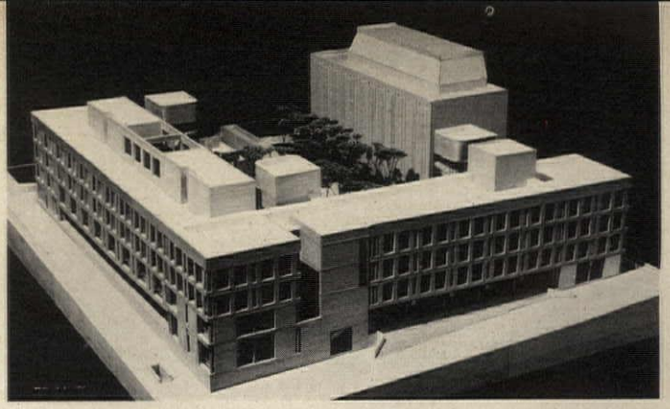
from the vantage point of the two principles, overlay and accretion. Basically, Phase I of the Graduate Center comprises a 275-ft-long rectangular block. From the street elevation on the south to the courtyard elevation on the north, vertical planes separating spaces become increasingly more open. The closed-open progression begins with a semi-detached punctured brick wall on the south joined to concrete floor slabs. This sun screen overlays the glass wall behind it, partially hiding it. Within the building a layering of increasingly glassed-in partitions finally terminates in the large glazed masses on the north side. A longitudinal spine two stories high forms the principal interior open space, linking areas visually and physically to each other or to vertical means of circulation. On the north elevation are accreted the glass wrapped elevator/fire stair towers and the 20-ft-high seminar blocks. Depressed 11 ft below grade, these sloping glass-walled classrooms have the ground level carved away around them to permit additional natural light to enter.

The closed-open theme is repeated somewhat in the layering of spaces horizontally: the three lower floors accommodate large heavily trafficked populated areas, including small auditoriums and seminar rooms (basement), lounges (main level) and a computer center (second level). The two upper levels, housing research and report-writing offices, plus administrative services, are reached only by elevators or fire stairs in the separate stair towers. (The large stairway at the east entrance extends only the height of the gallery, to give privacy to the upper floors. Again, one is reminded of the Leicester Laboratories, where students are kept to the three lowest levels, while staff members take elevators to their offices in the tower.)

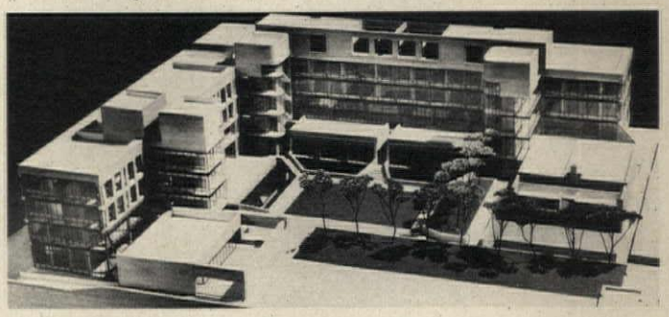
The exposed poured concrete frame not only articulates the building's structure but emphasizes the shift from public to private spaces: In the central portion of the three lower floors, the sonotube-formed columns indicate by their massiveness their heavy load-bearing function—as do the deep north-south spanning beams. However, on the upper two floors the grid of columns which are now smaller in section, is moved to the periphery of the building's volume. The architects have carved away the brick around the concrete frame on the building's street elevations to show the transfer of one system of column loads to another. In the elevator/fire stair towers, rectangular columns and beams support the concrete floor slabs that cantilever at the outside run of the fire stairs.

Perhaps taking their cue from the above-mentioned architectural precedents (such as Richards Medical Building), Bower & Fradley exposed the mechanical system to show its service function. In the skylit gallery the air condi-

East elevation along 37th Street to adjoin Phase II construction.

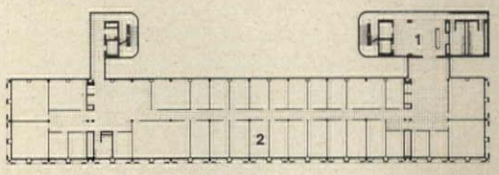


Model showing Phase I and II above and below.

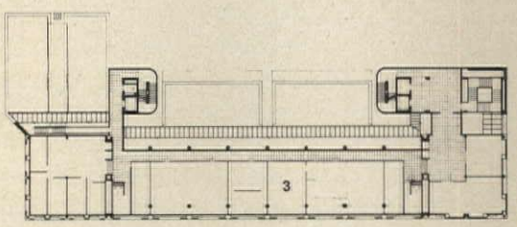


Legend

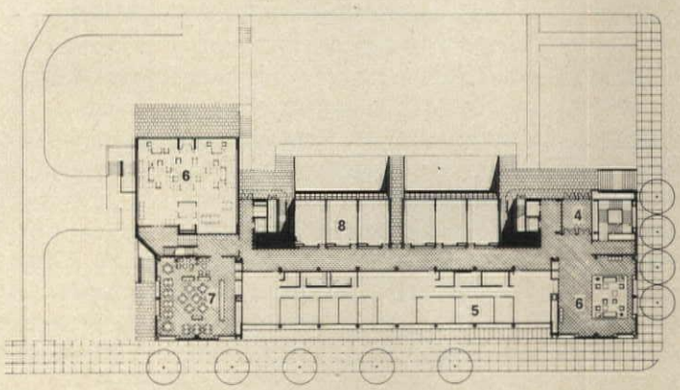
1 Fire stair/elevator core
2 Offices for research and writing
3 Computer center
4 Entry
5 Administrative
6 Lounge
7 Cafeteria
8 Classrooms
9 Lecture hall



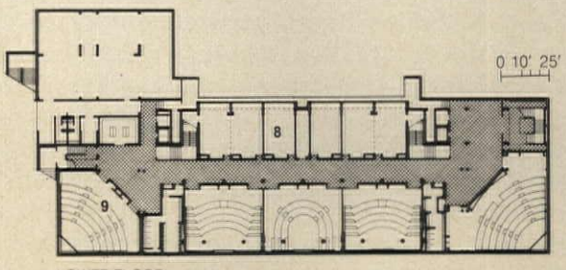
OFFICE FLOOR



SECOND FLOOR



MAIN FLOOR



LOWER FLOOR

tioning duct system is attached to the wall under the skylight to indicate the delivery pattern. By exposing the ducts elsewhere and installing lighting fixtures in the concrete coffers the architects have pushed up most ceiling heights to 10 ft. In fact, all the support elements—railings, lighting, air diffusers, elevator accessories—are treated throughout the building as add-on elements, and are generally selected from off-the-shelf stock items. Even the induction unit enclosures were designed to indicate that they were added on at sill-line in the rooms. (Although custom designed, the units were modeled on stock item details.)

In general, the parti accommodates its multi-use internal functions for this graduate school of business administration quite well. It distributes spaces masterfully; the 176-ft-long gallery is the most successful space in terms of its light, sense of place, dynamism, continuity, and linkage with various activities. Glazing, too, is manipulated with a good sense of reflectivity, glare reduction, transparency, and manipulation of planes. Glazed walls overlook the gallery and internal windows face onto upstairs corridors to permit natural light to penetrate deeply into the structure. Spaces accommodating different functions therefore become visually accessible, although acoustically separated. And because the structure and mechanical system are also made visually discernible, the entire building communi-

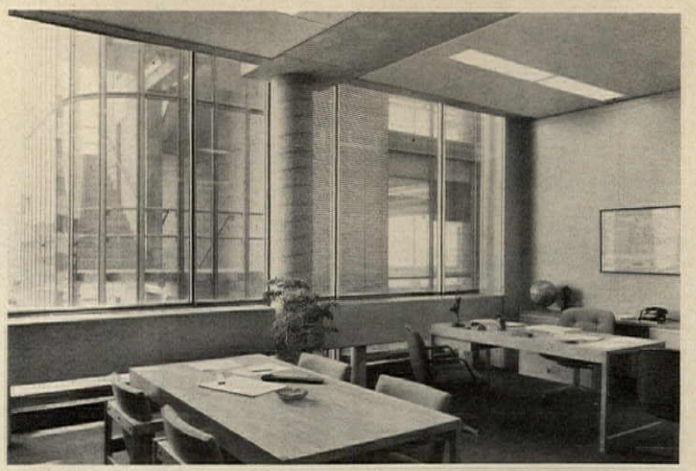
cates an honesty and clarity about its functions and how they are supported. Materials are warm earth colors and natural: ground face concrete block is used for permanent non-load-bearing partitions; painted metal ceilings and partitions are used in the offices' flexible loft spaces. Red quarry tile surfaces high traffic areas; the rest is carpeted.

Perhaps where the building seems most problematic is in its direct allusion to certain architectural precedents developed by Kahn and Stirling. These allusions are often made without employing elements in a manner consistent with original meanings. They are, in a sense, taken out of context, without even the conscious intent of contradiction or dissonance. For example, the building reflects a kind of ordered symmetry reminiscent of Kahn, but lacks his overriding geometry. It has that layering of spaces, yet the brick screen wall doesn't attain the mass and density of Kahn's at the Institute of Management at Ahmedebad or the Assembly buildings at Dacca. In Kahn's work, apertures are carved out of the brick mass; these, on the other hand, operate much more as brick walls with *recessed* windows. In addition, the openings at Wharton change in scale to express the various functions going on within; yet the brick walls attempt to tie up the activities all in a neatly ordered package. These two intentions conflict, creating a façade that neither boldly articulates internal functions, nor sustains an emphatic, rhythmic integration of parts.

Around back, on the north elevation, the allusions to Leicester raise questions. The glassed-in modulated spaces identifiably belong to Stirling. But here the masses are so *ordered,* so controlled, so symmetrical. Gone is that quality of the functional use of spaces determining the shape of the building. No sense emerges of spaces added ad hoc to accommodate the needs of the plan. The amount of brick on this façade also controls the glazed masses, prevents their dissolution and the fading of one plane against the other. And, the designation of the secondary system of circulation, the fire stairs, as the principal design elements on this elevation seems rather arbitrary.

Generally, however, the building presents a quiet urban image to its street sides (perhaps too quiet—more interaction with the street could be better) and an open expansive attitude towards the court. Contextually, the building seems to work well. And as a symbol, or an image, its honesty, its communicative powers should make the structure a successful addition to the campus.

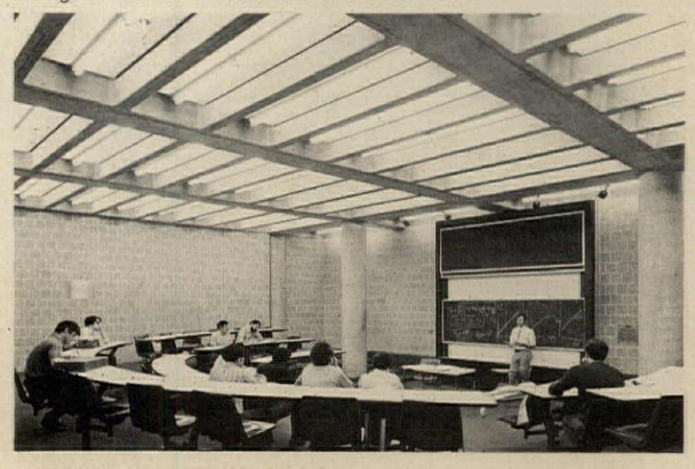
Obviously, the influence of outstanding works of architecture are always prevalent—even in the work if Kahn and Stirling itself. And conscious or unconscious appropriation of architectural elements is not the only generator of form: Wharton indicates quite well its rather straightforward response to site conditions, physical environment, and program. Yet, despite the fact that one risks falling into the "art historical fallacy" (reading stylistic precedents into every architectural work and ignoring other determinants of form), it does seem here that certain elements or attitudes were simply plucked from Kahn and Stirling. Where they were appropriated out of context, or without showing a full absorption of the lessons in those precedents, the design falters. [Suzanne Stephens]



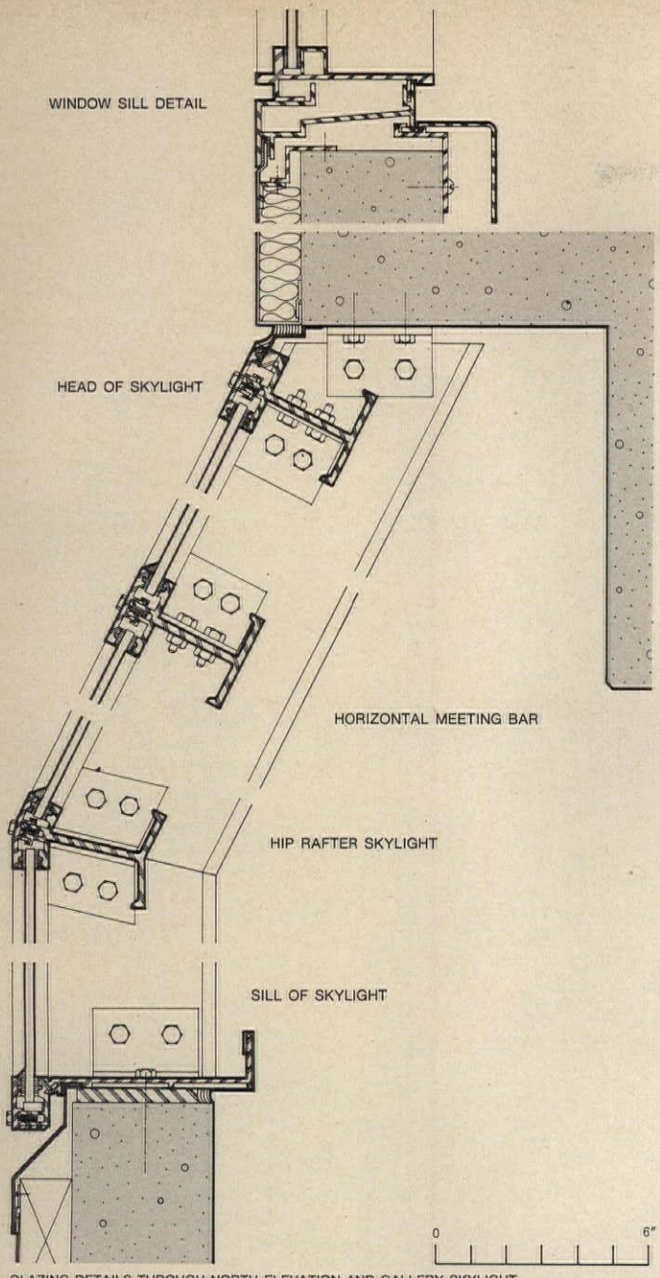
Office research areas in top two floors.

Second level overlooking gallery.

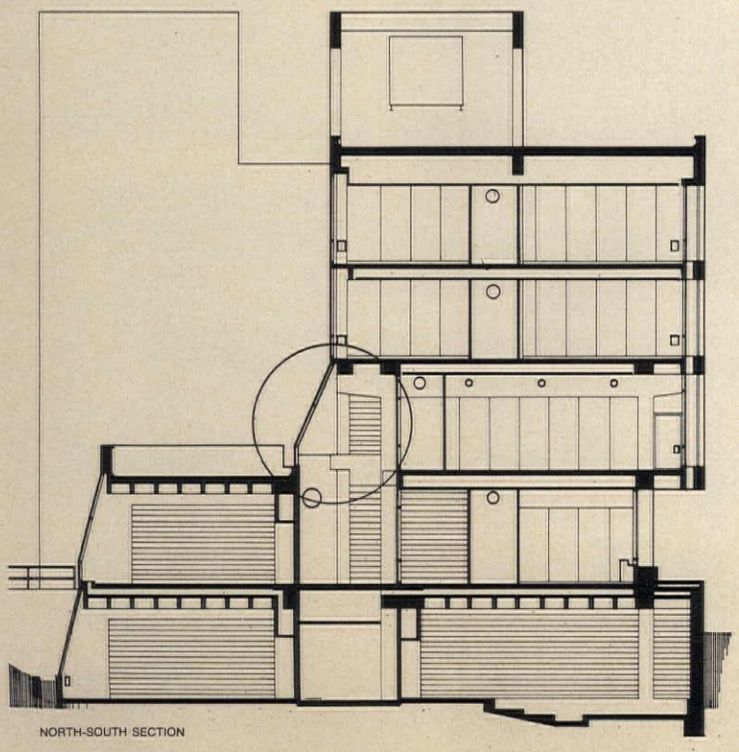
Lounge on main floor near main entrance and stair.



Case-study classrooms on lower level.



GLAZING DETAILS THROUGH NORTH ELEVATION AND GALLERY SKYLIGHT



NORTH-SOUTH SECTION

Stairs to gallery level from lower level.

Data

Project: Wharton Graduate Center, Phase I, Vance Hall, University of Pennsylvania, Philadelphia, Pa.
Architects: Bower & Fradley, Philadelphia, Pa. Richard C. Meyer and Robert T. Mannel, project architects.
Client: Trustees of the University of Pennsylvania. Arthur Freedman, Director of Planning, Design and Project Management.
Program: mixed-use building for graduate school of business to include spaces for classrooms, computer facility, seminar rooms, lounges, and administrative offices. Also private and flexible office space was required for business-related research conducted by graduate students.
Site: a 1.4-acre lot at the corner of 37th and Spruce; in the heart of the University's campus in west Philadelphia.
Structural system: poured concrete column and beam frame, poured concrete floor slab. Columns are 12 in. to 14 in. dia., bays 22′ x 22′.
Mechanical system: four-pipe perimeter induction system integrated with exterior wall, individually controlled, combined with interior low velocity constant volume ducted system with hot water terminal reheats; corridor return air. Special distribution system in lounges and basement classrooms.
Major materials: poured concrete frame, gray-rose color brick, clear glass, red quarry tile in public areas; ground-face concrete block for permanent nonstructural partitions; metal office partitions in flexible areas; carpeting, oak paneling perforated metal ceiling surfaces.
Consultants: Semanko-Bobrowicz, interiors; Leonard Weger Associates, mechanical; Keast and Hood Co., structural; Donald F. Nardy, electrical.
Costs: $5.2 million, not including furnishings, landscaping, but including mechanical equipment for Phase II; approximately $53 per sq ft.
Photography: Lawrence Williams, except page 60; Dick Barocca, and Harris-Davis, p. 63, top right.

Student Union, State University College, Plattsburgh, N.Y.

Between town and gown

A new student union building by Mitchell/Giurgola in upstate New York is oriented both to campus and town, which are on the diagonal to each other.

"I believe a building should be read easily, seen easily," Romaldo Giurgola said recently in reference to his firm's new student union building at the State University of New York, College at Plattsburgh. By this, he meant that a building should be planned so that not only does one always know where one is in it, in relation to the rest of the building, but that one should also know where one is in relation to the building's exterior and its surroundings. "At Plattsburgh," he says, "the main interior stairwell does that."

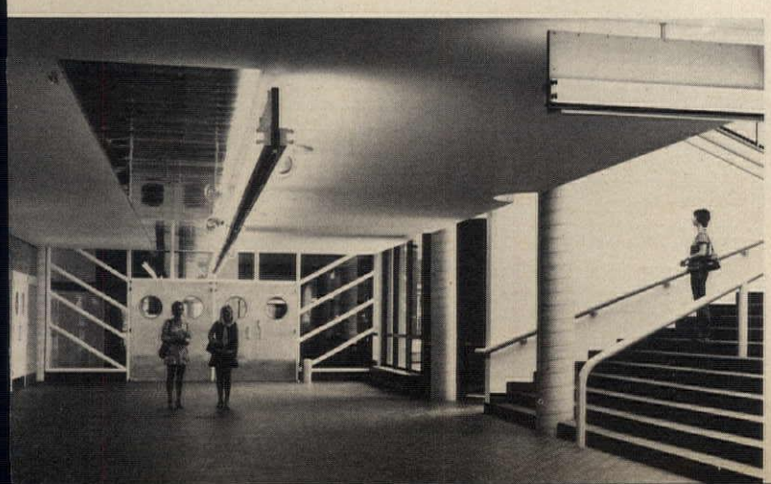
This pivotal element near one corner of the building rises two levels, and from it at each level the major corridors extend, at right angles to each other, to the ends of the building; these corridors also continuously refer back to the central, skylit space of the stairwell. The inner walls of the stairwell and of the interior rooms off the corridors enclose an interior courtyard and are fully glazed on the sides facing it. Consequently, as large as this complex 90,000-sq-ft structure is, it is a hard building to get lost in. You always know exactly where you are, and you seem to know intuitively how to get to wherever you want to go.

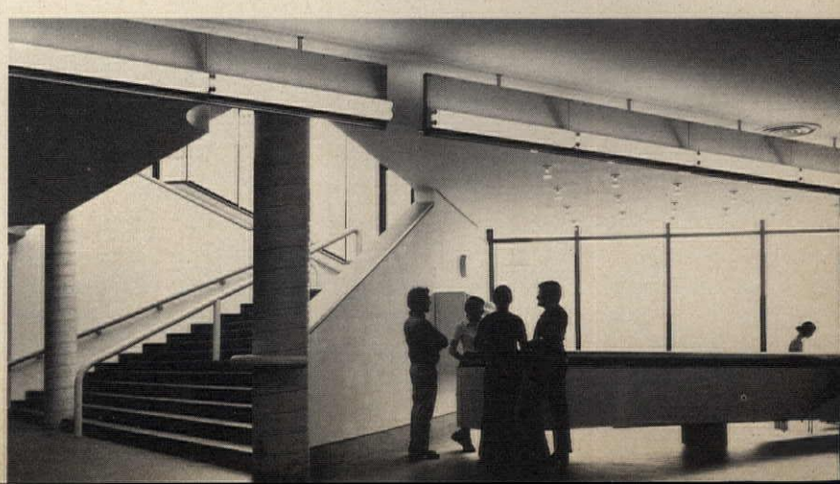
The street side of the building is oriented to the established campus plan grid, which is diagonal in relation to the nearby community (site plan, next page). To recognize this, and to provide additional reference for those inside, the central courtyard has been cut diagonally, and deeply, into the square building to reflect the street grid of the surrounding town.

The front of the building—the entrance façade facing the major campus axis—"is purposefully bland," reports project architect Michael Rubenstein. "There was so much going on there already," he says, "we didn't want to add to it by putting another monument on the campus; instead, we wanted our building to tie it together in some coherent way."

A series of plazas and elevated walkways already connected some of the newer campus buildings nearby, so Mitchell/Giurgola used this opportunity to design a new, esplanade type of stair system that could bring these elements together into a single focal point. This created a new,

At the student union in Plattsburgh, the central stairwell (photos left and bottom) just beyond the main entrance (at far left of exterior photo below) is the main orienting element of the complex, 90,000-sq-ft building. On two levels, major corridors lead from it in two directions, but continuously refer back to it and to its view to the courtyard.





secondary axis, which Mitchell/Giurgola have reinforced by placing the student union on one side and their new library (in construction) on the other. By aligning their buildings one behind the other, on one side of the plaza stairs, the architects have fulfilled plans for a new, major campus axis and have created a new mall, or commons area, as a central campus focal point—something that had been totally lacking before.

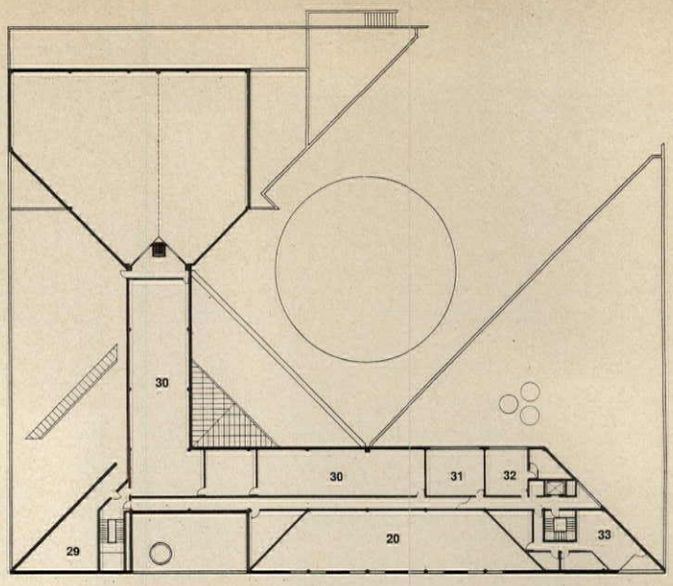
"We think of a building as a fragment of a fabric, as an episode," Giurgola says. "There is no universal language of architecture," he adds, "every building is different." He quotes Lou Kahn, "who talked of a building as being 'available,' meaning it's your life that counts first and not the building's," and explains that "a meaningful building is one that is generated from its program . . . one that has importance to the life within."

At Plattsburgh, Giurgola says, "the program was terribly complicated, ambiguous and diffuse at the same time." The building had to serve the needs of 5000 students; it had to provide a cafeteria, book store, snack bar, meeting rooms and lounges, seminar rooms, banquet facilities, a place for film screenings, for billiards, for music, and even for printing the campus newspaper. Because the building's circulation system allows easy access to all areas of the building, the functions of many of the spaces could be changed if desired; there is not a rigid, imposed hierarchy of space, such as would be typical of a more formalistically conceived building. Because of the building's column-grid structure, the non-load-bearing partitions can also be moved relatively easily, if necessary, to accommodate changing needs within.

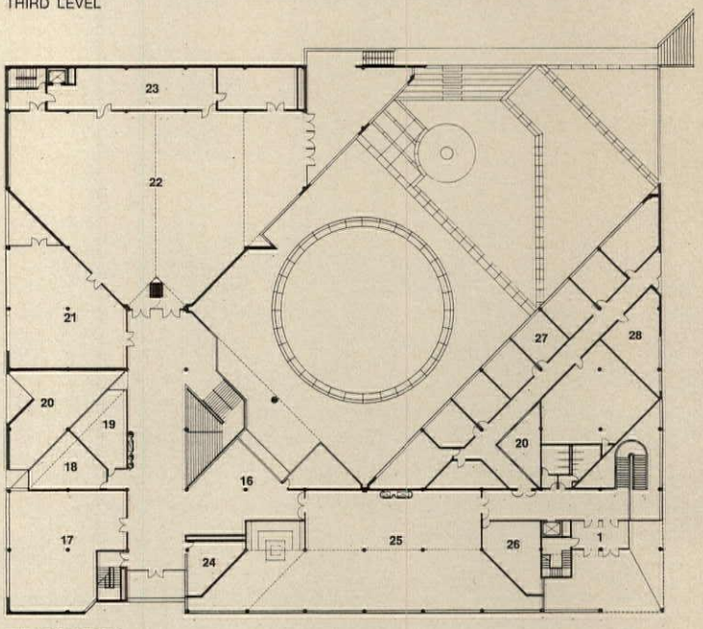
"We no longer have very definable programs where you do one thing," Giurgola notes, and adds, "buildings must be capable of many possibilities; an architect shouldn't freeze the functions. This," he says, "is where I disagree with the 'Whites' (Eisenman, Graves, Gwathmey/Siegel, Hejduk, Meier); they're too fixed." It is the old argument of the classic vs. the romantic. "Richardson, Sullivan, Wright, and Kahn were romantic," he explains, "while McKim was classic, which is not the line of architecture in this country." He adds, though, that "McKim did wonderful things, but they were containers in which the aesthetic forced the program . . . the program was fitted into the aesthetic."

At Plattsburgh, even if the aesthetic is fitted into the program, it would be wrong to assume that there is not an aesthetic, and a strong one at that. Although the building is avowedly "bland" (their word, not ours) on the exterior, and uses the campus standard cafe-au-lait wall surfacing brick, the overall form does express a power of its own, especially from the courtyard side where the intersection of the two grid systems is so dramatically seen in the exterior of the building. The form, however, is never monumental, even though its size alone could have made it so (because of bad soil conditions, all mechanical equipment was put on top of the building, making it even larger in appearance).

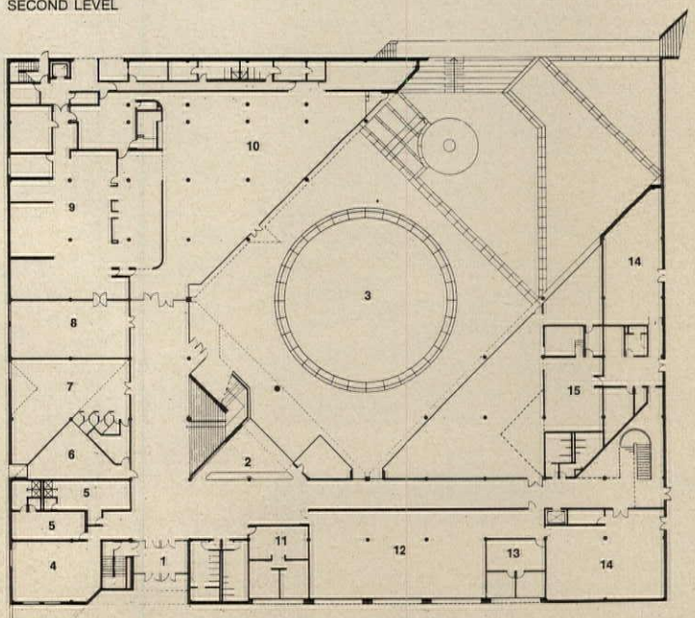
Basically, the student union is a building where, as Giurgola explains, "everything happens inside." Here, white spaces, often with angled walls and sometimes with glass-brick partitions that "borrow" light from adjoining perimeter



THIRD LEVEL

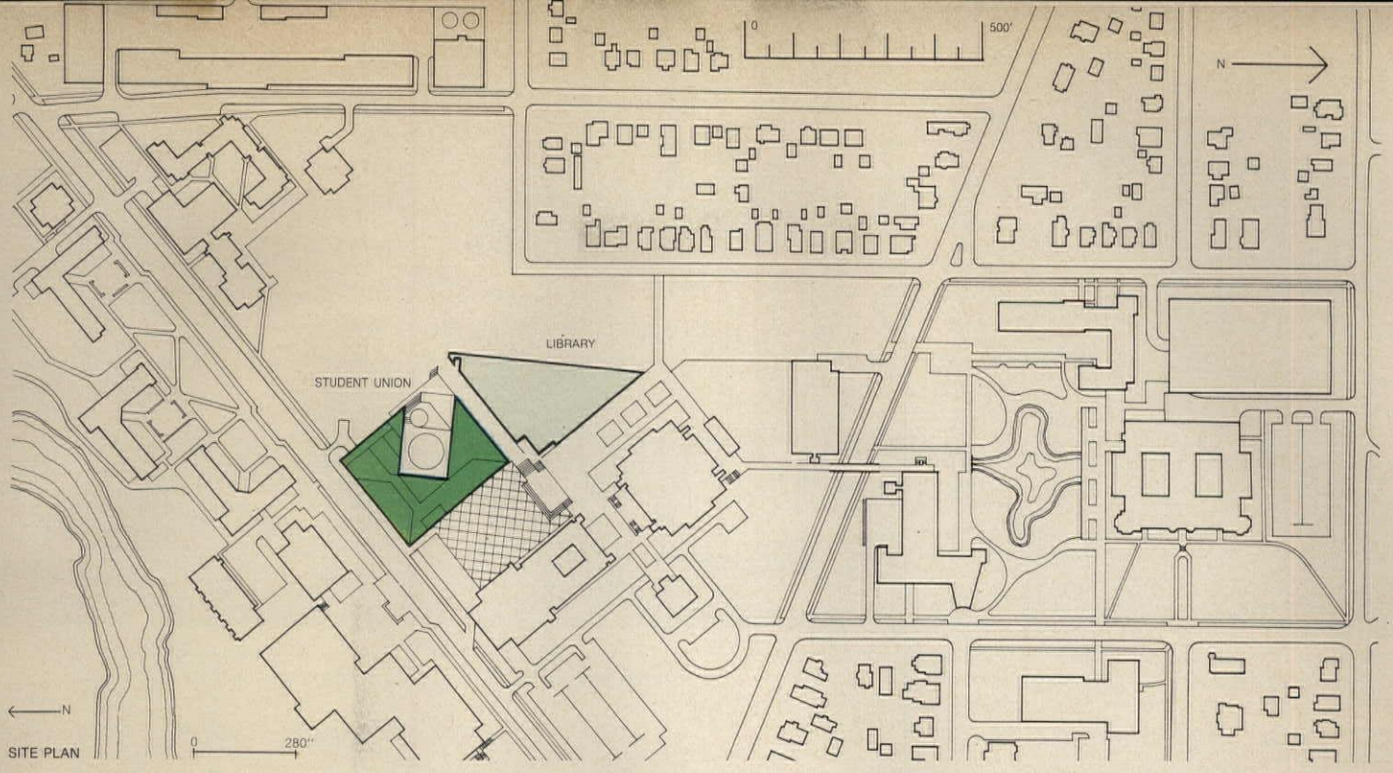


SECOND LEVEL



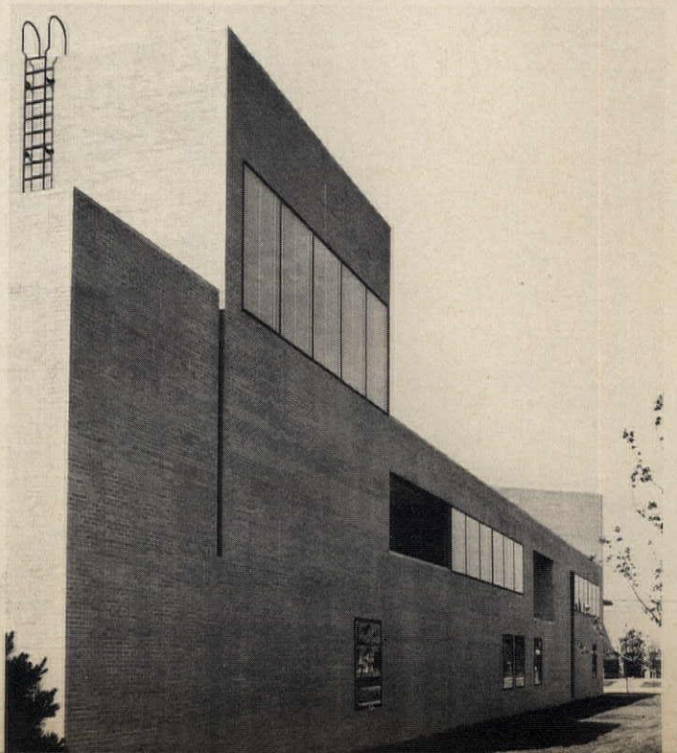
FIRST LEVEL

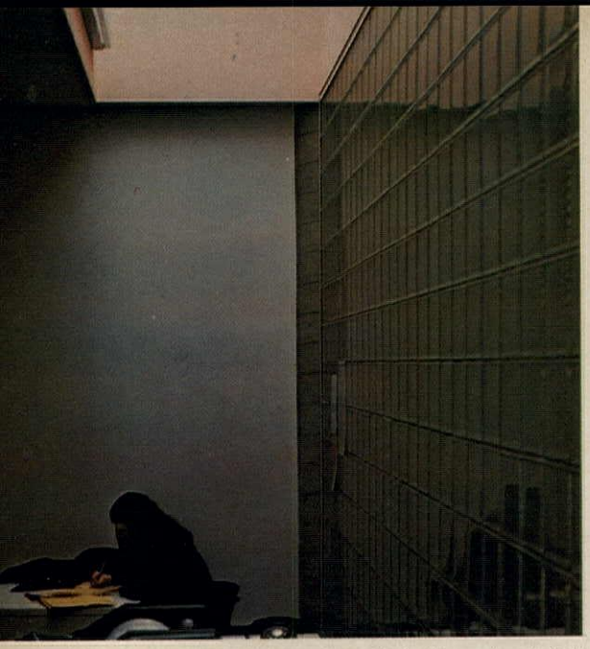
Legend **1** Main entrance **2** Information desk **3** Courtyard **4** Lounge **5** Locker room **6** Reading room **7** Music lounge **8** Dining room **9** Kitchen **10** Cafeteria **11** Offices **12** Bookstore **13** Offices **14** Storage **15** Snack bar **16** Exhibit area **17** Billiard room **18** Student activities room **19** Student government room **20** Open to below **21** Faculty lounge **22** Banquet room **23** Service **24** Coat room **25** Main lounge **26** TV room **27** Meeting rooms **28** Art workshop **29** Cooling tower **30** Mechanical equipment **31** Newspaper office **32** Yearbook office **33** Radio studio.



SITE PLAN

When Mitchell/Giurgola oriented the new student union to the established campus grid (site plan, top), a new commons area was created between its entry façade and older campus buildings. To recognize the nearby community, and to provide additional orienting devices, the courtyard (above and below left) and the library that is in construction are oriented to town grid. Hard front of street side (below) is read as non-entry side.

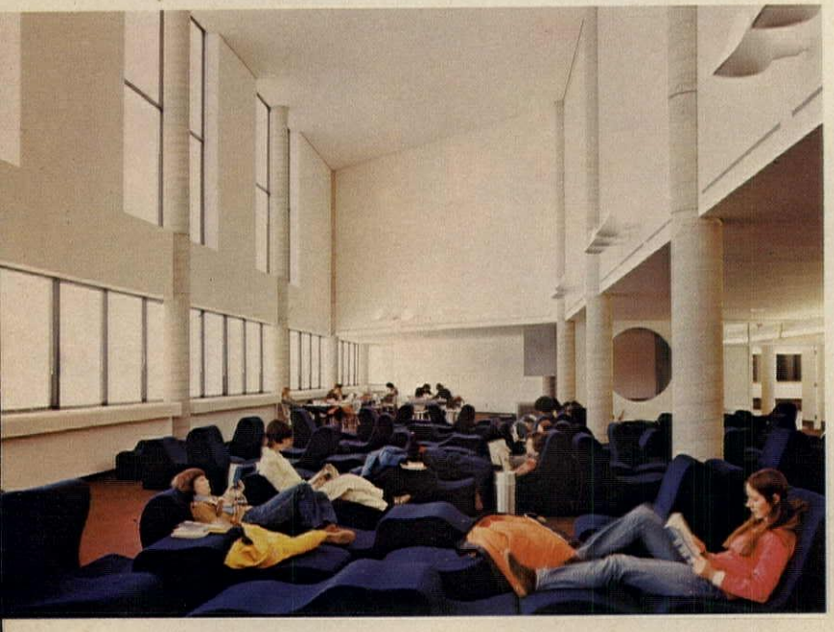




Interior rooms with no windows receive skylight or else borrow natural light through glass-brick walls from perimeter rooms, as in the student government offices (above left and right), which are beyond the upper-level glass wall of the bright, daylighted music lounge (below right).

Pink "pin board" in meeting room (above) is typical throughout building.

Main lounge (below left) faces commons, cafeteria (below) faces court.



Throughout the student union light fixtures, air ducts and vents, even columns and railings act as decorative devices in addition to performing their functional services, as seen in a secondary stairwell (above left), in music lounge (above middle), and in snack bar (above right and below).

Student Union, State University College

rooms, are punctuated with strong colors. Where there is carpeting, it is a deep, rich brown; in one room, dark blue furniture is set against it, in another, red chairs and yellow bookcases. In the banquet room, silver doors divide the spacious area into smaller units when necessary; light-wood chairs upholstered in vivid green are contrasted with the parquet floor. In the main skylit stairwell, chrome yellow and lavender handrails and black window mullions accent the white space.

If the program at Plattsburgh was ambiguous, or even diffuse, the aesthetic that has resulted from it obviously is not. Giurgola says "architecture is not a palace anymore," but as this student union demonstrates, a building, fortunately, can still be architecture. [David Morton]

"Theme yellow" of public spaces begins at central stairwell (below).

Data

Project: Student Union, State University College at Plattsburgh, N.Y.
Architect: Mitchell/Giurgola Assoc.; Michael A. Rubenstein, project architect.
Program: student union for four-year college of 5000 students, to include cafeteria, banquet hall, lounges, meeting rooms.
Site: a flat, eight-acre site surrounded by campus buildings and single-family, detached houses; selected by client.
Structural system: cast in place concrete columns; waffle slabs (unexposed); steel truss and metal deck for large banquet room span.
Mechanical system: high-temperature hot water supplied by campus to operate heating and air-conditioning.
Major materials: concrete columns; brick and concrete block walls; vinyl asbestos tile, carpet, quarry tile, and wood floor surfacings; plaster, acoustic plaster, and metal acoustic pan ceiling surfacings, metal frame windows, metal doors.
Consultants: Lois Sheer, landscape; Hanne Marstrand (with the architects), interiors; Cosentini Assocs., mechanical; Weidlinger Assoc., structural.
Client: State University Construction Fund, Albany, N.Y.
Costs: $3,864,000, $42.60 per sq ft.
Photography: John Veltri, except p. 66 bottom, p. 67, p. 69, Rollin la France; p. 70 top left, David Morton; p. 71 top, middle, and bottom right, Romaldo Giurgola.

Burns house, Charles W. Moore Associates, architects

Towards an architecture of symbolic assemblage

Robert A.M. Stern

A house on the rim of a canyon in Los Angeles embodies the colors and textures of Southern California with images of sun-drenched Mediterranean villas.

"If architects are to continue to do useful work on this planet, then surely their proper concern must be, as it always has been, the creation of place; the ordered extension of man's idea about himself in specific locations on the face of the earth to make what Susanne Langer has called 'ethnic domain.' This, supposedly, will be useful in helping people know where they are and, consequently, who they are." Charles W. Moore, *Perspecta 11* (1967).

"Fantasy can lord it over function in Southern California . . . No nonsense about integrated design, every part conceived in separated isolation and made the most of; the architecture of symbolic assemblage." Reyner Banham, *Los Angeles, The Architecture of Four Ecologies.*

Like the chameleon which adapts its hue to that of the situation around it, Charles Moore's buildings make loving gestures to the physical and cultural context of the places in which they are built. In so doing, they make it possible for the users of these buiidings, as well as for casual passersby, to better understand the context of their situation on this earth.

Though the fundamental spatial ideas of Moore's architecture are rooted in the Shingle Style architecture of the 1880s and 1890s, it is clear from the early important articles in *Perspecta 9/10* and *Perspecta 11* that Moore's head and heart were as much in Southern California, in Mexico, and most of all in the cinematic as well as the built fantasies of Hollywood, as they were in Newport and Boston's North Shore. The artificially inseminated Spanish colonial architecture of Santa Barbara, Disney's hucksterism and tomfoolery at Anaheim, the fairly genuine ambience of Mexico's colonial towns, are the "image" sources of his work. The Shingle Style, restudied in terms of what Moore describes as the "aedicula," the "saddlebag," and the "passage," are its spatial/structural underpinnings.

Now, as Moore is about to return to California to live and teach, not to the architectural rectitude of Berkeley but to the wonderful hedonism of Los Angeles, this very sympathetic palette of formal references needs no longer be suppressed; it now forms the actual context of the work. So it is not surprising that the Lee Burns house, Moore's first house in Southern California, should be laced with references to Hollywood fantasy and Spanish colonial revivalism.

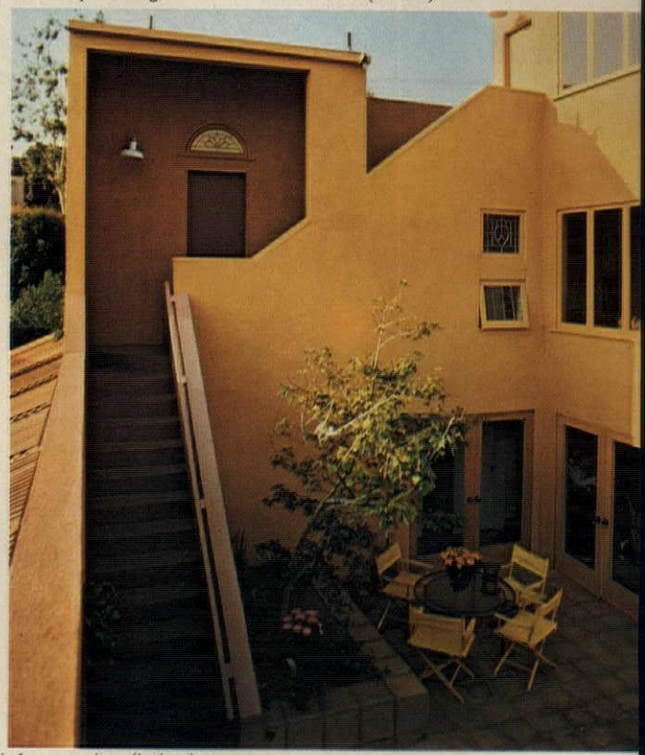
The small size of the site on which the Burns house stands and the understandable desire to strain for a view of the Pacific Ocean cause the house to rise three stories above the street; the pitched roofs are arranged to mask the height on the entrance side and to relate to the one-story houses which characterize the neighborhood. Only when viewed from across the valley does the house, perched above the slope on a high podium, reveal its true size. Only then can one appreciate the astonishingly skillful transition from "bungalow" scale, on the one side, to "villa" scale on the other. Our perception of this transition is reinforced by the splendid color gradations painted on the stucco; bland buff tones along the alley to glorious pinks, oranges, and yellows at the rear. Even the off-white color of the asphalt shingle roofing plays its part, making all the colors of the house and the landscape more vivid and making reference to the surprisingly large number of white and off-white houses in the area.

The house is built on one of those strange lots which seem to abound in Los Angeles—it is on the edge of a hill, once deemed impractical to build on. But now, as a result of land development pressures, this edge contains a row of houses set cheek-by-jowl along an alley; since there is so

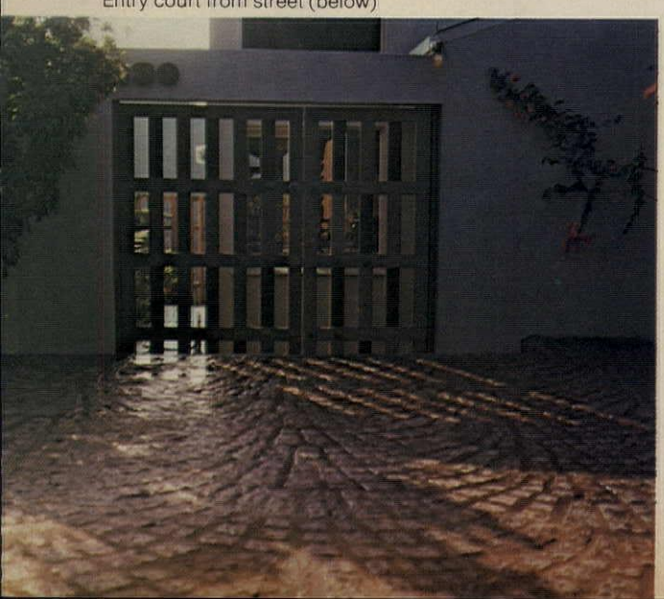
Author: Architect Robert A.M. Stern is a partner in the New York City firm of Stern & Hagmann and is Assistant Professor of Architecture at Columbia University. He is author of the books *New Directions in American Architecture* and *George Howe: Toward a Modern American Architecture.*

Back side of house (above), pool and terrace looking toward living/dining (below)

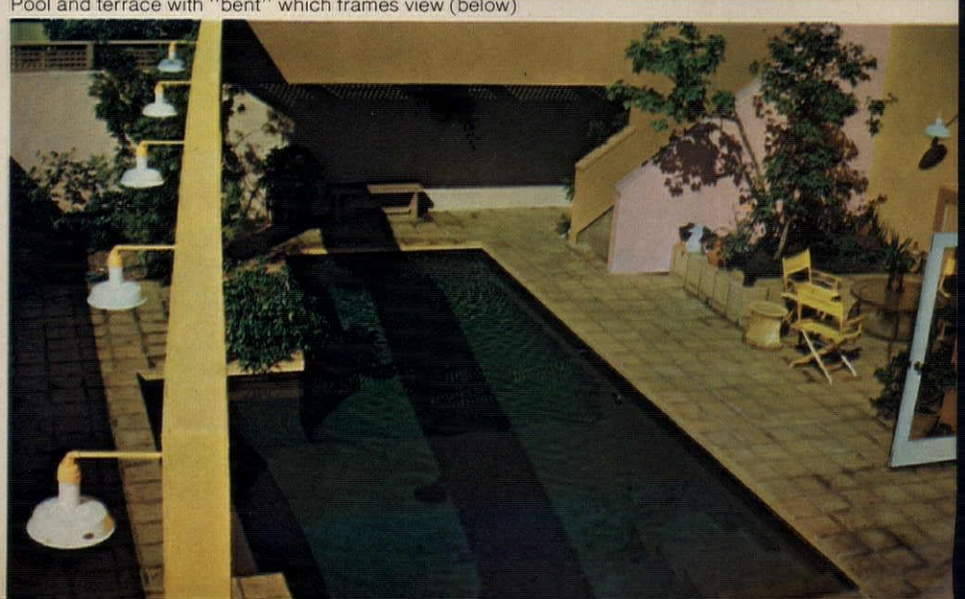
Stairway leading to third level bedroom (below)



Entry court from street (below)



Pool and terrace with "bent" which frames view (below)



Informal living/dining area under the stair (above)

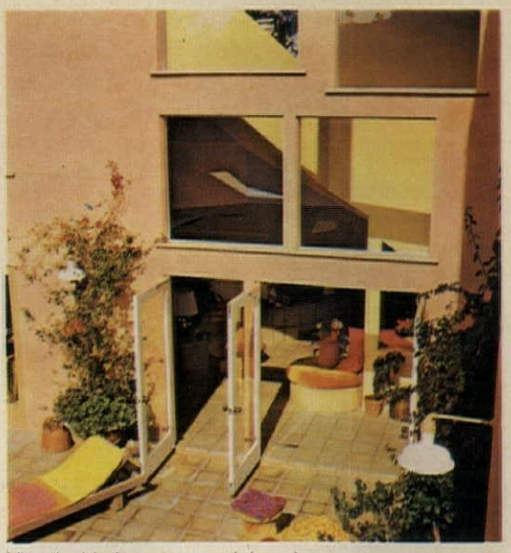
Looking out toward pool from under the stair (above)

Skylit entry hall (above) with stair rising at left.

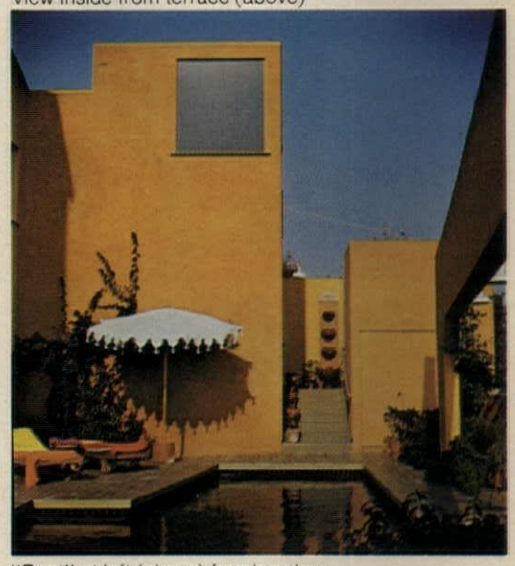
Inside windows looking out, outside windows looking in, enclosures within enclosures, outside materials inside, inside materials outside. All form part of the simultaneity of lifestyle that is Southern California. The colors inside and out, the materials and textures of the wall surfaces, the fabrics and the objects bring together the qualities of sun-drenched villas and the marvelous Mexican hill towns.

Bath and changing area off pool (above)

Under the stairs looking back toward entry (above)

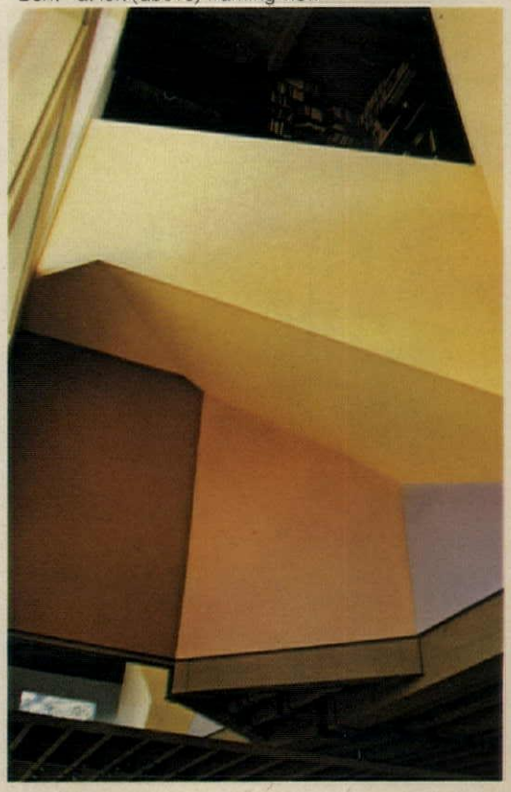


View inside from terrace (above)



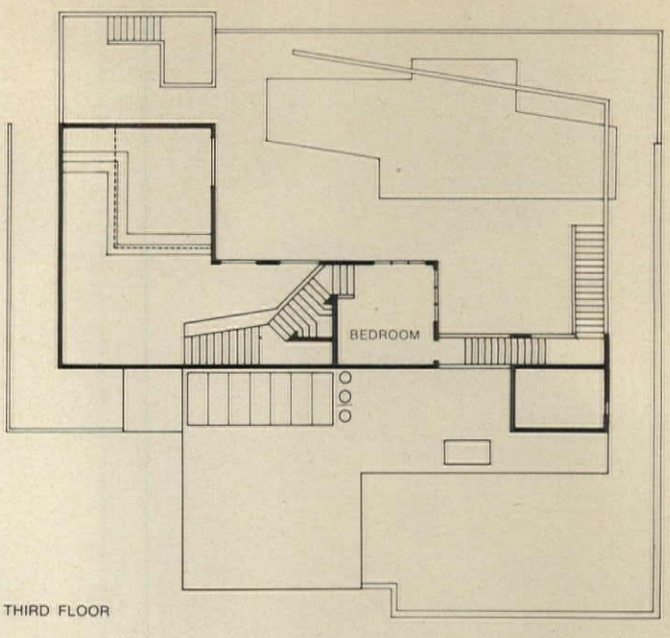
"Bent" at left (above) framing view

Formal living space with baroque organ (above)



Underside of stairwell (above)

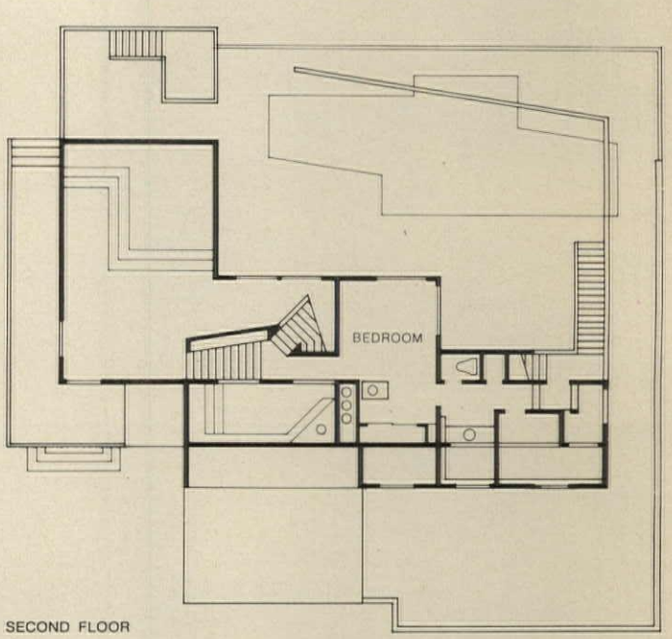
Burns house



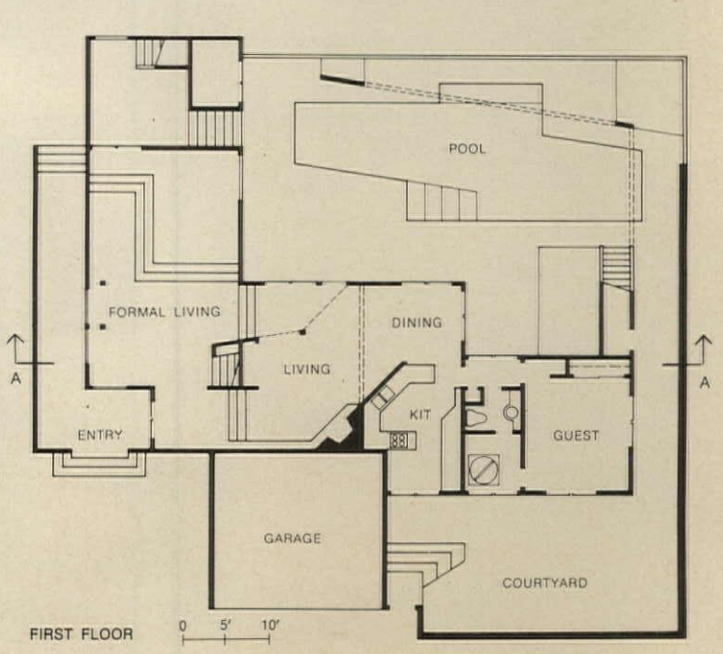
THIRD FLOOR

Data

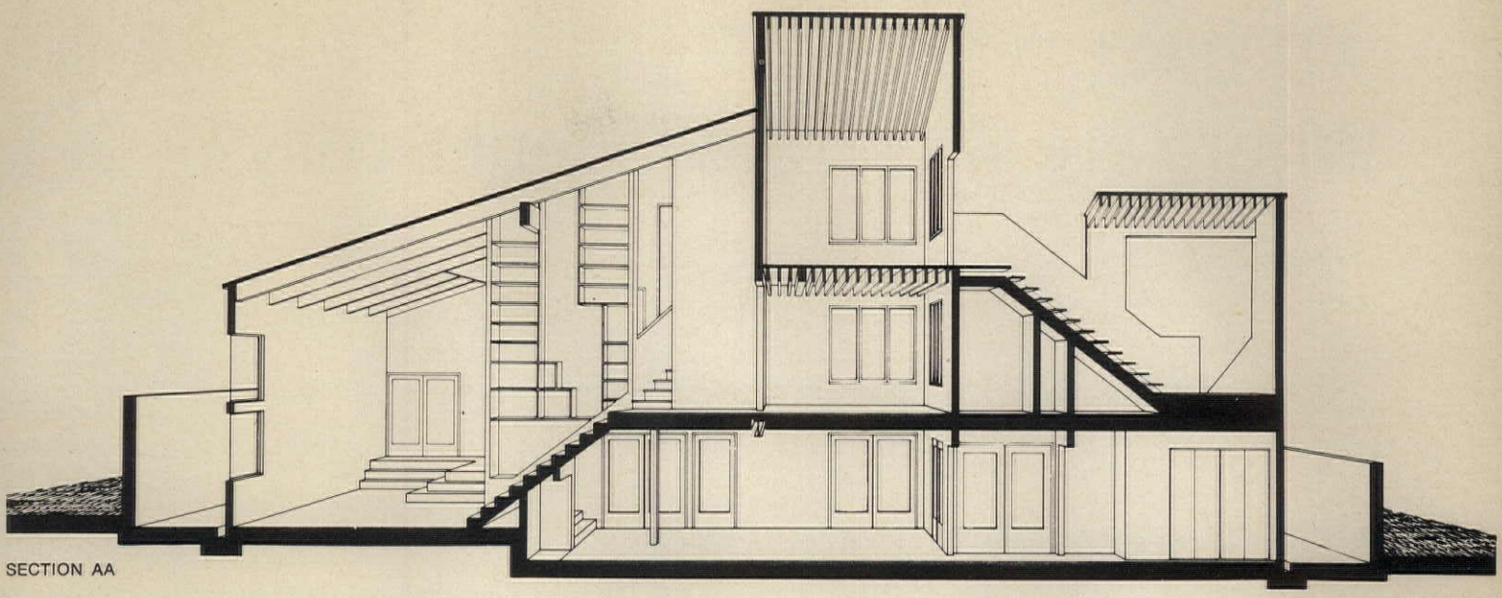
Project: the Burns residence.
Architect: Charles W. Moore Associates; Charles W. Moore, architect; Richard Chylinski, associated architect.
Site: Santa Monica Canyon, Los Angeles, Calif.
Structural system: wood frame.
Major materials: exterior, stucco on plywood sheathing. Interior: gypsum board walls and ceiling tile floors, carpeting, and paint.
Consultants: Richard Peters, lighting; Christina Beebe, color consultant.
Costs: withheld.
Photography: Elyse Lewin.



SECOND FLOOR



FIRST FLOOR



SECTION AA

little land at this level, the Burns house is situated along the property line.

There are three important spaces in the house: the entry court; the big living hall (that is, the stair/library/living/dining/music room); and the swimming pool. (Kitchens, bathrooms, and bedrooms are modest in size, matter-of-fact in design with the downstairs bathroom doubling as a changing room for the swimming pool.) Two of the important spaces, the entry court and the swimming pool, are outdoor spaces—an expression not only of the Southern California climate but also of the need to make special, vivid, and usable every last inch of expensive hilly Santa Monica real estate.

The entry court is formed by setting the house back from the alley at one side of the garage. This handkerchief of space is made to seem very grand through an espalier along the blank side wall of the garage and magnificent fake Belgian block paving—actually 7'x7' cast concrete panels patterned to suggest the sweep of a mason's extended arm and evoking some glorious Mexican patio, or at least a fancy motor court turnaround in Bel Air. A finely crafted wooden gate forms a controlled view of distant hills, thus hinting at vast space and much splendor beyond, whereas, in reality, all that exists of real interest are glimpses of the homes of Christopher Isherwood and Cesar Pelli.

The entry court is very small, and one moves quickly through the gate into the living hall. Here the influence of the Shingle Style is strongly felt: one vast living space on many levels, natural light from remote places above, windows focused on particular views. The whole is diminished in size by the necessities of current economics and by Moore's own predilection for miniaturized spaces (see Vincent Scully's discussion of diminution process in his new book, *The Shingle Style Today*). In this room, the people seem almost too large; and the resultant feeling of giantism is, of course, ego-enhancing to the visitor and presumably to the owner as well. This space, in conception and spirit, is not really very far from the doll houses which Moore has often assigned as design problems to his students at Yale. Not only do people seem bigger and more important, but so do objects: a trumpet gallery composed of four columns Moore bought in Guanajuato becomes a choir loft, a handful of books, a library, a few pictures, a collection. Everywhere there are wonderful details: the exposed "I-beam" with mirrored web and a mirror at angles to the web which make an ordinary corner come alive in a magical way; a superbly crafted baroque organ from West Germany magnificently enshrined on a podium (special sliding doors can be closed to isolate the space, making it rectangular which, on special occasions, makes the organ and room seem to come alive with sound); two small chesterfield sofas confronting each other in a Hapsburgian cigar-and-brandy intimacy that would have even Adolf Loos weeping with weltschmerz.

The entry and the living hall are but a prelude to the splendors of the courtyard, with its zigzag pool, its lush planting, its vibrant coloration. A view-framing "bent" which is set "slaunch-wise," to use Moore's term, straddles the pool and focuses the viewer's attention on the distant hills and on a sliver of ocean beyond. Thus, a bold scale is introduced that is related more to nature than to the scale of the house.

Moore's conception of the pool space was influenced by a Proustian recall: a magazine photo of a jet-setter's pool at Tangiers with glistening tile and glorious white columns rising from the water. It may also owe a debt to the splendors of the Roman pool which Julia Morgan designed for William Randolph Hearst at San Simeon. In any case, the diagonal bent is the miniaturized memory of such splendid places that are quite possibly more grandiose but hardly more glorious.

The Burns house is a place maker, a symbolic center for a cultivated man's life, filled with images of Spain, Mexico, Southern California, and, by virtue of its spatial conception, late 19th-Century New England. In its eclecticism it responds to very real needs for places that contain the diverse and often contradictory experiences which we, as humans beings, embody. Richly detailed, personal, idiosyncratic in marvelous and appropriate ways, the Burns house is cosmopolitan in the best meaning of the word. □

Lang house, Stern & Hagmann, architects

Where are we now, Vincent Scully?

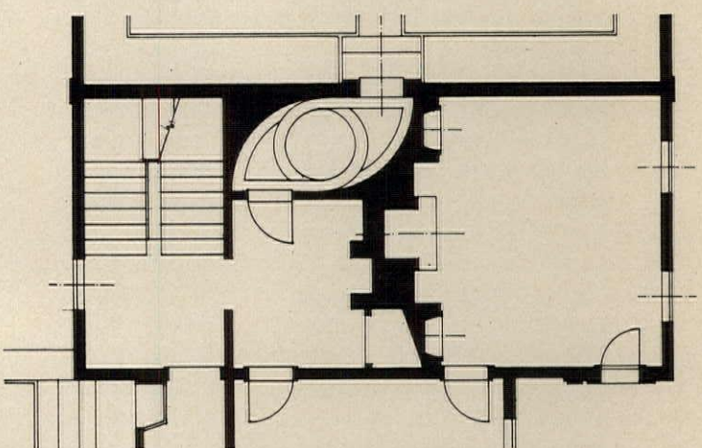
Charles W. Moore

A country house in Connecticut responds to the formality of its setting with a baronial gesture reminiscent of the best of Borromini.

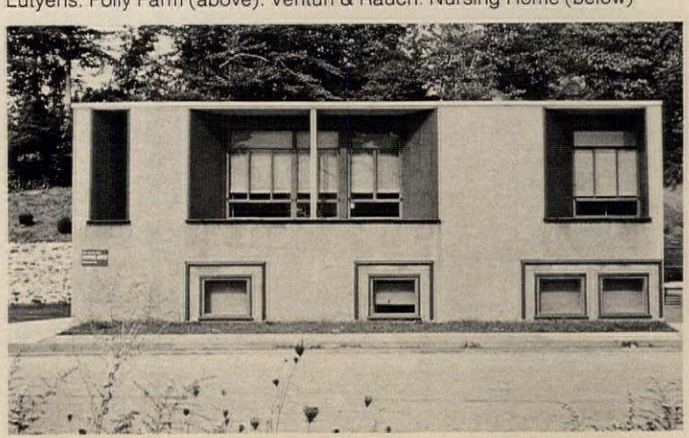
The increasing freedom to indulge in recollection and to be directly responsive to a client's dreams of "house" has not been without its traumas in the recent residential marketplace. Some of the shingled manifestations, especially of the New Freedom, have wound up resembling frozen tantrums as they cast aside the constrictions of an earlier idiom. The apparently casual collection of easy-going reminiscences into a coherent house is, I can attest, exacting work which requires rigorous discipline if it is to have a chance of succeeding. In the most successful houses, the discipline has come not only from the architect's own hard work but from clients' strong visions, often corseted into position by a tight budget.

The Lang house by Robert A. M. Stern and John S. Hagmann is, I think, an extraordinarily successful example of one such house. It is located in the far northwest corner of Connecticut, on the rim of a magnificent valley which affords the house a possible 180 degree easterly panorama, while requiring of it a princely (read baroque) grandeur. One of the owners is a noted musicologist, still hard at work in his academic retirement, and in need of complete acoustical privacy. The other owner, happily for the project, wanted recollections of sun-drenched Mediterranean glories and had altogether satisfied, in a house next door, any desires she might ever have had for early New England intimacy. Their son, Jeremy Lang, who is an associate of Stern & Hagmann, was also an important contributor to the success of the project, as interpreter of the clients' wishes, as one of the designers, and as the master of some innovative and, I think, seminal detailing. Even the budget, I am told, had a life of its own, with periodic spasms of contraction.

The result is a calm, self-assured, simple house—grand in the best sense—with a series of separate rooms in which light is a free agent, arriving in surprising places to animate interiors, or to backlight walls pierced for the view. The house is full of places where it is pleasant to stop for a while; a favorite of mine is at the bottom of the stairs,



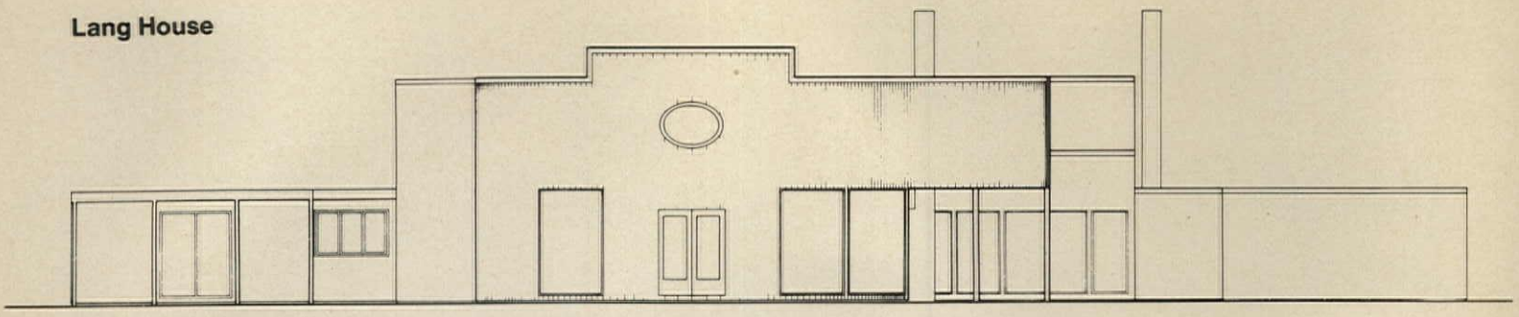
Lutyens: Folly Farm (above). Venturi & Rauch: Nursing Home (below)



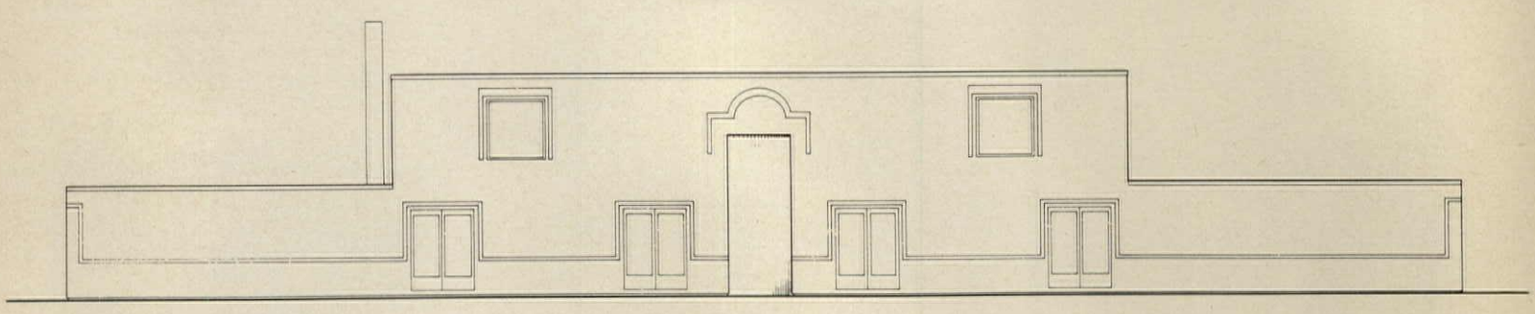
Author: Charles W. Moore is former Dean of the Schools of Architecture at University of California, Berkeley and Yale University and is presently architect in residence at the American Academy in Rome and a Professor of Architecture at UCLA. He is co-author of the book *The Place of Houses,* published earlier this year.

Front façade (below) facing the road and back façade (above) opening to the view. Side view (below, right) shows the house between the two façades.

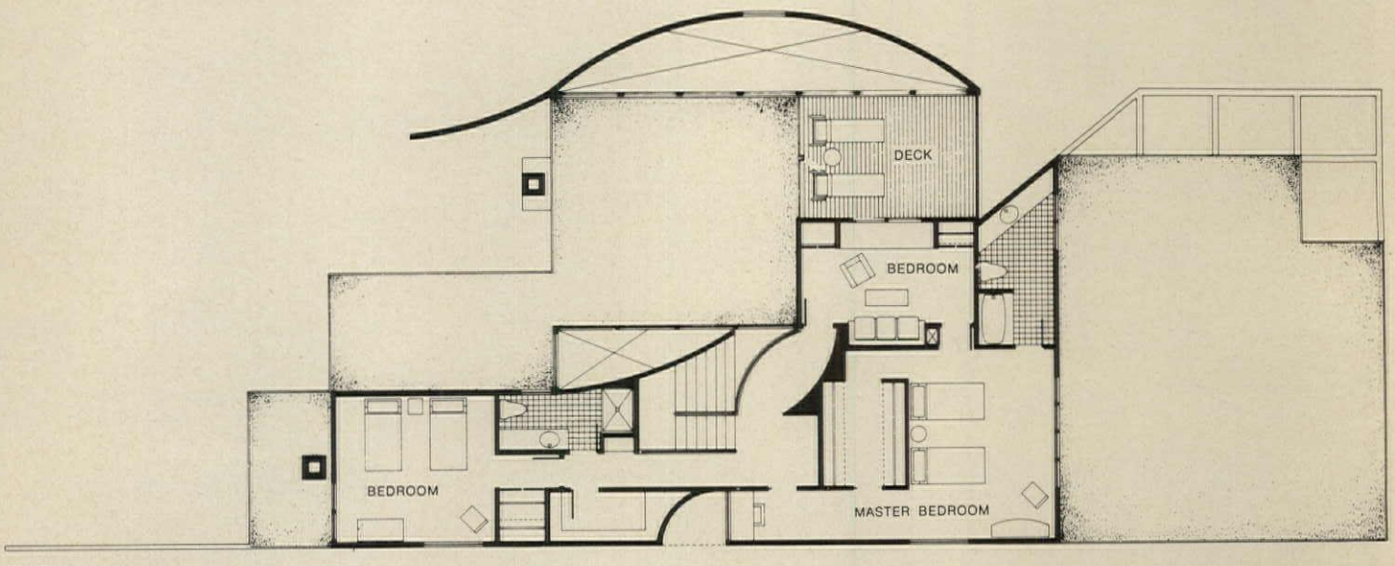
Lang House



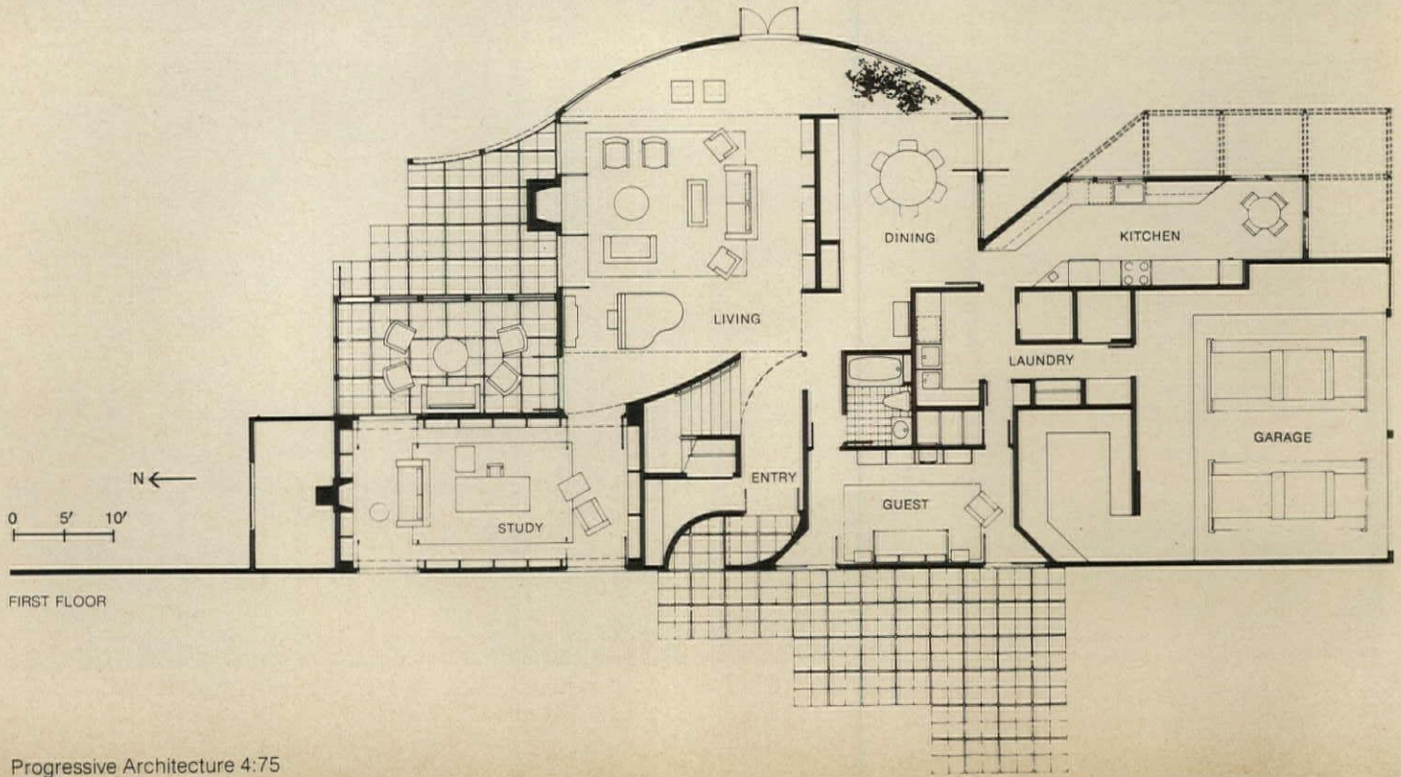
BACK FACADE



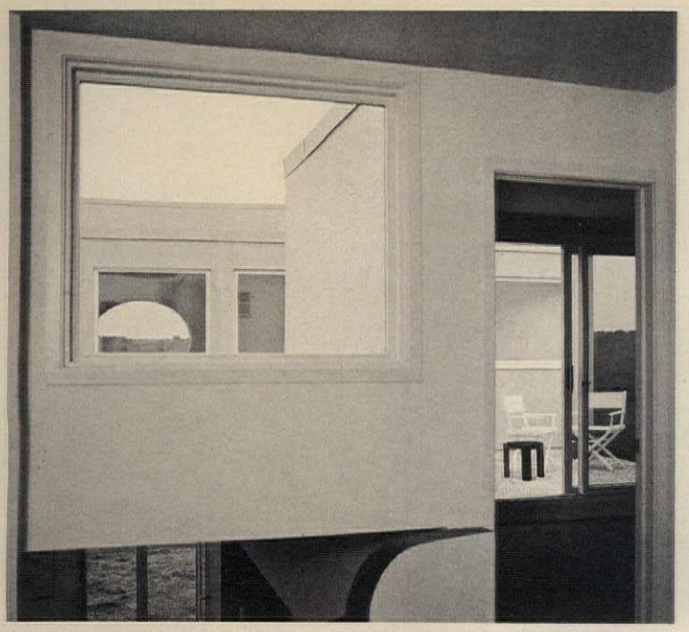
FRONT FACADE



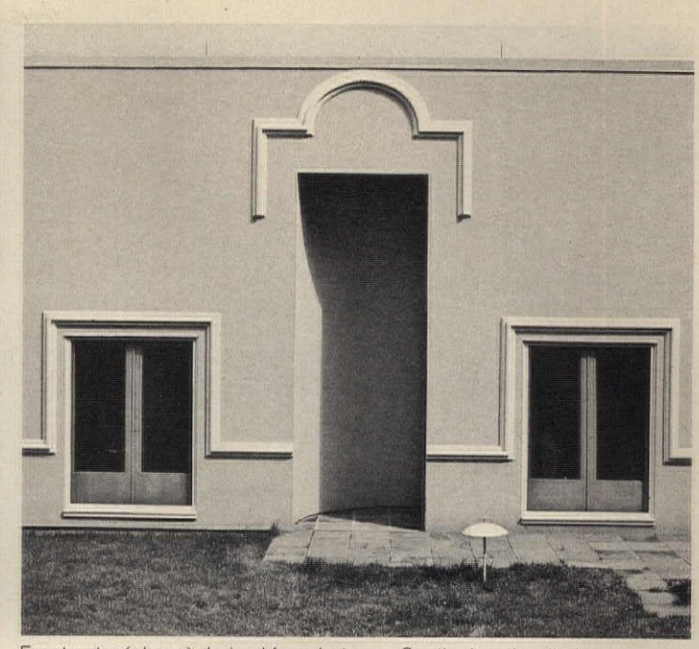
SECOND FLOOR



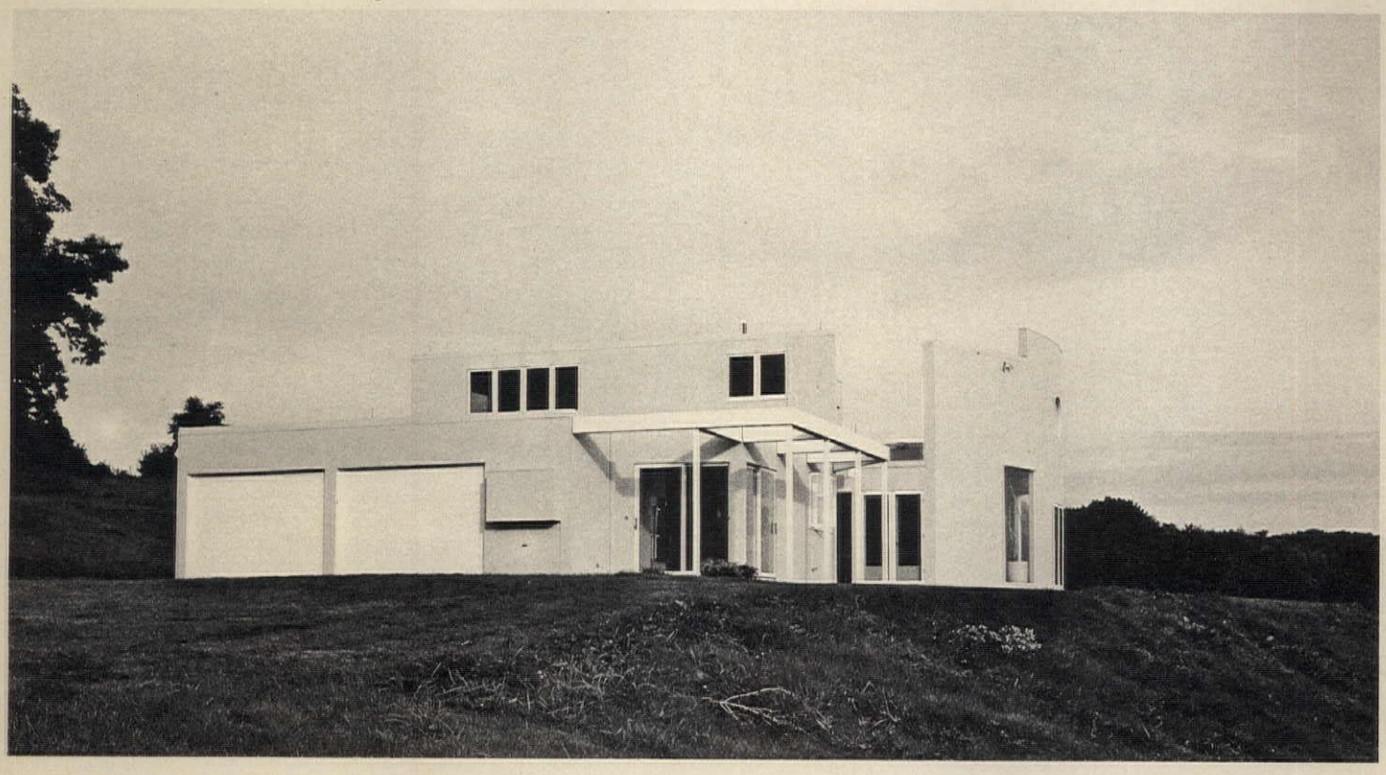
FIRST FLOOR



A baroque vista at stairwell window through living room clerestory and oval window on the back façade showing the hills in the distance.

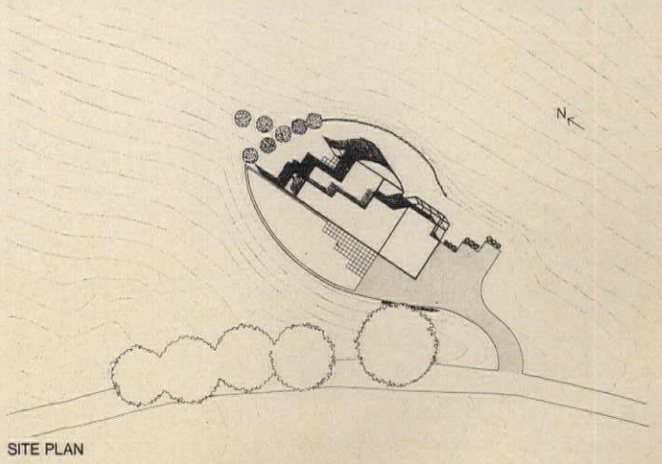


Front entry (above) derived from Lutyens. South elevation (below).

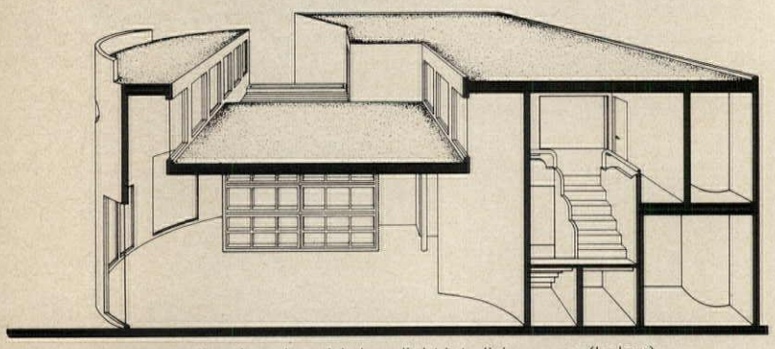


sheltered, but with a long view of the valley diagonally out through the dining room.

The architects were excited about their axes. These start off inauspiciously enough, in the standard rural American uncertainty; having left one's car near the garage, the question is whether to head for the road side of the house or the view side. If the choice is correct (the road side), one proceeds along an extended flat façade of strong yellow onto which a syncopated set of symmetries has been massaged and punctuated with some flamboyant moldings made of standard milled pieces of wood. (Note in the plan how the study walls have been eased out to put the windows in the right place.) The detail is more modest (and maybe even less wonderful) than Borromini's on Sant'Ivo, gentler than Venturi and Rauch's on the North Penn Vis-



SITE PLAN



Clerestory (section above) brings light into living room (below).

Data

Project: the Lang residence.
Architects: Robert A.M. Stern & John S. Hagmann; Jeremy P. Lang, associate; Edmund H. Stoecklein, assistant.
Site: Washington, Conn.
Structural systems: wood frame.
Mechanical system: electric radiant ceiling.
Major materials: exterior; plywood sheathing, acrylic resin paint with vermiculite filler. Interior, gypsum board walls, gypsum plaster ceilings, tongue and groove pine floors.
Consultants: Daniel Stewart, landscape architects; Langer/Polise, mechanical; Zoldos/Silman, structural; Carroll Cline, lighting.
Costs: $33/sq ft.
Photography: Edmund H. Stoecklein.

iting Nurse Association. It acknowledges connections with both of them, but remains special to this house.

The axis shifts to the right at the front vestibule, a device Sir Edwin Lutyens used on another scale at Folly Farm. It requires of the entrant a full turn to the right, then a half turn to the left, and he is at the front door, sheltered from the fierce winter wind, looking straight through the house and out the central opening of the garden side. From then on the experiences are complex, and repay a careful reading of the plans. My favorite devices are the diagonal views southeast from the foot of the stairs, the view from the same place up the splendid stair straight out of the Radio City Music Hall, and the surprising animated light coming through clerestories flanking the 12-ft-high central part of the living room ceiling. In the living room that light comes onto curved walls detached from the 12-ft ceiling, which expand and even explode the space, in the evident ways and, even more importantly, backlight the wall pierced for the valley view, to soothe the eyeballs and blow the mind.

All this sounds too randomly and relaxedly willful in the telling. The sense the house gives is of a few hardfought victories of the will, of a few limited and carefully justified extravagances of the spirit which relaxed the purse-strings. An important victory was the reverse curve outside, which assymmetrically completes the swelling valley façade. That, too, has acknowledged precedents and parallels, from Charles Bulfinch's Governor Gore house in Waltham, Massachusetts (1805) and its Roman predecessors, to Venturi and Rauch's Brant house of 1974 and the unexecuted Madden house by Jaquelin Robertson of a few years earlier. But again the Lang house is special, at once powerful and gentle, sharply sophisticated but coming off charming, rather than sharply witty or especially ironic. It seems right on the great hill. The furniture helps, too. It is the clients' (one imagines the architects choking back a few tears of pride vanquished). But it is well loved, easy, and graceful like the house. If, as I hope, future historians will note the late 20th-Century architectural wisdom of absorbing and enjoying the influences available to us, they will probably note, also, the difficulty of distilling these influences down so that the inhabitants can contribute some too and enjoy them all. If they do, the Lang house may well be one of the examples they'll use to show how it all began to work. □

Stairs a la Radio City (above) and living room (below) with light pattern from clerestory.

Victorian house, New York State

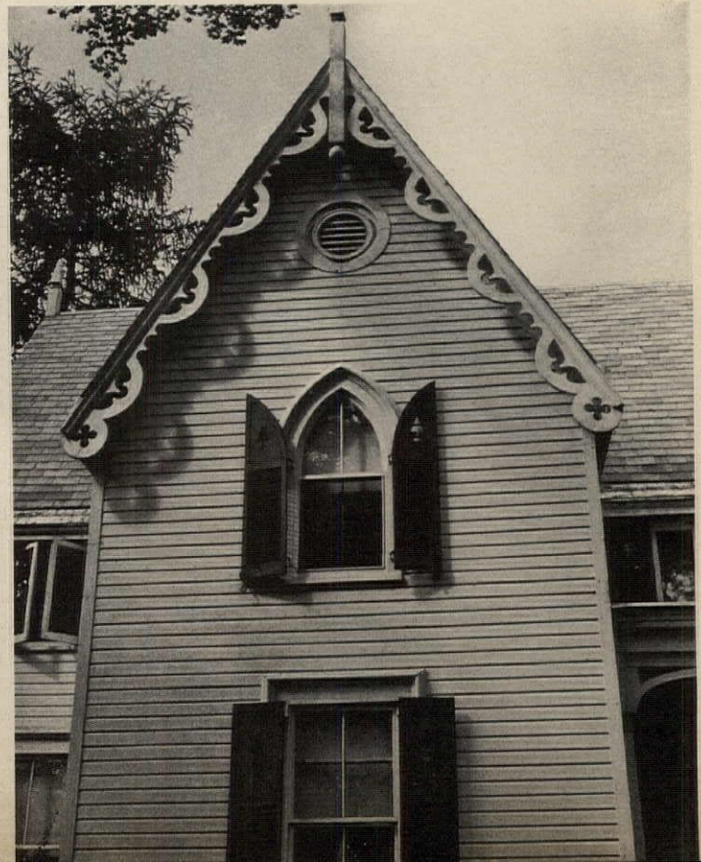
Optical allusions

Some predesign observations by Lester Walker

A new old house near Woodstock, N.Y. takes its visual cues from the 1800s, but carefully adapts them to more current concerns for housing choice and economy.

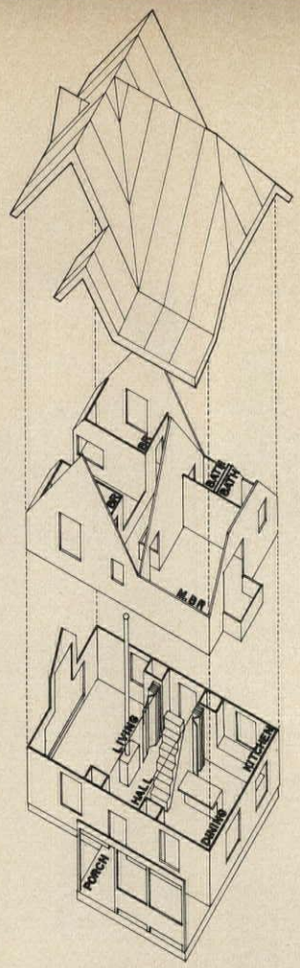
Nostalgia doesn't often produce tangible objects. Victorian houses were charming, but building one today is beyond most young families' means. Or is it? Architect Lester Walker didn't think so. Of course, his proposal to build a Gothic Revival Victorian house was more than a nostalgia trip, although there was some of that. His concern was for the lack of choice most families encounter when buying a house, and for the cost implications of buying or building. The choice is limited, Walker points out, to standard split-levels or ranches, old houses with too much space and prohibitive upkeep, or other unimaginative options. Also, most young families can't afford the architect-designed route. With a client and with a design fee from *Family Circle* magazine, he was ready to look for an alternative.

Since the scale of the prospective house was not to be large, Walker armed himself with a copy of A.J. Downing's book, *Cottage Residences* (1842), and set off on a trip through the northeastern U.S. to study Victorian houses. Noting characteristics typical of many residences of that



Translation of historical references; simple parts under aluminum roof.

Victorian house



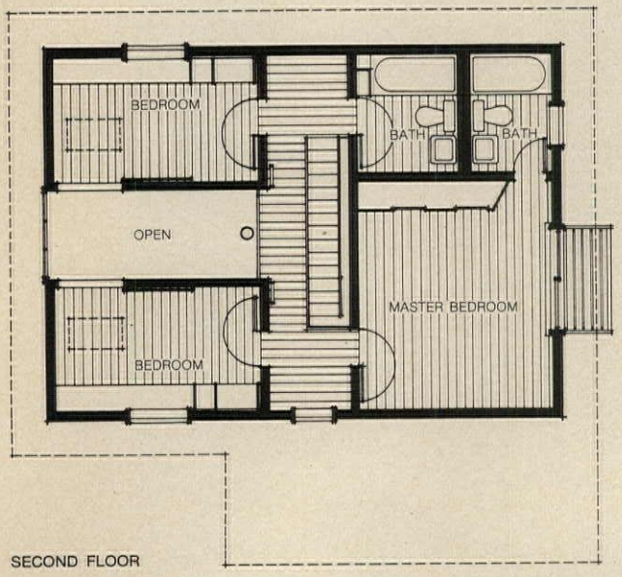
era, he began design. The elements are obvious in the resulting structure, and they are carried out with wit, in living color. Walker also took care to detail the house so that it could be built simply by local builders (and the architect). All materials and components are standard with the exception of the gingerbread flourishes, and those were cut with simple power tools.

The interior can be changed from a center hall plan to one entirely open; the "hall" is defined by two sets of full-height doors which, when open, leave only the Franklin stove and the characteristic center stair to bisect the lower level. Above, two children's bedrooms flank the 25-ft-high living room space. Sliding panels allow the children to share the big space, or to close themselves off. Over each bedroom is a loft space for either sleeping or storage, accessible by ladders. Both roof decking and second level flooring are left exposed to the spaces below.

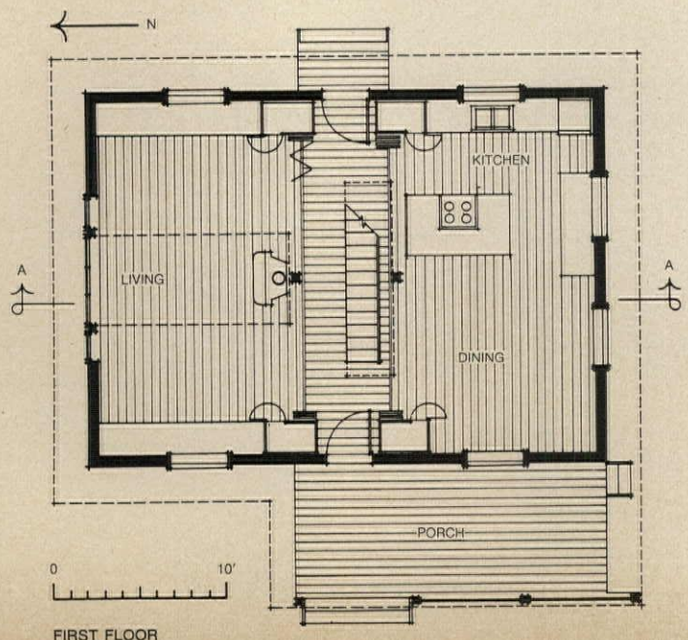
If the house's achievements seem modest, they were meant to be. Walker's intention from the beginning was to create an alternative package embodying simplicity, economy, and historic allusion. Seasoned with a little humor, the package does all of that. [Jim Murphy]

Data

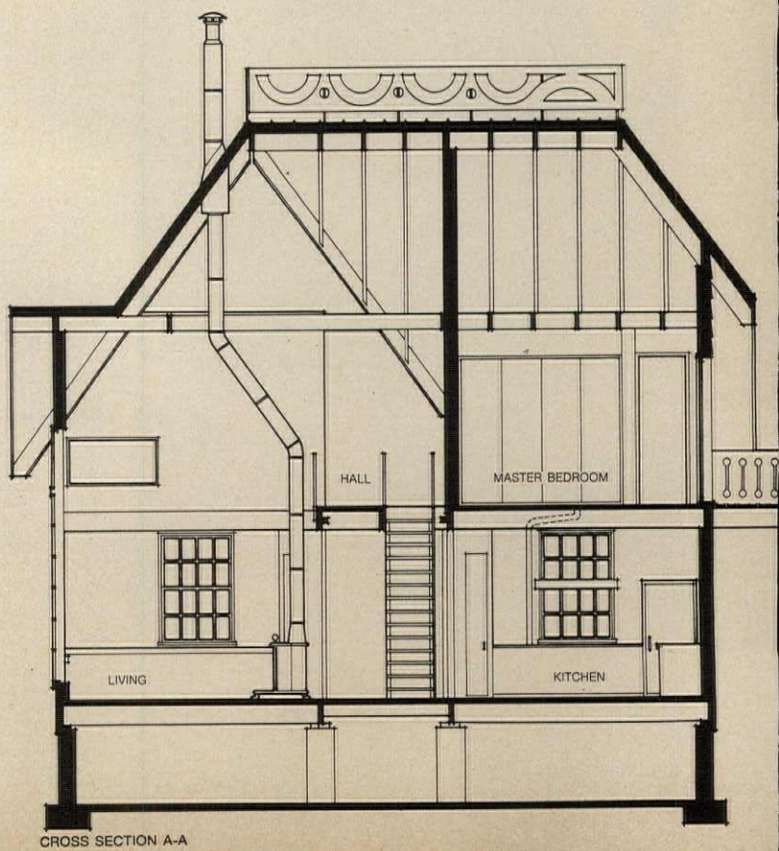
Project: Gothic Revival Victorian House, Woodstock, N.Y.
Architect: Lester Walker
Program: house built on a low budget, allowing another alternative to standard choices in housing a young family.
Site: 3 acres at the base of a mountain, with some surrounding trees and a nearby stream.
Structural system: concrete foundation footings, concrete block foundation walls, hemlock and fir frame construction.
Mechanical system: electric heating.
Major materials: exterior plywood reverse board and batten wall surfacing and alumnium roofing; interior, gypsum board walls, pine floors.
Costs: $30,000 ($22.50/ sq ft)—does not include land, septic system, well or site improvements.
Photography: Lester Walker, except p. 85, bottom, Bob Stoller.



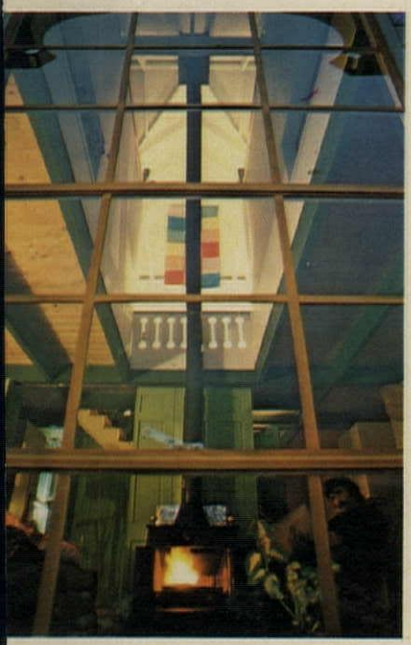
SECOND FLOOR

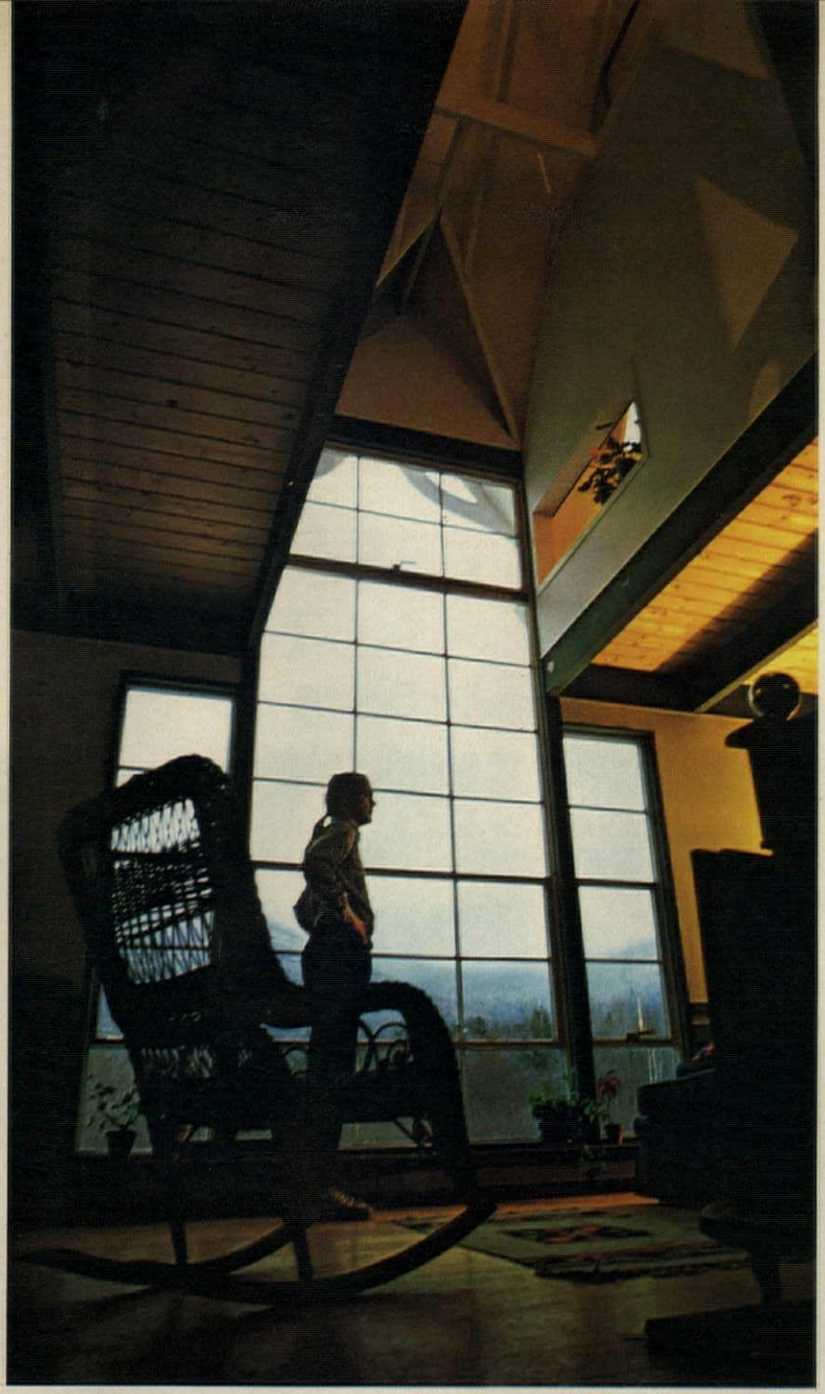


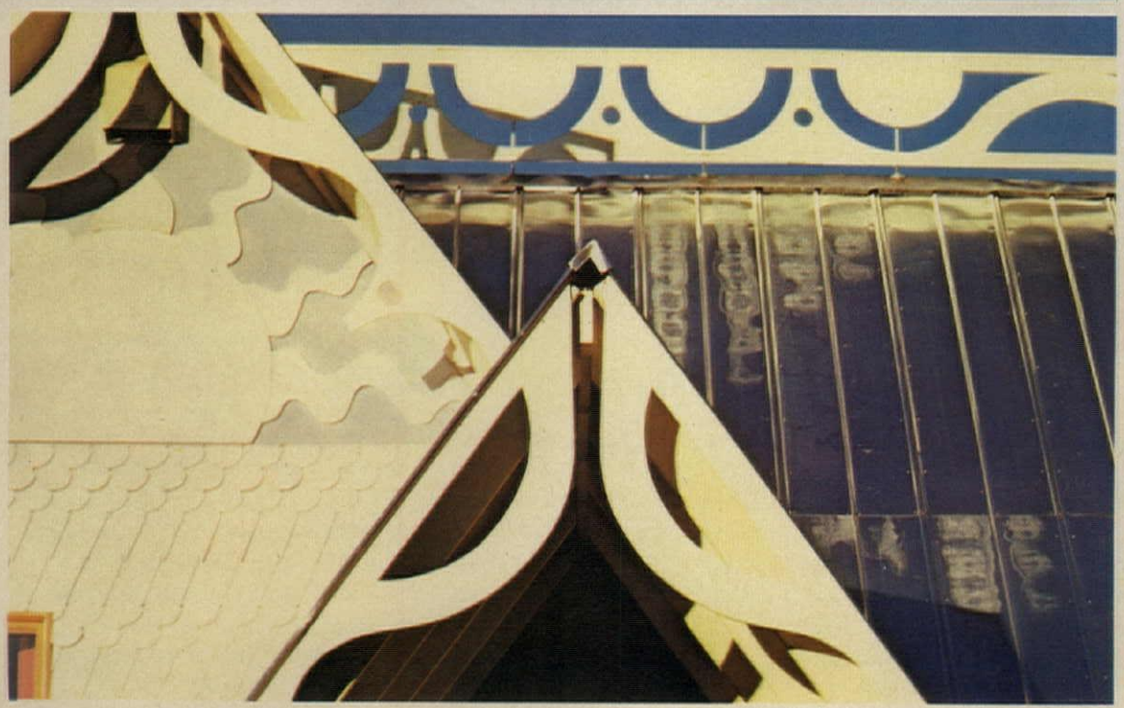
FIRST FLOOR



CROSS SECTION A-A



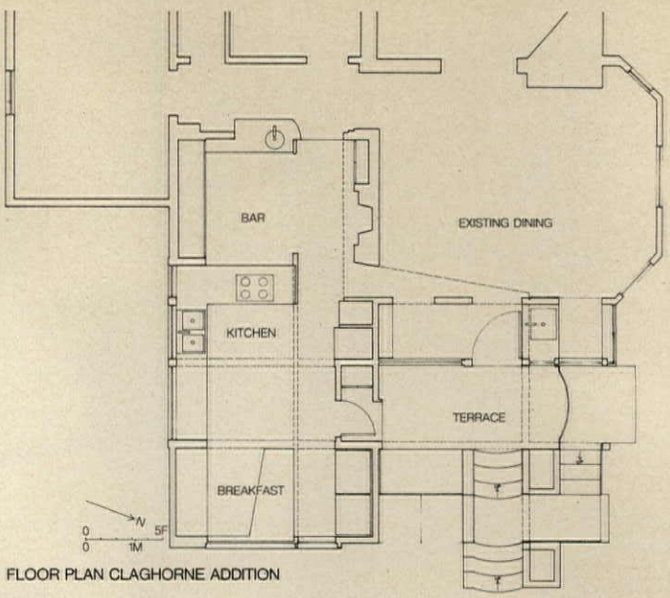




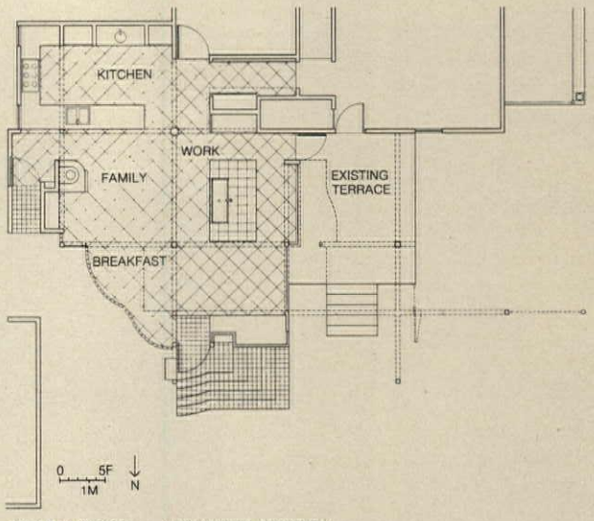
Living room spaces (top, left and center) explode inside the deceptive shell. Playful detailing of railings and trim was accomplished through the use of simple power tools.

Two House Additions, Princeton, New Jersey

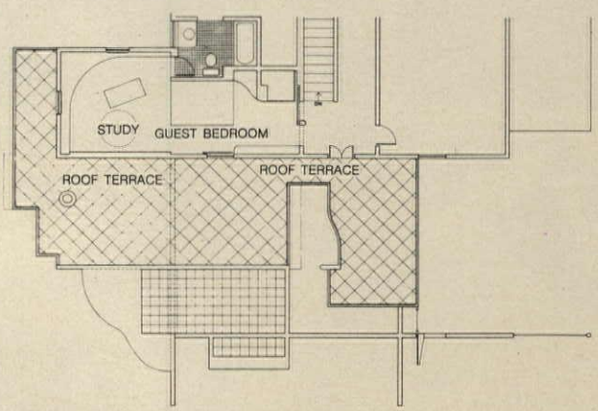
Semantic distinctions



FLOOR PLAN CLAGHORNE ADDITION



GROUND FLOOR ALEXANDER ADDITION



SECOND FLOOR ALEXANDER ADDITION
Note: The two house plans have different scales.

Plans for the Claghorne House addition (top) and Alexander House addition (middle and bottom) illustrate Graves' tight ordering of spaces to make the house additions function in pragmatic terms. For the semantic function, following pages indicate the complex meanings each can assume.

Two house additions by Michael Graves use historical allusions to comment on their relationship to the existing context and their own communicative function.

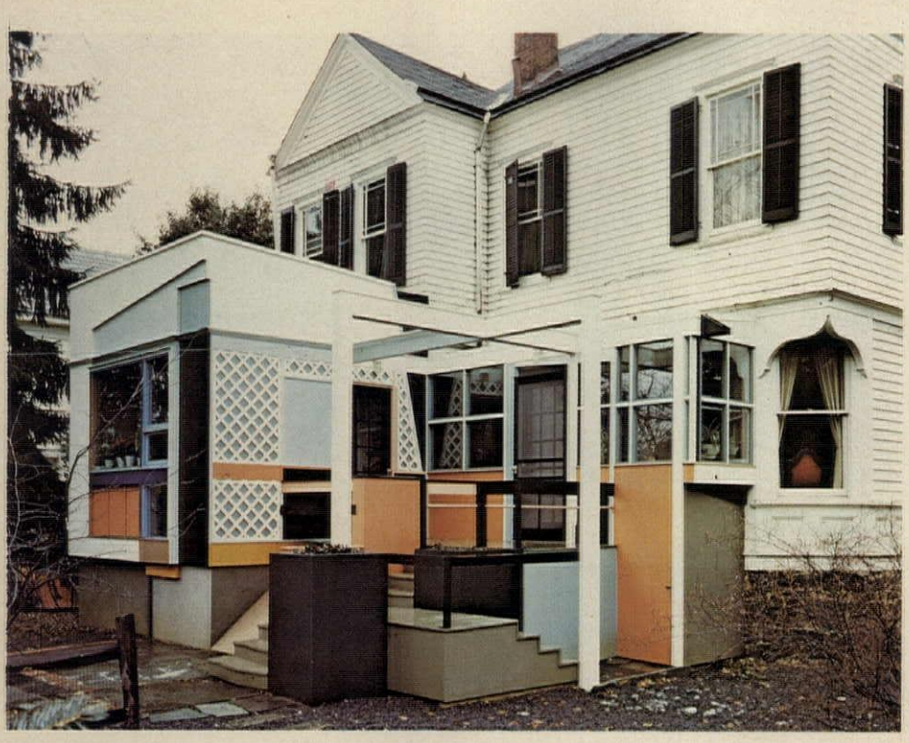
Faced with the miasma of boring, lifeless buildings in a misunderstood modern style, architects now blame modern architecture's credo of functionalism and structural determinism. But as architect Michael Graves explains, functionalism comprises several levels of interpretation—not only the pragmatic, or its use function, and the syntactic or grammatical (structural) function, but also the semantic, or symbolic function. Architecture must communicate this latter subtler dimension to its users, or else the physical environment has no meaning, no reference point to which people can attach their myths and aspirations. Precisely because architecture has been reduced to its most minimal elements, buildings are devoid of multiple levels of interpretation—of *dimension.* How is symbolic content instilled into architecture? Many architects seek to regain the sense of architecture's history—of accumulated meanings and values—as an answer.

In his work, Graves has long been experimenting with the semantic content of architecture (previously discussed in March 1972 and February 1973 issues of P/A). He does not ignore the pragmatic aspect (his architecture actually can be lived in and used) but Graves is also concerned with architecture that refers to itself and to its established meanings in the past. This is not just *architecture parlante,* but *architecture parlante d'elle-même.* In other words, the elements Graves chooses to employ are all based on traditional notions of what a certain building (such as a house) might be—and the symbolic role its windows, doors, columns, mullions, and other architectural components should fill. Graves makes his allusions to architecture's history through this code, freely resorting to paint for color, and to applied ornament.

Some architects, no doubt, will consider Graves' complicated reference systems esoteric game-playing. He could be charged with pursuing an iconography of architecture that only Erwin Panofsky could unravel. But Graves rebuts that argument. He feels his houses may have different intended levels of semantic meaning with which he has consciously (and sometimes unconsciously) loaded them. But he also contends that the images are in a major sense archetypal; that people can respond to them in terms of scale, color, and proportions on a subliminal level—without having to recognize explicit references. Metaphor allows this multiplicity. [Suzanne Stephens]

Claghorne House addition

The Claghorne addition—a kitchen, china pantry, potting area, and porch attached to a white clapboard Queen Anne house—will surprise those familiar with Michael Graves's previous work. Here Graves makes rather direct references to the architectural elements of the older house, using a vocabulary—lattice work, string coursing, broken pediments, not usually identified with his oeuvre. But much as this older house is only an approximation to its classical and neoclassical antecedents, so Graves's references make only quasi-literal allusions. Their role is to call attention to traditional devices and design elements—the architectural code of openings, enclosures, details—that pertain to architecture *as architecture* and nothing else.



Graves explains that his more "literal" references to the architectural code were intentionally made to aid in their decipherment. But different levels of intention still exist. For example, despite the conscious allusion of lattice work (above and left) to "our town" Americana, Graves counts on the commonplace quality of lattice to also allow observers to note its *porosity*. He wants them to register it as a decomposing plane—as they would in fact perceive the lattice-enclosed back porch next door.

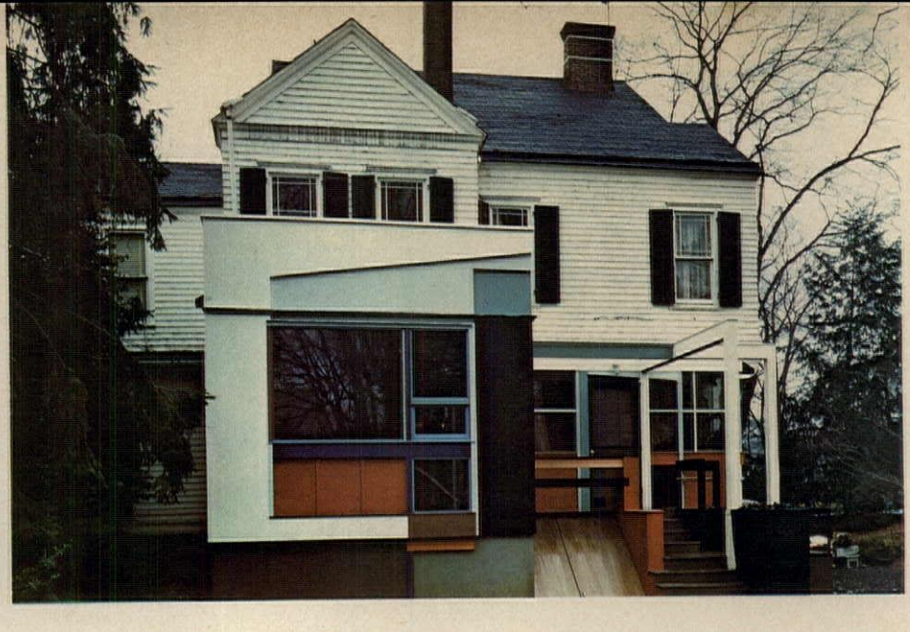
Graves' extends his references past the Claghorne house to the architecture to which the older house *itself* alludes. The polychromy relates to classical precursors from which the house derives, in a generalized way. Since the polychromy of the prototypes (Parthenon, etc.) is not recognized in this 19th-Century American derivation, the direct allusion to the originals forms a comment on the shift in the language.

The colors also refer to nature: brown tones for the cemented base of the house nearest the earth (also the color of the stone base of the older house). The green hues allude to surrounding greenery (or in the case of dark green, the house's shutters), and the blue in the framing, to the sky. The hues and tones also echo those of the flagstone terrace.

The large dark green panel of the kitchen's rear elevation is scaled to the fenestration, much as the older green shutters above are scaled to the house's double-hung windows (left and above). The dark green panel dematerializes the corner—a reference to solid/void play of the louvered shutters above. A flat roof on the addition provides space for a possible roof terrace; yet the parapet is slightly pitched toward the yard to relate to the pitch of the house's gables.

The inset panels above the string coursing slant to form one-half of a broken pediment (p. 90, top right). The other half is smaller—on the receded plane of the wall behind the porch. Like the broken pediment that signified the entrance door in the Renaissance, these two signs function similarly; here the door is in the connecting plane, perpendicular to the center of the broken pediment—a collage device taken from cubism.

The cruciform post and beam construction over the porch, windows the sky to make a point of "enclosure." The inside "ceiling" of the beams is painted blue. The crossing defines quadrants of activity and functions as a gateway



Two house additions

(propylaeum) for the stairs to the porch.

Inside the addition, colors again signify a symbolic, spatial, or structural function and refer to nature: the east wall is tuscan (earth) red, to define the room's edge. The blue and tan floor has taken the same grid pattern as the structure. However, the grid is dislocated to indicate the way natural light breaks up surfaces. (The white lines even form mullions for the pool of light that enters the window.)

The table (above, left), has been treated as an object in forced perspective; with the tan tiles of the floor forming its "shadow." The forced perspective is meant to suggest the table's engagement with the window: An extension of the raised ground plane, referring to the kitchen's own elevated level.

Moldings around windows in the dining room are found over the table and where table meets floor. Graves in effect pulls out the sill of the large window and puts it at the table's base, making the table part of the fenestration—as if it were a bay window.

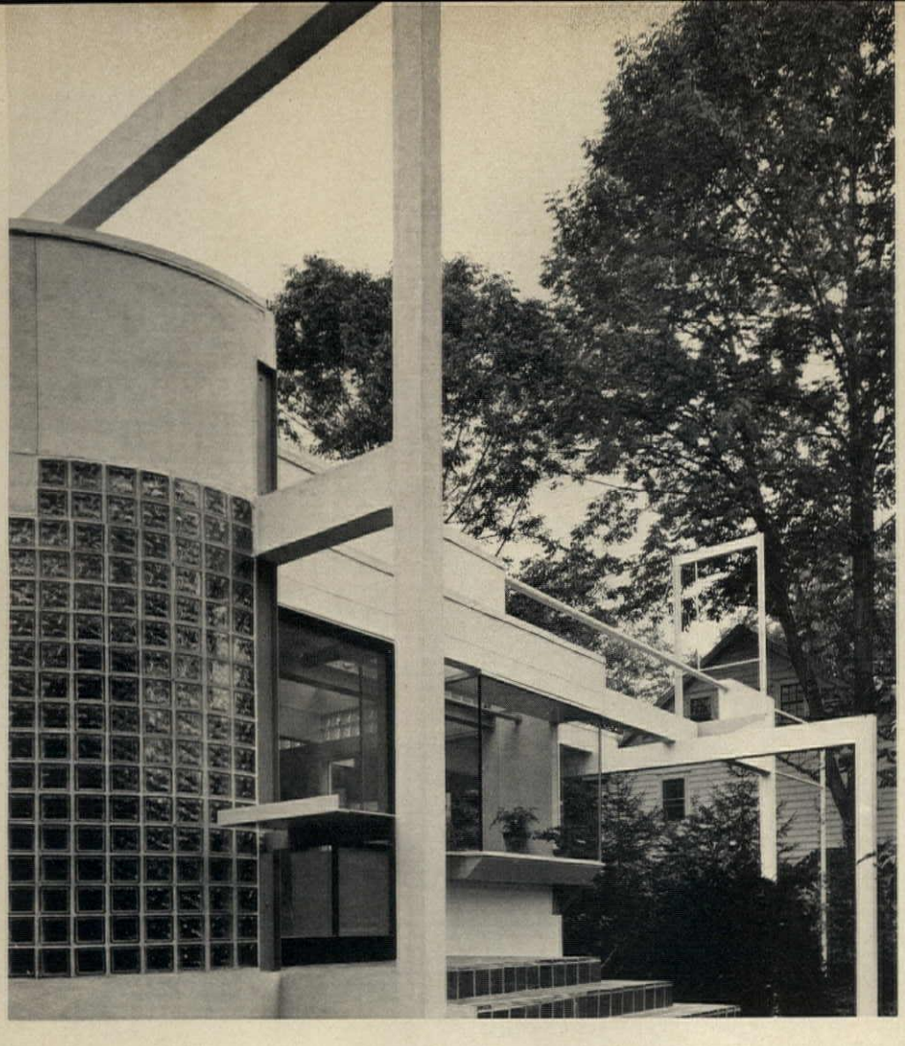
In the dining room (below), tile is laid on an angle and the ceiling is dropped, to relate the potting pantry directly to the kitchen. On one panel (left) Graves applied molding to indicate the window sill line in the dining room. The molding skips the width of the post that would drop there if extended from the porch's "canopy."

Data

Project: Claghorne house addition, Princeton, N. J.
Architects: Michael Graves: architect Peter Carl, Mark Cigole, Chris Chimera, assistants.
Client: Mr. and Mrs. J. Claghorne.
Program: kitchen, porch, potting pantry, china pantry for turn of century home (446 sq ft inside; 172 sq ft outside).
Site: approx. one-half-acre lot with foliage.
Structural system: concrete block foundations; wood frame and redwood siding structure; built up roofing.
Mechanical system: forced air system, unit convectors.
Major materials: redwood siding, wallboard for interior ceilings and walls; vinyl tile flooring, double glazed windows, paint.
Photography: Studio 438, except p. 89, top right.

Alexander House addition

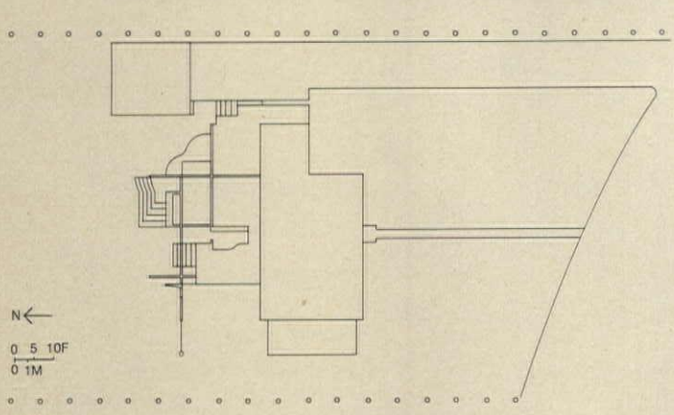
The Alexander addition, a kitchen/family room, breakfast area, and potting room with a study above (not shown), clearly partakes of the idiom by which Graves is best known. Its references to the International Style vocabulary of the 1920s, with its stucco surfaces, undulating glass block wall, will not be missed. Yet despite such highly visible associations to the 1920s, Graves also makes references to the architecture of the neocolonial stucco 1930s house to which it is attached. The allusions, however, are abstract using plan, structural grid, and *signs*.



The original house, like most of neoclassical descent, has a quadrapartite plan with entrance on a central axis (site plan left). Since the kitchen addition was to extend off one of the bisected portions of the house, Graves created his own quadrapartite scheme (plan p. 88) and appended it to the dining room. The addition was also to have entry on axis, but here Graves shifted the axis off center to reconcile it to the processional path that extends from the dining room. A lally column outside the room (on the porch) refers to the house's primary axis.

The steel "window" above the porch's framing members (left) acts as a sign to refer to the bedroom window behind it: It signifies the opening of the view to the bedroom, with which it is aligned. But the window has been opened (casement style) and pushed around to line up with, and relate back to, the house's longitudinal central axis.

Spaces from inside the kitchen to outside peel away transversely from enclosed (kitchen) to semi-enclosed (porch) to open (yard). The use of glass block, skylight, and clerestory glazing on the wall nearest the porch underscores the gradual opening up of the outside to the inside. Graves also sees activity spaces within the 876-sq-ft room (opposite) as taking a free-form shape within the grid. Thus the glass block wall (left, below) establishes that loosely shaped edge and is echoed in the porch boundaries.



SITE PLAN

Data:

Project: Alexander House addition, Princeton, N. J.
Architects: Michael Graves, architect; Peter Waldman, assistant architect.
Client: Archibald and Nina Alexander.
Program: kitchen, potting room, hearth area, playroom, breakfast room on ground floor, study above, addition to 1930s neocolonial house.
Site: approx. one-half-acre lot, with foliage.
Structural system: concrete block foundations, wood frame with lally columns, stucco on mesh exterior wall surfacing; built-up roofing.
Mechanical system: steam radiator heating.
Major materials: glass block, stucco, double glazing for windows, Welsh quarry floor tile, inside and out; wallboard partitions.
Photography: Yukio Futagawa, except Maris/Semel, p. 99 bottom and p. 91 right. (Courtesy *House Beautiful,* © 1974 The Hearst Corporation.)

Interior architecture: Charles Moore house

One point of view

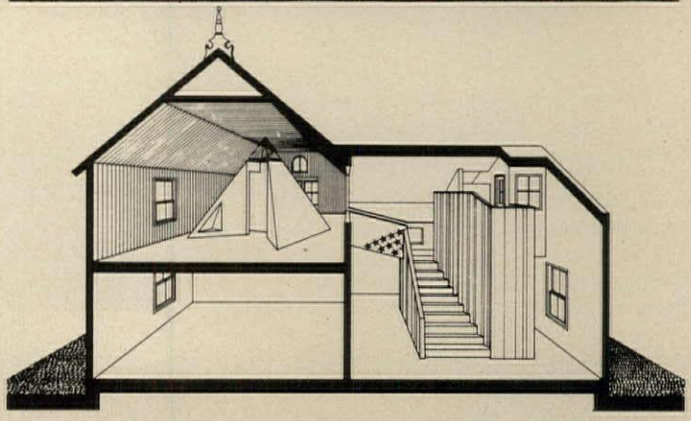
The reasons for building a pyramid in Essex, Connecticut remains, in the end, more obscure than the reasons for building the pyramids in Egypt.

It was not the great pyramid at Gizeh that inspired architect Charles Moore to build a pyramid in his bedroom, for besides being alive and well, he's much too modest for such pretentions. Rather, he took his cue from something All-American, the dollar bill, and may have, in his wisdom, put his finger on something that is escaping most architects at this moment. Just why he chose this particular point of departure will probably remain unexplained. But, with all due respect, it was probably an idea, carried around in the mind, waiting for the right time and place.

However, there are objective reasons, gleaned after the fact, which could be used to justify the choice. The large room, once a union hall for workers in the adjacent factory building, is the entire upstairs and is approached by a narrow inclined ramp and an even narrower doorway located somewhat off-center along one long side. The room contained a closet with a view—three large windows overlooked a pond. Current architectural theory being what it is, such extravagances of nonfunction were found to be, in fact, nonfunctional. The closet walls were torn down, flooding the room with light, providing great vistas over the pond and leaving the room with no closets. While such wanton acts tend to purify the soul and give immediate gratification, they soon wear thin. No one has, as yet, found a better way to keep clothes from wrinkling than by hanging them in a closet, and the myriad objects, once stashed on Moore's shelves waiting for some unsuspecting house client needed a temporary home.

In addition to such mundane needs, there was Moore's concern for the messy appearance of his bed, then an ambiguous, multi-mattressed form filling half the room. It became immediately apparent to the architect that the obvious device for solving his problems was a room divider in the shape of a pyramid, painted to resemble a watermelon.

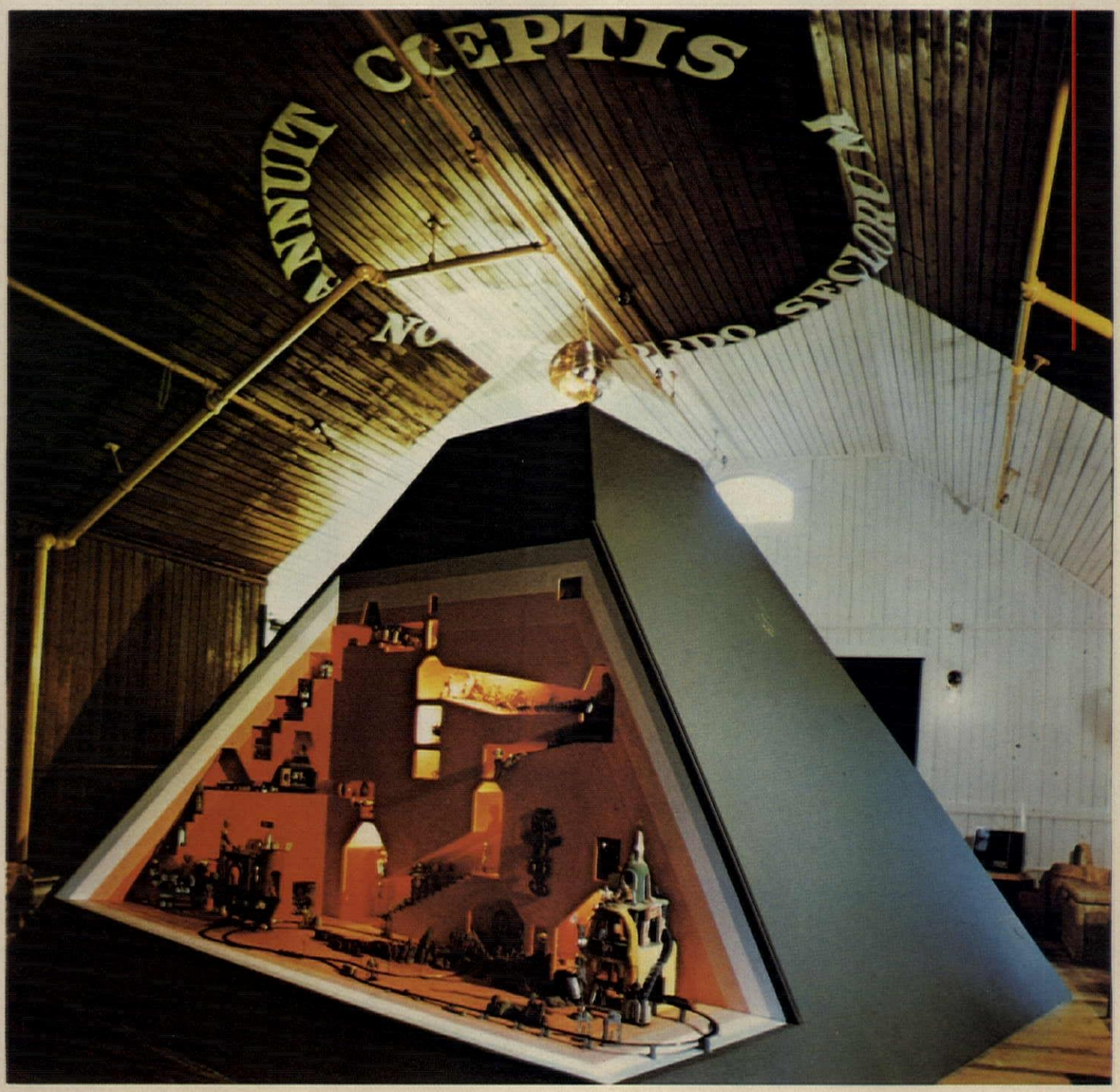
The side facing out contains an imposing array of toys; the back side is for storage and sleeping. The pyramid is no longer stepped and the eye has been replaced by a witch ball, but penitence for such indulgences has been paid by



lettering "Annuit Coeptis"—"He (God) has favored our undertakings"—over the tongue and groove ceiling. The once glorious closet has been turned into a resplendent window seat and the sphynx occasionally comes to spend the night. [Sharon Lee Ryder]

Sleeping side (below) with closet.

The once famous closet with a view (below) now a resplendent seating area.



Front side of pyramid (above) for toy storage.

Photos: Robert Perron

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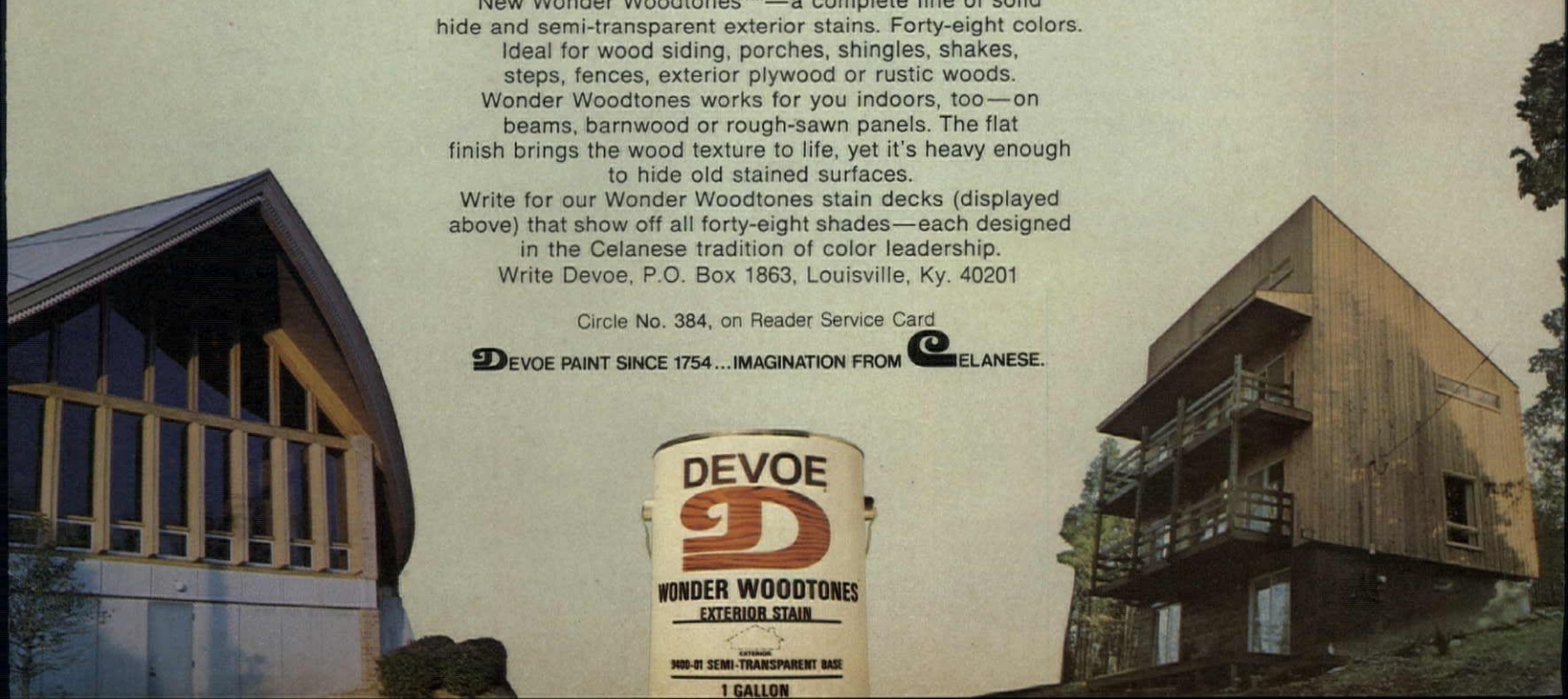

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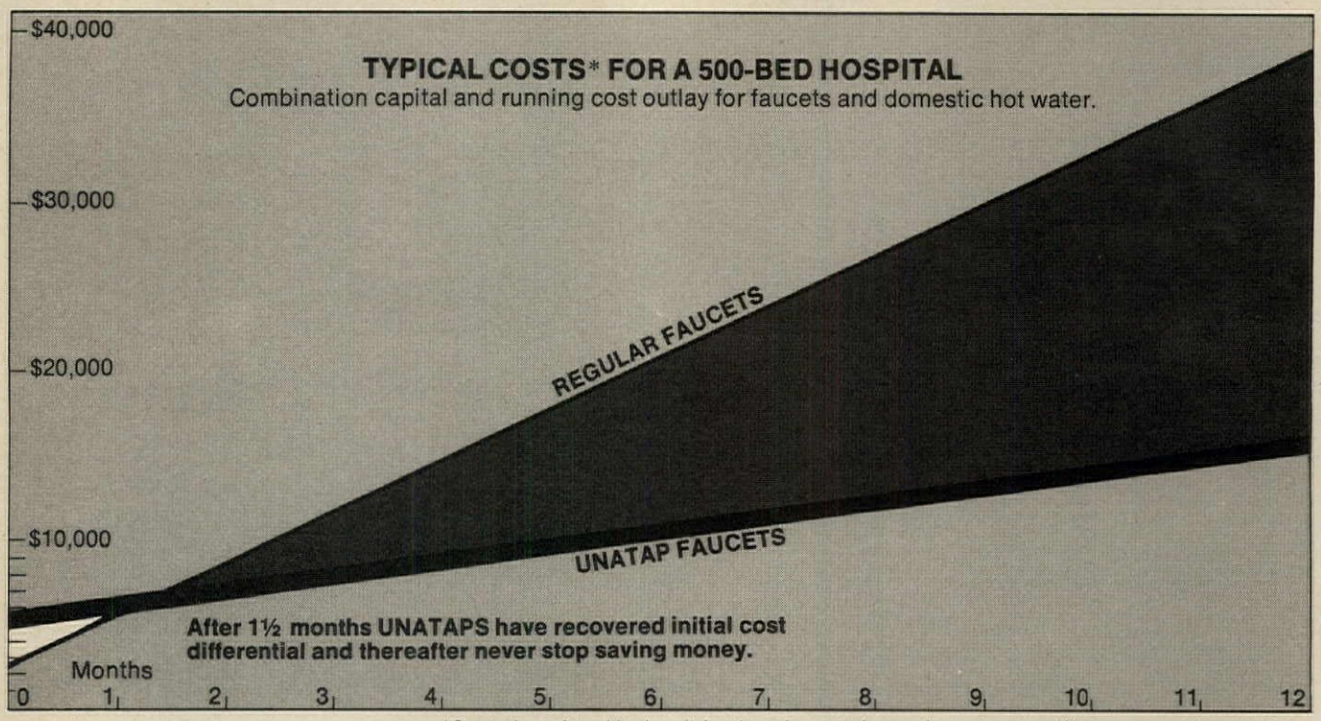

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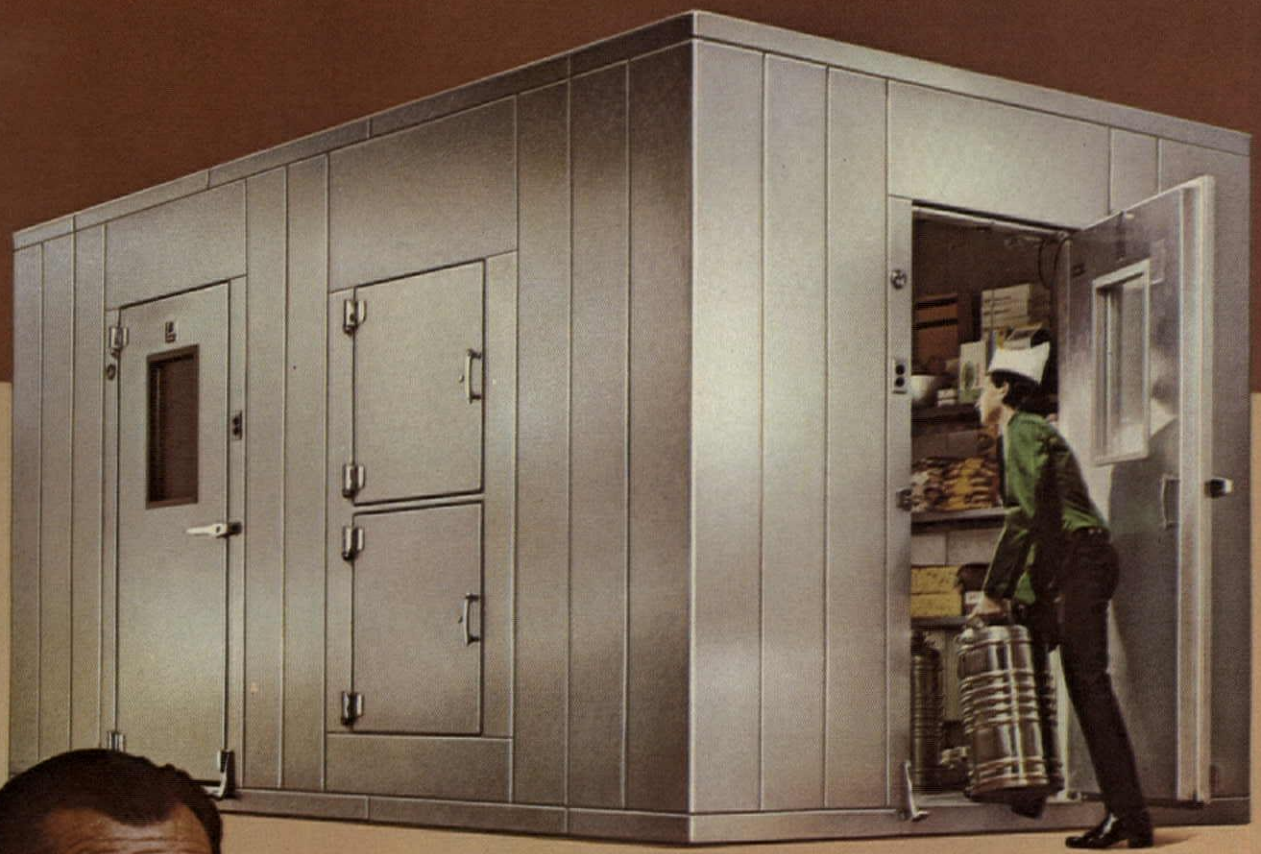

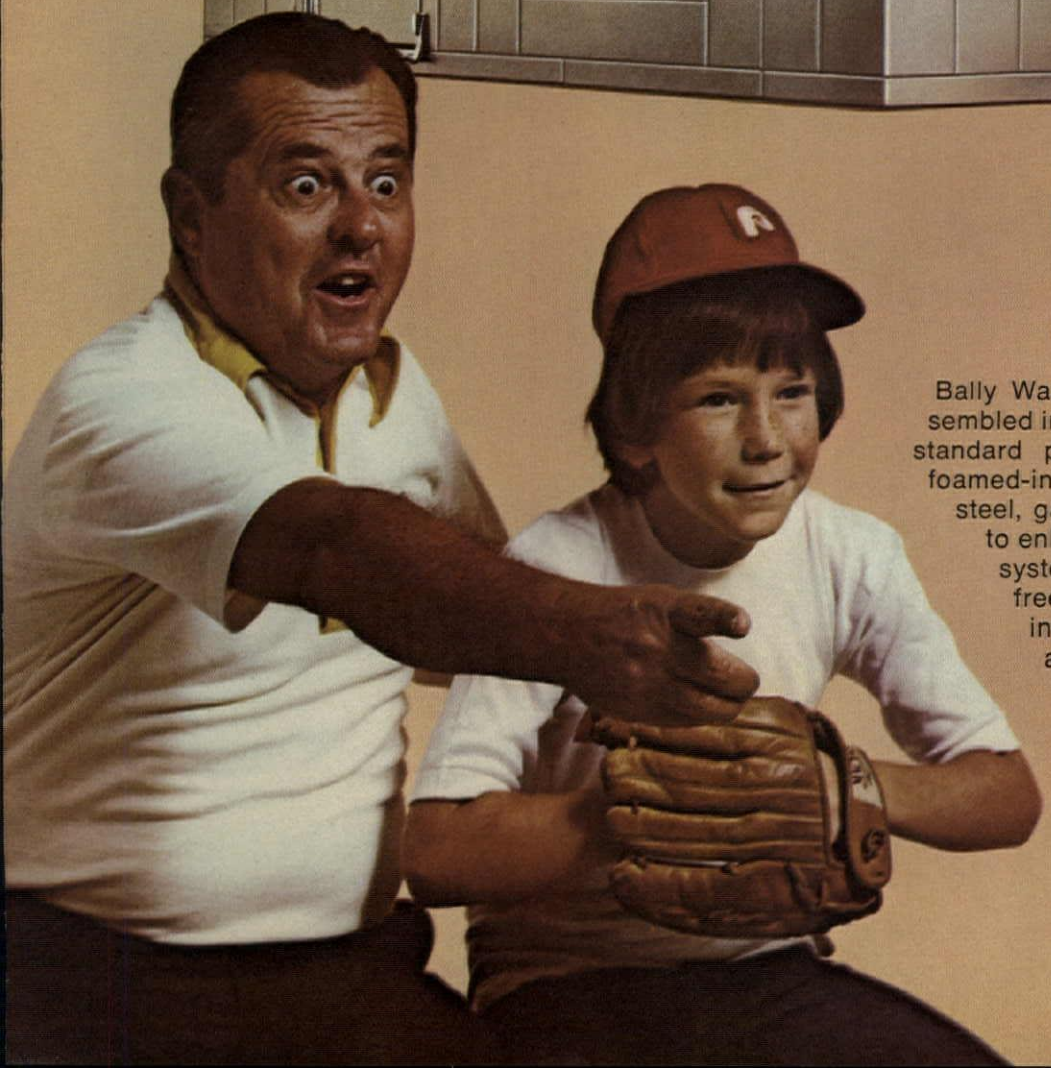

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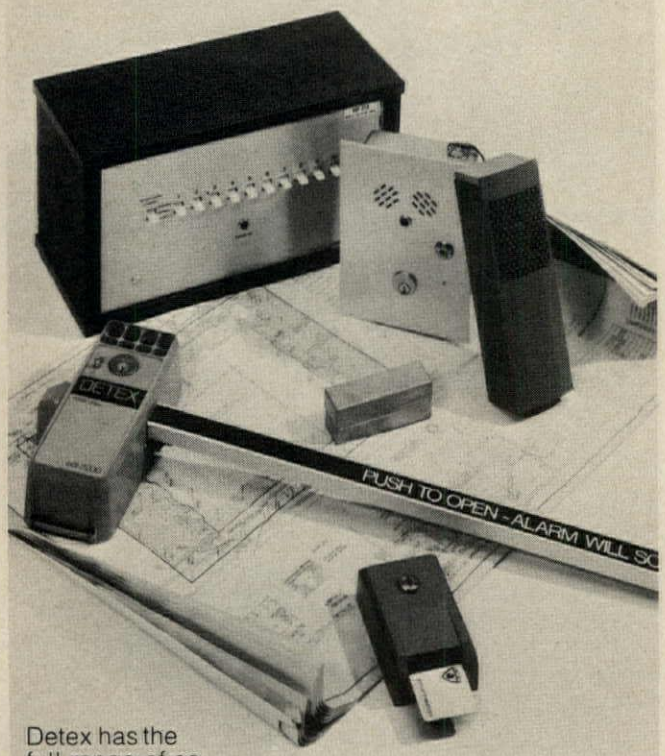

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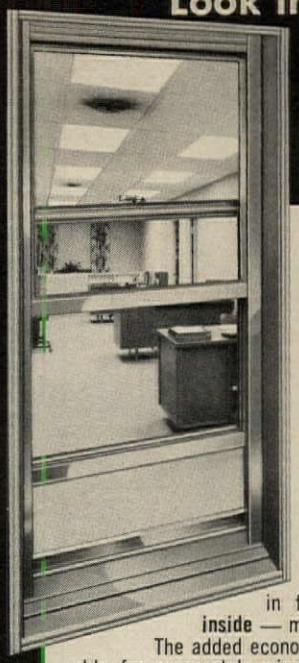

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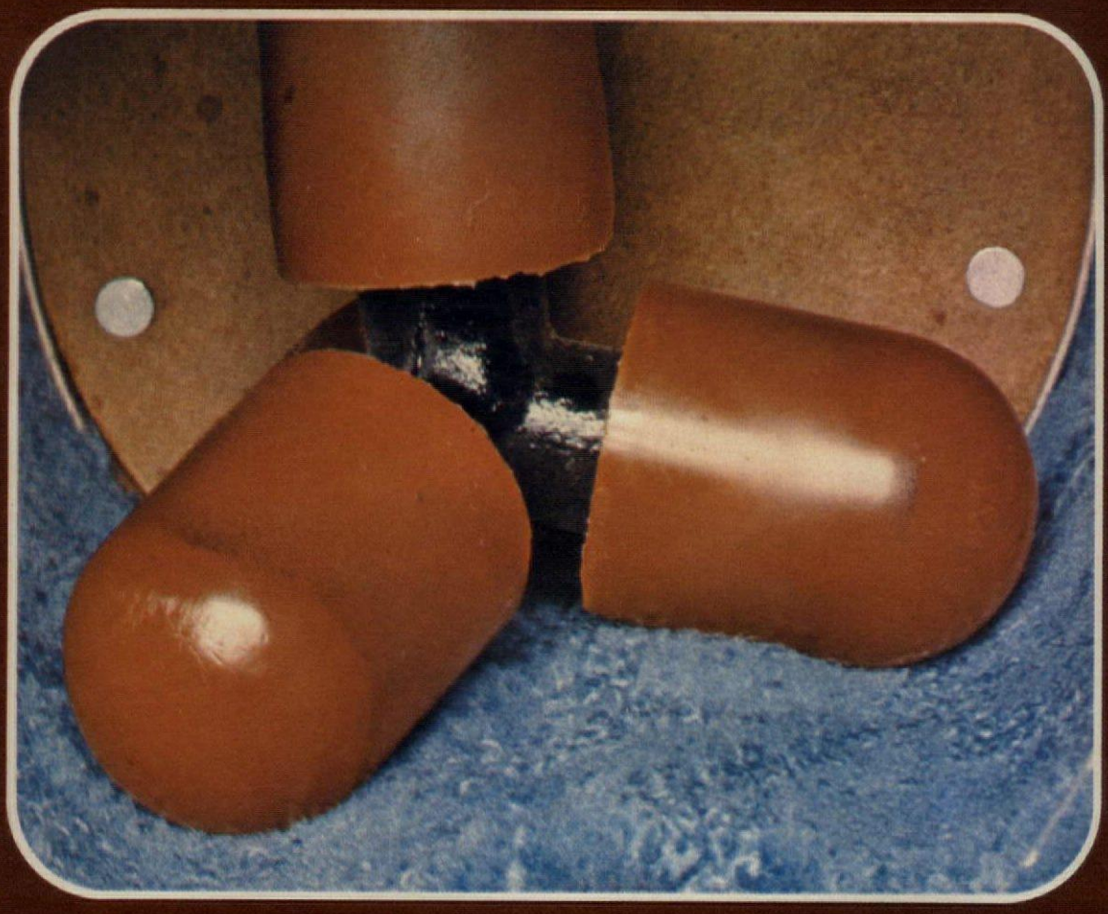

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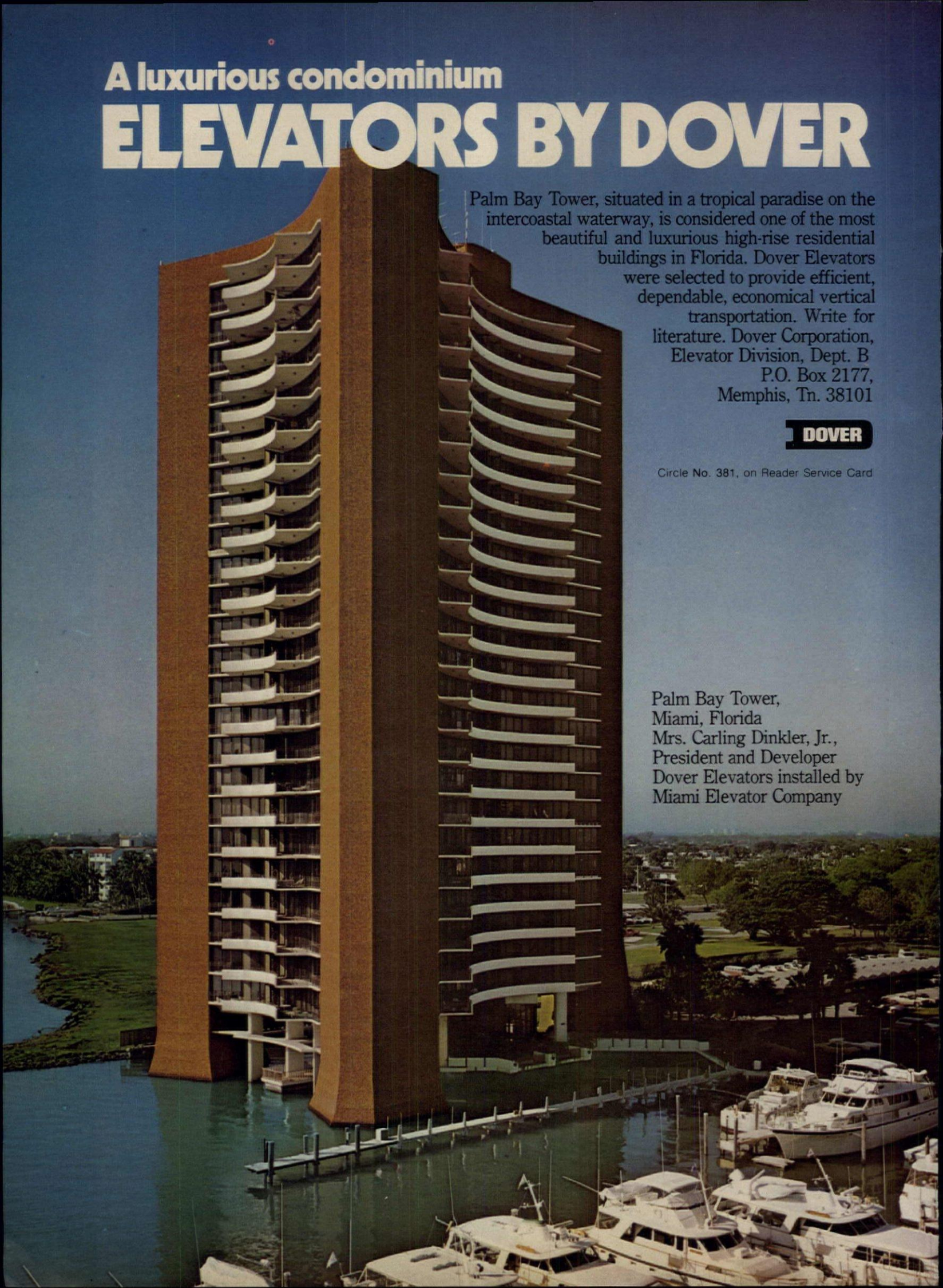

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The Hippocratic oath of architecture

Harold J. Rosen, PE, FCSI

The designer has professional and legal duties toward self, client, and society. Incompetence can terminate a practice. Some customary procedures could do that.

Doctors take the Hippocratic oath. Architects do not have one. But the licensed design professional has a responsibility by virtue of states' laws to hold himself out as one skilled in his profession, with an adequate knowledge of the science of design and construction. He must therefore exercise reasonable care, judgment, and technical skill in specifying and using materials and products.

And more. He must review and interpret building codes and other governing regulations to insure compliance in his evaluations and selections. If the building will be insured through Factory Mutual or another insurance rating association, the design professional must select and evaluate products and equipment that spare the owner a rate penalty for failure to comply with specific agency requirements. Finally, he must assess the codes and regulations against his more recent experience—which may dictate even greater stringency. His moral responsibility for the safety and well being of the future occupants of his designed structure may compel him to exceed the minimum requirements set forth in outdated codes.

Errors and omissions

There have been recent and compelling reasons that the design professional should exercise care in evaluation and selection. Consumers and building owners are more knowledgeable. More and more professionals (including doctors, accountants, and attorneys) are being held accountable for professional errors and omissions. Each design professional finds that it is less expensive to generate repeat business from existing clients than it is to cultivate and win new ones. By keeping his errors and omissions to a minimum he insures satisfied clients. In some instances inadequate or hastily concluded evaluation may result in grievous harm or fatal injury that may lead to unpleasant litigation.

Rational methodology?

At present there is no known widely accepted rational methodology for evaluating and selecting building products. Each design professional reviews manufacturers' data for specific products and materials and may question manufacturers' representatives with respect to their products. The inquiry, if there is one, may be simply limited to an elicitation of the following information from the manufacturers:

1 What is the basic composition of the product, including chemical and physical properties?
2 What will the product do, supported by test data?
3 What are recommended uses and code regulations?
4 What are limitations of use or incorrect applications or incompatibilities?
5 What are recommended methods of application?
6 Are there technical papers about the product?

In following through on this line of questioning the design professional cannot rely solely on the manufacturers' claims and assertions. He must determine whether the test reports are valid. He should determine whether other more pertinent tests should be performed to confirm product acceptability.

Seeing is believing

One can very well question what process the manufacturers use in putting together the vital statistics concerning products. A manufacturer may know considerably less than he should about building, and therefore cannot visualize nor comprehend the use and abuse his product will take during and after construction, or about the compatibility between his product and adjoining surfaces. His literature reflects the input contributed by his plant engineers, chemists, and other technicians. They in turn may not consider information essential to the construction industry.

When a sample of a new material is submitted to the design professional for evaluation, what may he do? The most simplistic test procedure is the "match test." A match is put to the sample to check for combustion. Its correlation with known fire tests is debatable.

A corner of the sample is worked back and forth by "flexing" until it shears off or tears off. How this relates to standardized tests for tear strength is again uncertain. The "navel test" is next; the material is raised waist high and dropped to the floor. If it does not break, it passes.

Which existing materials, if introduced as new materials today, would the design professional use if he subjected them to this informal assessment and testing? Glass is readily broken. Acoustical tiles are generally fragile. Wood flooring burns. Would he turn these materials down? It's not easy to say. The design professional is still awaiting a definitive method for assessing and evaluating new products and materials. □

The ascent and descent of man

Does the architect have a role in elevator design? Has there been improvement in elevator operation? What safety/maintenance procedures do elevator builders recommend? P/A talks with the industry

At 9:49 a.m. on July 28, 1945 a U.S. Army B-25 bomber reached out of a blinding fog and struck the north façade of the Empire State Building. The impact tore open floors 78 and 79, driving a lethal wave of flaming aviation fuel inside and critically damaging hoist cables in elevator shaft nos. 6 and 7. One empty elevator car fell away at once. Soon after, a woman elevator operator named Betty Lou Oliver left floor 75 in another car, seeking medical aid. A witness recalled that the car cables snapped "with a crack like a rifle shot," and the car plummeted to the subbasement over 912 ft below. Rescuers were astonished to find her badly injured but alive—decelerated by automatic devices.

How much did the architect, Shreve, Lamb & Harmon, and the structural engineer, H.G. Balcomb, contribute to this happy ending? In a larger sense, a great deal. The "world's tallest" skyscraper was pronounced physically sound despite the holocaust. On closer inspection, it was the elevator manufacturer whose design, assembly, and installation sustained this ultimate test. The architect can have much to say about where elevators should be on floor plans, how the interior of the elevator car should be finished, and what fixtures should be installed in cars and elevator lobbies. In technical matters he traditionally defers to the builder of his elevator. Once the architect selects a manufacturer, his professional role in elevator design is largely supportive.

Yet everyone knows that a good elevator installation draws no attention while a bad one draws wrath on the architect. The public's continuing fascination with elevator malfunction and misuse (e.g., "The Towering Inferno," 1974) suggests that architects could benefit from a continuing education on elevator operations. Towards that end, the nation's major elevator manufacturers have cooperated with P/A. Three issues are discussed here which architects constantly encounter: the architectural design of elevators, elevator program operation, and elevator safety and maintenance procedures.

When did you last see an attended elevator? A glance into a typical elevator car shows that the operator has gone. With his/her disappearance, riders are left to their own devices to use the elevator. So the design of the car interior, fixtures, and landing entrances assume major responsibility for communicating operating instructions. Given these circumstances, both manufacturers and architects have seized the initiative. Conflicts have occurred.

Elevator designs: so you want to be a star

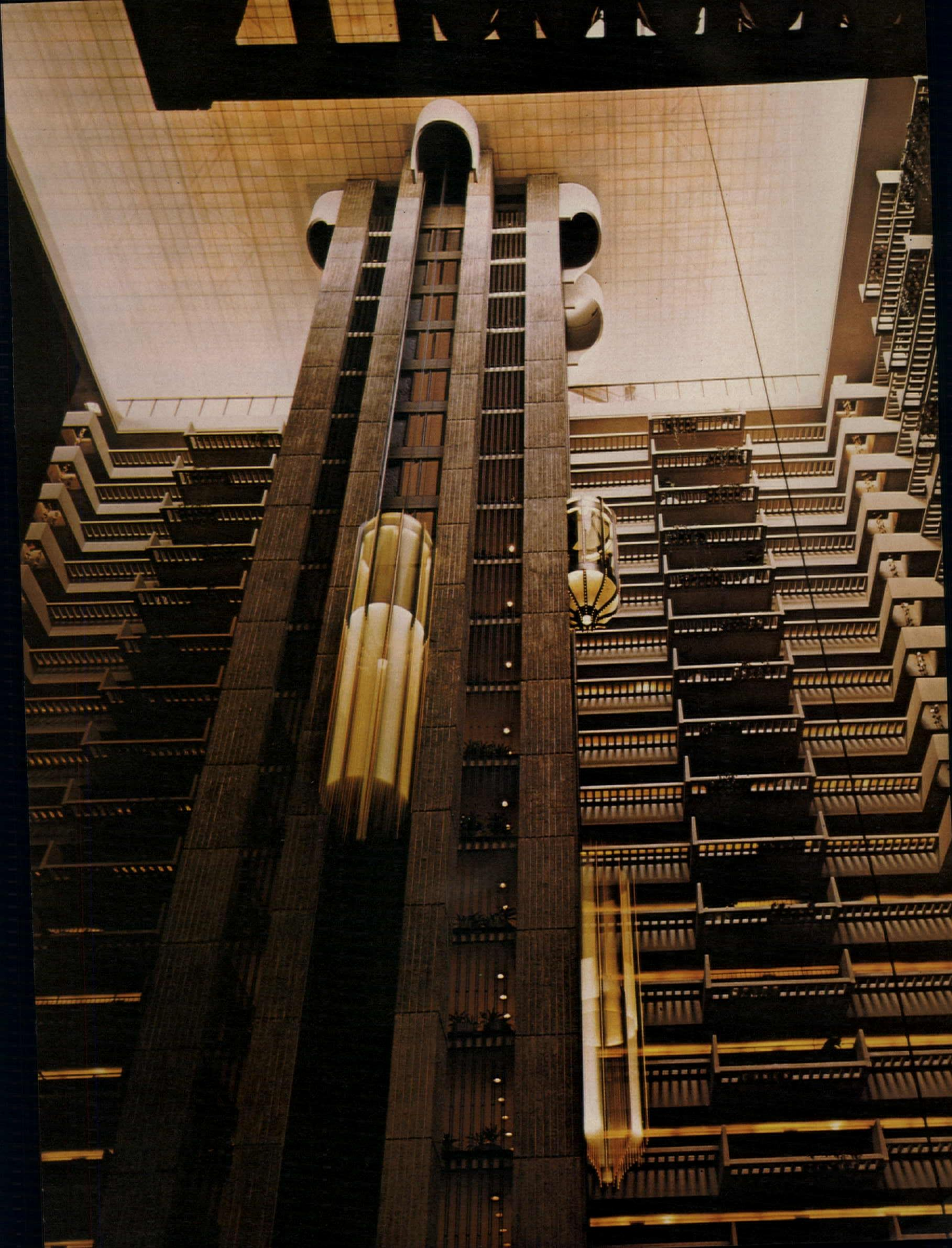
After building elevators for well over a century, a manufacturer like Otis Elevator Company, the industry's giant, feels confident about its own particular design configurations. Be they mechanical, electrical, or architectural, most manufacturers' products have successfully weathered tests of time. Thus, any proposed architectural overhaul of standard cars and accessories is received with guarded enthusiasm. For the architect, this facelift merely conforms elevator aesthetics to building aesthetics. For the manufacturer, his normal procedures must flirt with chaos.

"The architect wants to talk aesthetics with us," says Robert Lauer, Vice President for Engineering at Haughton Elevator Company. "This is the last topic we want to hear. If there is a sufficient budget for custom work, a manufacturer doesn't object. Usually the architect wants a special installation, with dollars that buy a standard solution."

Every architect's dream of a prestige building is designed right down to the fixtures. A greater need for architectural coordination of elevator design requires more extensive cooperation between manufacturer's representative and architect. Manufacturers contend that obtaining the architect's sign-off and approval is their greatest timing delay.

"The architect can have as much design flexibility as he can afford," says Joseph Makowski, Product Manager at Haughton. Rising material and labor costs tend to constrict such flexibility and favor standardized designs. A customized car can cost three to five times more than a standard one. How much more depends on the number of variables

John Portman, Regency Hyatt Hotel, 1974 Chicago. A view of the atrium and elevator bank. Photo: © Yukio Futagawa.



McKenzie, Voorhees & Gmelin, Barclay-Vesey Bldg., 1926 N.Y. Photo: Cervin Robinson from Robinson, Bletter, *Skyscraper Style Art Deco New York*, 1975 Oxford Univ. Press.

E.V. Haughwout Bldg., 1857 N.Y. First commercial passenger elevator. Photo: Sharon Lee Ryder.

a designer reserves for himself: car interior walls, floor, ceiling, and lighting, landing door and door frame, and car and landing fixtures (control panel, call pushbuttons, signal lanterns, and floor position indicators). Manufacturers have been known to refrain from bidding on customized jobs in which they considered it too risky (i.e., costly) to engage.

Try it, you'll like it

The alternative is either a "cab cut" or a "package elevator." Where a building budget is tight, cost rather than aesthetics will move a designer to accept a standard solution. It is only fair to add that there is some latitude in what a designer may select.

A cab cut is a qualitative description of a cab interior style, configuration, and materials. Besides submitting a perspective color rendering, the cut lists materials and finishes used in walls, entrance returns, transoms, doors, canopy, lighting, certificate frame, base, ventilation, emergency exit(s), and regular and optional accessories. If the architect approves, he notes his color selections with his signature on the cut.

Eager though a manufacturer is to secure this approval, he often finds his scheduled two-week wait stretched to two or three months. What complicates his paper work is the architect's insistence on cab and entrance details. Manufacturers feel the time and cost of construction drawing preparation is unjustified. There is possibly the suspicion that the architect doesn't trust his manufacturer to produce, sight unseen, an elevator within the sturdy definitions of the American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks (ANSI A17.1–1971) produced by the American National Standards Institute, New York City. Architects being what they are, this understandable irritation may persist until manufacturers find ways to cheaply and methodically supply such drawings.

The performance-oriented package elevator is gaining favor. It offers a complete technical and aesthetic solution that is accepted in toto by the architect. Included with some options are the car, fixtures, machine, motor controls, operation, and hoistway hardware. Manufacture of the package elevator begins almost immediately upon receipt of the architect's approval. Savings are appreciable.

It's your turn now

Certain responsibilities are always delegated to the architect. Provision of the proper hoistway, pit, machine room, building structural support, electrical wiring feeding the elevator, and hoistway landing walls (closed up leaving fixture cutouts following installation of sills, door frames, and entrance struts) are not the province of the manufacturer. The rationale for this is rather obvious. The elevator contract is often awarded late in the design schedule.

Do elevator manufacturers wish to unburden themselves of certain pet architectural peeves? Of course. Their principal concern seems to be that architects leave them too few options in design and specification. They would appreciate being consulted during project design development if not earlier. Better coordination of techniques, avoidance of premature proprietary dimensions (which produce poor bidding), and a fresher approach by designers than the "boiler plate" specification of new elevator jobs based on previous ones (which have sometimes perpetuated design inadequacies) are also on the list. On a more conciliatory note, manufacturers caution architects to choose their consultants carefully. Elevator consultants range in competence from infernal to sublime.

Program operation: faster than the speeding mind

Automatic operations have come a long way from Single Automatic Push Button Operation, the one car button per floor, one button per landing program that serves one actuated car or landing button at a time, oblivious of others. Only when the car completes a stop does it recognize another demand call. It irritates waiting passengers to know that the riders of a given moment have total posession.

The operation of one or two elevators serving low to moderate traffic volumes has not appreciably changed for many years since the development of self-holding and self-sequencing electromechanical relay circuitry, which per-

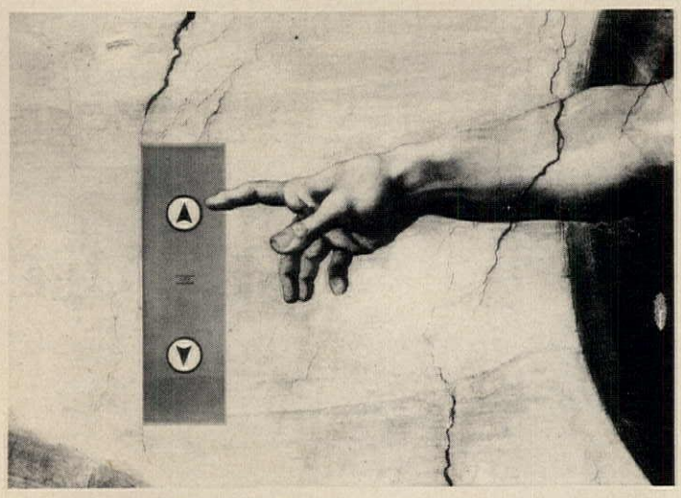
mits the elevator to remember where, when, and how many calls are placed for service. Because the number of variables generating one- and two-car traffic patterns is low, all signals are weighed equally in the operation. Selective Collective Automatic Operation (one car) and Duplex Collective Operation (two car) are signal controlled and function to "collect" signals from self-holding automatic circuits.

Collective Operation recognizes that an increased traffic volume precludes bypassing waiting landing calls if efficiency is to be maintained. It collects all waiting up calls on its transit up and reverses this on its transit down. It stores all calls until they are answered. It automatically reverses its direction of travel at the highest and lowest calls.

Three or more elevators handle large enough traffic volumes for traffic patterns to become discernable. The increasing complexity necessitates a higher level of electromechanical relay logic, Group Supervisory Operation. This is a traffic pattern controlled operation that Otis and Westinghouse pioneered with contributions from Haughton and other smaller concerns. Upon recognition of a typical traffic pattern, this operation selects and implements one of its predetermined programs such as: up peak, balanced, heavy down, heavy up, down peak, and off hours, which correspond to an office building's incoming rush, morning and afternoon off hours, lunch out, lunch return, homeward rush, and nonworking hours.

Among its many features, Supervisory Operation responds to traffic patterns by automatically dispatching cars, maintaining car spacings, ordering the first arriving car to take a call, waiting at a loading point for a specified interval, and establishing idle car distribution zones in off-peak traffic. Its deployment of cars changes distinctly during the day as the conditions for achieving optimum waiting time change. During an up peak it attempts to fill cars and send them upward evenly spaced in time and distance. By down peak, the demand pressure has shifted up, and cars answer their highest calls, answering in downward sequence until full, then they are "expressed" (allowed to by-

Daniel Burnham and John Root, the Rookery, 1886 Chicago. Main elevator lobby. Photo: Hedrich-Blessing.



Our apologies to Michelangelo.

pass remaining calls) to the main lobby. Many subtle nuances can modify inherent program biases, so that people like the "forgotten man" on a building's lower floors are not stranded during down peak.

Take me to your transistor

Transistor-transistor logic using integrated circuits (IC) has altered the nature of Supervisory Operation dramatically. Large quantities of information bits can be easily stored and almost instantaneously manipulated by compact electronic circuit boards, so it has become possible to evaluate car allotments on the basis of individual car probabilities. Operation emphasis is on optimizing total transit time (waiting time plus destination arrival time) at the initial moment of call allotment and afterwards as well. The operation re-examines the status of its entire bank every so many seconds, and can swiftly relieve one car of responsibilities by re-assigning them to others.

Haughton's Lauer describes this new sensitivity in car allotment as an ability to consider more factors in a car's momentary status than was previously possible using electro-mechanical relay logic. He posits five basic considerations affecting car availability that are within the competence of the electromechanical relay logic as follows:

1 Car on priority service; cannot take call.
2 Car has 80 percent load; cannot take call.
3 Car out of group service; cannot take call.
4 Motor generator not activated until demand increases.
5 Closest car in group service responds.

Transistor-transistor logic evaluates eight more factors:

6 Altered load and delay computation during stop; calls reallotted if necessary.
7 Where each car must unload; knows which car is best able to respond to call.
8 Which car can reach all destinations most efficiently.
9 Should some prior calls be reallotted to accommodate new call.
10 Should calls be reallotted to cars that will reach destination quickest.
11 Reallocation of calls to a detained car, to maintain optimum time schedule.
12 Reallots floor calls to lightly loaded cars, if practical.
13 Counts unloading stop and floor call at same floor as one stop.

Each car possesses a master binary counter (part of an electronic system too sophisticated for this discussion) to which electromechanical and electronic sensory devices send car status signals to be tabulated as counts against the car's available services. The 13 basic considerations are duly entered when they become applicable. Other considerations might be the projected time required to interrupt and resume transit in answering a call or the nature of the proposed call (landing calls are lengthier delays). A status report is constantly revised for subsequent interrogation by the system logic.

Certain events must precede an interrogation. A call must be placed, identified for floor and direction, and sequenced with other calls awaiting assignment by the controller. When its turn comes for consideration, the call is offered to all cars, which the operation locates and interrogates, beginning in the opposite direction of the call. The car with fewest counts (demands on its total transit time) is allotted the call. The infinitesimal increments of time taken to process a call are reflected in a 25 to 30 percent reduction in total transit time claimed for Supervisory Operation using solid state logic.

Technological advances tend to be shared in the elevator industry like so many irresistible family secrets. Although the most ambitious research and development may be instigated by the larger concerns, cross licensing of patents and parallel evolution soon restore a sort of technological parity throughout the industry. Solid state IC circuitry is replacing electromechanical relay for sensory and operational communication in the most complex elevator programs of numerous product lines.

Safety and maintenance: catch a falling star

Are elevators designed to stall? Theoretically, yes. As W.W. Smith, General Service Superintendent of Otis points out, the cessation of elevator movement is a correct protective reaction to unsatisfactory running conditions. Certain conditions must be interpreted by an elevator as an order to stop immediately.

The elevator earned public respect for safety as early as 1854. Elisha G. Otis deliberately cut the hoist cables of his elevator in a New York City exhibition and commended himself to his patented safety device. Scrupulous attention to safety design has been characteristic of the industry ever since. The safety record bears this out.

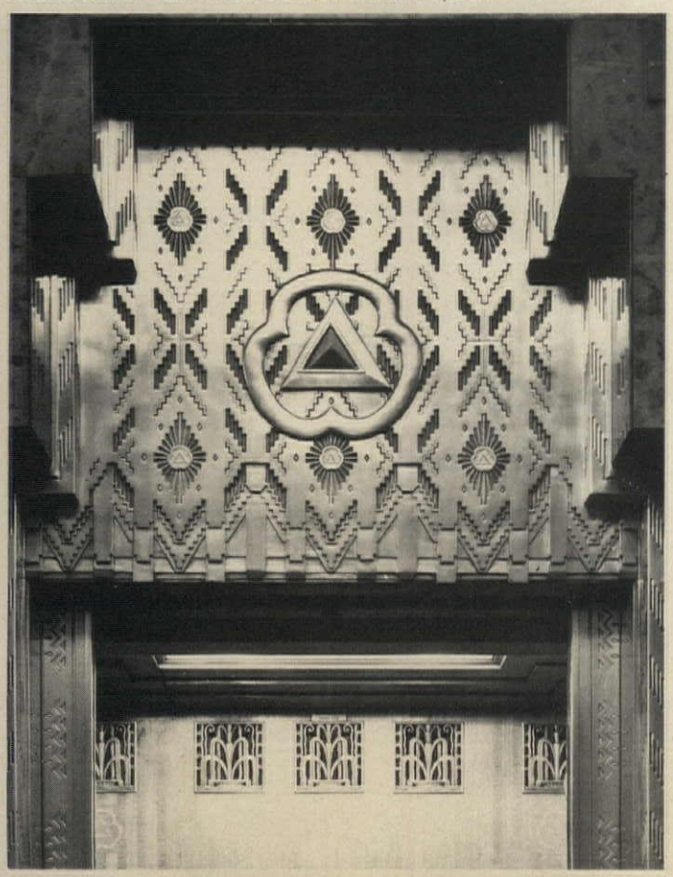
For all the engineering precaution taken, the elevator remains vulnerable to forces both within and without its control. Human carelessness, an unrelated event outside the hoistway, and natural disaster can wreak havoc on elevator operation. An overlapping panoply of defense mechanisms anticipate such problems as: overtravel, unbalanced hoist cables, improper car door and landing door closure, general safety and maintenance, speeding, fire, earthquake, power failure, and riders trapped in the hoistway.

Most of these difficulties have been studied for decades, and proven safeguards for them are well known. Of current interest are the effects on elevator operation of fire, earthquake, power failure, and trapped riders in hoistways, perhaps due to recent strains on our technological society.

William Van Alen, Chrysler Bldg., 1928–30 New York. Cab detail. Photo: Cervin Robinson, *op. cit.*

Shreve, Lamb & Harmon, Empire State Bldg., 1930-31 New York. Bridge crossing lobby. Photo: Cervin Robinson, *op. cit.*

Clinton & Russell, Holton & George. 60 Wall Tower, 1930–32 New York. Double-decker cab. Photo: Cervin Robinson, *op. cit.*



Do not burn or shake

Elevators are not designed for operation while enveloped in fire. Fires in newly completed high-rise buildings reiterate this industry contention. Reasons are manifold. Hoistway walls and doors do not contribute to the fire load but have limited fire resistance capability. Electric control and operation are subject to shutdown due to blown fuses or tripped circuit breakers resulting from fire or water. Heat and smoke rise in the hoistway may not be exhausted from the machine room through normal required ventilation and could thereby neutralize elevator controller operation. Fire and its side effects, if severe enough, could weaken hoist cables such that elevators fall (to be stopped by the safety). Power may fail or be purposefully disconnected. Intense heat of at least 450 to 500 F could burn off internal insulation of the landing button unit wiring so that a "short" or "bridging" of electric current calls elevators to the fire floor, exposing escaping riders to possible death.

(The elevator industry quite emphatically insists that architects dispel the notion of a heat actuated call button, the "death button" supposedly triggered "by the heat of a finger." Call buttons are either pressure actuated or capacitance-ground actuated. In the latter, the vacuum tube mechanism requires a finger on its button surface to provide a ground potential and complete the firing circuit.

Manufacturers have responded to the danger of fire with fireman's service. This program overrides all others once a main floor keyed switch or automatic fire detection sensor is actuated. A chain of events follows. All elevators in its jurisdiction are returned nonstop to the main lobby, ignoring car controls and previous direction of travel, where their doors open to evacuate all elevator riders. From the main lobby, a fireman can operate a car with a second keyed switch on or near the car panel. A car on fireman's service ignores landing calls. Power doors open by continuous pressure "door open" button whose disengagement automatically recloses the doors. Firemen are cautioned that tools to break through walls should be carried in the event of elevator stalling.

Earthquake damage of elevators is not uncommon in earthquake prone zones. Recurrent shocks could bring about serious consequences for elevator operations. Elevators may stop between floors. Counterweight guide shoes and rails may loosen. Machine room equipment may be damaged. Suspension system beams, deflector sheaves, and cables may loosen or break. Hoistway doors may bind and preclude opening. Hoistway door locks may break, leaving landing entrances exposed.

Earthquake control is the industry's special program set in motion by seismic trigger (a preset acceleration switch). Its principal objective is to stop operations and evacuate passengers from cars. Features are: idle elevators are immobilized, their doors opened or left open, and their motor generator sets shut down; elevators in transit stop level at the next floor in the direction away from their counterweights and their doors open; special fastenings and guards give greater stability to hoistway, counterweight, and machine room components.

Where were you when the lights went out?

Massive power failure became an inescapable fact of American life on November 9, 1965, when the Northeast power

grid failed. According to Otis's Smith, 355 passengers were detained in 161 elevators located in 107 buildings. High cost prohibited, and probably will continue to prohibit, the installation of emergency power generators in most of these buildings. However, the absence of automatic charger-starter power for elevator lighting and communication, and diesel-, gasoline-, or gas-powered electric generators for elevator power could have been fatal in such essential services as hospital elevators.

Building owners and managers, police, fire, and building departments, and architects have continually sought instructions on passenger removal from stalled elevators. For the general discussion that follows, P/A is indebted to W.W. Smith and the Otis staff. Readers seeking exact details are advised to inquire of specific elevator manufacturers.

An elevator stalls between floors. Some actions must be taken without delay when this happens: at the same time a qualified elevator mechanic is summoned, the trapped passengers must be verbally assured that help is coming and given any possible instructions for car operation. If there is no functioning car telephone or two-way communication, the rescue squad locates the car in the hoistway and speaks through the nearest hoistway landing door.

Rescue by emergency exit is to be avoided, as will become apparent. A geared traction machine motor shaft can be hand cranked up or down. A car stalled in its hoistway door zone may have released a hoistway door lock so that manual opening of the hoistway door is possible. If power is on and a car is level with a landing, its doors may open merely by pressing the landing call button or the car's "door open" button.

Fate is not always so kind. Simple methods as mentioned may be ineffective, and elevator troubles may require time-consuming repair. If such is the case with an adjacent car running in the hoistway, a passenger transfer between cars can be performed via the aligned side emergency exits. Warning: the main power line switch should be opened or the car emergency stop switch disconnected by a passenger prior to the start of emergency exit procedures. Any slackness in hoistway cables must be detected too.

A side emergency exit is usually at the rear of the car. It is no less than 16 in. wide by 5'-0" high and opens in. When rescue car and disabled car are side by side, the exits are opened by the rescue squad, a short plank is laid across the platforms, and the passengers are assisted to the rescue car. Then exits are replaced, the plank is removed, and the rescue elevator is run to the main floor. The entire process is extremely dangerous as passengers must traverse open space during the transfer.

If a side emergency exit transfer is not possible, a top emergency exit can be used—though this should be considered a last resort because elderly and infirm persons have difficulty using ladders. The rescue squad locates the disabled car and proceeds to open the appropriate hoistway doors. If a special key release has not been installed, rescuers must force the doors open by axe.

The squad reaches the car top where the emergency exit is opened outward. Usually a rope or chain ladder is stored in a box atop the car, fastened to the structure at one end. This or an equivalent is lowered through the opening. A rescue squad member is stationed atop the car adjacent to the emergency exit to assist passengers through the opening. Another member on the car top assists passengers up the ladder to the floor above. A third member stands at the hoistway landing opening above to assist passengers off the ladder onto the landing.

A person trapped between car and hoistway represents a very delicate problem. Cable slack and need for car support to suppress car movement must be ascertained at once. Where and how the person is caught, the direction the car was moving when the accident occurred, and how much movement, in what direction, by what means (lever, hand crank, machine), might free the person (unless only cutting torches are feasible) are issues to be considered by rescuers. An expert elevator mechanic is as necessary in this situation as in those previously mentioned.

An ounce of preventative maintenance

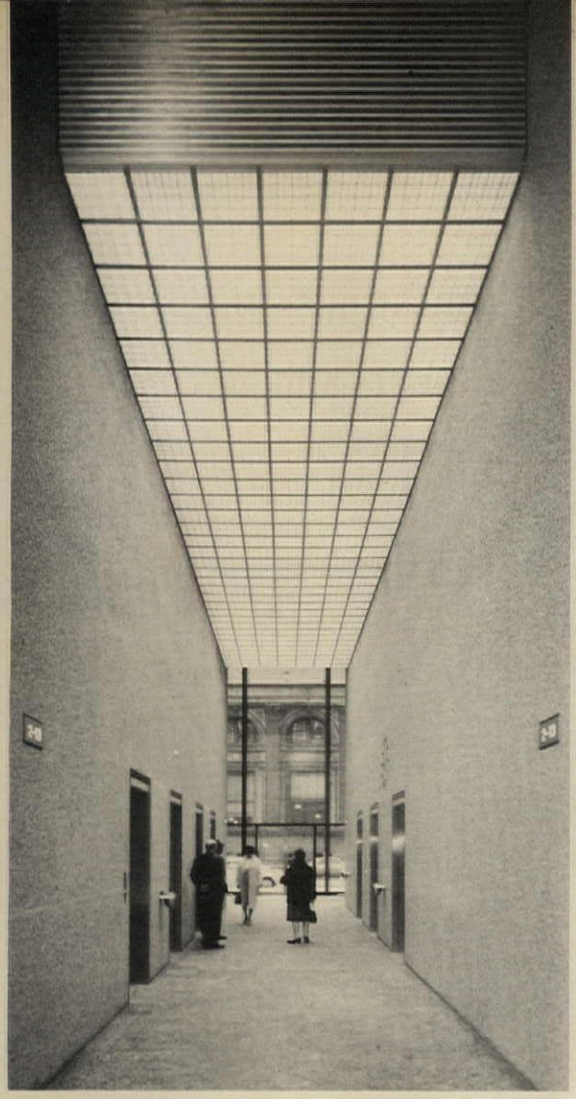
Some building elevators seem plagued by supernatural forces. Maintenance teams come and go, and yet the same cars continue to suffer the same maladies repeatedly. Barring exorcism, what can be done?

The elevator industry attempts to exceed break-even finances on elevator sales and to profit from maintenance contracts. Independents compete for these contracts. If the manufacturers are to be believed, the frequently lower cost of an independent contract is not always a guarantee of better service or lower overall costs. Independents may find themselves obliged to cannibalize parts, keep tight working hours, and school their staffs with far less resources than manufacturers have at their disposal. Service by manufacturer or by independent can differ significantly.

Contracts range from monthly exams to complete maintenance. Manufacturers prefer to sell the latter as it transfers complete responsibility for elevator conditions to them. Their package is quite comprehensive. A building owner is provided with regular weekly equipment inspections, cleaning, repair, adjustment, testing, lubrication, parts replacement (including that of entire assemblies if service cannot otherwise be restored without repair delays), and even insurance. Repairs and down time are reduced, and the installation benefits from the manufacturer's experience, trained specialists, parts banks, and up to 24-hour service.

The modern elevator is best loved when least noticed. With proper planning, architect/engineer cooperation, and maintenance, the only remarkable feature of a contemporary installation should be its interior. Are you ready, architect? [Roger Yee]

References: P/A thanks these manufacturers for their technical assistance. Armor Elevator Co./A.O. Smith Corp., 5534 National Turnpike, Louisville, Ky. 40214, Dover Corp./Elevator Div., P.O. Box 2177, Memphis, Tenn. 38101, Haughton Elevators/Reliance Electric Co., 671 Spencer St., Toledo, Ohio 43601, Montgomery Elevators Co., Moline, Ill. 61265, Otis Elevator Co., 750 Third Ave., New York, N.Y. 10017, U.S. Elevator Corp./Cubic Corp., 2500 Sweetwater Springs Blvd., Spring Valley, Calif. 92077, Westinghouse Electric Corp./Elevator Div., 21 Bleeker St., Hillburn, N.J. 07041. A valuable reference for architects is the American National Standard Safety Code for Elevators, Dumbwaiters, Escalators, and Moving Walks, ANSI A-17.1–1971, The American Society of Mechanical Engineers, United Engineering Center, 345 E. 47 St., New York, N.Y. 10017.



Office of Mies van der Rohe, Federal Center, 1974 Chicago. Main elevator lobby. Photo: Hedrich-Blessing

Minoru Yamasaki, Emery Roth, World Trade Center, 1973 New York. Main elevator lobby. Photo: Libbey-Owens-Ford Co.

Mies van der Rohe, Philip Johnson, Kahn & Jacobs, Seagram Bldg., 1958 New York. Main elevator lobby. Photo: Ezra Stoller © ESTO.

Malpractice actions and the statute of limitations

Bernard Tomson and Norman Coplan

The 'continuous treatment' doctrine begins accruing time under the statute of limitations from the completion of remedial action rather than from original negligence.

Malpractice actions instituted against architects or other professionals must be commenced within a specific period of time as defined by a "statute of limitations" of the state having jurisdiction. If the action is not timely commenced, it will be barred. The period of limitation within which time legal action must be commenced is generally measured from the date the alleged cause of action for malpractice accrued. The determination of such accrual date, however, often becomes a disputed legal issue. The date of accrual which starts the running of the period of limitation may be the date the alleged error or omission was *committed* by the professional. However, under certain circumstances, such date may instead be as of the time the alleged malpractice was *discovered.* In some jurisdictions, the appropriate rule to be applied may depend on whether the professional involved is a doctor, a lawyer, or a design professional, and in other jurisdictions, the law on this subject is still evolving.

In New York, although the general rule is that a cause of action for malpractice accrues at the time the alleged error or omission by the professional is committed, there are several significant exceptions to such rule. One of the most important of these exceptions, first applied in medical malpractice cases, is that when a physician continues a course of treatment which is related to the initial malpractice for which he is being sued, the statute of limitations commences not as of the time of the original negligence of the physician, but rather as of the *completion* of his continuing course of treatment. The basis of the "continuous treatment" exception is premised upon the fact that a patient has little or no knowledge of medicine and must depend exclusively on his doctor and must have absolute trust in his judgment. Consequently, as long as the doctor continues to treat the patient for the condition in question, it would not be fair to require a patient to interrupt corrective efforts by serving a summons upon his physician while the treatment continued or otherwise risk barring the action.

This "continuous treatment" doctrine has been extended to attorney's malpractice under the rationale that an attorney might be in a position of disguising his malpractice by procrastinating in the completion of his services and thereby preventing his inevitable defeat in the litigation he was handling until the statute of limitations had expired.

In a recent decision, a trial court in New York, for the first time, applied the "continuous treatment" exception to an action for malpractice instituted against an architect (*County of Broome* v. *Vincent J. Smith, Inc.*, 358 N.Y.S. 2d 998). The facts, as revealed by the Court, indicated that the owner had contracted with an architect for the design of a library building. On July 10, 1968, the construction of the project was completed and final payment made to the contractor. At about the same time, leaks began to appear in the newly completed library roof. The architect was informed of this fact and for some time thereafter he negotiated with the contractor and the roofing subcontractor with respect to this problem. Several remedial steps were undertaken, but the leaks nevertheless continued. During this period, the architect advised the client that corrective repair work was being performed. The client eventually commenced an action on September 3, 1971, more than three years (the statutory period) after the architect had completed his basic services.

The court, in denying the architect's motion to dismiss the action on the ground that the statute of limitations had expired, ruled that such statute did not commence to run as of the date the architect had allegedly negligently designed the roof, but rather from the date the architect had completed the services which he had voluntarily rendered in an effort to assist in the remedying of the defect. The Court ruled that where an architect was continuing his performance, it would be unfair and unreasonable to require the client to question the tactics of the architect or to interrupt corrective efforts by the service of a summons and complaint. The Court said:

"As with the doctor, lawyer, or accountant, acts of malpractice by an architect may not be readily apparent to the client. To apply the general rule that a claim for malpractice accrues upon the occasion of negligence may serve to encourage the architect to conceal his errors for sufficient time so as to allow the statute of limitations to expire. Or, as alleged in this case, the application of the general rule may inadvertently work an injustice where the architect in good faith leads the client to believe that any damage or injury was caused by a contractor or material supplier, and while in pursuit of relief from that source the client's time to proceed against the architect elapses. Fairness and justice dictate that a cause of action of this nature accrue only after the professional relationship has been terminated so as to afford the client an opportunity, unhampered by possible concealment, delay or unintended misguidance by the architect, to discover any possible acts or omissions constituting malpractice."

If this determination is upheld on appeal, one result may well be that architects will become reluctant to furnish their assistance to remedy construction defects and thereby avoid extending the time in which they themselves may be sued for alleged malpractice. □

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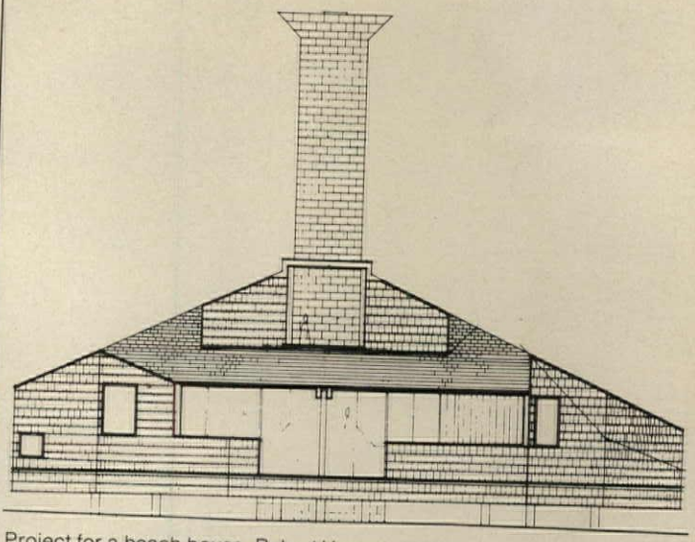
Scully's revenge



Project for a beach house, Robert Venturi, 1959.

The Shingle Style Today or The Historian's Revenge *by Vincent J. Scully, Jr. New York, George Braziller, 1974, 112 pp., 130 illus., $10 cloth, $4.95 paper.*

Reviewed by Charles W. Moore, professor of architecture, UCLA; currently architect in residence, the American Academy, Rome.

Everything Vincent Scully writes delights some people and infuriates others. *The Shingle Style Today* will be no exception, except perhaps that some Scully fans will have their enthusiasm diminished by the rather special limits of the subject. I for one am delighted with it (not, as some naysayers will instantly presume, just because I am mentioned). For decades, almost uniquely, Vincent Scully has been making the history of contemporary architecture interesting. This book furthers that grand tradition. Rather than a book, really, with all the *angst* and spread that implies, this is a published lecture. A lecture, by its nature, does not cover the whole world; it is just a single facet, ingeniously polished, and not the whole damn Kohinoor.

The facet is the set of visual images that architects bring to their work, when that set includes American Shingle Style houses of the late 19th century. (The medium of description is pictures, and their comparison, along with some beautiful Scully prose describing how the places feel and seem. My favorite sentence says: "Inside, as we have seen, the variety was like that of a nineteenth-century landscape painting, where grades of light—partly in full flood, partly shielded by porches; sometimes golden, sometimes thunderous—defined flickering interior landscapes at various levels, broader and more extensive through wide doors and echoing porches." That's more wonderful than any of the houses, even mine.)

The inspiration for this book is a book about poets called *The Anxiety of Influence* by Harold Bloom of the Yale faculty. Bloom develops a theory of poetry around the ob-

[continued on page 114]

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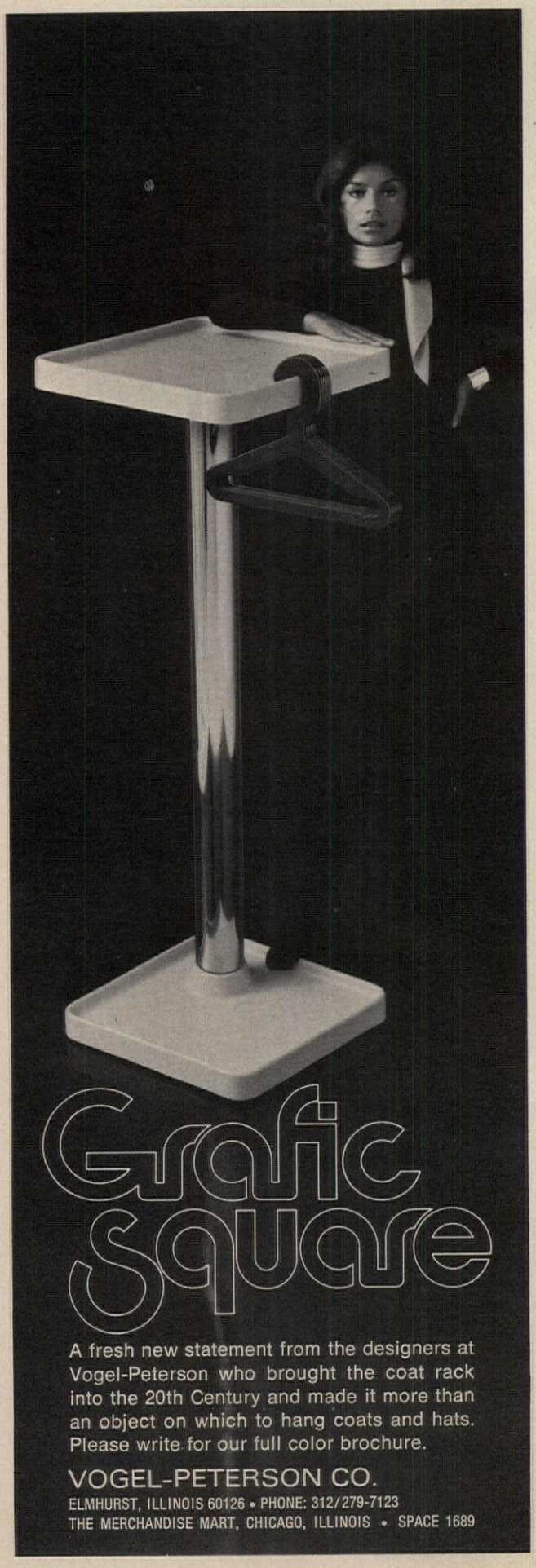
Books continued from page 112

"Shingleside," Swampscott, Mass., Arthur Little, 1881.

served tendency of the strong young poet to go after the work of his most admired predecessor, then at the very last minute, in a thrilling adult version of chicken, to swerve, so that if he is successful, the mark seems to have moved and the young poet to have hit it, leaving his predecessor peripheral to the new center, in a kind of poetic left field. Scully applies a parallel pattern to a group of architects in their 30s and 40s, most of us connected with Louis Kahn, or Yale, or both (though a few of us insist on the importance of Princeton in all this), who have acknowledged influence from the Shingle Style (which is of course another Galatea to Scully's Pygmalion; I'll leave it to Peter Eisenman to cast it in terms of Dr. Vince Frankenstein in his architectural monsters—I feel no bolt in my throat).

The problem, of course, is that architects are, as Scully suggests in his foreword, receiving influences not only from admired predecessors, but also from clients, colleagues, and the bank. I wince at invoking another Yalie, but there is the great Cole Porter line. When he was asked what inspired his newest musical he replied, "A phone call from the producer." The trouble is that people who try to make a full statistical analysis of the sources of architectural inspiration, often make it all seem very dreary. Scully may be wrong about sources of inspiration. I don't think he is. I acknowledge that his story is incomplete (one facet on the giant gem) but I certainly found it interesting.

There is a somewhere along here, too, a milestone that shouldn't go unnoticed. For an incredibly long time it was regarded as damaging, or at least as tasteless, for architects to acknowledge influence closer than Cro-Magnon Man. Then when a few went public with their admissions, there was some suspicion of a sinister attempt to mislead. Now (and it must make an historian feel really good) influence, like sex, can be openly discussed. It didn't even need a Supreme Court decision, but I count on it doing wonders to open the minds of young architects. Vincent Scully, having been instrumental in setting up the milestone, signs the book (I think) by showing up behind us about three quarters of the way through with a story about Frank Lloyd Wright: " 'Son', Wright once said to me in response to a perhaps rather naive question of mine about Bruce Price, 'Architecture began when I began building those houses out there on the Prairie.' Authentic old American tall talk and corn. How we miss it." Thank God, Vince, we're not missing it yet.



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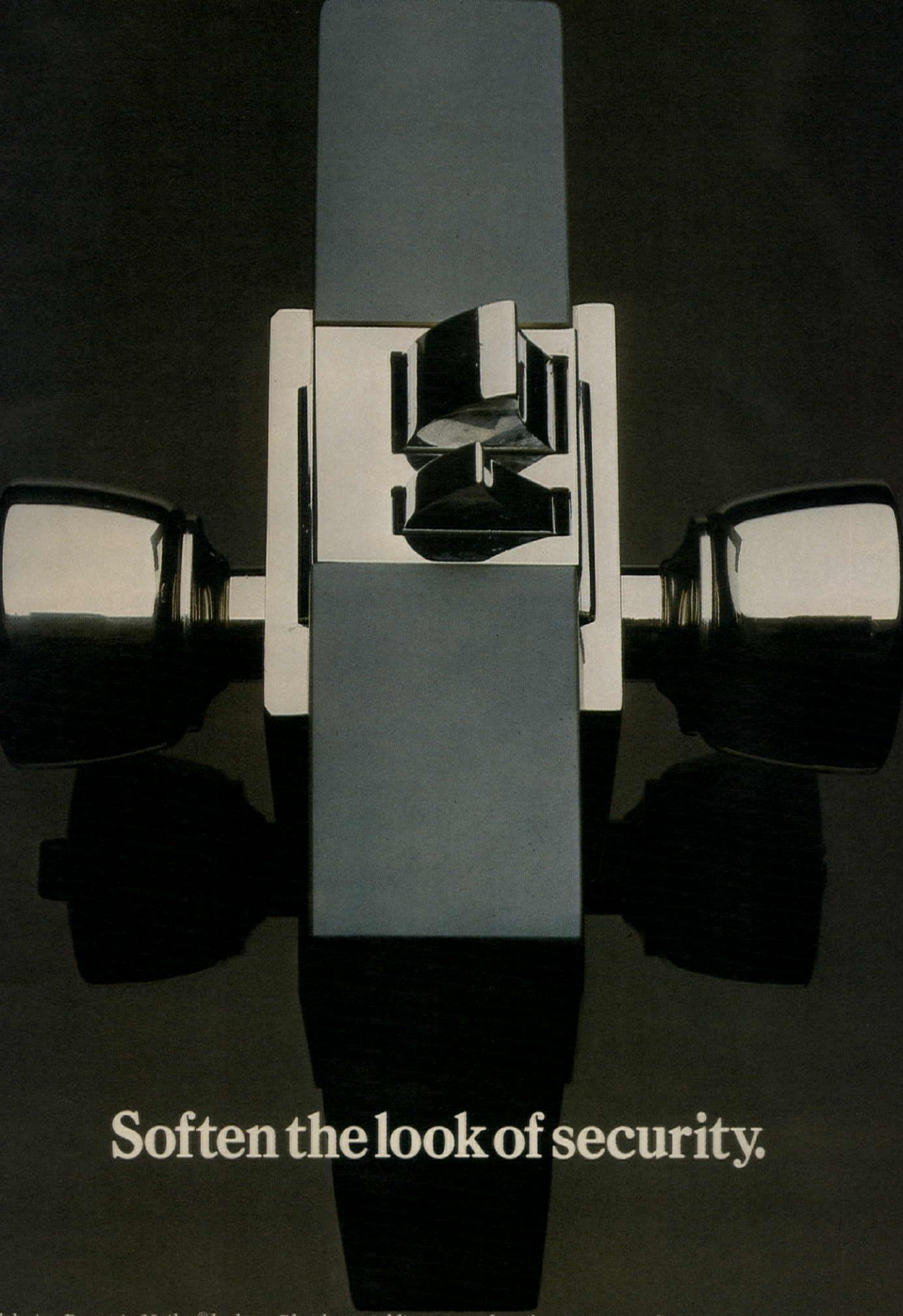

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elocking by Recore® cylinder available. Enduring design in the Russwin tradition. Russwin, Division
art, Berlin, Connecticut 06037. In Canada – Russwin, Division of International Hardware.

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Products and Literature

Library system

brary system. Pinwheel carrel is nstructed of solid red oak and color- plastic laminate panels. Slab ends each component provide design ntinuity. System includes all the ndard items and is available in alter- te materials. John Adden Furniture.
rcle 101 on reader service card

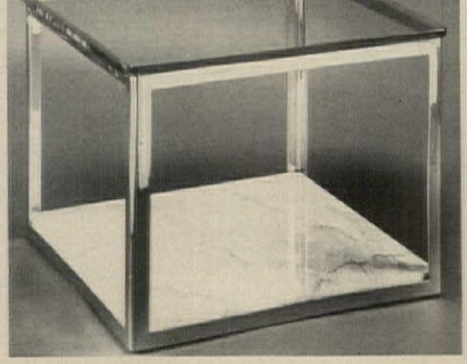
nd urn/waste receptacle that also rves as an umbrella stand. Of ABS stic in white, brown, red, or green th white trim with ash receptacle of nflammable white melamine. Size: ½" x 9½" x 24" in height. Hank ewenstein, Inc.
rcle 102 on reader service card

azing for solar energy collectors is a /F film, .004-in.-thick which transmits to 94 percent of total incident solar ergy. The film can be heat sealed, rink wrapped, and bonded by adhe- ves, states maker. Tensile strength is prox. 12,000 psi. Du Pont Co.
rcle 103 on reader service card

ble group. Two-tiered, steel-framed bes are available with glass tops, arble or wood base shelves and me in 17 sizes including sculpture splay pedestals and console tables. ustom sizes may also be specified. elikon Furniture Co., Inc.
rcle 104 on reader service card

andalproof lighting. Engineered to thstand attack from virtually any eapon, the wall-mounted unit has nbreakable Herculex diffuser and is itable for indoor or outdoor use, ac- rding to manufacturer. Kenall Manu- cturing Co.
rcle 105 on reader service card

Sand urn



Table

Fabric

Exterior blinds are said to result 85 percent reduction of solar hea gains in both old and new buildin They are made of corrosion resis aluminum alloy and finished with nonchip coating of baked ename to be impervious to sun, glare, h cold, rain, and wind. Can be ope by individual window control or b automatic system activated by su and wind velocity sensors. Appli- cations include office buildings, h tals, nursing homes, schools. Sw Blinds.
Circle 106 on reader service card

Wall coating. A polyacrylic mate Durasurf forms a nonporous stor surface over concrete, cinder blo and other types of raw masonry ishes, according to maker, and c teristics include fast-drying prop smooth, hard finish, resistance t staining, and ease of maintenanc Available in 24 colors. Rohm and
Circle 107 on reader service card

Traffic door for use with walk-in ers uses bump-open/self-closing ware. Features include rubber ca shields and rubber flap seals for and bottom bearings. Meets USD MID standards for sanitation and OSHA for safety and quietness. RubbAir Door Division.
Circle 108 on reader service card

Fabrics. Woolens, cottons, dam and vinyls, in plains, plaids, or ha screened prints are available in a collection by Scalamandre.
Circle 109 on reader service card
[continued on page 118]

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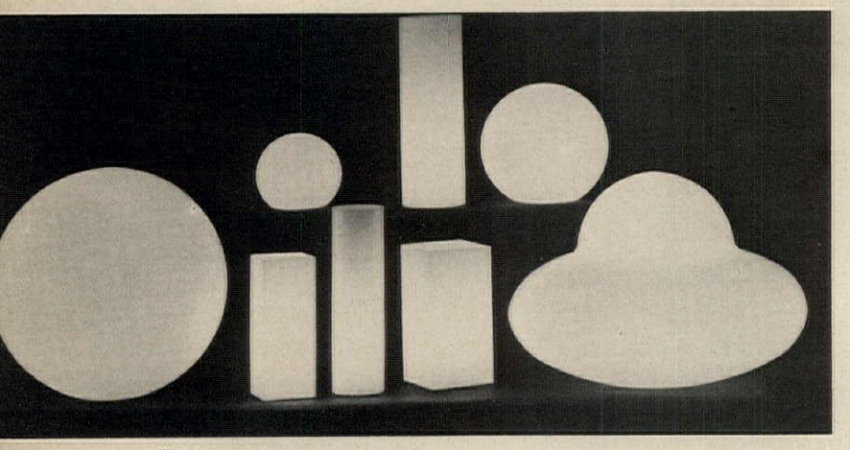

Table and floor lamps

Schultz seating

Table and floor lamps. "Light-White" lamps are molded from high density, impact resistant, translucent white polyethylene; cylinders are made of opal acrylic. Certain styles can be stacked up to 4-ft-high as floor lamps. Trimble House Corp.
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Schultz seating. Basic units include a two-seater settee and a three-seater sofa; multiple seating applications are also available. Upholstered back and seat element is suspended from a round tubular steel frame which connects to an oval tubular steel stretcher. Suspended seating has individual seat units which are removable for upholstery in leather, suede, or fabric. Knoll International.
Circle 111 on reader service card

Wire and cable ties. All nylon, self-locking Nytyes are available for both standard and heavy-duty uses and for regular and mountable applications. Sizes are available for bundles ranging from $\frac{1}{16}$ in. to 8⅛ in. diameters. Heyman Mfg. Co.
Circle 112 on reader service card

Glass tub/shower enclosures. Glass is transparent on one side and has a mirrored surface on the other plus providing a large, useable mirror. Panels are light bronze in color and made from tempered safety glass. Hardware is gold anodized aluminum or bronze which is available on special request. Sierracin/Agalite Bronson.
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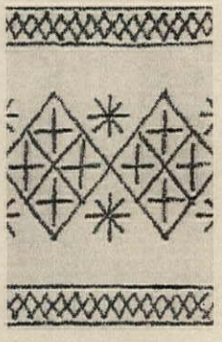
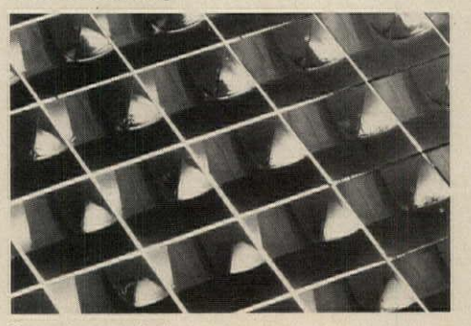


Custom carpeting



Specular parabolic louvers

Specular parabolic louvers. Each wall of each 1½" x 1½" cell is a highly polished, curved surface which reflects light downward. Paracube II louvers are available in four finishes, and five panel sizes, and are molded with a mounting flange. Plastic is injection molded. American Louver Co.
Circle 114 on reader service card

Fasteners for attaching acoustic foam, urethane, fiberglass, and composite absorption barrier materials to walls, ceilings, enclosures, ducts can be bonded to concrete, metal, wood, or fiberglass surfaces that are flat, curved, or corrugated. Eckel Industries, Inc.
Circle 115 on reader service card

Tufted seating

Tufted seating units are available with either an ebonized black base or a polished stainless steel base with a wide choice of leather and textile upholstery. Lengths available are 24, 48, 72 and 96 inches. Brayton International.
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Custom carpeting. Systems Collection I includes 12 new designs directed primarily toward the contract market. Collection uses a machine fabricated background with the design motif executed in a hand overtuft. All carpets are produced in 100 percent wool. V'Soske.
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Audilarm electronic security device is activated by opening any door or window; also indicates when a door or window has accidentally been left open. Smoke detection device is optional. Operates on standard AC, flashes during power failure to indicate system is operating on battery. Audilarm.
Circle 118 on reader service card
[continued on page 120]

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Products continued from page 118

Bath fixtures

Bath fixtures. Marbleized-china color pattern is available in more than 20 products, including lavatories, closets, and bidets. According to the maker, it has the appearance of authentic marble. Universal-Rundle Corp.
Circle 119 on reader service card

Swimming pool coping. For competitive, recreational, and therapeutic swimming pools, it provides 100 percent skimming action of perimeter overflow in combination with bottom inlets, states maker. Some advantages, says maker, are no buried piping and elimination of deck drains. A selection of color and texture is available. Kinematics, Ltd.
Circle 120 on reader service card

Literature

Area lighting catalog. Featured are three new outdoor luminaires. Other data include a fixture cut-away, area lighting comparisons, installation and maintenance illustrations, performance and specification data. Guth Lighting.
Circle 201 on reader service card

Telelift. A set of full-color folders which cover the various components of this distribution system: station design, switching units, track components, delivery vehicles, and power monitor; they also include dimensional drawings. Mosler/Airmatic Systems Division, American-Standard Co.
Circle 202 on reader service card

Windows, doors, shutters. Full-color 1975 catalog illustrates entire product line, gives styles, sizes, and specifications. Andersen Corporation.
Circle 203 on reader service card

Heavy duty coatings. Booklet contains specifications and general product information for coatings designed specifically for use on steel surfaces with some that are for use on masonry or wood. Offered is a summary of preparation methods, specific protective systems, and a selection chart for coating evaluation. PPG Industries.
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Metal louvers. Designed for installation into wood, metal, or masonry, louvers are especially suitable for industrial, commercial, and institutional buildings. Catalog illustrates fixed and operating horizontal louvers, fixed continuous louvers, narrow line louvers, and fixed vertical blade louvers. Included are dimension drawings, complete details, specifications, free area tables, load span graphs, and typical construction details. Chart shows colors available in a wide range of finishes. Request Catalog 75B7. Elwin G. Smith Division, Cyclops Corp.
Circle 205 on reader service card

'End of the Drab Door' catalog illustrates in full color the collection of 29 doors that is available. Fabricated of individually sized blocks with the same pattern laminated to both sides, the doors come in stock sizes or custom fabricated to fit most any size opening. Whittlewood Corp.
Circle 206 on reader service card

Architectural trims. Four-color catalog gives complete selection, illustrates a variety of installations, suggests engineering specifications. Construction Specialties, Inc.
Circle 207 on reader service card

Precast decks. 24-page booklet illustrates how concrete decks are being used in masonry wall bearing, steel frame, precast wall, precast frame, cast-in-place bearing and brick wall bearing construction. Request "New Ways to Use Pre-cast Decks." The Flexicore Co., Inc.
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Drapery hardware. Architects' guide to selecting drapery hardware gives performance data on company's complete product line, application information, and suggested specifications. Kirsch Company.
Circle 209 on reader service card

'Lighting for Architecture' is the name of a full-color booklet containing an array of recessed, surface, and wall-mounted fluorescent and incandescent fixtures. Columbia Lighting.
Circle 210 on reader service card

Footcandle guide. Pocket reference converts standard footcandle illumination level recommendations of the I.E.S. Lighting Handbook to polarized lighting required footcandles. Covers most common general lighting situation. Polrized Corp. of America.
Circle 211 on reader service card

Grilles. The complete line of aluminum architectural screen and vision systems is outlined in 20-page brochure including detailed specifications, application photos, and installation suggestions. Construction Specialities, Inc.
Circle 212 on reader service card

Lap and panel siding. Catalog contains wide variety of siding patterns and textures, illustrates its application on single/multi-family housing, gives product specifications, installation tips, data on softwood plywood siding in redwood, cedar, or fir; hardboard and overlaid particleboard sidings, medium density overlaid plywood and redwood finished lumber; lists standards. Georgia-Pacific Corp.
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Birch plywood. Brochure includes six main Finnish plywoods. Explained through pictures and table charts, are grades, finishes, colors, stress factors, strength, and section properties, thicknesses, and other engineering and design data for both interior and exterior applications; qualifications needed to meet common structural and nonstructural situations are cited and correct plywood is recommended. Request Technical Bulletin No. 1A-1975. The Finnish Plywood Development Association USA, Inc.
Circle 214 on reader service card

Door standard. FHDA/5-75 is updated to include carved front entrance doors and to require safety glass in glazed doors. Six basic designs with 18 different panel inserts are shown in 12-page manual. Many specifications are revised in the standard, some are deleted. Fir & Hemlock Door Assoc.
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ARCHITECT:
J. J. Claret,
Sarasota, Florida
STRUCTURAL STEEL:
Musselman Steel Fabricators, Inc.,
Tampa, Florida

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The opportunity of getting seven buildings completed and ready for occupancy in fast time was a principal reason open web steel joists were selected for these Longboat Harbour Condominiums in Sarasota, Florida.

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Please send me your new copy of Specifications and Load Tables for Open Web Steel Joists.

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Lime Crest Roofing Spar saves energy for Hampton Township!

Architects: Radey & Radey, Cherry Hill, N.J.

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Lime Crest Roofing Spar
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Newton, New Jersey 07860

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Building materials

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

Wharton Graduate Center, Phase I, Vance Hall, University of Pennsylvania, Philadelphia, Pa. (p. 60) *Architects: Bower & Fradley, Philadelphia, Pa.* Concrete framing: Warner Co. Reinforcing steel: Bethlehem Steel. Brick: West Bros. Glass: Ford-Dearborne. Ground face concrete block: Samson Industries. Oak paneling: Alexander Woodworks. Carpeting: Bigelow. Quarry tile: Summitville Tile. Perforated metal ceilings: Soundlock, Emerson Electric. Lightweight insulating fill for roof surfacing: Skyway Allweather-crete. Waterproofing acrylic sealant: Tremco. Oil base caulk: Pecora. Roof drains: J.R. Smith. Metal office partitions: Virginia Metal Products. Movable partitions: Richards-Wilcox. Aluminum/single glazed windows: (custom) Architectural Products. Skylight: I.B.G. Metal and glass doors: Superior Fireproof Door. Locksets: Russwin. Door closers: L.C.N. Hinges: Stanley. Panic exit: Von Duprin. Paint: Benjamin Moore Co. Fixed seatings: American Seating. Blackboards: Korok. Elevators: United Elevator Co. Recessed fluorescent light: Kim-Kar. Mercury vapor light (interior): Holophane. Switchgear electric distribution: I.T.E. Plumbing fixtures: American Standard, Kohler. Piping: U.S. Steel, Bethlehem Steel, and Central Foundry. Sprinklers: Fireprotection Industries Inc. Alarm system: Pyr-A-Larm. Perimeter induction system: York Units. Low velocity interior system: York fans. Agitair diffusers. Chillers: York. Perimeter convection: Nesbitt Sill-Line.

Student Union, State University College at Plattsburgh, N.Y. (p. 66). *Architect: Mitchell/Giurgola, New York and Philadelphia.* Concrete: Saylors Cement, Steel: Bethlehem Steel. Concrete/metal deck: Ceco Corp. Steel joists: Bowman Building Products. Brick: Darlington, Plymouth Range. Vinyl asbestos tile: GAF. Carpet: Mohawk. Quarry tile: American Olean. Wood: Designed Wood Flooring. Plaster: CAFCO. Acoustic plaster: Simplex. Built up roof: Johns Manville. Skylights: Fisher Skylights, Inc.; American Cyanamid. Insulation: Johns Manville. Windows: Stanlock. Doors: Williamsburgh; Cornell; Ellison. Hardware: Russwin; LCN/Rixson; Hager. Paint: Glidden. Elevators: Montgomery Elevator Co. Plumbing: Crane; Sloan. Heating/Air Conditioning: Carrier.

Victorian house, New York State (p. 84). *Architect: Lester Walker, Woodstock, N.Y.* Exterior wall surfacing, reverse board and batten: U.S. Plywood. Aluminum roofing: Alcoa. Waterproofing caulk: General Electric Silicone. Rigid and batt insulation: Owens-Corning. Windows: Anderson. Doors: Iriquois (hollow core flush) and Morgan (entry doors, glazed). Hardware. Kwikset. Paint and stain: Pittsburgh and Sears. Kitchen appliances: Sears. Plumbing fixtures: Sears. Lighting fixtures and electric distribution: Sears.

[continued on page 124]

ALUMINIZED VS. GALVANIZED FENCING. THE DIFFERENCE SHOWED UP IN 192 HOURS.

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Galvanized after weaving	1.45	192	360
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"	2.06	192	312
"	3.82	192	336
Acco Aluminized	0.48	1,920	7,032
"	0.48	1,152	5,736
"	0.52	1,968	10,488
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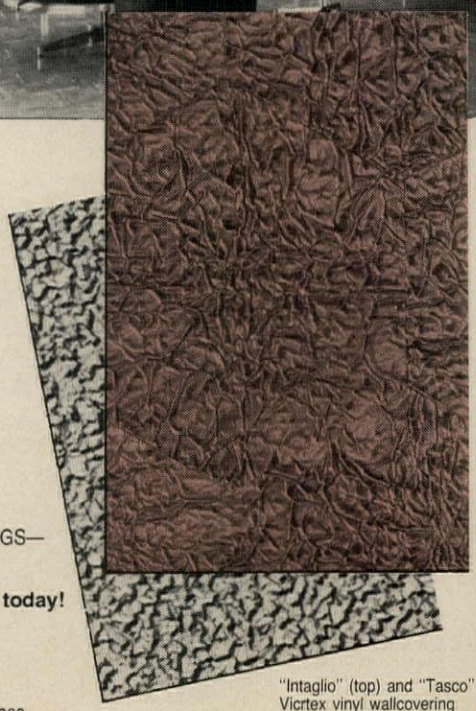

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Bldg. mat'ls cont'd from page 122

Claghorne House Addition, Princeton, N.J. (p. 88) *Architect: Michael Graves, Princeton, N.J.* Vinyl tile: Armstrong Cork Co. Roll batt insulation: Johns Manveile. Double glazed windows: PPG Industries. Operable sash: Pella. Wood doors: Morgan Co. Hardware: Sargeant. Paint: "Acquavelvet," Benjamin Moore Co. Spotlighting on tracks: Lightolier.

Alexander House Addition, Princeton, N.J. (p. 90). *Architect: Michael Graves, Princeton, N.J.* Welsh Quarry tile: Lewis Goldey (distributors). Operable sash: Pella. Glass block: PPG Industries. Double glazed windows: PPG Industries. Wood doors: Morgan. Hardware: Sargeant. Paint: "Acquavelvet," Benjamin Moore. Spots on tracks: Lightolier. Roll-batt insulation: Johns Manville.

Notices

New addresses

Papp Associates Architects, 180 E. Post Rd., Suite 309, White Plains, N.Y. 10601.

Cooper, Tendas & Aveis, Tishman-Westwood Bldg., 10960 Wilshire Blvd., Los Angeles, Calif. 90024.

Charles Kober Associates, 2706 Wilshire Blvd., Los Angeles, Calif. 90057.

The Hall & Goodhue Community Design Group, 100 Stevenson St., San Francisco, Calif. 94105.

Andres Caffall Architects, 2829 W. Northwest Hghwy., Rhine River Bldg., Dallas, Tex. 75220.

Ron Nunn Associates AIA, 256 Montgomery St., San Francisco, Calif. 94104.

Prickett-Onek-Johnson, Architects, 6540 S.W. 10 St., Topeka, Kan. 66615.

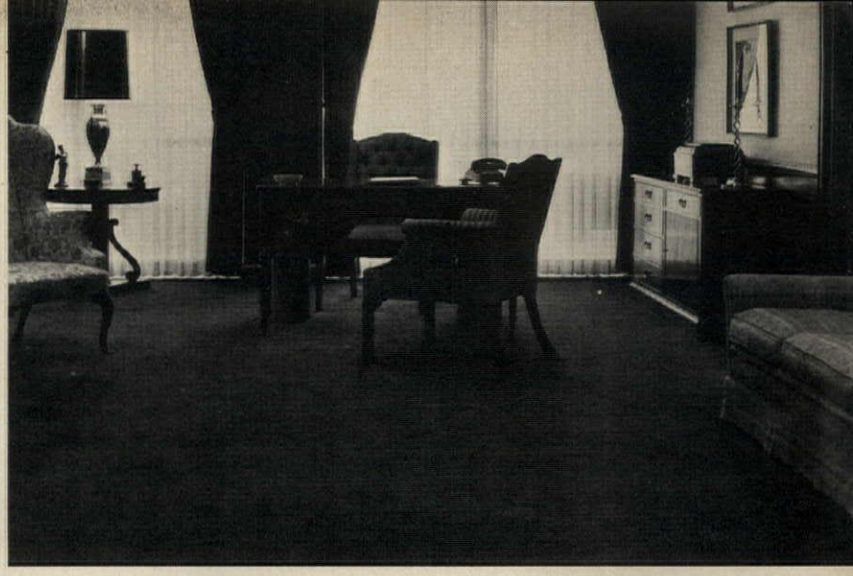
New firms

John Roger Johansen, AIA, 228 N. Main St., Cheboygan, Mich. 49721.

James E. Sparesus, AIA has formed **Archiplan, Inc.,** 835 Sterling Ave., Palatine, Ill. 60067.

Patrick Anthony Roy, Architect/Planner, 3 Chaucer Rd., Englishtown, N.J. 07726.

Charles Nolan, Jr., Joel Stout, and Sam Pool have formed **Nolan, Stout, Pool, PA, AIA** in Alamogordo, N.M.



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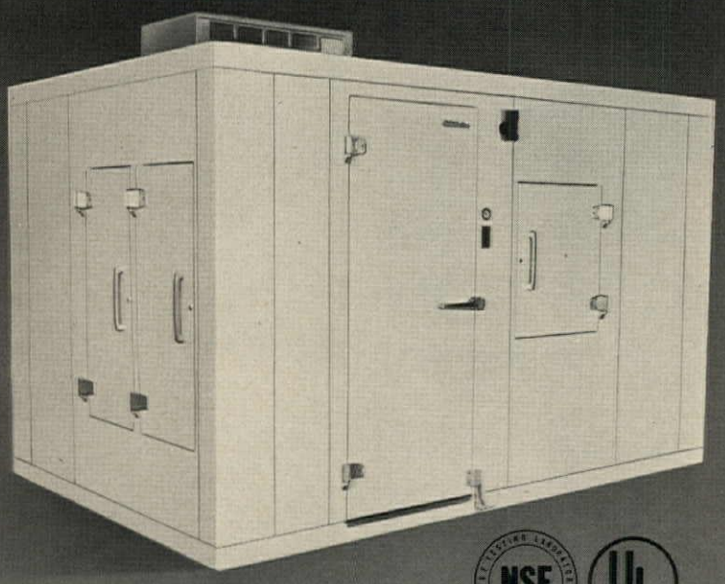

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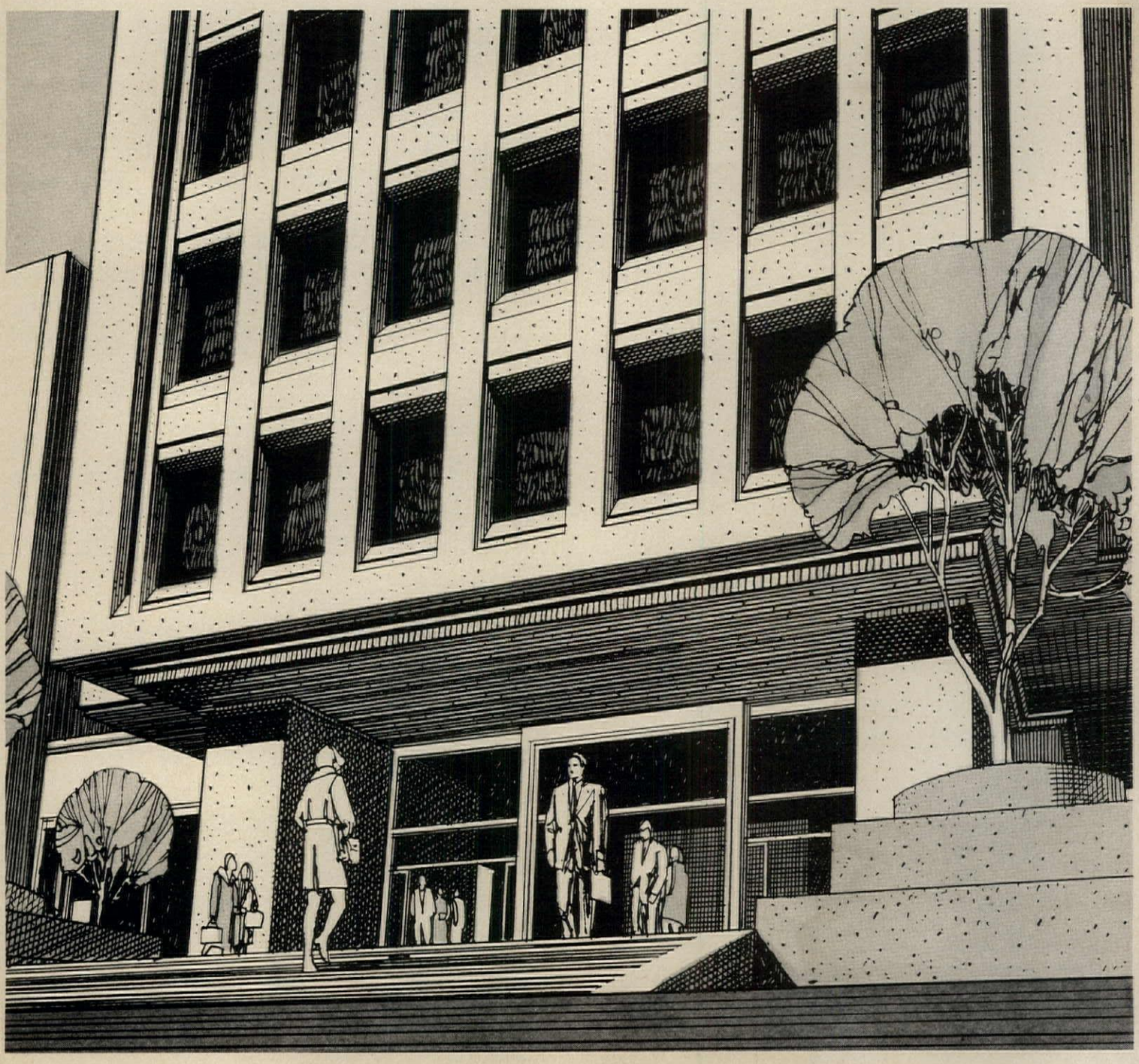

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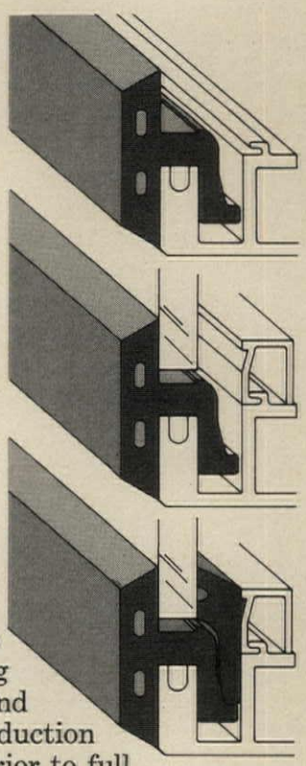

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