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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 \( \frac{3}{8} \)" 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 \( \frac{3}{8} \)" 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.

In addition to his work on VIP, he can now bid on other jobs that formerly were closed to the masonry contractor.

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.

For more information: Write or call W. R. Bonsal Co., P. O. Box 38, Lilesville, North Carolina 28091, (704) 848-4141; Barrett Industries, 6889 Evans Road, San Antonio, Texas 78218, (512) 651-6650; and INCA Co., Stanton & Empire Streets, Wilkes Barre, Pa. 18702, (717) 822-2191.

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Wassily chair by Marcel Breuer

Views

Letters from readers

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 utter-

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. ’75, 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.

Me! 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. ’75, 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 architect Prof. Frei Otto and Prof. Rolf Gutbrod, and their associate H. Kendel, O. Tar-nowski 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 Thi-net/S.N.E., of Boulogne s/Seine, France.
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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 Children's 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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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.
Practicing architecture in the Middle East is like "everything you're used to in a good, booming situation with two zeroes 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—Jose 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. 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. TAG 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-circle, is 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.

The headline is Arabic for "Learning to read backwards" or "How to practice architecture in the Middle East."
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, McIlrath, 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 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;
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-
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 Fran­
cisco offices.

CRS Design Associates International
(Washington, D.C.-based overseas di­
vision of Caudill Rowlett Scott Design
Associates, Houston) designed the
College of Petroleum and Minerals,
Saudi Arabia, and is doing a $200 mil­
lion military academy for the Saudi
Army—a joint project with McAulay,
Marshall, McMillian 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 Bah­
rain, 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 seg­
regated and, if the instructor is a male,
they are taught over closed circuit tele­
vision. 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 ho­
tel 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 Invest­
ment Company. Gruzen & Partners,
New York, reportedly is negotiating
with the overseas subsidiary of Starret­
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 tal­
et 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 con­
cerned about their image and want to
show their friendship. “They’re marvel­
ous hosts; they love Americans; and
they’re very gracious—not given to os­
tentatious 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 Pro­
fessional Services Management Jour­
nal—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 as­
sistance in learning how to secure jobs
in the Middle East, one architect re­
plied: “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.

It may sound amazing, but you can do it.

The only thing you have to do is specify thicker 2¼-inch Fiberglas* roof insulation instead of the thinner 15/16th-inch size.

This dramatically reduces heat loss through your roof. And it actually brings the total cost of your building down!

The reason: the improved thermal performance of your roof enables you to get along with less elaborate, less expensive heating and cooling equipment.

In general, every dollar you spend on thicker 2¼-inch roof insulation vs. 15/16th-inch size cuts up to two dollars off original equipment costs. So you come out considerably ahead.

On a suburban office building in northern climates, for example, thicker roof insulation could save as much as $27,000 in equipment costs for every 60,000 square feet of roof.

And, of course, the thicker Fiberglas roof insulation goes on slashing the loss of fuel energy through the roof of your building by 50 percent—and the fuel bills by roughly 10 percent—year after year after year.

The exact savings vary according to climate zone, the size and type of roof deck, "U" improvement, and the added cost of the thicker insulation.

We've worked up all the figures and charts in a handy booklet called "Roof Raiser's Guide to Cost Reduction." For a free copy, write: V. F. Meeks, Architectural Products Division, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Ohio 43659.

More details: See our section in Sweets Catalog, Roof Insulation Systems 7.15/Ow, or contact your Owens-Corning representative.

Owens-Corning is Fiberglas
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.

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.

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 Arch-
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ALMOST ANY JOB, ANY CLIENT.
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Dynamics and our carpets for classic
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or write Monarch Carpet Dynamics,
Chamblee, Georgia 30341.
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Contract Division of Monarch Carpet Mills.


These buildings use 33% to 98% less of our nation’s energy than conventional structures. Have you designed a building that saves fuel? See Award Program details on next page.
Announcing the 4th annual Owens-Corning Energy Conservation Awards Program.

Show our Awards Jury a building design that doesn’t waste energy—and you could receive one of the Energy Conservation Awards Owens-Corning will present for 1975.

The Awards Jury will be looking for three things: Creativity. Originality. And most important of all—designs that save energy.

Too many of our buildings waste fuel and contribute to environmental pollution.

By continuing the Energy Conservation Awards Program we initiated in 1972, Owens-Corning hopes to stimulate even more ways to conserve energy. It also lets us recognize—and honor—the architects and engineers who do the best job of designing buildings and mechanical systems that help conserve our nation’s energy.

Who can enter

Any registered architect or professional engineer practicing in the U.S. is eligible. As an individual. Or in a team. But to qualify, your entry must be a commissioned building project—in the design process, under construction, or a completed structure.

Although Fiberglas® products are an excellent way to conserve energy, their use is not an entry requirement.

Four entry categories

Winners will be selected from four design categories.

Institutional—schools and hospitals, for example.

Commercial—office buildings, shopping centers, retail stores, and similar structures.

Industrial—including manufacturing plants, research centers, warehouses.

Governmental—post offices, administrative buildings, and military structures, to name a few.

The Awards

Winning architects and/or engineers will receive the Steuben Crystal sculpture at left. Owners or clients will receive other Steuben Crystal awards.

The Awards Jury for 1975

Outstanding professionals in architecture and engineering will serve as the Awards Jury to select the winners.

Send for entry details now.

Completed entries must be submitted by August 31, 1975. Winners will be selected and notified in early September.

For a brochure giving complete details, write X. Z. Meeks, Owens-Corning Fiberglas Corporation, Architectural Products Division, Fiberglas Tower, Toledo, Ohio 43659.

Owens-Corning is Fiberglas
News report continued from page 26

The 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 specific project. The cost of grout is less than 10% of the total floor cost. But using the wrong grout causes 90% of the failures. So next time, don't speculate on the grout for tile floors... specify Atlas Epoxy Grouts.
specific 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 covenant 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, thumping 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 Christie novel. Everyone played his role, and as the drama unfolded, the intrigue heightened. It seemed evident from the begin-
News report

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.

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]
It's the pay-off end of a Halsey Taylor water cooler. Our exclusive double bubbler—the only twin stream projector in the business.

Sure, it gives fuller, more generous gulps of cold water. But it also identifies the cooler beneath it as the one specified more often than any other. Simply because architects rely on it. From past experience.

We pay a lot of attention to product appearance, of course. And we produce the widest selection of models and colors in the industry—to give you the greatest possible design latitude.

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If you'd like to have our new catalog, write to HalseyTaylor Division, 1554 Thomas Road, Warren, Ohio 44481.
PPG GLASS GAVE BLUE CROSS AND BLUE SHIELD OF COLORADO THE BEST COVERAGE.

Their new Denver headquarters presented problems. The site dictated one thing, and the owner's business another. PPG Solarban® 550 Twindow® insulating glass helped solve the architects' dilemma. Beautifully and efficiently. The building is the landmark the owner wanted, and certainly big enough to meet his everyday practical demands. Yet, for all its size, it is still a graceful neighbor to the smaller buildings in the area. Visually, its bulk seems to retreat. An effect the architects achieved by using muted-toned reflective glass. And by setting the building back from the street.

But esthetics were not the only consideration. Because of the site, the building had to have an east-to-west orientation. Which created solar heat gain problems. So they needed performance, too. And PPG Solarban 550 Twindow insulating glass gave them the best of both. (Its shading coefficient of 0.24 reduces solar heat gain 76% compared to single-glazed clear glass.) And since the glass performed so well, they were able to use a lot of it and create view spaces that do justice to Colorado's magnificent vistas. In short, the glass gave everyone concerned with the building—the owner, his employees, the architects, even the neighbors—something to be happy about. And we think it can have much the same effect on your building.


Circle No. 375, on Reader Service Card
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—which is set by a glass pavilion type of recreation center and such low-cost nostalgia as Victorian back porch lattice work to enclose entrance courts—are all 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 back porch lattice work 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]
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.

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.

Precast Architectural Terra Cotta Panels
Offer Designers Burned Clay's Unlimited Array of Colors and Textures for High Rise Facing

Precasting the Terra Cotta eliminates the need for expensive scaffolding and hand application of the Terra Cotta, piece by piece, on the job site. As the large Terra Cotta panels arrive at the job site, they are quickly and easily hoisted into place. Panels are shipped out of inventory to an exact schedule as they are needed for erection so there is no lost time at the job site. This also eliminates the need for a storage area at the job site.

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THIRD MOBILE HOME DESIGN COMPETITION

Call for entries first prize $7,500

Here is an exciting design challenge that tests your inventiveness and creativity in the design of mobile homes. How should they look? How could they look? What is your design opinion? There are substantial rewards.

The competition is open to architects and architectural firms, industrial designers and design firms and students in accredited architecture or design schools. Judgement will be made by your professional peers and representatives of the mobile home industry.

The focus is on exterior and interior design of low-cost, single-family units that can be mass produced economically and transported to site. All entries must be received on or before July 15, 1975.

Please write today to get full information and specifications.

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.


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


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]
R-Way has created in BRENTWOOD a series of four distinctive designs—with top selections of black walnut, high-pressure plastic laminate or vinyl—a broad selection of high and low profile variations—modular pedestal selection—matching seating.

BRENTWOOD, with its end variations of stainless steel or black walnut plus a finish selection of oiled walnut or hand rubbed lacquer, offers unlimited design options.

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E CUBE compares the total operating and capital costs of each system you study—takes project life and equipment life into account, provides for irregular and replacement expenses, and ranks the systems comparatively for life cycle costs.

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Helps you prepare many required reports. Here's another reason you'll find the impartially, statistically calculated results of E CUBE a tremendous help. It provides information for environmental impact statements, cash flow projections required by senior lenders, and is useful in profit planning.

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3. A barrier or the proper acoustical screen is necessary to keep unwanted speech from going directly between work areas.

All three essential elements should be "tuned" to work together with the help of an acoustical consultant.


Owens-Corning is Fiberglas
News report

In progress

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 Tarapala 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.

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 Hillsborough River. Rather than separate functions, the designers have interspersed them throughout the five-level structure.

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.
Government/Arts project facing Hillsborough River.
A funny thing happened to the ULTRAWALL partition concept on the way to the market: building professionals discovered it's a terrific time-saver for remodeling and new construction! (The fact that ULTRAWALL is movable is regarded as a bonus.) ULTRAWALL is a quality-looking wall that can go up COMPLETE in a day, so space is rentable as much as a month earlier than with fixed walls. You can even erect ULTRAWALL partitions after carpeting and ceiling tiles are installed. Now, the initial cost of ULTRAWALL is surprisingly close to conventional walls, but the savings you make in time and labor may well make ULTRAWALL the least expensive. If time is money to you, get the ULTRAWALL story from your U.S.G. representative, or write to us at 101 S. Wacker Drive, Chicago, Ill. 60606, Dept. PA 45.

### Compare Ultrawall Partition System VS. Conventional Fixed Partitions

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<th>Feature</th>
<th>Ultrawall Partition System</th>
<th>Conventional Fixed Partitions</th>
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<tr>
<td>One crew installs</td>
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<td>Various crews erect studs, hang board.</td>
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<tr>
<td>Glazing, if desired—standard components.</td>
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<td>Tape joints, sand, prefinish and paint.</td>
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<tr>
<td>One trip to install (a typical 3-office suite)</td>
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<td>Erect door frames.</td>
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<td>1-hour fire rating</td>
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<td>Install moldings.</td>
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<td>STC rating 40 to 48</td>
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<td>Glazing requires special handling.</td>
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<td>BONUS: It's demountable with just 4 components for quick office changes.</td>
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<td>A trip per crew.</td>
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<td>Fire and sound rated with special construction, at higher cost.</td>
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UNITED STATES GYPSUM

BUILDING AMERICA
The visually open, inviting appeal of this church design is expressed beautifully with cedar shingles in Shakertown 8-foot Panels. Crisp as the styling, shingle panels frame recessed skylights like a picture; accent concrete corner forms and blend varied wall planes together naturally. Shakertown Panels meet building codes, apply faster and reduce heating and cooling costs for commercial and residential buildings. Where required, Shakertown shake or shingle panels are available treated with a Class “C” fire retardant process. Specify from a variety of textures for your next project.

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FREE! Complete architectural data on shake and shingle panels is offered in easy reference binder. Includes code approvals, panel ratings, textures, application and design details. Write for your free copy.

Exteriors of Shakertown Shingles in Panels

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

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Dependable Centura cartridge has no springs, washers or O-rings. Only one moving part. Handle rotates 180 degrees for maximum temperature adjustment. Lavatory faucet shroud of high-impact ABS for long life and corrosion resistance.

Centura (A) bath/shower control available in 24-carat gold electroplate or chromium. (B) push-pull lavatory faucet available in 24-carat gold electroplate or chromium. (C) single-lever sink faucet in chromium.

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“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.”


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 Yamashiki 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 creed of modern architecture is being challenged. Dogmas 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.
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...
Double-height gallery with sonotube formed concrete columns.

View across Spruce Street toward south elevation and Memorial Towers.

Fire-stair/elevator tower.
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-
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-
Wharton Graduate Center
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 Ahmedabad 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 of 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]
Data

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.
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 facade 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.
Student Union, State University College

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 formally 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

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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.
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 a music lounge (above middle), and in a 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]

Data

Project: Student Union, State University College at Plattsburgh, N.Y.
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 Assoc., mechanical; Weidlinger Assoc., structural.
Client: State University Construction Fund, Albany, N.Y.
Costs: $3,864,000, $42.60 per sq ft.
Photography: John Veitri, 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.
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 buildings, 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...
Informal living/dining area under the stair (above)

Looking out toward pool from under the stair (above)

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)
Burns house

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.
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 impor­
tant 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 ex­
tended 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 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,  win­
dows 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 Vin­
cent 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 hand­
tul of books, a library, a few pictures, a collection. Every­
where 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 su­
perbly crafted baroque organ from West Germany mag­
nificently 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 con­
fronting each other in a Hapsburgian cigar-and-brandy inti­
macy 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 splen­
dors 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 grandeuse 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 re­
sponds to very real needs for places that contain the di­
verse and often contradictory experiences which we, as
humans beings, embody. Richly detailed, personal, idio­
syncratic in marvelous and appropriate ways, the Burns
house is cosmopolitan in the best meaning of the word.
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.

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.
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-
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.

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

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 hard-fought 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 asymmetrically 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

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.
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 aluminum roofing; interior, gypsum board walls, pine floors.
Costs: 830,000 ($22.50/ sq ft)—does not include land, septic system, well or site improvements.
Photography: Lester Walker, except p. 85, bottom, Bob Stoller.
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 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 rebutts 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.
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 pretensions. 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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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 ensure 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.
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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 facade 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 face-lift 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
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 possession.

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-
Technics: Elevator operations

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 electromagnetic 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 reallocated 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 reallocated to accommodate new call.
10. Should calls be reallocated to cars that will reach destination quickest.
11. Reallocation of calls to a detained car, to maintain optimum time schedule.

12. Realotts 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: overtavel, 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.
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 filament 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 earned 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
Entire process is extremely dangerous as passengers must cross the platforms, and the passengers are assisted to.

Building owners and managers, police, fire, and building departments, and architects have continually sought instructions on passenger removal from stalled elevators. For elevator power could have been fatal in such essential services as hospital elevators.

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]

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


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 involved. 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 3583). 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, unhindered by possible concealment, delay or unintended guidance 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**

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. 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-
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Circle No. 357, on Reader Service Card.
Books continued from page 112

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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Library system. Pinwheel carrel is constructed of solid red oak and color-plastic laminate panels. Slab ends of each component provide design continuity. System includes all the standard items and is available in alternate materials. John Adden Furniture.

Circle 101 on reader service card

And urn/waste receptacle that also serves as an umbrella stand. Of ABS plastic in white, brown, red, or green, white trim with ash receptacle of inflammable white melamine. Size: 5½" x 9½" x 24" in height. Hank Newenstein, Inc.

Circle 102 on reader service card

Aiming for solar energy collectors is a .004-in.-thick which transmits to 94 percent of total incident solar energy. The film can be heat sealed, shrink wrapped, and bonded by adhesives, states maker. Tensile strength is approx. 12,000 psi. Du Pont Co.

Circle 103 on reader service card

Table group. Two-tiered, steel-framed tables are available with glass tops, marble or wood base shelves and arms in 17 sizes including sculpture display pedestals and console tables. Custom sizes may also be specified. Jlikon Furniture Co., Inc.

Circle 104 on reader service card

Indalproof lighting. Engineered to withstand attack from virtually any weapon, the wall-mounted unit has unbreatable Herculex diffuser and is suitable for indoor or outdoor use, according to manufacturer. Kenall Manufacturing Co.

Circle 105 on reader service card

Exterior blinds are said to result in 85 percent reduction of solar heat gains in both old and new buildings. They are made of corrosion resistant aluminum alloy and finished with nonchip coating of baked enamel to be impervious to sun, glare, heat, cold, rain, and wind. Can be opened by individual window control or by automatic system activated by sun and wind velocity sensors. Applications include office buildings, hospitals, nursing homes, schools. Swin Blinds.

Circle 106 on reader service card

Wall coating. A polyacrylic maturing for solar energy collectors is a polyacrylic maturing. Durasurf forms a nonporous stone-like surface over concrete, cinder block, and other types of raw masonry blocks, according to maker, and characteristics include fast-drying properties, smooth, hard finish, resistance to staining, and ease of maintenance. Available in 24 colors. Rohm and Haas Co.

Circle 107 on reader service card

Traffic door for use with walk-ins uses bump-open/self-closing hardware. Features include rubber door shields and rubber flap seals for top and bottom bearings. Meets USDA, MID standards for sanitation and OSHA for safety and quietness. RubbAir Door Division.

Circle 108 on reader service card

Fabrics. Woollens, cottons, damasks and vinyls, in plains, plaids, or hand-screened prints are available in a collection by Scalamandre.

Circle 109 on reader service card

[continued on page 118]
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Office Systems Division, Dept. 677-045
140 West 51st Street
New York, N.Y. 10020

Gentlemen: Besides wanting to Rediscover Diazo, I’d like to know more about your new GAF® 185. FL Diazoprinter.

Please have a salesman call me for a demonstration.

Send brochure

NAME
TITLE
COMPANY
ADDRESS
CITY
STATE
ZIP
PHONE (AREA CODE)
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.
Circle 110 on reader service card

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 1/8 in. to 8 3/8 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.
Circle 113 on reader service card

Specular parabolic louvers. Each wall of each 1 1/2" x 1 1/2" 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 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.
Circle 116 on reader service card

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.
Circle 117 on reader service card

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]
TCS AND THE VISUALLY SIGNIFICANT ROOF

TCS is stainless steel coated on both sides with a terne alloy of 80% lead and 20% tin.

TCS has no equal among standard architectural metals in resistance to atmospheric corrosion.

TCS solders perfectly without the need for expensive pre-tinning, acid fluxes or neutralizing agents.

TCS weathers naturally to a uniform dark gray and does not stain.

TCS provides galvanic built-in safeguards against failure which no competitive product can match.

TCS is reasonably priced and requires no maintenance.

FOLLANSBEE
FOLLANSBEE STEEL CORPORATION
FOLLANSBEE, WEST VIRGINIA
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. Circle 204 on reader service card

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

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. Circle 208 on reader service card

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 Specialties, 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. Circle 213 on reader service card

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 non-structural 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. Circle 215 on reader service card
STEEL JOISTS
USED IN
NEW FLORIDA
CONDOMINIUM

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. Planned and constructed by I. Z. Mann & Associates, Inc., they are located in an attractive setting in the beautiful Longboat Key area. Overall economy, plus the speed of erection for floor and roof support made steel joists the structural answer to this building need. The lighter total dead load also permitted savings in foundation construction costs in the sandy soil.

Learn more about the benefits of open web steel joists. Send coupon today.
Lime Crest Roofing Spar

saves energy for

Hampton Township!

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

How? By reducing the air conditioning load in this new Marion E. McKeown Elementary School. So much so that our marble aggregate has already been specified for the roof of their new regional high school. Lime Crest Roofing Spar, with its high reflectivity, increases the effectiveness of roof insulation. It also resists weather and corrosion, defies dirt and smoke, stays bright indefinitely. What's more, Lime Crest Roofing Spar often costs less than other white aggregates, in some areas even less than slag! Let us send you a sample, so you can see for yourself.

Lime Crest Roofing Spar
Limestone Products Corporation of America
Newton, New Jersey 07860

Building materials

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


[continued on page 124]
ALUMINIZED VS. GALVANIZED FENCING. THE DIFFERENCE SHOWED UP IN 192 HOURS.

We say Page® aluminized chain link fence fabric will last 3 to 5 times longer than the best of galvanized. Here’s proof:

In an accelerated salt spray test conducted by the Pittsburgh Testing Laboratory, galvanized fabric began to rust in 192 hours. With Page aluminized fabric, initial rust set in after 816 hours.

<table>
<thead>
<tr>
<th>Type of Fabric</th>
<th>Coating Weight oz. per sq. ft.</th>
<th>Hours to Initial Rust</th>
<th>Hours to 50% Rust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Galvanized</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>after weaving</td>
<td>1.45</td>
<td>192</td>
<td>360</td>
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<tr>
<td></td>
<td>1.86</td>
<td>192</td>
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<td></td>
<td>3.82</td>
<td>192</td>
<td>336</td>
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<tr>
<td>Acco Aluminized</td>
<td></td>
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<tr>
<td></td>
<td>0.48</td>
<td>1,920</td>
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<td></td>
<td>0.52</td>
<td>816</td>
<td>10,986</td>
</tr>
</tbody>
</table>

But longer life is only one benefit of Page aluminized fabric. It’s easier to erect. It requires virtually no maintenance. It has the strength of steel. And the aluminized coating actually “heals” itself when damaged.

FREE SPEC KIT. Send for it and save design time. Packed with data, drawings, the complete salt spray test report and work sheets. Write Page Fence Division of Acco, First and River Sts., Monessen, Pa. 15062.

Page Fence Division
Circle No. 320, on Reader Service Card
Renovation can mean Transformation to income-producing space!

Renovate with Style...with Vicrtex® VINYL WALLCOVERINGS

Show your clients just what can be done, now, for lagging occupancy. You can create fresh interiors that will attract new tenants.

Older buildings benefit especially from Vicrtex: structural flaws can be minimized or even eliminated, and wall irregularities covered—beautifully!

- Over 85 original Vicrtex patterns, thousands of colors
- The industry's only 5-year guarantee
- Superior impact-scuffing resistance
- "Protective Barrier" fights soil, cleans with soap & water
- Class "A," fire rating
- Mildew resistant

Get the new Vicrtex guide, VINYL WALLCOVERINGS—QUESTIONS & ANSWERS

Phone or write for your copy, today!

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Bldg. mat'ls cont'd from page 122


Progressive Architecture

New addresses


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 Hwy., 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.


Charles Nolan, Jr., Joel Stout, and Sam Pool have formed Nolan, Stout, Pool, PA, AIA in Alamogordo, N.M.
If you're doing a bank job, you can create your own specifications for the carpet you want. And we can make it for you.

However, we have another suggestion. Why not specify carpeting that's already proven it can take the hard use (not to mention abuse) bank customers deal out. Carpet that's repeatedly demonstrated it can take a beating year after year after year.

Bigelow has that kind of proven in actual bank use carpeting ready for you in a wide selection of styles and patterns. Carpet that is the result of research and development combined with the realistic experience gained in hundreds of bank installations.

And speaking of experience, what better proof than the fact that Bigelow is now celebrating their 150th Birthday. From 1825-1975, Bigelow—America’s most experienced carpet maker. We can give you the best advice, the best in everything to do with carpets because we've been doing it longer and doing it better than anyone else.
IT FITS

VOLLRATH WALK-IN COOLER/FREEZER

Name your dimensions and we'll provide a modular walk-in that fits ... exactly. We use true, full-size dimensions, not nominals, making your specification work easier. Means more storage space, too. To insure a perfect fit, all components are factory tested. Vollrath walk-ins are fabricated in accordance with N.S.F. and U.L. standards, using the latest technology: foamed-in-place urethane insulation, posi-loc assembly, fully coved floors and ceilings, tight energy-saving joints and doors. Wide choice of options, finishes, self-contained or remote refrigeration systems to fit your needs and requirements.

Ask your Vollrath equipment specialist for details, or send for our comprehensive design/specification manual.

AllianceWall pens
Won't write dirty words!

You can't write a dirty word with AllianceWall's new Rite-On, Wipe-Off System. Specially-treated porcelain-on-steel writing boards and dry-marker pens create a COMPLETELY DUST-LESS SYSTEM. Write clean ... erase clean. Floor-to-ceiling length panels double as a wall covering and projection screen. Choose from 50 beautiful decorator colors. Perfect for all type business offices: sales, advertising, production, and conference rooms. No dirty words. No dirty walls with AllianceWall Rite-On, Wipe-Off System. Write:

AllianceWall
CORPORATION
WYNCOSE, PA. 19095

Manufacturing plants in Alliance, Ohio; Okmulgee, Oklahoma; Genk, Belgium and Odense, Denmark.

Circle No. 322, on Reader Service Card

Please send me the
commercial carpet
catalog

The complete Welico line of commercial carpets, over 30 running lines. Exceptional quality in every price range from ground floor to executive suite. Options offered include most commercial fibers, custom colors, weights, construction and backings. Plus tech data on traffic ratings, FHA requirements, fiber characteristics, backings and more. Exacting specification guide. Address to: Don Thompson, Advertising Manager, Dept. P4

Welico carpet corporation

Circle No. 370, on Reader Service Card
An elegant store should look elegant.
Even when it's closed.

With a Cookson rolling grille, you can give a store good nighttime security without making it look like a freight elevator.

But don't get the wrong idea. Just because it's attractive, doesn't mean our grille is flimsy. Quite the contrary. Once the grille is closed, it locks automatically and can't be forced open. Thanks to our new, exclusive locking device, which can't be reached or seen by a would-be vandal.

In fact, lots of Cookson strong points can't be seen. Like special bar-end caps that prevent jamming. Inserts that eliminate metal-to-metal contact. The easily adjustable counterbalance mechanism for smoother operation. Little things that add up to make a Cookson grille a lot better.

Cookson rolling grilles can be steel, aluminum or stainless steel. Vertical or side-coiling. With push-up, chain, crank or motor operation.

And they're available in a range of patterns, colors and finishes. All of which make them very attractive rolling grilles.

Just the thing to keep an elegant store elegant. All night long.

For full information on our rolling grilles, doors and counter doors, write for our 1975 catalog to:

The Cookson Company,
700 Pennsylvania Avenue, San Francisco, California 94107.

Cookson Rolling Doors
Best way to close an opening.
Now you can get a structural gasket glazing system with the appearance you want without the problems you don't want.

The glazing system is Tremco's WEJ-Grip®. It gives an architecturally attractive, clean line appearance with a narrow sight line, as well as proven trouble-free performance. By applying our years of experience in window systems, we've eliminated some typical structural gasketing problems. And we'll be happy to work with you while you're in the design and specification stage. Then, we'll gladly work with your contractor to show him how easy it is to install Tremco WEJ-Grip.
Fast and easy to install.
The WEJ-Grip system has several features that will help your glazing contractors save installation time, labor and expenses.
Take straight-in glazing, for example. Unlike most gasketing systems, the WEJ-Grip system permits lights of glass to be positioned easily and safely. There is little chance of chipping glass edges or cutting gasketing. And there is no need to seam edges, a real asset for high-performance glass.
What's more, WEJ-Grip can be installed in the coldest temperatures. Cold weather installations have been successfully completed even in Alaska. This means buildings can be closed in quickly, year round.
Because WEJ-Grip is glazed from the inside, glazing contractors don't have to use costly scaffolding. And if glass ever has to be replaced, WEJ-Grip will simplify the job.
Proven high performance.
Tremco WEJ-Grip meets all the design criteria of structural gasket systems. It resists gasket rotation or roll-off. Allows for normal movement of panels or glass, including heat absorbing glass. It cushions glass and helps prevent breakage caused by normal building movement, seismic shock or sonic vibrations.
To prevent problems at the critical corner areas, WEJ-Grip offers patented, pre-fabricated reinforced corners that will outperform most injection molded-type corners.
WEJ-Grip is basically a two-piece system consisting of a gasket and locking wedge. They are extruded from ozone-resistant, 100% virgin neoprene.
After being subjected to dynamic and static tests, the tests show that WEJ-Grip meets or exceeds the NAAMM performance requirements for water infiltration and structural performance for design loads of at least 40 P.S.F.
Backed by Tremco service.
We recommend a mock-up of a typical frame opening prior to job installation and will provide sufficient production gasket for the mock-up prior to full production of your job. Just call Tremco for help to develop the mock-up, confirm proper sizes and, when you're ready for installation, he'll be on hand to instruct glaziers.
Whether you're designing for gaskets, wet glazing or a combination of the best in wet and dry, Tremco has a system for you. For over 45 years, our business has been solving these problems and providing top-quality leakproof systems and products, such as our job-proven sealants MONO®, DYmeric® and Lasto-Meric®, liquid polymer Tremproof® waterproofing and our Tremline™ roof edging system. Tremco, 10701 Shaker Blvd., Cleveland, Ohio 44104.
Tremco (Canada) Ltd., Toronto, Ont. M4H 1G7.
Situations open

Architectural Draftsman: Established central Illinois firm has long term employment opportunity for experienced draftsman capable in all project phases with emphasis on construction documents. Advancement potential to project manager excellent. Experience mandatory. Send resume. Reply in confidence. Reply to Box #1361-803, Progressive Architecture.

Construction Management: Assistant professor of Construction Management, Fall 1975. Must have degree in Construction, Architecture or Engineering plus solid experience in building construction. Advanced degree or license desirable. Experience required in mechanical-electrical services for buildings; preparation of working drawings for plumbing, heating and electricity for buildings; architectural specifications; and materials and methods of construction. Base salary $11,500-$12,000 (plus fringe benefits) for 10-month academic year. Send resume, names and addresses of two references to Professor Raymond Simon, Chairman, Division of Business Administration, Utica College of Syracuse University, Utica, N.Y. 13502. An Equal Opportunity/Affirmative Action Employer.

Faculty Position Open for September 1975: Architect wanted to teach at first or second year levels in five year B. Arch. curriculum. Minimum requirements: M. Arch. degree and two years teaching experience. Professional experience desired. Salary and rank commensurate with qualifications. Send resume and three letters of reference to: John H. Spencer, Chairman, Department of Architecture, Hampton Institute, Hampton, Va. 23668. Hampton Institute is an Equal Opportunity Employer.


Situations wanted

Architect: A.I.A., B. Arch., NCARB; 24 years comprehensive experience with heavy background in Industrial facilities. Multiple licenses. Private practice of 8 years. Seeks position with corporate entity, government body or educational institution. Resume available. Reply to Box #1361-804, Progressive Architecture.

Architect: M. Arch., MBA, NCARB, 15 years of experience in design, contract documents, administration and construction management in institutional, commercial and residential projects, desires association with partnership potential, with progressive architectural, engineering, or developer firm. Prefers west coast location. Will consider other locations and proposals. Reply to Box #1361-805, Progressive Architecture.

Architect: B. Arch., NCARB, registered, licensed in Connecticut; 12 years extensive experience in design, production, coordination, specification, shop drawings and project management. Seeking position with developers/engines/architects. Location open. Call or write: Patels, 139 West Walk, West Haven, Ct., 06516, (203) 933-4844.

Architect: 35, B. Arch., Mass. registration with 10 years diversified experience including Project Architect responsible for all phases from program development with clients through design to completion of construction. Seeking responsible position in a quality design Architectural office in central west coast Florida or the Midwest. Reply to Box #1361-807, Progressive Architecture.

Architectural Drafting: M. Arch. . . . University of Michigan, Apr. ’75, plus 2 years drafting experience in small mid-west office (mainly schools) seeks architectural drafting position. No location preference. Study program included professional co-op training. Resume, recommendations and portfolio available on request. Contact: Richard Wedge, 2825 Country Club Drive, Port Huron, Michigan (313) 982-1660.

Graduate Architect/Health Planner: M. Arch. health facility design & programming, M.P.H. health services & administration, 12 years diversified experience, commercial-industrial-residential, 2 years specialization health care system planning and analysis. Will relocate in U.S. or abroad. Contact: Dan Burbine, 4336 Lafayette, Houston, Texas 77401.

HVAC Engineer: P.E. seeks to affiliate or represent architect, engineer, contractor or manufacturer. Will relocate. Reply to Box #1361-810, Progressive Architecture.

Registered Architect/Planner: 37, seeks responsible and challenging design oriented position at senior level with progressive A/E or design-build firm. Over ten years diversified experience including urban transportation planning with high quality architectural and engineering offices in New York City. Metropolitan New York or lower Connecticut area location preferred. Reply to Box #1361-776, Progressive Architecture.

Urban Planner/Architect: 36, B. Arch., Registered, M.C.P., A.I.P., with strong urban planning credentials wishes to head planning department of established firm or act as consultant on a project basis. Geography no barrier. Reply to Box #1361-808, Progressive Architecture.

Architectural services

Architectural Firm: Registered architect desirous of purchasing going architectural firm in New York area or surrounding suburbs. Replies held in strict confidence. Reply to Box #1361-909, Progressive Architecture.

Architectural Partnership: Award winning office in N.Y.C. involved with housing, urban design, and general practice seeks partner who is currently self sufficient for business