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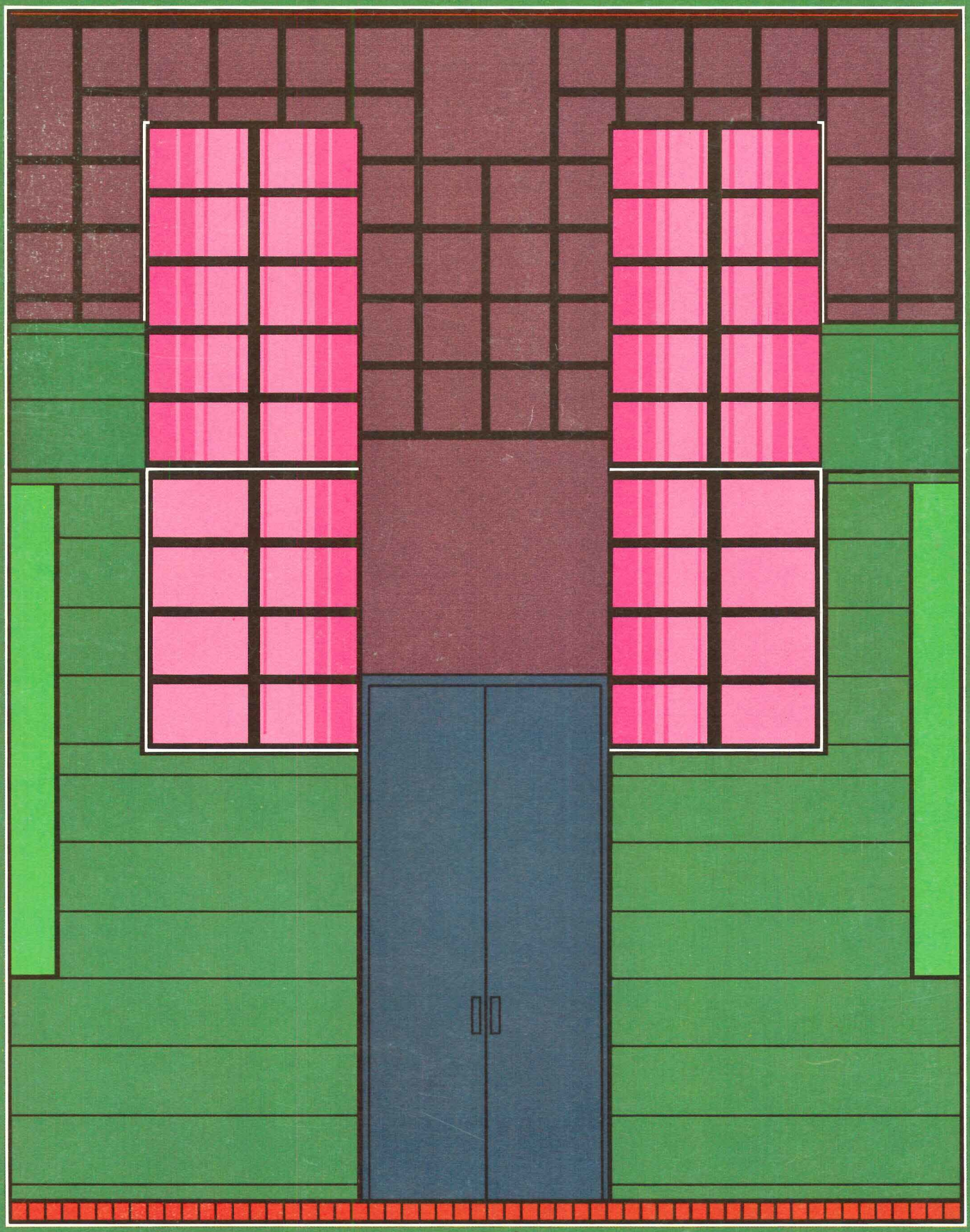

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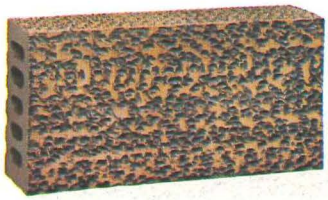

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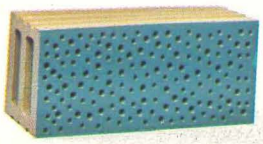

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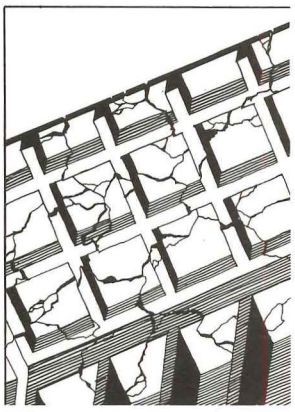
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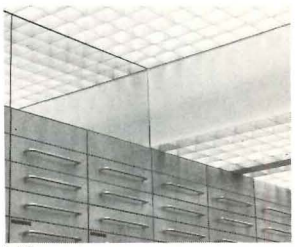
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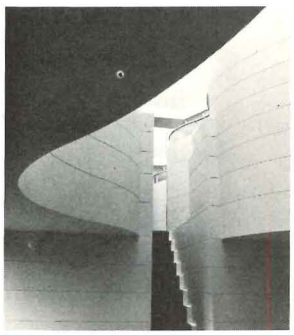
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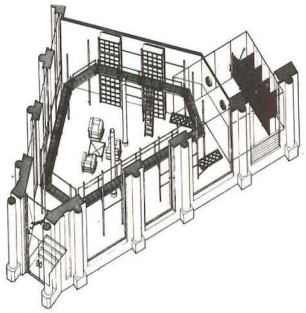
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Cover: *An abstraction of Hiroshi Hara's Shokyodo Museum. Design by Marc Treib, commissioned by P/A.*

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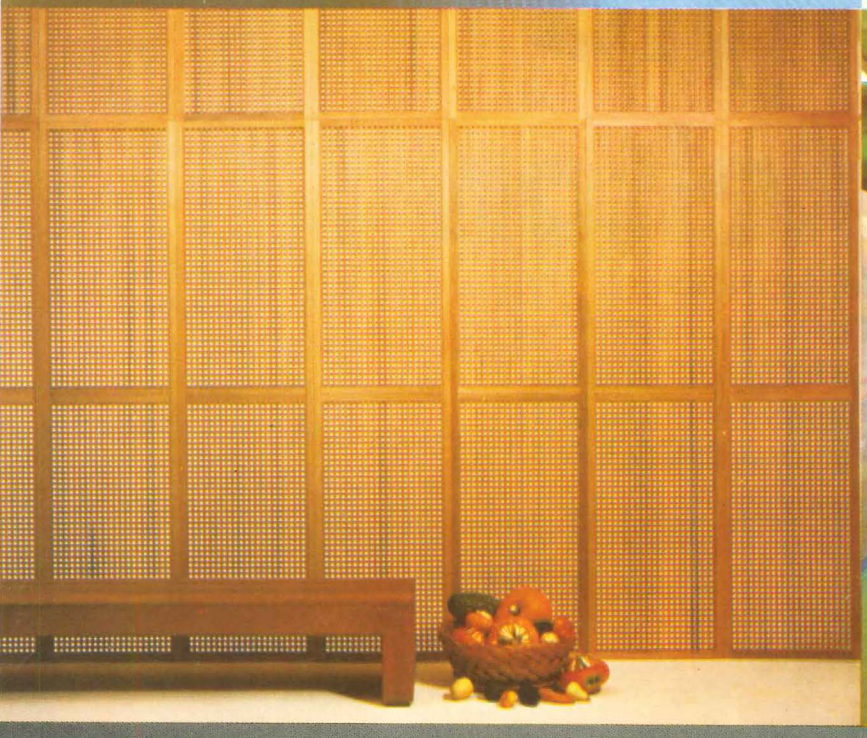
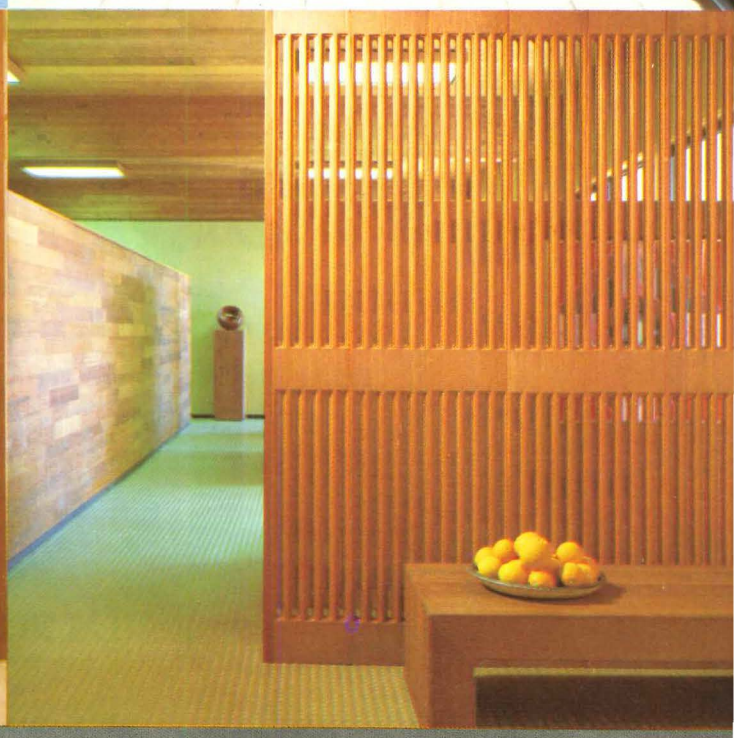




forms+surfaces

Exploring abroad with *Pencil Points*

Back in the 1930s, under its original name, this magazine published a perceptive series on European design by a student commentator, George Nelson.

We believe that it is important to understand why architecture in Europe is taking the forms that it is, for with understanding the American practitioner can profit from the good and reject the bad, avoiding the unintelligent copying of mannerisms that is unfortunately sometimes done for the sake of being "smart."

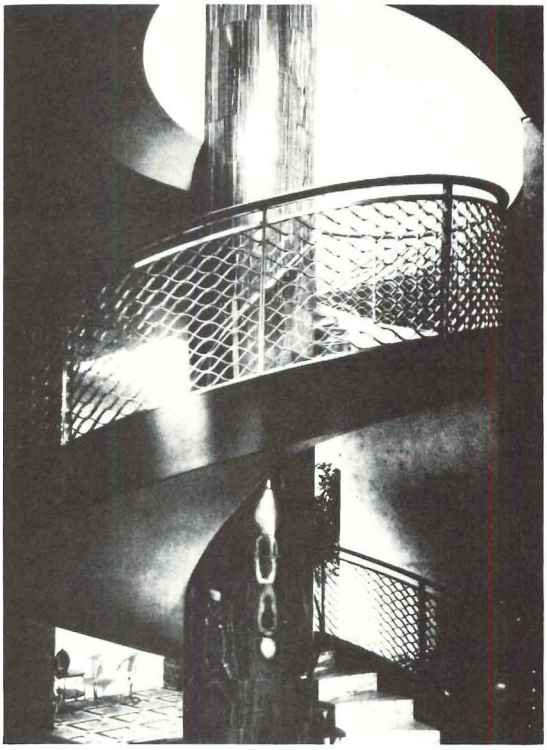
With these words of severe caution, *Pencil Points* introduced one of a series of 12 articles published in 1935 and 1936 by George Nelson, then a Fellow of the American Academy in Rome—a professional about to embark on a career of writing, architecture, and industrial design for which he is now internationally known. Apparently, the intent was as much to guard American readers against the contagious influence of European Modernists as to inform them—or at least the editors appeased devotees of its portfolios of Georgian details by suggesting as much.

In case readers were too readily seduced, Nelson articles were generally followed by the vituperative attacks of the elderly H. Van Buren Magonigle on the evils of Modernism, delivered mainly in biting words. Nelson devoted most of his six- to eight-page allotments to photos that look enticing even today, accompanied by reports on interviews with the architects, which make intriguing reading today.

His report on Mies, then 49 years old and still in Germany, skillfully depicts his reticence and near motionlessness, paradoxically combined with a fierce temper and the force of will to have newly designed steel chairs manufactured and in place within an incredible four days. There was also his apparent indifference to politics, which left him at that time "the only one among Germany's great modern architects who has anything like a sure position in the country at this time."

Gropius, when interviewed, was already in England. "Whether Gropius' future work will be done in England or Germany is a matter of conjecture," reported Nelson. The article summarizes Gropius' career to that date and stresses with some foresight his importance as a teacher over his example as an architect. "Through the Bauhaus he has had the greatest influence of any living artist, with the possible exception of Le Corbusier"—a rather provocative assertion for 1935.

As for Le Corbusier, Nelson found him a most engaging and voluble subject, once his Swiss reserve had been softened by the atmosphere of the Italian café where they met—and some beer. He talked mainly of practical things—of communal dwellings vs scattered houses, of top-lighted exhibition spaces, of air conditioning. This installment is illustrated not with photos, but with Corbu's on-the-spot sketches from the café.



Stairs by Helweg-Moeller, Pencil Points.

Of considerable interest, of course, is which architects Nelson reported on, in addition to these three who seem, in retrospect, virtually inevitable. They were Marcello Piacentini, Gio Ponti, and Giuseppe Vaccaro of Italy, Eugene Beaudouin of France, the brothers Luckhardt of Germany, Raymond McGrath and the Tecton partners of England, Helweg-Moeller of Denmark, and Ivar Tengbom of Sweden. Absent were Alvar Aalto and the Dutch Modernists, among others. Given the economic and political upheavals even then taking place in Europe, the choices and comments of Nelson seem remarkably valid 45 years later.

In casting our net around the world for this 1980 issue on interiors, we have not sought, as Nelson did, to identify the most influential figures. But we have sought to raise our readers' consciousness, as he did, of promising design approaches that may be better represented outside the United States than inside. It should go without saying that our readers are not expected to copy any of the design devices presented here, merely for the sake of seeming "smart."

John Morris Dixon











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Views

Delighted
Just read your July editorial. Bulls-eye!
J. Bruce Spencer
Rentscher Haynes Spencer Richards
Miami, Fl

Beauty is not skin deep
In recent issues I have read a criticism of Doug Kelbaugh's recent work (P/A, April 1980, p. 162) and the reply made in the July issue by Mr. Kelbaugh. I have to reinforce Mr. Kelbaugh's criticism of Nory Miller's article, for I believe he is doing a great deal for the future of architecture. I perceive the criticism of Mr. Kelbaugh as necessary to emulate the inherent problems with our current "formal vocabulary" and its respect to the environment. As one deeply concerned with environmental issues and searching for appropriate responses to existing conditions, I must join Doug in questioning the logic of our present-day formalisms.

By responding to the machine, Modern architecture left human needs and history behind. In reaction to Modern architecture, Post-Modernism neglects the most important elements of history and retains only the formal aesthetic vocabulary as its foundation of thought. This single gesture precludes the issues of "commodity" and "firmness" for the sake of pure "delight." Even with my brief experience with architectural history, I know that the architecture of the past was a response to the conditions of the time, and the personages whose work we emulate with our Post-Modernistic tributes dealt with their age and the needs of their age . . . the architecture was responsible. In our anachronistic forays we are manipulating the classical orders in metaphorical disorder and calling it "art." Worse yet, we are neglecting the essential elements of architecture: environment, structure, and technology; merely adding a "skin" to Modernistic bones and "jazzing it up" with high-tech "schmaltz." (Please excuse the jargon, but it is what we are being taught in the schools.) Essentially, our "architecture," if you will, is missing the essential stuff that any architecture, of any period, is made of . . . it is lacking in spirit. We have lived through the brunt of the machine age, our architecture reflecting society's attitude of dominance of the natural environment. As Post-Modernism shows, we are now searching for something different.

The intentions of some Post-Modernistic thought are based upon sincere desires to understand the architecture of the past, and to bring its human qualities to an architecture often devoid of anything remotely identifiable as human in detail or scale. Yet for all of its success in those areas, it still fails miserably as "the sign of the times" that architecture should and must be.

I for one believe that it is necessary to understand the environmental, political, and economic structures of the ages that produced the architecture that we now so fervently wish to call our own. As visual people, architects tend to see the beauty of ancient ruins and neglect the conditions which led to their reaching that state. The orders of the ancient Greeks and Romans are the substance of Post-Modernist thought, and as such reflect our ignorance of the fate of those civilizations. Contributing to the fall of Rome and Athens were severe ecological disasters: pollution and deforestation resulting in the loss of wood resources and erosion of crop land. Essentially they had an energy crisis and were unable to overcome it. This is the real lesson to be learned from our past.

Our built environment and thus our architecture must be responsive to the ways of nature, it must be energy-efficient, and it must fit more closely into the cycles of the ecosphere. This is the challenge of today, it is the architecture that our environment is demanding.

As we seem to be caught in the tradition of classifying architectural periods, "Post-Modern" just will not do for ours. As Doug Kelbaugh has said, "this new architecture needs a clear and compelling name."

But I sincerely wonder if a new banner is enough, for what we really need is an ideal . . . an ideal that will bring our architecture to respond to today's needs. If we can do this, then future generations will be able to say, "that is truly beautiful."
Richard Lee Hawksley
Graduate Student of Architecture
Kent State University
Kent, Oh
[Granted we really need an ideal, but the right ones don't necessarily emerge when you need them. As crucial as ecological sensitivity may be, we cannot expect that to form the basis for an architecture. There must be some seemingly irrational component involving imagery, which is implicitly recognized in work such as Kelbaugh's (P/A, April 1980, p. 162). The architecture that accommodates these needs—and undoubtedly others—is not apparently at hand.—Editors]

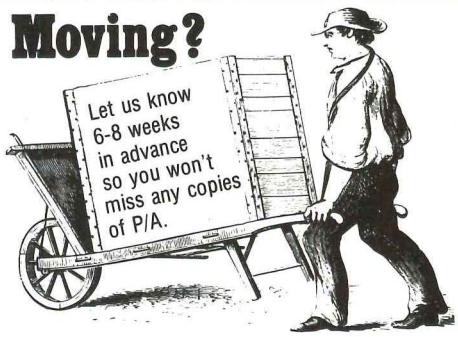
Small accomplishments?
A fire station that looks like a sewage treatment plant (Olean Fire Station, P/A, July 1980) and a sewage treatment plant that looks like a fire station (Quail Valley Municipal Bldg., P/A, July 1980)? Perhaps our "post" mortem on Modernism was premature. In a determined Miesian fashion we have rethreaded its basic premise; a chapel can look like a boiler house.
Faye Sarde
Providence, RI

Credit extended
We would like to bring to your attention that several people participated in our Chicago Tribune entry (Stuart Cohen's June issue article), including Armando Montero and Jose Bon, whose skill in rendering was essential to the expression of our idea.
Elizabeth Plater-Zyberk
Andres Duany and Elizabeth Plater-Zyberk
Architects
Coconut Grove, Fl

Corrections
The name of Marshall S. Cogan was misspelled in the July issue of P/A. We regret that the error was not discovered before publication.

The role of Edwin D. Ettinger in the Florida Festival project (P/A, June 1980, p. 114) was that of conceptual planner.

Moving?



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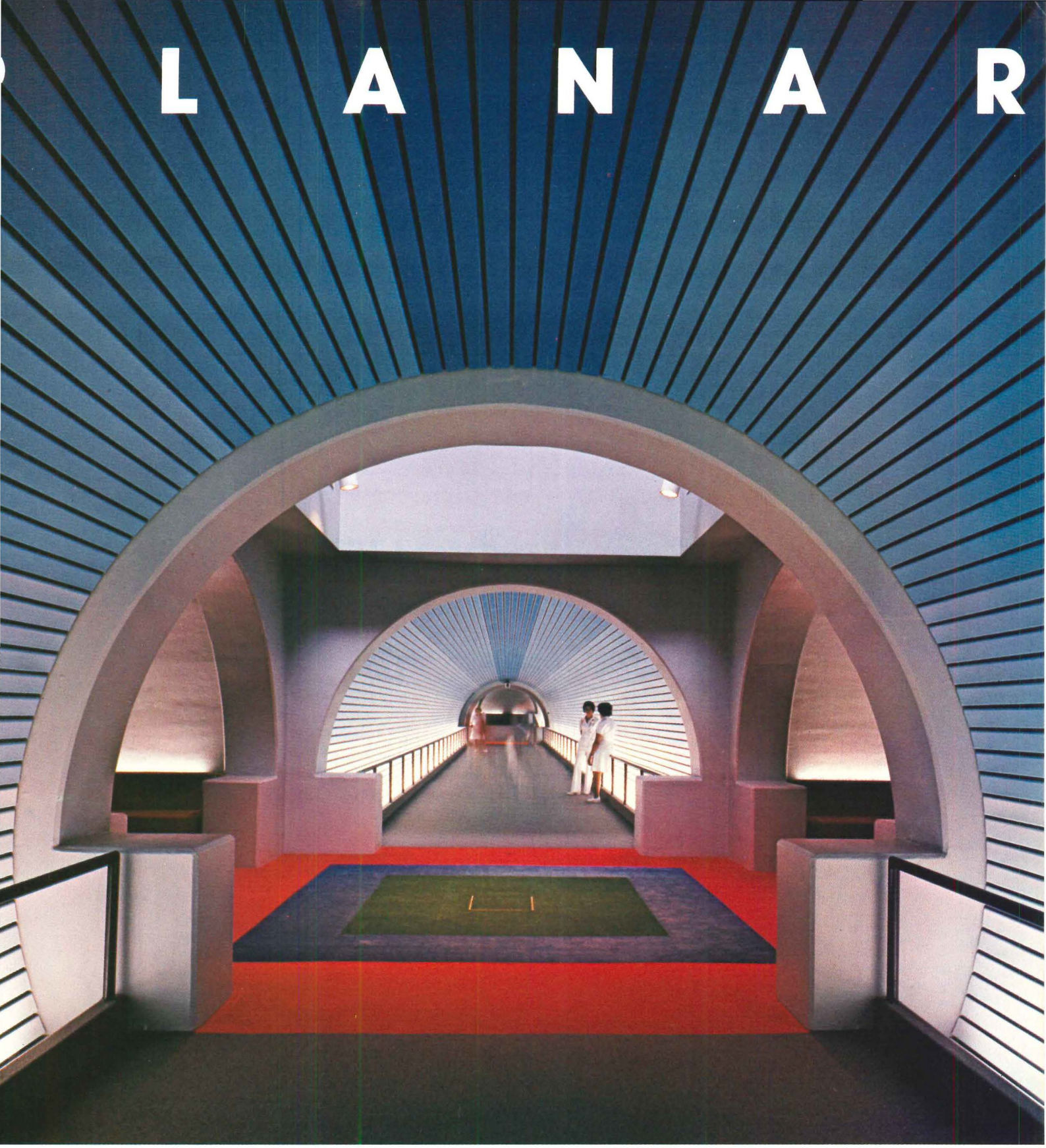

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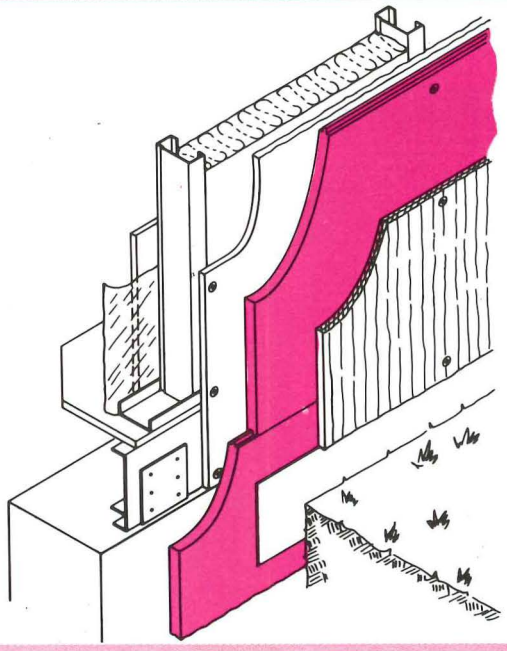

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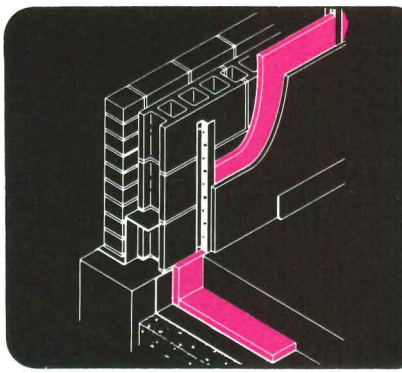

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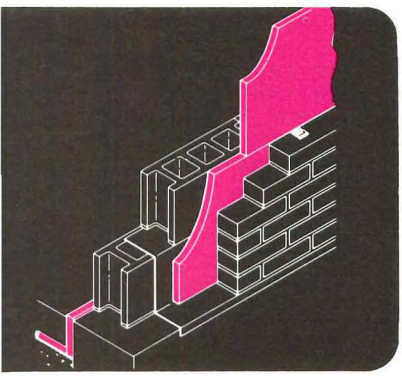

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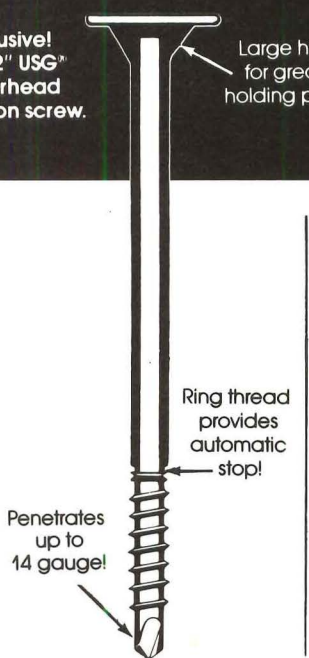

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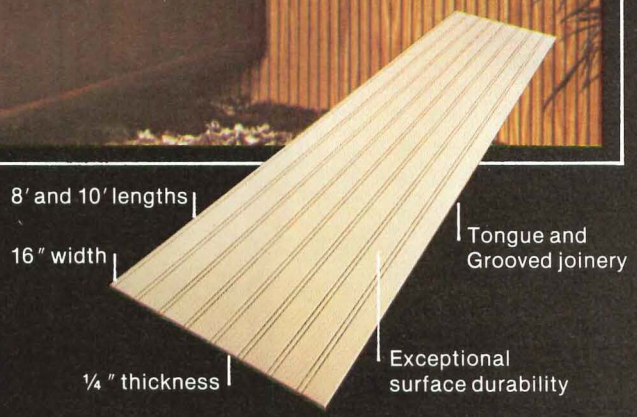

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BIFMA Member

How do you make a conventional steel-framed building unconventional?

The Riviere du Loup Building, Greenwich, Conn., offers one solution—in steel.

Architects Johnson/Burgee achieved the desired esthetics this three-level structure by in ducing a concave facade to wh otherwise would have been a routine rectangular office build ing. In the process, they satisf building code restrictions for b height and area.

Cost studies point to steel

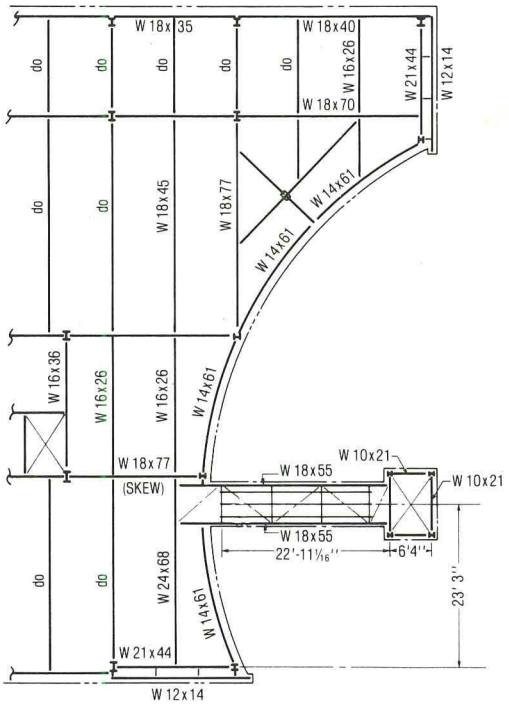
Both structural steel and rei forced concrete framing schem were investigated for the three story structure. Bethlehem's D trict Office Sales Engineer pro vided a quantity summary and cost estimate based on the stee framing scheme prepared by t consulting engineers, DeSimo +Chaplin & Associates.

Owner: Riviere du Loup Newsprint, Ltd., Greenwich, Conn.
Architect: Johnson/Burgee Architects, New York, N.Y. **Construction Manager:** Louis Lee, Inc., New Canaan, Conn.
Structural Engineer: DeSimone+Chaplin & Associates, New York, N.Y. **Fabricator and Erector:** Leake & Nelson Co., Bridgeport, Conn. **General Contractor:** The Atlas Construction Company, Stamford, Conn.
Bethlehem supplied most of the structural steel for the project.





teel-framed pedestrian bridge
ove) connects the free-standing
vator tower to the garage, ground,
third levels. The concave facade
:) emphasizes the entrance and
serves as much of the landscape
ossible.

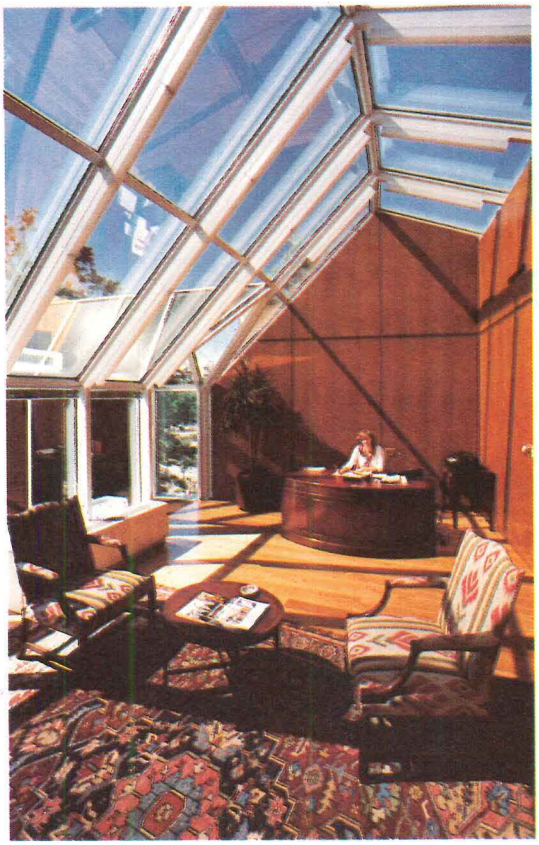


Framing plan for the third floor and pedestrian bridge to the elevator. The contractor reported, "Time was a key factor. We saved two to three months by selecting steel framing in lieu of concrete."

n the final evaluation made by
construction manager, Louis
e, Inc., structural steel proved
be the least expensive framing
thod. The engineers explained,
teel framing proved to be more
cient because we were able to
nimize the construction depth
the floors by using shallower
am depths."

e structural system

The structural system consists
a roof and the three steel-
med floors. The design is based
a nine-foot module. A
mped, underground garage
ovides parking for 60 cars.
The floor system is composed
a 2½-in. concrete topping
ured on a 2-in.-deep composite
el floor deck, supported on
uctural steel filler beams. Lat-
l loads are resisted by
bracing provided in the elevator
aft walls and in the stair walls
the building.
Two types of torsional consid-
ations are involved. First, the exterior face of the stone cladding on the north, west, and south faces is 2 ft. 3 in. outside of the column centerlines. Second, the curved edge beams at the east face are subjected to torsional loading.



Intersection of the pedestrian bridge and the third level.

On the curved face, the curved edge beams are restrained from excessive rotation by the use of additional supports. The spans of the curved beams are limited to 21 ft.

The stone cladding, interrupted by a glass panel at each level, is supported by a continuous lintel, hung from the floor above by hanger angles spaced at a maximum of 4 ft.

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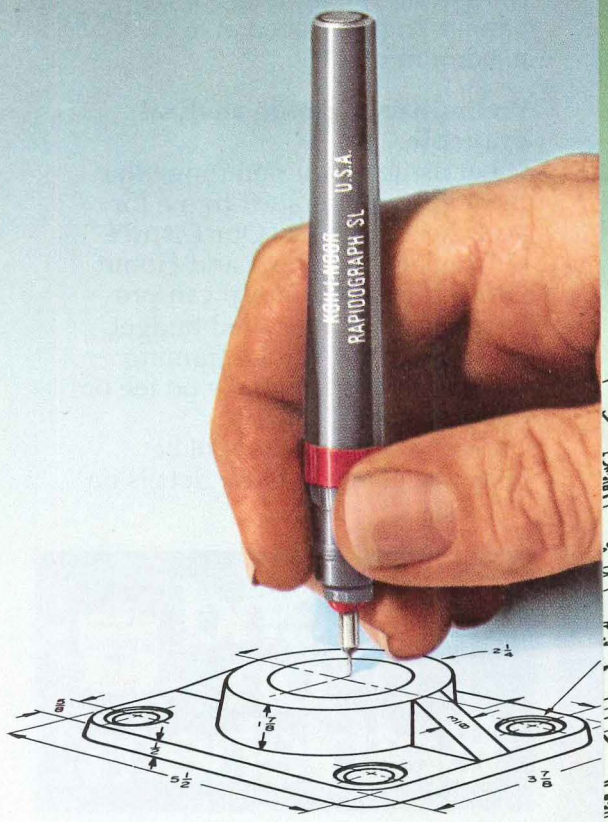

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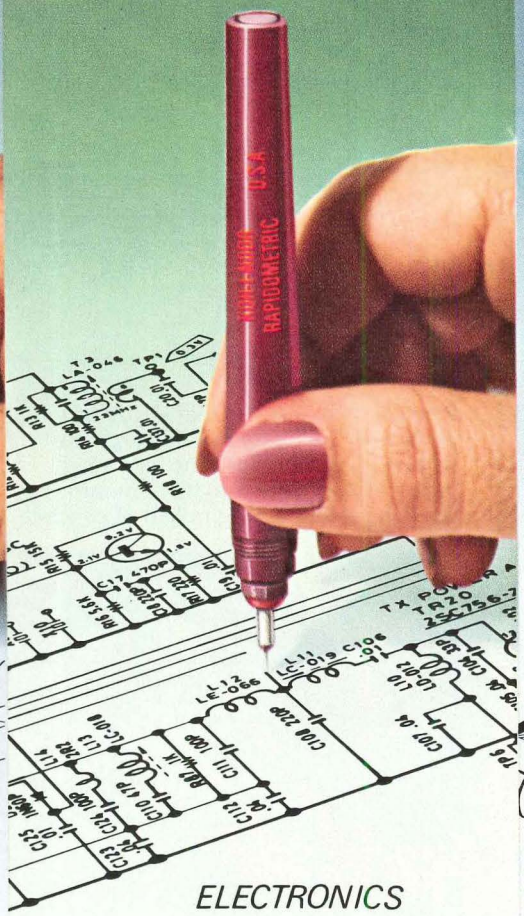

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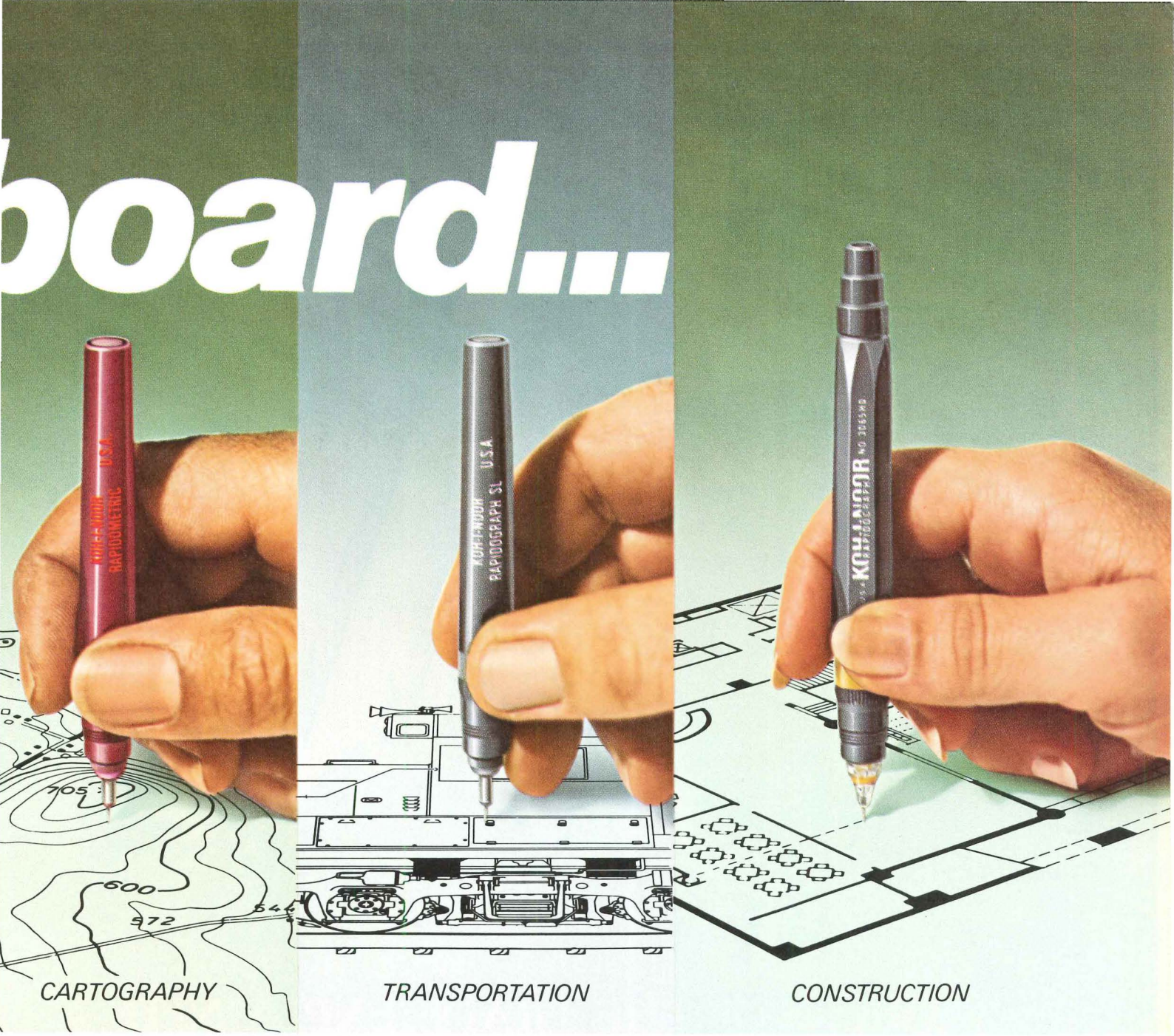

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P/A News report

ortland Square competi-on winner announced

n Portland, Or, on July 24, the jury for he Pioneer Courthouse Square Design ompetition premiated the only local am among the five finalists. Headed by illard K. Martin, the team comprised Douglas Macy, Lee Kelly, Terence 'Donnell, Spencer Gill, and Robert eynolds. The other finalists were isenman/Robertson; Geddes, Brecher, ualls, Cunningham; Lawrence Hal-rin and Charles Moore; and Ma-ado/Silvetti with Schwartz/Silver. This the second major civic competition eld in Portland this year (P/A, May 980, p. 25).

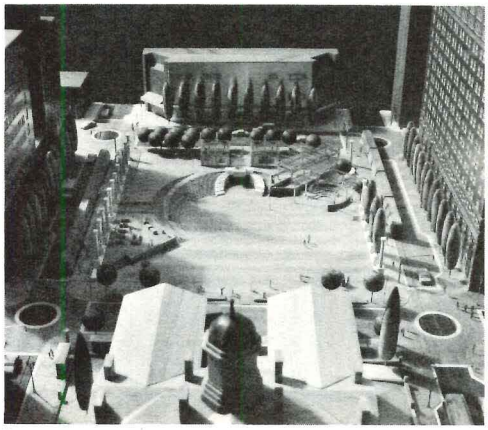
This key block was the site of the first ublic school, replaced in 1883 by the ortland Hotel designed by Stanford hite. In 1951 the grand hotel was re-aced by a graceless two-level parking arage. Since then the decorous Pioneer ourthouse has presided over this banal ructure that, because of the lack of pen space in the area, cried out to be a ublic square. Commitment to this goal ame in the late 1960s and contributed a retail renaissance in the 1970s that ontinues and is expected to accelerate hen the area's centerpiece is com-eted, as is now planned, in 1982.

After the first submission deadline in arch, 1980, the jury selected 10 out of e 162 entrants for interviews. Five nalists were chosen to submit designs July 3, based on the program ap-roved by the City Council and an April terview with the Professional Advisor, onald J. Stastney, and the jury. Jury embers were Pauline Anderson of the quare's Citizen Advisory Committee, umner Sharpe from the Square's De-gn Advisory Committee, John Rian epresenting the downtown community, eorge McMath, the Courthouse resto-tion architect, and M. Paul Friedberg om New York.

The program stated that the square ould have "a single, predominant oncept that will serve as a strong, posi-ve attractor to the downtown" by day nd night. The solution must mitigate wo negative environmental factors, a iny climate and street noise generated the transit mall on 5th Avenue.

Stressing spatial variety and flexibility, e program called for an unenclosed artial cover or shell for art/music/ rama, a public information center, and evenue-producing support facilities. A separate section declared a Citizen Advisory Committee recommendation for a "glass conservatory-type structure" for seasonal and permanent botanical exhibits.

Schemes from the diverse group of finalists ranged from a highly picturesque, insular composition of a water garden, a clock tower, an arcade, and a multiuse structure that created a crescendo of forms at one corner, by Halprin and Moore, to the winning scheme, a terraced open space lightly encumbered by a series of low, glazed pavilions. In between were more strongly geometric solutions that tightly organized the space either with a grid, as in the Eisenman/Robertson and the Machado/Silvetti/Schwartz/Silver schemes, or a trellised arcade, as in the GBQC scheme. All of these took seriously the program recommendation



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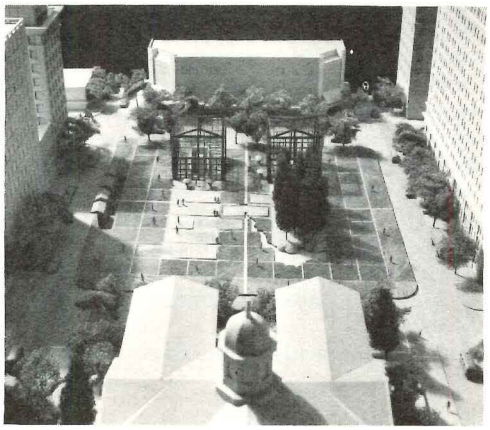

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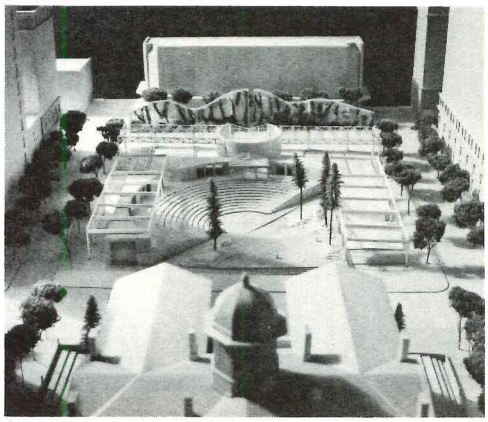

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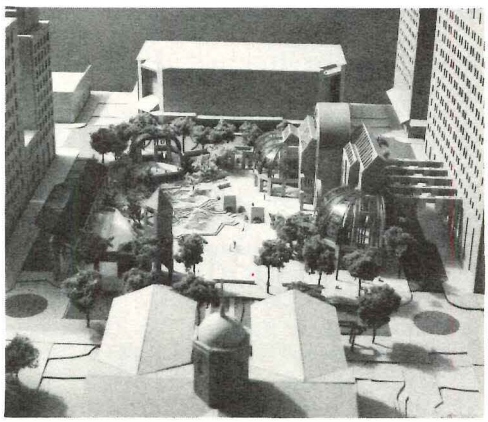

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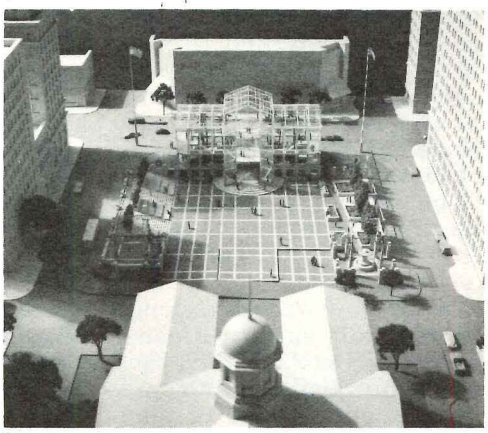

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Photos: Ed Hershberger

Pioneer Courthouse Square award-winning design ***1*** *of Martin, Macy, Kelly, O'Donnell, Gill and Reynolds. Other finalists were:* ***2*** *Eisenman/Robertson;* ***3*** *Geddes, Brecher, Qualls, Cunningham;* ***4*** *Halprin/Moore; and* ***5*** *Machado/Silvetti with Schwartz/Silver.*

News report continued from page 31

either for a conservatory, or for support structures and the need to buffer the square against rain and noise.

Now comes the Catch-22. In spite of the strong recommendation for a conservatory-type structure and the implication of other needs for covered areas, a key piece of the square financing is a $1.24-million grant from the U.S. Dept. of Parks and Recreation conditional on the square's being an outdoor, open space. Though city officials warned that substantial enclosed structures might cause loss of the grant, the nonlocal designers appear not to have understood the seriousness of this concern. The jury comments about the winning scheme praised its "grand open space suitable for city-wide celebration" and noted that the adjacent buildings were used to frame and create the square's edges. Other crucial attributes appear to have been modest scale and informality plus an orientation of access to the 100 percent corner at 6th and Morrison.
[Sally Woodbridge and Larry Boozer]

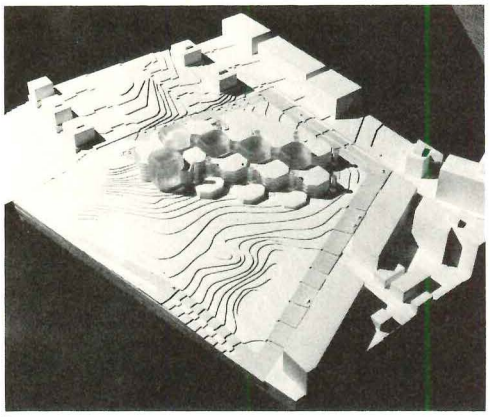
INTELSAT winner is John Andrews

John Andrews International, the Australian architectural firm, was proclaimed the winner over five other firms in an invited competition to design a new headquarters complex for the International Telecommunications Satellite organization (INTELSAT) in Washington, DC. Other finalists were Arthur Erickson Architects, Canada; Hellmuth Obata & Kassabaum, USA; Hentrich, Petschnigg und Partner, W. Germany; Holabird-Root, USA; and Raili & Reima Pietilä, Finland. Finalists were paid $30,000 each to prepare their proposals.

In addition to five senior management representatives of INTELSAT, the jury also comprised architects Pietro Belluschi, John Michael Austin-Smith, and Marco Zanuso, of the U.S., Great Britain, and Italy respectively. The professional advisor was Paul Spreiregen, chairman of the AIA's Committee on Competitions. A separate panel made the initial selection of the six finalists from a list of 100 expressing interest in entering.

After a full week of technical briefings for both jury and participants in Washington in October 1979, the six teams went into design, with presentations targeted for the end of January 1980. The Andrews scheme was declared the unanimous winner after six half-day presentation sessions and two days of deliberations. Independent evaluations of cost, energy efficiency, and program compliance were part of the input the jury received from outside experts.

INTELSAT's new facility will be built in Northwest Washington on a 12-acre section of the International Center (P/A News Report, Dec. 1979, p. 30), the location of some 14 new embassies or chanceries. To be built in three phases, the project is expected to use only 8 of the 12 acres, the rest to remain unbuilt upon, a park. Exceptional care will be taken to preserve existing trees. In the first phase, construction will include offices, operations center, satellite control center, conference and other facilities totaling 300,000 sq ft of floor area. Phase II would contain 150,000 sq ft of additional administrative and technical space; Phase III is 250,000 to 300,000 sq ft, including space for INTELSAT, foreign missions, or international organizations.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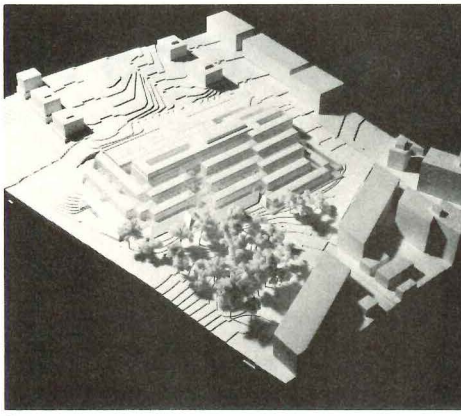
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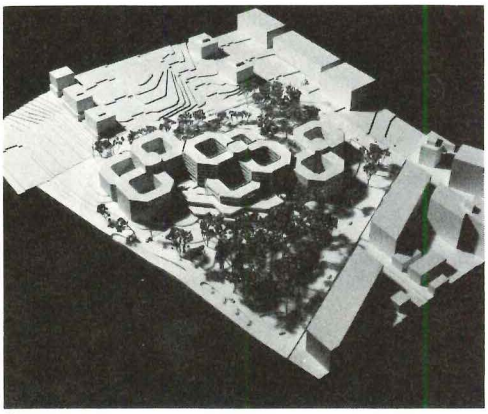
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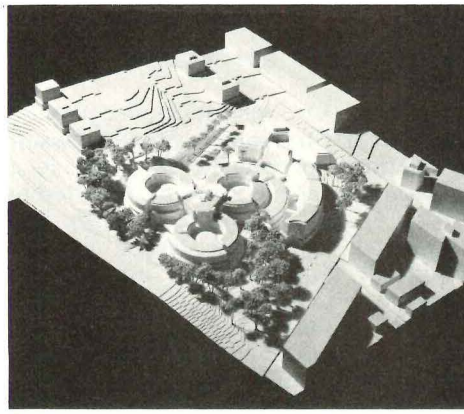
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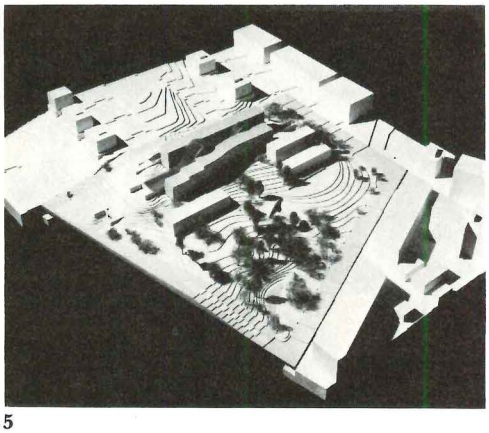
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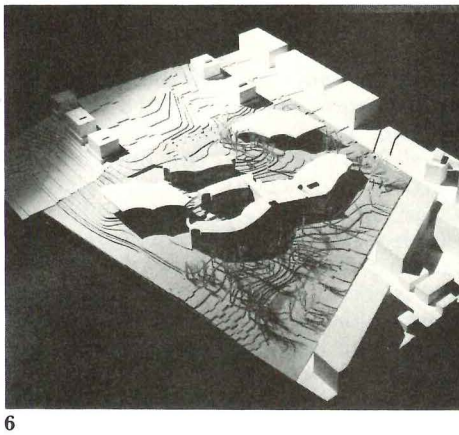
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INTELSAT *headquarters design of John Andrews International* ***1*** *was the winner. Five other firms were finalists:* ***2*** *Arthur Erickson;* ***3*** *Hellmuth, Obata & Kassabaum;* ***4*** *Hentrich, Petschnigg;* ***5*** *Holabird & Root;* ***6*** *Raili & Reima Pietilä.*

Building siting takes into account t blocking of cold winter winds and t collection of cooling summer breez Basic to the winning design is a pod a atrium combination, the pod eleme being 85 ft square. Perimeter offi functions constituting 70 percent of t pod floor area will benefit from da lighting, since the façades will eith face out to the site or into atriu Linked at their diagonal corners, t pods are stepped with the terrain alo the entry axis in a direct line from t Metro subway station.

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[*News report continued on page 36*]





ctoria Station Restaurant, Fairfax, VA., *Architect*: Donald K. Olsen, Sausalito, CA., *Installation*: Krupnick Bros., Glen Burnie, MD.

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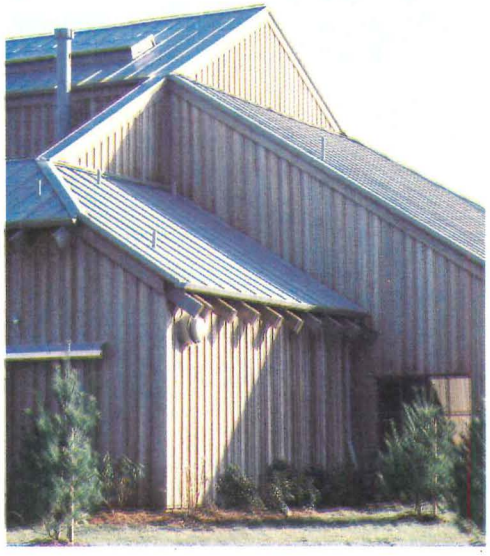

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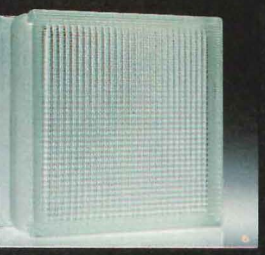

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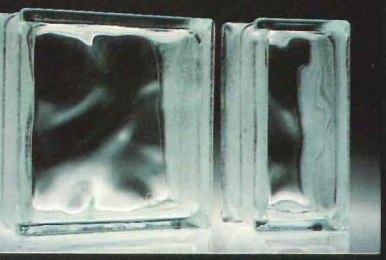

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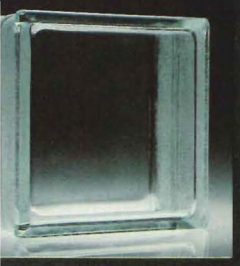

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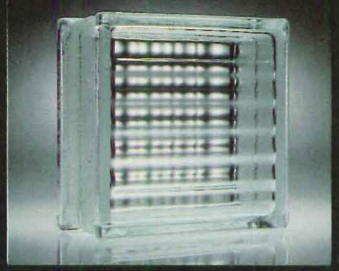

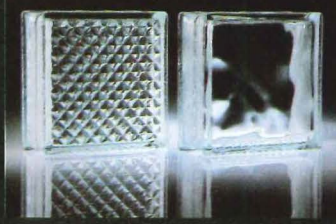

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News report continued from page 32



Interiors systems move into the factory

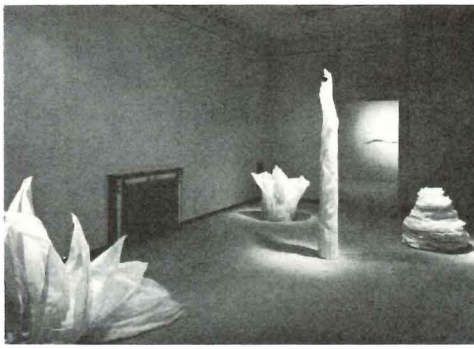
The interiors systems characteristic of open office design have been adapted to light industry in a new product line introduced this summer by Herman Miller. The assembly of work stations with standard components, pioneered by the company's Action Office system in the 1960s, was extended in the early 1970s with the Co/Struc system for hospitals and other uses requiring storage and transport cart systems. The newly introduced Action Factory system combines principles and elements of both previous systems to encompass work stations, material handling, and storage for industries such as electronics and office equipment.

Like the systems that led up to it, this industrial version was developed under the direction of designer-inventor Robert Propst, head of the Herman Miller Research Corporation. During the research and development phase, Propst and his associates worked closely with the Texas Instruments Corporation and with Hewlett-Packard, generating program requirements with them and making pilot installations at their factories.

These test installations are reported to have offered impressive advantages: reduction of space requirements by as much as 50 percent in some areas (through efficient use of space above and below the work plane), easier transfer of components between carts and stations, speedier identification and counting of items, faster and simpler rearrangement of work stations. Of crucial importance was the improved appearance and orderliness of the work place, which the participating companies found to be assets in attracting qualified personnel.

Art with architecture

In her recent show "Linens" at the Acquavella Gallery in New York (June 11 to August 28), artist Maureen Connor created an environment that commented quite compellingly on the relationship of art to several other disciplines: architecture, interior design, interior decoration, and crafts. Working with cream white organdy and using linen napkin folding techniques typical



Connor's napkin-folded organdy art works.

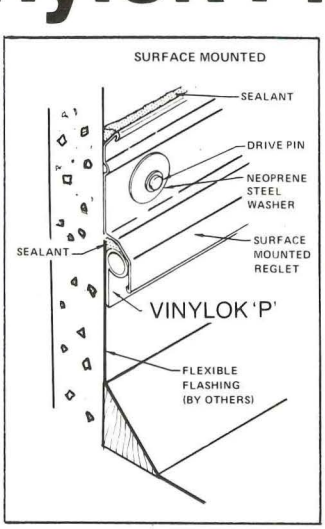
of the 19th-Century domestic life, Connor formed elegant three-dimensional constructions for the interior of the French Neoclassical townhouse. The house, designed in 1908 by Ogden Codman, coauthor with Edith Wharton of *The Decoration of Houses,* is well served by this specially created art installation. The works throughout the three ground-floor rooms delicately echo Codman's intricacy of detail for moldings and other ornament, as well as the subtlety of his scaling and proportions. The most successful part of the installation, spatially, is the middle room where four freestanding organdy constructions—elaborated and enlarged evocations of folded napkins—are positioned. These diaphanous works interact stunningly with the interior space in color, mood, and material, as if they were some sort of plant life that had naturally blossomed in this setting. [SS]

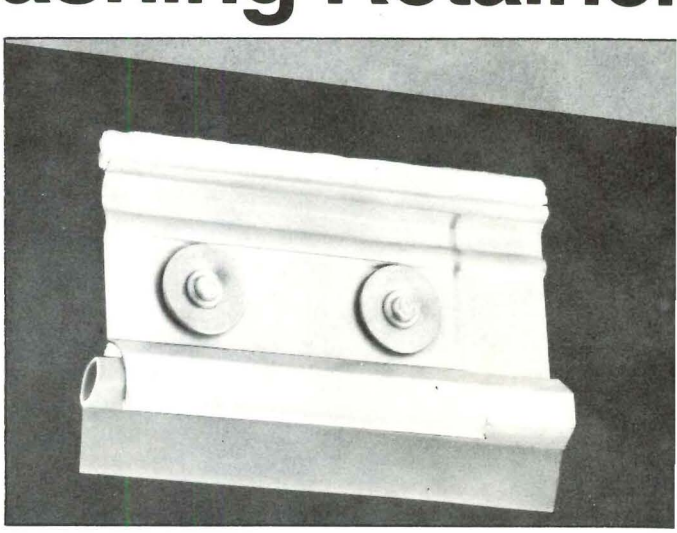
[*News report continued on page 38*]

For spaces too cramped for standard flashings...

NEW 'P' Vinylok Flashing Retainer

This ingenious new flashing retainer from Fry solves a familiar roofing problem: where the space between the top of the parapet and cant strip is too small for ordinary flashings. Just specify 'P' Vinylok Flashing Retainer. Flexible flashing (supplied by others) is installed to contact the reglet; sealant is applied as shown. 'P' Vinylok is then easily pressed under the reglet with the "tail" flat against the flexible flashing. Result: problem solved.





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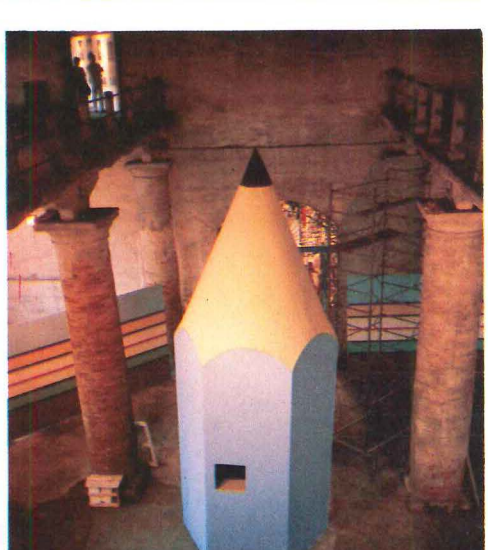
News report continued from page 36

Report from the Venice Biennale

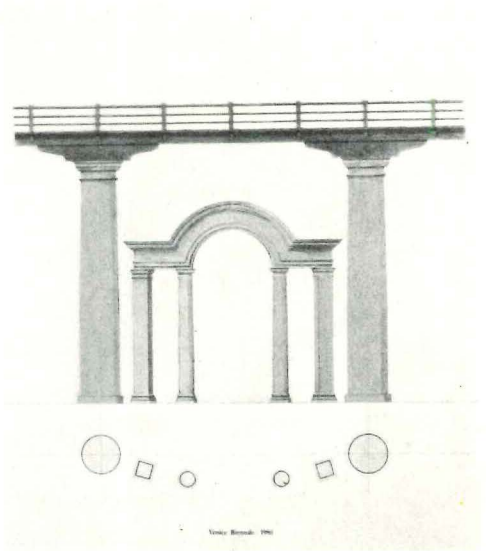


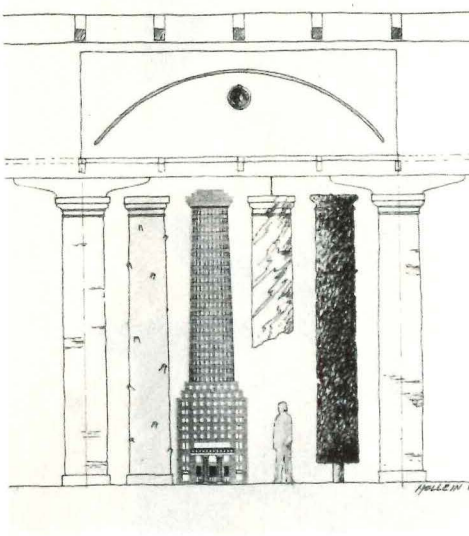


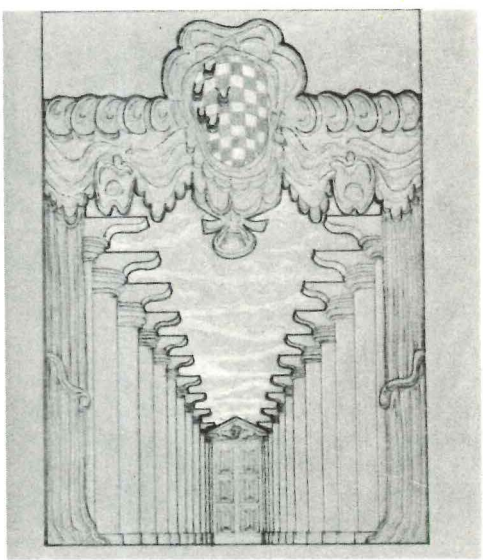


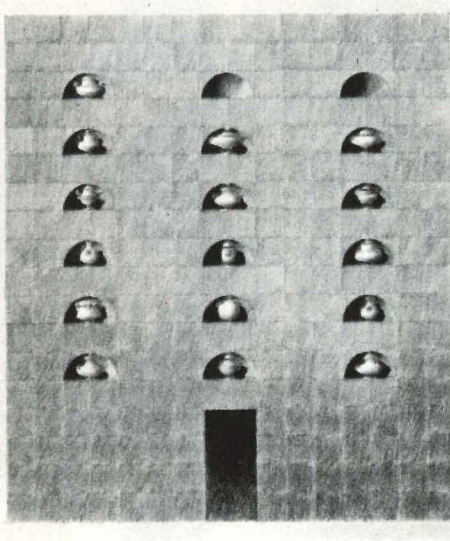
Corderia (top) before it became Strada Novissima (middle); Critics part (bottom).

Photos: D. Morton









Drawings for façades later constructed on the Strada Novissima include, clockwise: Alan Greenberg's, Hans Hollein's, Studio Grau and Stanley Tigerman's.

The architecture section of the Venice Biennale opened in July with a bang . . . literally. During the press preview on the 26th and up to minutes before the formal opening on the 27th, hammers and staple guns were much more visible than the exhibits. The reasons for this were: A customs strike, exhibitors sending material late, and the fact that, as a number of people said, "This is, after all, Italy." That, however, was a condition impossible to ignore, since it was hard to imagine that many other countries would have provided the means or would have had the interest to mount such an ambitious, massive, and truly spectacular show as this one.

The major part of the exposition is in the Corderia (the rope factory designed by Da Ponte in 1579), part of Venice's beautiful Arsenale (shipyards) where other 16th-Century works by Sanmicheli and Sansovino can also be seen. On a purely historical level, this show is important because it marks the first time the Navy has ever opened any of the huge Arsenale, parts of which date back to the 12th Century, to the public. On another level, the show is also of historical interest because it represents the fir major international exposition to de with the phenomenon of the revival historicist tendencies in architecture.

Organized by Paolo Portoghesi ar an international consulting committ that included Robert A.M. Stern in th U.S., plus a critics section includi Charles Jencks, Christian Norber Schulz, and Vincent Scully, all seven the shows in the Corderia deal with particular aspect of history and archite ture under the general title of "Th Presence of the Past." The particul mode of historicism represented by th exhibits of contemporary work is excl sively Post-Modernist, and as su marks the acceptance of its tenets on wide, international scale.

In chronological order, the expo tion, which will run through Oct. 1 opens with a historical appreciation the Arsenale itself. Following that, it i cludes the first major retrospective the work of Ernesto Basile (1857–193 The Sicilian, who is regarded by ma as Italy's greatest Liberty-style archite realized a huge body of work in Palr and Catania, but he is perhaps be known for the enlargement of the Se ate Building in Rome. His large produ tion of furniture, which was clear

fluenced by that of Mackintosh, is also presented in Venice.

Another section, entitled "Banal Objects," sets out everyday, middle-class objects, which are neither kitsch nor high-style, in a museumlike display where the objects are highlighted with paste-on day-glow paper and are illuminated by rising and falling black light. The walls are of plastic-covered plywood with metal trim. A second room gives a complete "period" setting which is not explained but which seems to be from Italy of the 1950s. The whole collection is nevertheless quite wonderful, bringing to mind Gina Lolobrigida's sunglasses.

Where the exhibition comes heavily to its Post-Modernist phase is in the *Paesaggio a* section where separate displays pay homage to three important figures seen today as major precursors of Post-Modernism. Perhaps because he is the American among two Italians, Philip Johnson occupies the central position here, at the end wall, where a gigantic white silhouette of the top of his AT&T Building forms a backdrop to its model and drawings of other projects. Flanking this display and in front of it are the works of Ignazio Gardella, who is best known here for his Gothic revival Casa Cicogna of 1957 on the Zattere in Venice, and the iconoclastic Mario Ridolfi, who is little known here but highly regarded in Italy.

On a mezzanine running around the perimeter of the 317-meter-long Corderia are displayed the works of 55 "young" architects considered to be working in the Post-Modernist tradition. With Americans and Italians each accounting for 20 percent of these, not much space was left for other countries. But as Bob Stern explained the American situation, we were actually underrepresented if the participants had been selected according to proportionate numbers of architects in each country. "Because of our size," he said, "it's very easy to appear to dominate, so we have to be careful about this. It makes the selection process of the Americans extremely difficult, because we have to be much more rigorous than other countries." This paid off, because the overall level of the work is very high, with some projects of superlative quality.

The "neo-primitive" projects of Andrew Batey and Mark Mack in California seem to achieve a vision of utopian Arcadia through the means of both rationalism and Classicism, suggesting a new synthesis between an Asplund and Barragán. John Blatteau's purely academic drawings for the Bayonne, NJ, hospital (P/A, Jan. 1980, p. 124) and for the Les Halles competition are as ravishing as anything that ever came out of the Cole. Machado-Silvetti's RISD project continues to rivet the viewer months after its first publication (P/A, Jan. 1980, p. 90).

The most important, largest, and most interesting part of the Corderia exhibit is the "Strada Novissima" in which a street of façades has been created through the middle of the building along its two central rows of columns. Here, ten architects on each side of the "street" have been given a bay for exhibition for which each also had to design a façade on the street. This concept came about mainly through the combination of two ideas—one of Portoghesi's and one of Stern's. Portoghesi had been in a German town where a carnival boardwalk faced a new development area. He was struck by the difference between the two, by the human scale and liveliness of the boardwalk and by their opposites in the town. From one position, he said, you could see clearly what was wrong with Modern architecture and why the traditional urban forms were so much better. Could the Biennale also somehow express this notion, he wondered, so that it could attempt to make a positive contribution to architecture rather than be just another show similar to the past ones. Stern had the same wish; he came to the first consultants meeting equipped with the proposal that a number of architects from around the world be invited to Venice to redo the Vaporetto (water bus) stations along the canals. These are the major transportation nodes in the city, they are extremely visible, and in all of Venice they are about the only poorly designed objects. When the Corderia became available to the Biennale, the ideas of Portoghesi and Stern were eventually transformed into the concept of the street.

Strada Novissima

The 20 invited architects were sent dimensions and descriptions of the space, and working from these, they were to submit the façade drawings to the committee. Once accepted, the drawings were sent to Cinecitta in Rome where they were built as film sets by the film contractors. Then they were sent to Venice for installation. In the meantime, though, the committee in Venice had been supplied with models that could be moved around for determining the ultimate arrangement of the façades.

With this concept of the street, the organizers of the show state one of the most crucial Post-Modernist precepts, which is the idea of the sanctity of the street. In this regard, the exhibition clearly protests the Modernists' notion of the building as a freestanding object, which in practice is often related to little or nothing around it. Equally, however, the show also protests the current notion of the building as container of space, as exemplified by some recent Dutch cultural and residential projects (P/A, Mar. 1980, pp. 86–97; July 1980, pp. 82–89) where the components of urbanism are collected within a single monolithic structure. Instead, the show glorifies the idea of the street by returning architecture to one of its most important traditional roles, which is as the primary definer of urban space. Post-Modernist tendencies are further reflected through the façades' attention to human scale, use of decoration, allusion to past design traditions, and through the expression of symbolic content. It is hard to imagine a more fitting location for such a show as this than Venice, where all of these concepts are everywhere visible and coalesced into one urban masterpiece.

If the Americans don't dominate the entire show, they do on the Strada (8 out of 20), and in a way, this is unfortunate. Part of the problem stems from the fact that the individual exhibits were to be representative of each architect's work during the 1970s, the decade the entire Biennale is honoring in retrospect. As wonderful as most of the work is, much of it nevertheless seemed just too familiar. Venturi, Rauch, & Scott Brown's exhibit, for instance, was dominated by the Chestnut Hill house (of 1962) and other very well known projects. Robert Stern's façade was a collage of motifs from his Best Products project and the elegant Lang House, which seemed uncomfortable in each other's company. Charles Moore hung a series of uninspiring "flats" from the ceiling. The most perverse façade was Stanley Tigerman's. The architects ere asked not to work with the existing columns of the Corderia, and in fact to cover them. "They're too good," Stern said, "and would just make things too easy." So Tigerman designed his façade as a one-point perspective stage set of rows of those very columns. Frank Gehry's unslick and ordinary materials and Michael Graves's extreme refinement looked awful next to each other. However, Thomas Gordon Smith's and Alan Greenberg's variations on Classicism fared better across the street from each other.

As for the Europeans, Hans Hollein's columned entry was especially effective at the symbolic and historic levels, representing both the nature of the column and the history, he said, of Vienna. Ricardo Bofill painted the façade of his new housing project for the French new town Marne-la-Vallée, and then directed you through it into its courtyard surrounding a faceted mirror on the ground. Studio Grau parodied the famous fascist-era Palace of Culture at the EUR in Rome by changing its color to red and filling its windows with funereal objects. In taking a very different direction, Paolo Porteghesi made a handsome interpretation of Borromini's Quattro Fontane.

Not every façade on the Strada Novissima is a masterpiece. But, one of the most important ideas of Post-Modernism is that not every piece of architecture needs to be in order to create a good urban environment, one of human scale and delight. That is what has been made inside the Corderia. Stern and Portoghesi both agree that Post-Modernism is still in its infancy, and they will not predict where they feel it may eventually lead. If it leads to a greater appreciation and understanding of the urban environment, as this show seems to suggest is possible, that could be one of its most lasting contributions. [DM]

[*News report continued on page 42*]

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News report continued from page 39

Bunker Hill architects announced

Arthur Erickson Associates, Kamnitzer Cotton Vreeland, and Gruen Associates will be the design team for the redevelopment of the largest land parcel remaining in Bunker Hill, in the heart of Downtown Los Angeles. The choice of architects is the result of a developers' competition sponsored and judged by the board of the Los Angeles Community Redevelopment Agency. The architects represent the development team of Bunker Hill Associates (Cadillac Fairview/California, Goldrich Kest and Associates, and Shapell Government Housing).

The scope of the project is very large: the three-phase development of an 11.21-acre site. This will accommodate 4 million sq ft of new building, including offices, residential development, commercial, hotel, recreational, and cultural facilities. It must also include a central urban park and a downtown people mover. The re-created Victorian funicular, Angel's flight, will climb the sloping site, linking Hill Street at the bottom with Olive Street and Grand Avenue above. The centerpiece will be a new Museum of Contemporary Art.

For over ten years, Bunker Hill has been a no man's land, a patch of the city shaved bald by the redevelopment the CRA was charged with planning. The site in question is in the center of the hill. To the north is the Music Center; to the northwest and west are the towers of the financial district. New housing faces the site on the southeast side of Olive; and adjacent to the lowest side, H Street, is a Mexican district, with th lively street life of Eastern cities. Th site must span from tower to taco stan and create an integrated transition.

One of the major factors the d veloper had to consider was the 1½ pe cent allocated to art, because here th CRA proposed a truly innovative n tion. Instead of allowing the develope to simply spend this money on th standard Calder in the forecourt, the required an entire contemporary a museum. The developer will provid not only the 100,000-sq-ft building, b some proportion of the endowment running costs as well. Sights are set on museum of international stature: a ready several major Los Angeles art co lectors have pledged a multi-millio dollar endowment in the form of bo art and cash, and Pontus Hulten, dire tor of the Centre Pompidou in Paris, reported to have accepted the job museum director. In its setting, su rounded by a major urban plaza, th museum will certainly be a cultural foc point on the hill.

Over the last few months, there h been a great deal of discussion in th architectural community over the sele tion procedure in this competition. A chitects, naturally, felt that *architectu* should be the major deciding facto and that the selection should have bee made by a distinguished architectur panel. However, the decision was mad by the CRA board, on the recommend tion of a specially appointed thre person task force, who received advic and information from the agency staf There are no architects on the board. making the decision in this way, th CRA was taking a "democratic" a proach, positing that common peop were the best judge of their own env ronment, and that other factors, such the developer's financial capabilitie should be of equal importance. They s out their criteria for selection as: quali of conceptual design, integration of a building types with cultural and recr ational uses, awareness of pedestria needs, approach to housing th museum, parking, affirmative actio and energy conservation. So in the fin analysis, this was *not* an architectur competition, but one in which desig played a decisive role. After a revie of the five schemes submitted, two d veloper teams were left in the runnin Bunker Hill Associates and the Magui Partnership with a scheme designed the combined forces of Barton Myer Harvey Perloff, Edgardo Contin Charles Moore, Lawrence Halpri Cesar Pelli, Hardy Holzman Pfeiffer A sociates, Gehry & Krueger, Inc., Robe Kennard/KDG, and Ricardo Legorret

No one has any real doubts that A thur Erickson's team could produce scheme of outstanding architectur merit. He has a proven track record as designer of large spectacular buildin that make their mark on the landscap However, many in the local arch tectural community felt an emotion commitment to the other scheme. Th

[*News report continued on page 46*]

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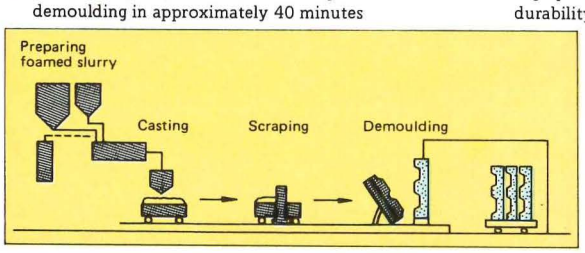



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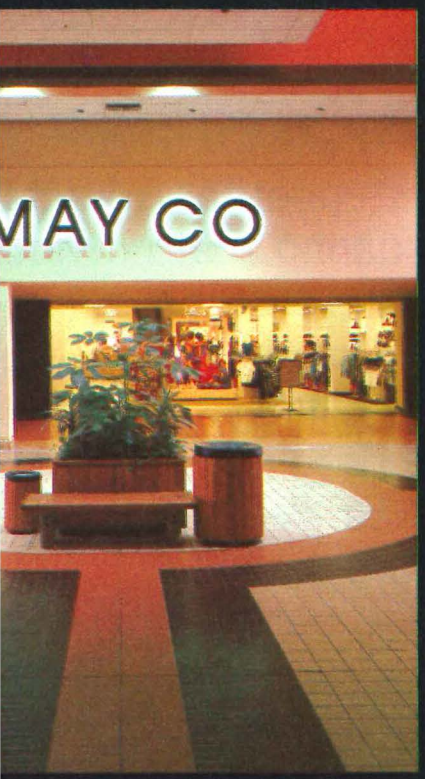

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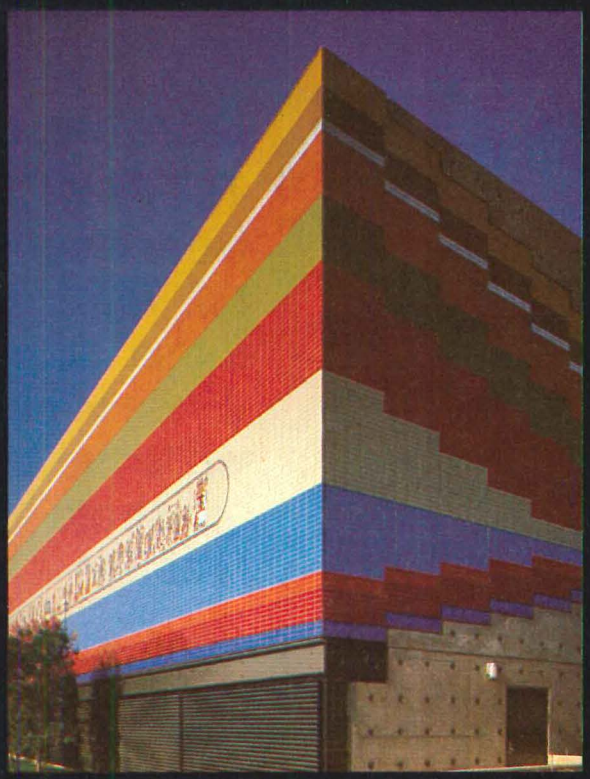

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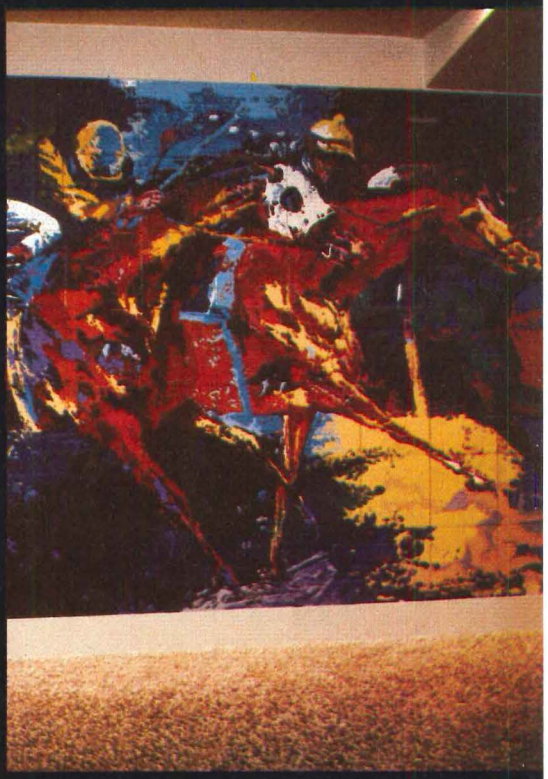

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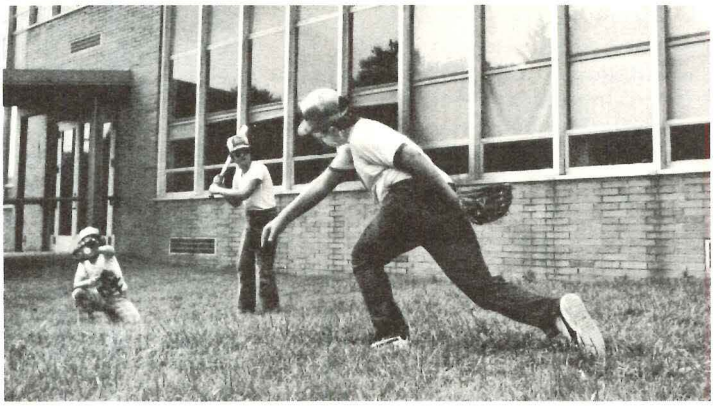

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News report continued from page 42

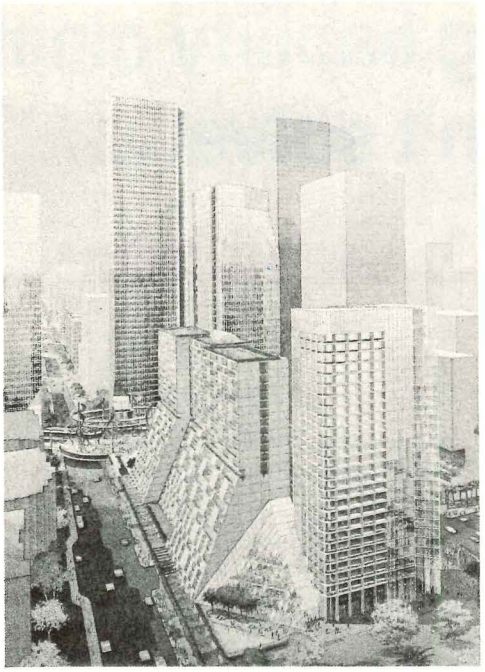
was for at least two reasons: it was a far more detailed architectural proposal, and it represented the efforts of celebrated designers familiar with, and connected to, Los Angeles. Based on the architectural and urban design rather than the overall package, all the critics agreed that the Maguire proposal was better. Even CRA Director Edward Helfeld officially recommended the selection of this scheme. However, the board's choice was based not so much on specific architectural design as on "conceptual approach" and "proven ability." Another decisive factor in the selection was BHA's presumed financial ability to finance the scheme within their own companies rather than seeking outside investors.

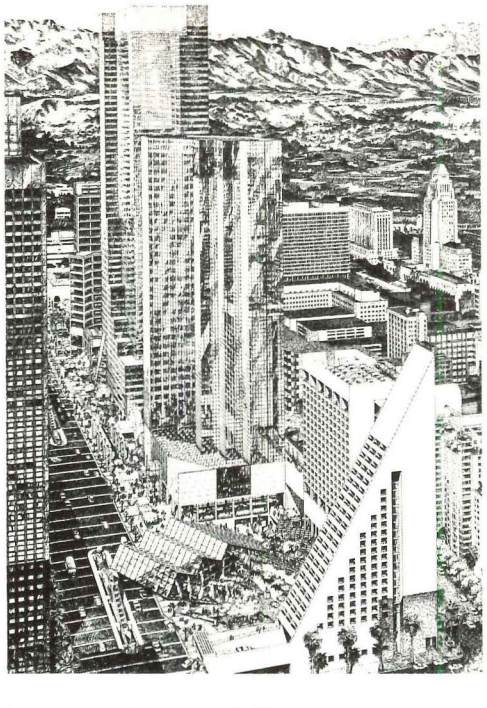
Aside from politics, it is interesting to examine the planning problem of Bunker Hill and the way the two contenders approached it. The differences engendered in the schemes indicate entirely different attitudes towards the hill, neither of which is perfect. In fact, in formal planning terms, the strongest scheme was one that was never really in the running—a scheme by A.C. Martin, with a strong, formal staircase forming the transition from Hill to Olive Street, and a processional sequence of pedestrian promenades along Grand and Olive and in between. The junction between the two axes formed a clearcut public place—the museum park.

The Maguire and BHA proposals took fundamentally different planning approaches. The Maguire scheme took a Post-Modern approach, maintaining the old street levels and implied city grid, and orienting itself from the northwest to the southeast. It included open space, but this was of a highly differentiated nature. The Erickson scheme took a standard Modernist approach, creating large open spaces by placing towers in a park, with a linear slab building reinforcing one edge. It proposed a new route, paralleling Grand Avenue, recognizing the larger street grid on the top of the hill. This route is similar to the A.C. Martin diagram and links the Music Center to Pershing Square. The junction between the two axes is, again, a public space.

The Maguire scheme made a firm commitment to maintaining pedestrian movement at street level, rather than creating separate levels of movement. It tied all the buildings firmly to the ground with architectural elements, such as arches and arcades, scaled to pedestrian movement. The scheme contained formal gateways designed by Charles Moore, an aqueduct along Olive Street, ceremonial stairs, and fountains. Some of these gestures, such as the fountain gateway, are questionably located. Others, like the Angeles Steps, are well directed.

The architecture was highly developed and witty, if perhaps a little bit *too* specific. Some of the buildings were incredibly provocative, such as Pelli's skyscraper within a skyscraper and





Bunker Hill Associates' winning scheme for Downtown Los Angeles development parcel (left) proposes three office towers around performance plaza (background), housing slabs along Olive Street—with museum on lower floors opening onto plaza—and hotel tower (foreground). Diverse buildings of Maguire proposal (below left) include two office towers (tallest), two housing blocks; fragment-like museum and wedge-shaped hotel (foreground). Small-scaled plazas and pavilions open onto Olive Street.

Hardy Holzman Pfeiffer's art museum. Here, in an obvious allusion to the coming earthquake, the architects cantilevered a building on its corner over Grand Street, making it look as if it had fallen off the adjacent, sawtoothed skyscraper designed by Robert Kennard. This amusing touch may not have struck all observers as humorous.

The Erickson team proposal has a far stronger formal diagram, taking a more uniform architectural approach to reinforce it. This approach will probably be very striking, once the scheme has been articulated in greater detail. Certainly, the central entertainment complex with its 12 cinemas and open-air amphitheater creates a strong focal point for pedestrian movement on the hill. The location of the townhouses on Olive Street, reinforcing the residential nature of that street, is another logical aspect of the scheme. Despite its strong plan, however, this scheme has flaws primarily in its relation to true street levels. Podium schemes which ignore the ground level, such as LA's own Century City, have been repeatedly shown to fail as urban environments. A meandering hilltown approach, such as that employed in the Maguire scheme would *not* be appropriate here. However, neither is the solution offered: an office tower at the crest of the hill with its main entrance at podium level, resulting in a very poor transition between Hill Street and the top of the site. Processional steps, which Erickson produced so skillfully in his Vancouver courthouse, might be a more appropriate response.

Olive Street, too, needs far stronger connections with the rest of the site. Although the townhouses have street entrances, they have high walls around them and are basically inward-looking. Prominent walkways between housing blocks and a stronger link from Olive Street to podium level would help considerably.

The final problem faced by the Erickson scheme is the placement of the Museum of Contemporary Art, which is currently incorporated into the second level of the housing slab, overlooking Grand Avenue and the sculpture park at second-floor level. The CRA and the museum board both feel that the museum should be more prominently placed on the site, perhaps as an independent structure.

Los Angeles is a city where there is literally, no real *place*. There is no real gathering place in Los Angeles—no place to celebrate New Year's Eve or the Fourth of July. The most encouraging aspect of Bunker Hill Associates' scheme is that it tries to create a *place*. The nature of this place needs much further thought; and the architects deserve both public support and criticism in order to develop their scheme into something truly wonderful.

In the future, the CRA might commit itself more firmly on design issues by selecting the developer first, then sponsoring a more traditional architectural competition. In that way, each scheme will be developed to a similar level. In the case of the Museum of Contemporary Art, a true architectural competition would have been a much more reliable way of commissioning an original building, reflecting the contemporary state of the art. [Barbara Goldstein]

[*News report continued on page 50*]

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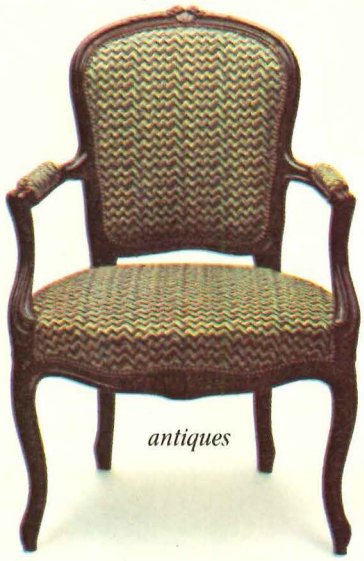

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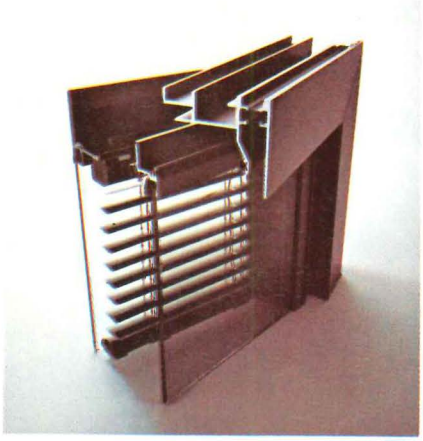

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News report continued from page 46

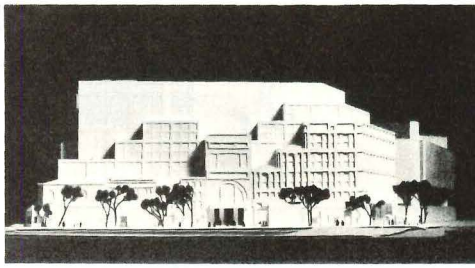
Report from Washington

Washington, DC, has many faces. As the nation's capital, it is a place of grandeur and procession, but it must also serve as the seat of the federal government. On a local level, it is a city with locally elected officials responding to the needs of their constituents, interested in the development of the non-federal area, and trying to promote the city as a tourist and convention spot. Four building projects, either imminent or underway, illustrate these varying faces.

Ever since Kennedy's presidency, there has been talk of revitalizing Pennsylvania Avenue, and at long last "America's Main Street" is now getting a facelift. The Pennsylvania Avenue Development Corporation received a broad mandate to prepare an overall plan and to interest developers in acquiring and building on available sites.

This spring, PADC approved the best looking new structure to date—a block-square, 1 million-sq-ft office and retail complex that incorporates a number of existing historic structures. Designed by Hartman-Cox/Smith Segreti Tepper Associated Architects, 1001 Pennsylvania Avenue reaches 15 stories (the height limit along the Avenue was raised recently to 160 ft to encourage new development), with offices above 30–40 retail shops on the lower levels. An atrium, lit by 40-ft clerestory windows, runs through the center of the building.

1001 Pennsylvania Avenue is surrounded by monumentality and responds superbly to that trait without being monumental itself. Across the Avenue are the Internal Revenue Service building and the Old Post Office—both major structures of the Federal Triangle. On the other side of 11th Street is the old Evening Star Building, a significant landmark. Its neighbor across 10th Street, unfortunately, is the FBI, but this new building holds its own against that behemoth. Among existing buildings on the site are several pleasant, small-scale brick structures of varying styles from around the turn of the century and the magnificent, eight-floor U.S. Storage Building, which has a pair of six-story arches into which has been placed an early curtainwall.



Design for 1001 Pennsylvania Avenue by Hartman-Cox/Smith Segreti Tepper.

It is in this context that the architect designed what George E. Hartman likes to call "Chinese puzzle boxes," a series of three successive layers, each stepped back further from the street and higher. Walls meander around the existing structures, and the delightful result looks not unlike a series of building blocks, one stacked upon the other.

The façades become simpler and lighter as they progress inward and upward. The outside wall, with its column and deeply recessed windows, is to be buff brick with limestone trim; the next is brick and less complex, while the innermost will be smooth-finished concrete with punched windows.

But each street façade on the building is different. On Pennsylvania Avenue there is a fairly straightforward face that steps back at a height of 105 ft to match the cornice lines of its neighbors. The 10th Street façade retains this height but offers a symmetrical center cutout section to set off the U.S. Storage façade (that 95-ft-deep building will be partially enclosed within the new structure).

The E Street and 11th Street façades are perhaps the most interesting because they are so varied. In both cases the building along the street steps down abruptly from 105 ft to approximately 40 ft, the height of an existing building on the corner.

The second layer of "Chinese puzzle boxes" is stepped back 25 ft from the outer layer and the innermost box is stepped back 25 ft more, giving this third box an appearance of shooting up through the middle of the complex.

One of the problems was to differentiate the boxes, said Hartman. He has done this with texture, making each layer progressively smoother. In addition, the bays on the three boxes do not necessarily align, giving them some movement.

This project shows that with some imagination by an architect, a city can be

[*News report continued on page 52*]

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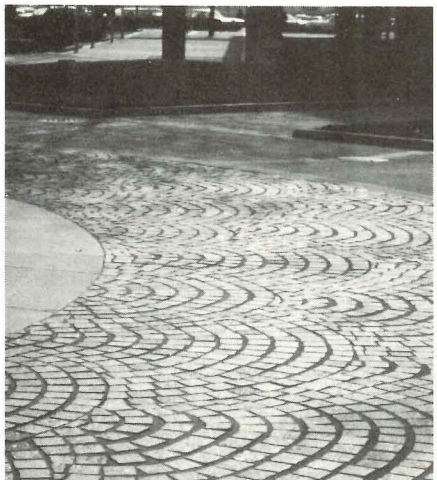
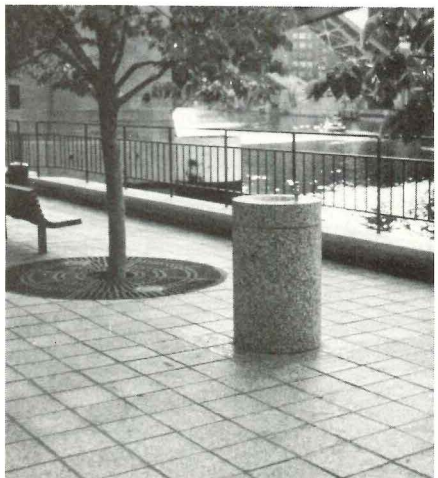
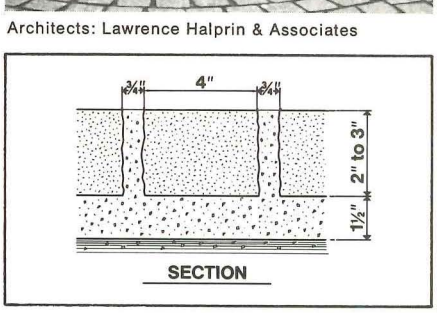
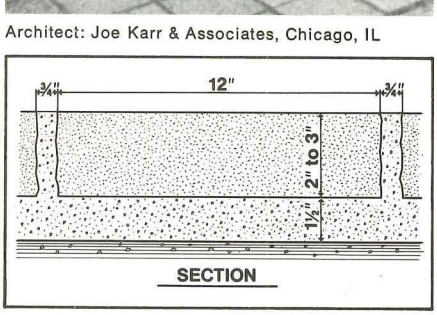


Architects: Lawrence Halprin & Associates



Architect: Joe Karr & Associates, Chicago, IL





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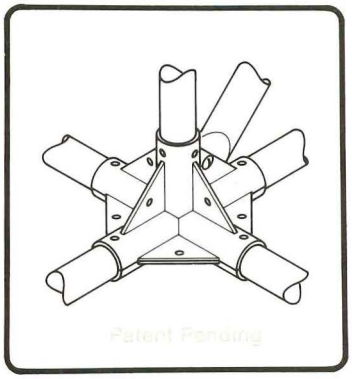

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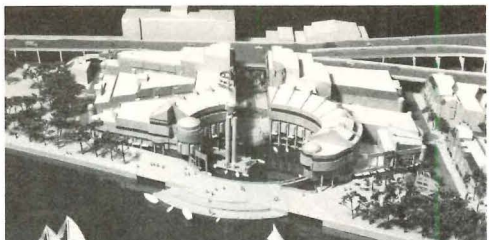
News report continued from page 50

treated as a continuum with old and new buildings working together to create a new face for a downtown that the public can respond to and understand. It is also interesting to note that much of the work on Pennsylvania Avenue, starting with the earliest planning, has been and continues to be done by non-Washingtonians. This new project, designed by a local firm (architects Hartman & Cox are among the city's best), is the most respectful of Pennsylvania Avenue and its qualities to date.

Across the street from 1001 Pennsylvania Avenue stands the Old Post Office, a Romanesque structure that never fit in with the Federal Triangle, which was built around it during the Depression and that, as a result, almost succumbed to the wrecking ball. One of its long-time champions, Washington architect Arthur Cotton Moore, eventually won a U.S. General Services Administration competition (with associated firms McGaughy, Marshall & McMillan and Stewart Daniel Hoban) to return the building to federal office use with a couple of levels of shops on the lower floors.

The $16-million project is well underway (budget restrictions have forced some cutbacks from the original plans) and should be finished by summer 1981. The most exciting news is the uncovering of the skylighted inner court, a nine-story-high space surrounded by arcaded balconies that is perhaps the most dramatic in Washington.





Moore's plan for the Georgetown waterfront (above); Welton Becket/Gray & West/ Nottingham convention center (below).

Louis Checkman

The skylight was covered over 50 years ago because it leaked. That covering has now been removed, and a new $500,000 Lord & Burnham skylight installed over the old frame. Sunlight pours into the atrium and creates marvelous patterns along the balcony-lined walls. One can peer up through the skylight and see the clock tower, the third highest spot in the city.

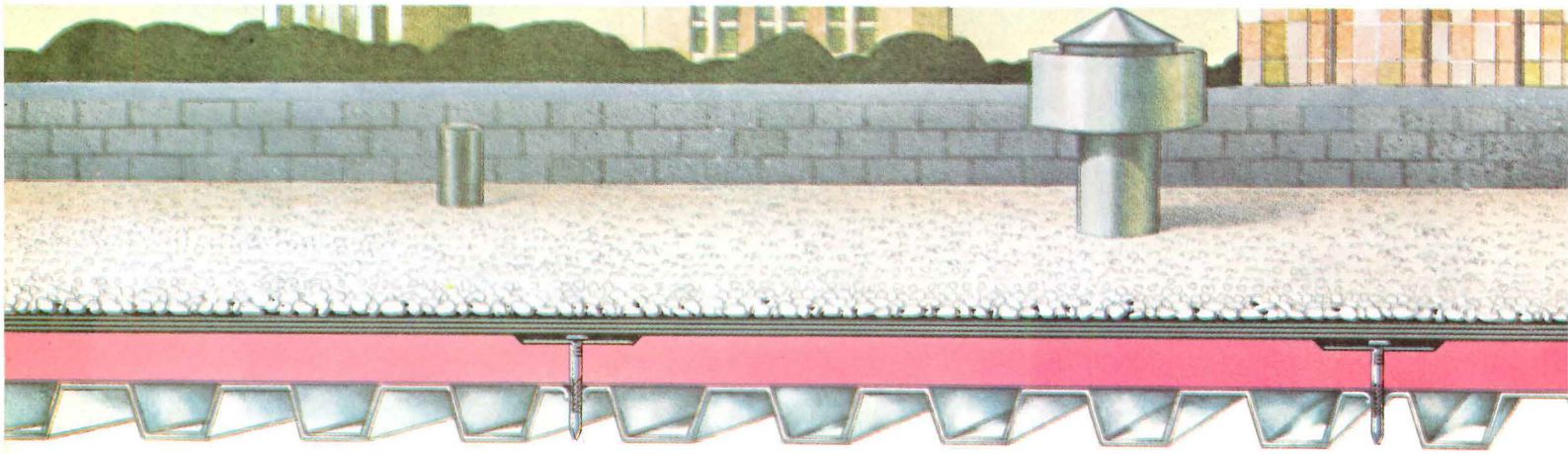
GSA announced this spring that as part of its "art in architecture" program, it had commissioned a work by California environmental artist Robert Irwin for the atrium. It is to be a sculpture with approximately 150 7′ x 9′ rectangles of translucent nylon scrim hung from a 140-ft-long tube. Irwin says the panels will mimic the pattern of openings around the atrium.

Architect Moore has also devised a new plan for the Georgetown waterfront, long a problem area that the city would like to see resolved (the site currently includes a cement plant and storage facilities). This one has received preliminary approval from the Commission of Fine Arts.

An earlier scheme for the same developer, Western Development Corp., by another architect had been rejected earlier this year by the commission (some thought it resembled a "beached whale").

Moore's design for the $70-million commercial and residential complex (it will have approximately 350 apartments) makes use of the waterfront along the Potomac River, a novelty in this rivered city, and, he says, it combines Washington's monumentality with the small-scale neighborhood feeling of Georgetown. There is a small elliptical boat harbor in the center of the project surrounded by several levels of shops and apartments. A tree-lined walkway along the river preserves its green edge and links the complex to a park the developer has agreed to help fund with the National Park Service.

The plan would extend existin



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orth-south Georgetown streets down rough the project (one would end at e boat basin with a set of steps down to the water). Thus the buildings will ce the streets, Moore says, giving the roject a rowhouse image on that axis, nd successfully breaking the project up to understandable units. The east-est axis along the river, on the other and, is more formal and responds to Enfant's plan for Washington and the lassical look of its major buildings. oore has used a number of his recent ost-Modern trademarks—domes, ped-nents, moldings, columns, and the ke—resulting in a somewhat overem-llished façade.

The rear of the project is defined by e Whitehurst Freeway, an unfortu-ate 1950s addition to the waterfront at is unlikely to go away. Moore, how-er, is experimenting with ways to ake it less ugly and is considering the eation of a series of inexpensive ched vaults on the underside.

Moore indicates that this develop-ent, which will take two to three years build, is expected to break ground by e end of this year.

After years of delay, ground was fi-ally broken in April for the city's mas-ve new convention center (the building overs 10 acres). It had been held up for variety of reasons, despite the fact that e city government, aided by develop-ent and commerce interests, had been ushing its construction for years. They ntend that the additional numbers of eople the center will draw (estimated at 300,000 to 400,000 annually) will bring in additional tax revenue and that the center will pay for itself.

Opponents disagreed, questioning whether the city could stand such a siz-able influx of tourists. They also de-bated the future of the low-scale Chinatown, where the center is located, and the development pressures that are certain to follow there, the value of sev-eral old buildings on the site, and the center's financing (after Congress exam-ined the cost of the project and raised doubts, it was reduced slightly, to $98 million). The opponents even threat-ened a city referendum on the issue.

All that failed, however, and work has now begun. It is expected to open in summer 1982.

The 800,000-sq-ft building was de-signed by a joint venture of Welton Becket Associates, Gray & West Archi-tects, and H.D. Nottingham & As-sociates. Described by its architects as "inherently monumental," the 75-ft-high structure is to be covered with buff-colored precast concrete panels and glass. Beneath the roof are four flexible halls ranging in size from 150,000 sq ft down to 26,000 sq ft—to accommodate all kinds of expositions, conventions, trade shows, banquets, and other events. In addition, there is 10,000 sq ft of retail space—a concession to the community.

Robert L. Henry, AIA, of the joint venture said that one unique aspect of the design was a two-way Vierendeel truss—it is the first time this has been used on the East Coast—that will pro-vide 100,000 sq ft of column-free ex-hibit space. The 14-ft-deep truss will be exposed on the interior.

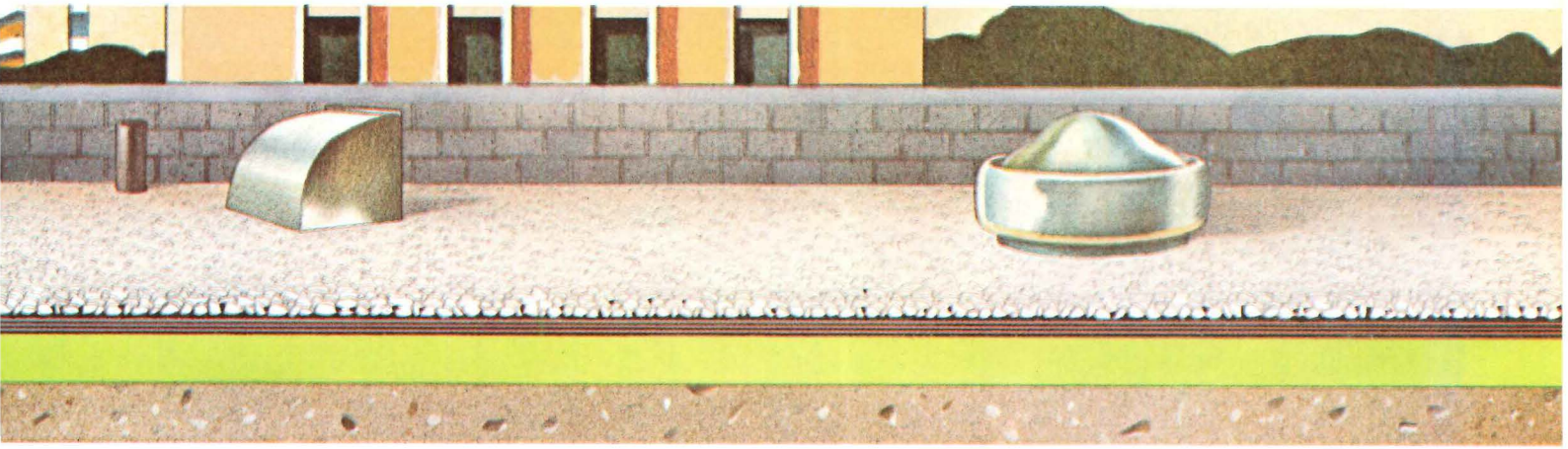
Several historic structures, including Washington's first nickelodeon, a mag-nificently detailed brick apartment building, and an Elks lodge with two huge elk heads at the cornice were de-molished for the convention center. It seems unfortunate that the architects for this project were not able to incorpo-rate some of these existing buildings, or even the façades, into their design—as the architects for 1001 Pennsylvania Avenue were able to do only three blocks to the south. If they had, it might have helped make the center a more welcome neighbor.
[Carleton Knight, III]

Glass block production to be maintained

In late July, the Pittsburgh Corning Corporation announced that it would, after all, continue production of glass block. The company had served notice earlier in the year that it would discon-tinue the only U.S. production of this unique material.

That previous announcement had prompted architects from all over the nation to write to Pittsburgh Corning and call on colleagues to do the same. Noting a strong revival in a material that once seemed relegated to the history of

[*News report continued on page 54*]



s are wearing these days.

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News report continued from page 53

Early Modernism, professionals urged the company to reconsider.

In assuring the building industry and design professions of a steady supply of glass block, the producer committed itself to completing a capital improvement plan for its Port Allegany plant by mid-1981. Once that is done, Pittsburgh Corning plans to expand its current line of glass block by reintroducing Solar Reflective Glass Block.

The future looks a little better for those who are looking for rare combinations of structure, insulation, texture, refraction, and translucency. What is more, the voice of the architect seems to have had a more direct effect than usual on the availability of building materials.

ACSA/AIA Teachers Seminar "The Beginning Student"

About 90 teachers of architecture convened at the Cranbrook Academy of Art June 21–26 for the annual ACSA/AIA Teachers Seminar. This year's theme, "The Beginning Student," provided both sufficient meat and difference of opinion to maintain a lively pace through the hectic five days of the conference. Chaired and nudged by Tim McGinty of the University of Wisconsin at Milwaukee, the various workshops, presentations, and excursions flowed without a hitch. Interspersed with the workshop sessions, in which participants presented their own ideas/courses concerning beginning studies, were more formal presentations: J.B. Jackson on teaching the American landscape; Marc Treib on the work of Eliel Saarinen (architect of the three Cranbrook schools); David Macaulay on the conceptualization and development of his books (including a sneak preview of his smashing *Debuilding,* which pictures the demolition of the Empire State Building); and a wrap-up by Juan Pablo Bonta.

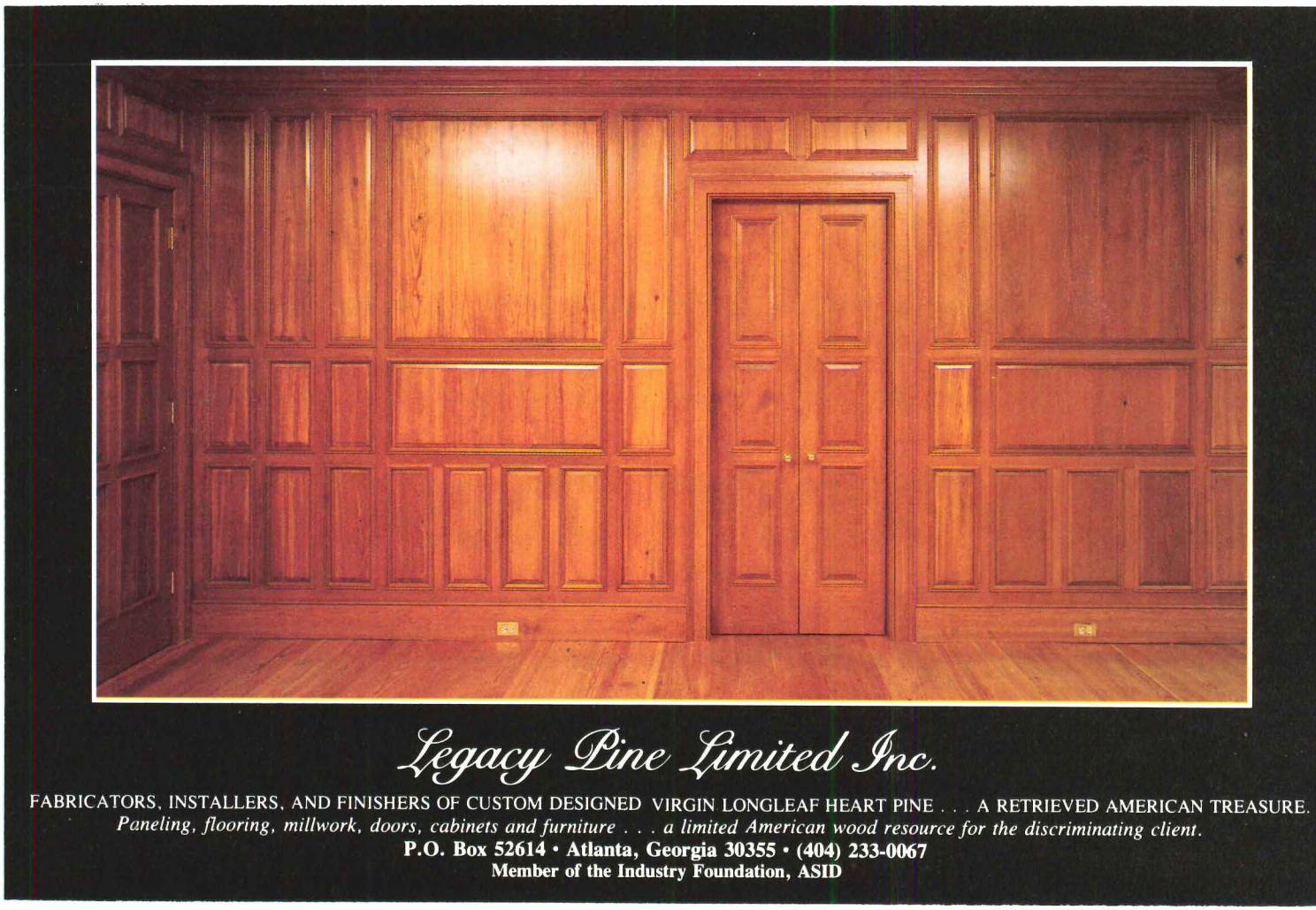
The main issues came forward in short order. Primary among them was the question of preliminary abstract studies versus immediate architectural design. On one side was the "basic design" group: i.e., compositional, abstract, Bauhaus-and-beyond courses in which the principles of perception, composition, etc., are presented free of an environmental context. In the other camp were those who believed in "real world" (read architectural) problems, with educational generalization coming after and via the study of specific architectural instances. Somewhat in the middle were a few who looked at design as decision making, learning, or conflict resolution, who utilized aspects of both the abstract and the "real world" camps. The discussions were lively, at times even heated, causing one student participant to characterize the sessions as "parking lots for personal monologues."

Naturally, there was no consensus as to what should be taught when. As Juan Bonta remarked in his closing talk, what is right for each design course depend on the context in which it exists: th constituents and the thrust of th school; the courses which precede an those which follow. But Bonta was car ful to add that *some* philosophical stanc was indeed critical to architectural edu cation: we may differ on theory or in terpretation, but *having* a theory wa crucial. Any real developments in edu cation, he continued, will probably de velop within a specific school whic shares a common view rather than fro a dispersed group of teachers involve with beginning studies.

The teaching of beginning design not a neutral activity: in the formulatio of the problems we are implicitly valida ing an area of concern merely by studi ing it. Basic Design (in the Bauhau sense), says Bonta, thus shifts the stu dent's involvement to geometric an compositional principles, areas of in quiry thus deemed valid which mu reappear as important concerns in su ceeding coursework and profession practice. He summarized a number o models of architectural study that ha been presented in the previous few da and concluded that "if we cannot teac them all, the choice [of which one w teach] must not be whimsical, but de termined by *how we see architecture*—no by what the studio master wants us t teach." Few left Cranbrook unaffecte by the seminar, the issues raised, or th lack of universal solutions.

[Marc Treib, UC, Berkeley]

[*News report continued on page 58*]



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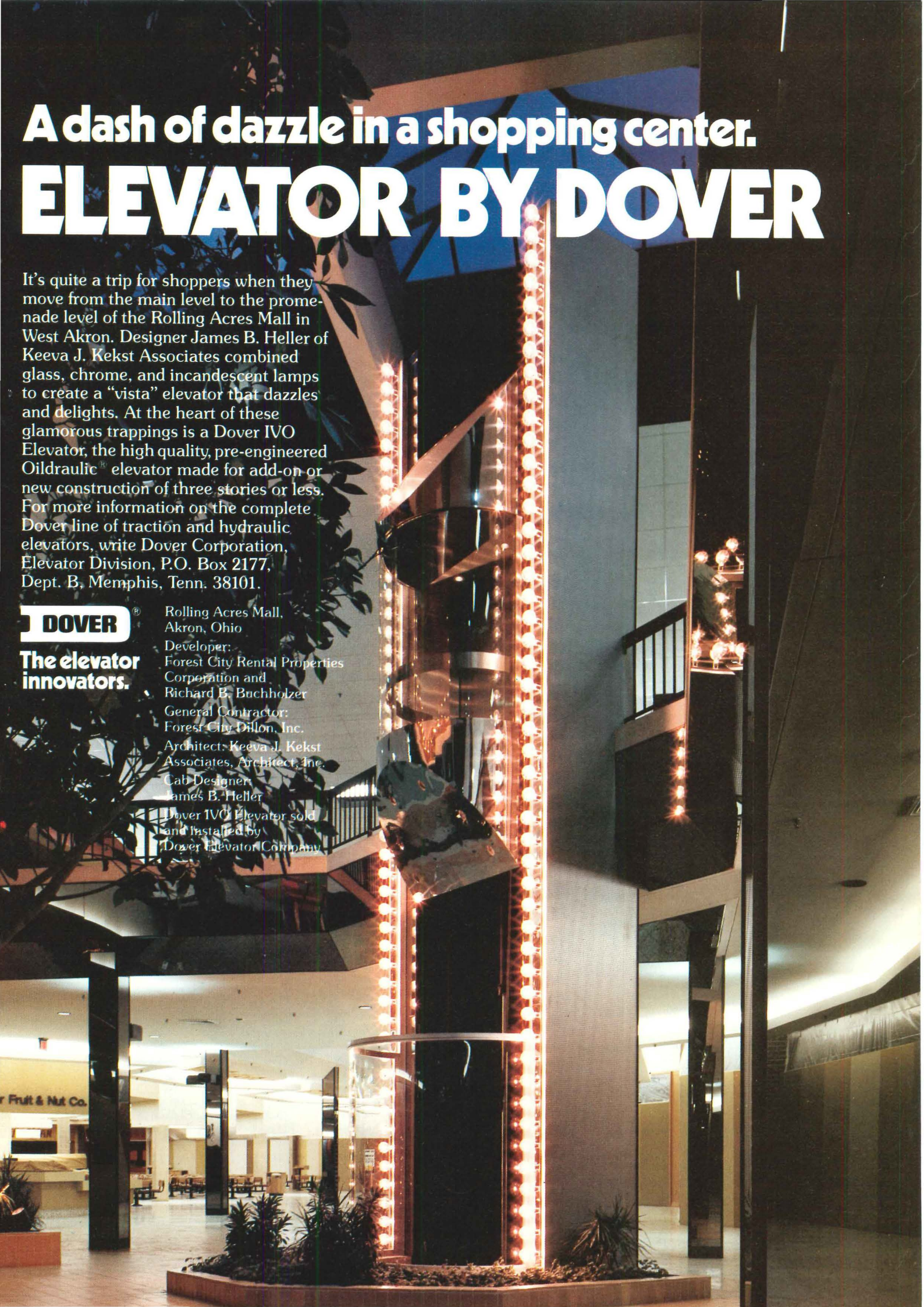
A dash of dazzle in a shopping center.
ELEVATOR BY DOVER
It's quite a trip for shoppers when they move from the main level to the promenade level of the Rolling Acres Mall in West Akron. Designer James B. Heller of Keeva J. Kekst Associates combined glass, chrome, and incandescent lamps to create a "vista"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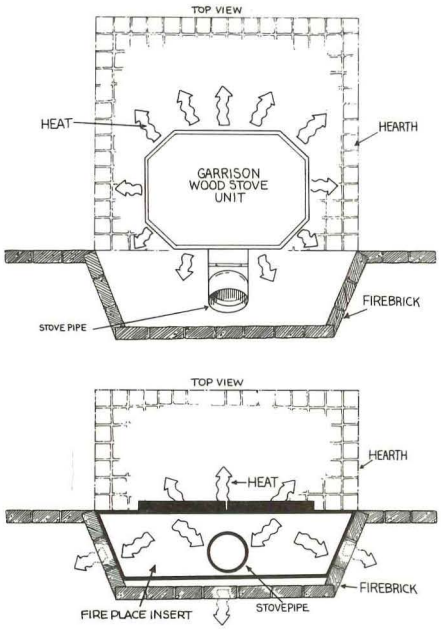
Garrison knows better than to sell you anything less than a safe product.

There are two basic types of wood-burning devices. An insert that fits into and covers a fireplace. Or a free-standing stove that can be used **in front** of a fireplace and vented through the fireplace flue. Garrison does not make fireplace inserts. Here's why.



Fireplace inserts can be unsafe. When an insert is vented into the fireplace opening, there's a space between the exhaust pipe and the fireplace damper. As a result, flue gasses cool rapidly and increase the chances of dangerous creosote build-up. Additionally, fireplace inserts cannot transfer the same BTUs per hour into a home as a woodstove. This is because three of the four surfaces of an insert are radiating heat into the fireplace and up the chimney.

The Garrison sits on the hearth **in front** of the fireplace and easily vents up the chimney. With its fire-screen in place, the Garrison can be used in place of a fireplace. And naturally, the Garrison can also be used as a free-standing stove.

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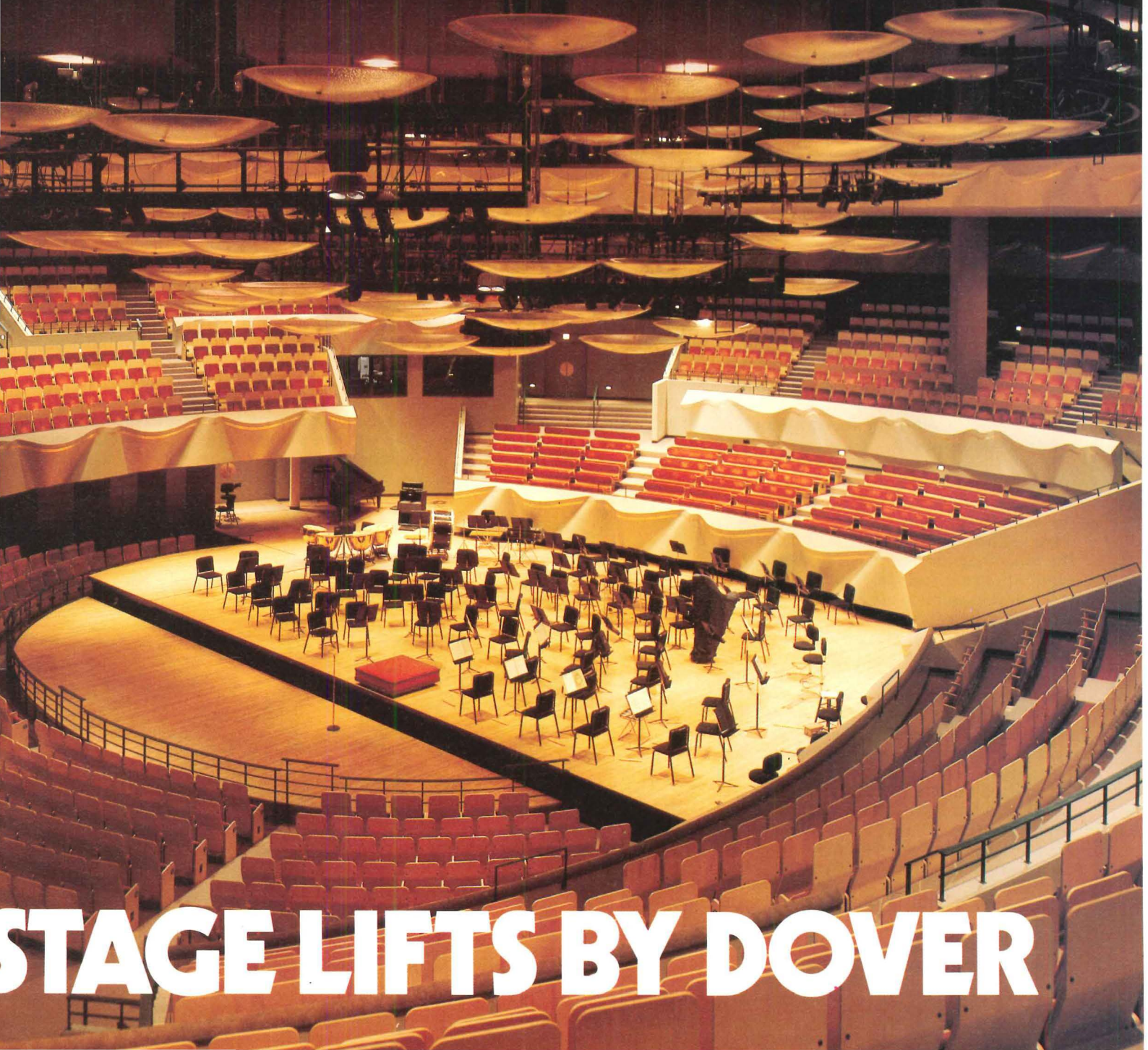


STAGE LIFTS BY DOVER

News report continued from page 54

Report from *Environs de Paris*

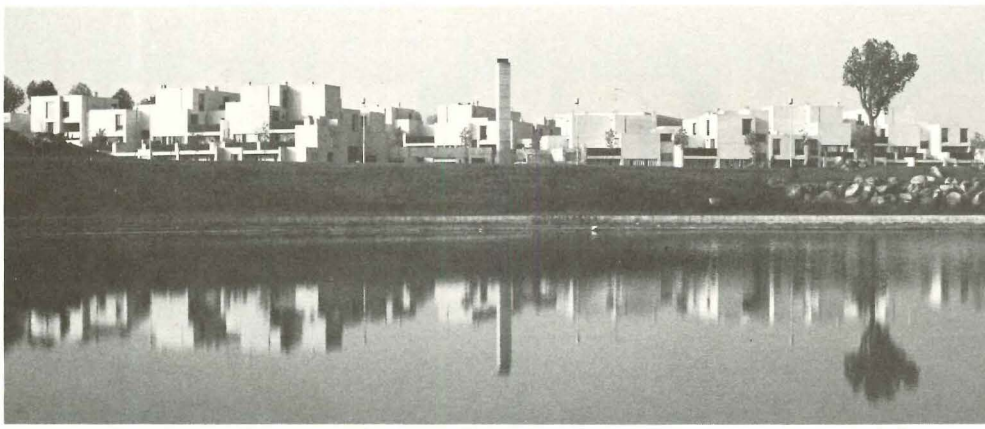
It is particularly difficult for the American observer to reconcile the unparalleled physical order of Paris with the monstrous agglomerations that have been rising around its periphery. It is as if there are deep reservoirs of bad taste, banned by law in the city itself (except for a few odious eruptions). But the official plan for the development of suburban "new towns" around Paris seems to have provided the perfect medium for what Ada Louise Huxtable had dubbed "monumental superkitsch" (*New York Times Magazine,* Nov. 19, 1978).

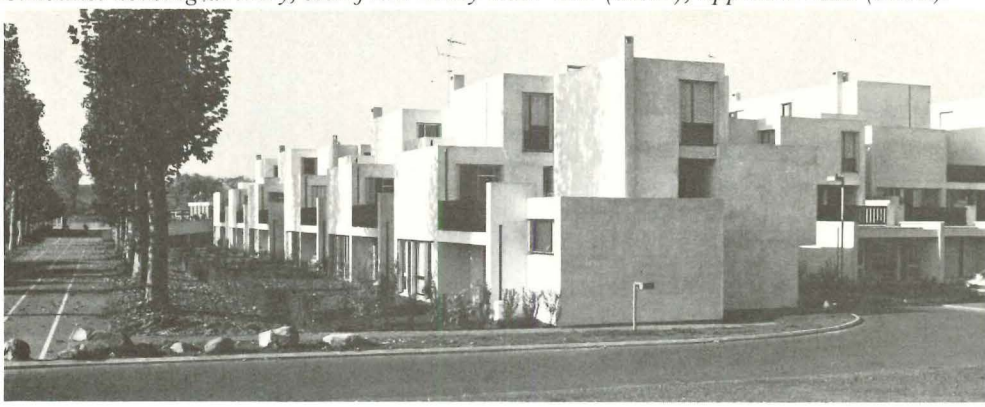
A kind of demonic humor breaks out in La Défense, the skyscraper cluster at the city's west gateway that seems to compress all the high-rise sins of North and South America in one fantasmagoric square mile. But the "new towns" dispersed in a more distant circuit—more or less 20 miles from the center—fail even at shock or parody, though they certainly seem to try for both.

Although there is undoubtedly solid French logic behind the planning for these new towns, they have turned out to be chaotic. Given the constraints on building in the city itself, it is understandable that official policy encouraged individuality in the development of separate parcels, and that architects overreacted to this unaccustomed freedom. And since these new settlements play a role quite different from American suburbs—as refuges for less affluent citizens priced out of decent in-city housing—their straining after uniqueness can be seen as offering residents visual distinction to compensate for their banishment.

There seems no justification at all, however, for the haphazard way these developments occupy the land. Lacking the cohesiveness we associate with the term "new town," they hopscotch across the once-bucolic countryside with the same apparent indifference as speculative development on our suburban fringes. Their commercial-administrative centers do not seem really central. They are too dispersed for efficient public transport and obviously encourage dependence on cars—but drivers won't find it easy to master the meandering street plans (another overreaction against the rationality of Paris itself, one assumes).

Studded among the multicolored ziggurats and vermiform châteaux that compose most of the Paris new towns are a few housing developments that are architecturally notable—either for their restraint or for the sophistication of their imagery. Three of these, in particular, which seem to have implications for housing design worldwide, are described briefly here.





Simounet housing at Evry, seen from newly made lake (above), approach road (below).

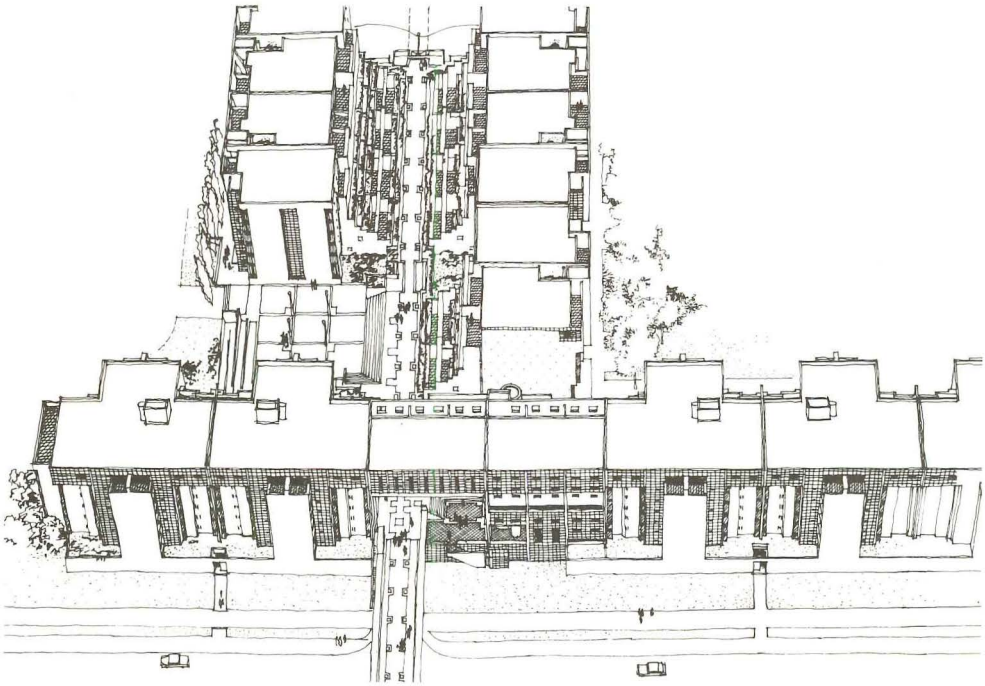
At Evry: white cubes

A 98-unit complex designed by architect Rolland Simounet is an island of calm among the novelties of Evry new town. Its dense massing of white-stuccoed cubic forms, stepping up to three stories in height, has a Casbah character. Narrow vehicular passages penetrate its clusters spanned for much of their length by upper-floor units. Individual covered parking stalls open directly off these access drives, thus minimizing the area and cost of paving for cars.

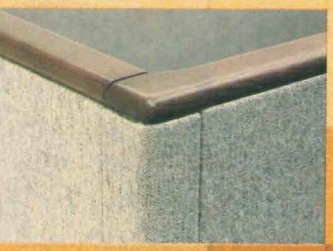
The density of the complex itself is offset by a park area with artificial lake to the south and a handsome allée of plane trees to the west, along a roadbed closed to traffic by Evry's planners and remaining as a paved promenade playground. Units vary considerably i layout but typically have a split-level o ganization, with an eat-in kitchen at th landing between living and sleepin levels; private outdoor spaces includ generous ground-level yards or uppe level terraces. Simple, incised treatmer of openings, extensive plain walls, an direct, repetitive detailing of such el ments as railings, downspouts, and roo top vents reinforce an image of agele simplicity.

At Marne-la-Vallée: formal bravura

In a 300-unit complex in the seeming boundless Marne-la-Vallée area, arch [*News report continued on page 62*]



Complex at Marne-la-Vallée by Ciriani, looking from access side toward wooded backdrop











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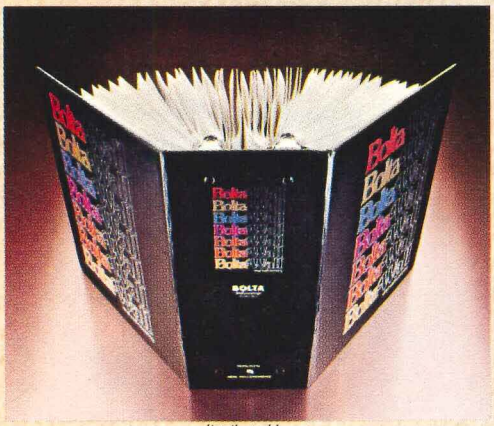

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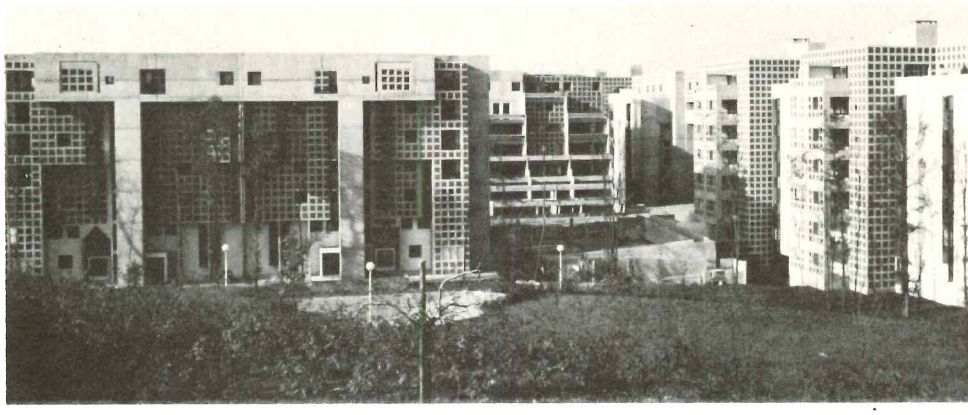
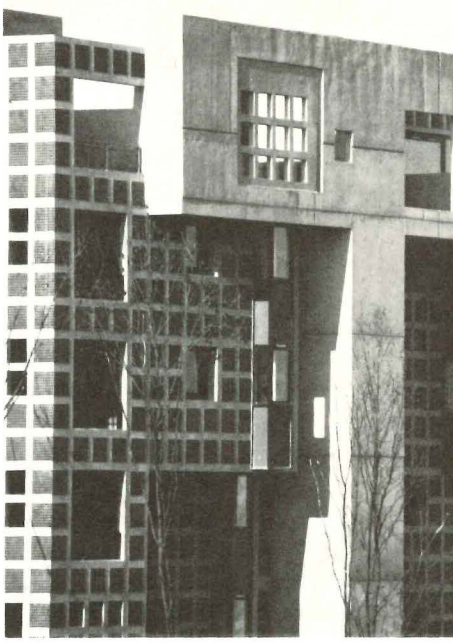
News report continued from page 58

tect Henri Ciriani has created an oasis of urbanity that contrasts with the prevailing object-in-the-landscape approach. To the visitor approaching by road, a phalanx of seven-story buildings (above one story of garage) presents a monumental wall, the sculptured forms of which are seen at closer range to have apartment-scale details. The complex is actually organized around a pedestrian walk, which bridges the road on its way from a nearby railroad station, then passes through an urban-scaled "gate" into a sheltered plaza and on along a promenade lined with tiered balconies.

Ciriani has treated his sculptural building forms with ornamental surfaces that are far removed from the pastel-tinted stucco that adorns neighboring complexes. A modular pattern is established by precast panels of brick-red industrial tile, in ½-meter squares, articulating the principal exterior planes, from which other planes recede or project. The same modular





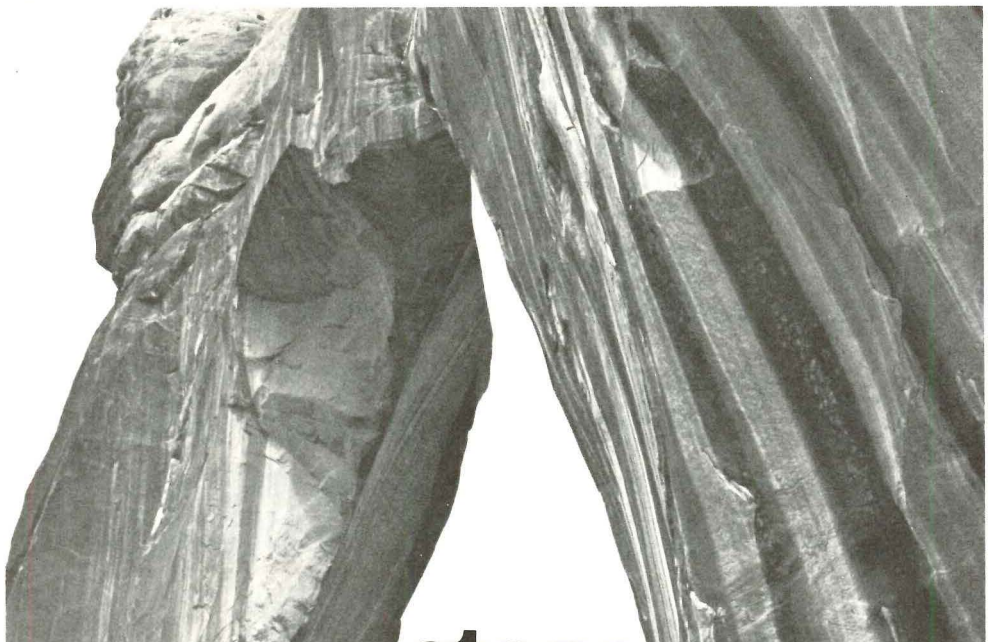
Ciriani's housing at Marne-la-Vallée pla concrete planes against grids and lattices.

squares are repeated in relief on so concrete walls, in some punched op ings, and in the lattices that screen sta of balconies. From the inside, these l tices give deep balconies private, roo like qualities; from the outside, th mask diverse furnishings with a liv rhythm. Vertical bands of projecti windows and other trim are painted t dark green of Parisian street furnitu and storefronts.

These frankly ornamental walls ret their visual interest in sun or shad and provide an urbane backdrop for t plaza and the areas of greenery that t complex embraces. Their materials, c ors, and patterns make allusions urban settings out of the Fren past—without evoking any obvio precedents—and they deserve attenti from those planning the residential ture.

At St.-Quentin-en-Yveline: Classicis The most unexpected work in progr in the new towns around Paris—t severest challenge to one's criti faculties—is by the Taller de Arquit tura of Barcelona, the Bofill ateli These architects have made previo controversial proposals for the Pa region—including a scheme for the L Halles site that was demolished aft construction started—but the housi

[*News report continued on page 67*]



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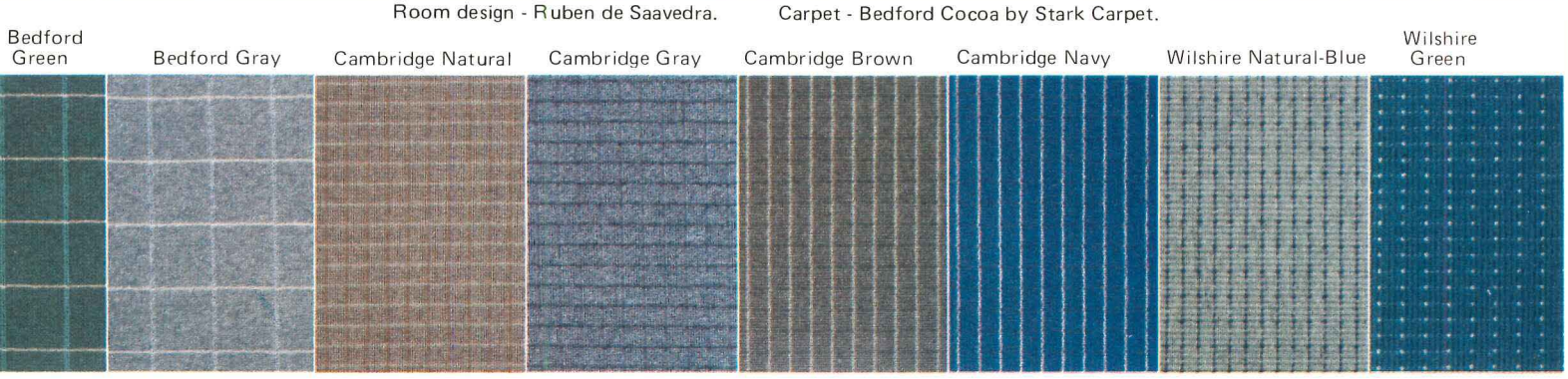
Room design - Ruben de Saavedra. Carpet - Bedford Cocoa by Stark Carpet.



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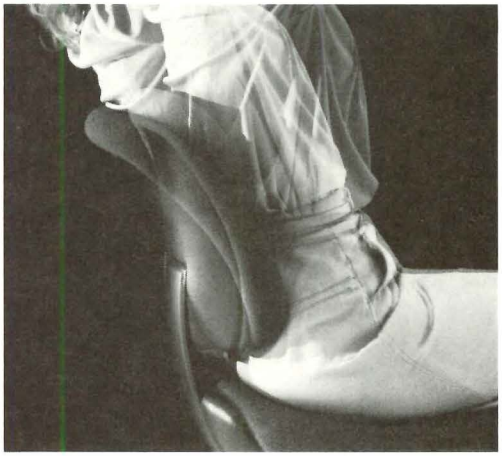

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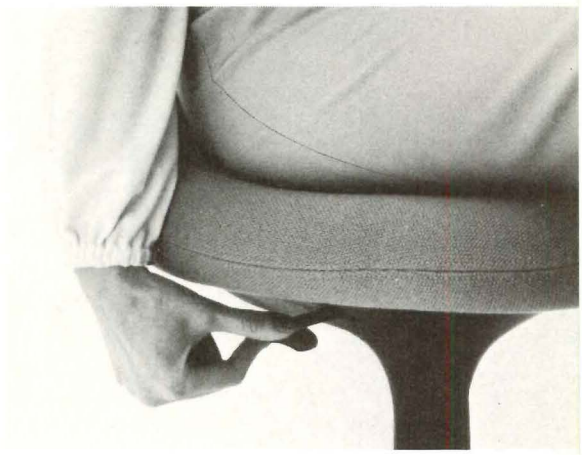

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†Laboratory and Field Investigations to Moisture Absorption and its Effect on Thermal Performance of Various Insulations. Pub. ASTM—STP660. 1978.

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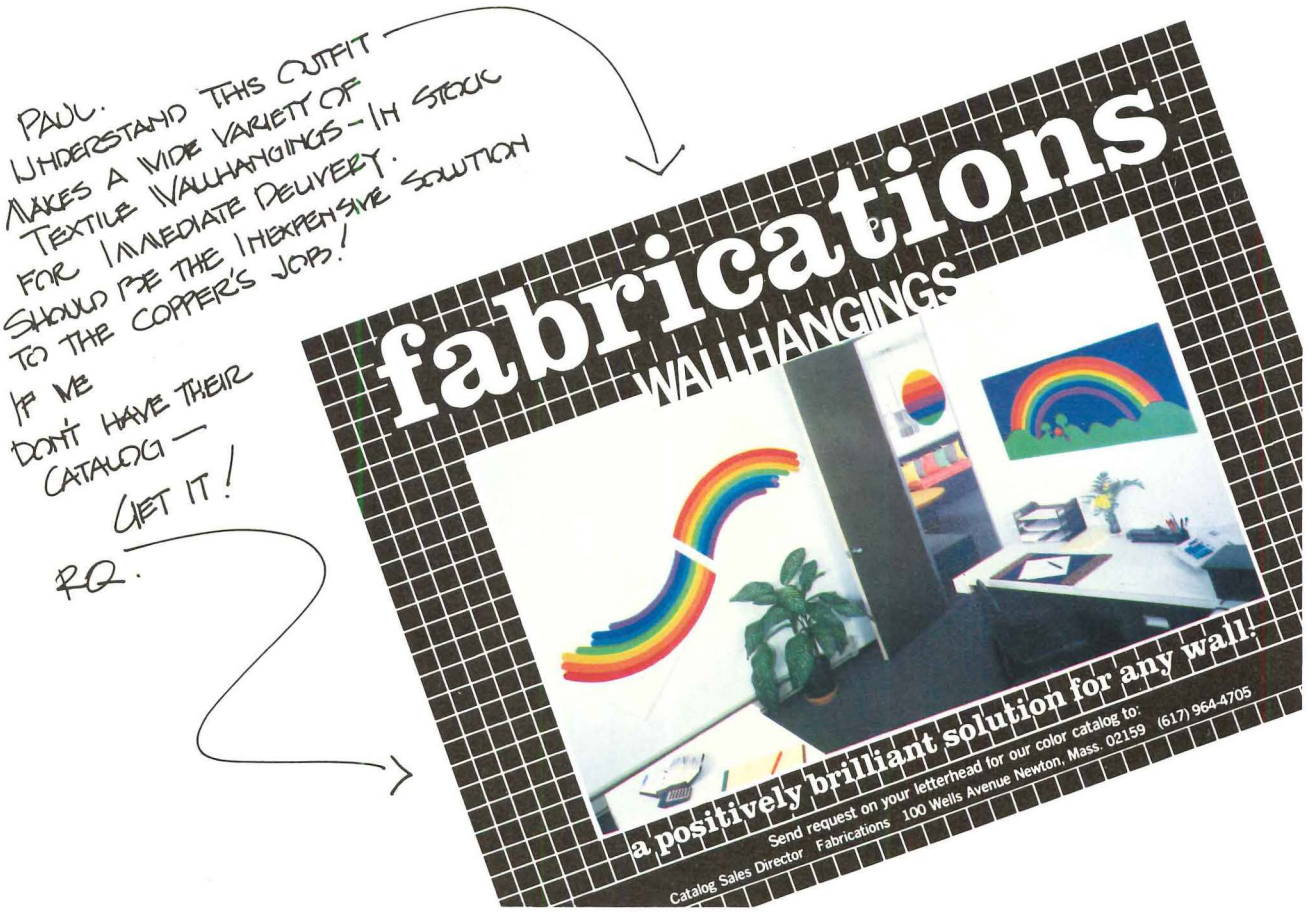

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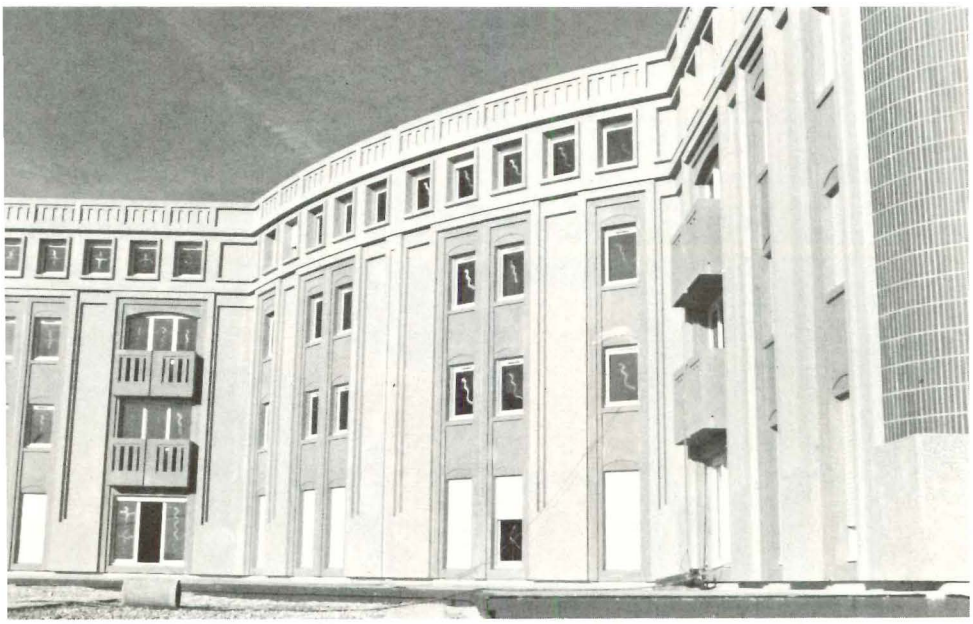
ews report continued from page 62

Apartments at St.-Quentin by the Bofill studio have Classical façades along rigid axes, with circuses at crossings.

omplex shown here is their first work ere to approach completion. Rising ext to an artificial lake at the frontier here this new town meets the open elds, it will soon be joined by another ofill project that will extend out over e water.

The shock of this project is its un-ashed Classicism, in both plan and çade. Its linear, four-story apartment ocks (with covered parking below) are d out symmetrically on a Classical id, with circular *rond-points* at intersec-ons.





Photos: John Morris Dixon

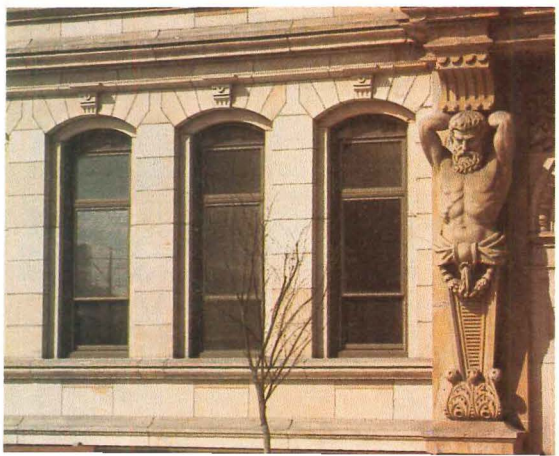
The technology of precast concrete panels—the customary material for all these new town projects—has been boldly adapted to the cause of Classicism; precise moldings in low relief outline panels of darker tan aggregate and brown tile in the off-white matrix. Bands of repetitive windows form emphatic friezes at the roofline, and at key points aluminum window frames bend obediently to urban-scale arched openings. The Classical axes of the plan turn out to work ideally, it appears, for the tall rolling cranes that are ubiquitous in these new towns; they can ride along its axes and place their cargoes of concrete panels along streets of uniform width or arcs of constant radius with a theoretical minimum of maneuvering. The brilliant, unpredictable designers from Catalonia are combining 18th-Century formalism with 20th-Century technique to give the Paris new towns one of their few truly precedent-shattering landmarks. [JMD]

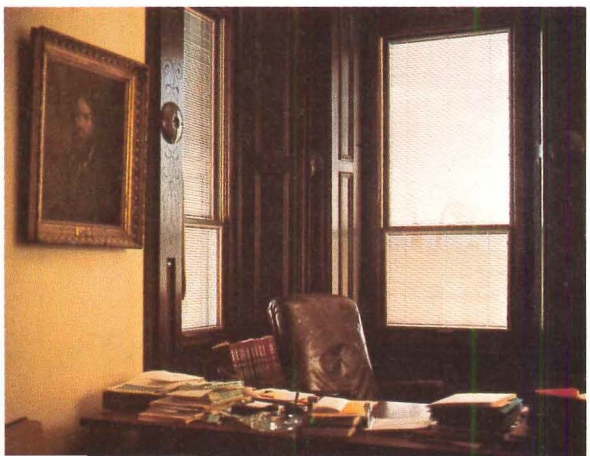
Aalto celebration at Mt. Angel Abbey

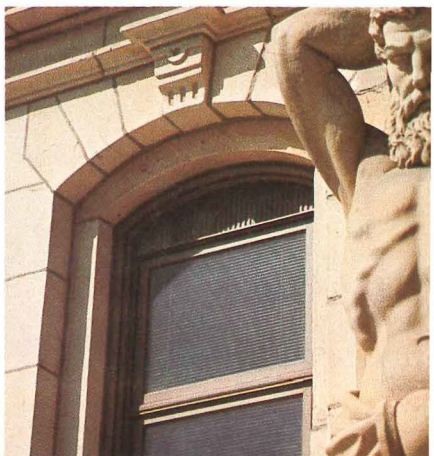
The library at Mt. Angel Abbey in Oregon is one of the two buildings in the U.S. designed by Alvar Aalto, and the abbey was the site on June 28 of a one-day symposium of the work of the Finnish master. The meeting was held in connection with the opening at Mt. Angel of the Alvar Aalto exhibition that had appeared previously in New York (P/A, Sept. 1979, p. 33), Chicago, Ar-

[*News report continued on page 70*]









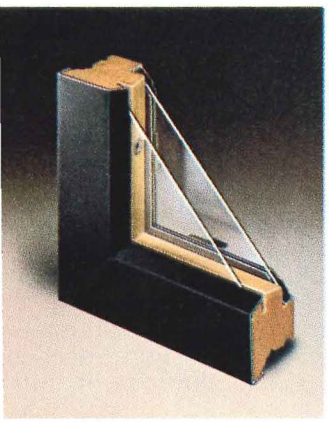
Restoring this grandiloquent courthouse to its former glory
meant preserving stately exterior mouldings
and matching splendid dark wood interior paneling.

Only a Pella package makes it so simple to retain the grandeur of yesteryear.

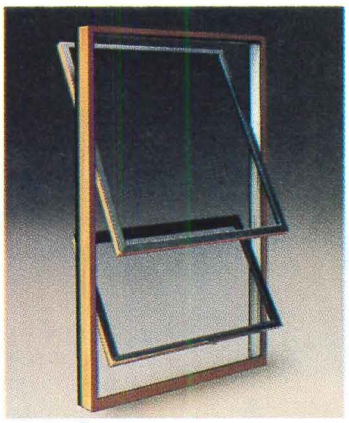
he exuberant style of this charming building speaks volumes bout a period of our architectural heritage when embellishment vas an art. The challenge was to bring this turn-of-the-century uilding up to modern standards without harming the integrity of s flamboyant design.

The architect specified Pella contemporary double-hung win-ows with minimum-maintenance dark brown cladding because ney closely resembled the appearance of the original windows nd blended unobtrusively with the facade. On the first floor, Pella xed glass units with curved metal panels custom-fabricated to t the arch of the original windows were mounted above the oper-ble windows. This made it simple to remove existing sash and ip new ones into unusual-sized openings without disturbing or-nate exterior mouldings. Ease of installation saved considerable construction time and trouble. Because preservation of impressive interior decor received equal attention, staining natural wood in-side frames and sash to match distinguished dark paneling proved to be another major benefit of using Pella windows. Effective sun control, once the province of heavy, hard-to-maintain draperies, is now provided by Pella's exclusive Slimshade, narrow-slat blinds in a dust-free, tamper-proof space between panes of the Double Glass Insulation System. Maintenance reduction is especially im-portant in a public building like a courthouse.

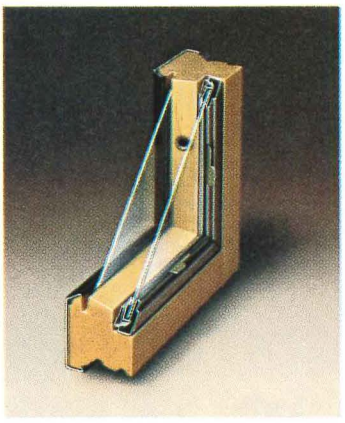
All in all, a Pella package offers an efficient, modern method of maintaining prestigious historic buildings in the style to which they once were accustomed.



ella offers a tough aluminum adding in attractive colors out-de — the warmth and beauty of ood inside. Aluminum exterior is eaned, etched and coated with gh-temperature baked acrylic olymer. Won't chip, crack or peel.



Pella's Contemporary Double-Hung Window pivots for quick, easy washing of outside glass from inside the building. This feature also makes sash removal for re-glazing easy and economical.



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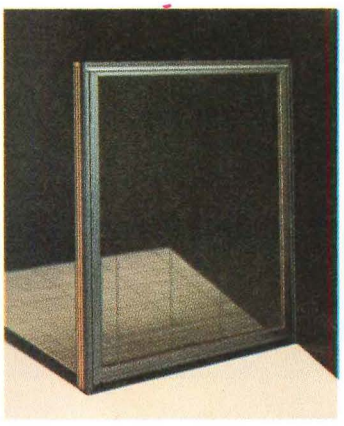

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News report continued from page 67

lington, Tx, and Houston.

Invitations distributed to West Coast chapters of the AIA drew about 800 architects to the symposium, which was attended by Mrs. Aalto and a number of recognized authorities on Aalto. Special events were held on days preceding and following for architecture students and for interior designers. Video tapes of the symposium are to be kept at the abbey library for viewing by visitors.

The exhibition, displayed from June 29 through August 24, was housed in a 6300-sq-ft temporary pavilion, designed by S.O.M., Portland, under the direction of David Pugh, FAIA. The form of this pavilion and its gold and white stripe motif were meant to underscore the festive nature of the occasion and evoke the ancient origins of the Benedictine order, whose patronage of the arts is demonstrated in Aalto's library and in their sponsorship of these events.

Calendar

Competition deadlines

Sept. 15. Entry deadline for Simpson Timber Company Redwood Plywood Imagination Awards recognizing outstanding residential and commercial use of Ruf-Sawn Redwood Plywood. Write Simpson Timber Co., 900 Fourth Ave., Seattle, Wa 98164.

Oct. 2 AIA Committee on Interiors conference, Villard Houses, New York. Theme: "Inside Architecture '80." Contact Dick Van Os Keuls, AIA Headquarters, Washington, DC 202-626-7429.

Oct. 6. AIA Housing Committee conference, Washington, DC. Theme: "Creative Financing: How the Architect/Developer Can Secure Financing." Contact Mike Cohn, AIA Headquarters, Washington, DC 202-626-7366.

Oct. 13–15. AIA Committee on Architects in Industry conference, Cascades Motor Lodge, Colonial Williamsburg, Va. Theme: "Managing the Corporate Image through Architecture and Design." Contact Mike Cohn, AIA Headquarters, Washington, DC 202-626-7366.

Oct. 13–16. Third World Energy Engineering Congress, Georgia World Congress Center, Atlanta. Contact Association of Energy Engineers, 4025 Pleasantdale Rd., Suite 340, Atlanta, Ga 30340.

Oct. 15. Helios Tension Products competition for design of a tension membrane covering for an outdoor theater. Write Helios Tension Products, Inc., 1602 Tacoma Way, Redwood City, Ca 94063.

Oct. 31. Entry deadline for Tucker Awards for excellence in use of natural stone. Write Building Stone Institute, Room 2800, 420 Lexington Ave., New York, NY 10017.

Dec. 1. Plywood Design Awards for outstanding aesthetic and structural applications of softwood plywood in projects completed after June 1, 1979. Write Plywood Design Awards, American Plywood Association, P.O. Box 11700, Tacoma, Wa 98411.

Exhibitions

Sept. 4–Oct. 4. "Current Works" of Michael Graves. Max Protetch, 37 W. 57 St., New York, NY.

Sept. 9–Oct. 2. "Art in Architecture" photographic exhibit exploring the role of art in buildings and public spaces. Gallery At The Old Post Office, 120 W. Third St., Dayton, Oh.

Sept. 9–Oct. 26. "Boston: Forty Years of Modern Architecture," featuring 22 notable projects in drawings, photographs, and models. Institute of Contemporary Art, 955 Boylston St., Boston, Ma.

Sept. 18–Dec. 1. "Celluloid Cathedrals," color photographs by John Margolies of movie theaters. The Lobby, 369 Lexington Ave., New York, NY.

Through Sept. 21. "Buildings Reborn New Uses, Old Places. First National Bank of Denver, Denver, Co.

Oct. 14–Nov. 29. "Michael Thonet: A dominant influence 1830–1980." Lord & Taylor, 8th Floor Furniture Gallery Fifth Ave., New York, NY.

Oct. 18. Opening of "Architecture II Houses for Sale," exhibition of original designs for family houses by eight internationally known architects. Leo Castelli, 420 West Broadway, New York.

Through Oct. 19. "Beach, Boardwalk Boulevard," tracing Atlantic City's transition from ocean resort to casino oriented community. Cooper-Hewit Museum, 2 E. 91 St., New York, NY.

Meetings and conferences

Oct. 4–5. Designer's Saturday. Nev

[*News report continued on page 75*]



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Architects, Seattle, WA
General Contractor:
Howard S. Wright
Construction Co.,
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Structural Engineer: KPFF—
Consulting Engineers,
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Steel Fabricator:
Atlas Iron Works, Inc.,
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STEEL: the first choice for Seattle's newest office tower.



The new 25-story Fourth & Blanchard Building in the Denny Regrade district is the most ambitious project conceived by Seattle office-space developer Martin Selig —a name synonymous with first-class planning design.

It was decided that steel design would est provide the freedom to incorporate all ıe proposed architectural features. Several esigns were presented, the final choice eing a parallelogram floor plan with angled pper stories. The steel design also helped eep the weight of the structure to a mini-ıum. This was important for the design ı seismic Zone 3. A glass curtain wall as dictated by the form of the building hich demanded a clean, smooth, flush, ıonolithic surface—in no way competing ith the upper lines.

Maximum usable space

The $33-million building has two inter-ɔnnected towers with 45-degree angled ɔofs. The roofs—a striking design feature -offer prime office space with spectacular ews. A minimum of interior columns elps maximize use of the 531,000 sq. ft. of ɔor space, including the 3-level garage.

Conservation of energy was a key consid-ation, and an electric-hydronic heat pump system connected to a main circulating water pipe provides heating and cooling which is both energy efficient and economical to install. In addition, the roofs were designed to accommodate solar panels in the future.

Steel speeds construction

The new building was erected on a narrow site—just half-a-block—and over 2,650 tons of A-36 and A-572 grade 50 steels were supplied by U.S. Steel. The fabricated steel was trucked from Portland at night and erected during the day using a single truck crane having a 280 ft. tower topped by a 170 ft. boom. This eliminated traffic congestion in a busy downtown area with a minimum of storage space. And the structural framing was completed one month ahead of schedule!

This handsome structure, incorporating the latest in building systems technology, is one more example of the design flexibility and practical economy of using structural steel.

To find out more about this building, and for information regarding the many applications for structural steel, contact a USS Construction Representative through your nearest U.S. Steel Sales Office. Or write for the USS Building Report (ADUSS 27-7642-01) to P.O. Box 86 (C-1212), Pittsburgh, PA 15230.

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News report continued from page 70

York. Student day, Oct. 2 (see p. 89).
Oct. 8–12. Annual Meeting and Preservation Conference in New York City. Contact National Trust for Historic Preservation, 1785 Massachusetts Ave., NW, Washington, DC 20036.
Oct. 15–17. Producers' Council Convention, Marco Beach Hotel, Marco Island, Fl. Contact D. Seline, Producers' Council, 1717 Massachusetts Ave., Rm. 3601, Washington, DC 20036.
Nov. 2–4. Designing with Systems, Rapids Rally '80, national student interior design conference, Grand Rapids, Mi. Write Cath McGlynn, IBD, Rapids Rally '80, P.O. Box 2383, Grand Rapids, Mi 49501.
Nov. 9–14. International Federation for Housing and Planning World Congress, Jerusalem, Israel. Write North American Committee for the 1980 IFHP Congress, Suite 308, 1750 Pennsylvania Ave., Washington, DC 20006.
Nov. 18–20. International Energy Management & Facilities Improvement Show. Merchandise Mart, Chicago, Il 60654.

Personalities

Max Bond, associate professor at the Columbia University Graduate School of Architecture and Planning, has been named chairman of the School's Division of Architecture. Bond, who was recently named to the New York City Planning Commission, is a partner of Bond Ryder Associates, New York.

Richard E. McCommons has been named executive director of the Association of Collegiate Schools of Architecture, Washington, DC. McCommons was formerly associate professor of architecture and coordinator of graduate studies, Department of Architecture, Miami University, Oxford, Oh. **Roger L. Schluntz,** former ACSA executive director, has been appointed chairman of architecture, Arizona State University, Tempe.

John Q. Hejduk, AIA, has been selected by the New York Chapter AIA to receive the Arnold W. Brunner Scholarship, enabling him to prepare a comprehensive recording of his work from 1947–80. Hejduk is dean of the School of Architecture at The Cooper Union for the Advancement of Science and Art, New York.

Bill N. Lacy has been appointed president of The Cooper Union for Advancement of Science and Art, New York.

M. Rosaria Piomelli has been named dean of the School of Architecture and Environmental Studies, The City College, New York. She is the first woman to head a school of architecture in the United States.

Jacquelin Taylor Robertson, FAIA, has been named dean of the University of Virginia School of Architecture. Robertson has recently established a New York-based architectural and planning firm with Peter Eisenman, Eisenman/Robertson.

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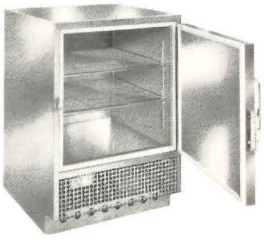

UC-5-CW* refrigerator with cold wall cooling system is equipped with push-button defrost, automatic reset and condensate evaporator.
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UC-5-CW-E refrigerator has the same interior features as the UC-5-CW but modified to make it *totally explosion-proof.*
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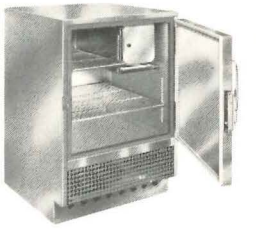
*With explosion proof interior only.



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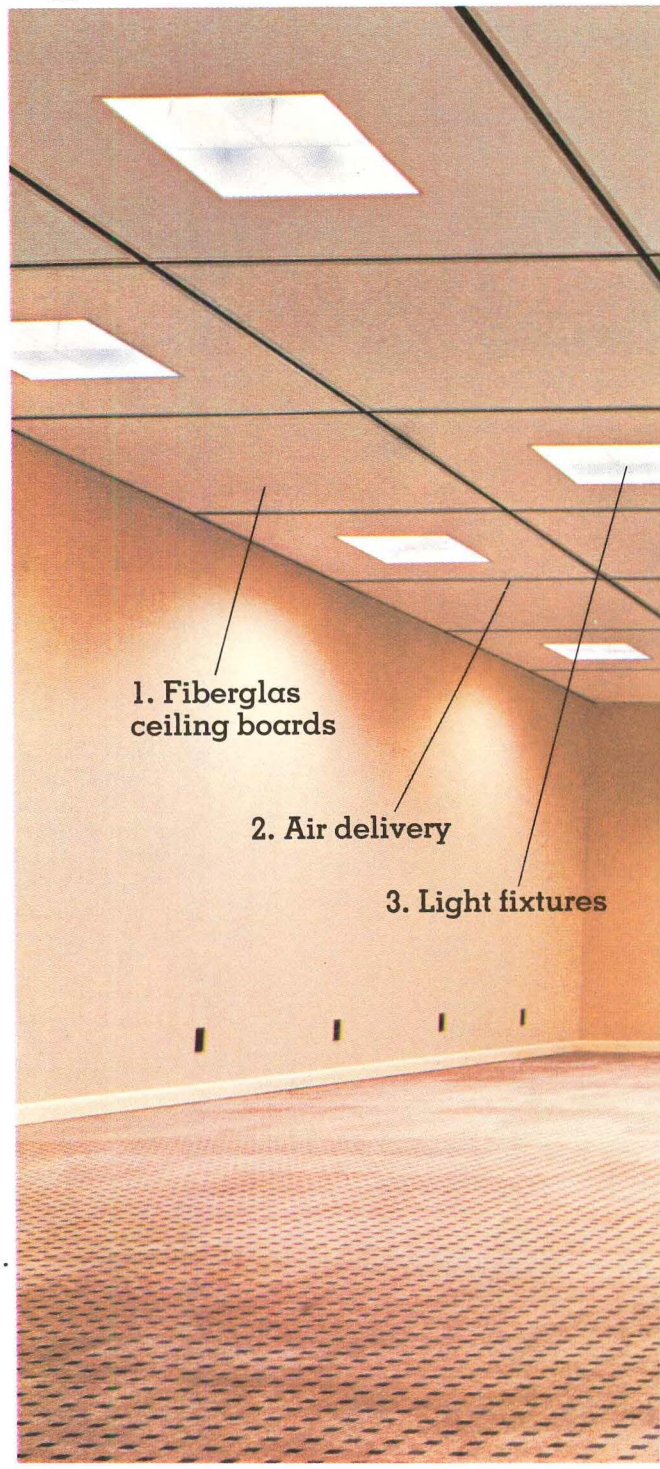

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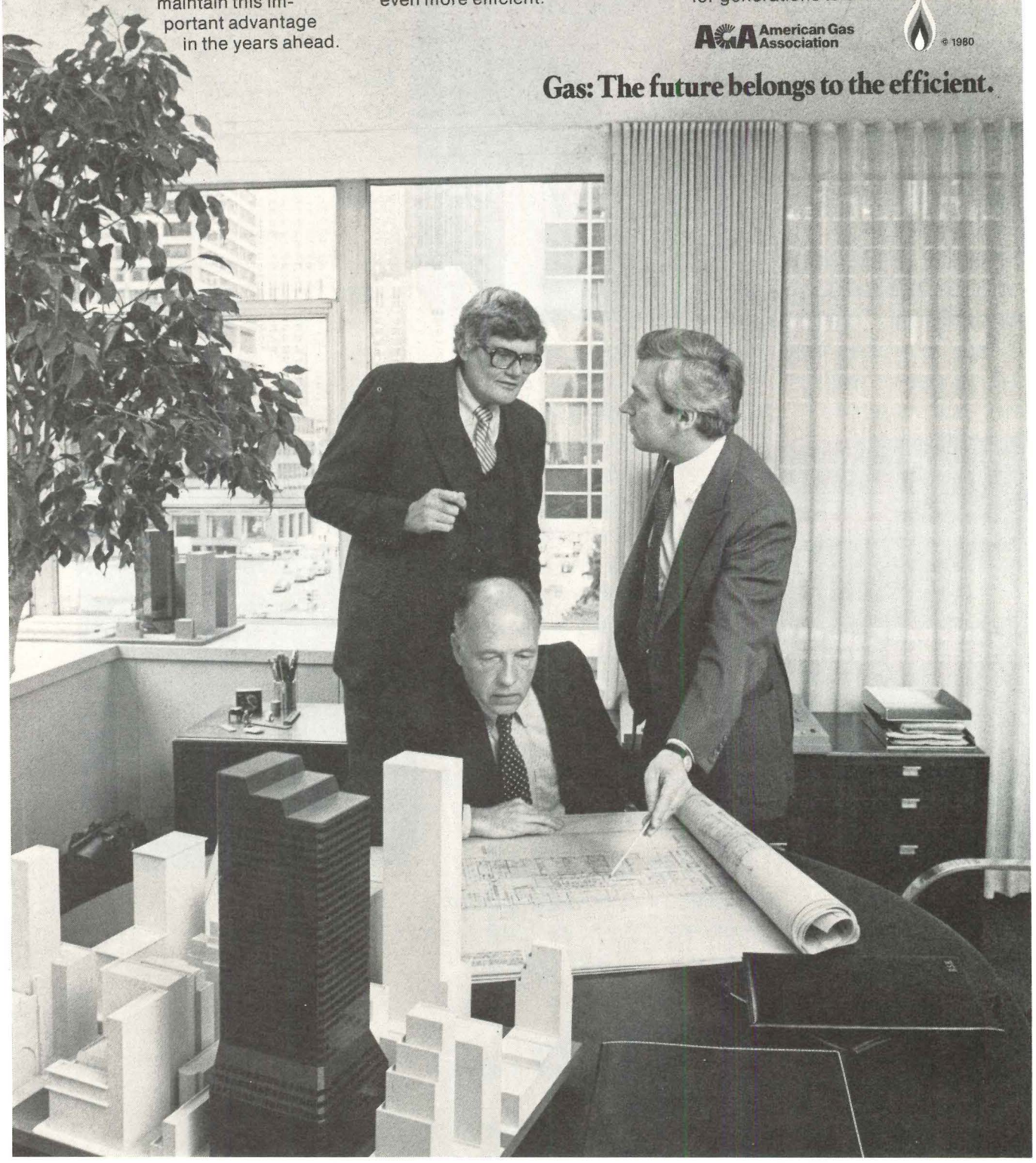

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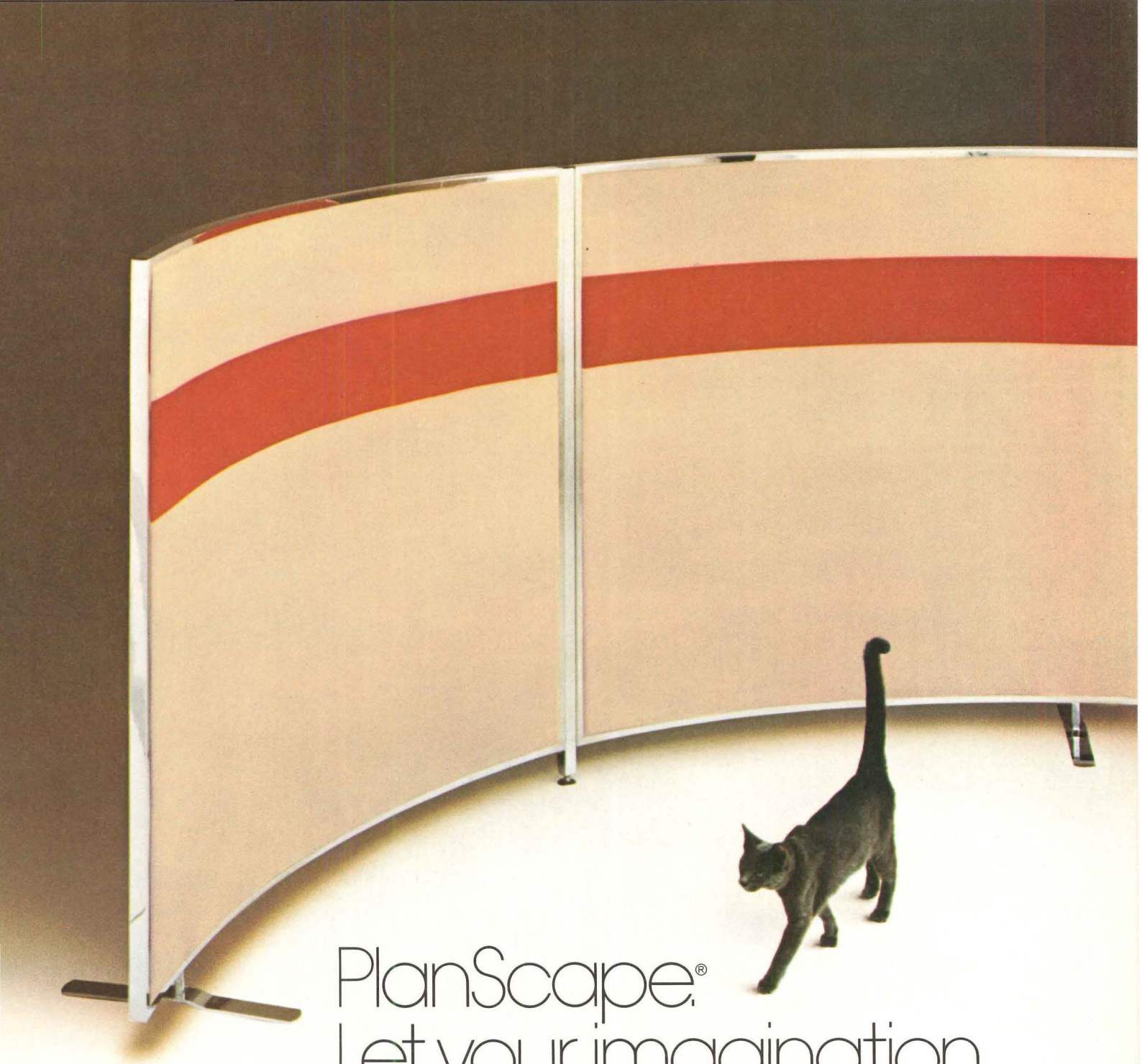

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Magnification 250X of Antron® III nylon showing hollow filaments and round, anti-static filament.

Antron® III controls static shock. Gives you protection that won't wear out or shampoo out—because it's built right into the fiber.

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Room 37229
Wilmington, Delaware 19898

Installation: Fluor Corporation Engineers and Constructors, Inc., Irvine, Calif.

Architect: Welton Becket Associates, Los Angeles, Calif.

Carpet Consultant: William Schuler & Associates, Los Angeles, Calif.

*Du Pont registered trademark for nylon fiber. Du Pont makes fibers, not carpets.

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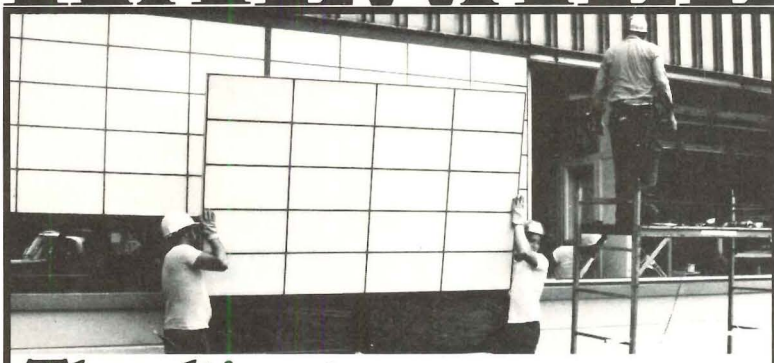

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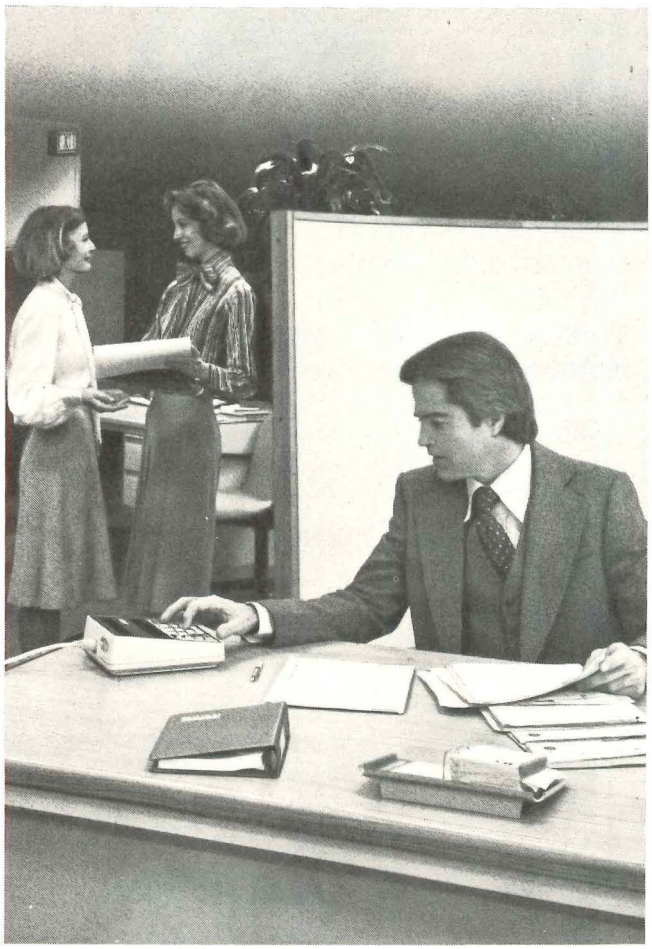

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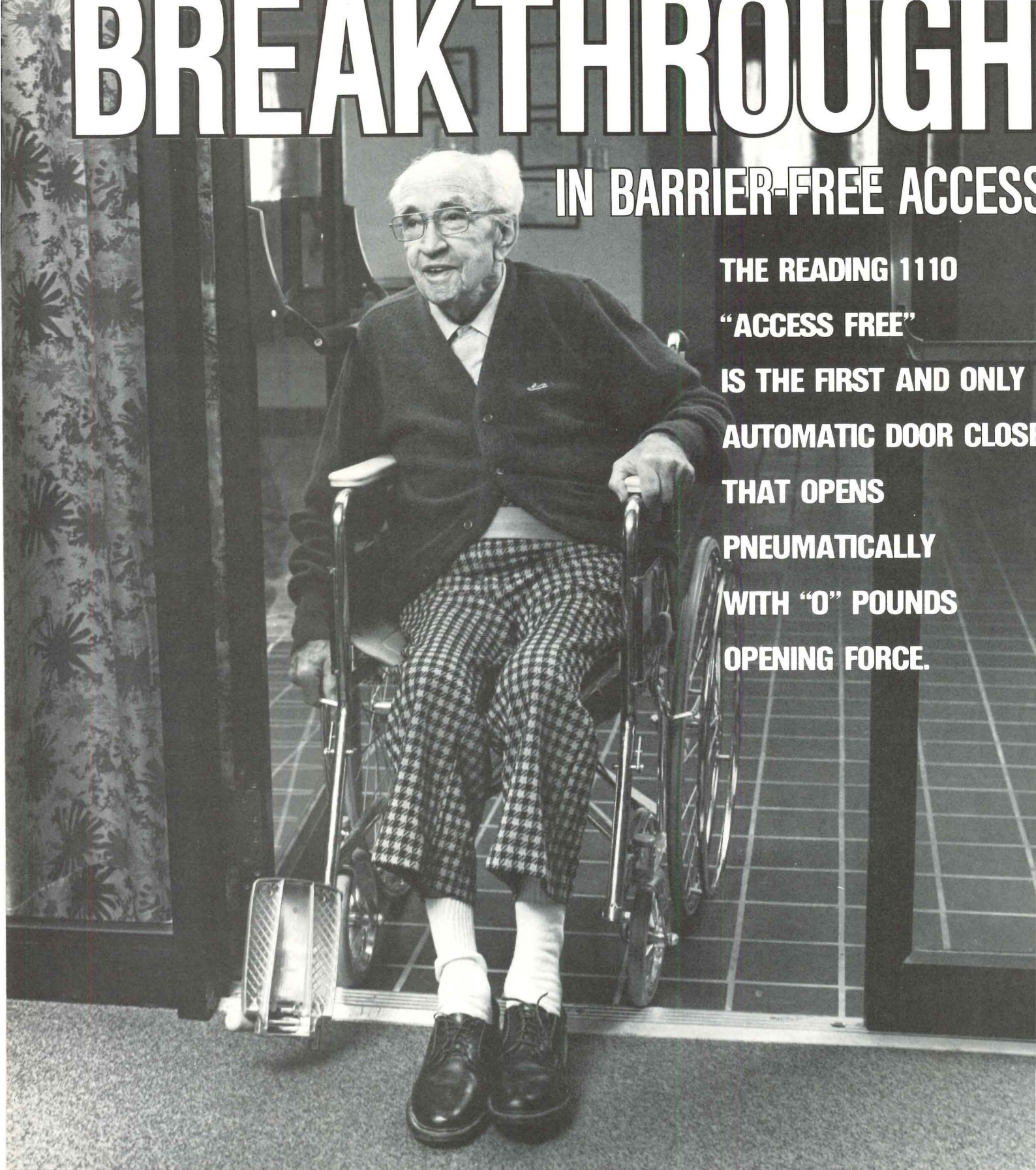

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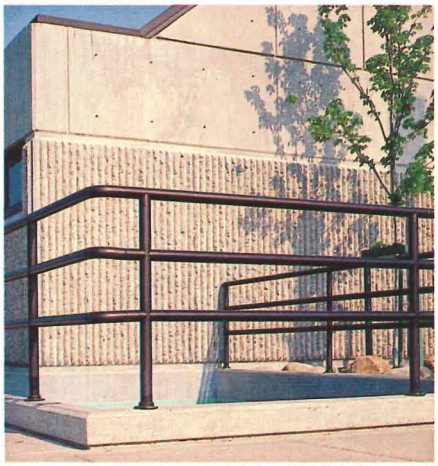
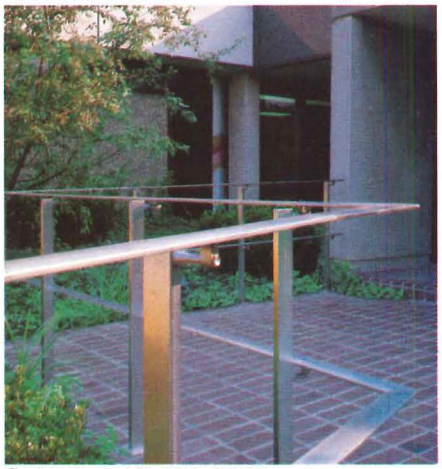


Connectorail—TABLE ROCK VISITOR CENTER



Carlstadt—HARLECO CORP.



Ornamental—R. L. STOWE MILLS

HARLECO CORPORATION, Gibbstown, New Jersey—
Designer/Fabr: Southern Steel Fabricators, Inc.

HAYWOOD COUNTY COMMUNITY COMPLEX, Brownsville, Tennessee—
Arch: Gregory-Grace & Associates Inc.;
Fabr: Tamco Inc.

R. L. STOWE MILLS, Belmont, No.Carolina—
Arch: Freedom Design & Interiors;
Fabr: Colonial Iron Works.

RESIDENCE, Louisville, Kentucky—
Designer/Fabr: James Carter, Central Ornamental Metals Co.

TABLE ROCK VISITOR CENTER, Branson, Missouri—
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Fabr: Williams-Leonard Construction Co.

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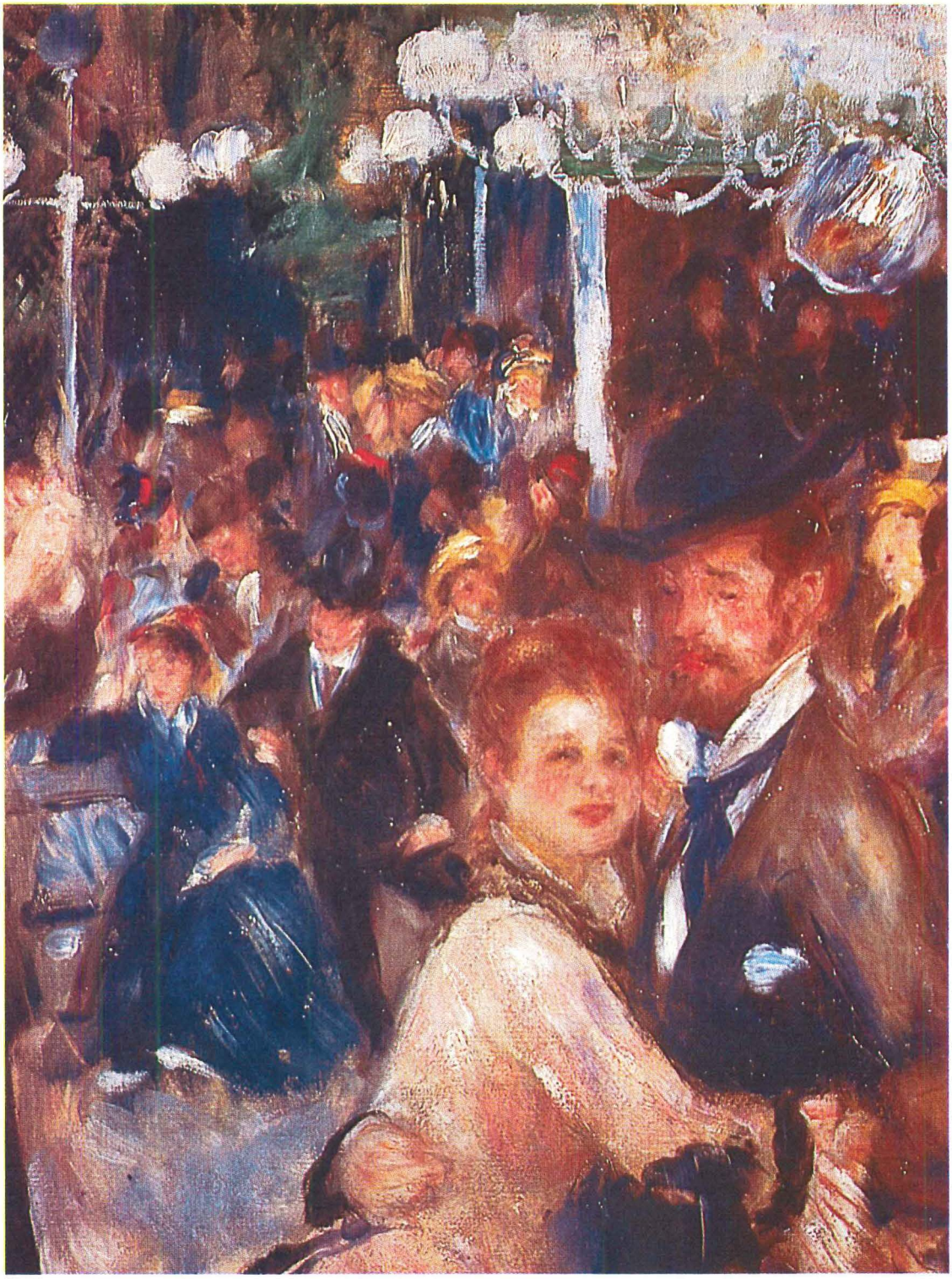
Designer's Saturday



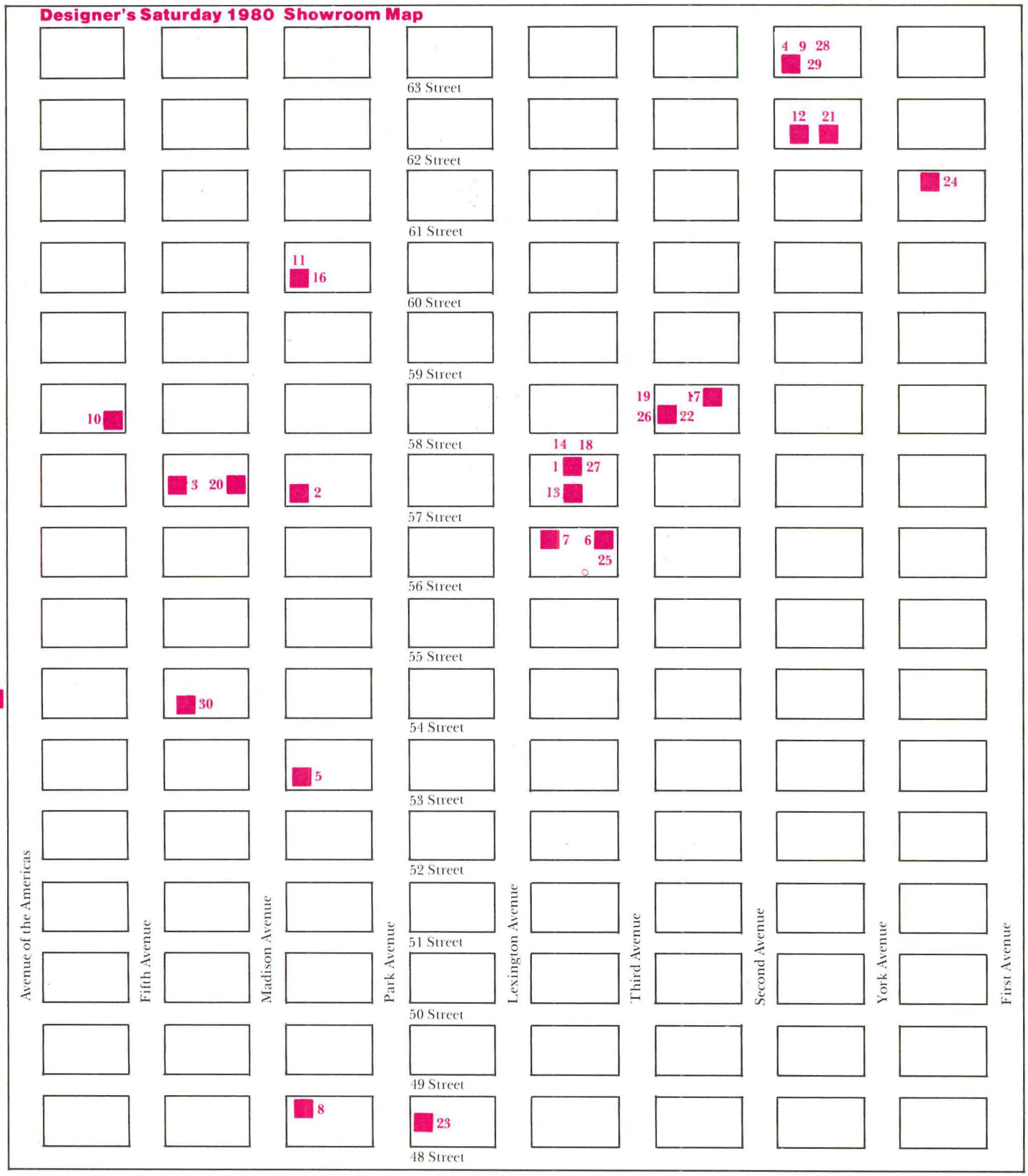
Auguste Renoir, Le Moulin de la Gallette, 1876. Cliches Musées Nationaux, Paris

Designer's Saturday
October 3 and 4

Designer's Saturday, when hundreds of architects, designers, and students pour into a select number of New York showrooms, is scheduled this year for Friday, Oct. 3, and Saturday, Oct. 4. As for the past 12 years, showrooms will be open from 9 a.m., many offering buffet fare along with the latest in furniture, lighting, and fabric design. Jack Lenor Larson will join the other 29 participants for the first time.

The popular reception that traditionally ends the event will be held at the Metropolitan Museum of Art, from 7 to 9 p.m., Oct. 4, during which guests will have the opportunity to view Kevin Roche/John Dinkeloo & Associates' new American Wing. Tickets can be purchased from the museum, Special Events: Designer's Saturday, Fifth Ave. at 82nd, New York, NY 10028, at $10 apiece; funds to be donated to the musuem.

For the third year, in conjunction with the professional activities, the Institute of Business Designers is hosting a student rally. Designer's Saturday opens its showrooms to students Thursday, Oct. 2. That evening, IBD will host a banquet in Chinatown. Friday, IBD will sponsor bus trips to local workshops and factories, and IBD trade member showrooms will offer special presentations. There will be seminars on Saturday. Activities are by prepaid reservation. For more information, contact Student Rally '80, Institute of Business Designers, Box 86, New York, NY 10022.



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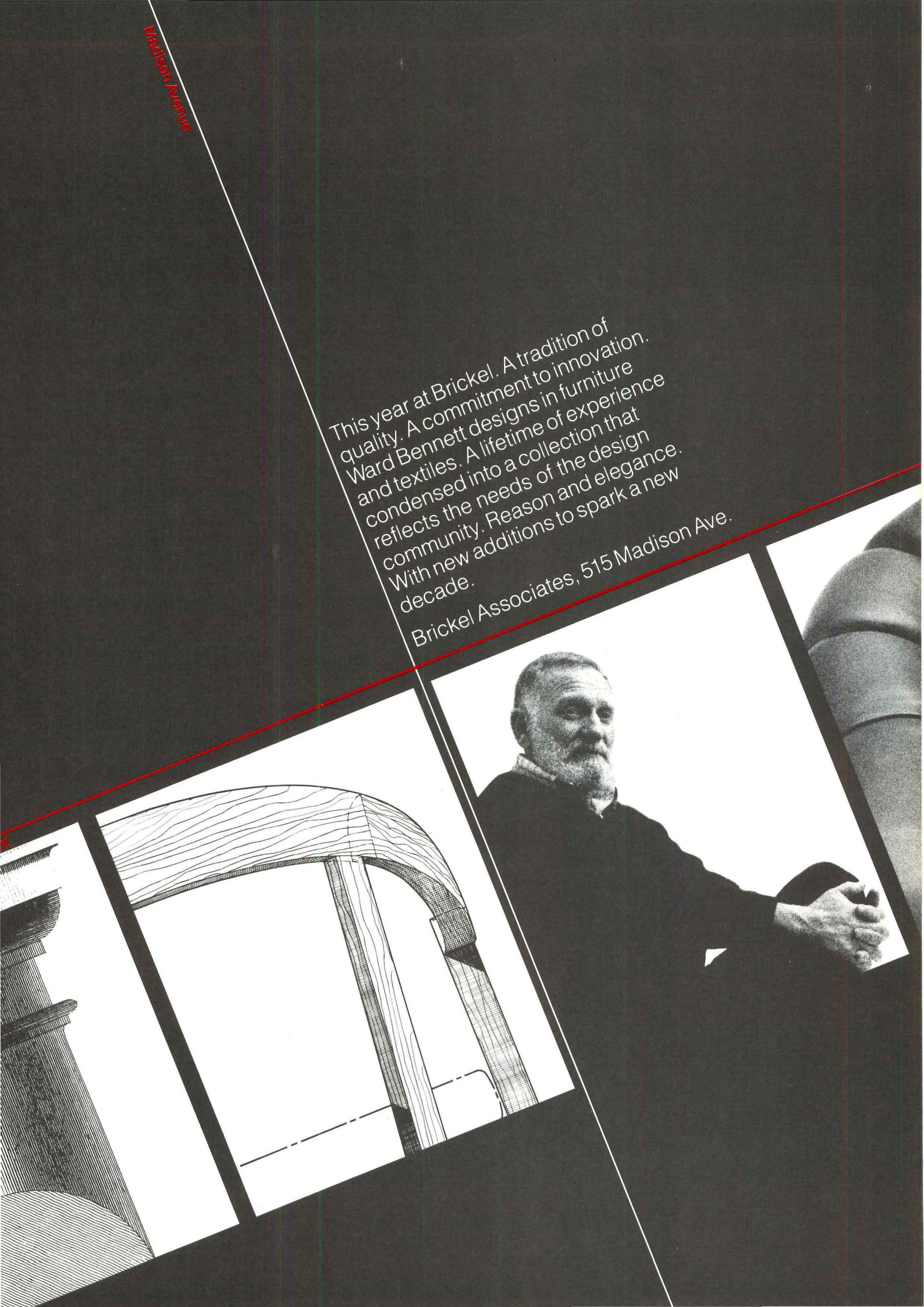
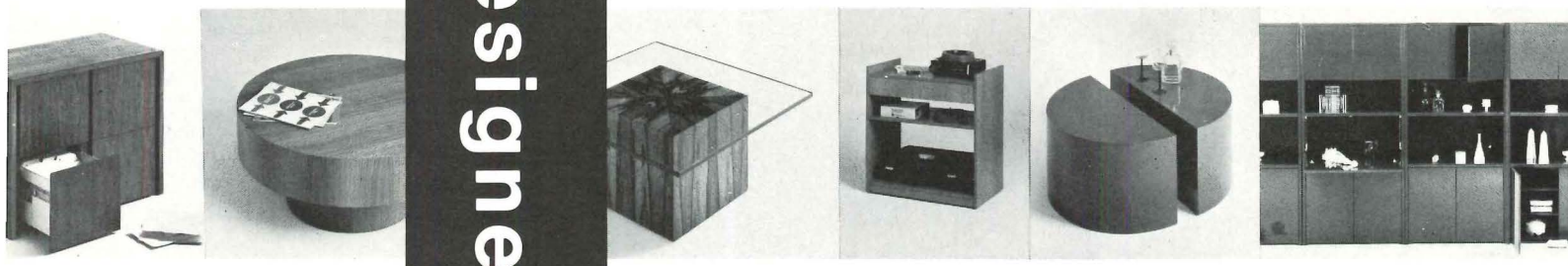


Designers Saturday—150 E 58 St New York



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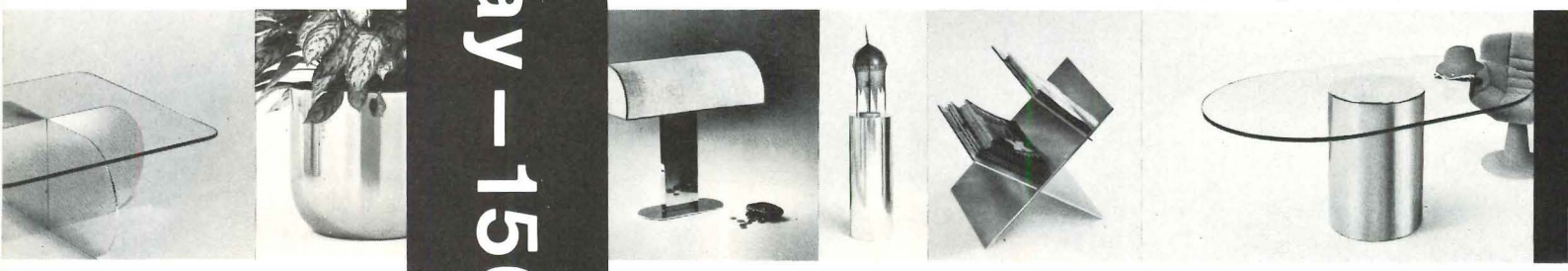

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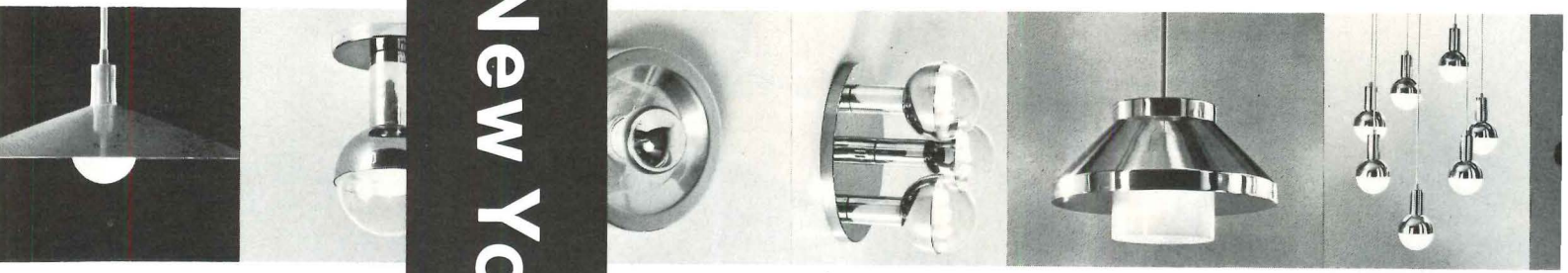

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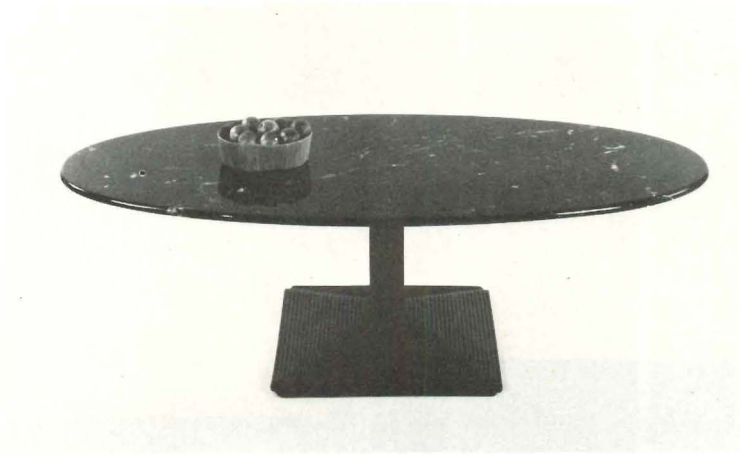

B & B America: *Afra and Tobia Scarpa's Piedeferro series tables in three heights have square, round, or oval marble or felt tops.*
Circle 102 on reader service card



Atelier International: *Frisbi pendant lamp, by Achille Castiglioni provides direct, diffused, and reflected light.*
Circle 100 on reader service card



Arconas Corp.: *Primula seating by Andre Vandenbeuck includes high-level tilt, swivel, side, and lounge chairs, and settees.*
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Improper light distribution, caused by inflexible ceiling fixtures, is a common lighting problem. But TriAmbient Lighting combines Panel-Mounted Fluorescent, Panel-Mounted H.I.D. (High Intensity Discharge) and Free-Standing H.I.D. lights along with task lights for optimum quality and economy. And TriCircuit ERA-1® powered panels allow completely internal electrical connections. TriAmbient Lighting. Part of the complete UniGroup® open office system from Haworth.



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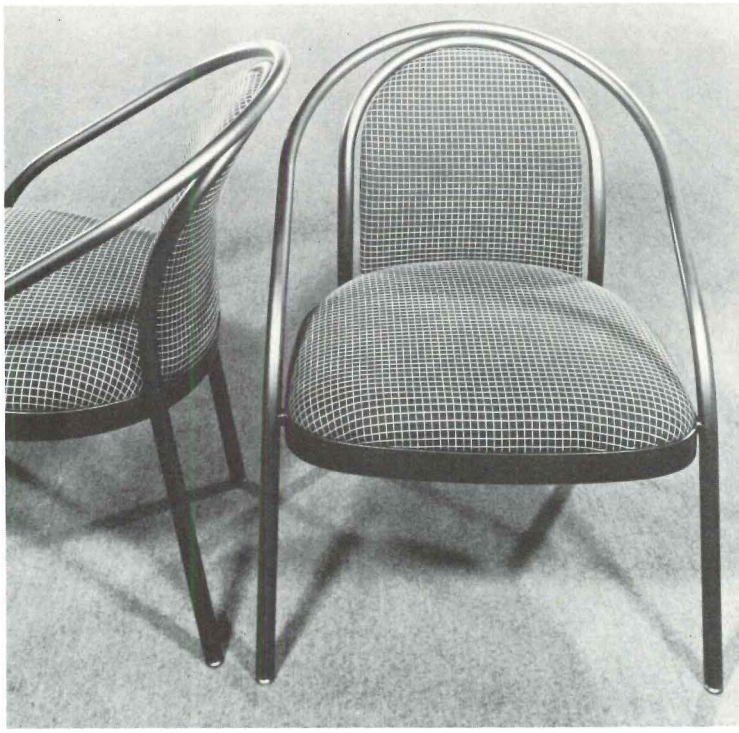


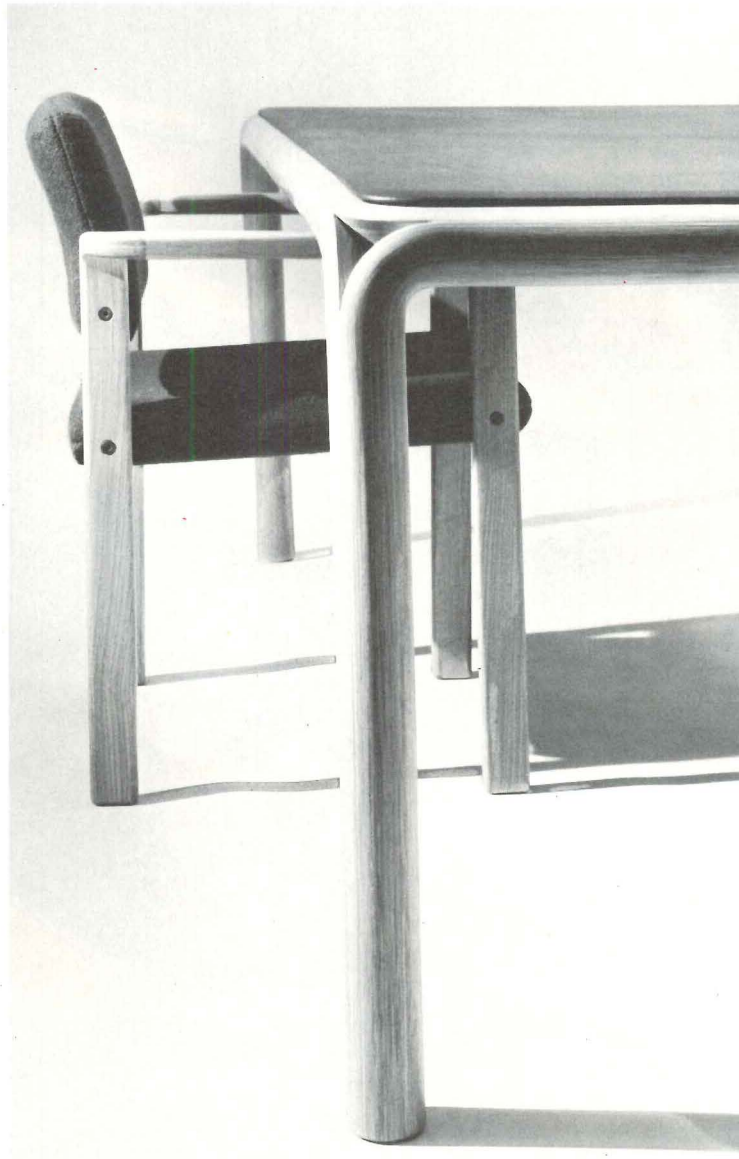
Beylerian: *Bent Tube lounge chair, side chair, and adjustable swivel chair, by Paul Tuttle, offer a choice of upholstery and frame color. Circle 103 on reader service card*



Castelli Furniture: *Summit tables have segmented base and a variety of shapes and sizes of tops in wood veneers and plastic laminate. Circle 106 on reader service card*



Brickel Associates: *The Low Chair, designed by Ward Bennett, with casters for mobility, is suitable for a dining or lounge chair. Circle 104 on reader service card*



C I Designs: *#135 chair with bent oak frame and uphostered seat and back can be stacked; #355 tables have leather or glass tops. Both were designed by Frank Emery. Circle 105 on reader service card*

JG/62-63 Auditorium Seating/National Gallery of Art



The JG/62-63 with its minimum side profile facilitated this continental layout. Concealed double articulating tablet arms blend with standard arms. Removable front rows add versatility

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Product Design: Peter Dickinson

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ecause Luigi Massoni pays tention to details.



















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veneers, it is also offered in
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quires 43 separate hand
ions to achieve).
each size cabinet, there is a
election of interior com-
ts, to utilize optimum storage
efficiently.

Because there is no visible hardware to detract from a clean-line minimalist design.

. . . the structural panels are ¾″ thick (unlike most others which are ⅝″ or less).

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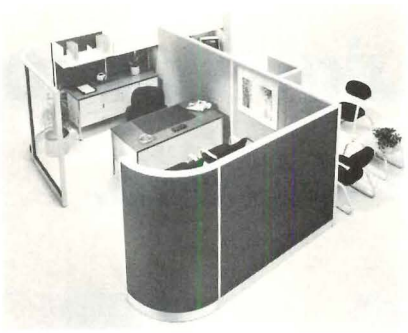


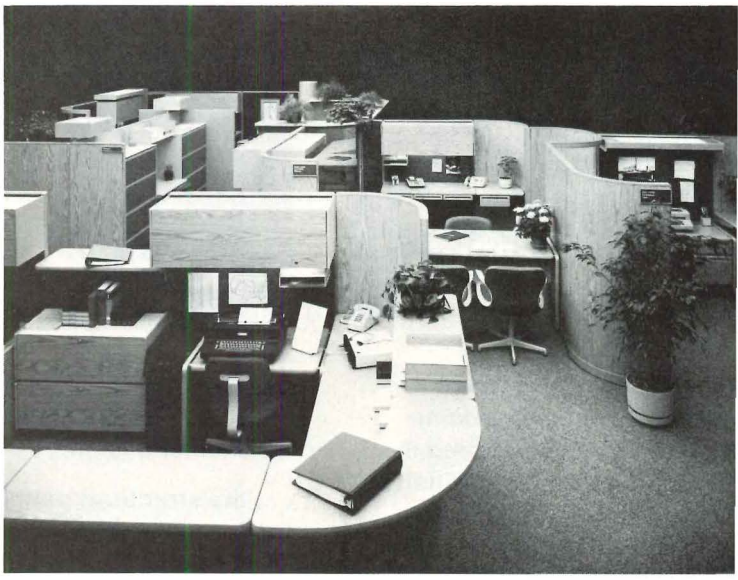
Harter: *Harter/Wall System has Powerwall II prewired components.*
Circle 109 on reader service card



Dunbar: *Adagio lounge chair, part of series that includes long or short sofa, has comfortable seat height, rounded soft arms.*
Circle 108 on reader service card



Cumberland Furniture: *#2620 chair has solid oak or walnut frame with hand-rubbed oil finish; for conference room or visitors.*
Circle 107 on reader service card



Haworth: *UniGroup office interior includes TriCircuit ERA-1 panels that interface electrically with TriAmbient lighting.*
Circle 110 on reader service card

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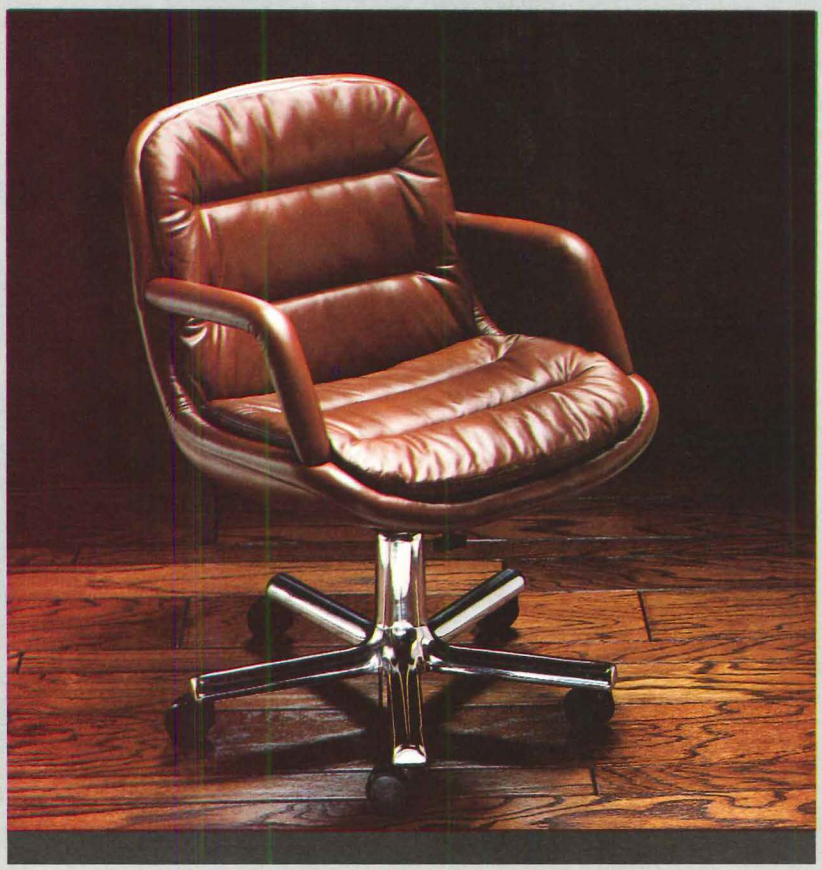

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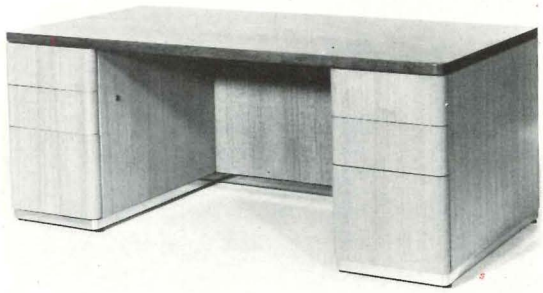
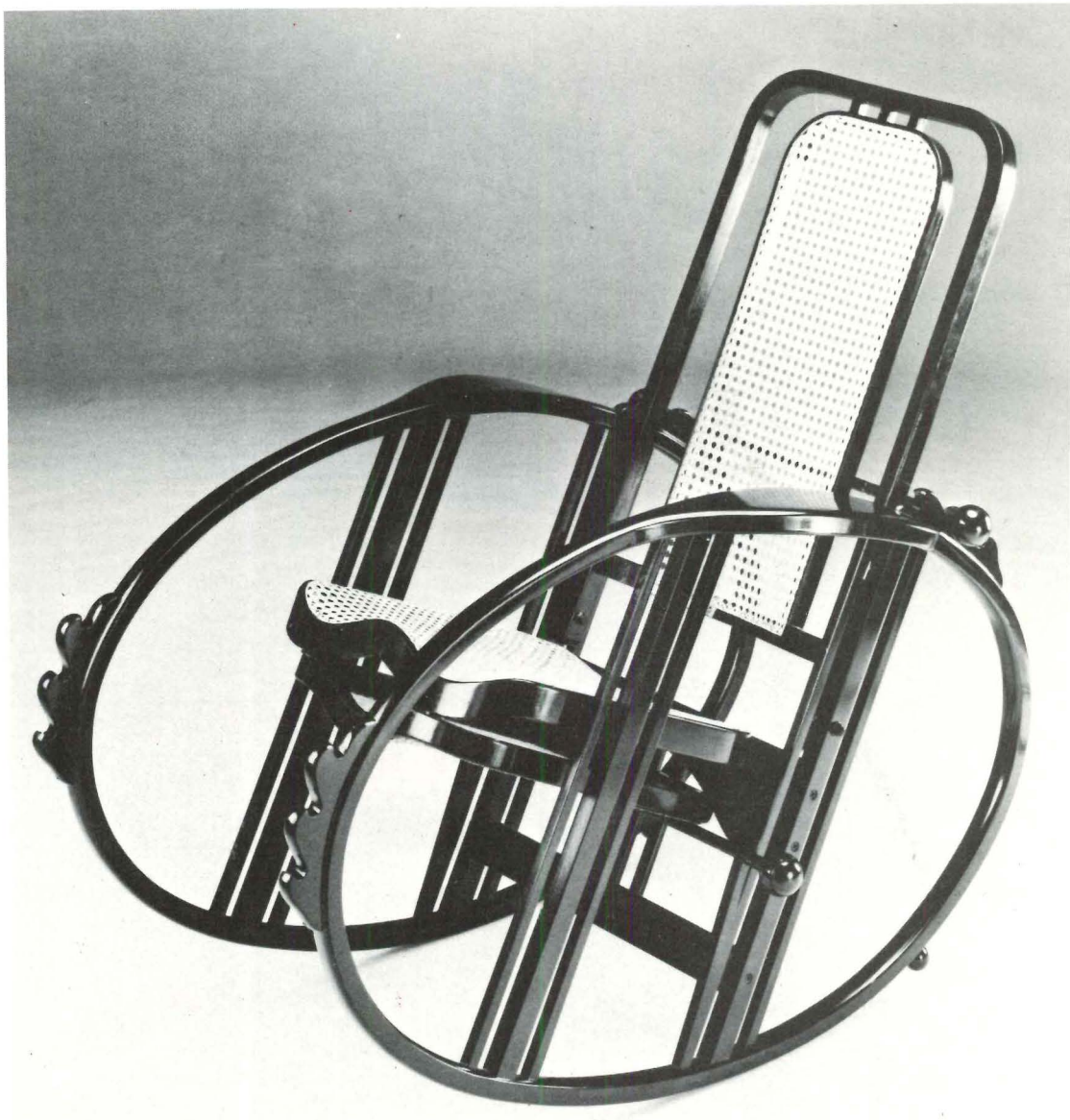


Helikon Furniture: *Veneer Ring series includes 22 desks, bookcases, and credenzas in four woods, designed by Bob Becker.*
Circle 111 on reader service card



Intrex: *Designer Paul Mayén has created the Katonah desk, four-drawer file cabinet, and three-door credenza; 13 colors available.*
Circle 113 on reader service card



ICF: *Among old designs back in production is the Adjustable Rocking Chair designed by Josef Hoffmann in 1905. Seat flips over to become adjustable footrest; back position adjusts, too.*
Circle 112 on reader service card

Design Notes from No.2

JACK LENOR LARSEN



All of the double woven **TURNCOATS** reverse to provide coordinates that really match. Turncoat upholsteries—from the new Premises collection.



Here in Campari, the velvety color grid of **PROMENADE** matches the brilliance of Royal Box. Both are engineered for heavy traffic.





Whether Cane-backed or fully upholstered, the trim lines and solid comfort of Ben Baldwin's new **WARWICK CHAIR** ingratiate. See all the new Larsen Furniture at Designer's Saturday.

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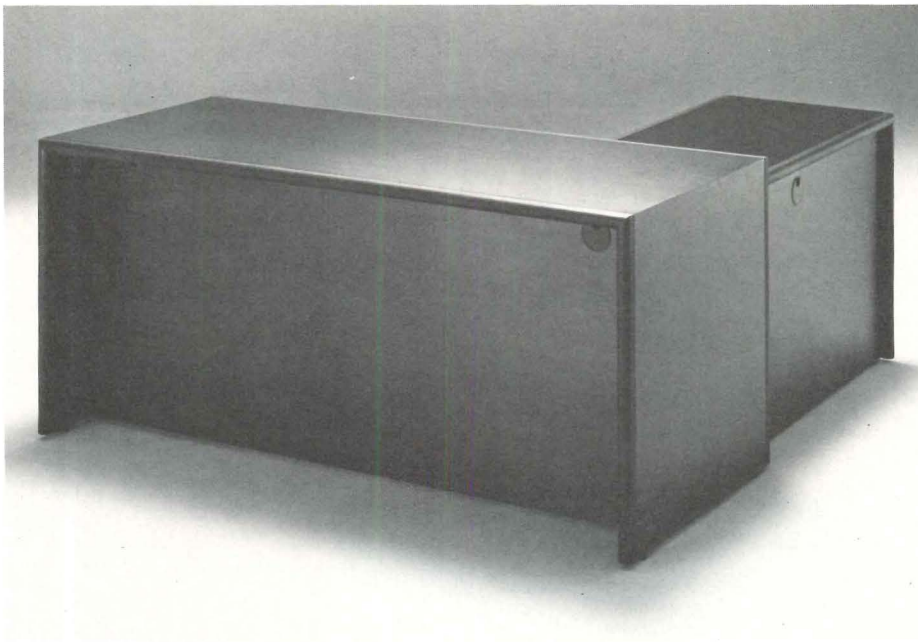


JG Furniture: *Tom Janicz' Sofdesk line includes desks and credenzas in three mahogany finishes, with self-skin urethane foam edges and drawer fronts.*
Circle 114 on reader service card



Knoll International: *Low rolling tables, 22 in., 27 in., and 44 in. square, available in two heights, are Joe D'Urso designs.*
Circle 115 on reader service card

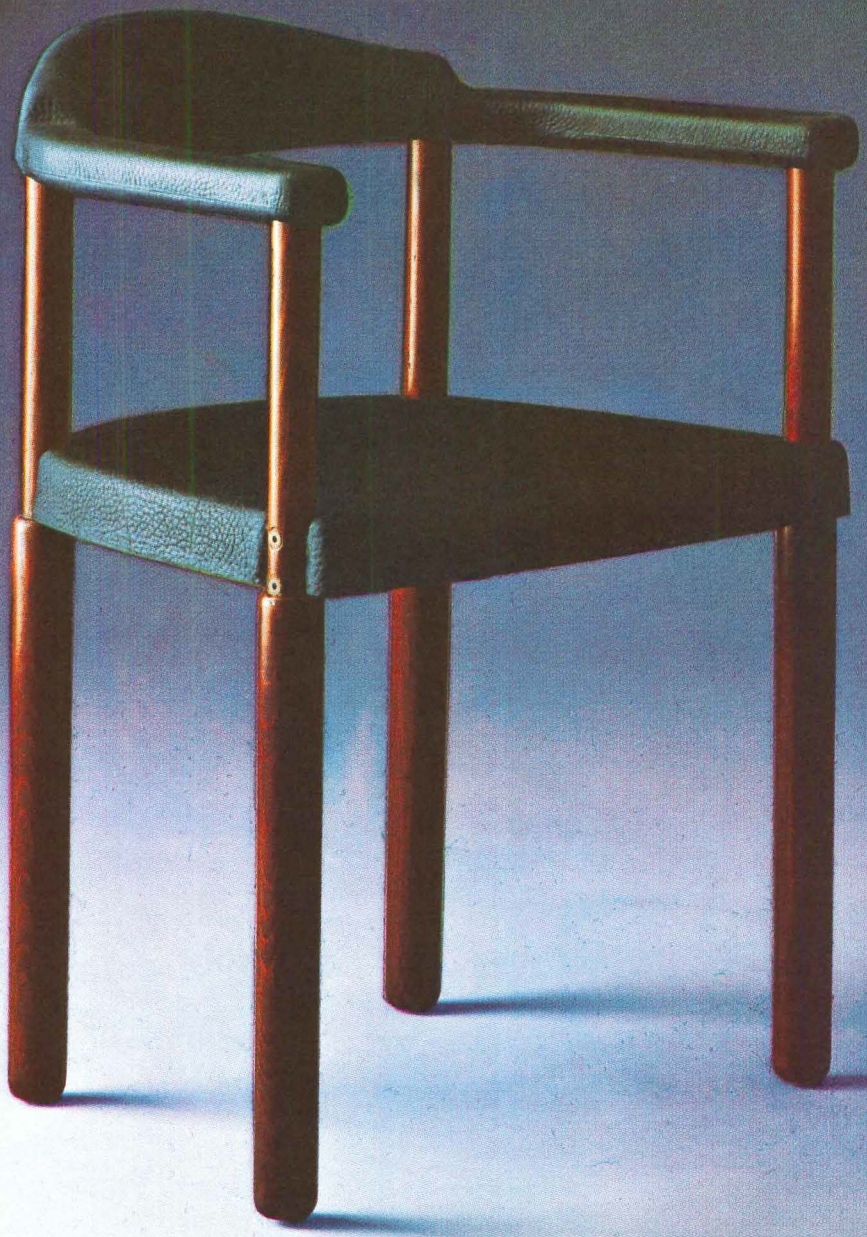


Jack Lenor Larsen: *Ben Baldwin's Ritz caneback chair is solid maple, or can be ordered in walnut, red oak, cherry, or ash.*
Circle 116 on reader service card



Lehigh-Leopold: *Sculptures in Wood oak table desk and credenza, designed by Wa ren Platner, now come with rounded edges.*
Circle 117 on reader service card

Leonardo.
A contract chair so affordable, it's extravagant not to buy it.

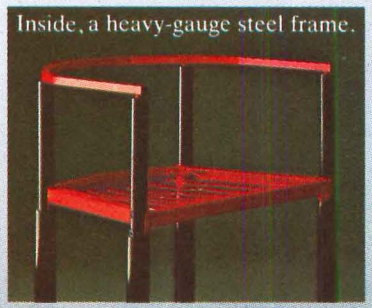


A number of architects and
igners have asked us how we can
duce an upholstered chair like
nardo at its surprisingly low price.

And quite frankly, we were
re than a little delighted when
realized that Leonardo's design
cept allowed us to offer so much
ing for under $260 (list).

We've used a
que manufac-
ng process that
ds self-skin
urethane foam
he seat and
k, making the
ir and matching
l more service-
able—and more affordable—
than conventional upholstery.

Designed by Paul Tuttle, Leonardo is easily assembled with an allenhead wrench and consists of only three different parts (the stool, four). And all parts screw into a heavy-gauge steel frame inside the self-skin polyurethane foam. So that while the chair is extraordinarily sturdy, parts can still be replaced on-site. And since Leonardo is manufactured here, replacement parts are readily available.



Inside, a heavy-gauge steel frame.

In fact, you can even save money on delivery by having it shipped knocked down.

Finally, because the chair and stool are virtually identical, you can carry the same design, for example, from a restaurant bar through to the dining room.

Leonardo. You'll be amazed at what it will do for your bottom line.

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Only Steelcase offers two distinctive choices in systems furniture. **Series 9000 and Mobiles.** That's one reason why more designers choose Steelcase systems than any others in the world.

Here are seven more good reasons.

Series 9000. Offers furniture-mounted Lite-Savers to eliminate overhead fixtures while reducing both glare and energy costs.

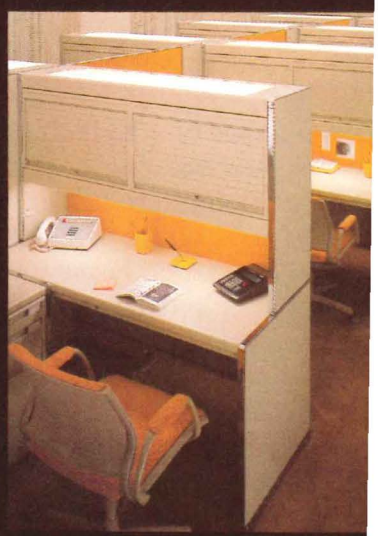




Series 9000. 65" high units provide executive privacy without walls.

Series 9000. In this installation, changeable and rearrangeable Series 9000 saved $14 per sq. ft. in relocation costs.





Series 9000. 10 work stations, just 360 square feet of floor space with built-in lighting.



Mobiles. Shared microfiche units save trips to files, Paperflo trays clear work-surface clutter, and hanging shelves and bins suspend reference materials.

Mobiles. Executive offices have 80" Movable Walls for privacy. Lateral files and cabinets divide clerical workstations, providing infinite expansion possibilities.



Mobiles. This combination of desks, lateral files, Movable Walls, built-in task and ambient lighting and panel-hung accessories demonstrates the flexibility of Steelcase Mobiles.



Steelcase

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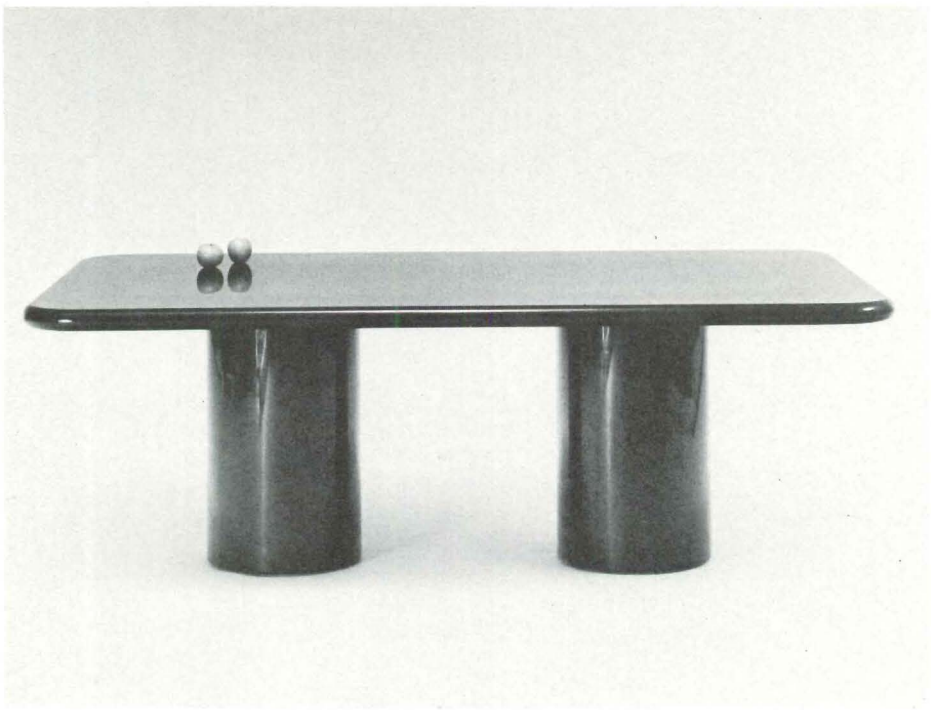

Metropolitan Furniture: *Jay Heumann's #9300 conference tables, with durable resin surfaces, come in 18 satin or glossy colors.*
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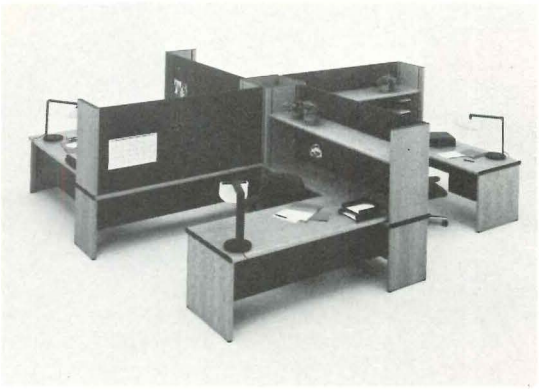

Herman Miller: *Additional components of C-Forms freestanding wood furniture for open-plan office space are available.*
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Harvey Probber: *Turkish Seating consists of corner units, armless center units, and ottomans with wood or chrome bases.*
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The Pace Collection: *Fiam Lametta Valet #9985, by Enrico Tonucci, is formed of ¾-in. bent plate glass. Line includes benches, tables, and a desk.*
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Stendig: *Eleanora semi-lounge chair is upholstered on a steel frame with coverings of leather, expanded vinyl, or fabric.*
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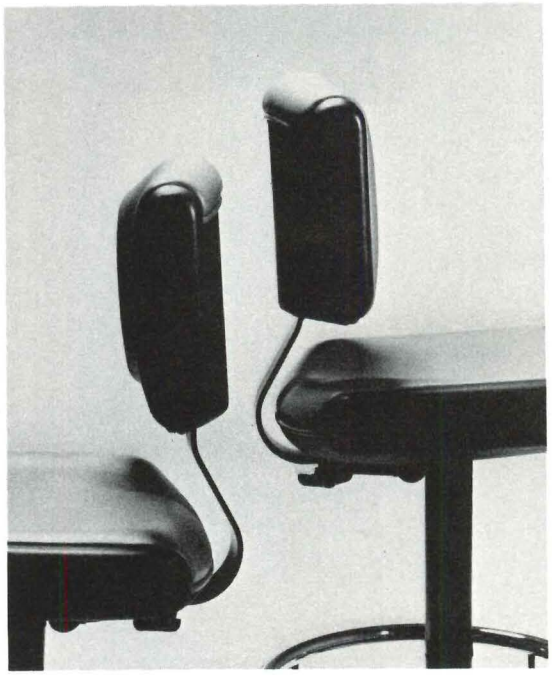

Stow/Davis Furniture: *Paradigm secretarial and drafting chairs designed by Richard Schultz have adjustable seats and backs, to accommodate a variety of positions, and a choice of bases.*
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Sunar: *New collection by Don Petitt includes executive chair with sculptured base, lounge, and secretarial chairs.*
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Steelcase: *Counterpoint Collection of materials comprises 19 upholstery fabrics and 6 plastic laminates in 196 colors.*
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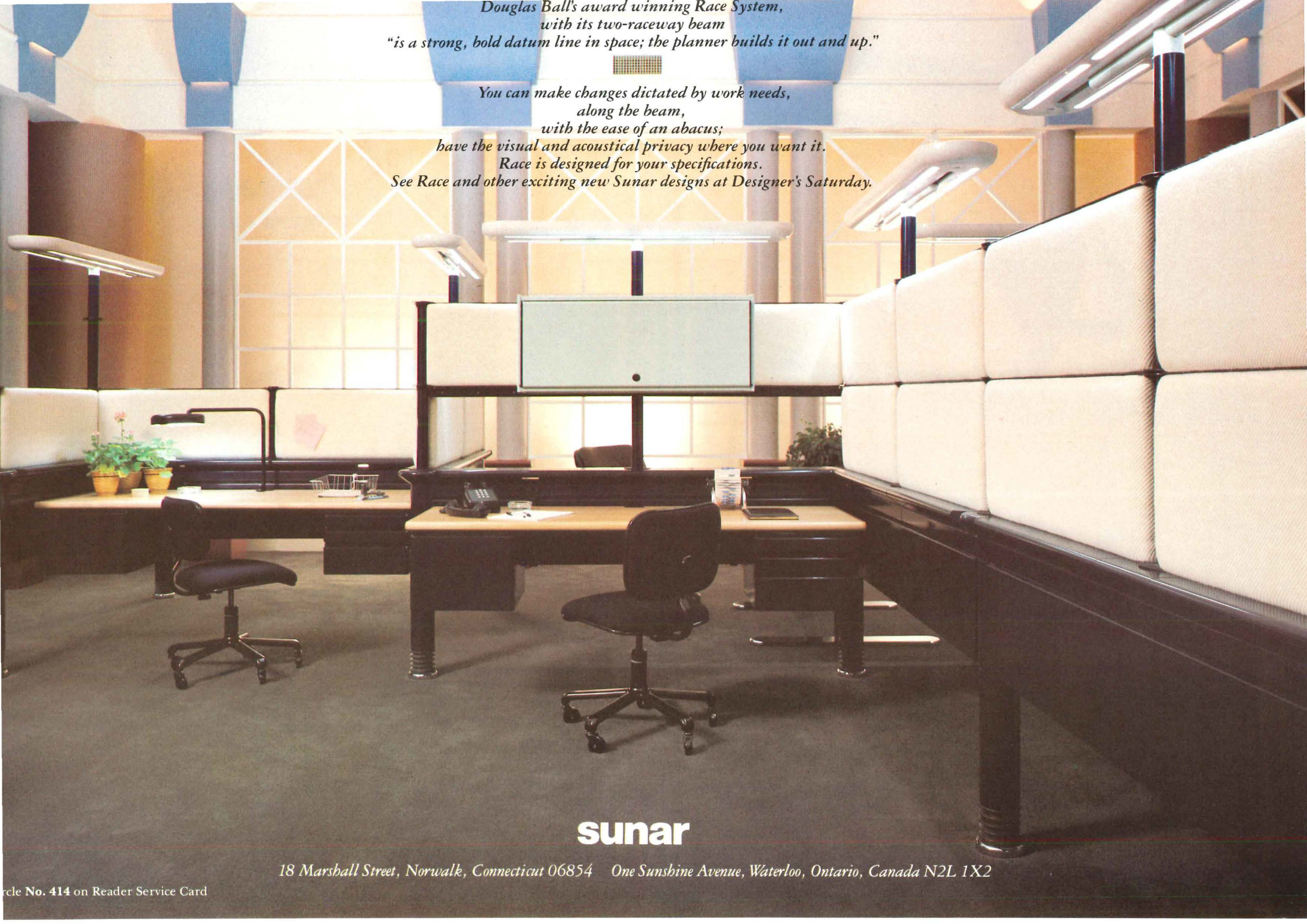

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John Stuart International: *Architective V Desk Series, designed by Richard Thompson, comes in walnut or elm burl, with chrome or bronze finished steel bases.*
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Thonet: *#1318 Peter Danko molded plywood armchair (also available as an armless side chair) is formed from one piece of laminated wood. Chairs stack four high for storage.*
Circle 126 on reader service card



Vecta Contract: *Echelon swivel-tilt chair, one of a series of ten, has concealed height adjustment. It is fully upholstered.*
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Turner: *Pan chair, combining solid oak and leather, was designed by Vico Magistretti; oak-based table has glass or Formica top.*
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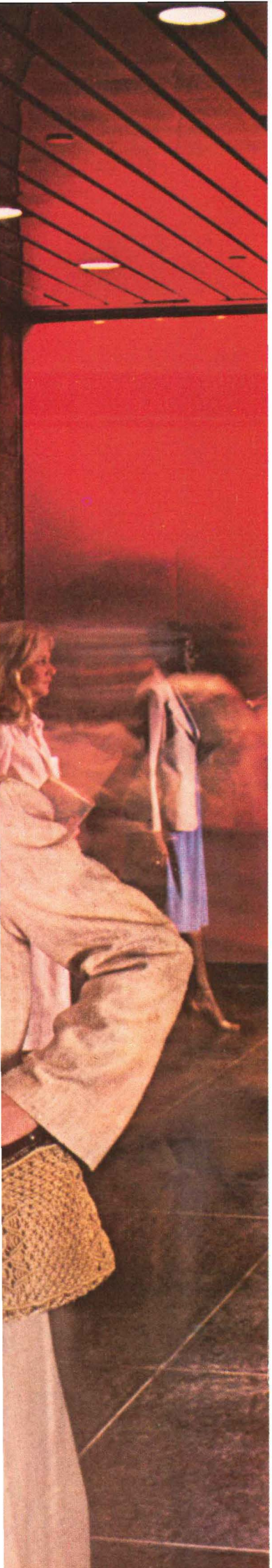

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*Elevonics is the science of moving people and products through the use of advanced elevator and microelectronic technology.

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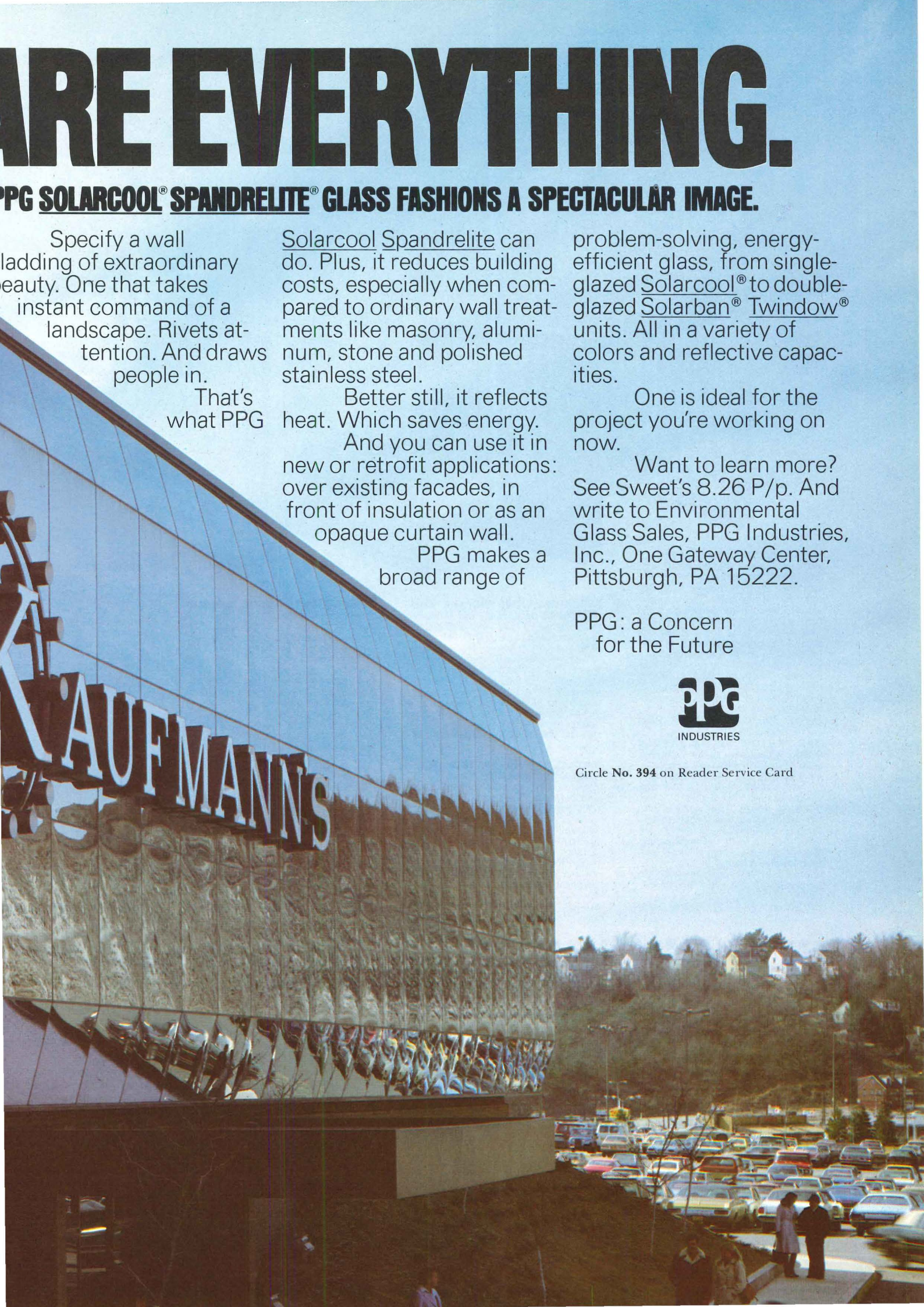

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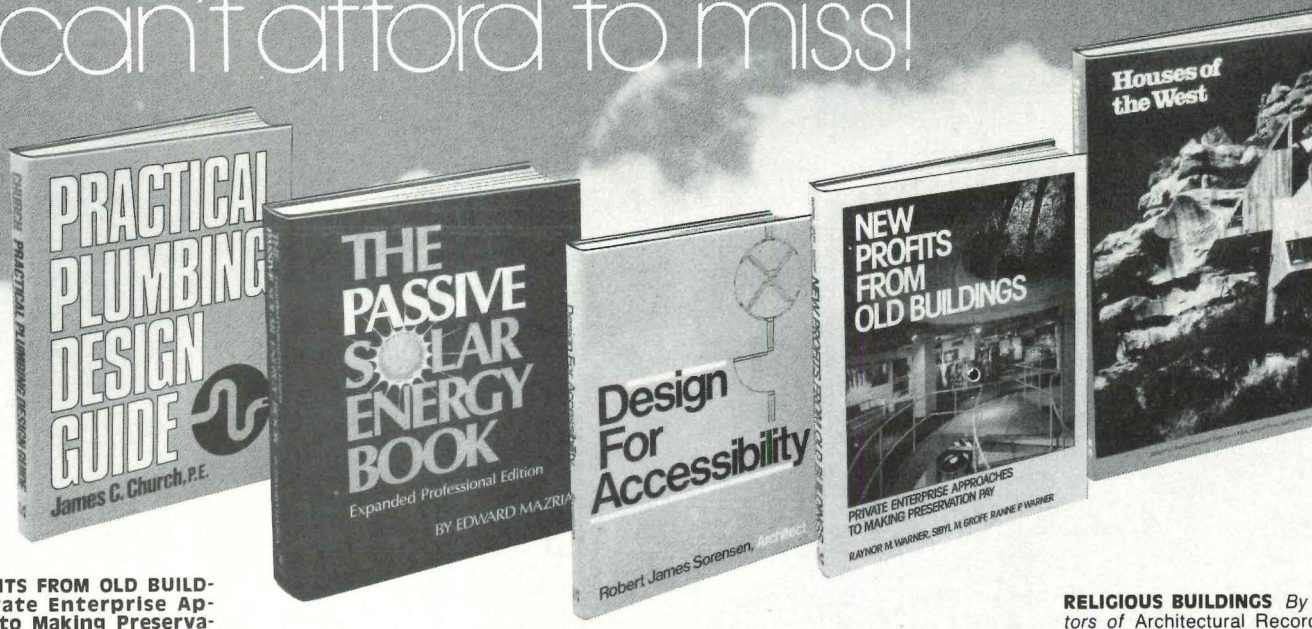

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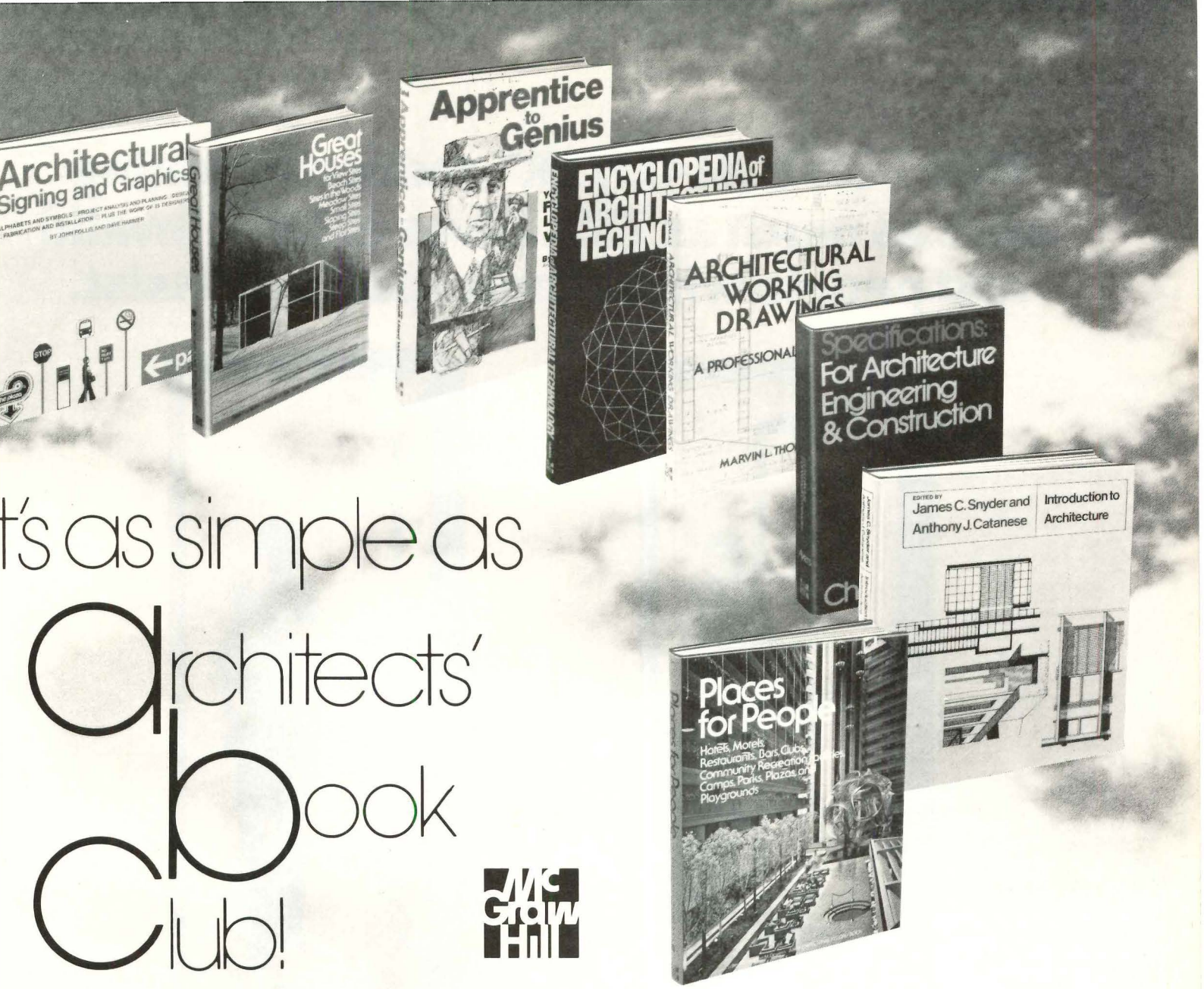

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The use of sliding clips eliminates through-fasteners at panel sidelaps and allows the panels to "float". This means the end of leaks caused by elongation of fastener holes due to panel expansion and contraction.

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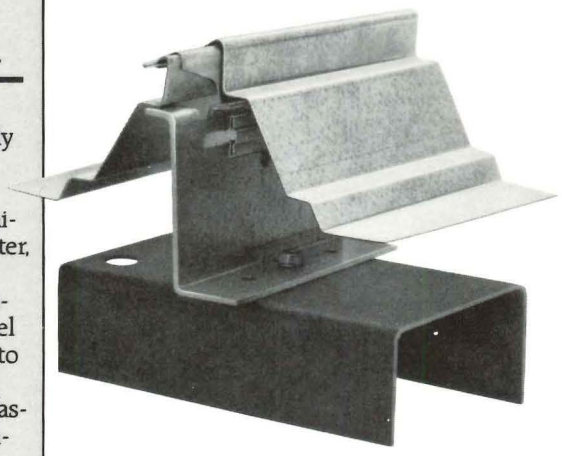

Specially-designed clips, which attach securely to purlins with only one screw, allow the roof panels to expand and contract with temperature variations. A 1" clearance between the roof panels and purlins is provided to minimize heat loss due to compressed insulation.

Streamlined construction saves time and money.

StarShield roofs are a builder's best friend. Owners like them too, because of the reduced on-site labor costs.

StarShield clips and interlocking panel edges permit the entire roof to be installed prior to seaming. This gives the builder flexibility in scheduling people and equipment, plus it gets your building under roof faster. Panel seaming is also greatly simplified. Sidelap sealant is factory-applied, assuring a continuous, watertight seal.

And, the StarShield seaming machine requires no special scaffolding at the eave or ridge. A hand crimping tool is provided to start the seaming process.

The interlocking panel design also eliminates "false" seaming, which is possible with other standing seam roof systems.

Self-aligning components, self- drilling fasteners and factory- notched panel ends further speed the installation of your StarShield roof system.



The high speed motorized seaming machine requires no special scaffolding at the eave or ridge.

For new or existing buildings

StarShield roof systems offer great flexibility of application. They're equally at home in new or retrofit installations. The only requirement is that you ha a surface on which to fasten th clips. Bar joists, wood framing, even decking will suffice. The StarShield clip is die-punch in three places to satisfy virtual all fastening situations. StarShield roofs can even be installed directly over existing roofs in some cases. The 1" standoff feature allows extra insulation to be placed between the old and new roof surfaces.

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The classic appearance of a standing seam roof is further enhanced by the StarShield system's absence of exposed fasteners along the panel sidelaps. Accessories such as facade guttering, vents and roof jacks are designed to complement th system, not detract from it.

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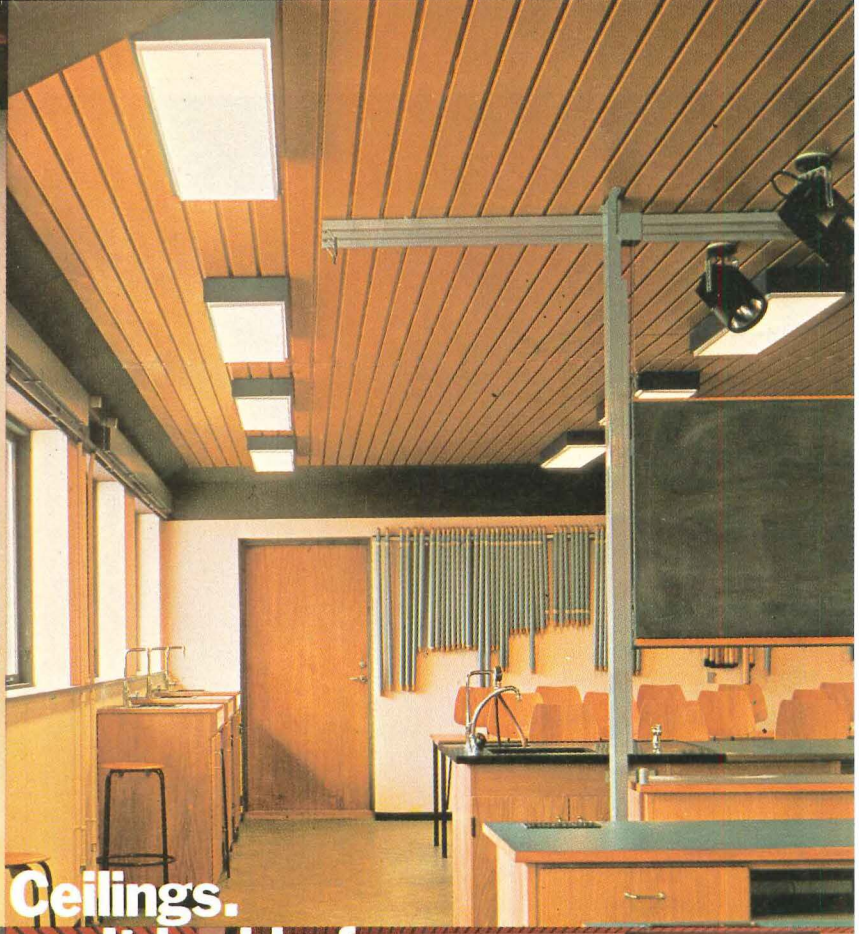

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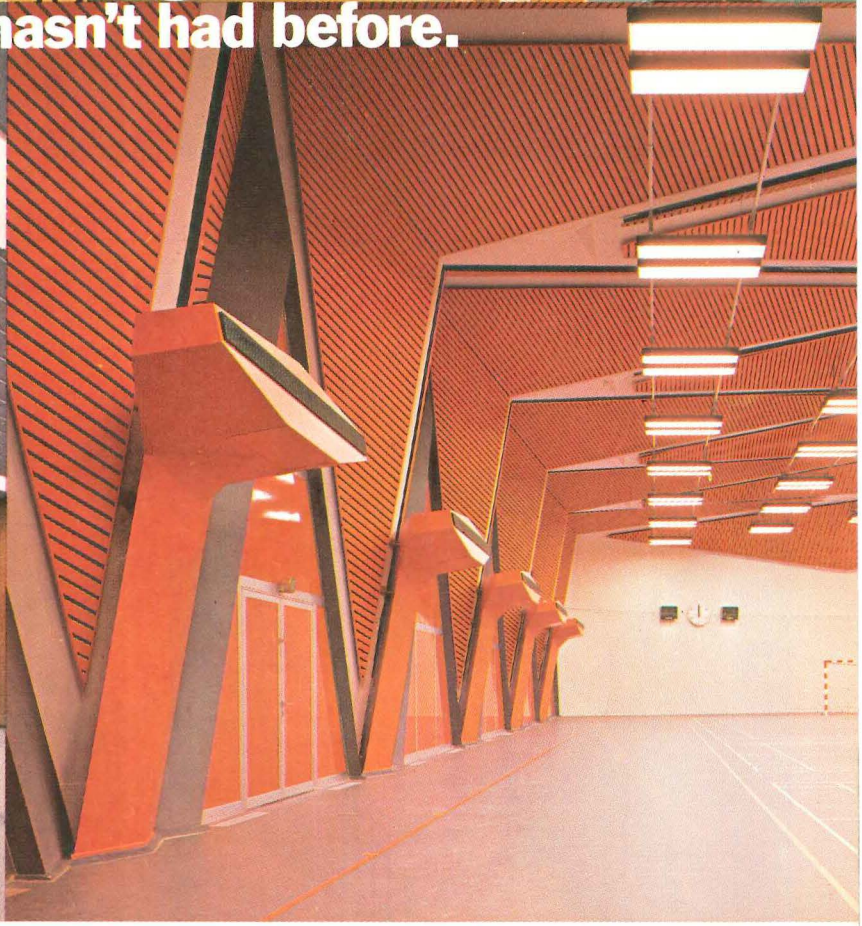

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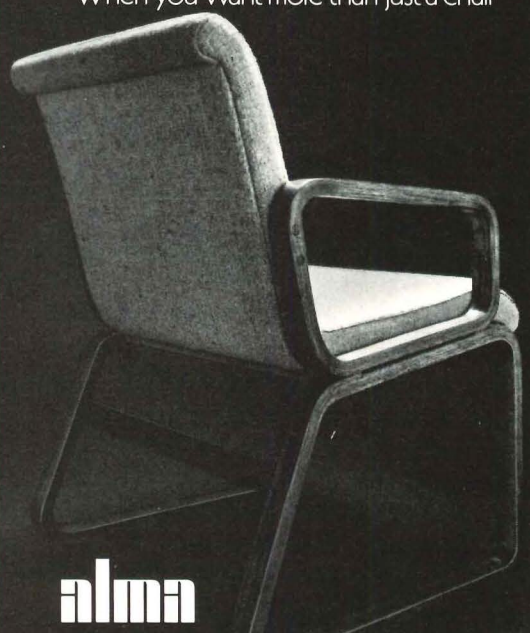

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After: Salmon River Central School, Fort Covington, NY
Architect: Cappuccilli-Bell Architects, A.I.A.
Contractor: Tracey Trombley Construction Company
Structural Engineer: John P. Stopen

This Formawall retrofit improved U-values from 0.88 to 0.10.

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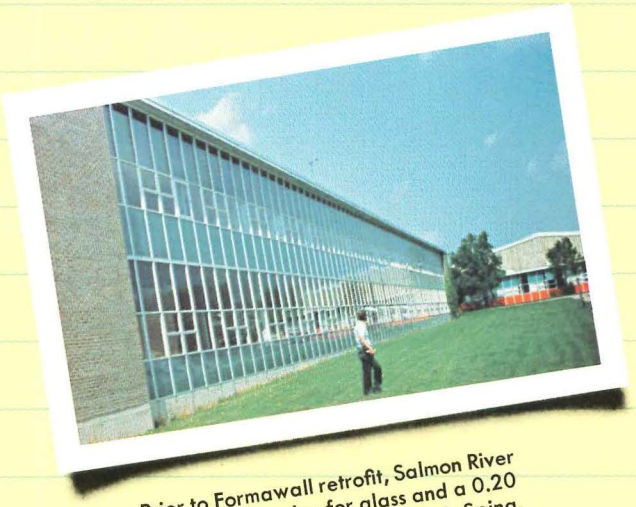

Before: Prior to Formawall retrofit, Salmon River School had a 1.10 U-value for glass and a 0.20 U-value for wall panels. (Photo by Dennis Spina, Cappuccilli-Bell.)

*Based on typical (as of March 25, 1980) fuel costs of $0.87/gallon, annual estimated savings today are $15,225.00. (Fuel savings estimates and U-value measurements by Cappuccilli-Bell.)

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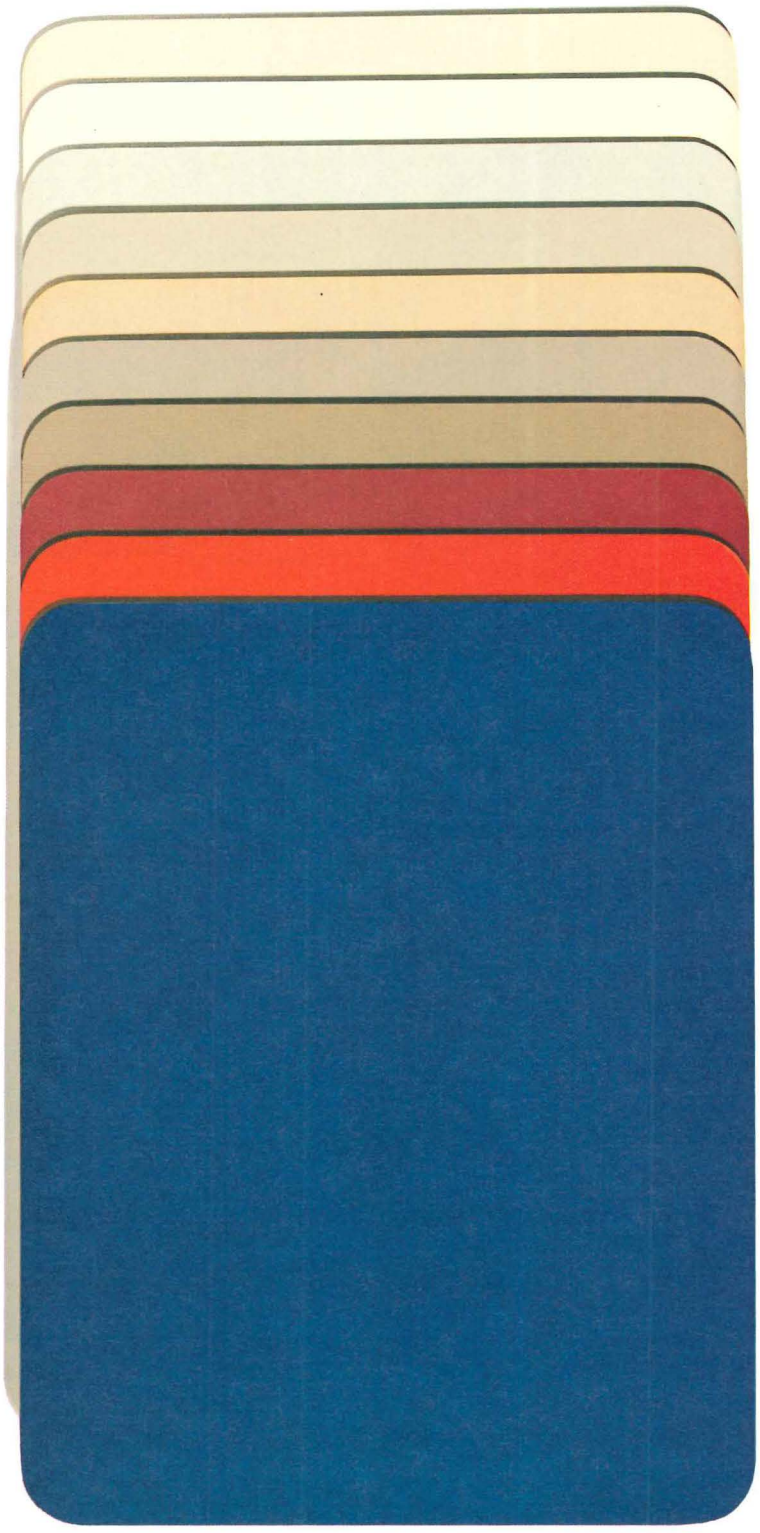

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the New Educators

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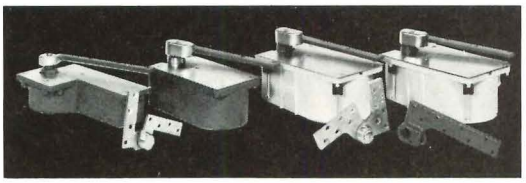

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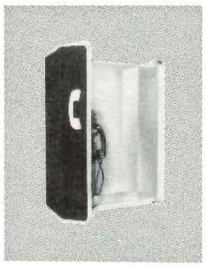

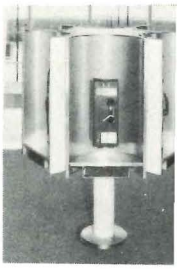



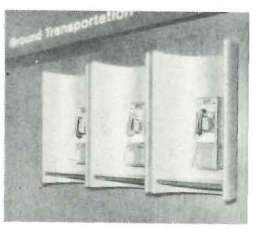

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Shifting continents

Interiors concepts do not remain the same year after year, decade after decade, any more than any other architectural concerns. Isolated as we are by distance and language, it is easy to consider the current rethinking as a condition of a few academically oriented architects and designers at the coastal edges of our own country.

In this issue, our fourth annual issue devoted entirely to interiors, P/A explores challenging work beyond those national edges: work from central Europe, Scandinavia, the Far East, Latin America, the British Isles, and elsewhere. Some is exotic, some is disarmingly matter-of-fact. One project is no larger than a hallway in an American embassy. Others are factories. Another is a multibuilding office complex.

There is variety here, and purposely so, but certain qualities reappear. The organizing principles of cities with public boulevards, piazzas, and interior lamp posts underlie projects as intimate as a house, a private woodblock print museum, and a hair salon.

The sleights-of-hand of architectural magic provide illusion in a number of projects where actual space is constricted. Blau, Mohl, and the Haussmanns use mirrors extensively to change the size, shape, and static nature of the rooms in their care. Poetic License uses an all-dominating *trompe-l'oeil* mural toward the same end. *Trompe l'oeil* is used by the Haussmanns to change the nature not of space but of material.

These techniques are consciously derived from architecture as far back as ancient Rome and as recent as the early decades of this century. Coming to terms with architectural tradition is a concern that involves almost all the work. The contemporary Japanese, Hiroshi Hara, is involved in a round-robin fascination with Viennese Sezession, the turn-of-the-century work that was so influenced by traditional Japanese architecture in the first place. Blau consciously emulates Adolf Loos and Otto Wagner. Foster's boutique owes much to La Maison de Verre. And Domenig weaves historical allusions with exaggerated technology and anatomical and landscape imagery in his Surrealist mélange of exploded scale, unexpected juxtapositions, and melted, tangled, and abstracted shapes.

Mexican vernacular tradition is invoked by Barragán and his protégé Legorreta, and Scandinavian folkcraft is important to the interior of Utzon's church. In contrast is the exacting rationalism of Valle, Mohl, or the Piccalugas. Brilliant color, an attention to surface pattern and texture, and an interest in the sensuousness of materials are shared by projects of however otherwise differing sensibilities.

For this issue, as in all P/A editorial, "interior design" is considered as the formation and characterization of space. We are not concerned with which degrees the makers of spaces might hold, which exams he or she has taken, which licenses he or she is entitled to. Nor are we concerned with the distinction between the spaces that occur within preexisting buildings and spaces that take shape in the construction of a new building, as one gesture, by one hand.

These are boundary lines P/A is dedicated to transcending, as it is determined to transcend the borders of isolationism.

[Nory Miller]

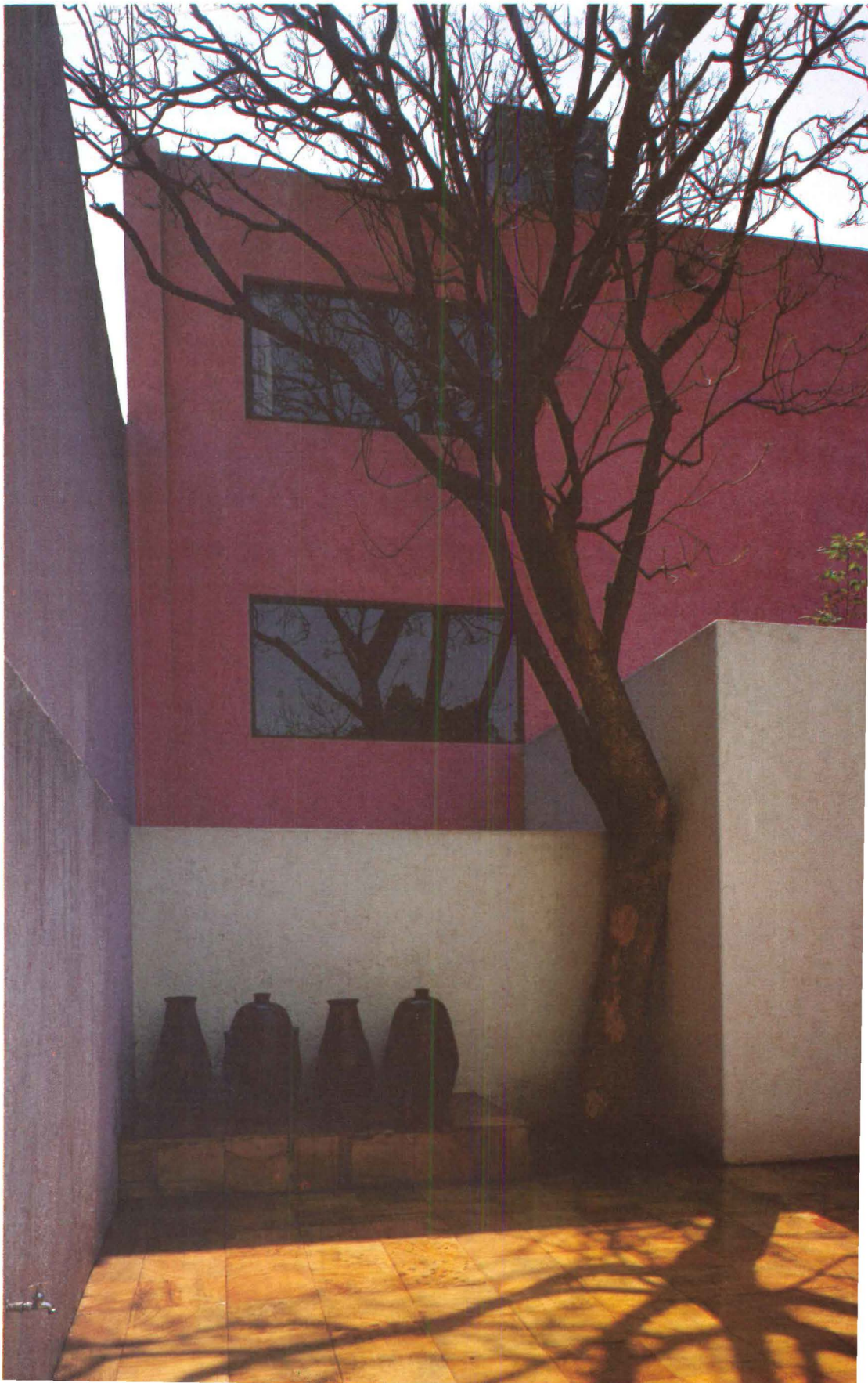
Casa Gilardi, Mexico City

Imponderable substance

Emilio Ambasz

A new house by Luis Barragán, Mexico's renowned poetic architect whose most recent honors include this year's $100,000 Pritzker Architectural Prize.

Barragán's architecture, writes Ambasz, "results from a redemptive commitment to beauty." This house for a businessman is constructed, as in all Barragán's work, from a few carefully selected elements imbued with brilliant color. The interior courtyard (right). The galleria (facing page), with a glimpse of the pool towards which it leads.

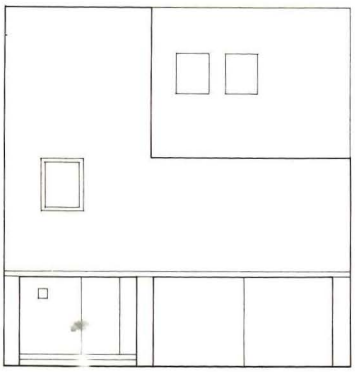


Emilio Ambasz, award-winning architect, industrial and graphic designer, is the author of *The Architecture of Luis Barragán.*

We are honoring Luis Barragán for his commitment to architecture as a sublime act of the poetic imagination. He has created gardens, plazas and foundations of haunting beauty—metaphysical landscapes for meditation and companionship.

A stoical acceptance of solitude as man's fate permeates Barragán's work. His solitude is cosmic, with Mexico as the temporal abode he lovingly accepts. It is to the greater glory of this earthly house that he has created gardens where man can make peace with himself, and a chapel where his passions and desires may be forgiven and his faith proclaimed. The garden is the myth of the Beginning and the chapel that of the End. For Barragán, architecture is the form man gives to his life between both extremes.

—Emilio Ambasz, extracted from the citation of the Pritzker Architectural Prize, presented to Luis Barragán June 3, 1980.



FACADE



uis Barragán is one of architecture's most efined and poetic practitioners. In his work ıe wall is the supreme entity and the inhabant of a larger metaphysical landscape. In ıe de Chirico-like settings he creates, it is at nce a screen for revealing the colors of Iexico's almost white sun, and a shield to ıggest unseen presences. Barragán's magificent gardens and carefully constructed lazas seem to stand either as great architecıral stages for the promenade of horses or ; echo chambers for the constant cascade of ater. While his design approach is classical and atemporal, the elements of his architecture are deeply rooted in his country's cultural and religious traditions. Through the haunting beauty of his hieratic constructions we have come to conceive of the passions of Mexico's architecture.

The extraordinary emotional effect of Barragán's compositions and the strong sensual qualities of his materials and colors are the more impressive if we consider that the architectural richness of his dramatically sober architecture is based on a few constructive elements bound together by a mystical feeling; an austerity exalted by the glory of his brilliant colors. They pervade all interstices of space, at once binding and separating artifact and nature.

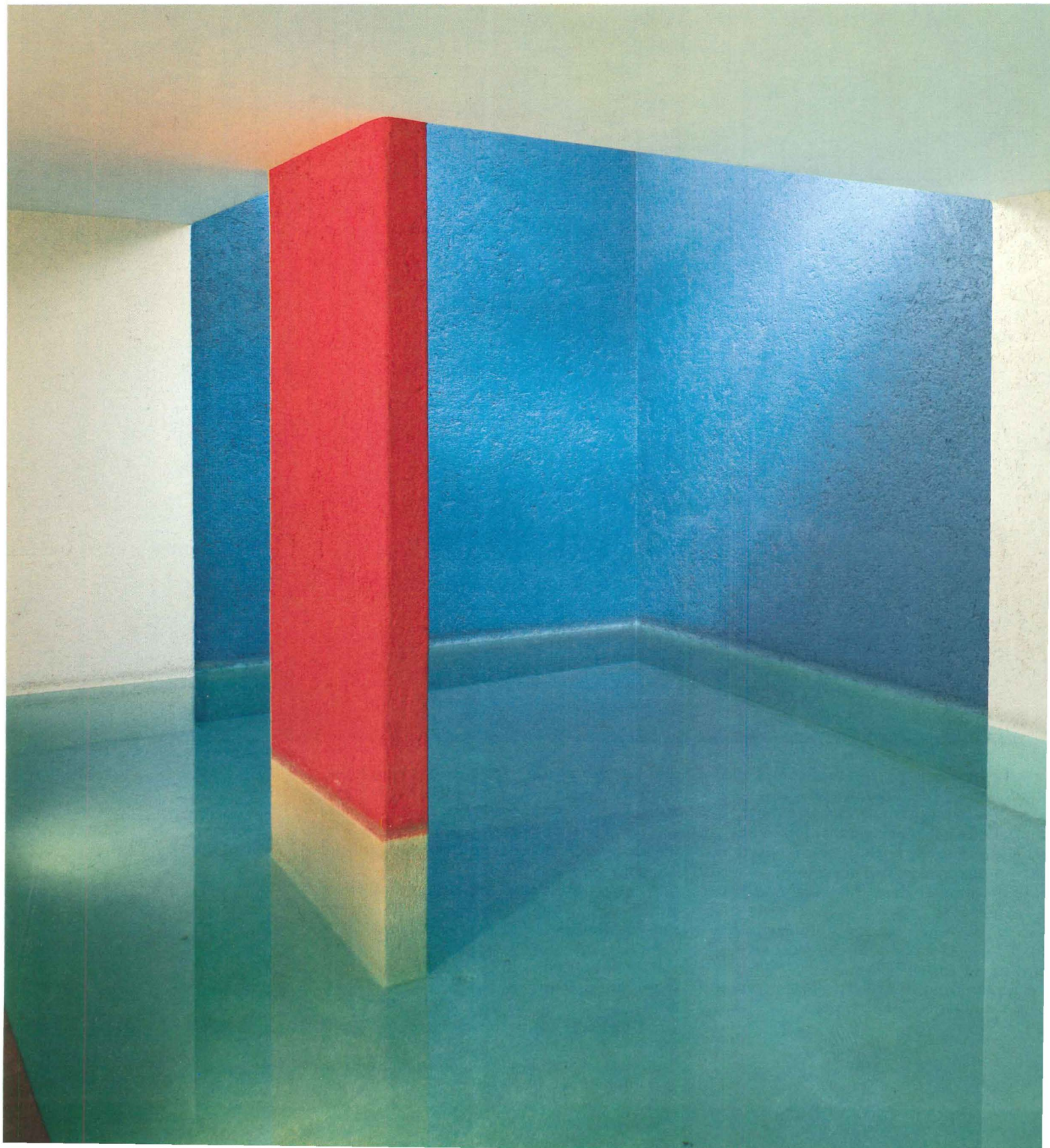
Casa Gilardi, Mexico City

In the pool area (below), natural phenomena are given increased presence through color. The walls under the skylight turn blue as if the sky itself had been pulled in. The column base is "discolored" in emphatic recognition of the water.

Barragán's architecture results from a redemptive commitment to beauty. Since he does not follow theoretical rules or generalized systems, each project is an entity in itself, whose inner principles must be revealed. This procedure demands emotional sensibility and selective intuition. Like Mies van der Rohe, Barragán deals only with the inner tensions of each element. This has led him to concise and profound creations.

This house is one of Barragán's latest works and is quite small. Built in the Tacubaya section of Mexico City, not far from his own house, it occupies a 30′ x 100′ plot, on a site flanked on three sides by other houses. It was built for a businessman who uses the house also to receive business acquaintances, usually in the covered dining/seating area next to the pool.

The magic quality of the light and the emotional effect of profound serenity achieved when moving through the house cannot be guessed from its façade or plans. The ground floor houses the garage, the servants' quarters, and the kitchen as well as an enclosed patio and dining/swimming area. Sleeping quarters are on the third floor, while the intermediate level contains a studio and a living/parlor room where guests may be received more formally.



Off the street is a vestibule and, further a larger hall. From this hall there are irs that ascend to those quarters of the use having to do with the different aspects the owner's domestic life, and a corridor at progresses in a horizontal line to the ning/pool area.

The hall where the journey starts is illumited by a soft crepuscular light descending om above. The wide corridor, or galleria, ading back, moves first through a dark ssage where the dampened rumor of pots d pans from behind the wall brings to ind images of dark smoky kitchens in the rner of a hacienda courtyard.



Further along, the wall becomes a curtain of vertical slots separating corridor from patio. On the patio side, the wall is painted creamy white. The corridor wall and sides of the openings are painted bright yellow so that, even on cloudy days, the gray light coming through throws a pattern of sunlike light into the corridor. The counterpoint of bright openings and backlit vertical members marks the rhythm of the passage—sun and shadow, sun and shadow—like a metaphor for day and night. Throughout, sun is the ineffable presence. The corridor ends in two doors which, when swung open, reveal a luminous sky blue. This is the pool area, covered by a flat roof which doubles as a terrace. In a corner of the space, precisely on axis with the corridor, the roof has a square cutout through which light descends. In correspondence, the wall corner is painted bright sky blue so that, though unseen, the sky is a permanent presence.

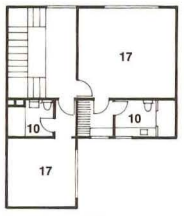
Off center, a bright red column blade supports the roof. At the bottom it is embedded in the pool as if in a solid crystal base. The column bottom, deep in the pool, has been painted yellowish pink, as if it had been decolored by the water. The heavy mass of water, broken only by swimming, upon the owner's absence returns impertubbably to its original dense quietude. But there remains a sense of the echo of silent waves still resounding against the walls.

The Gilardi house is like an anthology of Barragán's creations. With extraordinary discipline and very few elements he has here recreated, in a highly condensed manner, all those ungraspable emotional elements which constitute the imponderable substance of his work: sky, sun, water, and color. Present in the house are also Barragán's metaphysical concerns, stoically reconciled with his acceptance of man's daily pursuits.

The ascents and descents within the house have mainly to do with the business of domestic life, those rituals and ceremonies informing the short cycles we measure in 24-hour spans.

The linear horizontal movement along the corridor may be seen as a symbolic surrogate for life's voyage, the long journey made up of many 24-hour segments, that can only be measured as an image projected onto an ideal future and only fully possessed at its end. Movement along the corridor becomes a processional liturgy, shadows follow light rhythmically to culminate in a heavenly ascent.

As water corrodes the proudest of columns, so light redeems matter. At the end of this dwelling of indifferent plans, at that point where night and day are one, where sky joyfully melts into water, resides the quintessence of Barragán's longings. Nature is immortal just for that perfect instant when desires and actions, reconciled, render an eternally brief moment of peace. □



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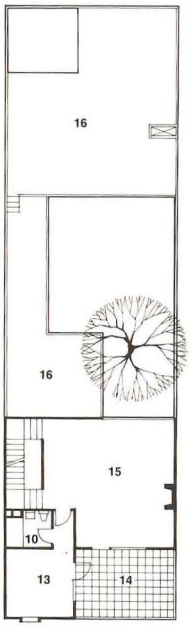
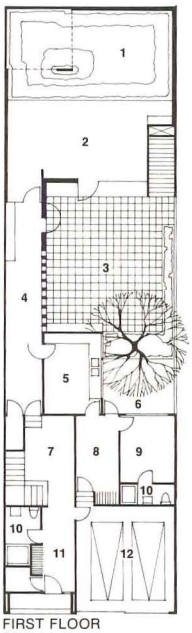


SECOND FLOOR



FIRST FLOOR

10' 3m

Legend
1 Pool
2 Dining
3 Patio
4 Gallery
5 Kitchen
6 Laundry court
7 Hall
8 Laundry
9 Servants quarters
10 Bath
11 Vestibule
12 Garage
13 Studio
14 Terrace
15 Parlor
16 Roof
17 Bedroom

Data

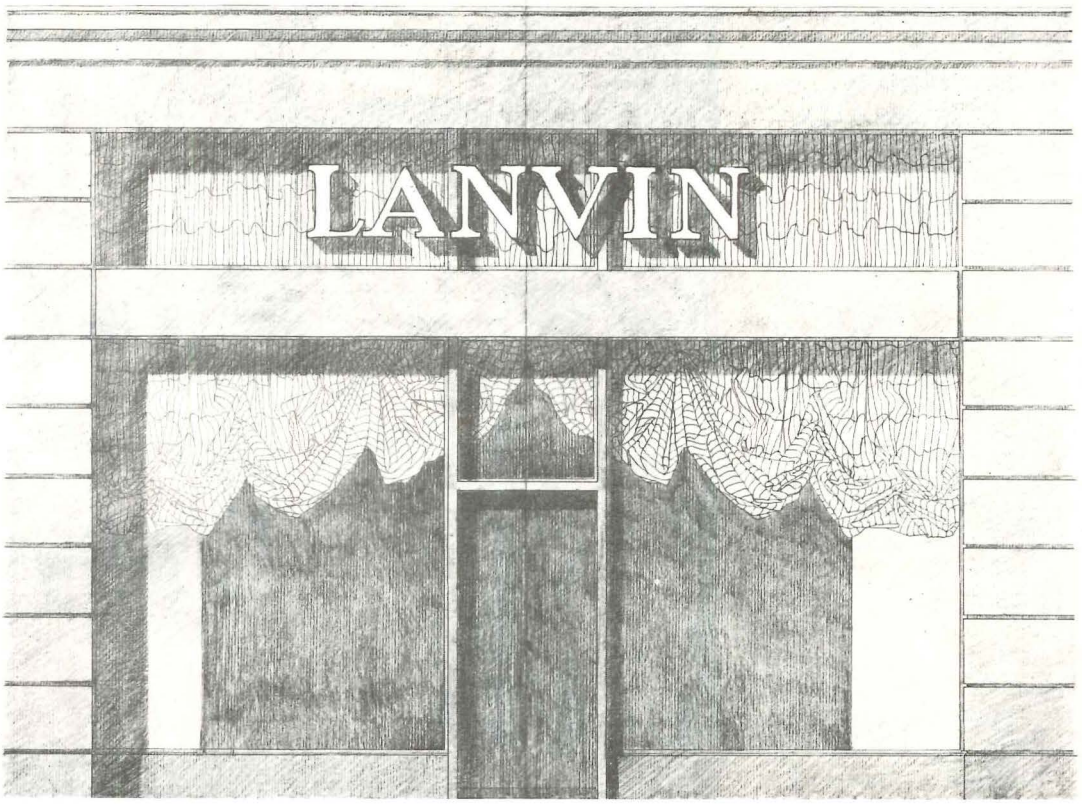
Project: *Casa Francisco Gilardi, Mexico City.*
Architects: *Luis Barragán and Raúl Ferrera, Mexico City.*
Program: *house on an infill site of 30' x 100' for a businessman who keeps business appointments by the pool and swims each day.*
Major materials: *natural stone and carpeted floors; brick walls with whitewashed cement plaster finish; reinforced concrete slabs.*
Photography: *Armando Salas Portugal.*



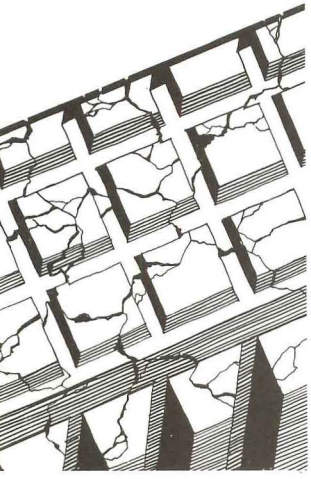
tique Lanvin and
Capo restaurant, Zürich

History ajar

interiors in Downtown ich by Robert and Trix ssmann investigate a ed and accomplished tte of illusory impres- s and mannerist dis- ement.



elegant shop in the grand y Hotel is dressed in painted rble," mixed deceptively with marble (left), and an- nced by a stage curtain exe- d in leaded glass (study for front, right). The original ne included deforming the red ceiling with artificial ks (drawing below). These also intended to have a role r-conditioning.



Perhaps it is partly because Zürich is a dignified city fortunate in streets lined with architectural heritage, and partly because the commissions happened to call for work within its elegant landmarks. And perhaps partly too because they simply wanted a greater choice of tools to work with, the Haussmanns have spent the past several years rescuing and reinterpreting techniques that had fallen into oblivion since the rise of Modernism.

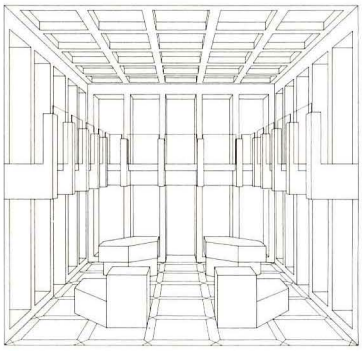
The techniques have been extricated from a wide range of centuries, styles, and countries. The common thread is that each is a direct challenge to the patent nature of size or shape or material, a characteristic often—if less than studiously—referred to as mannerist. Among the formal techniques investigated in their recent projects, including the two illustrated here, are:

1) The painting of surfaces so that they seem to be made of something other than the actual material. Marbling is the most common and the one used by the Haussmanns in the Lanvin boutique. The cocktail lounge of the railway station, on the other hand, has walls painted to look like ashlar masonry. Even further removed is the "fabric curtain" of Lanvin's storefront rendered in stained glass. Historically, marbling was used for financial as well as artistic reasons, when the real thing could not be afforded. The Haussmanns call it "alienation of material."

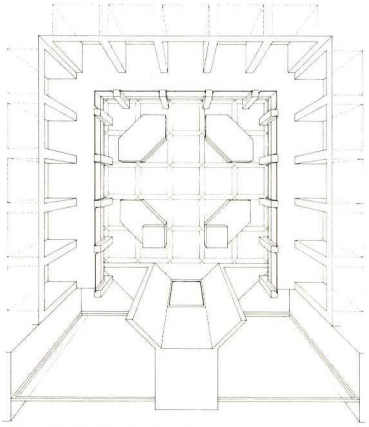
2) The use of mirrors to suggest endless rooms, dissolved rooms, illusory symmetries, and other modifications of actual space. The Haussmanns cite Cuvilliés' Amalienburg in Munich and Adolf Loos's Kärntner Bar in Vienna but, given the use of mirror strips in their Lanvin boutique, they clearly owe a debt to Soane as well.

3) Modifying the perception of a given space by pictorial devices such as juxtapositions of bright against dark or foreground against background, commonly called *trompe l'oeil*. Historical examples are available from ancient Rome to 19th-Century France. This is added to the textural rendering of the walls at the da Capo cocktail lounge to give them the three-dimensional character of stone blocks, especially on the doorway, where Latin inscriptions and numerals may be presumed to

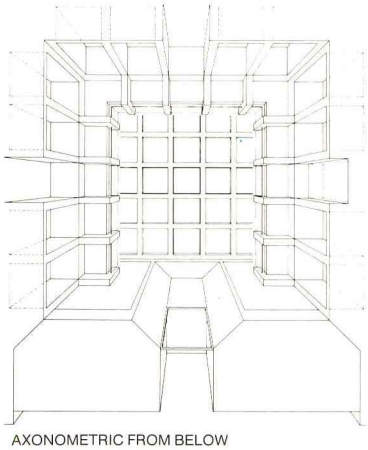
This page: Slivered mirrors in the doorway echo the spatial configuration of the full shop. To either side, the stained glass "curtain."
Facing page: The painted "masonry" of the da Capo bar's door (top) and walls (bottom) makes an ironic connection to the train station's façade.



PERSPECTIVE



AXONOMETRIC FROM ABOVE



AXONOMETRIC FROM BELOW



have been etched into the surface.

4) The introduction of elements of destruction and disturbance—for instance, a slipped keystone or split gable—intended as an ironic comment on the nature of conventional form. Among the Haussmanns' interpretations is the original scheme of the Lanvin boutique's ceiling with cracks which, though intended for use in the air-conditioning system, would have appeared as if the ceiling were crumbling and unsafe. The mirrored—hence missing—keystones at the da Capo lounge are another example.

5) Aiming the messages of the design in several directions simultaneously (mult encodement). In the da Capo lounge, for stance, there is the very simple message this bar is inside a historic masonry fa and that the historic and landmark qualit the building is of importance. There is al variety of ironic messages about the natur historical continuity and artistic integratio the painted gypsum, mirrored keystones, refusal to acknowledge the distinction tween inside and outside. Similarly in

nvin boutique, the simplest messages might
volve the marble as suggesting the exclu-
eness and high quality of the goods for sale
the shop, while the mirrors add a certain
tivity in their glittering reflections and a
ore luxurious spaciousness than really
ists. The more complicated geometrical
d art historical references are there for
ose to whom they are of interest.

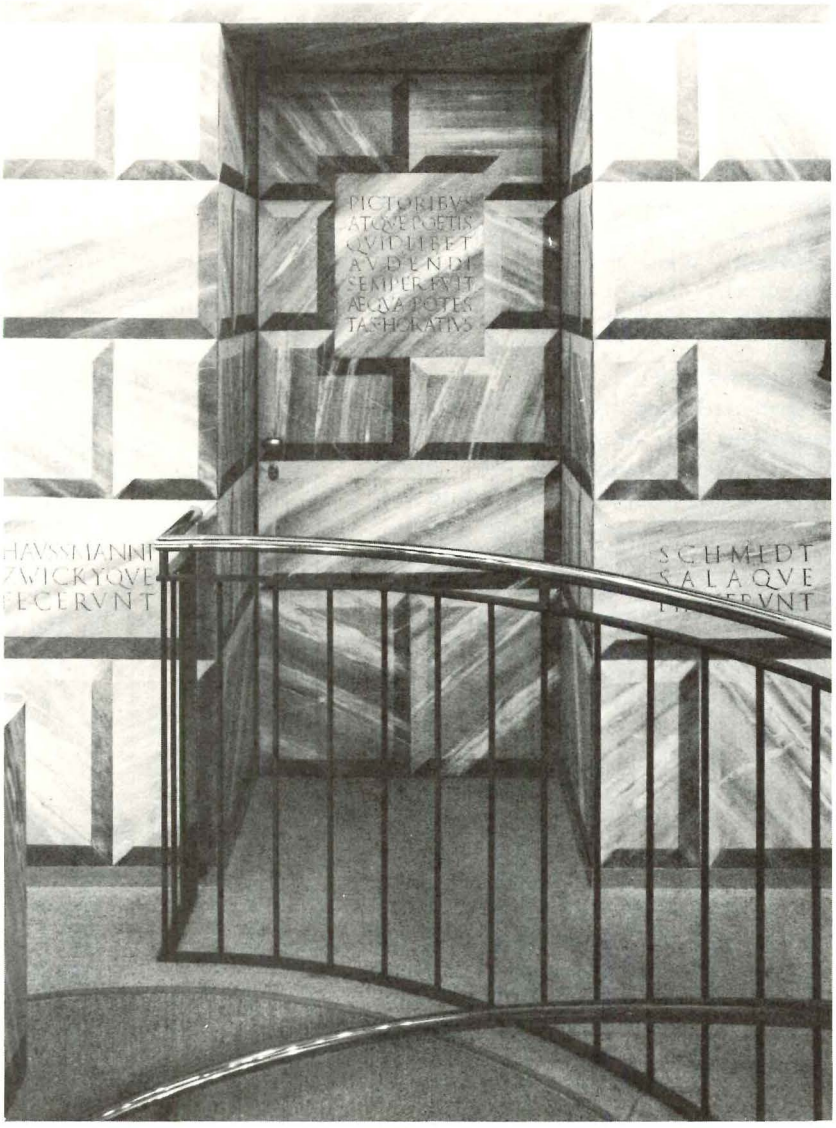
omping at the Savoy

the 19th-Century Hotel Savoy, in the heart
Zürich's most popular shopping district,
e architects were given a small ground-floor
ontage in which to design a shop for Lan-
n. On the street façade, the architects
rned the show window into a striped
aded-glass curtain partially raised as if the
ay were just about to begin.

Inside, the shop is divided into a double-
ight cuboid core, with sales counters and
cks of clothes, and surrounding this on
th levels are single-height changing cubi-
s, offices, and storage rooms.

The cube is articulated and modified in
veral ways. The ceiling is coffered. The
lls are inset with niches on three sides, the
urth being open to the display window and
trance. This is echoed above by a U-shaped
lcony. In front of the doorway, two col-
nns with mirrored edges at 45-degree ang-
s to the room act as a dislocated, out-of-scale
unterpart to the balcony. Mirror-faced slid-
g doors cover half of each niche, giving the
pression of infinite extensions of ceiling
d floor fragments.

Walls, balcony, niches, and coffered ceiling
e painted to look like Norwegian rose mar-
e (a salmon color with a grayish-green pat-





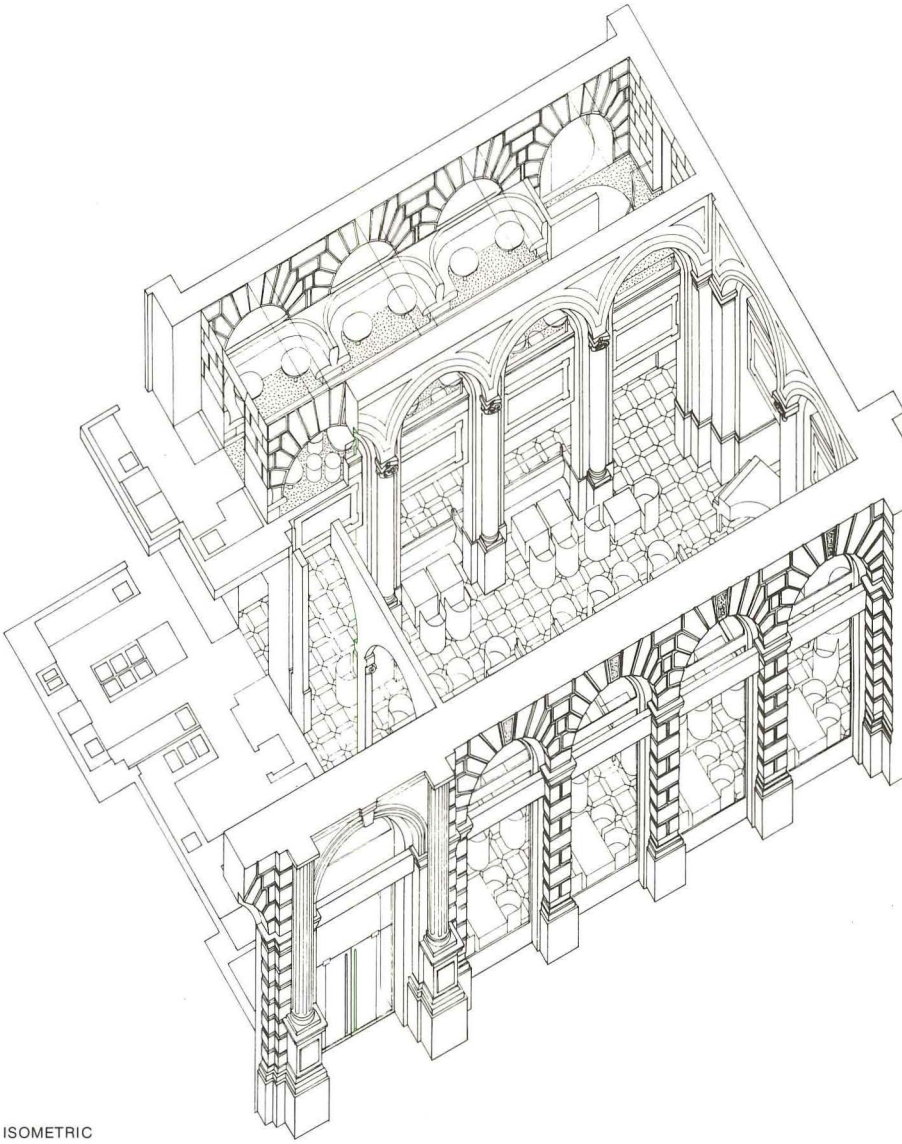
tern). The octagonal center floor, however, is inlaid with genuine marble of the same type.

Railroad revival

The Haussmanns' latest project, finished earlier this year in Zürich's landmark 1870 Central Station, called for the restoration/renovation of the elegant dining floor, the provision of an up-to-date kitchen, and the addition of a new cocktail lounge under the arcade at mezzanine level.

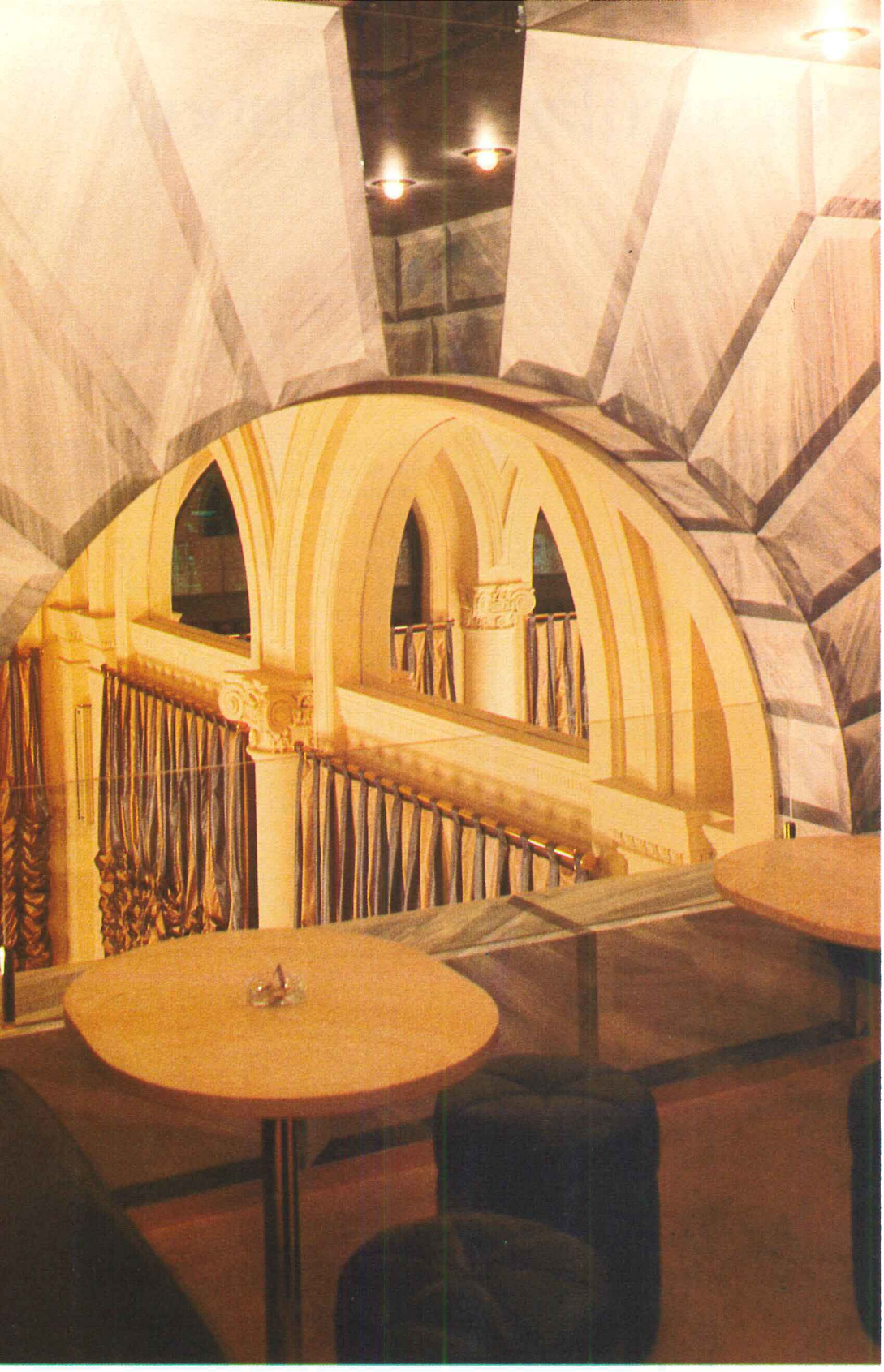
The station had recently been recognized as a monument, and its exterior restored. This became the theme for the "new" interior—the lounge. Its walls and ceiling are painted illusionistically to recall the façade. To underscore the irony of interior walls made interchangeable with exterior ones, not only are the keystones mirrored as if the sides of the arches are soon to collapse, but the mirror strip is carried up and over the ceiling, making inexplicable breaks in the stone container. On one side the arches are open and look down onto the restaurant; on the other, they are mirrored in implied symmetry. The recessed lights create another ambiguity.

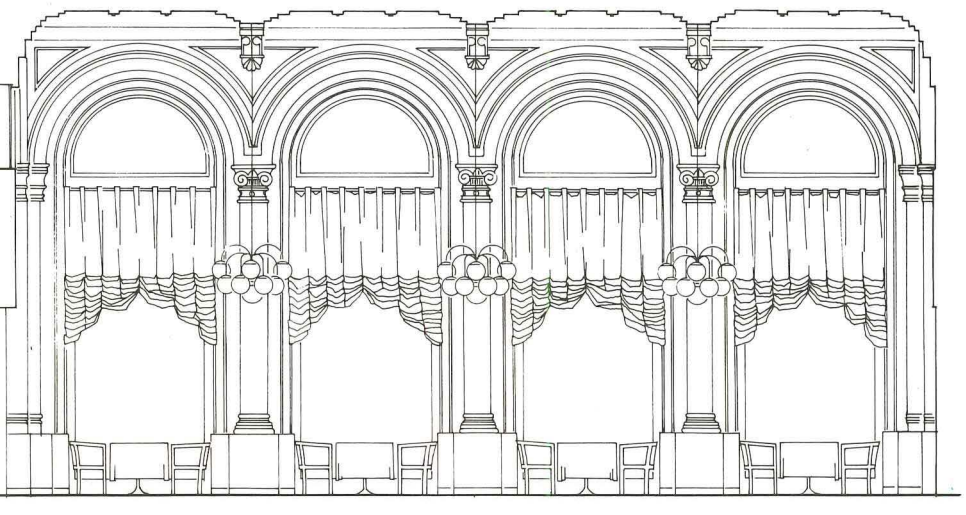
Unlike the Mannerist work of a post-Renaissance architect like Giulio Romano, which took form from the desire to challenge the good taste and the established order of the preceding period, the ironies of the Haussmanns' work are more challenges to the future. They are less interested in arguing about Modernism than in probing the problematic nature of current historicist theory, practice, and preservation. [Nory Miller]

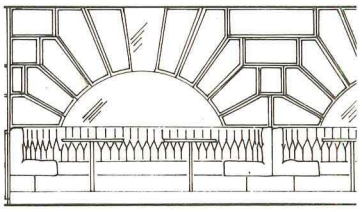


ISOMETRIC









Facing page: The isometric (top) shows the relationship of renovated restaurant, added bar (below), and existing façade.
This page: A view from the bar down to the restaurant below (left), one of the restaurant's ornate elevations (bottom), and a section of the bar's elevation (above).

Data
Project: *Boutique Lanvin, Zürich.*
Architects: *Robert and Trix Haussmann, Zürich; Benno Weber, Matthias Buser.*
Program: *high-fashion shop in ground floor of 19th-Century Hotel Savoy; 430-sq-ft two-story salesroom and 320-sq-ft one-story ancillary rooms surrounding.*
Major materials: *marbled wood and gypsum; real marble floor (both the real stone and its painted version are of Norwegian rose marble); stained-glass front window; mirror; silk cushion seat covers.*
Photography: *A. Waldvogel, Andrea Schmid.*

Data
Project: *Zürich Central Station da Capo restaurant and cocktail lounge.*
Architects: *Robert and Trix Haussmann, Zürich; Stefan Zwicky.*
Program: *restoration of 1800-sq-ft ground floor restaurant and addition of new 600-sq-ft cocktail lounge under the arcades on the mezzanine level of an 1870 railroad station in Downtown Zürich.*
Major materials: *illusionistically painted gypsum; blue, clear, and stained mirrors; beige wool carpet; marble tables and blue leather banquettes.*
Photography: *Stefan Zwicky.*

Central Pharmacy,
Karlsruhe

Immaculate distillation

A modern apothecary shop by Germany's Heinz Mohl makes a lithe and elegant virtue out of antiseptic necessity.



The technique is an exacting selection an intersection of materials. The result is silke sophistication in a busy, off-the-street chem ist shop.

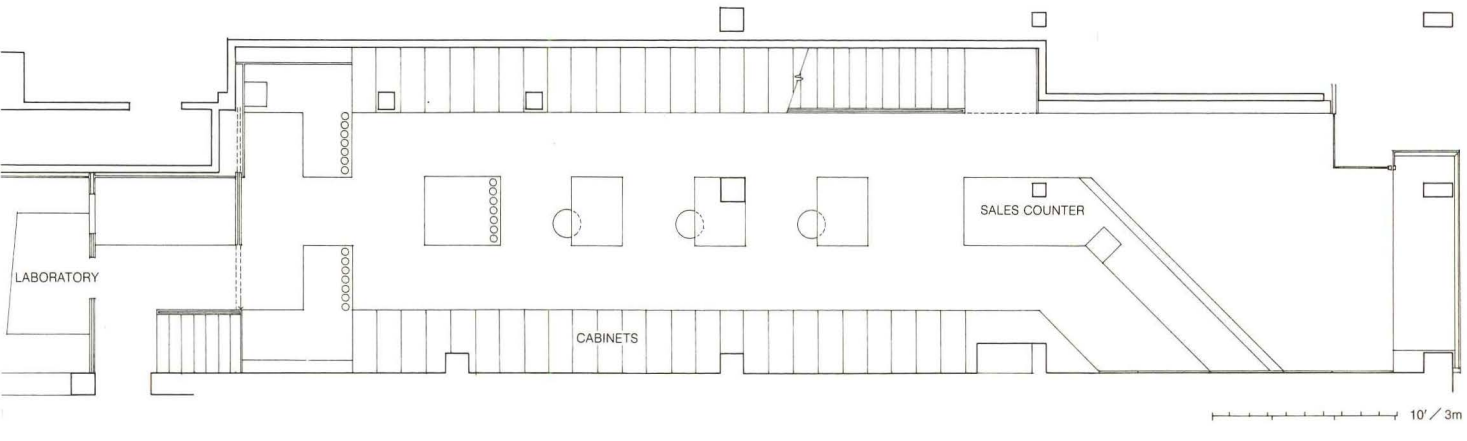
Most of the drugs are stored in narrow drawered, floor-to-ceiling cabinetry tha lines both walls. The material of the cab inets and all other furniture, such as th counter, work tables, and freestanding cup boards, is gleaming pale blue plastic lam nate with shiny spare tubular hardware.

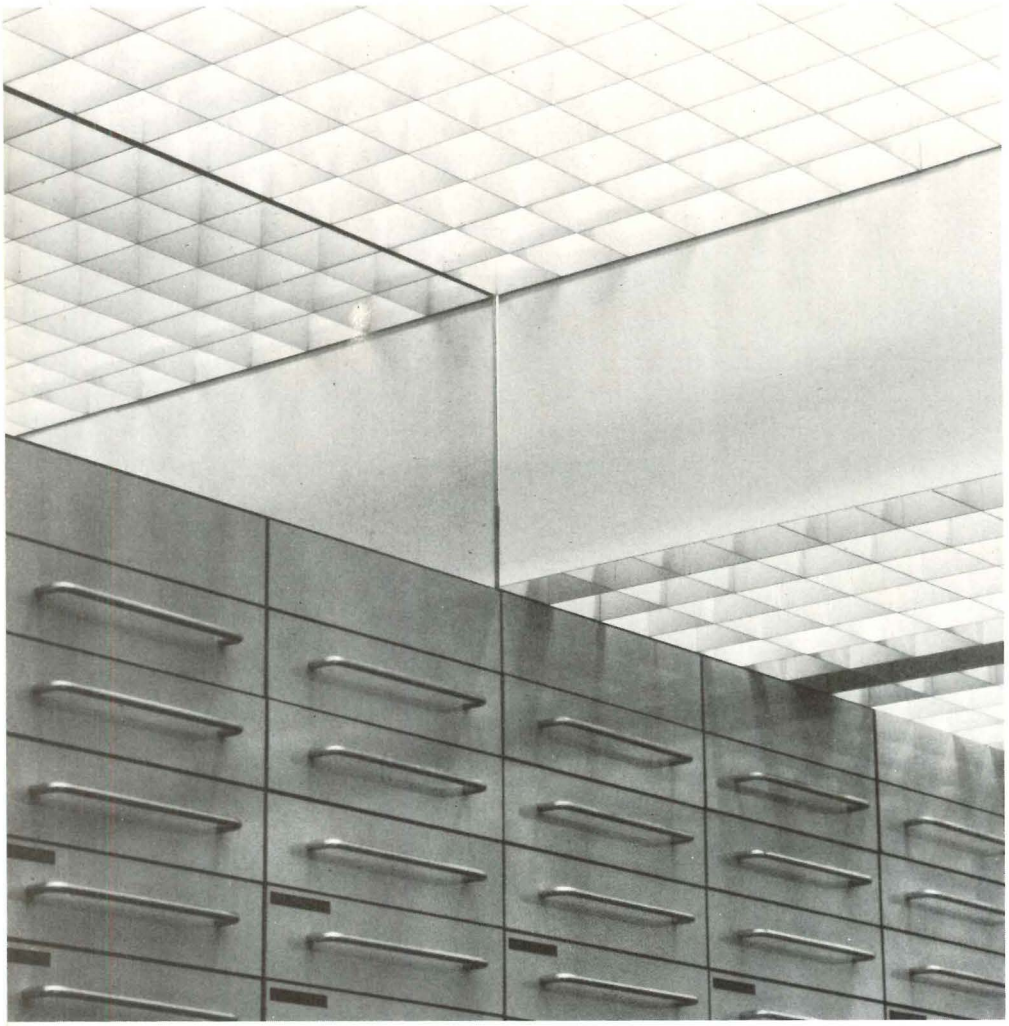
Every vacant surface has been lined i mirror—parts of walls, sides and tops of co umns, and an entire clerestory above th cabinetry down each wall. The mirror ado illusionary width, especially at the sale counter area where customers enter. An the reflections animate a room so hospita clean, it has become wary of sterilization

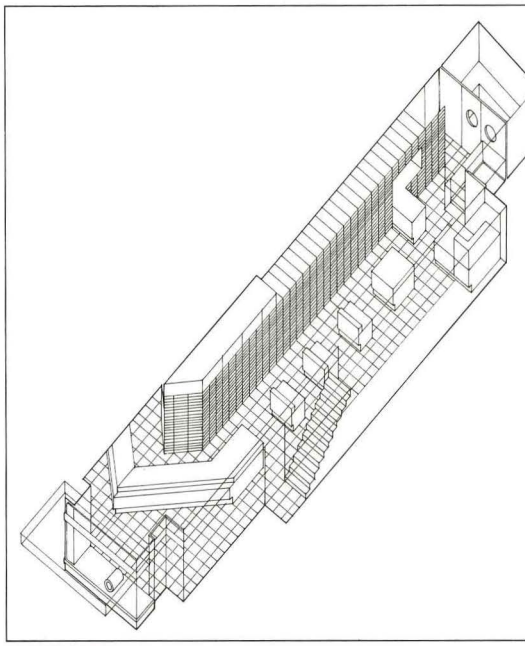
The mirrors also detach and lift th luminous eggcrate ceiling. As the ceiling optically raised, the floor is simultaneous

The chemist's trademark, an arrow, is used both as signage and as a heating element in the front window (above right). Inside, the shop is organized in ladderlike fashion with laboratory in the rear (right).
Facing page: View facing front, showing worktables, metal tube light fixtures, and one of the mirrored columns.




LABORATORY
CABINETS
SALES COUNTER
10′ / 3m





AXONOMETRIC

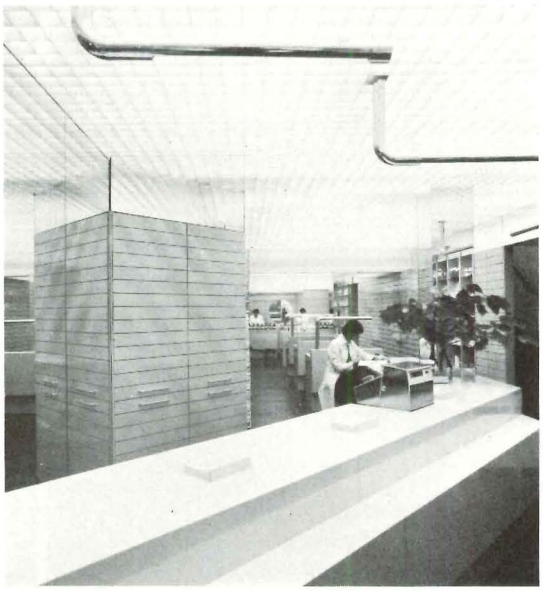
lowered, simply by its matte finish and dark brown color. Minimal bent aluminum pipes of light provide table lamps and a special glow above the sales counter.

Each element is hard-edged and precise. It is the constant play of pattern—from embossed rubber floor to drawer handles to gridded ceiling—that knits them together.

Tubelike plan

The layout is serial, enforced by the deep narrow space approximately 17 ft wide by 78 ft long. The sales counter is at the front, turned on the diagonal to make a roomier, fluid impression. Behind are the walls of medicine drawers, organized alphabetically, and three work tables. In the rear, there is a sliding door that can turn one area into a night workroom. At the very back is the laboratory and prescription archive.

A staircase to one side leads down to basement storage and up to administrative offices, supply, dressing room, and tea kitchen. In the show window in front is a sign of painted steel tubing in the shape of an arrow. It serves both as advertising symbol and as a heating element. [Nory Miller]



Various insertions of mirro provide illusions of depth and enliven the texture (above left). Left: The diagonal sales counter.

Data

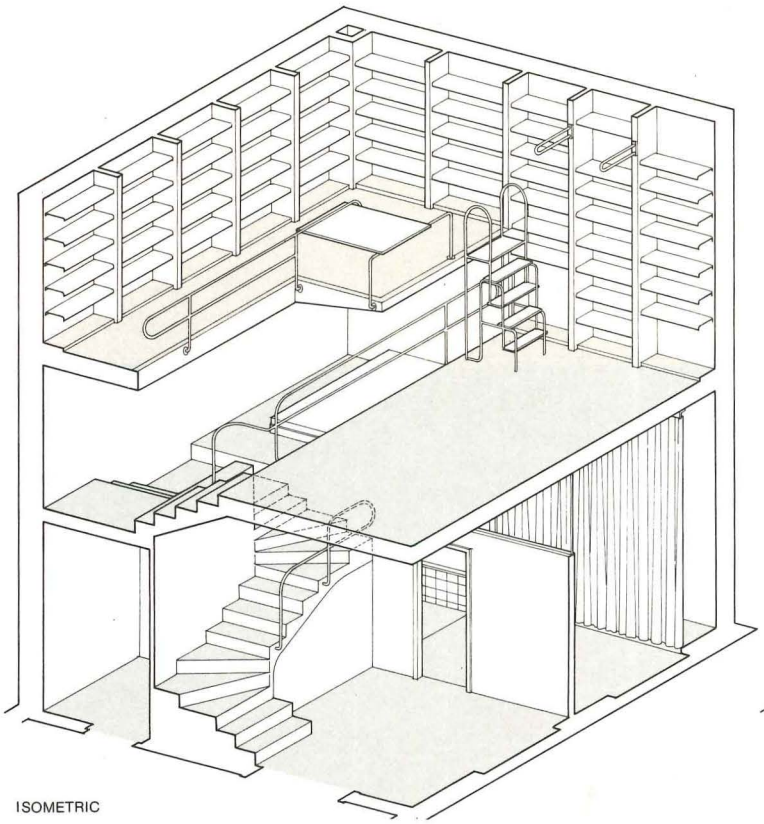
Project: *Central Pharmac Karlsruhe, Germany.*
Architect: *Prof. Hei Mohl, Karlsruhe. Collab rators: Wolfgang Strop a Otmar Kaltenbach.*
Client: *Dr. Walter Bo ringer*
Program: *1200-sq-ft pha macy, with basement st age and administrative a supply functions located u stairs. The long, narr space required rooms to arranged one behind t other, with sales counter front and lab in back.*
Major materials: *brown e bossed rubber floor; sky bl plastic laminate cabine white luminous screen ce ing; painted steel tubi sign.*
Photography: *Ulfe Beckert.*

au house, Vienna

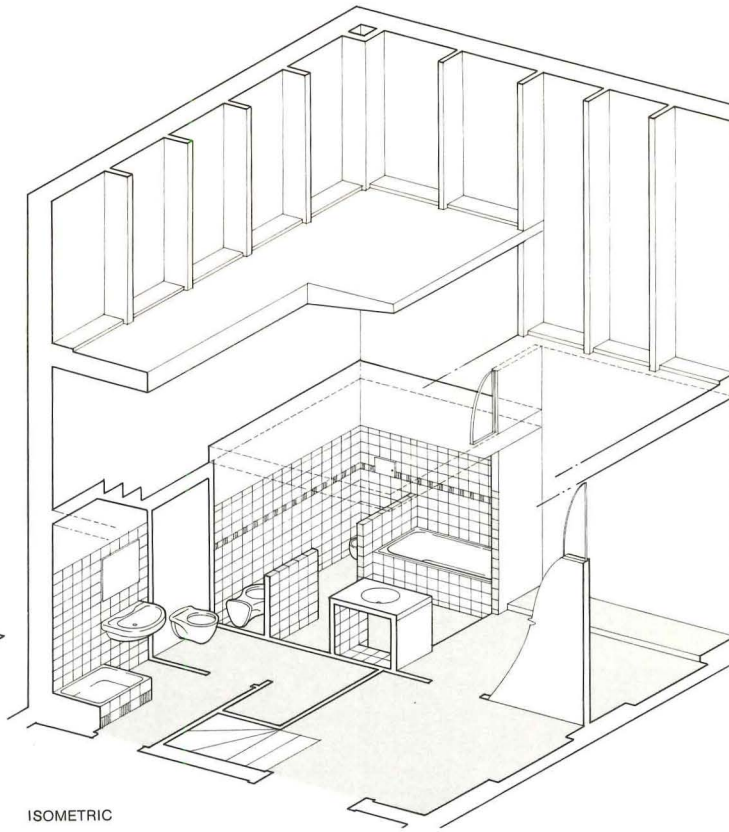
Hommage à Adolf Loos

igi Blau's house for him-
f in Vienna is arranged in
ır interpenetrating hori-
ıtal layers, a remodeling
an 18th-Century row-
ıse in one of Vienna's
den districts.





ISOMETRIC



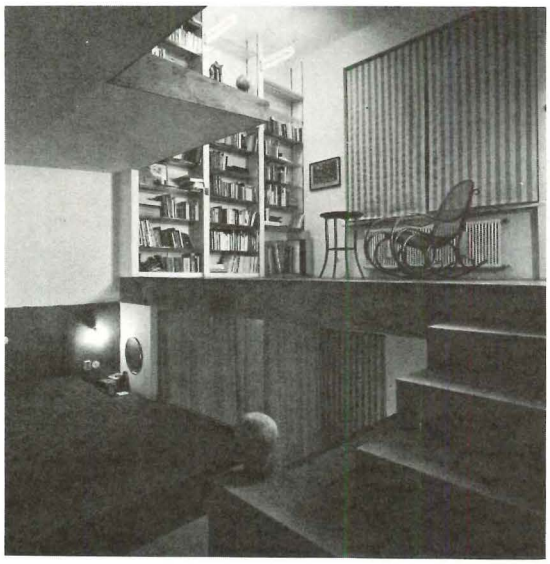
ISOMETRIC

In the particularly active architectural climate of contemporary Vienna, that city's historical range of aesthetic intent and crisscrossing aesthetic predilections remain characteristic. If Günther Domenig's work (p. 180) is surreal, exuberant, and subjective, Luigi Blau's is recognizable, restrained, and rationalist. Domenig creates montages of evocative quotations; Blau molds complex, interpenetrating volumes. Yet it is Domenig who is interested in the fantasy of modern technology and Blau who is mining history for spatial and decorative effect.

Blau's crafting of space and material is self-consciously reminiscent of Loos's ordered rooms. Space is made more interesting through illusion and intersection, and materials more vivid through textural juxtaposition. Color and pattern are sometimes added. Underlying the impression is logic.

His own house is a remodeling of an 18th-Century two-story rowhouse in Vienna that had already been remodeled in the intervening century. Blau opened the space to a 16½-ft square, 23 ft-4 in. in height, in which he arranged a series of platforms. Entrance, dining, and bath are on the first. Fourteen steps lead to the second—bed—level. There is a dressing room behind glass screens. Eight more steps lead to the lower library. The fourth level, an upper library or study, is reached only by stepladder, which the architect likens to a drawbridge.

In addition to the frugal husbanding of space, there is an attentive disposition of materials. The stairs and platforms are raw concrete. The walls are plaster painted white. Earthtoned carpet and honey-colored wood insets provide warmth. Striated glass screens and dark strips of tile in the bath provide slight syncopations of pattern. [Nory Miller]





Blau discusses his house in ter of Raumplan *(space plan), a word coined to describe the vol umetric designs of Adolf Loos. The four-level tower is shown axonometric (top left) and pho graph (center). Top right and bottom: the almost equally com plex bath.*

Data

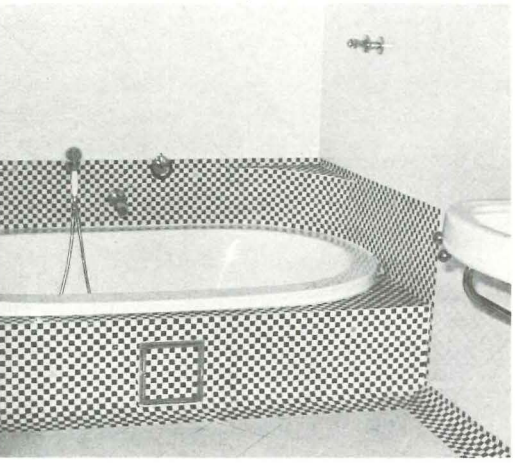
Project: *Blau house, Vienna*
Architect: *Luigi Blau, Vien*
Program: *remodel a two-s house built in the 18th Cen into a home for himself. 16½-ft-square house was ope to its full 23-ft-4-in. height, a series of platforms and s was introduced to accommo the various functions.*
Major materials: *conc wood, white paint, glass scre tile (bath).*

A triad of bathrooms from other Blau projects in Vienna illustrates the architect's penchant for three-dimensionally sculptured rooms, his fascination with the decorative possibilities available within two dimensions, and his conscious immersion in the work of the Viennese master, Adolf Loos.



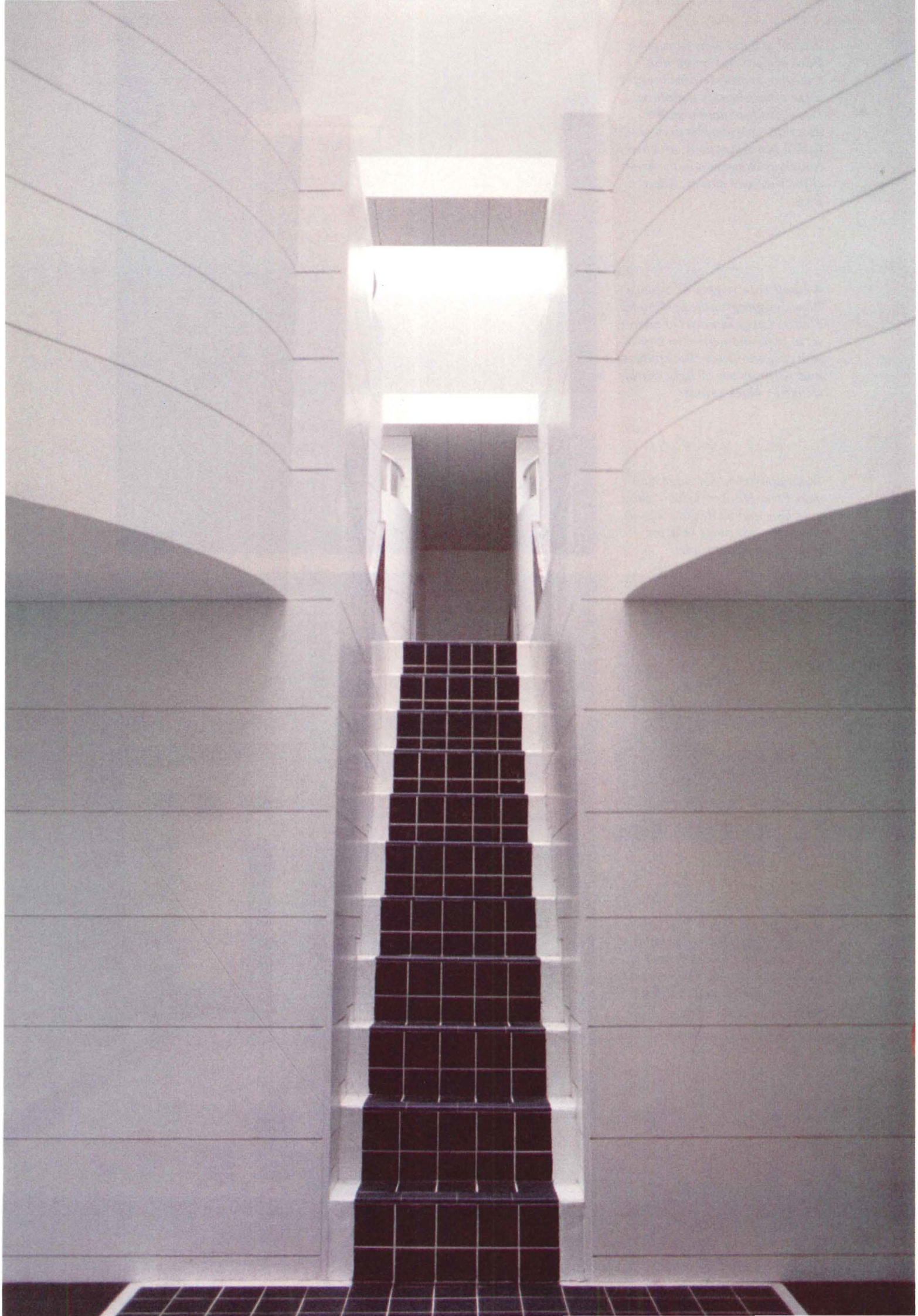
A small bath (right) in a house Blau designed for the poet André Heller. Large expanses of mirror, set in opposition, give the impression of spaciousness. Both fixtures and surfaces are of light marble set off by black granite.

In his apartment for stage manager Peter Hauser (below), Blau used blue and white glass mosaic checkerboards in the bath for moldings and tub frame.



A bath for the singer Marianne Mendt (right), patterned in blue and white tile. The bath itself is inside the bedroom. Only wc and bidet are separated by a sliding door.





ımu House, Torami, and xyodo Museum, Toyota , Japan

Reflection houses

oshi Watanabe

current examples of oshi Hara's stunning es of inward-directed ses—one a house, one a eum with living quarters ched.

ng page: The central stair- from the living room. shi Watanabe photo.

oshi Watanabe practices itecture in Tokyo. He ied at Princeton and Yale ell as University of To- has taught at Columbia Kanto Gakuin Univer-, and is a former cor- ondent for *Architecture*

In the past decade, Hiroshi Hara and Atelier Ø have designed a series of remarkable projects which he calls *reflection houses.* It would not be farfetched to say that these were all interiors; their exterior forms are simple volumes that have been further "effaced" by slate-black paint. Toplit and with limited window area, they represent almost autonomous environments. They get their name in part from their most obvious common characteristic, their axial symmetry; i.e., one half of any interior reflects the other. There is nearly always a streetlike central space, lit from above, which may step down on a hilly site. Rooms are arranged to either side, with the central space also providing a secondary source of light.

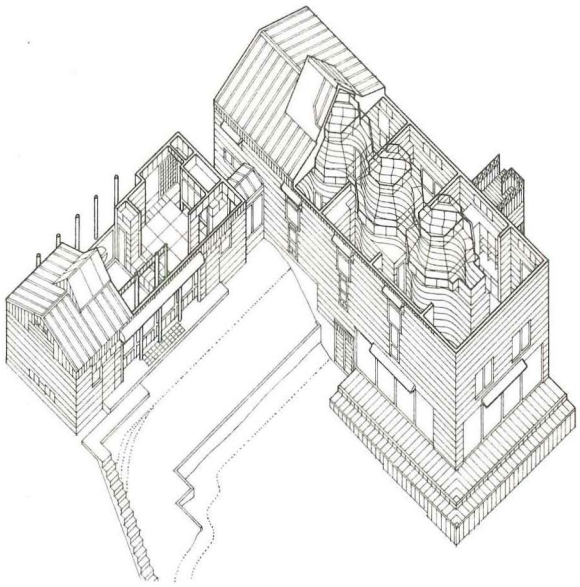
Although many of the projects are in quiet wooded areas, Hara maintains he is developing a housing prototype for high-density situations with which conventional types are ill equipped to deal. Anyone familiar with the crowded conditions that prevail in major Japanese cities can appreciate the need for an endeavor of that kind, but the justification falls so short of explaining their extraordinary expressive quality as to seem ingenuous. Among younger Japanese architects there is a tendency to reject the present urban context entirely and to build self-contained structures. To some extent, Hara's "aloof" houses have set the trend.

Hara has in the past expressed his antipathy to the universal space of Modern architecture. In the 1960s, he designed what he called *foramen* (porous) *forms,* in which each individual element asserted itself aggressively. As late as 1968, he designed the Shimoshizu Elementary School and the Keisho Kindergarten in this exuberant style. Then in the 1970s, his work went through a marked transformation.

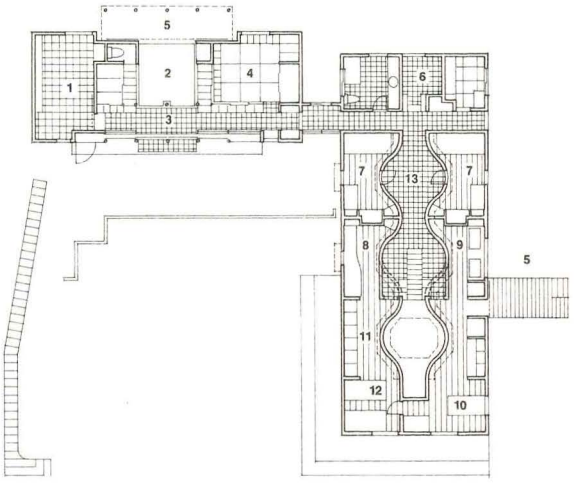
Antecedents

This series began with the Awazu House (1972) which was built on a hillside outside Tokyo. The entrance was from the roof, and one descended into a narrow passageway covered by a transparent vault as if into some futuristic crypt.

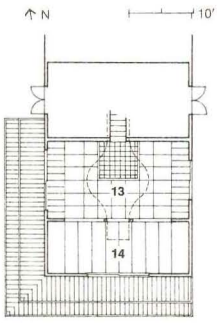
His own house (1974) elaborated on this idea. The outer envelope was even simpler, with a gabled roof mounted by a skylight. Windows were kept to a minimum, even though the site was, by Japanese standards, relatively secluded. A new feature was the second roof, here acrylic forms cascading



AXONOMETRIC

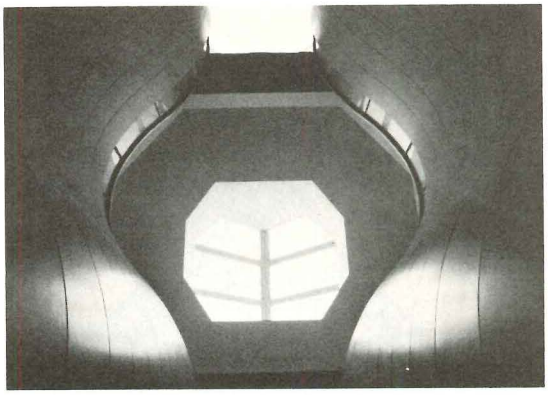


UPPER FLOOR



LOWER FLOOR

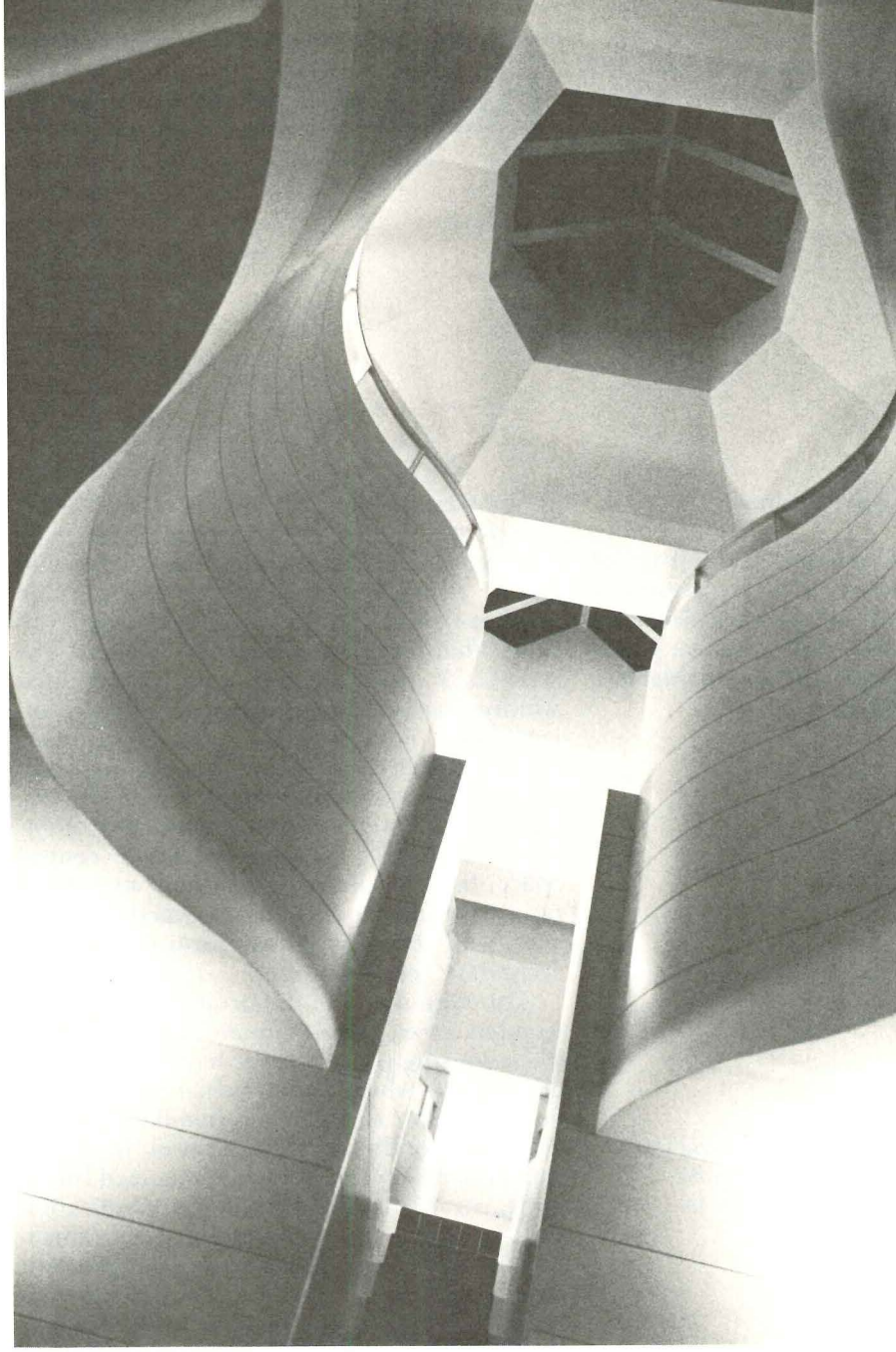
Legend
1 Beauty salon
2 Rock garden
3 Entrance
4 Japanese style room
5 Service yard
6 Alcove
7 Child's bedroom
8 Study
9 Kitchen
10 Dining room
11 Closet
12 Parents' bedroom
13 Hall
14 Living room



Hiroshi Watanabe



Hiroshi Watanabe



down either side of the passageway and drawing light from the central corridor into individual rooms. (Acoustical privacy, as might be expected, is minimal.) These frozen cataracts or outcroppings—for they recall natural forms—create a narrow chasm down which one descends. Hara himself mentions the possible effect his childhood in the mountainous area of Nagano had in shaping his spatial predilections. Even stronger than the suggestion of natural forms, however, is that of a necropolis; one has the feeling of having come upon a space-age catacomb lined with caskets.

Niramu house

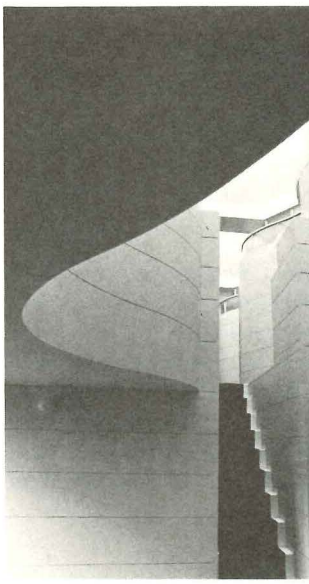
The Niramu House, completed in 1978, is located in Torami in Chiba prefecture, 1½ hours by train from Tokyo. The husband of the couple that own the house is a biologist and writer, and the wife operates a beauty salon. There are no neighboring houses in sight. The house is L-shaped in plan, with public areas forming one leg and private residential areas forming the other. Steps lead from the gate up a sharply inclined lawn to the entrance level.

At the entrance there is a small rock garden. It halts all forward movement and forces a choice between going to the left or to the right. This wing houses the beauty salon and a Japanese-style *tatami* room. The rooms have low ceilings and are lit from the side, and all the wood surfaces have been painted black. All lines are rectilinear except for a few details.

Moving to the residential wing is like emerging from a cave into a snowy landscape. It is dazzling antithesis. The walls of the central passageway undulate, varying its width from three to nine feet. Whether these sinuous white walls were suggested by biological forms or a permanent wave, they are topped by octagonal skylights. Between the walls and the skylights are horizontal bands of acrylic which transmit light into individual rooms, much as the acrylic in the Hara house does.

The rooms themselves are a little cramped, sandwiched as they are against the unyielding outer frame. The effect is only partially offset by the light from the acrylic bands. Hara himself recognizes that individual rooms have played a largely passive role in his design and believes they will be given more of a role in the future.

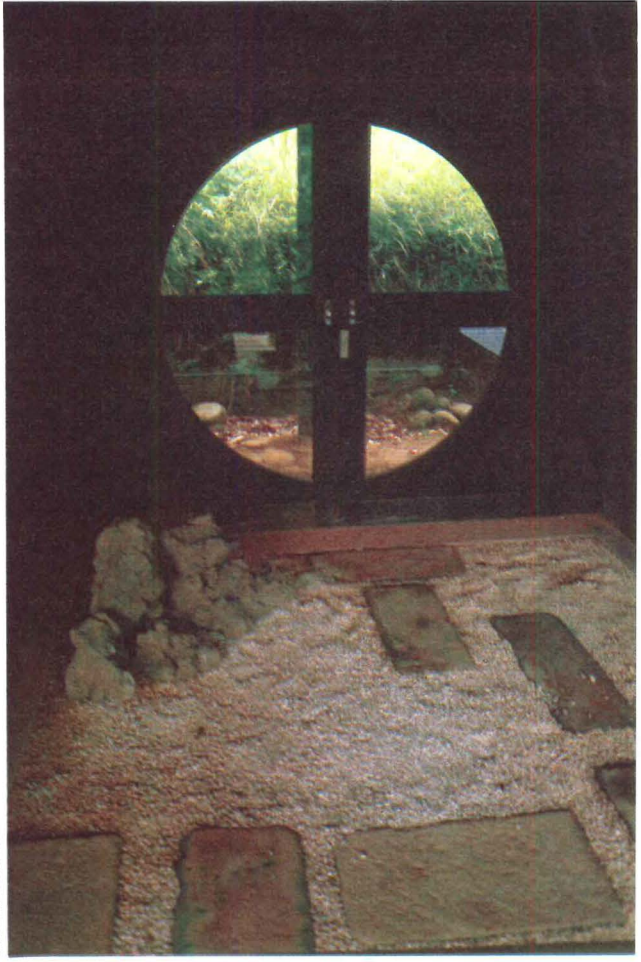
Inside the central spine, the sense of isolation, bolstered by actual seclusion, is great. Having lost our normal visual and acoustical bearings, we go where the building takes us. The only report we get from the outside



This page: The small rock garden at the entry (right). Below: stairs to the living room. A door to the right leads to the master bedroom; to the left, the dining room.
Facing page: The center spine (right top and bottom); one of the skylights (left top), and the living room (left bottom).



Hiroshi Watanabe



Hiroshi Watanabe

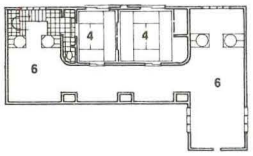
world is the sky overhead, which begets a feeling of extreme vulnerability. (Hara has commented with regard to his own house that it would be unbearable for someone afraid of thunderstorms.) Urged along by the peristalsis of the walls, we move straight ahead, though vaguely aware of doors to both sides. Steps lead down to the living room where there is contact again through the windows onto the hillside.

The repetitive unfolding of spaces and axial symmetry lend a ritual quality to the act of moving through the house. And although we may argue that a hill can be ascended as well as descended, unidirectional movement is implied. It is downward that we go in the Niramu House (as in the Awazu and Hara houses), into and past a dreamlike and disquieting space where we are seemingly given a glimpse of our true isolation and mortality. Going further downstairs into the living room is an awakening, a return to the safe, mundane world, but we have learned not to regard it with too much complacency.

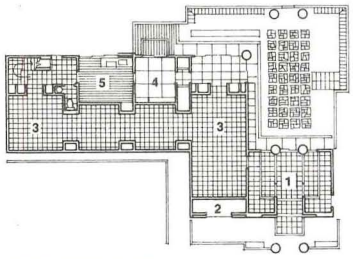
Shokyodo Museum

Wakabayashi, where the Shokyodo Museum stands, is located outside Nagoya in a gray area of agriculture and light industries. The main street is one house deep; beyond that are rice paddies and scattered warehouses and small factories. In this inhospitable environment, just behind their own factory, the Kobayashis decided to establish a small private museum for woodblock prints. The pro-

Shokyodo Museum, Toyota City, Japan



SECOND FLOOR PLAN



FIRST FLOOR PLAN ↓N 10' 3m

Legend
1 Entrance
2 Storage
3 Hall
4 Japanese style room
5 Office/Kitchen
6 Void



Japan Architect: Mitsuo Matsuoka

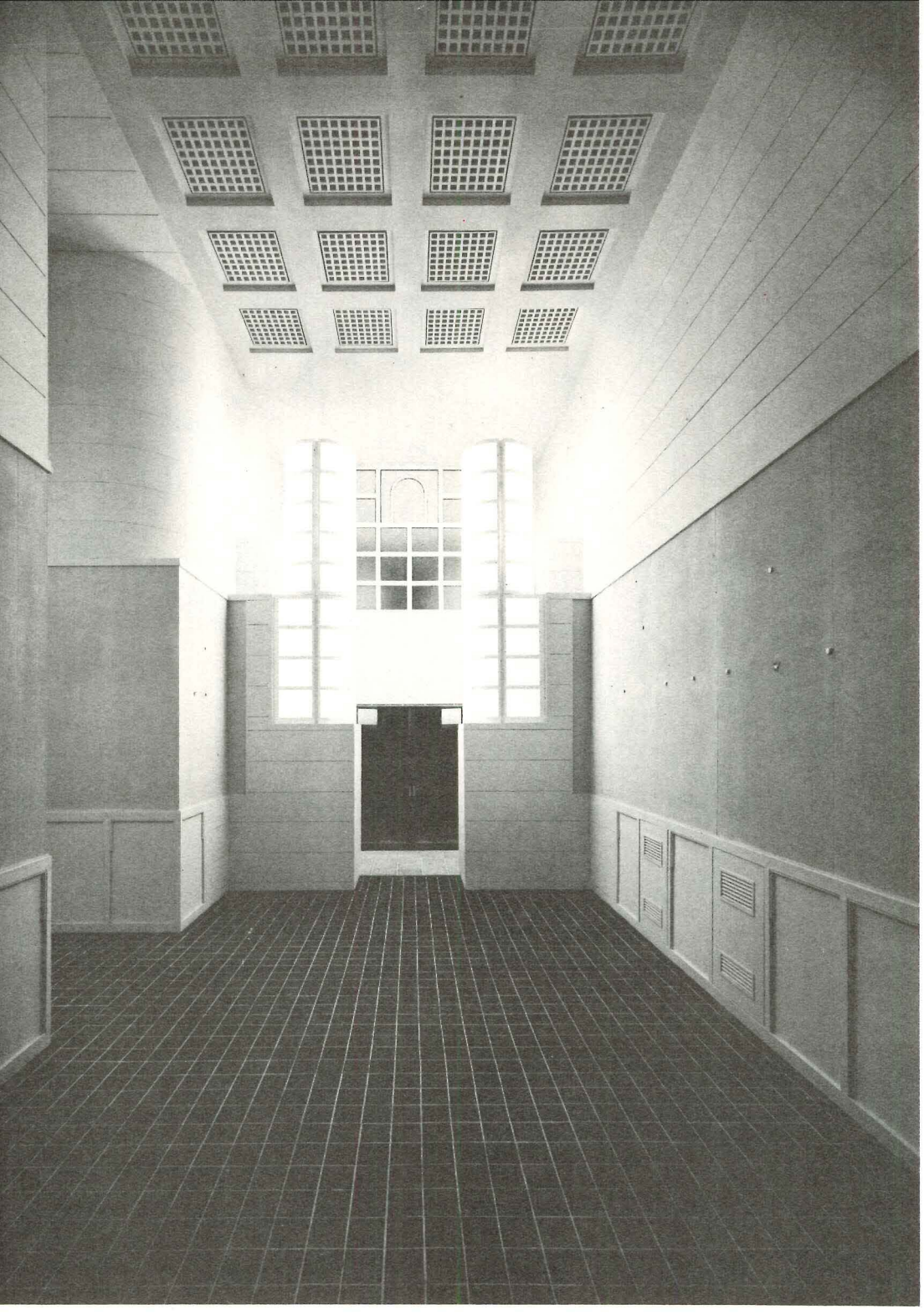
The octagonal light pillars at the eastern end of the exhibition space (this page) and the cylindrical light pillars at the western end (facing page).

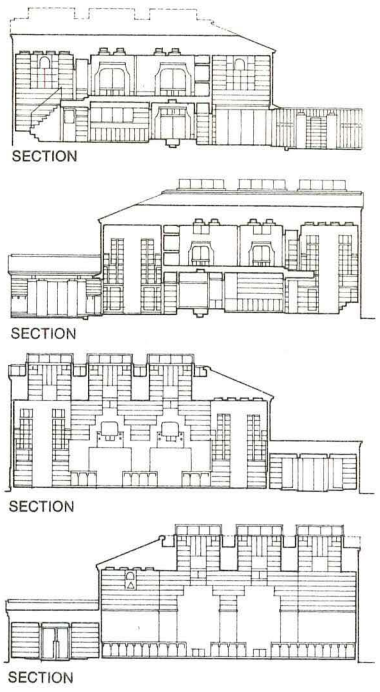
gram called for living quarters for the couple as well as display space, and Hara considered the project in essence an extended house, one which might demonstrate that a dwelling can be enriched by the reacceptance of functions it had gradually relinquished to the city.

Like the Niramu House, the museum—which was finished in mid-1979—presents a relatively simple exterior that has been painted black. The entrance lobby is a low-ceilinged block through which a narrow back garden can be seen. A door to the right leads to an older house; the door to the left to the museum. The interior is designed around a series of axes. The exhibition space is in plan a flattened "h". Both legs of the "h" are lit by large windows at their far ends. These ends are private areas separated from display space by tall columns of light. The crossbar of the "h" is a narrower space (4½ ft) with alcoves on either side, lit from above by three skylights. The exhibition zone is adjacent and partially wrapped around the two-st residential zone. Downstairs are a kitchen a *tatami* room for tea ceremonies, and upstair pair of larger Japanese-style rooms.

As living accommodations, the two roo on the second floor have proved inadequa Moreover, the Japanese rooms in Har buildings are always somber, if not funere Hara says that he wants to give the occupa of his houses a choice of different envir ments and that the Japanese-style rooms cozy places to be on winter evenings. Me while, the owners have chosen to continue ing for the most part in their older house

The two zones are essentially independ



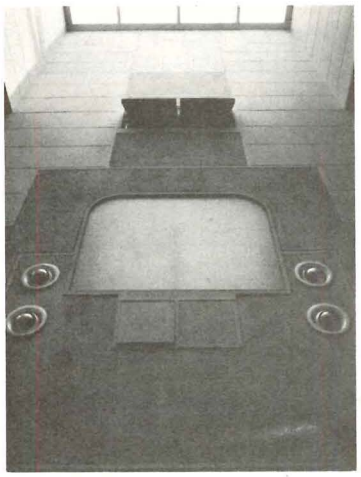


Japan Architect; Mitsuo Matsuoka

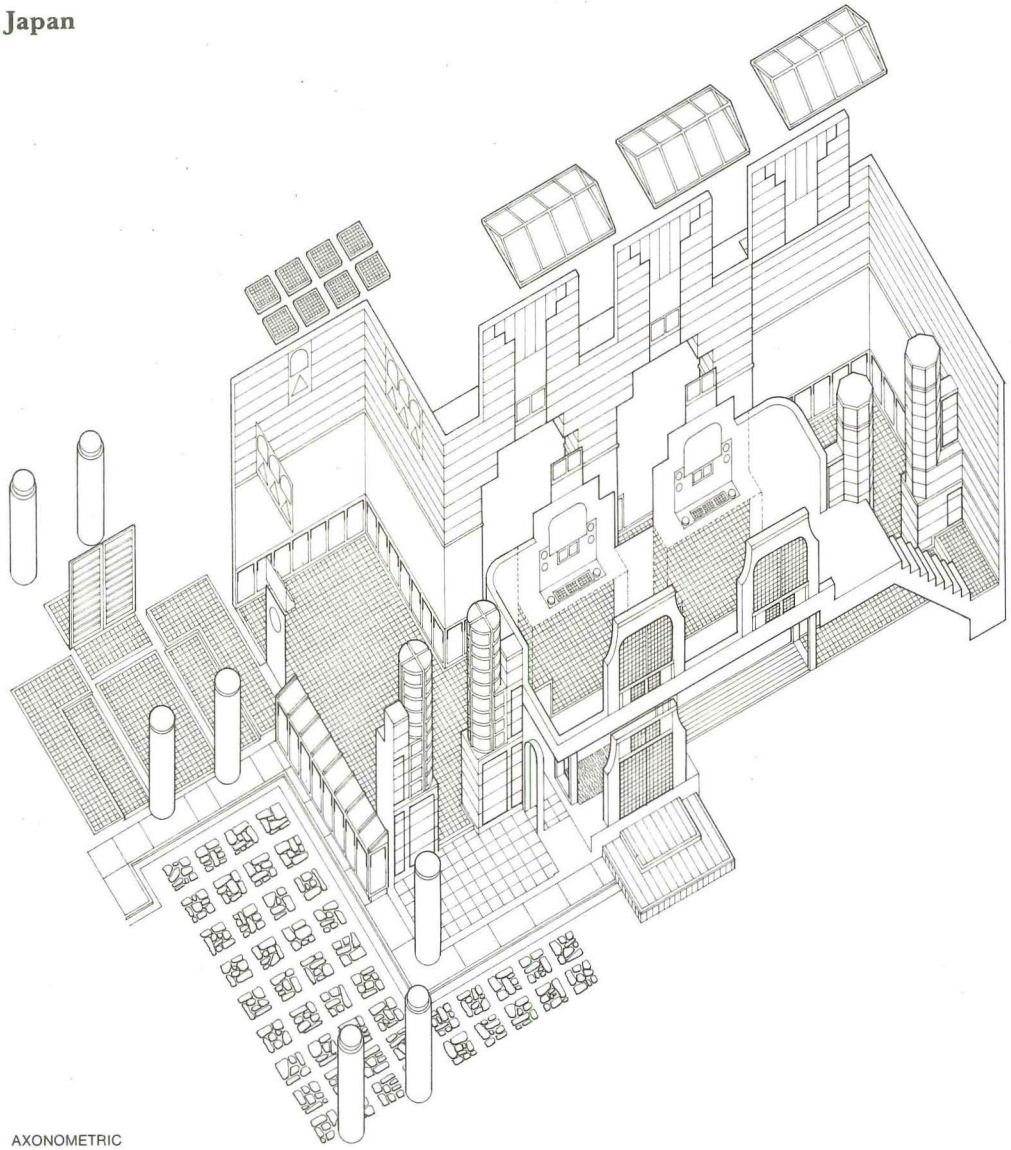
f each other, although the curved corners of ıe residential block imply its containment ithin the larger volume. There are small indows for ventilation, and frosted glass ermits some light to enter from the exhibi- on space. The tall cylinders of light, one pair ound, the other octagonal, in effect impose ates beyond which uninvited visitors may nd it psychologically difficult to pass. These linders also activate the high ceiling, for un- ke the Niramu house, we do not actually ove vertically through this major space. The ghts serve to draw the eye upward to gauge ıe vertical dimension. The walls themselves dicate different strata of space.

Shokyodo does not compel us to move for- ard, it merely suggests. Neither does the useum create the sense of total enclosure nd disorientation that the house does. All eems calm here; the object, after all, is the isurely viewing of small pictures. There are, however, several disturbing things about the building. We have the feeling that the building encodes some message that we are on the verge of unraveling. The specificity of the enigmatic forms—triangles paired with semicircles, octagonal prisms and patterns that resemble TV screens—seems to promise some rationale. Furthermore, we come to notice the small discrepancies and displacements that destroy the symmetry of the spaces. In the Niramu House, the "reflection" was straightforward, but here it is, in the architect's words, "diffuse." For example, the alcoves on the north side of the skylit exhibition space are only partly reproduced on the south side; the upper portions are only suggested in outline. And why do round col-

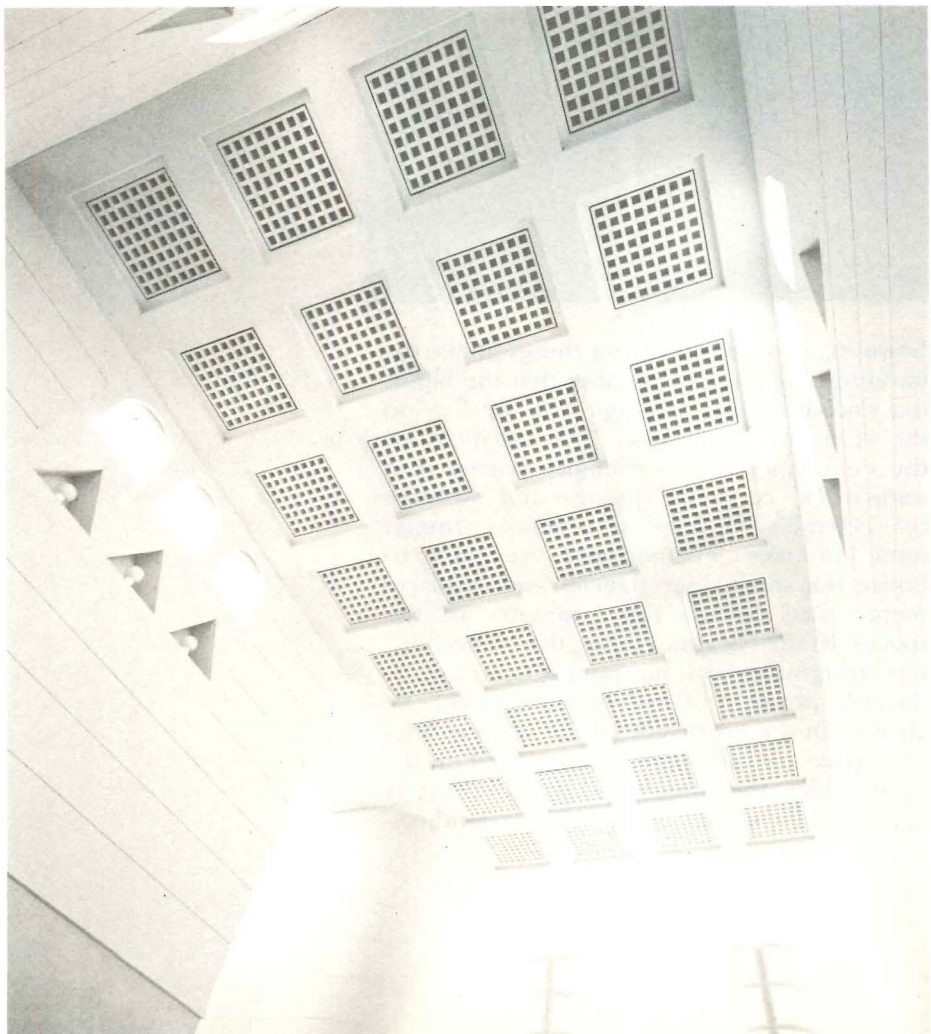
The frosted glass window that looks from a second-floor residential room onto the exhibition hall (top). Bottom: A view upward, of the exhibition area's ceiling and enigmatic clerestory windows and light niches.



Hiroshi Watanabe



AXONOMETRIC



Tomio Ohashi

umns of light become octagonal when we pa
from the western to the eastern part of t
exhibition space? These discrepancies or a
ternations can occur not only in moving fro
one side of an axis to the other but in goi
from one side of the wall to the other: t
north exterior elevation suggests that the
are three successive alcoves with similar pr
files, but inside we find that the third alcove
for some reason different from the other tw

The museum is designed as a series of s
pieces at right angles to each other. Becau
of its modest size, we have hardly taken o
space in before being confronted by anothe
It is like encountering some stranger on t
street who makes a striking but Delph
comment. Just as we are about to ask him
explain himself, another figure comes arou
the corner and delivers an equally fascinati
but equally cryptic message. We have scarce
heard him when from around the ne
corner comes still another personage. Pe
haps Hara has overloaded what is, after all,
small building, but ultimately the intent her
as in the Niramu House, seems to be not t
conveying of a message but the disturbance
our equanimity. In this, the reflection hous
succeed. And that is perhaps the more pr
found reason for the name given this r
markable series of buildings. □



Japan Architect: Mitsuo Matsuoka



Hiroshi Watanabe

The exterior is treated as industrial skin (west elevation, above). Inside, the exhibition area for prints is skylit and organized like a street (left).

Data

Project: *Niramu house, Torami, Chiba prefecture, Japan.*
Architect: *Hiroshi Hara + Atelier Ø, Tokyo.*
Program: *2720-sq-ft house.*
Client: *Shigemitsu Fujita.*
Contractor: *Wada Kenchiku Co.*
Major materials: *plywood, porcelain tile, paint.*
Photography: *Syujo Yamada, Hiroshi Watanabe.*

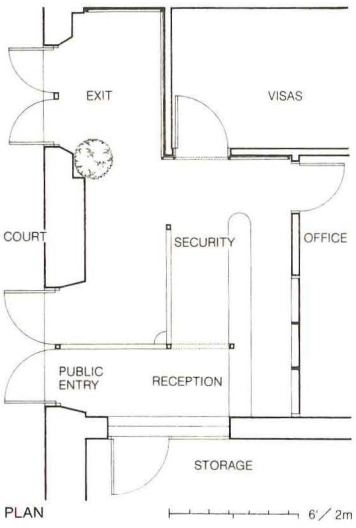
Data

Project: *Shokyodo Museum and house, Toyota City, Japan.*
Architect: *Hiroshi Hara + Atelier Ø, Tokyo.*
Program: *two-story wood, 1630-sq-ft minimum museum for woodblock prints and living quarters.*
Client: *Wataru Kobayashi.*
Contractor: *Taniyasu Timber Dealer Co.*
Major materials: *plywood, natural fiber wall cloth, porcelain tile, paint.*
Photography: *Tomio Ohashi, Hiroshi Watanabe, Japan Architect.*

Entry area, United States Consulate, Paris

À nous la liberté

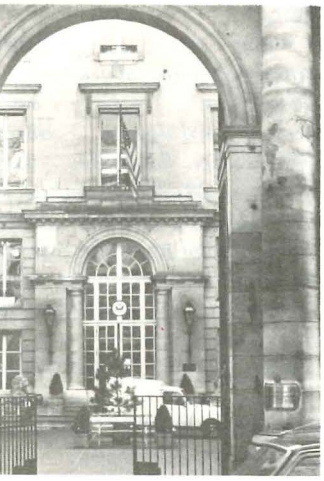
An anteroom that welcomes would-be visitors to the U.S. has been transfigured from meanness to expansiveness with *trompe-l'oeil* paintings and low-budget alterations.



From just inside the public entrance (plan above), visitors see a trompe-l'oeil *panorama of architectural elements (right, extending across facing page). The door at center leads to an actual room, the one at left is pure illusion—along with the stairs and adjoining portions of wall and ceiling. Dark vertical near center is pole that supports security barriers. Marine guard is a consistent part of the design.*



Etienne Revault



nsulate building is entered ough spacious courtyard.

In Paris, applicants for United States visas are directed to the consulate in the Talleyrand Building, a handsome 18th-Century mansion, designed by Chalgrin and Gabriel, near the U.S. Embassy. Entering an elegantly proportioned courtyard, they are immediately shunted through a small doorway to one side, and into a space that is incredibly cramped—considering the ampleness of the building, the importance of the United States, and the vast numbers of people who apply for visas at this location.

This space is rendered even more confining by barriers that direct visitors through an airport-style metal detector and past a U.S. Marine guard. Until last year, the walls here were painted white, trim was dull green, and counters were clad in imitation-wood laminate.

Recognizing the poor impression such an introduction to the U.S. was bound to make, our ambassador to France, Arthur A. Hartman, endorsed a scheme to overcome the image of drab officialdom, using what a homemakers' magazine might call "a little money and a lot of imagination." The budget was a mere $3000, and none of the functioning elements (except for one wall-mounted writing counter) were to be moved.

The project was entrusted to an organization of young "architects, architectural designers, artists, sculptors, poets, and construction workers" from Poland, France, and the U.S., operating in Paris under the name Poetic License. The most striking step they took was to install a set of wall-size *trompe-l'oeil* canvases, but the integration of these paintings with other surface treatments, lighting, etc., constitutes an architectural effort.

Along with its almost demoralizing constraints, the space had a few assets. The French doors leading to the courtyard had graceful proportions and were sources of pleasant diffused light. Another asset the designers recognized was the uniform of the Marine guard, whose outfit had a certain rapport with the sober Classicism of the build-



ing. His red, white, and blue accessories, set off against a tan uniform, became the basis of the room's colors. Another asset, ironically, was the constriction of the visitor's path by barriers; the limited vantage point—particularly on entering—set up an ideal situation for convincing *trompe-l'oeil* perspective.

As a context for their paintings, the designers have established a painted-on Neoclassical vocabulary—in, for instance, the warm tan "stone" behind the counter, with its bright white "mortar joints," the pattern of which continues right across some glazed openings into the office beyond. In the door frames, Mannerist details and unconventional uses of color burst forth. Painted shadows imply lighting from the direction of the courtyard doors. Along one wall, a view opens quite improbably—even for *trompe l'oeil*—into an arcade of more or less Pre-Renaissance style.

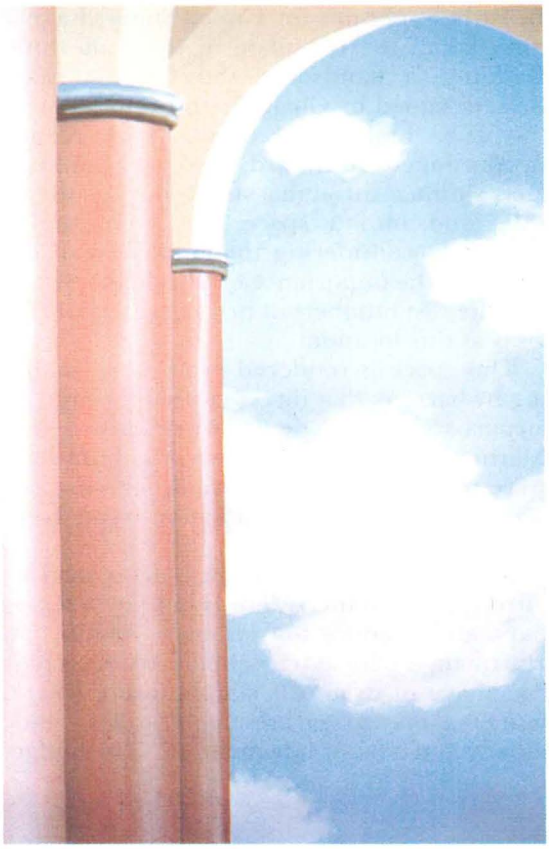
Seen through all these illusionistic openings are areas of blue sky occupied only by white clouds that gently spoof illusionistic painting. This infinity of sky where landscape belongs is hardly Classical, but reinforces a suggestion of 20th-Century Surrealism—which is also evident in the forced perspective of the "arcade." Yet the ominousness one expects of Surrealism is counteracted by the fresh, optimistic colors.

Other features of the interior design reinforce the transformation that starts with these wall paintings. The high ceiling is made to recede further with a dark, muted purple, which draws the other colors together effectively and somehow does not have the gloominess it might have in another context. Painted moldings at the ceiling are modeled after some in the nearby U.S. Embassy but executed here in bands of red and green. Replacement of the original fluorescent ceiling lighting with track lighting directs light on the walls and on the staff—and distracts from the suspended television security cameras by looking like them.

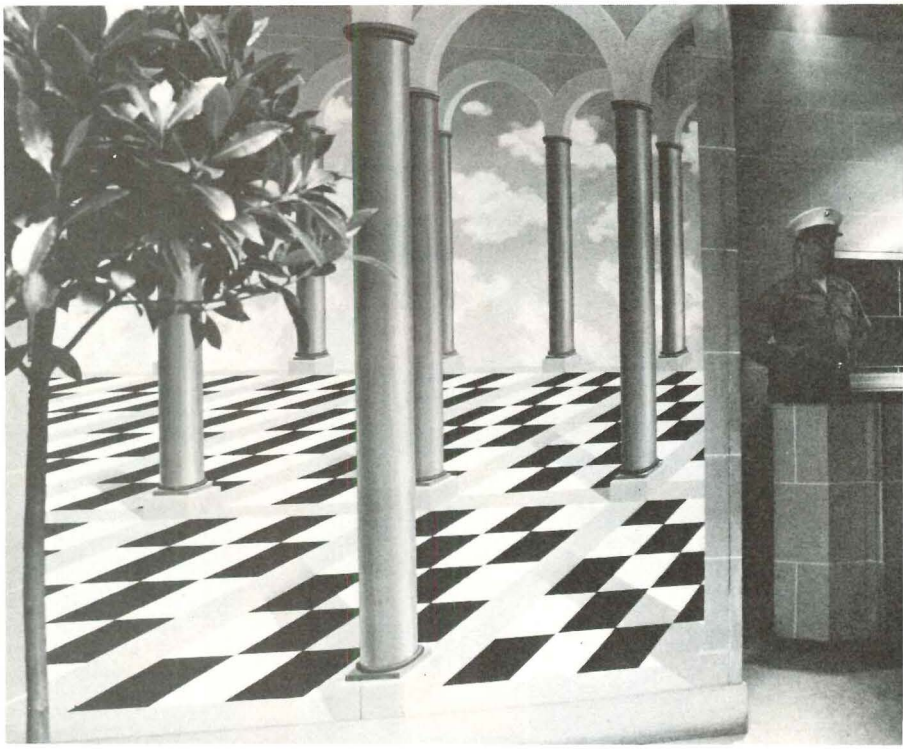
The effect of the whole design is to counteract the constriction of space with intimations of openings into unbounded space, psychologically effective even though patently unreal. Colors are vivid without being garish—rather like those of Renaissance paintings, though the palette is a limited one more characteristic of interior design. Colors and images manage to look sunny during the Parisian winter and refreshing during the summer—even when glimpsed through the doors from the courtyard.

Some officials have found all this too frivolous for this U.S. official building (which was once Hitler's Paris headquarters). One elderly visitor tried to walk through the unreal door as she left. The staff that actually uses the space realizes they have something very special but are not quite prepared to interpret it.

At any rate, the lively little anteroom will have a limited life span; plans are being drawn up even now by architect Hugh Newell Jacobsen of Washington for restoration and renovation of the Talleyrand Building. One result, of course, will be to house the visa application process in more adequate facilities. Until that happens, foreign visitors can get a foretaste in Paris of the humor, daring, and sophistication they may find—with a rare bit of luck—on this side of the Atlantic.
[John Morris Dixon]



Courtesy designers



Arcade mural (above, detail a top) is seen from exit door in su realistic perspective. Potted laurel is like a live excerpt fro an Early Renaissance paintin projected out into the room itse

Data

Project: *entry area, Unit States Consulate, Paris.*

Designers: *Poetic Licens Paris. (Malgosia Baczk Jean-Michel Corbeille, Sylva Corbeille, Margaret Jann, Je frey Jordan, Philip Jorda Agnes Taponier, Piotr Zakrze ski, project participants). Arch tects of original building: Cho grin and Gabriel.*

Client: *United States Gover ment.*

Program: *renovate entry ar and security checkpoint.*

Major materials: *paint on wa and removable canvases; tra lighting.*

Costs: *$3000 ($20 per sq f plus fees.*

gsvaerd Church,
penhagen

Clouds of concrete

rc Treib

nmark's leading architect
rn Utzon has said of this,
recent and finest church:
am inspired by the clouds
d have created a space
t fades upward."

e geometry of the
ctuary juxtaposes
ganic curves of the
ncrete vaults with the
ratic rectilinearity of the
oir screen along one side
ght) and the organ along
other.

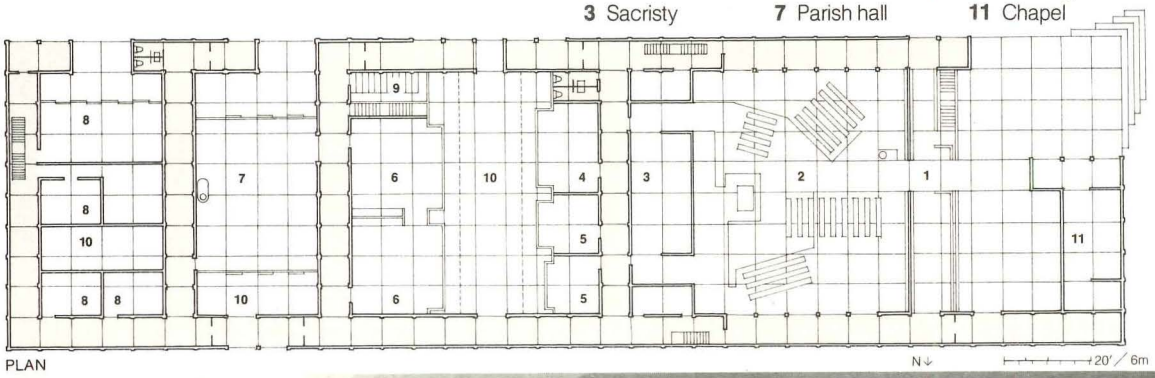


Marc Treib

rc Treib teaches archi-
ture at the University of
lifornia at Berkeley and
traveled extensively in
ndinavia.

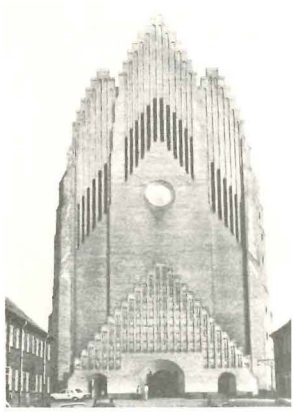
Bagsvaerd Church, Copenhagen

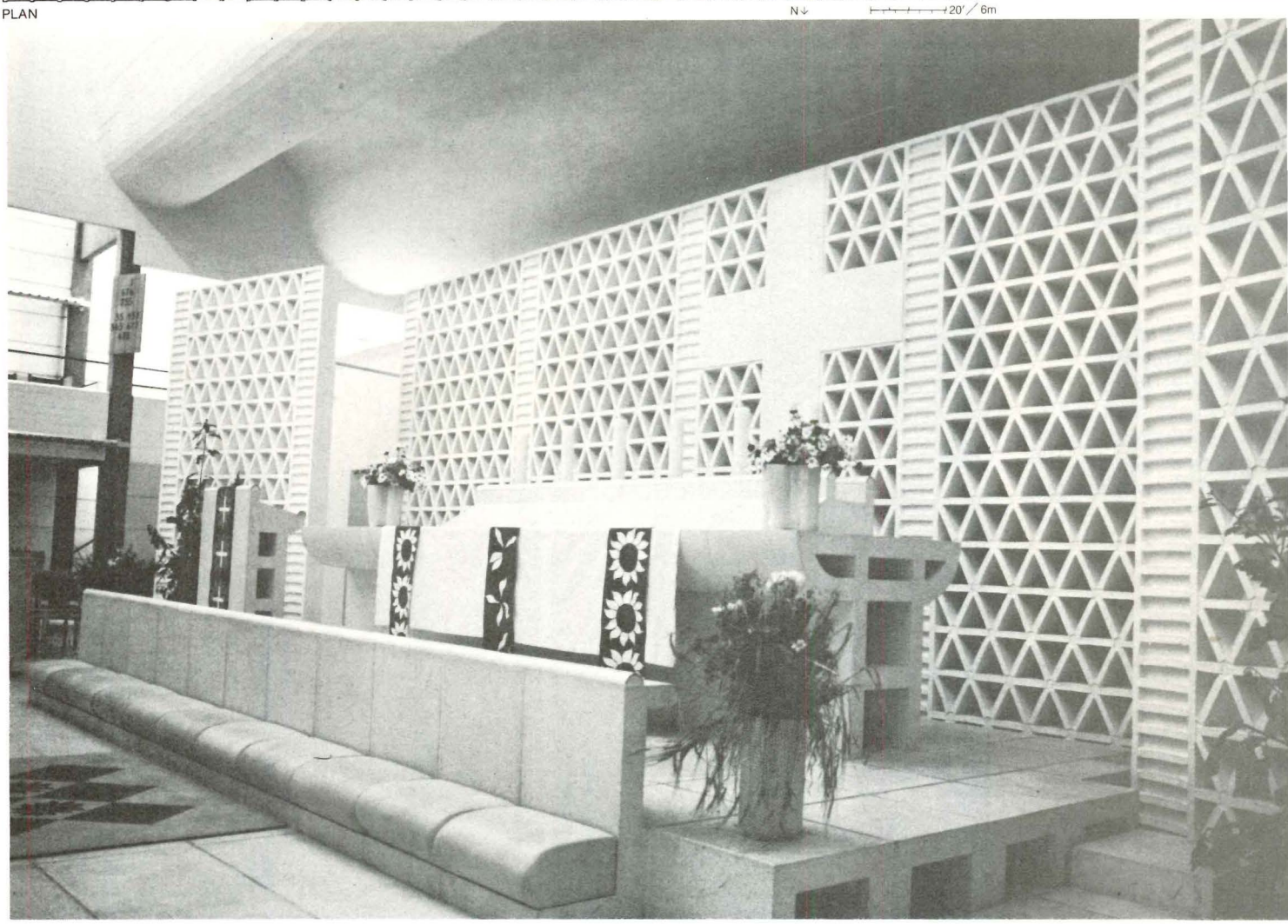
Legend
1 Entrance
2 Church
3 Sacristy
4 Waiting room
5 Office
6 Candidates' room
7 Parish hall
8 Meeting rooms
9 Kitchen
10 Atrium garden
11 Chapel



PLAN

N↓ 20' / 6m

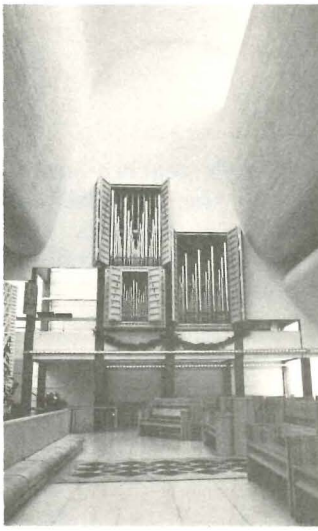




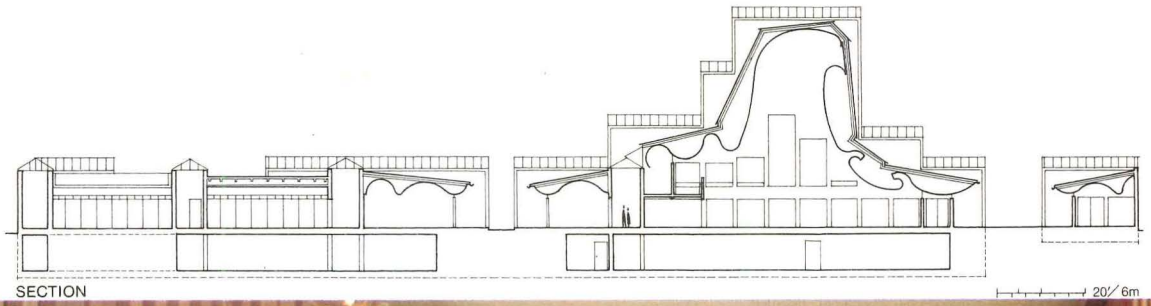
A few minutes' walk from the station, along this suburb's main street, brings you to the northeast corner of the Bagsvaerd church. Backlit, its silhouette steps toward you, growing out of the ground almost like a natural land form. It has a distinct profile, but a profile that matches no preconception of church type. It is simple, quiet—perhaps even austere—but there is a quality to the feeling it evokes that solicits further exploration.

As you walk around the east end, where the youth area is set convincingly into the earth, the church's full form slides into view. Logic is the structure's strongest visual aspect, a logic that articulates and ranks the sanctuary and auxiliary spaces in a clearly stated hierarchy. The connotation of the forms, however, is curious—more a school or light industrial building than a religious building in its iconography of concrete frame with panel infill. And yet the sense of calm, dignity, and being that the building possesses does create a religious aura that more than compensates for the lack of any overt formal precedent.

Bagsvaerd Church invites comparison to Grundtvig Church, another of Copenhagen's architectural monuments of this century. Built 1920-40 by P.V. Jensen Klint, Grundtvig is an enormous, romantic edifice, an extension and expansion of the medieval country church to metropolitan scale. Its form derives from precedent and tradition, as does its material—brick—which is used incessantly throughout interior and exterior. The orientation of its nave is narrow and focused, framed by arched bays of beige brick crafted with impeccable care. Grundt-







SECTION

20' 6m



on's industrial imagery b photo) is a striking trast to the medieval anticism of Klint's dmark Grundtvig church 1940 (facing page, top). ide, Utzon explores metric screens in wood, he entry (above), and whitewashed brick ind the altar (facing e, middle). The ctuary looking toward organ (facing page, tom).

vig is a monument to the romantic interpretation of a building tradition, a familiar form brought into this century only through size and siting.

At Bagsvaerd, on the other hand, Jørn Utzon has created a double-walled structure which articulates exterior and interior in two distinct formal codes. The exterior is mundane, the daily; the form of today. Constructed with quasi-industrial techniques and materials, the building's exterior relates to the noise of main street, Denmark's severe winters, and the exigencies of construction economics. The interior, to the contrary, moves toward something curvilinear and soft and dissolved. Utzon, in an interview with Per Jensen, states: "I am inspired by the clouds and have created a space that fades upward."

Three aspects dominate the interior of the church: the soft undulation of the vaults; the whiteness of the spaces; and the tempered, yet pronounced, presence of light. The sanctuary is broad and shallow, atypical of Danish churches, and in direct contrast to the axial nave of Grundtvig Church. The intent was to bring more people into direct contact with the altar, to shorten the distance between priest and congregation. In describing the plan, Utzon has explained that he desired a place that would contain "many people, good acoustics and a certain peace which is not theatrical; not a dark room facing a stage of a high altar, but something you are in together and sharing . . . We chose a certain broad angle

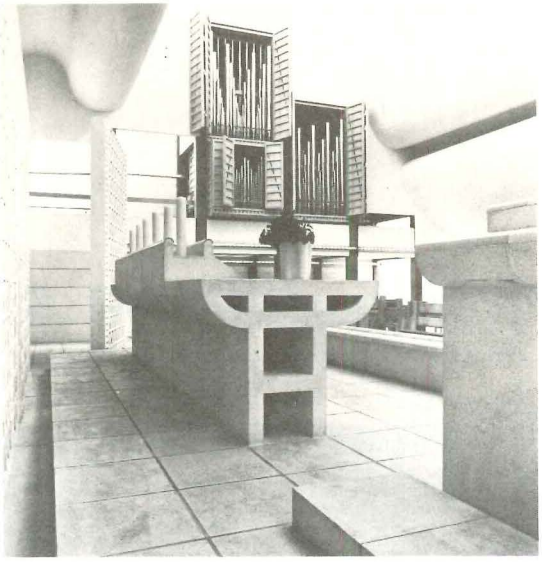
toward a place which is not so stagelike, but where what's going on happens lengthwise." The thin shells of concrete span the nave lengthwise, modulating the interior of the sanctuary, emphasizing its breadth, creating a soft lining within the harder outer box.

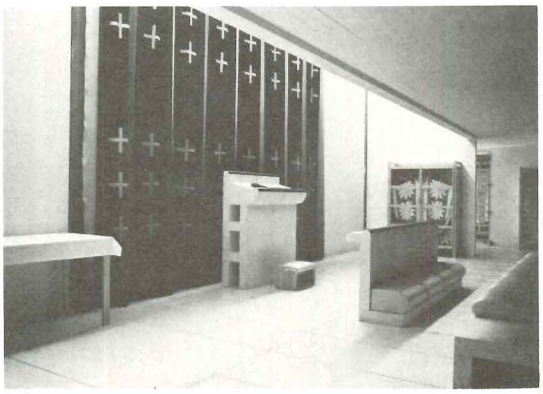
The entry corridor is lined with white-stained wood and glass, one side serving as a screen wall opening onto the sanctuary. Inside the sanctuary, the roundness of the vaults above is washed by abundant light from the skylights. Light defines the contours of the vaults and dissolves their edges. Light defines the sides, the skin, of the sanctuary. Light creates the place. Pale wood is used throughout: the trim, the doors, the pews. This color scheme of white paint, light gray concrete, and the soft, warming tint of the blond wood creates an interior that articulates each element without destroying the continuity. This color range, as might be expected, is quite common in modern Scandinavian building; it is a reasonable approach toward brightening interior spaces in countries where light becomes a precious commodity during almost half the year.

The auxiliary spaces are organized with the same architectural logic as the sanctuary. Two corridors, and the ladderlike circulation system they imply, link the rooms and courts. These corridors are among the most beautiful spaces in the church. For once, the architect seems to have realized how much time people spend getting to and from places in the building, and acknowledged the act of procession. The hallways are flooded with light from above, soft in color and structured by the ever-present concrete frame and the large sliding doors. The feel is one of equilibrium. Circulation is condoned but not hastened. Some spaces, such as confirmation rooms and offices, have views onto enclosed courts to dispel feelings of claustrophobia. The entire structure though is, in fact, linked and bound into one form, like a ship—in this case, a 66' x 220' rectangle.

Within this harmonious ensemble, only certain furnishings feel disturbing or ill-conceived. The Aalto furniture, used in many places throughout the building, fits well. The pews, in contrast, were custom designed. They are high, and heavy, and somewhat clumsy in relation to the delicate handling of the concrete frame and the softness of the color scheme. The pews fall into that awkward conceptual area between sympathy and opposition, but they appear to be neither, just inexpertly conceived. More disturbing is the triangulated brick screen behind the altar. The increment of articulation is just too large; the result is a busy optical pattern that detracts from the indentity of the altar furnishings. While the triangular form has apparent symbolic connotations, the screen's texture and scale seriously undermine the equilibrium of the sanctuary, particularly as all eyes focus on it during the service. In many ways the vestry, which backs the sanctuary wall, is more successful. It is designed with the same quiet simplicity that pervades the church. The indelicacy of the textiles also detracts. While the boldness of Matisse's cutouts or vestments for the chapel at Vence, or a minutely intricate or textured design might be equally welcome, the Bagsvaerd textiles, designed by the architect's daughter, occupy a middle zone between the two. Too large or too small, neither adding color in a bold way nor maintaining the softened palette used throughout the church, they remain mere decoration, independent of the architecture of the place.

Yet despite certain formal inadequacies, Bagsvaerd Church is a successful and uncompromising attempt to create a new religious vocabulary. Though its exterior is restrained—even somewhat severe—its interior softens the box and gives form to the formless, dissolving perimeters through curvilinear and light in a manner that conjures a Modernist Johann Balthasar Neumann. Utzon's mastery of color (or its lack) and light are best displayed in this building as his sense of site is best exemplified in the early studies for the Sydney Opera House or the Kingo housing. The Bagsvaerd Church is made where the mundane meets the holy; the defined meets the boundless; the rectangle meets the curve—in a place where clouds and concrete meet. □





Marc Treib

Facing page: A skylit corridor showing Utzon's concentration on light to invest spaces with character, underscored by minimal color and a delicate play of materials. This page: The altar (abo left) and the backdrop of textiles in the vestry by Utzon's daughter Lin Utz Popov (left).

Data

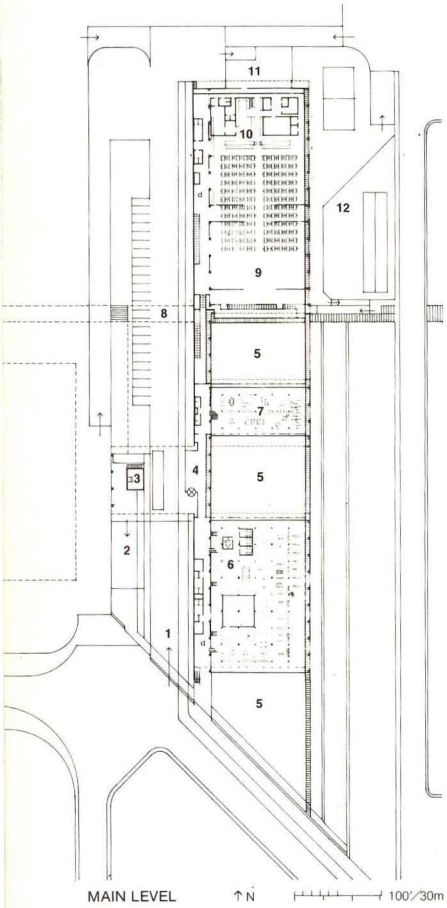
Project: *Bagsvaerd Churc suburban Copenhagen.*
Architect: *Jørn Utzon, Co penhagen.*
Program: *church with sa tuary facing street and au iary spaces around th atrium gardens, behir Corridors on either side narrow site create defe walls. Prefab frame suppo ing undulating shell str ture.*
Major materials: *interi white concrete vaults, wa and altar furniture; wo pews, brick screen; textil*
Consultants: *Christiani Nielson, contractors and gineers. Lin Utzon Pop textiles.*



Fantoni furniture factory, Udine, Italy

Fabbrica Fantoni

A furniture plant in North Italy by Gino Valle combines industrial aesthetics with an inviting ambiance.



MAIN LEVEL ↑N 100'/30m

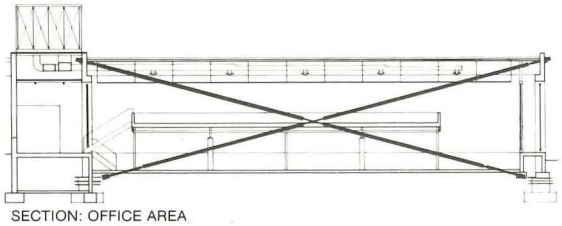
Legend

1 Ramp to main level
2 Ramp to basement
3 Porter
4 Distribution/service spine
5 Garden
6 Office
7 Showroom
8 Passageway to factory
9 Cafeteria
10 Kitchen
11 Kitchen court
12 Bocce-ball court

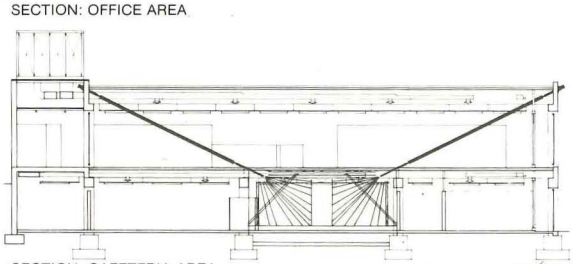
There is a story in Udine, Italy, that an earthquake will strike there every 400 years. One came in the 1100s, another in the 1500s, but by 1976 none had made an appearance . . . until May. The people felt lucky, though, because the damage was slight, and they would be free of worry for another 400 years. They were wrong. In September it hit again, that time causing extensive damage.

Near Udine, in Rivoli di Osoppo, Gino Valle's new 50,000-sq-ft service center for the Fantoni furniture manufacturers was nearing completion. After the quake, a great many of the reinforced concrete building's columns and beams were broken or cracked, and most of them were out of kilter. The factory, which stood at the northwest corner of the service building, was completely destroyed. This meant the company would move to press ahead with a large factory addition previously planned for the east of the service center, and at the same time put the center itself back into shape.

The reconstruction of the service center was noteworthy because it required not just the mending and patching of cracked and broken concrete, but the installation of a new iron tie-rod system of earthquake resistant strutting. What is interesting about this is the way the architect has incorporated it into the building design in a bold and forceful manner, with no attempt to conceal the elements or to give them the appearance of anything other than exactly what they are. The tie-rods continue the uncompromising industrial aesthetic of the design and, if anything, make the building much more visually stimulating, both inside and out, than it would have been otherwise.



SECTION: OFFICE AREA



SECTION: CAFETERIA AREA 20'/6m

As originally planned, the service cent was to join the old and new factory complex through an east-west pedestrian spine co necting all three facilities at an undergrour level. Until the original factory is replace however, the spine at the west side will lea only to a parking area. At the east, though, now connects the new service building an factory structures. In the service center, second spine runs north-south through th long, rectangular building at its western edg This two-level spine accommodates servic functions at the basement level and become the major pedestrian axis at the main leve East of the pedestrian spine, the three-lev service center is divided functionally into fou basic areas of offices, showrooms, cafeteri and locker/bathrooms (workers shower an change at the plant). In addition to thes areas, two gardens are dropped into the lon building, and a bocce-ball court is included a its northeast corner.

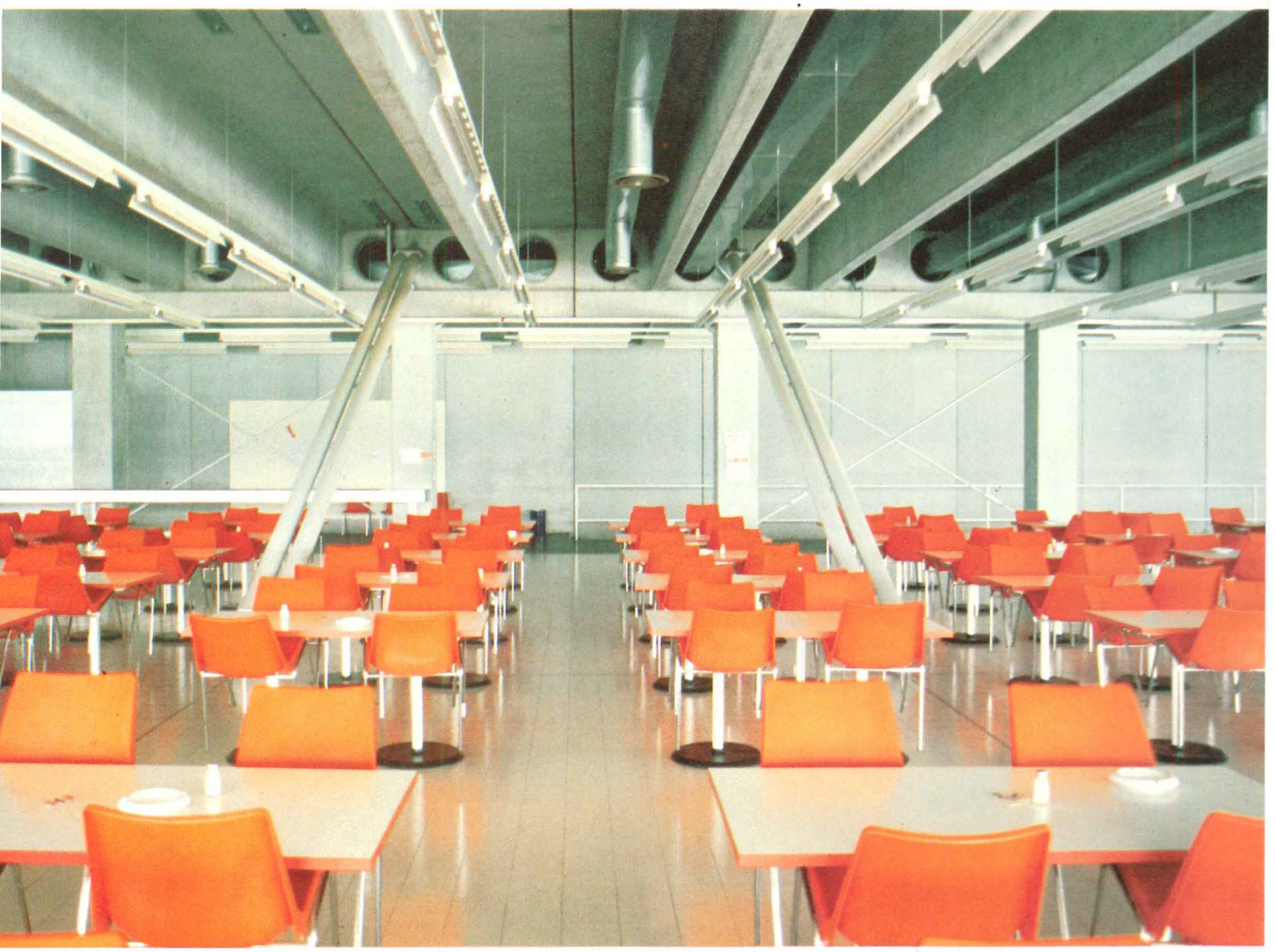
The gardens and ball court begin to ex plain a lot about this complex of building and about the service center in particular. A though one is struck by its industrial ae thetic, its humanistic qualities—not so readil apparent—reflect an attitude usually not a sociated with the hard-edge approach. Th building is made of exposed concrete, gla set into unpainted galvanized metal mullion and massive tie-rods everywhere. It is painte white inside with black rubber floors and dar gray industrial carpeting. The only color is sparingly used blue and the orange-red of th cafeteria chairs.

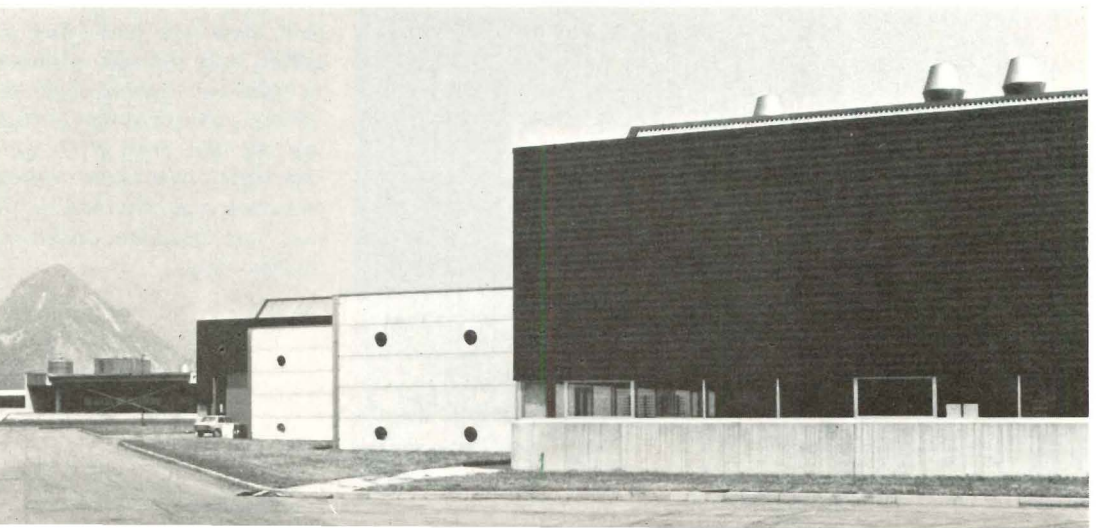
One might rightly wonder just what coul be considered even remotely inviting abou such a combination. The answer lies not i the materials, but in the organization of th spaces, their openness, and their corr spondence and relationships to each other. anything, this building proves that the so called industrial aesthetic, which is often de rided as cold and inhumane, can produce a inviting and pleasant surroundings, even in factory, as any other approach.

In the service building, all of the spac flow either into each other or into one of th gardens. The central spines connect ever thing together, and they are open and wid and seem to flow into the office and offic



The Fantoni furniture factory is near the Venetian Alps; service building (left) needed tie rods after 1976 earthquake. Color is used sparingly, but when used is bold, as in cafeteria (middle). Factories are behind service building (below left). Main pedestrian spine (below right) is highlighted by galvanized metal mullions, rubber floors.

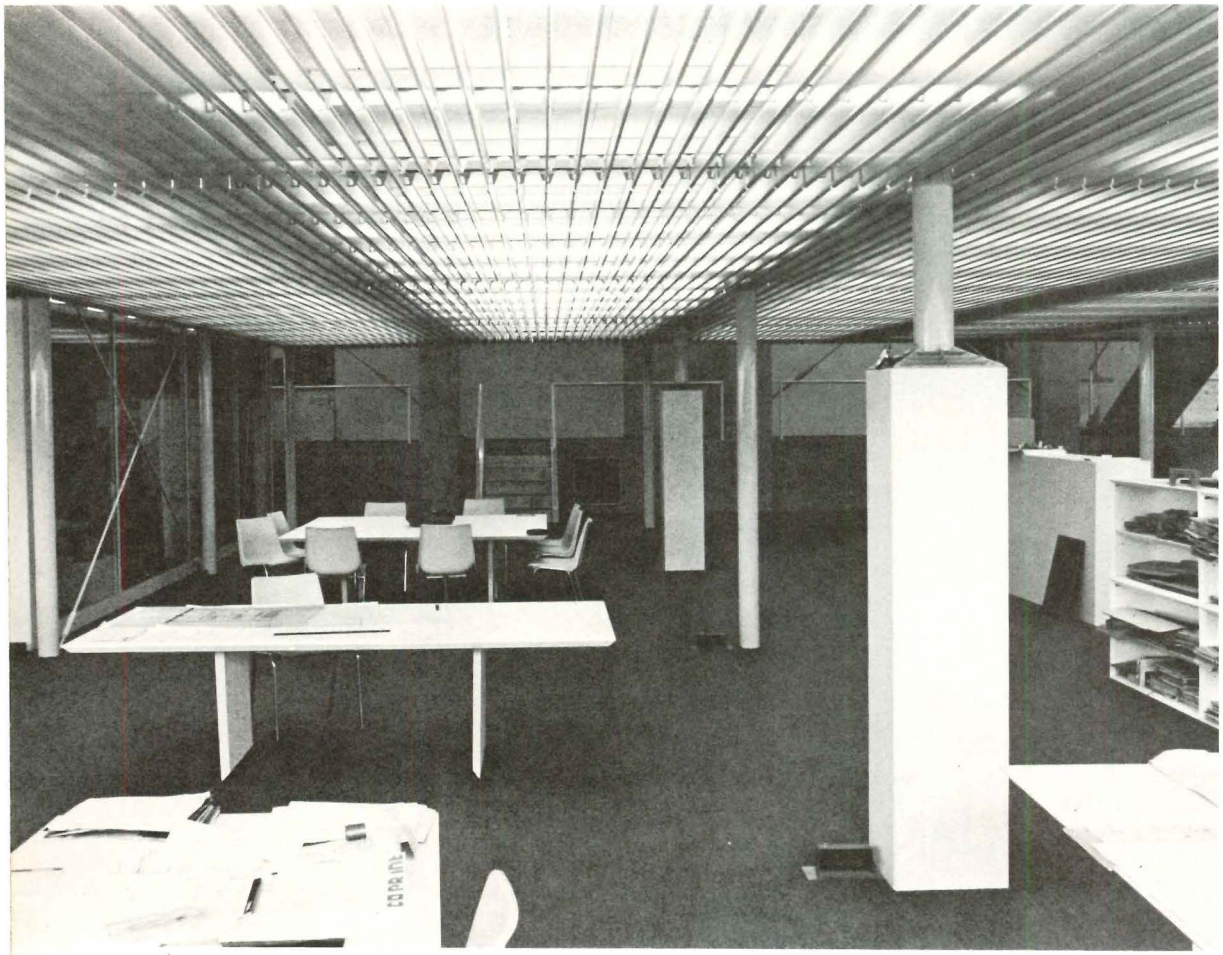


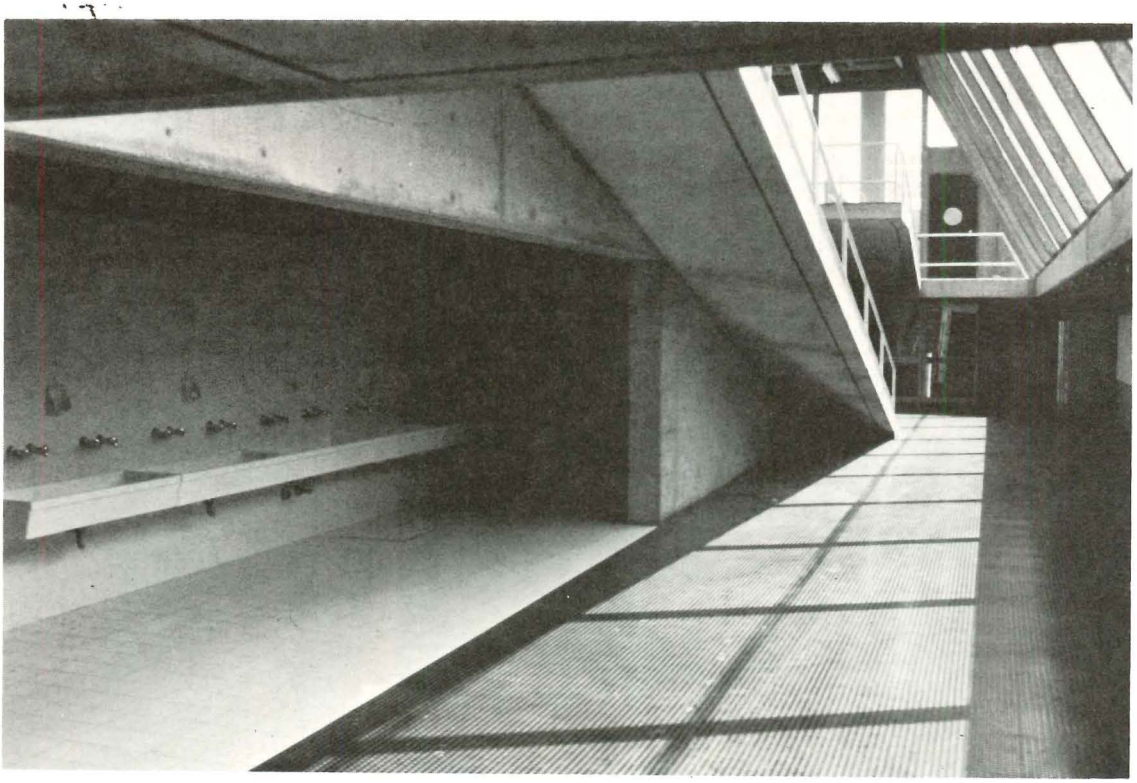




mezzannine areas, into the cafeteria, and even into the washrooms, with little sense of confinement or restriction. In the huge manufacturing areas, yellow bicycles are provided for the workers or anyone else to get around on. What pervades the entire complex, then, is a sense of fluidness and openness. This came about by clients who knew what they wanted and got it.

There is almost no hierarchical division of spaces within the complex; boss's area leads into secretary's area as easily as foreman's runs into laborer's. On first seeing the complex, one's immediate reaction is that the workers must have had a considerable influence during the design phase. But in fact, they did not. When asked about this, architect Valle says, "The Fantonis are one of the biggest furniture manufacturers in Italy, and they didn't get that way by not knowing what is right." [David Morton]





Data

Project: *Fantoni offices c service building, Rivoli Osoppo, Italy.*

Architect: *Gino Valle, Udi Italy.*

Site: *industrial park in a p plain near the foothills of Venetian Alps.*

Program: *a 50,000-sq-ft offi showroom, and cafeteria addit to the factory of a furnit manufacturer.*

Structure: *reinforced prec concrete columns, beams, c plinths; precast concrete bear panels on west side of serv spine with precast concr T-beams for covering; ear quake-resistant tie rods.*

Major materials: *mezzan level of steel structure s rounded by white wood pane adjustable metal ceiling syste client's own open office syst and furniture; industrial carp ing and rubber floor tile.*

Mechanical system: *central conditioning; heating syst supplemented with waste wo from manufacturing.*

Consultants: *Gino Valle, in riors; Fantoni, Altan Prefa bricati, general consultin Carlo Filipuzzi, structur Helmut Klein and Ferdinan Rosset, mechanical.*

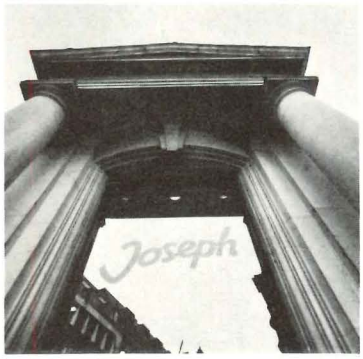
Client: *Fantoni Arredame S.p.A.*

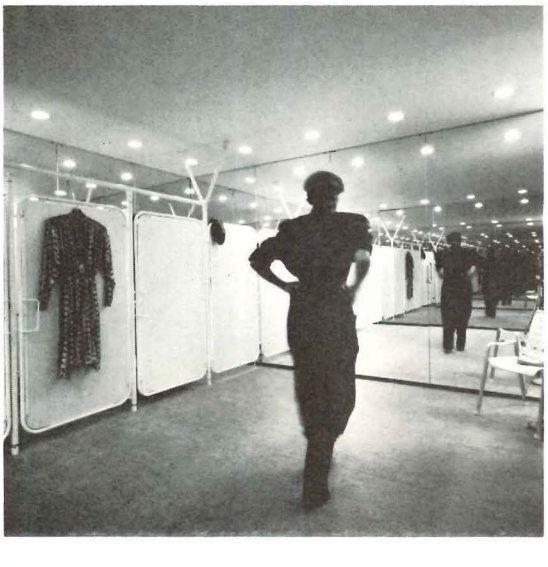
Costs: *about $1,220,000, $24.40 per sq ft.*

Photography: *courtesy of architect except bottom left, 171; bottom, p. 172; top l middle, and bottom right, p. 1 D. Morton.*

Design studio (above left) and passageway to factory, at lowe level, show how spaces flow to gether, even through washroo In office area (facing page), m zanine is seen from rear of buil ing (top left), from above spin (top right), from spine (middle from near a garden (bottom lef and from showroom undernea (bottom right).

High-fashion tech





Penny McGuire

Foster Associates' design and Joseph's imported French clothes share an aesthetic whose seeming informality is as knowing and precise as the Neoclassicism of the building they occupy.

Joseph's entrance (above) on a tweedy London shopping street. Inside, the aesthetic is industrial, from the metal screens of the changing cubicles (above right) to the gridded steel gallery along the edges of the showroom (facing page).

Penny McGuire is a British journalist who writes regularly for *Building Design, The Architects' Journal, RIBA Journal, Design,* and the *Sunday Times.*

Both Norman Foster, the architect, and Joseph, his client, share an enthusiasm for the pure industrial aesthetic of Pierre Chareau's Maison de Verre, the steel bolt and glass block landmark built in Paris at the beginning of the 1930s.

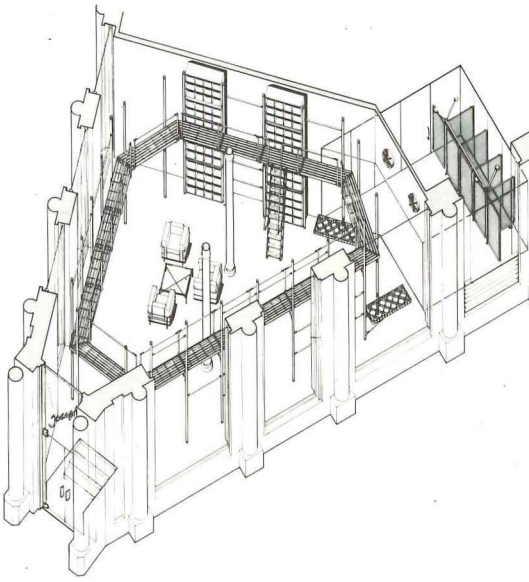
Foster's design for the Joseph shop is a cool, studied, understated image, with a technological perfectionism that matches Joseph's clothes and brings a breath of freshness into what must be London's tweediest and stuffiest shopping street. It occupies the ground floor and basement of an Edwardian building at the corner of Sloane and Basil Streets. The plan is triangular with the entrance, a handsome portico and pediment, on the diagonal. The Joseph sign inscribed is fluorescent pink painted metal.

The big shop windows are raised above street level and set back between attached columns giving a full preview of the rows of rainbow-colored clothes, displays of *de rigueur* accessories, and miniature Perspex cases with pink and green neon strips. From time to time, small exhibitions are held in the shop. The premises had belonged to a well-known chain of shoe stores of the gilt chair and chandelier variety. The architects stripped away the false ceiling and removed the dummy columns cluttering the interior, restoring the Edwardian generosity of the original and creating a light and airy double-height void.

Within this space, they have added a gray steel gallery and racking at mezzanine level that runs around the perimeter. It is this structure, with its thin columns, fine balu trading, and open metal stairways that, in t atmosphere of transparency and lightne recalls the exquisite ship technology aesthe of La Maison de Verre. The structure a pears as a freestanding kit of parts, but in r ality turns out to be both firmly fixed and cu tom made. For safety reasons, the public barred from the gallery, which simply pr vides visible storage space. More stock is co tained in the basement.

To the rear of the shop is a mirrore changing area with individual changing cub cles of perforated metal screens. The ceilir is louvered to indicate a break with the ma show space and also masks the ventilatic plant. The cash desk is strategically place where the break occurs so that staff can su vey customers without appearing to do so.

The walls are painted white and the floo are of studded gray rubber. Three easy chai by Le Corbusier have been placed in th center of the shop, and a Rietveld chair pushed casually to one side of the baseme stairs. The remaining furniture, includir welded steel tables with glass cantilevere tops, screens, coffee table, and shopping ba trolley, was specially designed by the Fost office.



AXONOMETRIC

The design corresponds to the clothes. The sy functional appearance of the Joseph ɔel has the general air of having been disrded off the backs of French matelots or ɔlen from stray parachutists, but clothes are the whole designed and manufactured in ance and range from expensive to very.

In the same way, the design of the cantilered tables is based on the aluminum web ructures of Barnes Wallis' World War II ellington bombers. The steel structure may ɔk like large-scale industrial production, but e fact is that the parts were made by small aft firms. "We considered using a proprietary system," Foster says, "but they were all so nasty and slick. We wanted something that was positive in its own right but would at the same time act as a foil and would not dominate."

Certainly the shop, with its freshness and clarity, is likely to wear well, and there is reassuring accord between the tastes of architect and client. So the question of whether such technological perfection is appropriate hardly seems to matter. The principle is more akin to Oscar Wilde's maxim. "I have very simple tastes," he said. "I am always satisfied with the best." □

Data

Project: *Joseph's, London.*

Architect: *Foster Associates, London.*

Program: *a ground floor fashion shop in an Edwardian building on Sloane Street.*

Major materials: *custom steel gallery, perforated metal screens, studded gray rubber floors, welded steel tables with glass tops, neon.*



The Cut Above, Toronto

Custom crafted

A sophisticated insertion into speculative retail surroundings in Downtown Toronto by Italian-born designers, brothers Francesco and Aldo Piccaluga.

The salon presents a see-through glazed wall to the drab corridor of the shopping concourse, the glass interrupted only at railing height by a continuous horizontal illuminated sign (bottom photo). Inside, a cross-axial symmetry governs with entry on axis into the centrally placed reception area (top photo).

There are three principles underlying the Piccalugas' design for The Cut Above hairdressing salon. First, it is organized along urban design principles with intersecting open-ended grids dividing the space into the equivalent of streets, buildings, and a piazza. Second, everything is custom-designed—from chairs and lamps to floor and ceiling. Third, an elegant savoir-faire is achieved by limiting the number of design variables and then elaborating each one for an effect that is intricate but tautly controlled.

The salon is located on the second level of the shopping mall concourse of First Canadian Center, a mixed-use but predominantly office complex in Downtown Toronto. "Our first design decision," says Aldo Piccaluga, "was to avoid any major spatial intervention by maintaining the premise's boxlike configuration. The perimeter space envelope vanishes while the focus is on systematic, articulated, and extroverted stations."

Urban design

The aisles are treated as streets, emphasized by a floor tile pattern that changes both color and material. The tile underneath the stations is black and solid. Down each aisle, it is gray with narrow strips of white marble inserted at various intervals. The strips reinforce the sense of movement in their linearity and the sense of the grid in their crossweave at each intersection. Remaining areas are tiled in white.

Placed on the grid, like buildings divided by streets and alleys, are fixtures containing three work stations and one drying station each. The fixtures are self-contained, anchored on steel columns through which electric power is provided. They are cross-shaped and rotated 45 degrees on the grid, forming a second, diagonal grid. This device confers both a sense of more space through its suggestion of illusionistic depth and a sense of more active space through its relationship to the rectilinear grid. It also turns each station full-face onto the circulation aisles.

At each corner is a pilot light, more to identify each station than to provide illumination. Beneath each is a similarly sized table, and together they act as lamp posts, punctuating the position and sequence of these interior buildings.

In the center of this markedly symmetrica layout, on axis with the entry, is a piazza Paved in black tile and lined in banquettes it serves as the waiting area. Terminatin the axis is the reception desk.

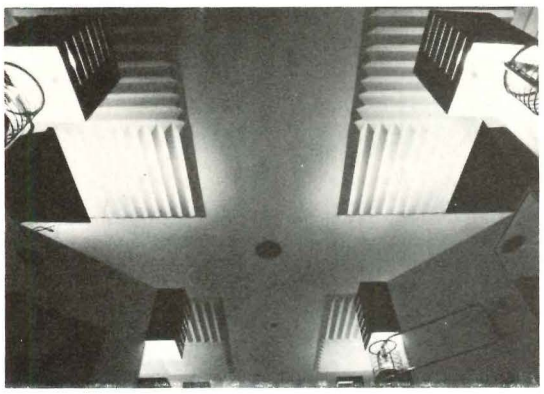
The salon has an unusual configuratio for this kind of retail mall, with a long front

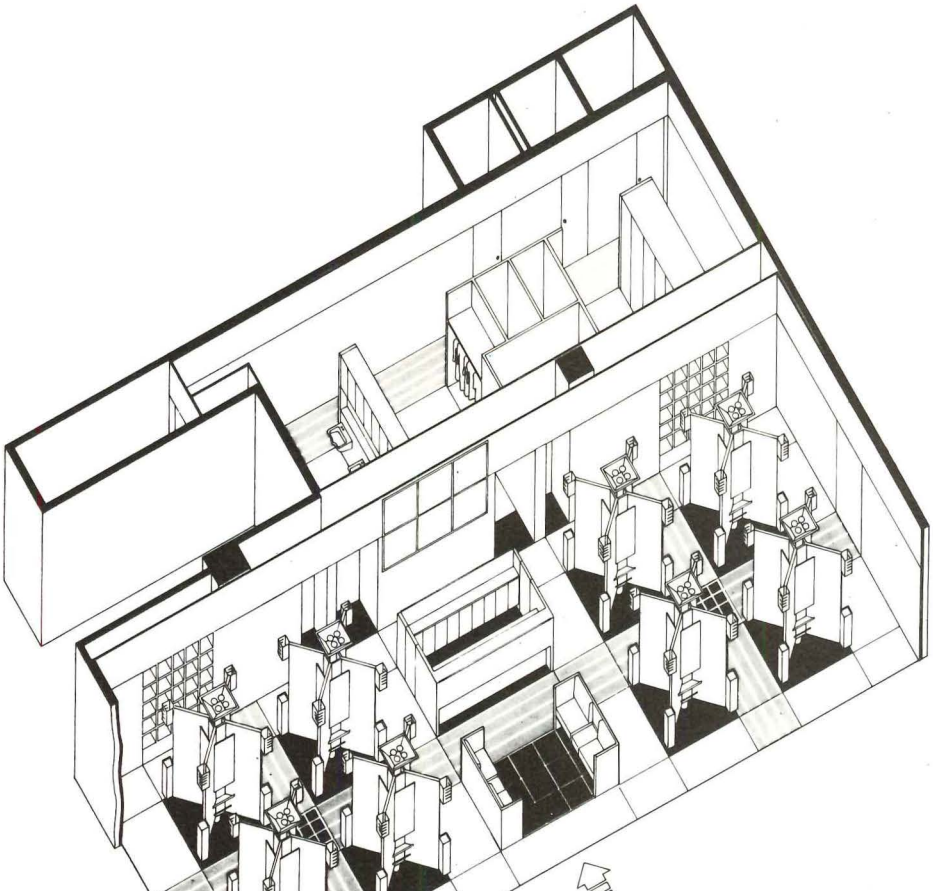





the cut

The Cut Above, Toronto





AXONOMETRIC



This page: Detail of ceiling (top); axonometric (center); pinwheel station fixture (bottom) showing how corner tables and shielded lights act as lamp posts. Facing page: view down cross-aisle showing self-contained buildings along a street grid (top); detail of hairdressing chair (below). All furnishings were designed by the Piccalugas.

age and somewhat less depth. The archite took full advantage of the frontage by seg gating ancillary spaces such as shamp rooms in the rear and leaving the whole the shallow "front parlor" in view through glazed façade interrupted only at rail heig by the continuous, backlit sign.

Special order

Every project by the Piccalugas represer not just the organization of spaces but t design of special furniture, lighting, a equipment "ex nova," as they put it. Th maintain a small office and do their ov working drawings. "We don't want a draf man solving detailing problems in whatev way he already knows," they explain.

The station fixtures form the crux of t furnishings here, with built-in mirrors, cab netry, lighting, heat lamps in Moder cages, dryers, magazine racks, chairs, et The corner lights are shielded by a slit met housing with the real illumination comi from the inverted pyramid in the center each fixture. This focuses four 150-wa spotlamps on the ceiling above. And t ceiling at those points is designed to ha molded plaster squares divided into qu drants, each quadrant corrugated in different direction. The light is thus di persed and softened as it falls back into t room. "It is the opposite of the usual r cessed lights in the ceiling," says Aldo Pi caluga. "We don't create spots of light o the floor but a gentle light all over." Th only direct lighting is over the reception ar and even these bulbs are coated in chrom for an indirect effect. These lights, the or element designed by the Piccalugas for previous commission, are in production b an Italian firm.

The various elements of seating—static chairs, shampoo chairs, banquettes—are a variations on a theme. The frames are woo planes finished in lacquerlike black glos polyester. Separate cushions, covered in re leather, are attached on top. The small chairs have split cushions with an aisle dow the center of each back and seat, whic makes a kind of reference to the spatial ae thetic. The banquette cushions are contin ous, but as each provides two sitting place the effect is similar.

The perimeter walls have been lined wi white glossy plastic laminate, as are the st tion fixture partitions. Smaller details a finished in matte black epoxy or gray ham mered finishes on metals.

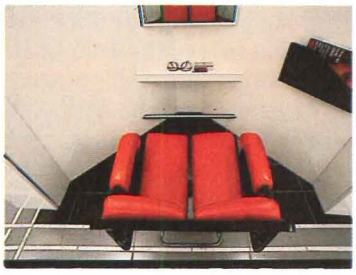
Convoluted restraint

The whole is crisp and abstemious, but n simple. It is a minimalism of category, n detail. The use of color is a good illustratio There is only one color—bright lipstick re —and it only appears in the cushions of th chairs. It appears, however, in a variety sizes and rectilinear shapes in various seatin for various purposes.

The rest of the palette is neutral. But it runs a large gamut of whites, grays, and blacks in the changes from one material to another. Similarly, there is one texture: glossy. But much is made of the variations among marble, ceramic tile, metal, plastic laminate, and high-gloss polyester finish.

Geometry is exploited even more. The salon and its furnishings are almost uniformly rectilinear. Primary is the grid. It is the basis of organization for the room. The stations are part of the grid. The corrugated sections of the ceilings are part of the grid. The floor pattern is part of the grid. Complicating this geometric skeleton are a series of elaborations and contradictions that nonetheless remain unquestionably subservient.

First there is the secondary diagonal grid established by the rotated work stations. Second, the grid is subdivided into smaller but congruent grids—in the floor tile, ceiling reflectors, modular storage, backlit photo display, and an array of other details.



Data
Project: *The Cut Above, Toronto.*
Architect: *Francesco & Aldo Piccaluga, Inc., Toronto.*
Program: *2100-sq-ft hair salon for men and women in shopping concourse of downtown office complex.*
Major materials: *glossy white plastic laminate panels; black polyester finished wood frame chairs with red leather cushions; ceramic tile and marble floor.*
Consultants: *Ellard-Willson, electrical and mechanical.*
Costs: *$150,000; $70/sq ft.*
Photography: *Francesco Piccaluga.*

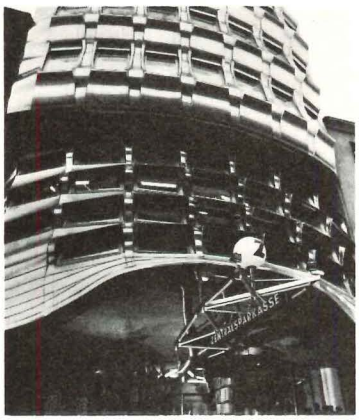
Among the squares are inserted rectangles. The piazza is distinguished from work areas not only by its central location, but by its distinctive, rectangular shape. Furniture, accessories, and floor pattern are pieced together with both squares and rectangles. More gingerly, a few items—the light bulbs over reception and the heat lamps with their swirling metal cages—are round.

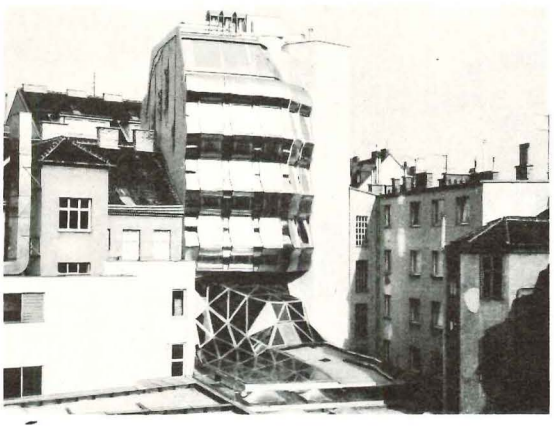
Stripe patterns infiltrate the grids. The pilot-light shields are slitted. The marble insertions in the floor are long, thin strips. The lamps over reception are arranged in lines, and the corrugations in the ceiling are linear. Then there are the long, illuminated façade sign and a host of small shelves and chrome edges.

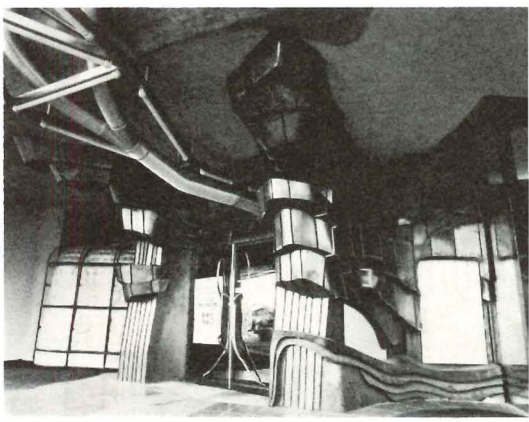
It is the way the Piccalugas work. This may be only 2100 sq ft and only a place to have hair cut, but each detail is carefully considered and fabricated and aligned with the others. The result is minimalism, but it is not minimalism by abdication.
[Nory Miller]

Central Savings Bank, Vienna

The inside of out







A bank by architect Günther Domenig eschews the usual conservatism of bank imagery to play an active role in the cultural life of Vienna. The architect's own intentions are described, followed by commentary by Viennese critic Friedrich Achleitner.

According to architect Günther Domenig, he designed the Central Bank in Vienna to combat the "functional" or institutional image of the bank. Since this branch bank is meant to include a cultural center for the community (specifically the fourth and fifth floors), the bank wanted to show its commitment to "culture" by its choice of a creative architectural concept.

With this project, Domenig intends to question the role of the architect in the entire process of building. He is trying specifically to address constraints that affect the role of design such as budget, time, and systems analysis and planning. Arguing that the artificially imposed specializations of economics, technics, and function forbid the architect designing in a totality, Domenig feels strongly that the architect must analyze these constraints and from them develop a statement about the relationship of architecture to the fine arts and to the public.

By taking apart and controverting the normal processes involved in planning and building, he hopes to bridge the gaps between the various stages of design and construction, between what occurs on the board and what is actually realized. Team design—the organized cooperation between architects, community groups, and public officials—he reasons, is responsible for the standardization and conformity endemic to industrialized mass production. This building, reflecting creative forces working as a unity, thus protests normal ways of seeking and making architecture.

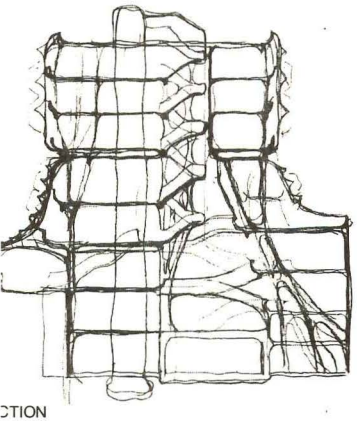
The design reflects specific principles involved in the investigation. For example, the contours and angles from the surrounding urban context are echoed in the external and internal formal treatment of the branch. The cascading roofscape is seen as a highly sculptured mountain range, whose outlines co tinually shift with the viewer's vantage poin

The organization of space means that t plan of the interior can be read from the ou side. In fact the separation of programmat functions is expressed by the segmentation the façade. Half-floors of space converge in single room, where a "snout" protrudes to t outside, pushing the interior visibly to the e terior. Lounges and corridors function as unified communal space—again another kin of architectural fusion.

The architect also pushes the fusion form and construction through his use concrete, steel, and sheet metal. Structur and mechanical elements are exposed. Fas drying concrete is used for framing element or applied over structural reinforced co crete, or employed for purely plastic sel supporting components. Thus one notic five different types of sculptured concret parapets (modeled on both sides); "head (casings for the anchor bars); "trees" (as stat elements); the "hand" (to disguise the wat drain); and the "water" (concrete waterways

Structural steel was explored for its va able, not uniform, qualities, its visual, not s entific, properties. Using structural ste Domenig created a "yard-roof" of lacewo formed from spherically buckled triangl and the "snout" formed from three-d mensional quadrangle lacing.

Sheet metal was molded into a rigid, se supporting body for the buckled exteri skin. Sheet metal is also used for the flowi surfaces inside, to smooth out angles ar spaces and sheathe ventilation supply and r turn ducts.



CTION

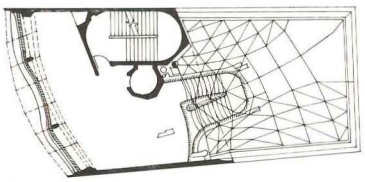


This page: Details of the customer floors—the oversize hand creeping up the staircase, purple waterfall, ganglia of pipes, gritty textures juxtaposed with lacquer-like finishes, high wire technology juxtaposed with folk craft crudeness.
Facing page: The "snout" façade (left), glassy spreadfoot rear elevation (middle), and accretive entry (right).

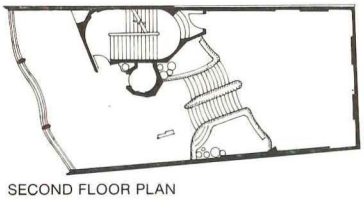
Commentary

The following passages have been translated, excerpted, and freely paraphrased from Friedrich Achleitner's "Built into Emptiness?" published in Um-Bau 2, *July 1980, by the Austrian Society for Architecture, Vienna.*

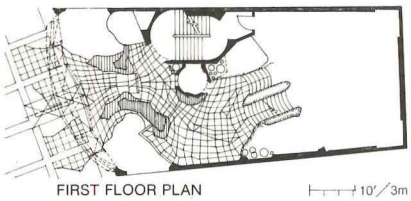




THIRD FLOOR PLAN



SECOND FLOOR PLAN



FIRST FLOOR PLAN 10'/3m

In the Central Bank in Vienna by Günther Domenig, the spatial conception, the planning of the interior levels, and the organization of rest and activity zones is extremely functional. Although the building is not specifically related to bank activities, it still demonstrates economic use of space. Domenig makes the first qualitative jump into a different direction of perceptual connections, which he calls the "higher artistic principle." Thus we arrive at the hard-to-define, difficult-to-pinpoint, localized expression of the building.

The realm of associations pertains to the animal world: bones, rampantly growing cell structures, muscles, and viscera. The building seems to possess an inherent biological energy—a growth process that could only be stopped with difficulty. This "bursting out of its seams" signals a vitality expressed in both structure and skin. Yet while it provokes many associations, the design inevitably brings one back to the thing at hand.

Domenig succeeds in heightening the evolving, growing quality of his forms to such a degree that he lets them tip the scales in the final stages of their development. The undefinable animalistic quality of the building is seen by the introduction of The Hand. It seems as if the hand wanted to stop the whole growth propensity of the structure through one unequivocal, irretrievable gesture.

Another subjective act to shift meanings occurs in a totally different form, where the filigree netlike support of steel for the glazed area metamorphoses into lancelike points. The sudden burst of aggressiveness has been seen in Gaudí where wrought-iron fences and gates are garnished with daggerlike spikes for protection. Gaudí's own traversable roofs and stairs without railings also introduce fear into the ecstasy of the architectural experience. One state of consciousness is toppled by another.

Günther Domenig also has pushed the language of forms of his building to the extent that the national conventional patterns of expectations are redirected to more irrational regions.

Looking at the first-floor plan with the hall-like spaces that widen into a courtyard, one expects something fascinating. But one is disappointed going up and down the stairs, for here the space seems threatened by the overly stressed *objecthood* of the building. The breath of space is taken away, a breath which, considering the power of expression of the building's parts, the project could urgently use.

In one sense, the building shows the fresh character of the "early" work of an architect—where the architect doesn't have the ex perience to know when to stop at the rigl time.

Other influences

Central Branch Bank is Domenig's way, seems, of coming to terms with Vienna, a cit that for centuries has practiced camouflagin its aggressions in *Biedermayerism.*

Domenig comes from the rural city of Gra Such cities can either compete with Vienna c cultivate a regional position. Only in the la 20 years, with the vitality of Graz' technic university in the 1960s, has the town found i own direction. During the 1950s and 1960 Graz was able to take a different architectur course from that of Vienna. Architects looke more to international movements, includin New Brutalism, plus other fields of inspira tion such as mathematics (planning model and linguistics (semiotics).

Domenig's work is located within the Ge man Expressionist tradition of the 1920 Like the Expressionists, his work eschews th rational geometrical and positivistic spirit t search for a new relationship between the in dividual and the community. Of course th connection to Gaudí is striking—particularl in the similarities shown in the attitude to th process of conception and execution, albe using industrial materials rather than hanc crafted ones.

The fact that the building does not have s much to do with Vienna's own architectur tradition has been noted. Yet in another wa this bank branch could not have been exe cuted elsewhere. Vienna has that extraord nary architectural residue, a multiplicity c historical deposits, an archeology of layers c thinking that continuously allows it to creat something new on its own. Domenig ha not only irritated the system of Viennes bureaucracy, but has also shaken what is pe ceived as a matter of course in architecture

His work does not allude to or reflect an thing, nor does his work build bridges, estab lish connections, or make compromises. H design shows the naïve impertinence of tal ing itself seriously. The work does not try t mediate or comment. It is not literary, ha neither surrealistic nor fantastic ambition does not burst with meaning. It is not abou the history of place. The structure does no do anything else but represent itself: it open, unconditional, vulnerable. This type c architecture has the potential of having strong influence on the consciousness of a chitecture. But it also contains the danger c creating superficial effects, for this expressiv form enters the parodoxical situation c strengthening communication and speech lessness at the same time. □

menig's combination of Sur-list imagery, sophisticated dware, and the occasional his-cal suggestion is concentrated and around the grand stair-e (right and bottom). Nearby the more business-as-usual king counters (below).
cing page: Domenig's layering pace, including the organic sses supporting the glass skin l his reinterpretation of the ssical orders.







Data

Project: *Central Savings Bank, Vienna.*

Architect: *Günther Domenig, Vienna. Emanuel Anders and Volker Giencke, collaborators.*

Program: *six-story bank with two floors of customer services, a floor of banking offices, two floors for community cultural events, and a caretaker's apartment at the top.*

Major materials: *sculptured concrete, supporting steel, modeled tin, plastic.*

Consultants: *Stefan Novotny and Wolfgang Bauer, structure.*

Photography: *Peter Hermann, Martha Hübl, Karl Kofler.*

IBM Technical Center, Mexico City

Thick, rough, malleable

Wayne Attoe

Ricardo Legorreta employs the essential textures and forms of traditional Mexican vernacular to create a distinguished interior for a company staked out on modern technology's leading edge, IBM.

Facing page: Wit, sculpturally handled, in the corridor to the cafeteria (top). Below: the staircase from reception to administrative offices (left) and an exterior staircase (right).

Wayne Attoe teaches architecture at the University of Wisconsin in Milwaukee and is writing a book on contemporary regional architecture around the world. His most recent volume, *Skylines: Understanding and Molding Silhouettes,* is to be released by John Wiley & Sons this winter.

In the beginning was the Wall, which could do and say many things. And there was the absence of wall, called Void, which could be either bright with light or deeply dark. From these, architecture was made and continues to be made.

Legorreta Arquitectos of Mexico City freely and gratefully acknowledges its debt to the vernacular building traditions of Mexico. In project after project—whether deluxe hotel, factory, or office building—these architects are inspired, informed, and guided by what has gone before and what continues to be built in villages throughout Mexico.

The central element of their borrowing is the Mexican wall: thick, plain, rough, malleable. It is thick for structural and climatic reasons, alternately sheltering against and storing heat from the sun. Its thickness is evident when a window or doorway is sliced through, leaving a deep reveal, and when a wing wall is extended beyond an intersecting wall plane. Changing wall planes and deep reveals in conjunction with varied interior light sources create multiple gradations of light and shade that are—to say the least—sculptural. The traditional wall is plain and rough because it is made of plaster-covered adobe, or plaster on basic brick. In their own version of the plain, rough wall the Legorreta group intensifies the irregularities and turns crude plastering into a universal decorative texture more primitive looking even than its vernacular antecedent.

The essential brick and stucco wall is malleable, too, able to tolerate voids almost at the whim of builder or architect. Voids are either bright with sunlight when they are windows or skylights, or bright from recessed incandescent lamps; or they are dark alcoves, cool and private places.

The wall is sometimes a bright sheet of color. It is a signal of something going on nearby. Or a change of mood. Or a subtle distinction between outside and inside. The use of color in Mexican vernacular is lighthearted, even humorous. In the work of Ricardo Legorreta's group, it is free-spirited and often, like everything else in their vocabulary, exaggerated for vivid effect.

Sometimes the wall retires, stops asserting itself, becomes a background for the dramatics of an ornamental metal grille, a plaster confection, or a crafted wooden screen. When features like these appear, they a focal points, centers of attention with the w acting as foil.

The wall is sometimes reproduced as mu tiple layers, layers typically expressing chan ing degrees of privacy or penetrability. Th innermost version of the wall is an arcade, post-and-beam incarnation of the wall, whi opens freely onto the inner, private patio.

This, then, is the vocabulary inherited fro traditional Mexican building. What disti guishes the Legorreta group's use of this v cabulary from its use in vernacular is a te dency to intensify the features or qualities th they have borrowed. The irregular surface the essential brick and stucco wall is mad rougher. Edges are treated more crisply. Co ors are brighter. Additional sources of lig make a wider range of tonalities on inte secting surfaces. Ornaments are designe and chosen to be sculptural objects. This i tensification results in a wonderful marria of low and high art.

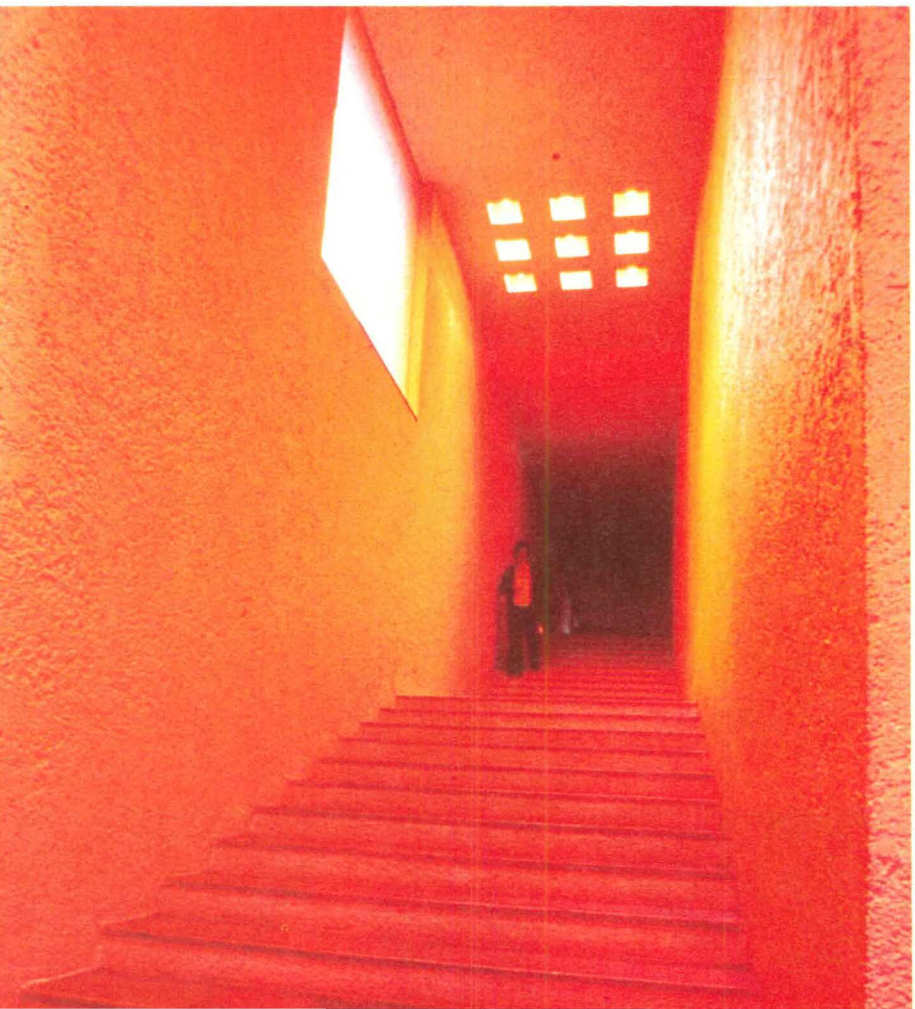
IBM turns inward

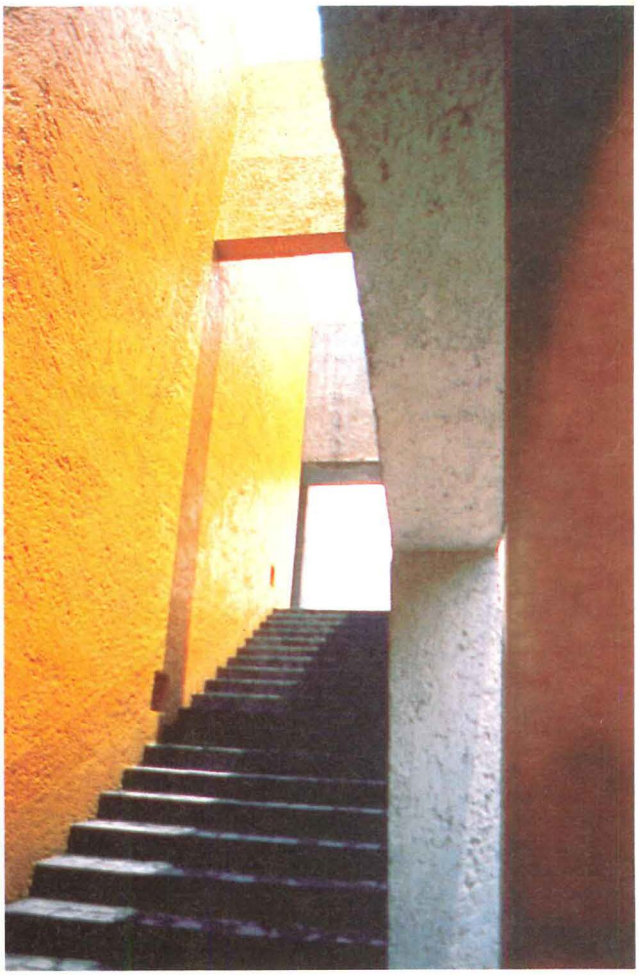
The IBM Technical Center in Mexico City the most recent major building by the Lego reta office. Its program is somewhat differe from the buildings which preceded it in that is less public than hotels or corporate hea quarters. The chief purpose of the building storage for IBM equipment and productio of computer cards.

Like traditional Mexican houses and oth patio-focused buildings, the IBM Cent faces inward, turns its back to the street an neighborhood, which includes a school, apartment complex, and a very busy highwa It shares with them only the grayness Mexico City. In this case, the grayness tak the form of a long, gray wall. This is not building that enhances the cityscape. It is building about interiors.

Beyond its first gray incarnation, the w loosens up, becoming more accommodati and versatile. For example, in the small pub







reception area, the gray wall suddenly becomes tall, white, and bright. A gush of yellow adds warmth and announces the nearby stairway leading to administrative offices. A tall, mirrored construction reflects the lightness, roughness, and warmth.

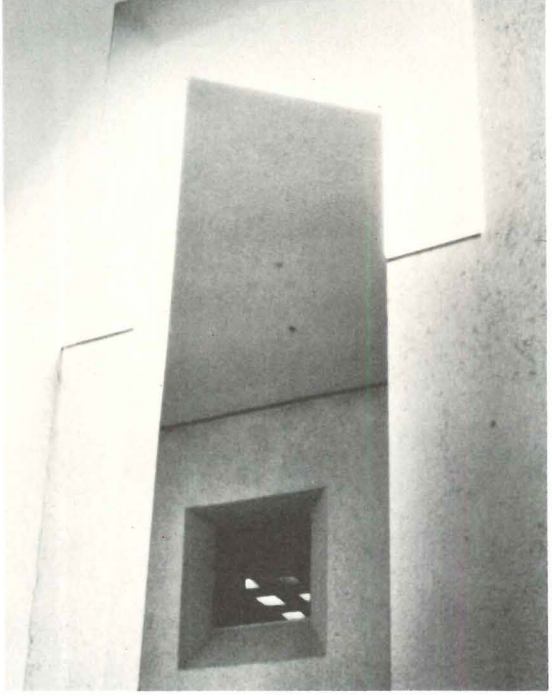
The office area, workshop, and storage facilities, which are restricted areas, are quieter and more businesslike than the reception area. Colors are deep and rich, but subdued. Ornamentation is less dramatic, limited to the bright pattern of skylights and recessed illumination that cut through the ceiling plane; or to grilles that shade windows from direct sunlight. The principal texture is the omnipresent roughness of the surface.

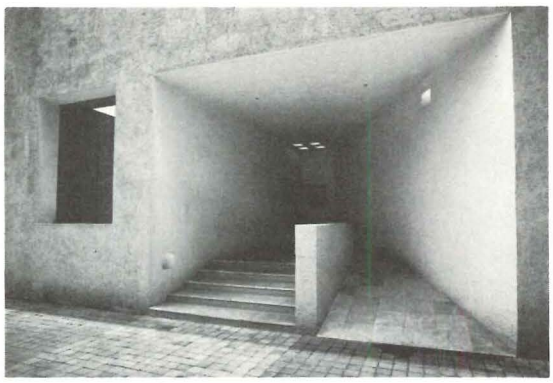
The employees' cafeteria is also bright and warm. In a sense, it is an ornament for the whole building, for it is the social focus. It is starkly furnished with severe, though elegant, wooden chairs, tables, and cupboards, reminiscent of a monastic refectory. But it is also like a restaurant overlooking the *zócalo*—a table with a view of the park (which here is a protected lawn area). There is even an allusion to the innermost, private part of a traditional house with table set in the shelter of an arcade that surrounds the sunny patio.

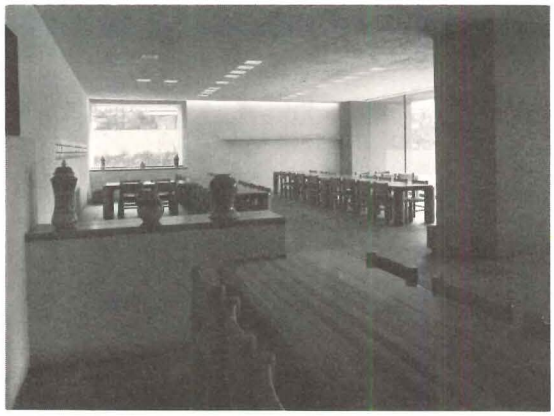
Surrealist humor

The transition from workplace to social place is handled with restrained good humor. Giant stucco fruit set in a niche along the wall simultaneously announces the immanence of food and the ever-present wall. The architects designed this tableau to relate to the scale and serenity of the building, while at the same time modulating the transition from the familiar rounded forms and their gradations of light and shade found nowhere else in the building.

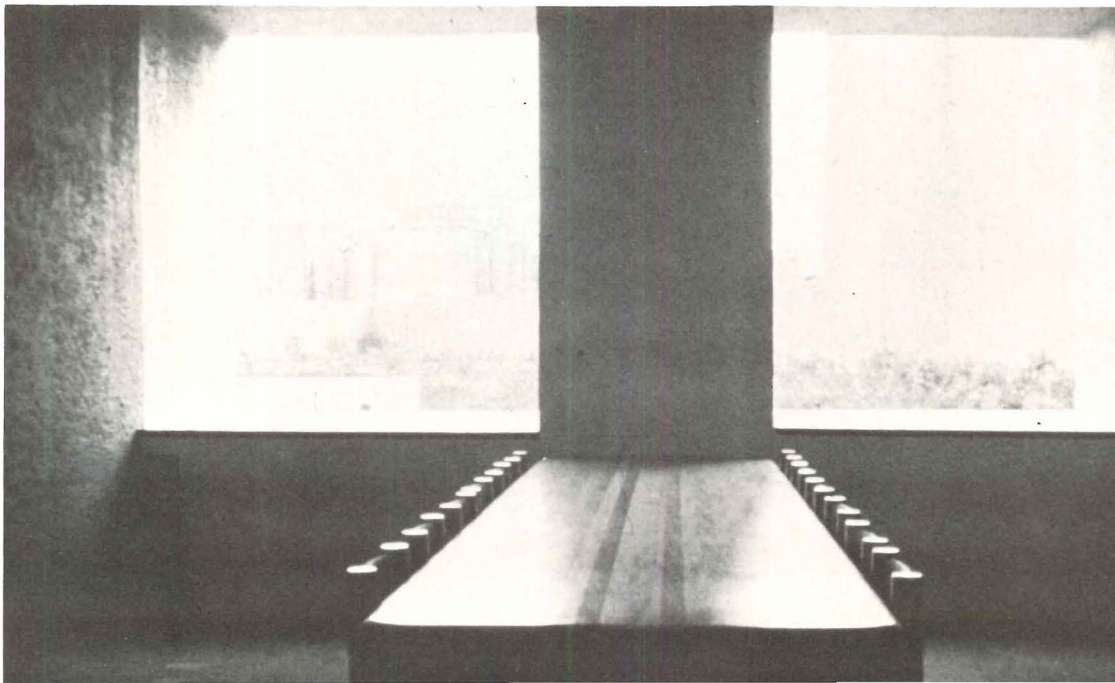
Legorreta Arquitectos has fashioned a delightful and reasonable place to work. These are interiors with markedly different qualities: pragmatic, efficient, exuberant, warm. What is remarkable is that this expressiveness has been accomplished within an elemental and indigenous vocabulary. □







This page: The wall and its permutations (top), including deep colored recesses at entries, such the entry to the office block (upp middle). The cafeteria (lower middle and bottom) has window recesses painted yellow to warm the light streaming in.
Facing page: The office reception area (top) and a back parking area showing the long gray wall (bottom).



:a

ject: *IBM Technical Center,*
cico City.

:hitect: *Legorreta Arquitec-*
Mexico City; Ricardo Legor-
, Noé Castro, Carlos Vargas,
lio Guerrero.

gram: *86,000-sq-ft center*
wo blocks. One is for vertical
ıge with a clear height of 46
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teria, manufacture of com-
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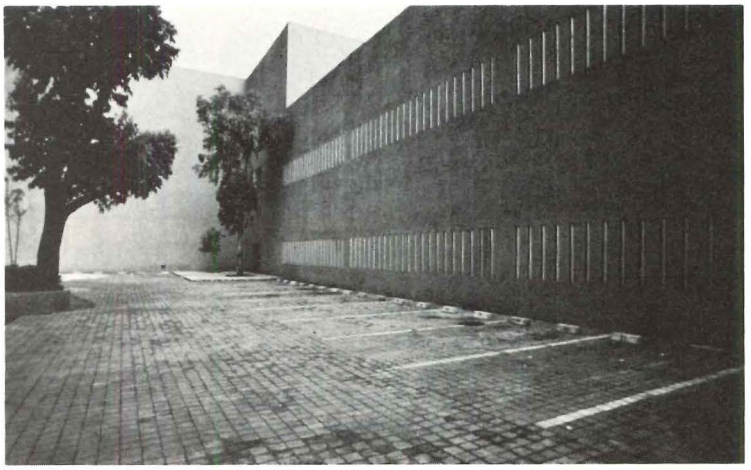


Contractors: *CYP of the group ICA.*

Consultants: *BIPSA; DPSA; DYS.*

Cost: *$48.50 per sq ft not including furniture.*

Photography: *Manuel Lopez Campos.*

Unipart, Coventry, England

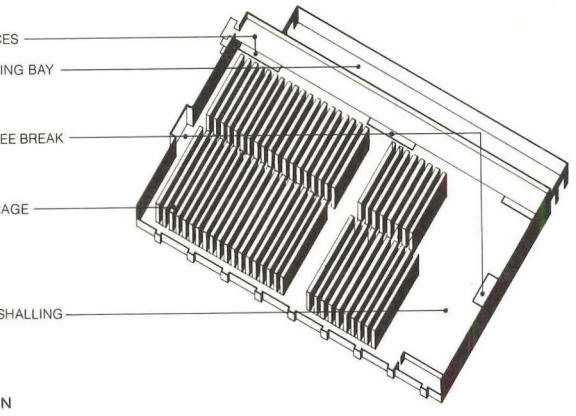
Artful parts

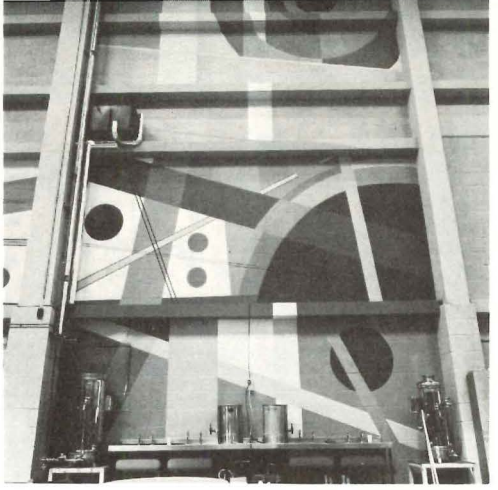


Cognizant of the fact that people as well as stock occupy warehouses, the architects of an auto parts facility make users into design team members.

At the mention of an automobile parts warehouse, an image of long, dark, sometimes greasy aisles comes to mind. Not very appealing as an interior design commission, surely. But a new Coventry facility for Unipart, the components division of BL (British Leyland), dispels the image. Architects Duffy Eley Giffone Worthington did not simply design a fine space in the isolation of their office, however. In part because of European concern with industrial management-employee relations, the project took on extra implications at the beginning.

Working with social scientist Peter Ellis, the architects started their design process with an intensive series of employee meetings to encourage user input. Of the roughly
people employed at the warehouse, nea
200 were involved in preconstruction
sions, around ten persons to a session. Foll
ing slide presentations of early design id
discussions were held, modifications
formed, and new presentations develop
The groups concentrated on three broad
pects of the proposed facility. On one ha
they investigated elements of how to get
work done, including orientation, signa
and color coding.





Coffee break areas (below and left) are located in several highlighted spots around the warehouse, graphics and special treatment underscoring the importance and permanence of the amenities. Brightly lighted and immaculate, the storage area uses narrow aisle, high racking systems with crisp signage and color.



On another level was the study of how to omote a general feeling of well-being; areas rest breaks, overall cleanliness, and amnce were discussed. Break areas were, in final result, indicated as permanent by iphic wall murals by the architects. Also olored were ways to capitalize the internal nmunication between the company and employee, using the building as a dium. Key areas were selected for the inllation of major notice boards to share ws with the users about happenings and velopments in the company.

Unipart is currently exploring the possibilof making the wall graphics an ongoing ogram, employing artists to continue to develop murals. The architects are quick to confirm what an observer would suspect, namely that they had a good and adventurous client. Unipart Managing Director John Neill comes in for the architects' praise for being willing to stretch the horizons of what could be a dull program. We add our congratulations, and extend them to the architects as well. [Jim Murphy]

Data

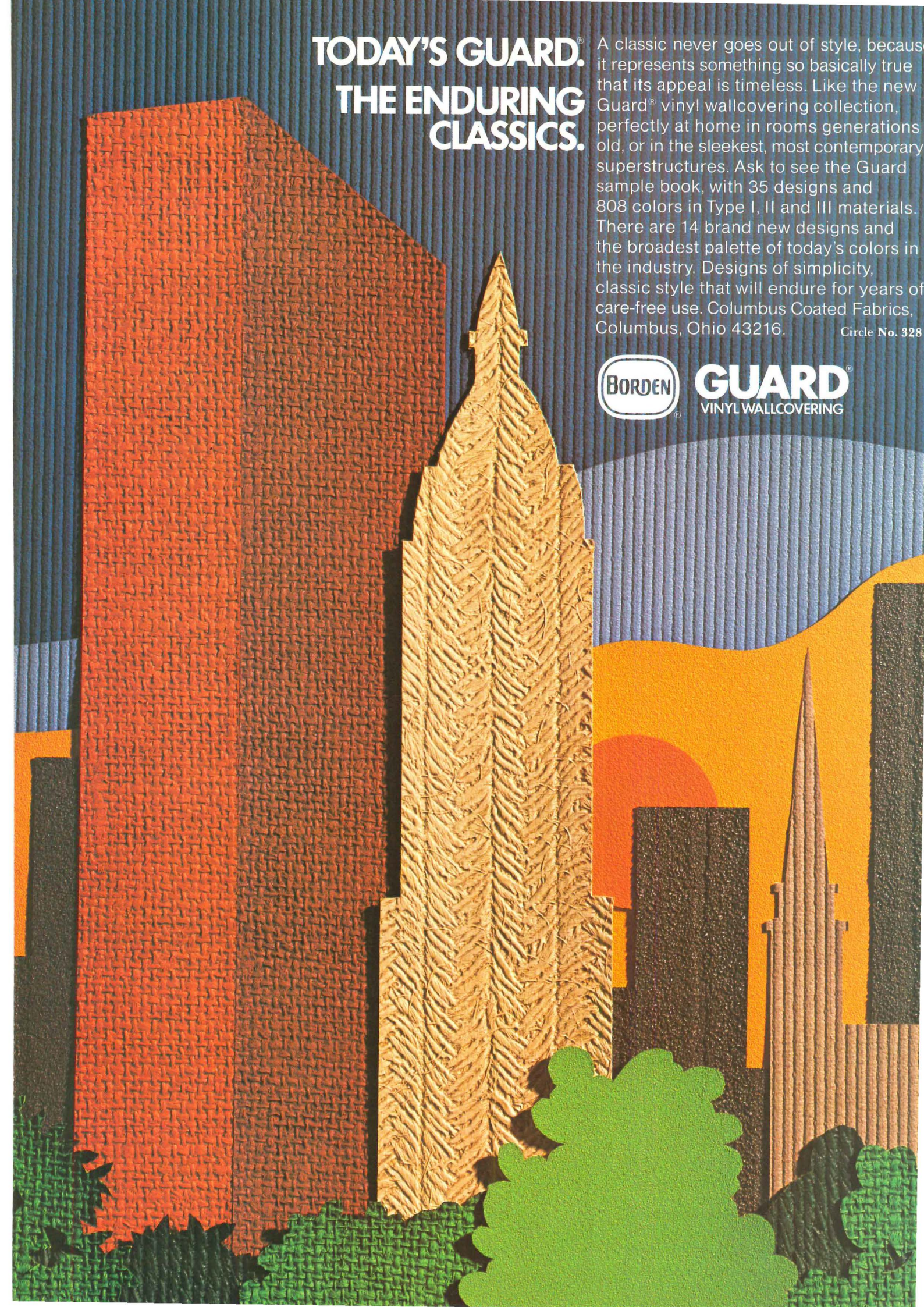
Project: *Unipart warehouse, Coventry, England.*

Architects: *building shell, Harper Fairley Partnership, Birmingham; interiors and industrial relations consultants, Duffy Eley Giffone Worthington, London.*

Program: *within a given building enclosure, design an automotive parts warehouse with support functions.*

Client: *Unipart Components Division, BL.*

Photography: *Richard Bryant.*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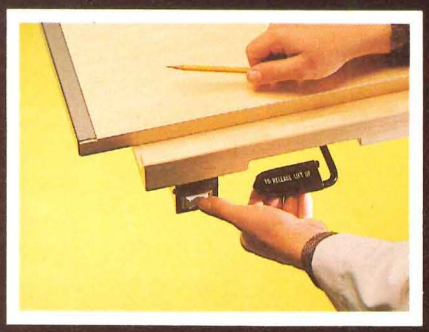

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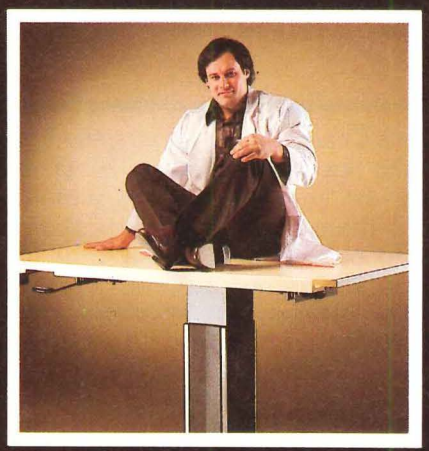

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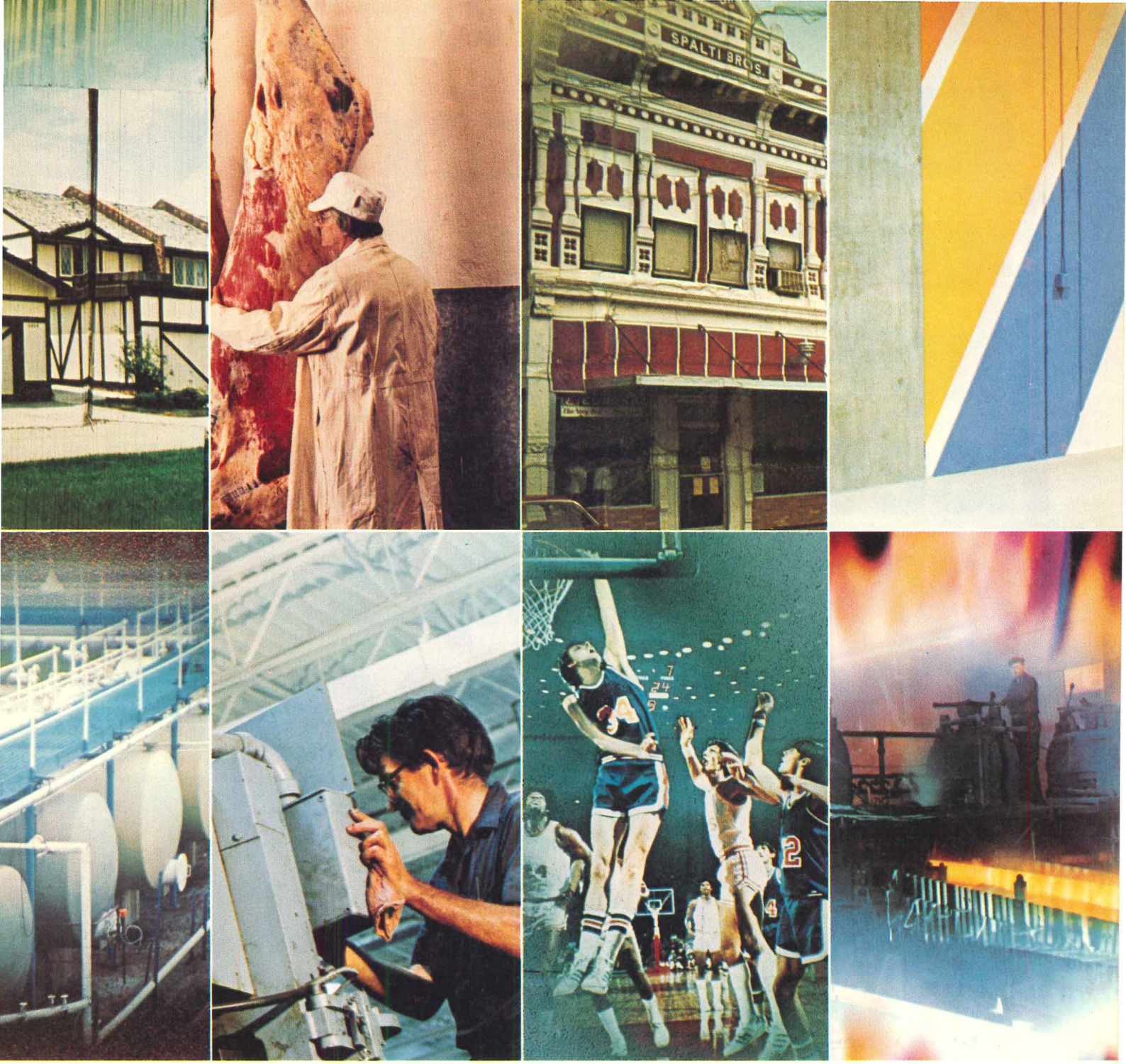

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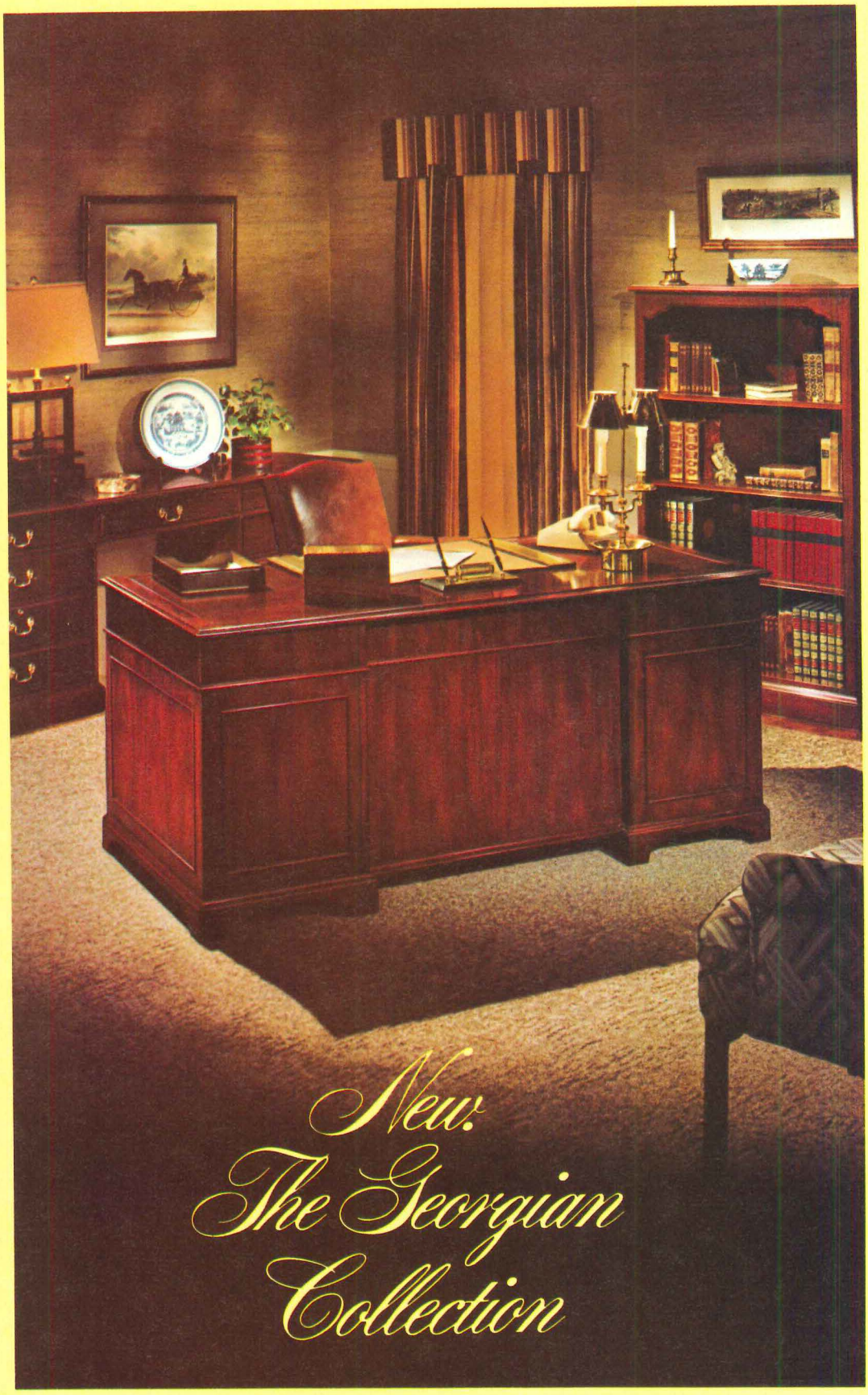

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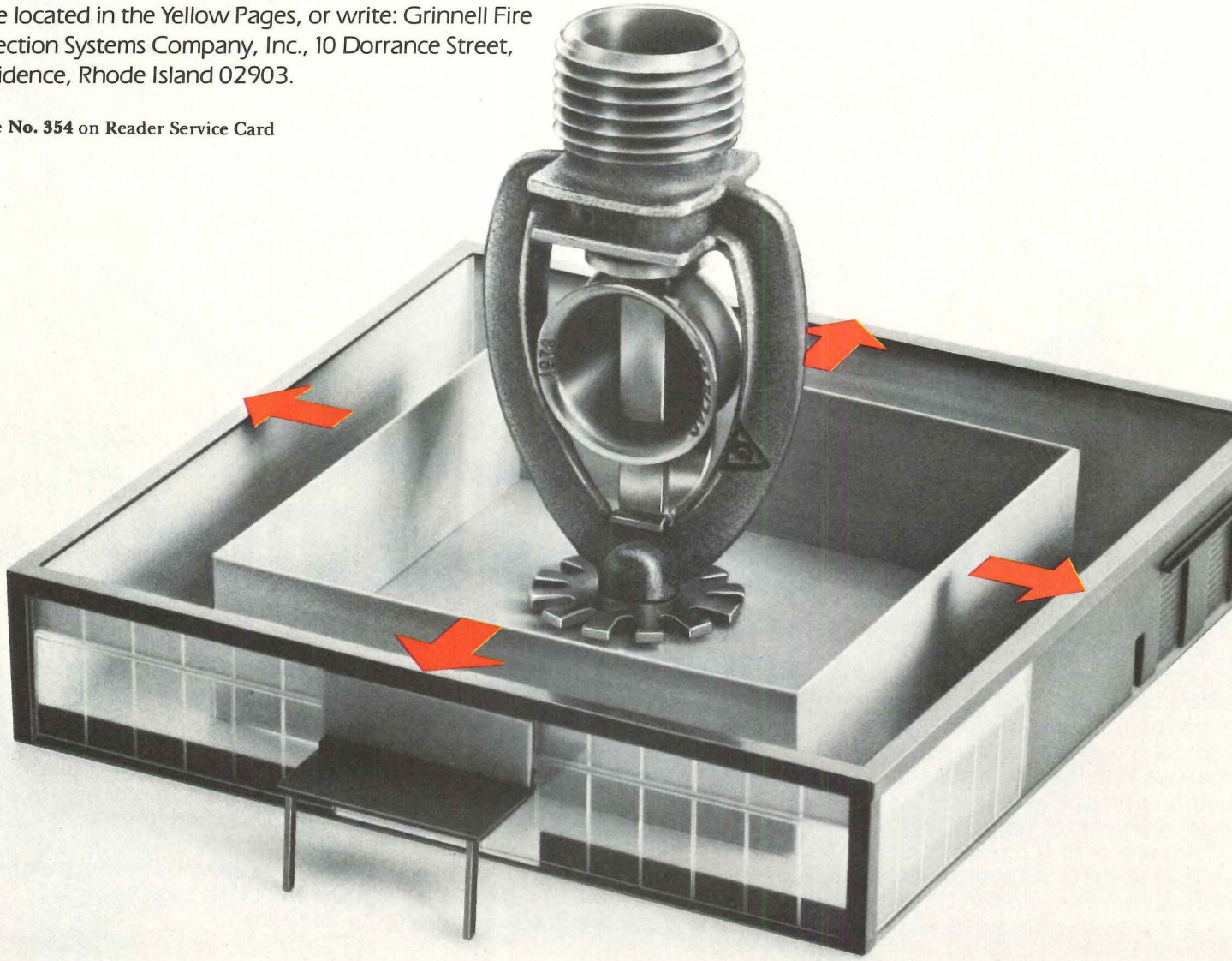

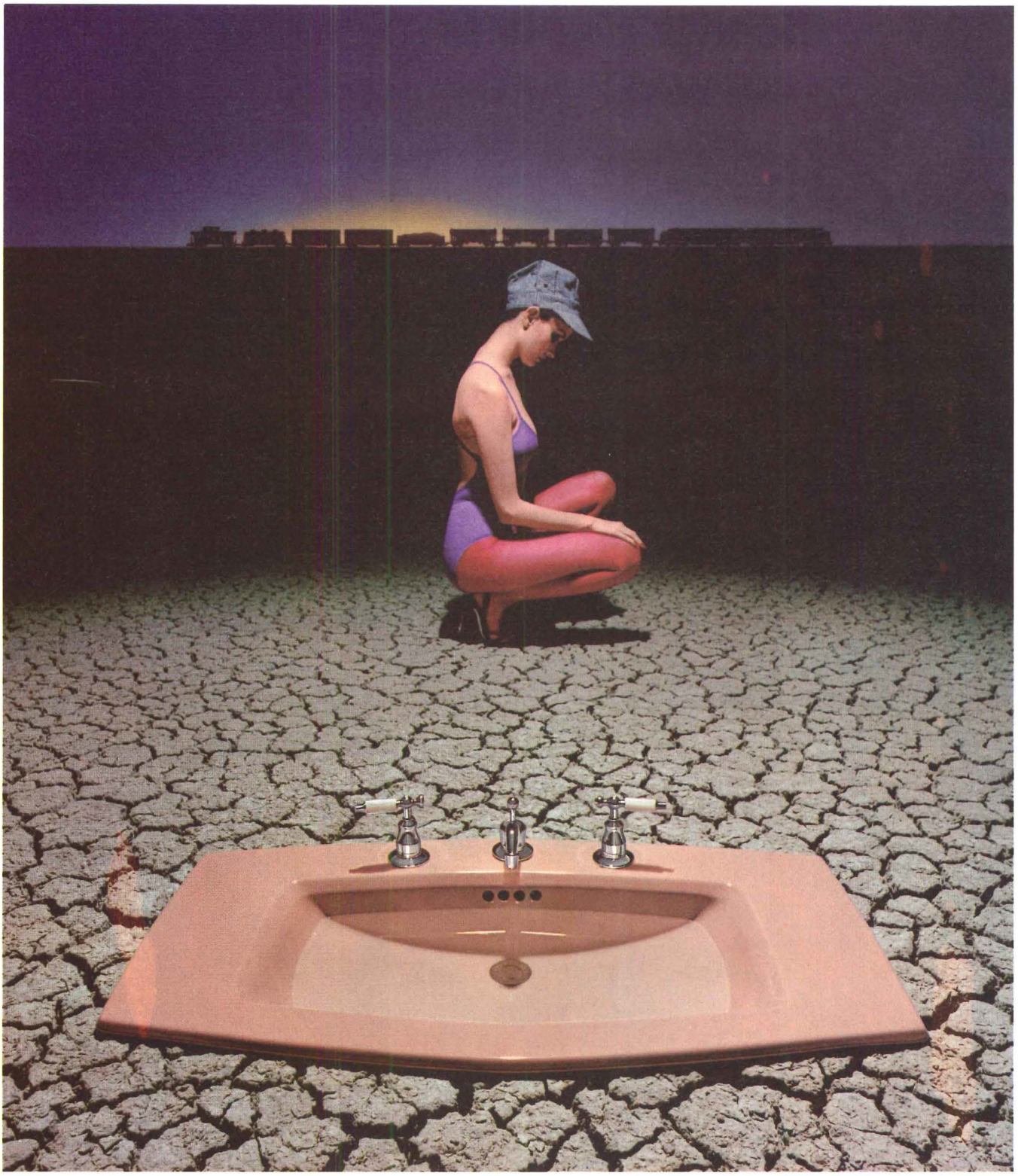

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Circle No. 319



Barrier-free specifications

lter Rosenfeld

**building cannot be bar-
-free unless the project
cification manual is
rier-free. Incorporating
rier-free concepts into
specifications means
difications to nearly
ry section.**

Only recently have specifiers begun to realize some of the far-reaching implications of making buildings more accessible to the physically handicapped. Though ANSI A-117.1 has been in existence over two decades (revised again in 1980) and forms the basis of efforts to standardize architectural approaches to such problems, it is only within the last few years that federal and state governments have begun to respond with new code requirements which affect both private and public buildings. In any case, the need to alter existing buildings and to change our thinking about new buildings, often in subtle ways, to provide barrier-free access and use is now clearly established in law and practice.

While the specifier will follow the architect's lead in code compliance, as indicated on the contract drawings, many essentials can only be handled in the specifications. Though the drawings show locations, delineate details, and indicate quantities (or schedule them), the sources and characteristics of materials and most performance requirements can best be described in the project manual.

For example, not only the height and locations of grab bars in toilet rooms is needed ("see drawings"), but also their diameter, surface texture, and secure attachment ("to be specified"). A type of mirror mounting that tilts downward for wheelchair-bound users may be necessary. Out-swinging toilet compartment doors will need unconventional hardware. Such items are more economically specified rather than illustrated and noted in great detail.

The examples above are taken from only one division of the project manual, but meeting requirements for barrier-free buildings is not limited to one division nor is it a single section or division itself. Rather, it requires a series of items and changes in a large number of trade sections spread throughout the contract documents. In fact, almost every division is affected by some code or construction provision.

While a list of items in each division (from drain grates which do not trap wheelchairs in Division 2, through lever handles or blades on faucets in Division 15) can be compiled, the majority of items are concentrated in three general categories: travel, convenience facilities, and communication.

"Travel" is the broadest group, since access is a prime goal. It includes textured, nonslip ramp surfaces; substantial hand and guardrails; automatic door openers; door closers not requiring excessive pull to operate; hardware with lever handles; knurled door knobs at hazardous areas; low thresholds and saddles for minimum obstruction; and substantial kickplates to protect door finishes.

Also included in the "travel" category are: low-pile carpet which won't impede wheelchair progress; nonslip floor coverings; nontrip stairs without projecting nosings; flush edges where floor finishes change or terminate; platform lifts and elevators with proper features; braille or raised numbers at car and hall stations; self-leveling elevators and adequate door-open time. Audible arrival gongs help the visually impaired.

In addition to the toilet items already cited, "convenience facilities" include: secure attachment for towel bars which may become emergency grab bars; omission of curbs and steps at showers; kitchen ranges with door swings that don't obstruct the wheelchair user from reaching into the oven without danger; front controls on drinking fountains; insulation of exposed hot undersink pipes; and hand showers with flexible hoses.

"Communication" means adequate indication of facilities such as special wide parking spaces; building signs and graphics to show ramp and other access locations; oversize lettering and color coding of areas; audible signals (as at the elevator); and doorless, acoustically treated telephone booths, some at wheelchair height, with special equipment for the hearing-impaired.

Review of the typical items mentioned above will show that Sitework, Concrete, Masonry, Miscellaneous Metals, Carpentry, Doors and Hardware, Finishes, Specialties, Equipment, Conveying Systems, and Mechanical work are all affected. Furnishings and Special Construction may also be involved in a particular project. If we add to Division 1 a general statement of intent to provide accessibility (sometimes required by a funding agency), very few divisions of the project manual remain untouched.

It may be surprising at first to realize the extensive effect of these new requirements on specifications work and the wide variety of handicaps intended to be accommodated. The barrier-free specification, however, is not merely an exercise in code compliance. It is an attempt to make available to disadvantaged groups the conveniences and experiences that the rest of the population routinely enjoys. As such, it calls for the specifier's humane sympathy and conscientious effort. □

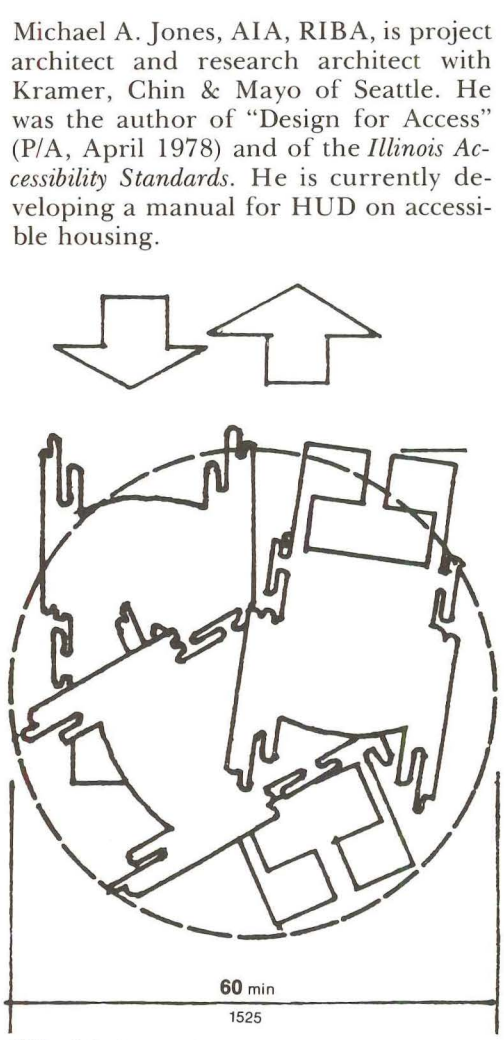
ter Rosenfeld, CSI, is
aging Director for Pro-
onal and Technical
ices at The Architects
aborative, Inc., in Cam-
ge, Ma.

Access today

Michael Jones

Activities of the barrier-free access movement of the 1970s are reflected in the newly adopted specifications for making buildings and facilities accessible to and usable by physically handicapped people—ANSI A117.1-1980. The new standard and its implications are examined here.

Michael A. Jones, AIA, RIBA, is project architect and research architect with Kramer, Chin & Mayo of Seattle. He was the author of "Design for Access" (P/A, April 1978) and of the *Illinois Accessibility Standards*. He is currently developing a manual for HUD on accessible housing.



Wheelchair turning space.

Drawings accompanying this article are reproduced with permission from American National Standard Specification for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People, ANSI A117.1-1980, copyrighted 1980 by the American National Standards Institute, 1430 Broadway, New York, NY 10018.

After several years of development and revision, the American National Standards Institute has finally adopted specifications for making buildings and facilities accessible to and usable by physically handicapped people. The document that embodies them, ANSI A117.1-1980, has been awaited with a mixture of hope and trepidation.

Its publication is the culmination of a decade of activity endeavoring to further the rights of disabled people, to enable them to have the same opportunities that able-bodied Americans take without so much as a second thought. These include a choice of housing, education, employment, recreation, and transportation. It should be clear to anyone that environmental barriers to the handicapped are with us today, in today's building stock, transportation modes, and city thoroughfares. No matter how many accessible buildings are constructed in the future, the problems for the disabled will not dissipate unless changes and modifications are made to the existing facilities as well.

The original ANSI Standard, adopted in 1961 and reaffirmed in 1971, contained ambiguous language, often of a recommendatory nature, which made the requirements very difficult to implement. With the Easter Seal Society and the President's Committee on Employment of the Handicapped, the U.S. Department of Housing and Urban Development sponsored research and development to revise the standard. This process took six years, a period too long for advocacy groups who despaired of the quality of the existing standards being adopted in their own states. North Carolina pioneered in the early 1970s, producing better requirements in a well-illustrated book. Several other states adopted the North Carolina model, while others developed requirements of their own.

It must be remembered that the problems of daily living that confront disabled people were only beginning to be identified systematically in the early 1970s. Earlier requirements mainly addressed the needs of people in wheelchairs, with secondary attention paid to the blind and deaf. The problems of others had not been addressed at all in any depth. Thus, as each succeedi state developed its handicapped quirements, it had the benefit of mo and better research being carried out this country and abroad.

There is a philosophic difference th concerns the population under stu The 1970 census figures claimed tha in 11 adult Americans in the employal age range was disabled. But norm age-related conditions are ackno edged to modify the ease with which o can negotiate the physical environme thus the percentage of "handicappe people in the United States is sign cantly higher than the 1970 cens figure. Accessibility standards e phasize the needs of all people, inclu ing those severely disabled as well those who are often handicapped by t environment, such as children a pregnant women. Though desperat needed by disabled people, the quirements help everyone.

Not all states have a statewide bui ing code, and thus the development the Barrier-Free Rules and Regulatio in the State of Washington, which adopted the 1973 edition of the U form Building Code as the state bui ing code, is bound to be different fr that in Illinois, where a state build code does not exist. The one can ref ence the more comprehensive Build Code; the other has to include more quirements.

For the above reasons, the decade seen a proliferation of standards fac the building industry. A respected tional standard would remedy the sit tion if it proves to be acceptable.

New building standards were veloped against a background of legi tive requirements. Among the sev major pieces of handicapped legislat that were enacted into federal law in late 1960s and early 1970s, the Ar tectural Barrier Act of 1968 requ that any building constructed in wl or in part with federal funds mus made accessible and usable by the ph cally handicapped. Provisions in 1973 Vocational Rehabilitation Act up compliance mechanisms of the 1

, prohibit discrimination by the fed-
l government against disabled em-
yees, require employers with federal
ntracts exceeding $2500 to take af-
mative action to hire and promote the
abled, require that no otherwise qual-
d handicapped individual, solely by
son of his handicap, be excluded
m participation in, be denied benefits
or be subjected to discrimination
der any program or activity receiving
leral funds. If the needs and rights of
disabled were ignored up to this
int; they certainly were not after these
ious pieces of legislation were
acted. The bureaucracies of schools,
iversities, libraries, hospitals, transit
horities, etc., sat up and took notice,
ecially as the act requires that pro-
ms be made accessible to disabled
rsons, and referenced ANSI A117.1
) when remodeling or retrofitting
s the only way of achieving this.
June 1980 was given as the deadline
make physical changes necessary to
w handicapped students to partici-
te in educational programs, and be-
een one-third and one-half of the na-
n's colleges and universities have
de the deadline. Initial cries of pro-
t concerning the expense of such
anges were slightly reduced when it
s realized that all *programs* had to be
essible, not all rooms in all buildings.
locating a program to an accessible
or satisfied the intent of the law. Ad-
ional costs also have to be borne for
erpreters for the deaf, readers for the
nd, etc. While increased costs at a
ie of declining enrollments are hard
accept, there seems to be a consensus
t things have not been as bad as orig-
lly imagined. Remodeling projects
ve been piggy-backed with handi-
pped projects to maximize the funds
ilable, and maintenance money has
) been used to overcome barriers.
The question of accessible transporta-
n has raised serious opposition. The
rrent economic woes, energy prob-
ns, and public concern over gov-
ment spending have made the
ndicapped issue appear financially in-
sible. The American Public Transit
sociation is strongly lobbying to
nge the Department of Transporta-
n rules regarding accessibility.

o much money for too few?

s obvious, considering all the atten-
n in recent years at local, state, and
eral levels to securing a measure of
lependent living opportunities for se-
ely disabled people, that there might
a backlash and, of course, there has
en. Besides the cries of money wasted
too few people there are the predict-
e simplistic statements. The reputa-
Washington Post, in its issue dated
ne 1, 1980, contained a sampling of
usual platitudes: ". . . how much can
ansit authority or library be expected
to spend in removing the inconveniences of the elderly and handicapped at an unavoidable cost to others . . ." " . . . an expenditure of $7 billion over the next 30 years to give fewer than 15,000 wheelchair users access to buses and some 2000 to subways . . . " " . . . I have never seen them (curb ramps) used by those for whom they are intended . . . " ". . . if a society can afford ramps for the handicapped, it ought to be able to offer ramps and lanes for the bicyclist, so that the fit may stop using their cars . . ."

One has to resort to the usual rebuttals and hope that they will be listened to more carefully. The issue is not one of "inconveniences," things that are troublesome or awkward; it is one of segregation or isolation caused by a total inability of some people to overcome obstacles in the path of travel to many facilities. Access America is not only the goal for those confined to wheelchairs, but the goal for anyone with mobility impairment in any form, which affects, in varying degrees, over half the population of the United States at any time. For many of these people, the route might only be inconvenient or occasionally dangerous, but with better access for the severely physically handicapped, everyone benefits from safer and easier environments. The excessive cost of special equipment will remain excessive while it is special or new or add-on, but costs come down as volume and acceptance increase. Society continually replaces its buildings, transportation modes, etc., and updates in the process. Many transit stations in Chicago or New York, for instance, are in need of modernization for many reasons. The cost of access is a small percentage of what will be spent on public transportation over the next 30 years.

Be assured that on any one day in Chicago, Seattle, or Miami, curb ramps are being used by many people for whom they were intended. One always provides fire stairs as alternate means of egress from buildings, and fortunately, they are almost never used for the reason intended, yet no one is protesting their inclusion in building requirements. They are an acceptable standard.

Finally, with the energy crisis looming stronger every year, we have made a start at providing alternative environments for all people. Minneapolis can stand proudly alongside many European counterparts in developing pedestrian centers. To a degree, almost all major cities in this country have pedestrianized at least one major street, and the more farsighted are providing bicycle routes separated from vehicular traffic. The quality of life is being improved for all people, including the "fit."

The more serious backlash is in the form of legislation that has been introduced to overturn earlier laws aimed at improving the lot of disabled people. In Illinois, House Bill 1917 was introduced in an effort to remove the requirement of access for disabled people from private-sector buildings. This bill was sent to subcommittee. Other states were considering similar legislation.

The APTA and other critics of Department of Transportation regulation under Section 504 of the federal Vocational Rehabilitation Act want an amendment to the fiscal 1981–85 mass transit authorities bill (HR 6417) that would allow exemptions for transit systems that provided equivalent special services for the disabled. The nondiscrimination requirement of Section 504 does not allow "separate but equal" systems reserved solely for the handicapped. Transit authorities claim that there is too little ridership of disabled people on portions of systems that have been made accessible. But it is a chicken-and-egg situation. The more accessible the overall environment becomes, the greater the use of all public transportation systems by disabled and elderly people.

On the other hand, overzealous handicapped advocates are demanding that present nonaccessible situations be remedied immediately; the laws are on the books and should be enforced. Naturally this upsets administrations, many of which are doing their best in difficult times. Although the Section 504 set a 1980 deadline—an extremely ambitious goal in view of the lack of funding to accompany the law—a fantastic start has been made. Moderates know that the process will take years to make a significant impact, but that is no reason for holding back. More and more people are acknowledging that changes are necessary, and no amount of shouting is going to force the handicapped with their hard-won gains back into institutions or homes.

It is at this point that the eagerly awaited revision to the Handicapped Standard, ANSI A117.1-1980 appears.

The revised ANSI Standard

In the revisions to ANSI A117.1, there has been a considerable expansion of material included. The earlier document relied very heavily on the information contained under General Principles and Considerations for interpretation of the specifics. It stated, for example, that an appropriate number of public telephones should be made accessible to and usable by handicapped persons. The requirements for elevators were stated in the same words. A complete understanding of what was accessible and usable by handicapped people was

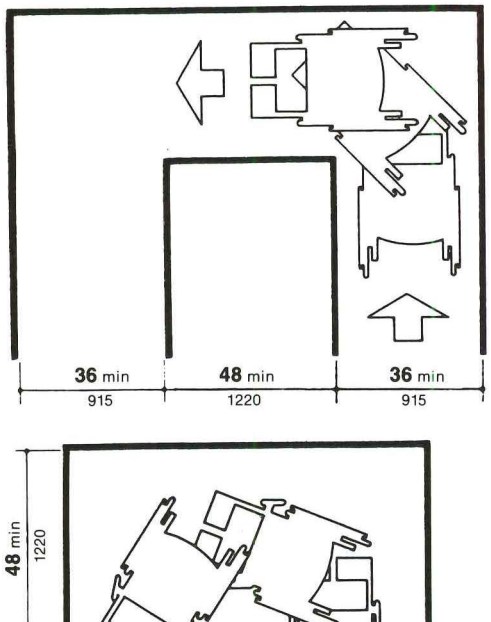
thus required before the item could be drawn or specified. No wonder little accessible design was carried out. ANSI A117.1-1980 details how barrier-free environments shall be achieved, as can be seen in the requirements for telephones, contained in 8 separate items, or for elevators, in 14.

The scope of ANSI A117.1 has also been expanded to include accessible housing elements and curb ramps. Most of the recommendatory language has been removed. The populations whose needs are being addressed now include those who find it difficult or are unable to walk, those with sight, hearing, reaching, and manipulation difficulties, incoordination, lack of stamina, extremes of size, and those who find it difficult to interpret or react to sensory information. The following is a brief synopsis of the requirements contained in ANSI A117.1-1980:

Accessible sites are required to have at least one accessible route connecting all accessible buildings, facilities, and elements. This route shall be provided from public transportation stops, public streets, and sidewalks, as well as accessible parking lots or passenger loading zones, if they are provided.

A reasonable number of entrances, but at least one, to a building or facility shall be served from an accessible route. It is not clear whether that one entrance can also double as the emergency egress, for the wording for that is similar, requiring a reasonable number, but at least one. If the able-bodied population is given alternative routes of travel for egress, the same should be provided for those with impaired mobility. The minimum width of accessible paths has been reduced from 48 in. to 36 in. **1** Maneuvering space at doorways and passing spaces are required to be wider, and located at reasonable intervals not to exceed 200 ft. The item that deals with ground and floor surfaces is questionable. It requires a relatively nonslip surface under all weather conditions for all accessible routes, floors, ramps, stairs, etc. How will this requirement be enforced? What material is nonslip under all weather conditions?

A section on curb ramps has been needed in view of the many poorly designed curb ramps that have proliferated in this country. A 36-in.-wide curb ramp, exclusive of flared sides, is the standard. Various alternative solutions are illustrated to cover many of the situations that are likely to occur in the built environment. Uncurbed intersections are required to have a continuous tactile warning texture 36 in. wide along the



1 *Width of accessible routes, with turns.*

boundary. Curbed traffic islands must have the pedestrian crossing route cut level with the road surface to enable people in wheelchairs to cross.

The maximum slope of ramps for new construction has not varied and will continue to be 1:12. The maximum rise for any ramp segment is 30 in. However, when curb ramps or other ramps are constructed in existing situations, it is possible to use a steeper slope under certain conditions. A 1:10 slope may be used to overcome a rise of up to 6 in. and a 1:8 slope for a rise of not greater than 3 in. It must be pointed out that ramps require a great deal of effort to push a wheelchair independently up the slope; the more gradual the slope, the greater will be the appreciation of those who must use them. Also, as the steepness increases, there is a decrease in the number of people who can use them. Semi-ambulant people will often prefer to use steps or a curb if the ramp provided in either situation is too steep.

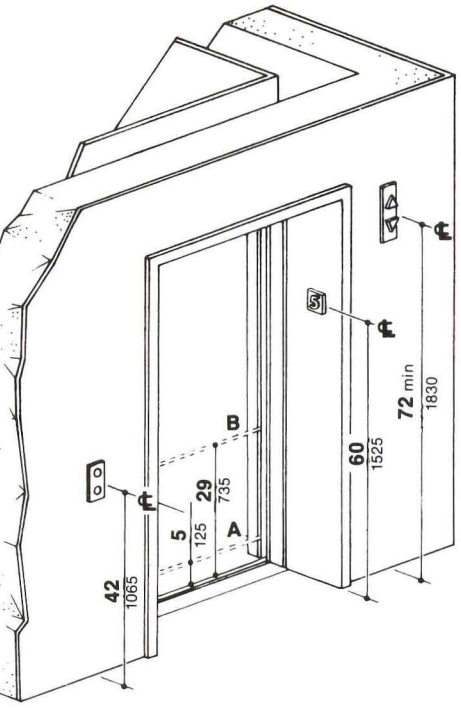
A range of solutions is given to protect people from falling off the edge of ramps. Handrails are required on both sides of a ramp, except curb ramps. These handrails are to extend at least 12 in. beyond the bottom and top of the ramps, parallel with the ground surface. The illustrated use of a guard rail with pickets at 6 in. or so on center is the least attractive solution from the wheelchair user's point of view, for should he lose control or direction, his knuckles, which are at the farthest extremity on a wheelchair driving rim, are likely to be injured as they make contact with th pickets. The problem is greatly reduce though not entirely removed, by th example illustrating continuous hor zontal rails supported on posts at 6- centers approximately.

Stairs are included in the revise standard. The minimum tread dep from riser to riser shall be no less tha 11 in., but no mention is made of ris height, despite recent research on th subject. Handrails are required at bo sides of the stair, with the inside rail i stalled continuously on switchback ar dogleg stairs. If handrails are not co tinuous, the handrail shall extend least 12 in. beyond the top riser, and in. plus the width of the tread beyon the bottom riser. Square nosings ha been outlawed, and rounded or angle nosings or sloping flush risers required

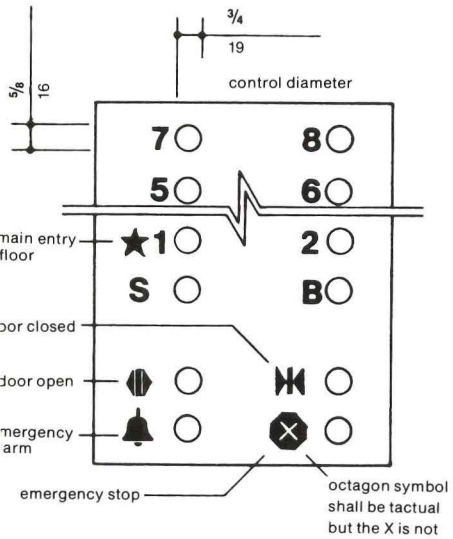
The elevator section was develope with the elevator industry. Witho laboring through all items, the followin should be noted. Visible and audib cues are required to indicate which car answering a call and also when the c passes a floor. A verbal communicat may be substituted for the sound at ea floor. Recent developments in ele tronics will see the satisfactory soluti of this type of redundant cuing for bli and visually impaired people. Raised indented characters indicating the flo number must be provided 2 in. high ar centered 60 in. above the floor on bo jambs of all elevators **2.** This will enab the blind person to check the flo number, should he have miscounted th number of sounds heard during asce or descent. The control panel must ha all buttons located between 35 in. and in. above the floor **3.** Emergency butto of special shapes must be located at th bottom of the panel. The floor indic tion characters must be raised or i dented, and located to the left of the bu ton. A raised or indented star locat alongside the main entry/exit floor bu ton is also required. Recessed characte are not as useful as raised characters, they are much more difficult for visua impaired people to read, particular elderly people whose loss of vision m be attributed to diabetes, since one the effects of this disease is impairme of the sense of touch.

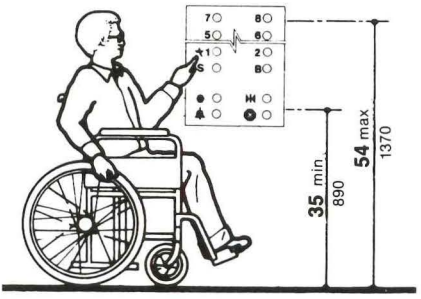
Platform lifts may be used as part an accessible route if no other alter tive is possible, but there is still no a cepted national safety standard gover ing their manufacture and installatio The development of such a standa must be completed as soon as possibl

A section on automatic doors a power-assisted doors has been adde The American National Standard f Power-Operated Doors, ANSI A1



Elevator entrances; automatic door reopening device is activated if object passes through either line A or line B.





Elevator controls, height and detail.

-1979, is used as the base reference r automatic doors. Power-assisted ors must comply with door-opening ces of 8.5 lbf for exterior doors and 5 for interior doors. Automatic sliding ors are the safest to use, as automatic inging doors, in certain situations, can hazardous to the blind, those with v agility, and people in wheelchairs. here one-way traffic is possible, auto- atic swinging doors opening away om people in the direction of travel are much safer. There is an increasing range of control devices available, though the electronic switching mat or carpet remains the industry's mainstay.

A short section deals with emergency alarms, and this much-needed section should ensure that the blind and deaf receive the same emergency warnings as the rest of society, for if they are provided, these alarms shall be both audible and visual.

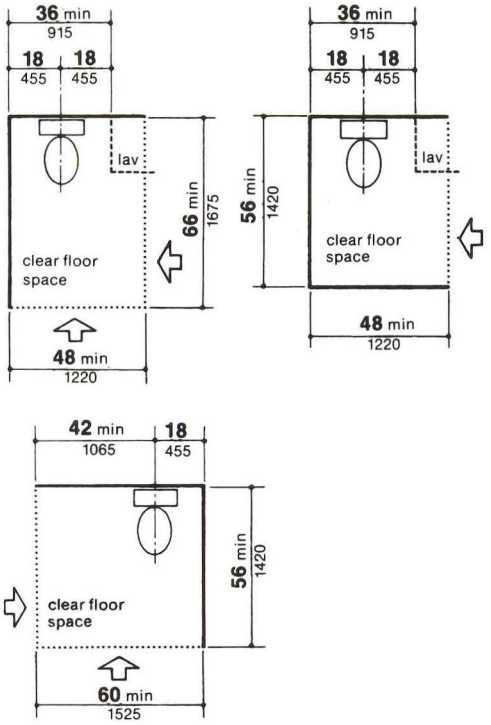
Textured levers or door handles are required on doors to hazardous areas such as loading platforms, but the identification of fire doors leading to places of refuge, fire stairs, or egress routes has been ignored. Some device or system must be developed to enable blind people to locate the path to safety during a fire. In a smoke-filled corridor, all people might be aided by a system identifying the fire exit. The subject should receive much greater attention and research, as should the whole emergency evacuation requirements of buildings and facilities.

Accessible dwellings

One of the most useful aspects of the revised ANSI A117.1 is the section pertaining to dwelling units. Requirements are developed to ensure full accessibility for disabled people and their housing needs. As yet, HUD has not adopted the revised standard for the construction and remodeling of federally funded projects under its jurisdiction, but this is expected to occur in the near future.

The concept of adaptable housing contained in the revised A117.1 is a very sound one. It allows for modifications to be made to a dwelling to suit the individual needs of the occupant. While serving the disabled, these provisions will also enable a dwelling to be modified to meet the need of the occupants as they become elderly and their physical abilities become limited. Changes can be accommodated without expensive remodeling, which often forces people out of their neighborhood to more accessible and safer abodes.

The dwelling unit must be served by an accessible route of travel, and all accessible rooms must be off accessible corridors with sufficient maneuvering space. In order to turn 90 degrees through a 2′-8″ clear door opening, a 3′-6″ corridor width is required. The adaptable kitchen provides for the work surface, including kitchen sink, to be adjustable to three heights above floor level: 28, 32, and 36 in. Base cabinets are to be removable to allow at least 30 in. clear space for wheelchair access. At least one sink bowl shall be no deeper than 6½ in., and faucets shall be operable by imprecise manipulation. Levers or push-type mechanisms will accommodate this.



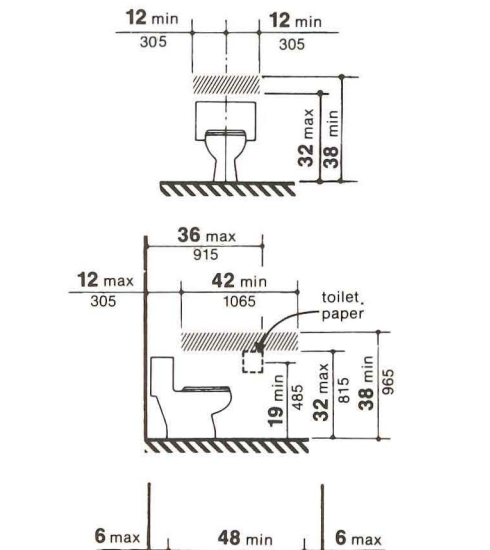
4 *Water closets in adaptable bathrooms.*

Ranges, cooktops, and ovens are also covered, and provisions are included for space to use and clean the appliances. Perhaps it is here that one should illustrate one of the troublesome features of this Standard—the amount of cross-referencing that has to be done. For example, under item 4.34.6.6 it states that ranges and cooktops shall comply with items 4.34.1.2 and 4.34.6.3. On checking item 4.34.6.3 it states that controls in kitchens shall comply with Section 4.27. Among other things, the latter section requires further references to items 4.2.5 and 4.2.6 for reach limits. It would be much better if the requirements for all elements relating to one area could be found in one place, even if the countercharge is one of duplication or repetition. Enough of this already occurs, anyway, to set a precedent.

Adaptable bathrooms are dimensioned to enable a variety of design configurations **4.** The inclusion of structural reinforcement in the walls during construction to receive grab bars at a future date **5** will ensure that they more nearly meet the needs of the occupant, and without too much difficulty. The reinforcement is required around bathtubs, showers, and toilets.

Information regarding the location and instructions for modifying the dwelling unit are also required for the occupant's knowledge and use.

It is hoped that the private sector will be influenced by these new requirements, but with interest rates at all time highs and housing starts down, it is not too cynical to imagine that these changes will be perceived only as costly, unwarranted extras. This need not be the case, as some builders can testify. To have a



5 *Adaptable bathrooms, hatched areas reinforced for installation of grab bars.*

choice of adaptable housing would make such a difference to the lives of many families with disabled members. Government-subsidized or -financed dwelling units should not be the only option available.

Remodeling

By and large, the building industry has accepted the need and most of the requirements for accessibility in new construction, although there cannot be total agreement on every requirement. The remodeling aspect of accessibility standards is a totally different matter. The need to expend unwarranted amounts of money for so few potential users is the main fear expressed nationwide. The revised ANSI A117.1 requires the administrative authority which adopts the standard to specify the extent to which the specifications cover remodeling, alteration, or rehabilitation. Most states require buildings to be brought up to current standards when remodeling, but the manner and extent of such requirements is not uniform. Sometimes replacement cost is the criterion used, while percentage of area to be remodeled is another. The Illinois Accessibility Standards undergoing revision, including modification to the remodeling section. The proposed changes relate the extent of accessible features to the building area and remodeling cost. The building area is separated into three categories: less than 3000 sq ft; 3000 to 10,000 sq ft; and over 10,000 sq ft. The requirements for each vary with the amount of the remodeling cost in proportion to the cost of reproducing the building: 0–25 percent; 25–50 percent; and above 50 percent. Whatever method is used will have its advocates and detractors, but the extent must be spelled out to enable compliance.

Not all buildings can be made accessible, for a variety of reasons: lack of space; short life expectancy of the building; and hardship cases, among others. A waiver/compliance mechanism must be developed to arbitrate in such cases.

While blind and deaf people may be able to use most buildings and facilities with varying degrees of difficulty, access by those in wheelchairs and by some semi-ambulant people is much more frequently denied, and thus their needs must be considered of primary importance in remodeling schemes. This is basic accessibility, the minimum of changes needed to make the building accessible to these people. If water fountains, elevators, or other items in the building are to be replaced, then it is at this time that fully usable water fountains or accessible elevator panels should be installed.

To deal with existing doorways, offset hinges on openings with less than 32 in. clear width might provide an opening that is only an inch or so narrower than required. Though maneuvering may be more difficult, only the widest wheelchair will be prevented from gaining passage. Thus this should be allowable.

In many existing toilet rooms it is possible only to increase the width of a toilet stall to 36 in. The length must be 66 in. minimum for wall-mounted water closets and 69 in. for floor-mounted models. Such stalls are not as usable as the 5-ft-square version, but at least they provide sanitary accommodations previously denied. Suggestions have been made to require fully accessible toilets on every fourth floor in high-rise buildings. People using these would be only a maximum of one floor away from a fully accessible toilet. Another suggestion requires a unisex handicapped toilet on each floor. While these suggestions smack of discrimination, they nevertheless represent a giant step forward in that owners, builders, and architects are talking about providing for the handicapped. These alternatives must analyzed and tested. The type of bui ing may also determine the type a numbers of fixtures to be used.

It cannot be said too clearly that in cessibility is found in today's buildin Changes must be made to rectify t situation. Otherwise, no matter h many new accessible buildings are co structed, they will not greatly reduce t impact of the current inaccessible sitt tion. A change can be made, by degre if most remodeled buildings are ma basically accessible. Public sector bui ings alone are not enough; the priv sector must share in this effort.

As accessibility becomes more co mon, it is inevitable that the fear behi some of the requirements will disappe and that bad standards will be reject or replaced. In time, such requireme become second nature. Everyone v benefit—sooner or later.

The future

It has taken nearly 20 years thoroughly revise ANSI A117.1 (6 The amount of effort that has gone in this endeavor is heroic, and all co cerned must be commended for th efforts in finally bringing the n standard into the light of day. Develo ing a consensus document, as is a American National Standard, is mean feat. However, the publication ANSI A117.1-1980 is not the end of t effort. No standard is cast in stone, a changes will be inevitable. In the c velopment of most standards of t type, compromises have to be ma some affecting owners and manufactu ers adversely, others, disabled peop The ranges of human abilities a needs are incredibly broad and diver Minimum standards of access au matically preclude their benefits to t extremes in any disability category, a some people will continue to find th problems unresolved. New technolo may provide better solutions. Rec examples are the solid-state ver communicators for elevators, or the s ond generation of electronic control vices for automatic door openers. Re lar revision to the document will necessary, but should not entail such arduous process as this last revision.

On a subject that invites easy critici from all interest groups, there are u ally at least two valid opposing arg ments warranting attention, as the f lowing two examples will indicate. T standard dealing with door-open forces requires that 8.5 lbf shall be maximum force for opening exter doors and 5 lbf for interior doors. (F doors are treated separately, requir the minimum opening force allowa by the administrative authority havi jurisdiction.) Hardware manufactur claim that these requirements are c

cult to meet. Wind forces and interior r pressures found in high-rise buildgs greatly affect the door operation, d 15 lbf and 8 lbf have been proposed the industry as minimum doorpening forces for exterior and interior oors, respectively. On the other hand, any people find that even 8 lbf and 5 f are too great a force for them to ercome. The number of people who n open doors independently increases the force to be overcome decreases. s the earlier ANSI standard called for lbf and 5 lbf for exterior and interior oor opening as long ago as 1961, one onders why the matter was not consided resolved much earlier—perhaps ecause the building industry as a whole ose to ignore handicapped standards r reasons previously stated. Recently, tomatic assists which reduce the openg force to a much more acceptable vel have been appearing on the mart. Some state codes include the indusy recommendations, maintaining that e lower forces cannot be enforced tisfactorily, and have adopted 15 lbf d 8 lbf as their requirements. The NSI requirement in this case has fared the user, but this is not always the tcome.

The earlier ANSI standard required a ilet stall with water closet to be 4 ft-8 . deep by 3 ft wide, with grab bars, etc. riticism from those in wheelchairs has en fierce for years, for the toilet transr in such a confined space is very difcult, requiring a certain amount of mnastics to turn oneself into a comrtable position. With training, many hieve this technique with varying egrees of expertise. If, however, a ft-square stall were provided, with a ater closet centered 1 ft-6 in. from one le, the vast majority of wheelchair ers would be able to negotiate the nsfer much more successfully, as they uld maneuver their wheelchairs into e most advantageous position. The otests from building owners and anagement are heard from one state pital to another, as they react to the ditional 10 sq ft or so, multiplied by o (for the sexes), times the number of ors, multiplied again by the squareot building costs for every new and novated building. The arguments are gitimate on both sides, but in this situon the ANSI Standard appears to ve appeased the building industry erests by allowing the use of a 3-ft, t, or 5-ft-wide stall; it is obvious which ll will be selected most often. It must noted that the height of the toilet seat s been reduced to 17–19 in. for all lls, a sensible change.

The research that had to be carried t in order to develop a national standard was quite extensive. The new standard has more supporting research than most other standards and codes, and therein lies much of its strength. But because of budget and time constraints, in some instances, the test population has been very small. Use in the marketplace may be the only legitimate testing ground for any item, unless more money is provided for greater in-depth research and testing. Nevertheless, more research must be carried out, alternative options to requirements must be examined, and modifications and revisions regularly made to the document. Suggestions for improvement of the standard will always be welcomed by the American National Standards Institute.

The following areas need attention. In some cases there are research and development projects currently underway, but a more intensive effort is needed.

- Emergency exit requirements from buildings, including the development of fire-safe elevators.
- Development of minimum characteristics of areas of emergency refuge in buildings.
- Communication needs for the disabled, especially tactile cuing on walls, doors, and walkways, and visual and auditory alerting.
- Performance tests for carpets and other surfaces that may impede mobility of disabled people.
- Development of hardware and opening devices to enable operation of doors, windows, and similar elements by those with manual dexterity problems.
- Improved signage in buildings.
- Improved hygienic and sanitary accommodations in buildings.
- Requirements for platform lifts.

There also needs to be further expansion of knowledge of the disabilities of disabled people, especially in their use of the environment. We still have a lot to learn about mobility of blind people, communication needs and options available for deaf and hard-of-hearing people and between them and hearing people, the perception and comprehension of the built environment by those who are retarded, confused, and disoriented, and the abilities of people confined to wheelchairs.

A base knowledge exists, but sometimes this has come about through studying small groups of people, often in closed or select populations, rehabilitation institutions, or university campuses. It is also safe to say that knowledge concerning the use of the environment by able-bodied people needs to be addressed.

Solutions to problems must be tested in real-world situations. Such a process would have reduced the numbers of badly designed, poorly located curb ramps in this country. A quick-and-dirty mockup of an element, tested with participants who more or less know what is expected of them, will not produce the results expected under the constraint of real buildings or cities.

Federal guidelines

Congress mandated the Architectural and Transportation Barriers Compliance Board to develop guidelines of accessibility for federal agencies. The National Bureau of Standards has been providing the research background. These guidelines will be based on the technical data contained in ANSI A117.1-1980.

The board's document will contain detailed scope provisions, particularly as they relate to new construction, remodeling and alteration, and leased properties. Exact numbers of accessible elements will be spelled out, in place of the vague "a reasonable number but at least one" provision.

Early drafts indicate that there will be some minor changes, which might improve the document. The amount of cross referencing is being reduced, where possible, so that the requirements for all elements relating to one subject can be found together. Some of the gray areas may be omitted, subject to further studies. Tactile cues at the top of stairs may be one such item.

By the time this article is published, these guidelines should be available for public comment. This is an opportinity for every architect, engineer, designer, and builder to have input into a document which may affect his professional activities and may be truly setting us on the path to one nationally accepted document. Everyone is urged to secure a copy of ANSI A117.1-1980 and the draft of the Architectural and Transportation Barriers Compliance Board's Accessibility Guidelines, read and evaluate both, and make his voice heard.

Today, the building profession is more aware of the needs of disabled people than ever before. The last few years have seen a dissemination of material on the handicapped to all professionals and at all levels. Change in attitude is sometimes difficult for people set in their ways, but by and large, the acceptance of new and better standards—with the more careful compliance that would result—will pave the way for better environments for all people, particularly those previously isolated and alone. □

ANSI 117.1-1980 can be obtained from American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018, and the Accessibility Guidelines from the Architectural and Transportation Barriers Compliance Board, 330 C Street SW, Washington, DC 20201.



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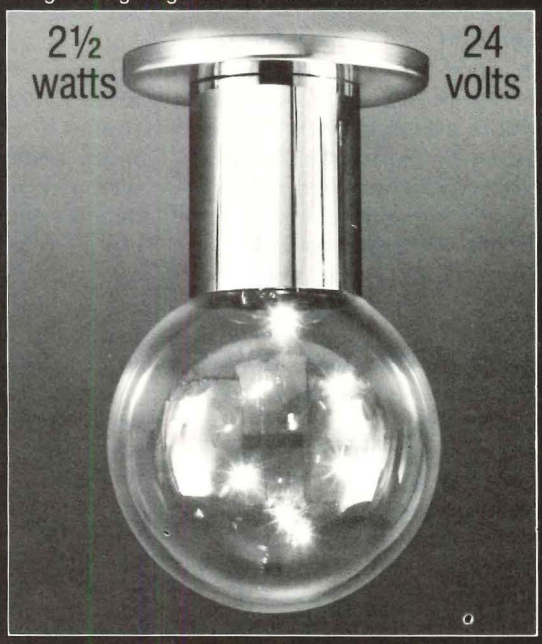

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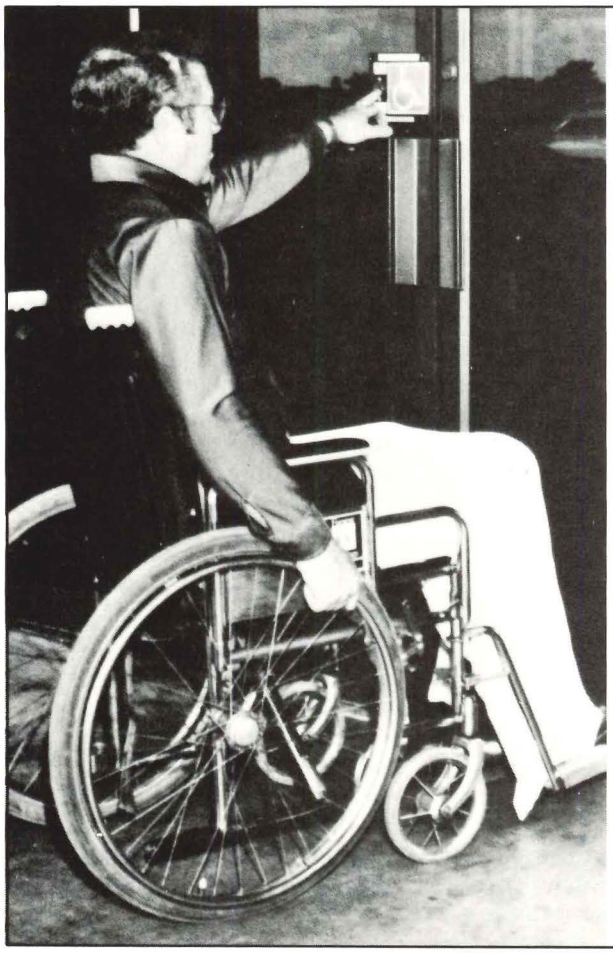

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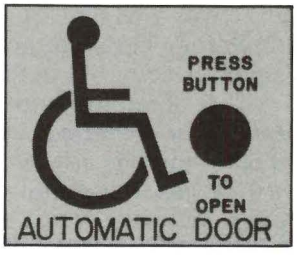

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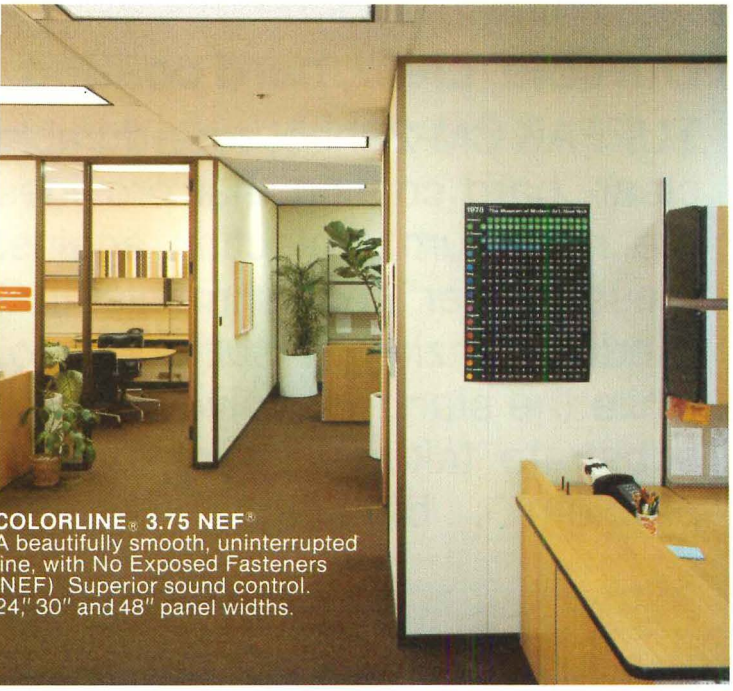

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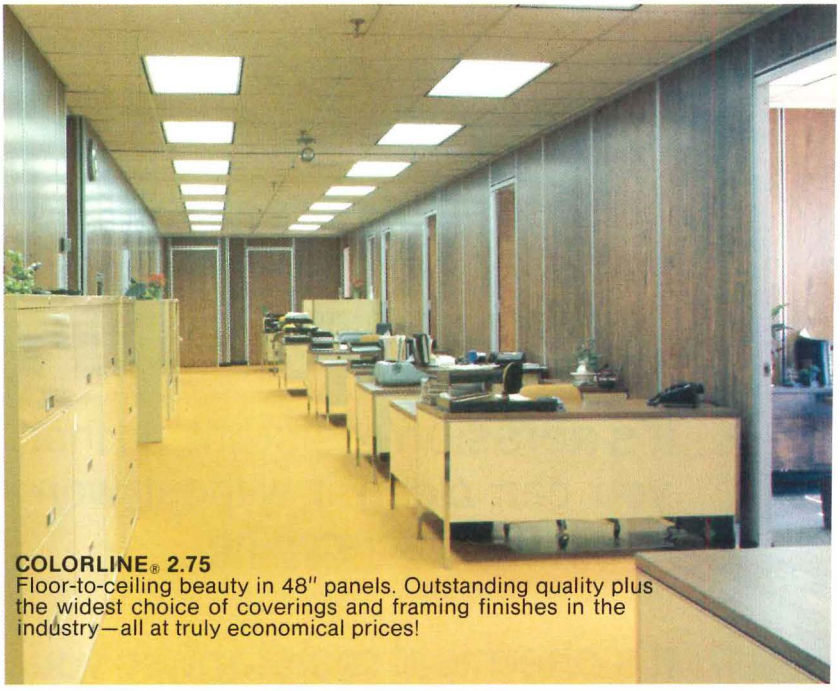

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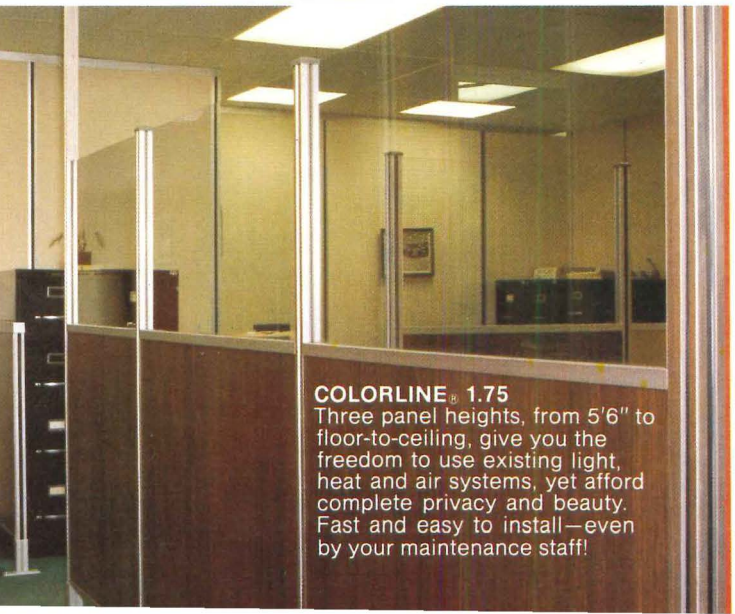

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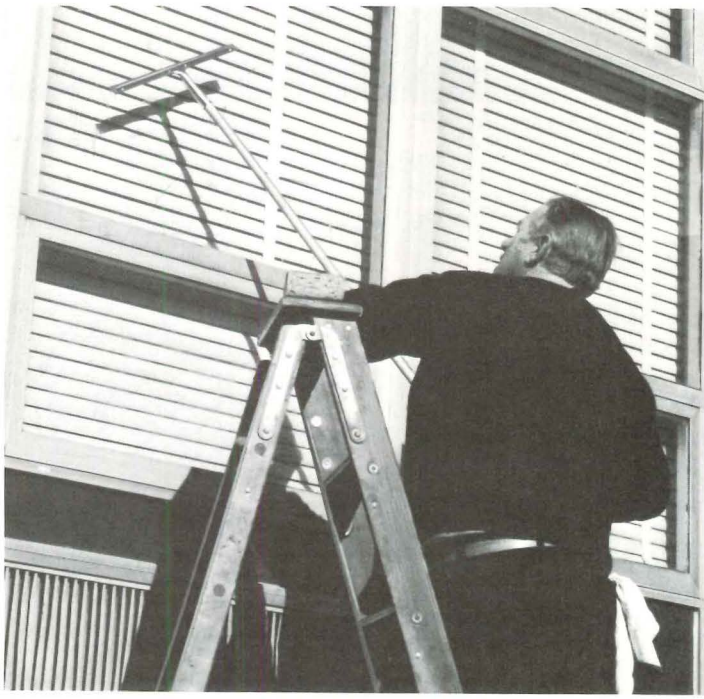

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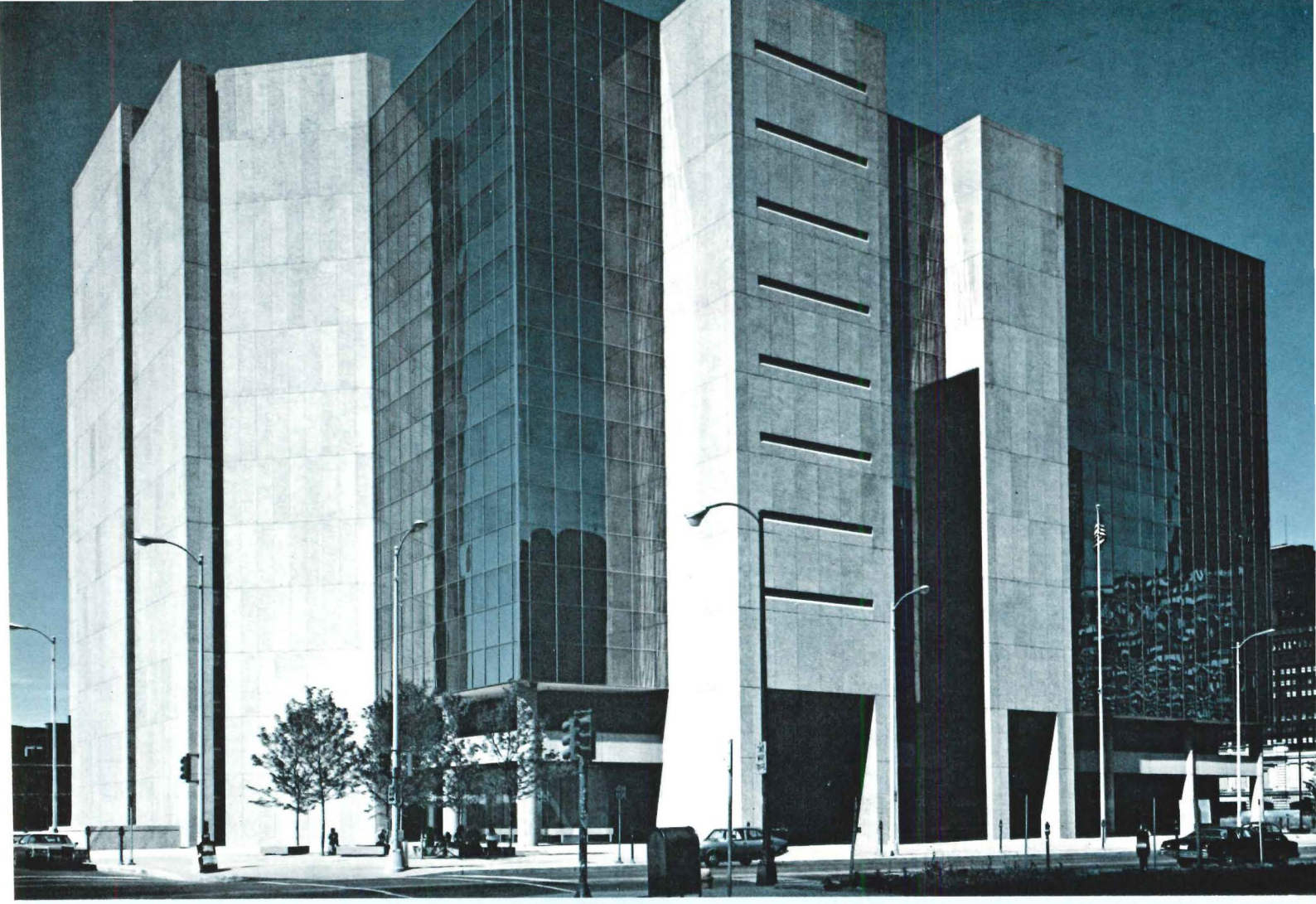

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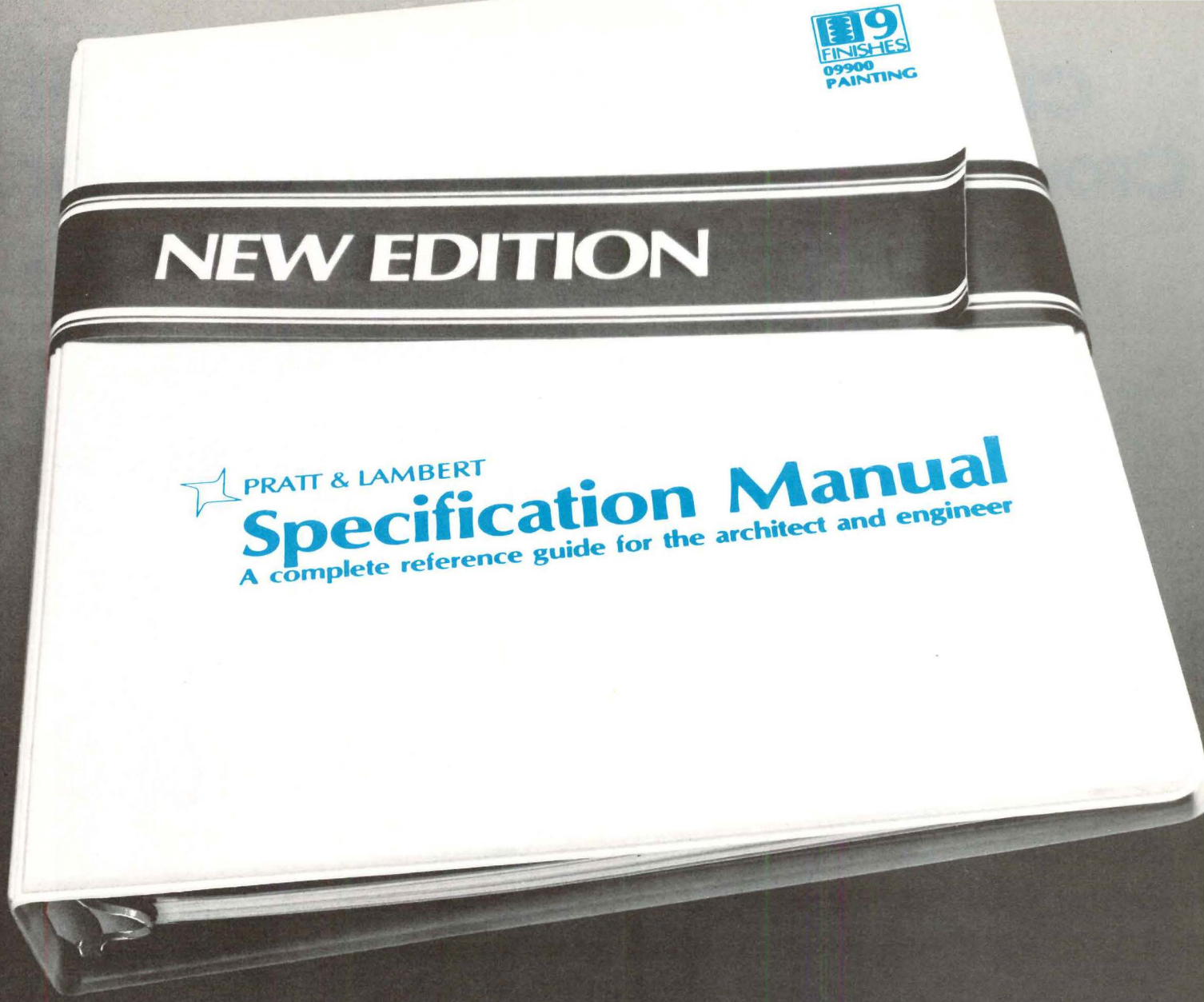

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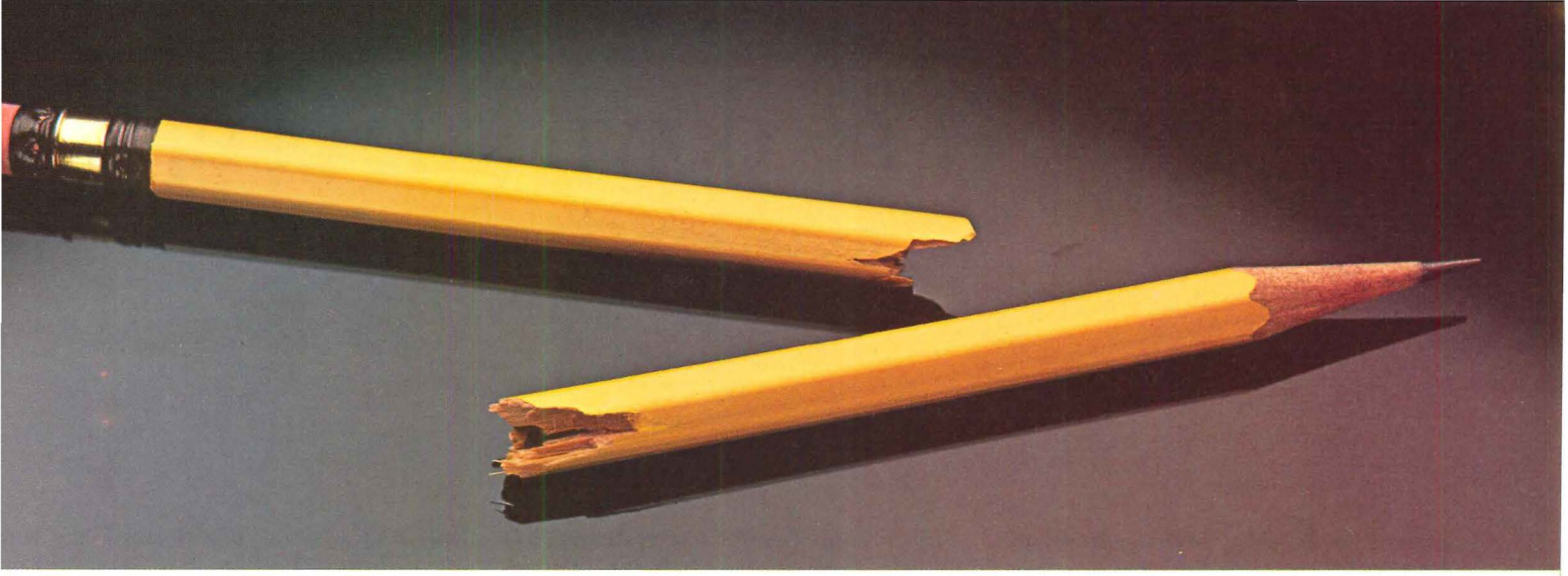

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The knowledge business

The down side of up

Within the technology of the suspended ceiling is the capacity for both pure art and pure science. The critical balance that every ceiling achieves must be tailored to its use. New products and performance criteria hold the promise that the ceiling is not only suspended in place but moving in the right direction.

A suspended ceiling costs space. Dropping the ceiling plane to create a midget attic barters space for the freedom to influence or control the activity below. Properly conceived, the suspended ceiling can provide the key control device for the acoustics, lighting, air distribution, and fire protection of a space. Such a complex manipulation of technology demands a high level of cooperation among those who design, manufacture, install, and maintain ceilings. The designer is expected to bring to the team a comprehensive understanding of the role of the ceiling and to be fluent in his options.

The design of a good ceiling is usually a process of selection. We attempt to match the functional, physical, and geometrical needs of the space with the physical properties and geometrical restraints of a ceiling system for optimal aesthetics, performance, and cost. There are ceiling systems on the market today in wood, steel, aluminum, stretched fabric, glass fiber reinforced concrete (P/A, May 1980, p. 138), fiberglass, mineral fiber board, plaster, gypsum board, and translucent plastic (luminous ceilings). Even this variety may be extended by coloring, covering, shaping, or perforating.

In some cases, the cost of the material alone limits its domain of use. In others the need to incorporate lights, air conditioning, or partitions favors certain systems. The resistance to fire, earthquake, or weather can eliminate a material from consideration as can the suction from a subway train or the needs of a hospital for cleanliness. When the needs of sound and light are added to the pudding, the designer finally gets to think about the visual results and how the space feels.

The complexity of these restraints in a building where first cost is the controlling design criterion often produces the familiar 2′ x 4′ light fixtures in an anonymous lay-in grid of acoustical panels. The result is what Wallace Jonason, president of the American Society of Interior Designers, calls "fairly clean and humble space." In the rental environment, of course, the tenant sets the tone with the fixtures and furniture. Where space marketability and universality do not play a role, a custom design can eliminate the need for a conventional suspended ceiling completely. Or as Jonason asks: "Who wrote the rule that there has to be a suspended ceiling? If what goes on above the ceiling were well planned," he continues, "we wouldn't need to cover our sins."

Of course the more specific the use of the space and the task being accomplished, the more important is the role that the ceiling plays. The ceiling plane allows for the effective control of sound (P/A, Sept. 1979, p. 198) as well as the positioning and repositioning of the lighting. Edison Price has been designing lights for suspended ceilings for 30 years. Says Price: "The purpose of a suspended ceiling is much more comprehensive than masking." As important as its function is, however, Price does not see the ceiling as a focus for a space. He explains: "It is better to have the ceiling not be the brightest thing in the room. The brightest thing in almost any room should be not only the task but also the people and everything that occurs down at the people plane. I don't believe a ceiling should be beautiful; it should be unobtrusive."

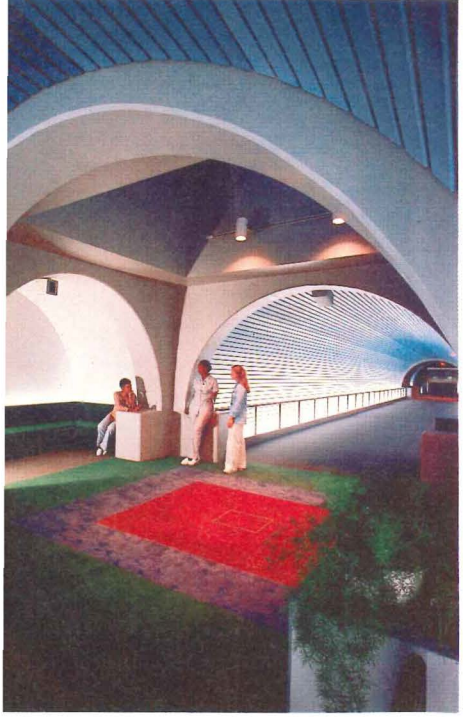
Claude Engle has done the lighting design for such monuments as the East Building of the National Gallery, Centre Pompidou, and Avery Fisher Hall as well as office and work space. Engle agrees with Price that the prime task in lighting is the people but he is not shy with ceiling detailing. "I think the ceiling disappears when it is detailed correctly," Engle explains. First he eliminates "horribly glary fixtures." Then he concentrates on lighting the people, and finally deals with the "ambiance" of the whole space. "How you feel in a space" and the importance of "setting a mood" are as much keys to the success of a work space as the numbers associated with the lighting performance.

Architect William Kessler of Detroit has in recent years led the way towards more distinctive ceilings. In both the Detroit Science Museum and the Detroit General Hospital, he has destroyed the ceiling plane itself and molded walls and ceiling into one colorful curved plane. Instead of disappearing, the ceiling defines the entire space. He sees only the broadest restraints on the choice of ceiling. Says Kessler, "It depends on the nature of the space."

As a function of the spatial needs, the spectrum of ceiling systems runs the gamut from a totally unique, primarily visual solution to a totally performance orientation where, as suggested, the ceiling "disappears" from view. A casino, hotel lobby, restaurant, or similar commercial enterprise may seek to call attention to itself with its unique ceiling. Its flash, texture, color, or shape can serve such a purpose. Like any flashy jewel, the expense of the solution nearly always restricts its use to prominent focal places.

In the middle of the system spectrum there are a number which have helped to foster the use of flash and color in a more systematic and economical fashion. The growth of the linear metal ceiling has provided the airport, subway, hospital, natatorium, and prime entry spaces in other buildings with the special material properties of such metal ceilings.

For the space where cost, lighting and acoustics are most critical, the acoustical ceiling and "integrated ceiling" are the most common choices. The vast majority of the 1.5 billion sq ft of ceiling sold each year in America is of this type. An increasingly likely application for such systems today is of course the open office.



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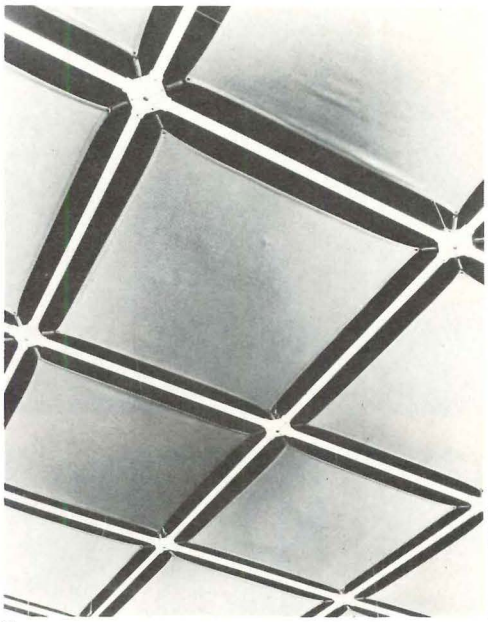


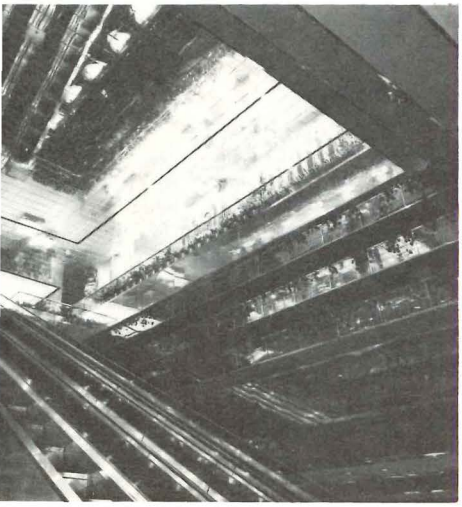
2

Integrated Ceilings



3

Integrated Ceilings

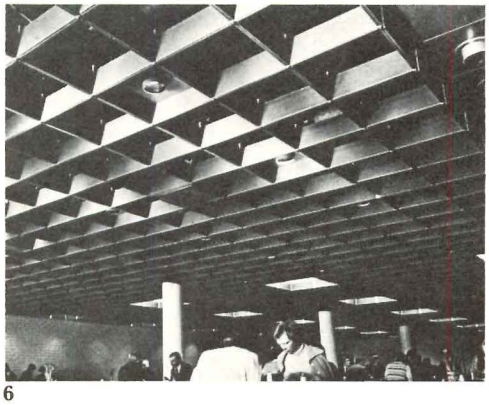


Armstrong World Industries



5

Levolor Lorentzen



6

Levolor Lorentzen



7

Lombardo & Co.

When the needs of the space call for a unique and daring solution, there is a wide variety of possibilities. 1) Architect William Kessler attempts to take the sting out of long underground corridors in the new Detroit General Hospital. 2 & 3) Fabric can be either stretched or hung to add color and softness to space while dampening hard acoustics. 4) Sally's Park Place Casino Hotel in Atlantic City demanded good acoustics and visual delight from its mirrored acoustical ceiling panels. Skidmore, Owings & Merrill is the architect. 5) Color and flash are also available using linear metal ceilings. 6) Adding texture to the ceiling is accomplished in aluminum or 7) heavy-gauge vacuum-formed polyvinyl chloride. 8) Suspended ceilings are also available in wood to provide a warm glow to a confined space.

Forms & Surfaces



8

1) The ceiling of the MARTA station in Atlanta demands high resistance to suction (Architects: Finch, Alexander, Barnes, Rothschild, Paschal). 2) The Denver Galleria (see text) employs the reflective qualities of the polished metal. 3) The entry of the Brookhaven Community College employs steel ceiling panels inside and aluminum sections for the exterior (Architects: Pratt, Box & Henderson). 4) A long dull airport corridor is brought to life by color in the Fresno Airport (Architect: Allen Y. Lew & Wm. E. Patnaude).



1



Donn Corp.

2

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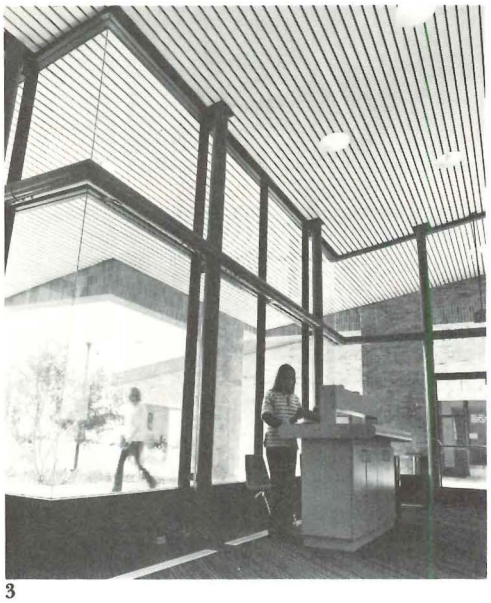


3



Donn Corp.

4

The linear ceiling

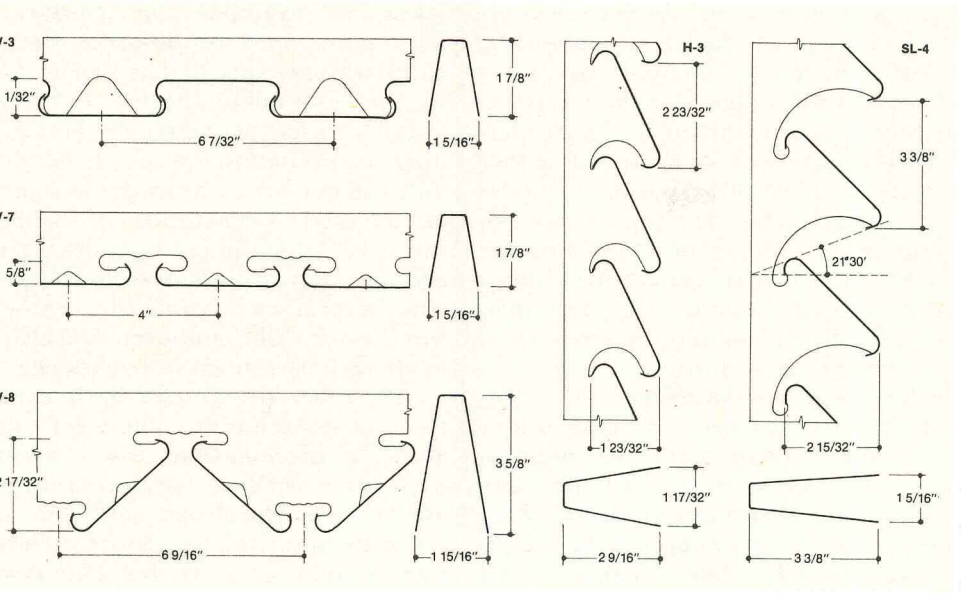
The metallic linear ceiling has been manufactured in this country for less than a decade. It came to the U.S. from Northern Europe and was spliced neatly into the repertoire of companies that were already forming sheet metal for such uses as awnings or window blinds. Some of the support systems, for example, for the pioneering efforts by Alcan were taken directly from the awning technology. Today, each manufacturer has its own unique set of available sections and detailing. There are dozens of colors in aluminum, steel, and stainless steel. Each new shape and support system must be carefully coordinated to accommodate the possibility of integral lights, diffusers, additional sound absorption, fire protection, or other hazard loading.

Why use linear ceilings: Here are five distinct advantages to the linear metal ceiling. First, it can be formed easily to both concave and convex curves. Only plaster and gypsum board can be as cleanly shaped. Only wood can yield similar spatial dynamics. Second, it can be colored. Levolor Lorentzen, for example, transferred its entire 100-color window blind capability to its new aluminum ceiling effort. A third advantage is that the same ceiling appearance can be maintained inside and outside the building. Donn Corp., for example, makes both steel and aluminum sections. The steel section can be used on the interior, and the aluminum section can be maintained through to the exterior soffit. A corollary of such corrosion resistance is the material's suitability for use over swimming pools or in hospitals where it can be antiseptically cleaned. The fourth advantage is strength. With the aid of locking clips, soffit material or the ceiling of a subway station can be reinforced to resist considerable suction. Fifth, in rehabilitation situations, a linear ceiling can be installed with the metal slats either parallel to the original ceiling or spaced vertically as a baffle. When the latter option is taken, the lights, sprinkler system, etc., from the original ceiling can continue in use.

Five difficulties: There are some distinct difficulties with the metallic linear ceiling which must be carefully addressed in the ceiling design. First, it is a costly material, and therefore waste must be minimized. One result is that the joints where butting sections meet are visible and must be juggled carefully to avoid notice. If the finish is polished, such irregularities of surface are emphasized. Second, with the advantage of the curve, there is a strong tendency to carry the material down an adjacent wall. If lightweight aluminum sections are used, the surface is vulnerable to accidental dents or vandalism. In the new Detroit General Hospital, William Kessler doubled the metal sections used on the walls. The inside section was, of course, the cheapest possible grade of product. Other high-impact variations are common in the industry. Third, penetrating the surface with lights, diffusers, and sprinkler heads needs to be well thought out in concert with the installers. Penetrating metal ceilings in nonstandard ways is not easy. Fourth, a highly polished metallic surface is quite a flashy solution when associated with a skylight, but glare can definitely be a problem. Fifth, the metallic systems must be augmented to have either acoustical absorption or fire protection capability. The ceiling sections in many of the systems can be perforated to increase the sound absorptive characteristics. Only Donn Corp. has so f achieved a UL rating with its linear ce ing system. The lights and diffusers a included and provide a two-hour ratin

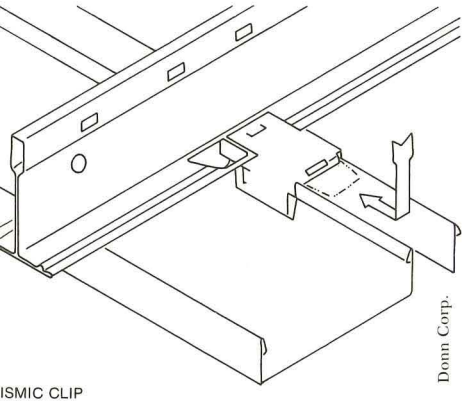
The linear ceiling is a natural f linear space. Airports are a good exa ple. Such ceilings can be found Fresno, Boston, Portland, Miami, A lanta, and New York. Another line space is the subway. The BART syste in San Francisco has used a linear me system as have the new MARTA statio in Atlanta.

Another natural situation, as me tioned, is the atrium or skylight. Th John Deere addition in Moline Roche-Dinkeloo has made such use has Design International, the archite of the new Galleria in Denver. Detr architect John Stevens capitalized on t flash of a polished aluminum facet curve in renovating his own office buil ing. The combination of the V-shap metal sections and their curved suppor yielded a solution which satisfied him both designer and owner. Says Steve "We could not have done it any oth way for that price."



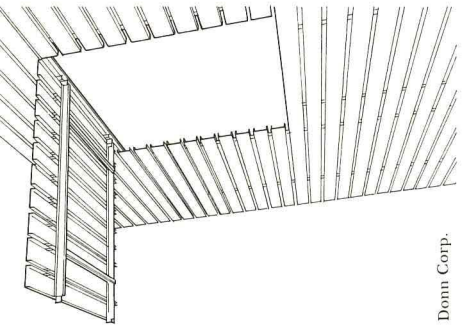
ES OF STRINGERS

ere is a variety of considerations affecting selection of the metal system. The choice gins with the geometry of the panel section d the stringer system used. The strength, cessibility, lighting, air handling, and fire otection may follow.



ISMIC CLIP

Donn Corp.



CESS DOOR

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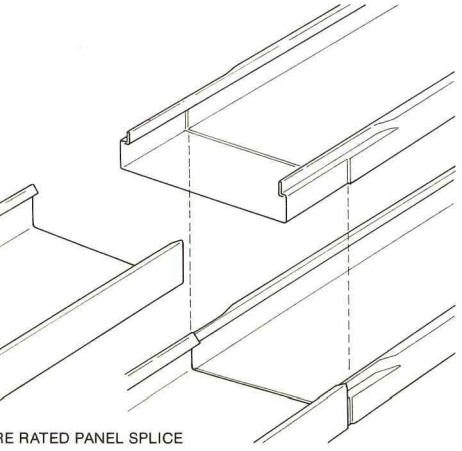
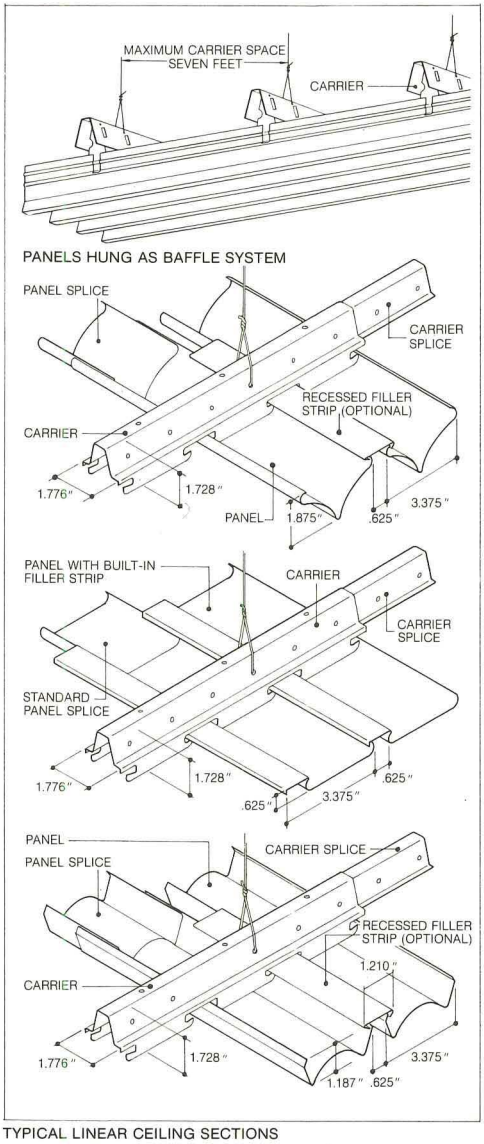
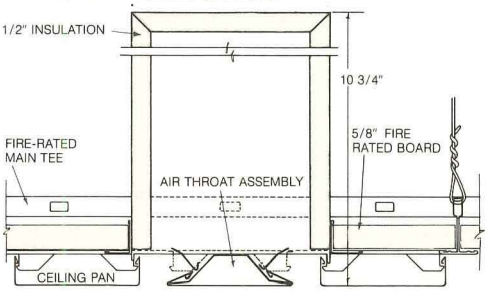


RE RATED PANEL SPLICE

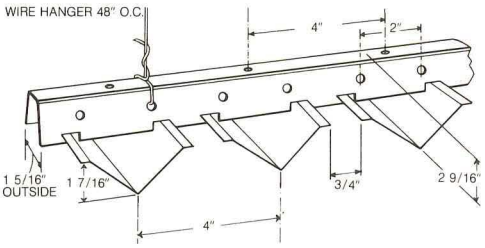


TYPICAL LINEAR CEILING SECTIONS

Alcan

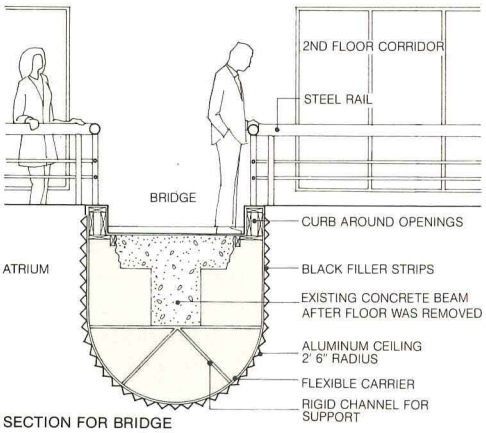


FIRE RATED AIR DIFFUSER



Levolor Lorentzen

DETAIL: CEILING SECTION



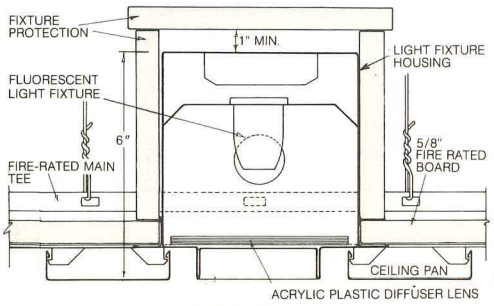
Hunter Douglas

SECTION FOR BRIDGE



Balthazar Korab

The linear metal ceiling is used effectively above by Detroit Architect John Stevens to renovate his building's atrium. The "V" shape section allows a very tight curve and bright faceted reflective surfaces. The Donn Corp. fire-rated ceiling system (below) accommodates both light fixtures and air diffusers. The unique splice design (bottom left) enables the adjoining panels to expand with the heat.



Donn Corp.

FIRE RATED SINGLE-LAMP FIXTURE

The open-office ceiling

The biggest challenge in ceilings today is the design of a ceiling over an open office plan. From its inception, the idea to remove full-height partitions was an economic principle. It is no surprise that as the idea matures, the emphasis is still on efficiency and performance.

Edison Price summarizes his experience designing light fixtures for the open plan office: "I have always attempted to know as much as possible about ceilings—how they are built and installed—and to design lights in such a way that they can be installed quickly and easily." Integration in the ceiling design means for Price: "a ceiling in which all parts are designed to interact harmoniously." The ceiling industry would probably agree and add that such harmony is most probable when a single manufacturer supplies all of the parts and therefore adds the important characteristic of predictability to the ceiling ensemble.

An integrated ceiling is more than rote utilization of the same parts put together in the same way each time. The fullest utilization is to have the manufacturer assemble a new combination of ceiling elements particular to the use out of already existing parts. As long as the manufacturer does the integration and the subsequent testing, he will vouch for meeting specified standards. Such ceiling systems usually involve the ceiling material itself as well as the lights, acoustical properties, air diffusers, and ceiling support system.

Unfortunately, supplying the parts and installing them is not always coordinated with equal thought. A ceiling systems contractor could be responsible for the whole ceiling installation. More often, however, the mechanical contractor installs the ductwork, the ceiling contractor places the ceiling board, the electrician does the wiring, etc. Says Claude Engle: "There are more trades mucking around in the ceiling than anywhere else in the building."

Integration of design of course has a much broader connotation as well. Says Engle: "To design the lighting we must control the source as well as the material it bounces from."

Wallace Jonason criticizes a limited performance notion of the integrated ceiling. "Designers feel," he says, "that the problem is solved if the numbers look right." The ceiling is mechanically and physically integrated without being totally visually integrated.

Whether the integration is an entirely conscious activity or not, every functioning space must eventually have a coordination of parts which could loosely be called an integrated situation. Architects who are comfortable with their past experiences and confident of future performance of their designs will either specify them piece by piece, or choose an existing system. The highest level of predictability in performance and the lowest cost may in fact result from allowing the ceiling manufacturer free rein to suggest a hybrid solution based upon a performance specification.

Performance specifications: The ceiling industry has been working under the limitation of performance specifications for over a decade. In the early 1960s, the Ehrenkrantz Group used an integrated systems approach in a California school building program called School Construction Systems Development (SCSD). Thirteen schools were built under SCSD in California. The program used performance specifications which were later further developed in school building programs in other states as well as Canada. Further work on performance specification was done in the 1960s at the National Bureau of Standards which eventually led to the creation in the early 1970s of the "Peach Book," now in its third edition. It is more formally known as the "PBS Building Systems Program and Performance Specifications for Office Buildings." The necessity of avoiding specific product names and systems makes performance specifications a government necessity. Also in the early 1970s, an international symposium was held at NBS to discuss the "Performance Concept in Buildings." In the mid-1970s, the Construction Research Council was formed in the private sector and has considered extending the application of the performance mode.

Several government buildings have been built in the last decade using the Peach Book. The first building encompassing the Construction Research Council performance specification guidelines is now nearing completion, the 3M building in St. Paul.

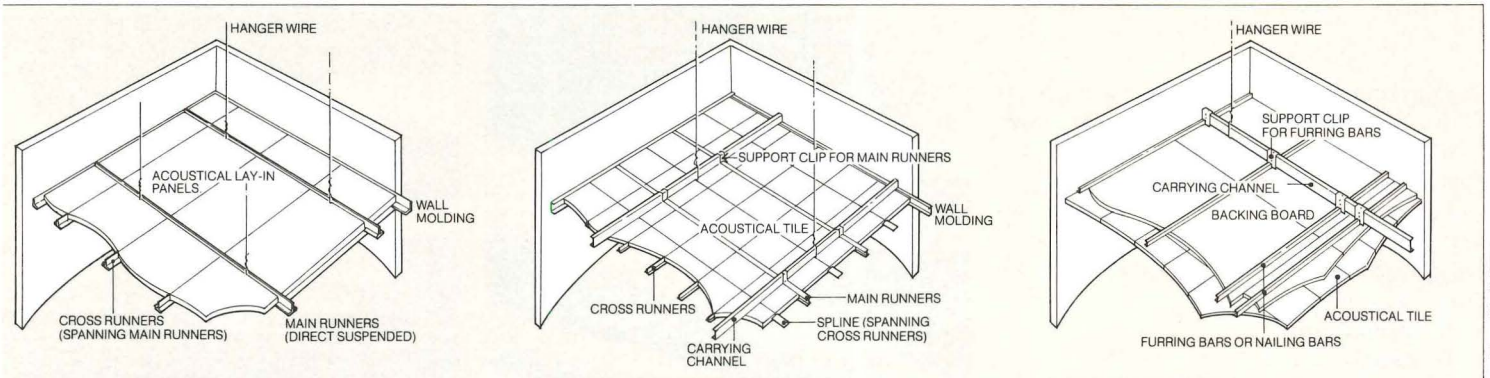
How it works: What is a performance specification for a ceiling and how does it work to produce a ceiling design? A performance specification ideally describes only the performance of the ceiling system with respect to an explicit set of standards. With the CRC and GSA specs, for example, the acoustics, lumination, and conditioned air p formances are specified as well as stab ity and durability, health and safe characteristics, maintenance, and pla ning requirements. Specific demands only the performance leave the soluti open ended. A consortium of manuf turers is formed to put together a pac age that they prove can solve the pro lem. Several such teams then compe for the job. The architect consults tively with each team in confidence.

The rules are simple. Each cons tium must assemble its solution from available product line. Each soluti must have parity of performance a appearance. The chosen contractor o set of prospective contractors then bi each system as a whole. The desi budget must be met, and the owner th makes the final decision. The wh competition process can be phased permit unprofitable solutions to eliminated early. After the winni selection is made, changes are permitt in cooperation with all concerned.

The architect, through his specifi tion and cooperation with the teams theoretically able to maintain prec control but benefit from the knowled and experience of each consortium, well as the owner and contractor. T owner benefits from his additional inp and the result, which is usually a less pensive ceiling. The manufactur benefits from the brainstorming a product ideas which inevitably occ even if the bid is not in its favor. T contractor is able to express his pref ence for entire systems with his b rather than just the parts. Ideal everybody wins.

It may not work: GSA's James Park has been directly involved with the go ernment buildings which have result from the Peach Book. An authority such procedures, he points out: "The is no such thing as a purely performan or prescriptive specification. You ca always specify everything you want terms of performance." The carpetin for example, in the GSA specification prescriptive. He continues: "The pe formance specification relies up quantifiable criteria and a good test see that the assembly meets the criteri In some controversy, the GSA aba doned the use of ESI for lighting spe ifications and went to raw footcandl The GSA buildings were, according Parker, "ending up with more lum naires than were needed."

For Parker, a critical mistake in u derstanding often occurs with the use



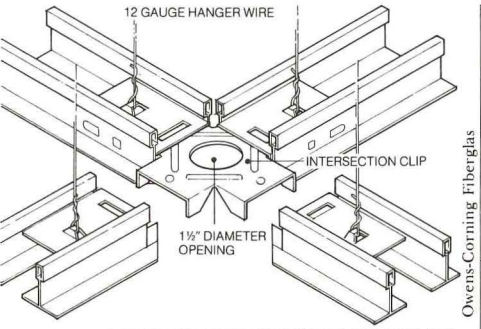
DIRECT HUNG SUSPENSION SYSTEM

INDIRECT HUNG SUSPENSION SYSTEM

FURRING BAR SUSPENSION SYSTEM

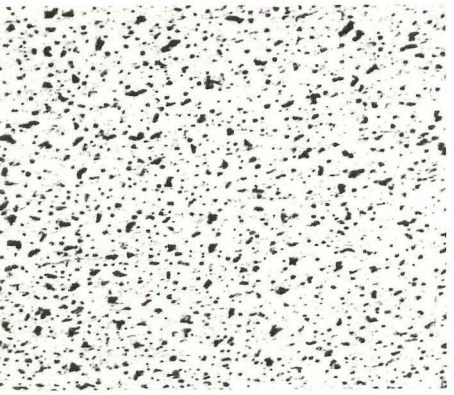
Johns-Manville/ASTM

EE TYPES OF CEILING SUSPENSION SYSTEMS SHOWING ALL COMPONENTS



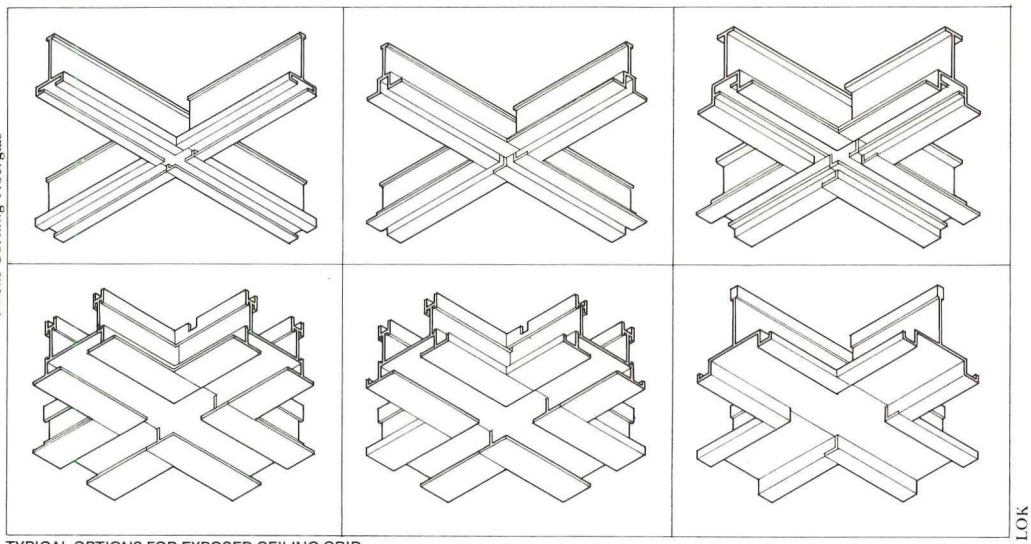
PORT GRID INTERSECTION WITH SPRINKLER HEAD OPENING

Owens-Corning Fiberglas



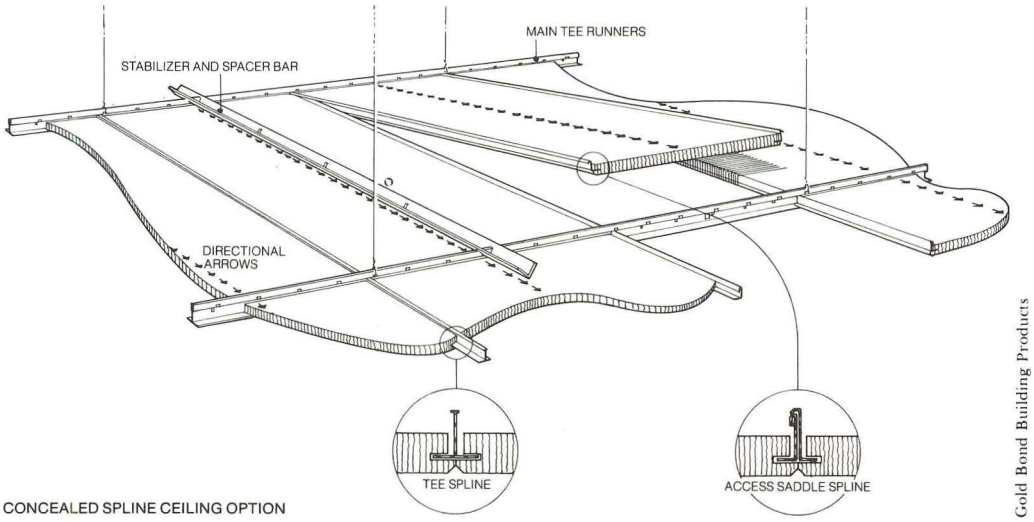
SURED CEILING TILE

Armstrong World Industries



TYPICAL OPTIONS FOR EXPOSED CEILING GRID

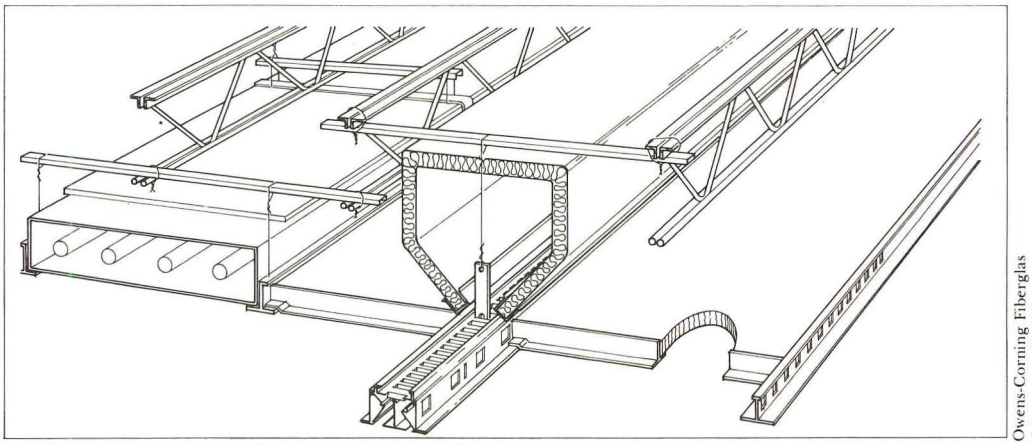
LOK



CONCEALED SPLINE CEILING OPTION

Gold Bond Building Products

e selection of the suspension system for a pended ceiling is complex even without the siderations of lighting and acoustics. The le restrictions of a particular locality may vor certain solutions or the installation se- ence, servicing, and maintenance may ve a profound design influence. The choice allowing the grid to be seen must then en- l how much emphasis is desired. The mod- chosen for the panels reflects the surface perties of the panel material as well as its lity to span from support to support. Single nels can span five to seven feet in certain terials. They also can be thickened to add rmal insulation, or the whole ceiling can ve as a plenum for air-conditioning pur- es. Another solution shown bottom is an -distribution duct integrated into the sup- t system itself. Most applications do not re- re the ceiling to be a fire barrier, but many lings also must permit penetration by inkler heads (see above).



PRE-ENGINEERED ACOUSTICAL/AIR DISTRIBUTION CEILING SYSTEM

Owens-Corning Fiberglas

the performance spec. "If you are going to specify in a performance mode, you had better understand what you are specifying." The performance mentioned is not necessarily the performance in the final use area. It is a performance in a prescribed environmental condition, which only approximates the real installation.

In spite of his reservations, Parker has confidence in the ultimate results of a performance specification. He believes the building performance will be improved by it and the building cost will be lower. His confidence is based upon the new role of the manufacturer. Says Parker, himself an architect: "I don't care how good an architect is, when a manufacturer introduces a new product, no one knows more about it than the manufacturer." The worst situation is an architect with maximum control and little knowledge and a manufacturer with maximum knowledge and little control.

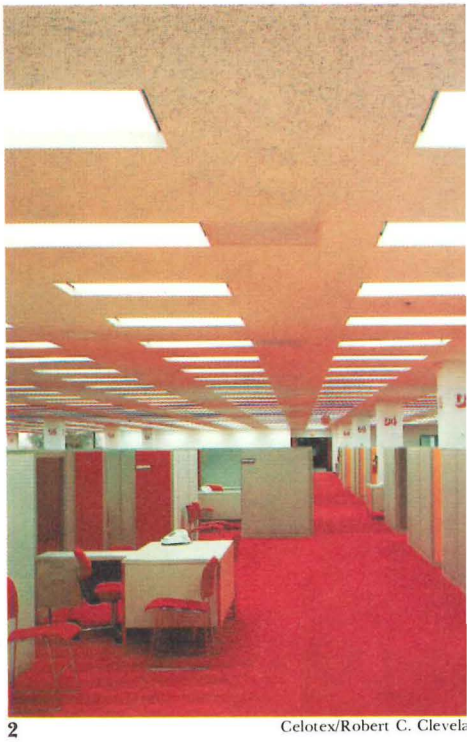
Edison Price has been involved with many of the successful teams for the GSA buildings using the Peach Book specifications. Says Price of the performance spec: "I am totally in favor of it as a conception. If the specification is logically conceived, precisely expressed, and meticulously enforced, it should be the most effective procurement procedure. Unfortunately, GSA's Peach lighting spec was not well conceived, and quite often other attempts at performance specs have been carelessly handled. Most orders are still placed for reasons of politics rather than merit."

A force for the good: So why talk about it? One reason is that from the GSA buildings the ceiling industry has become experienced with the consortium approach, and they like it. It has paid off for them in ideas and has helped to create standards of performance where there were none before. The performance mode has also produced solutions that were cheaper than the conventional ones, and most industry people believe it yields a better overall performance.

Another, more "political" reason is the Construction Research Council itself. The chairman of the board is Clair Larson, executive director of Central Engineering for the 3M Company. He has proven the value of the performance approach in his own building. The new 3M building was designed by 3M architects and built by 3M contractors. He is convinced that he achieved a more economical solution for his ceiling and is satisfied with its performance. Larson concludes: "We are very enthusiastic about performance specifications."



1 Armstrong World Industries



2 Celotex/Robert C. Clevela



3 3M

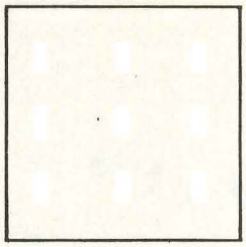


4 U.S. Gyps

Another member of tne CRC is Skidmore, Owings & Merrill represented by Leon Moed of the New York office. SOM has been a strong advocate of performance standards and an innovator in the principle over the years. Twenty years ago, the Chicago offices ran a lighting competition for the first coffered lighting system and ceiling for the Upjohn building in Kalamazoo, Mi. SOM has also found the performance specification very effective in the design of curtain walls. Says Moed: "Performance specifications try to take advantage of the current state of the art." He continues: "It gives the marketplace an opportunity to respond in its own most effective way."

Preconsiderations: The complexity and interrelationship of the various parts of a ceiling system are easy to demonstrate. The suspension system, for example, cannot be chosen without knowing t choice of: building module (large sp panels are available), partitions (f height or not), lighting (will the ligh have their own support?), mechanic system (will air supply or return diff ers be incorporated into the panel su ports, or is the ceiling a plenum?), fi protection (are there sprinklers?), se mic protection (if necessary), ceiling i stallation sequence (what comes first and final appearance (will the ceili support be hidden or expressed?).

Another example is wiring. The el trical wiring in the ceiling can be eith conventional or modular. In rece years, more and more modular wiri has been used. The economy of su wiring is tied to the potential for mov ment of the light fixtures. It is also lated to the economy of using a sing two-lamp ballast for two one-lam fluorescent fixtures. The choice of o lamp or two of course relates to the fr quency of fixtures, the height of the ce ing, the height of the partitions, the d cision to use a reflector, louvers, or lens, and whether the ceiling is coffer or not. All of these choices of course a fect the acoustics.



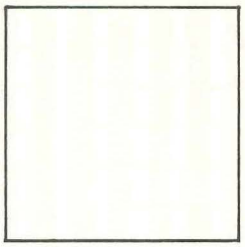
2'x4' 4-lamp
Recessed Troffer
(prismatic lens)

A.	1.84
B.	76
C.	26
D.	14.1



Two-lamp fixture
(standard prismatic lens)

A.	1.84
B.	90
C.	29
D.	15.8



One-lamp fixture
(8-cell parabolic louver)

A.	1.84
B.	88
C.	41
D.	22.3

Test data and details

All test data was supplied by independent laboratories. All tests were conducted under a standard set of conditions.

Room length	30'
Room width	30'
Room height	9'
Work plane height	2'6"
Ceiling reflectance	50%
Floor reflectance	20%
Light loss factor	1.00
Relative light output	1.00
Viewing angle	25°
Task	IES Pencil
Lumens per lamp	3150

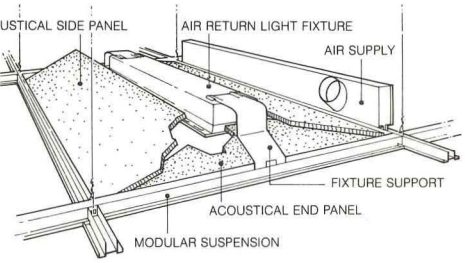
A. Watts per sq ft
B. Standard footcandles — initial
C. ESI (80% area covered)
D. ESI per watt per sq ft (80% area covered)

Note: All lighting fixture layouts are shown in the chart and were designed to provide at least 70 footcandles (standard) initial.

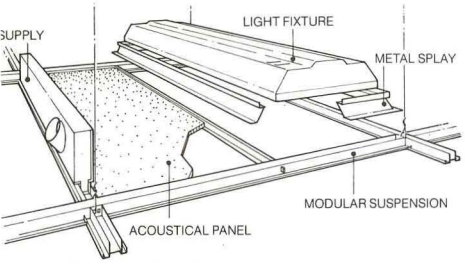
Armstrong World Industries

GHTING LAYOUT VARIATIONS SHOWING LIGHT AND ENERGY RESULTS

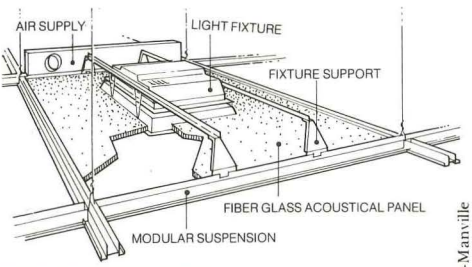
posite: 1) The coffered ceiling shown uses ceiling material as a partial reflector ulf Canada Square, Calgary, Canada, n Cooper, Chief Architect). 2) The flat ceil- can be designed with a hidden suspension tem and fixtures aligned or 4) they can be d in a staggered pattern with the support d exposed. 3) The 3M building (see text) s tried to optimize its performance through e of a performance specification. The light- demands of a space have a vast role in the ling system selection. The wiring, installa- n, and energy usage must all be coordi- ted. Even with the same energy consump- n, the lighting level varies with each tem.



FFERED CEILING



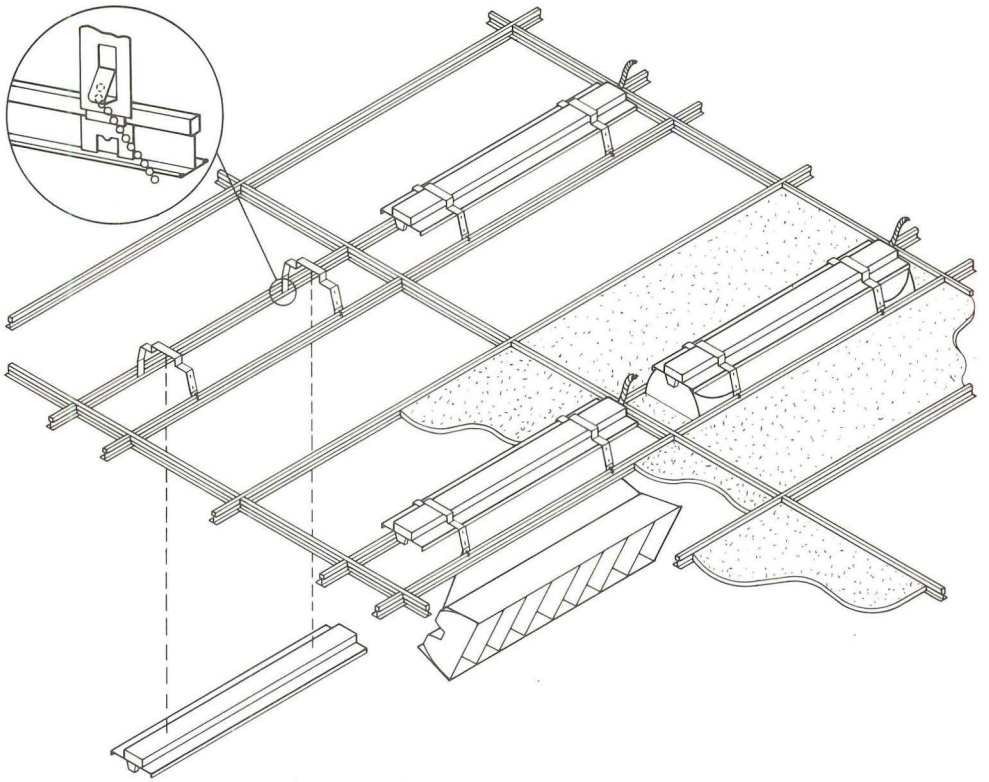
T CEILING: LINEAR FIXTURE



T CEILING: SQUARE FIXTURE

ICAL MODULAR CEILING SYSTEMS

Johns-Manville



Owens-Corning Fiberglas

INSTALLATION SEQUENCE FOR A 1' x 4' PARABOLIC LOUVERED FIXTURE

An entire article devoted to open office acoustics appeared in the September P/A last year. An article at least as long could be written on the subject of open-office lighting, especially in the context of energy. Edison Price offers further advice to architects: "You should concern yourself with the nuts and bolts of ceilings. If you are asked what kind of ceiling it is, you should not only answer 'It is a concealed suspension system.' You should be concerned with how it all fits together and understand the many services built into it. Ask whether it is straightforward to install and practical to maintain."

Conclusion

All of these considerations should illustrate the fact that a ceiling is easy to do but hard to do well. The design of a good ceiling is not a solo performance. Coordination of experiences, ideas, and products goes into it so that the same kind of valuable occupation will be enhanced beneath it. [Richard Rush]

Acknowledgments

We wish to thank the following architects, engineers, consultants, government agencies, and manufacturers for their help in preparing this article: ASID; Alcan Building Products; Armstrong World Industries; Capaul Ceilings; Celotex Corp.; CISCA; Construction Research Council; Conwed Corp.; Donn Corp.; The Ehrenkrantz Group; Claude Engle; Forms & Surfaces; GSA; Gold Bond Building Products; Hunter Douglas; Integrated Ceilings; Johns-Manville, Holophane Div.; William Kessler; Levolor Lorentzen; LOK Products Co.; Lombardo & Co.; Joseph R. Loring & Assoc.; Milo Kleinberg Design Assoc.; NBS; Owens-Corning Fiberglas; Edison Price; SOM, Leon Moed; John Stevens; 3M Co.; United States Gypsum; Walker/Parkersburg; Wocomo Ceiling Systems.

For suspended ceilings product and literature information see p. 284.

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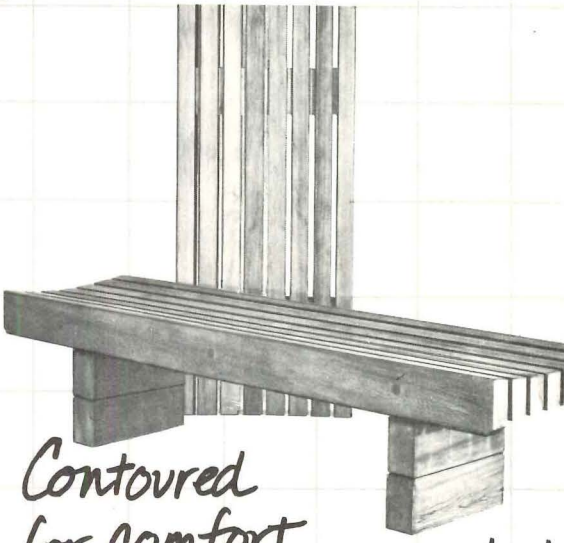

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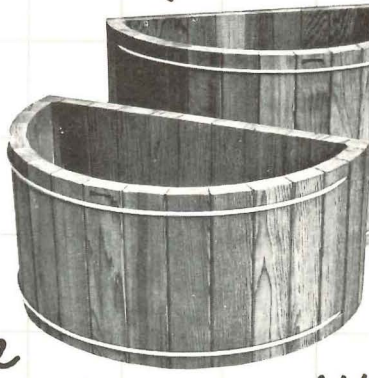

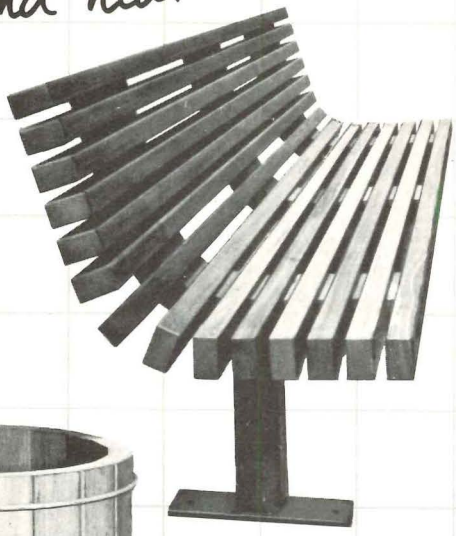

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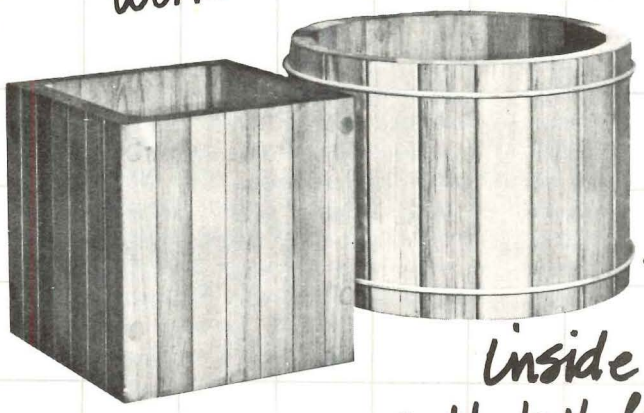

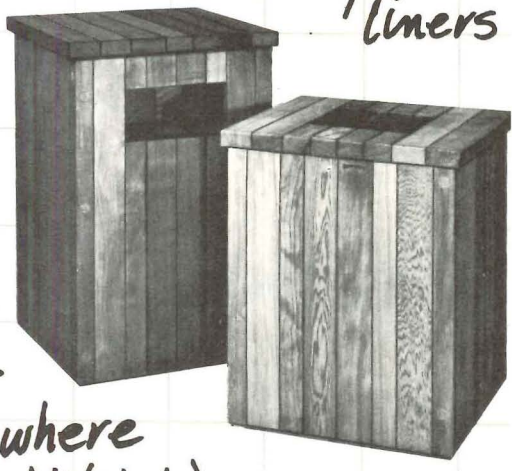

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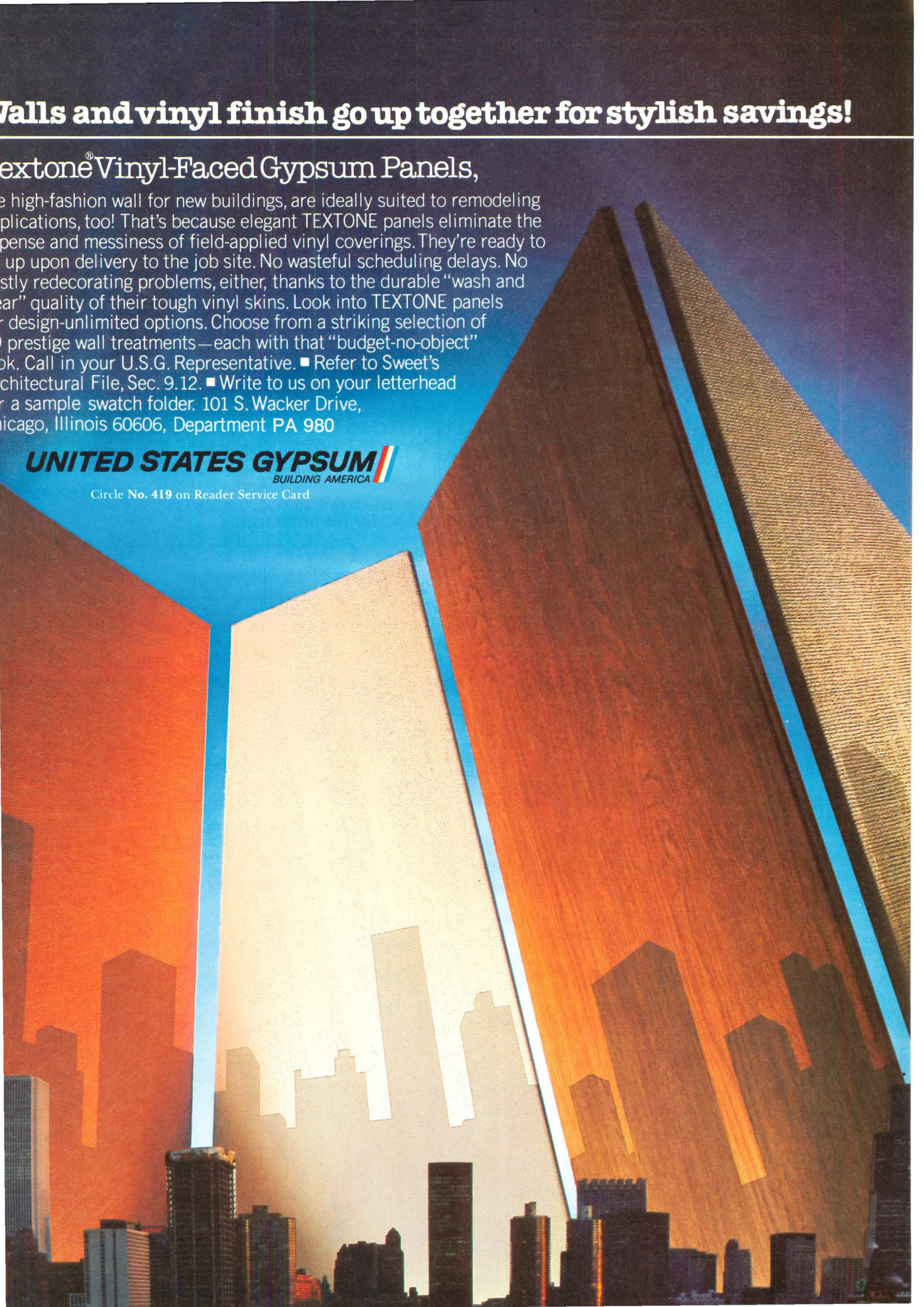

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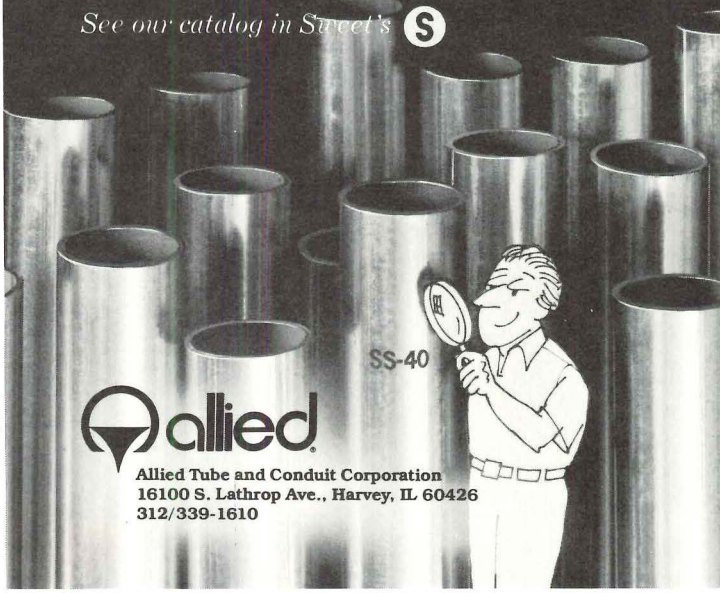

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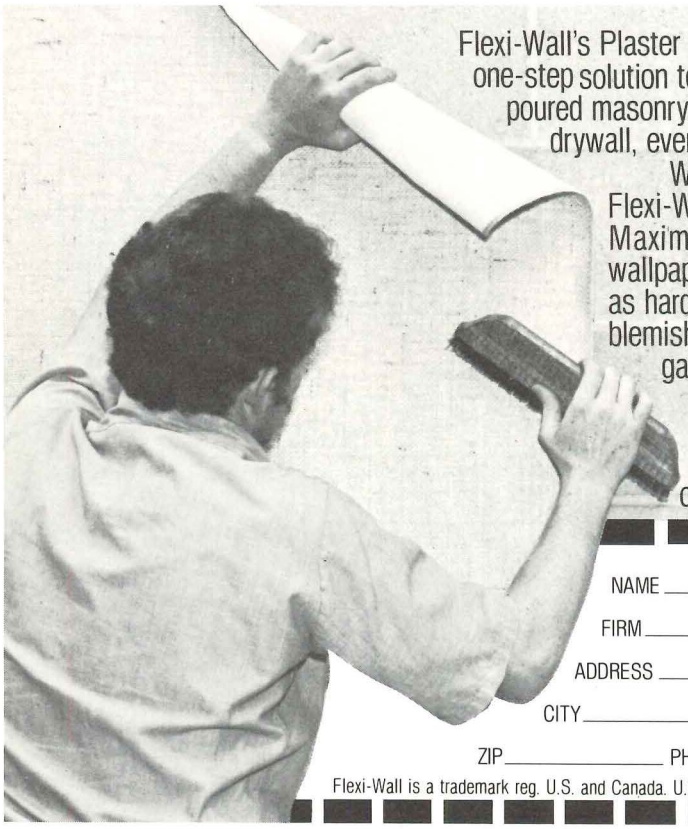

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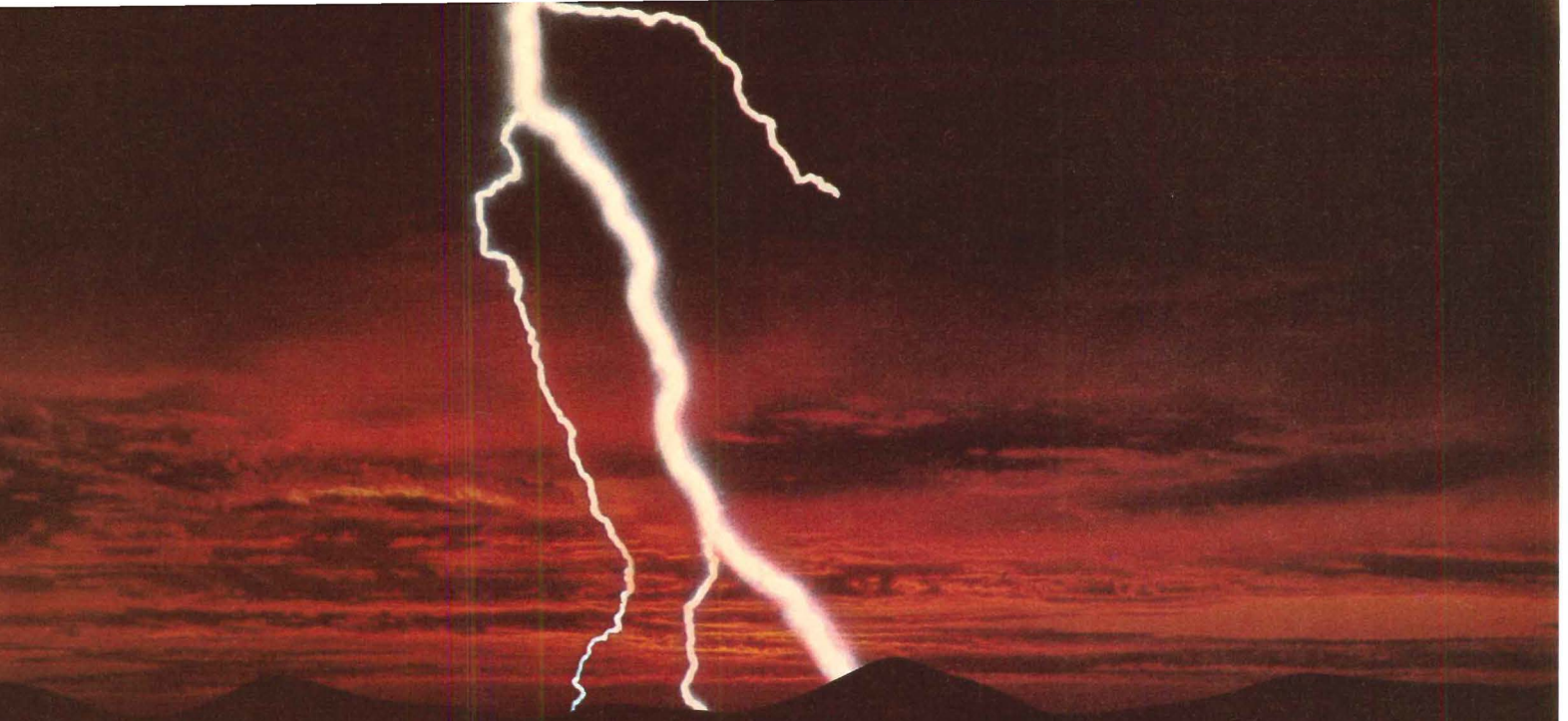

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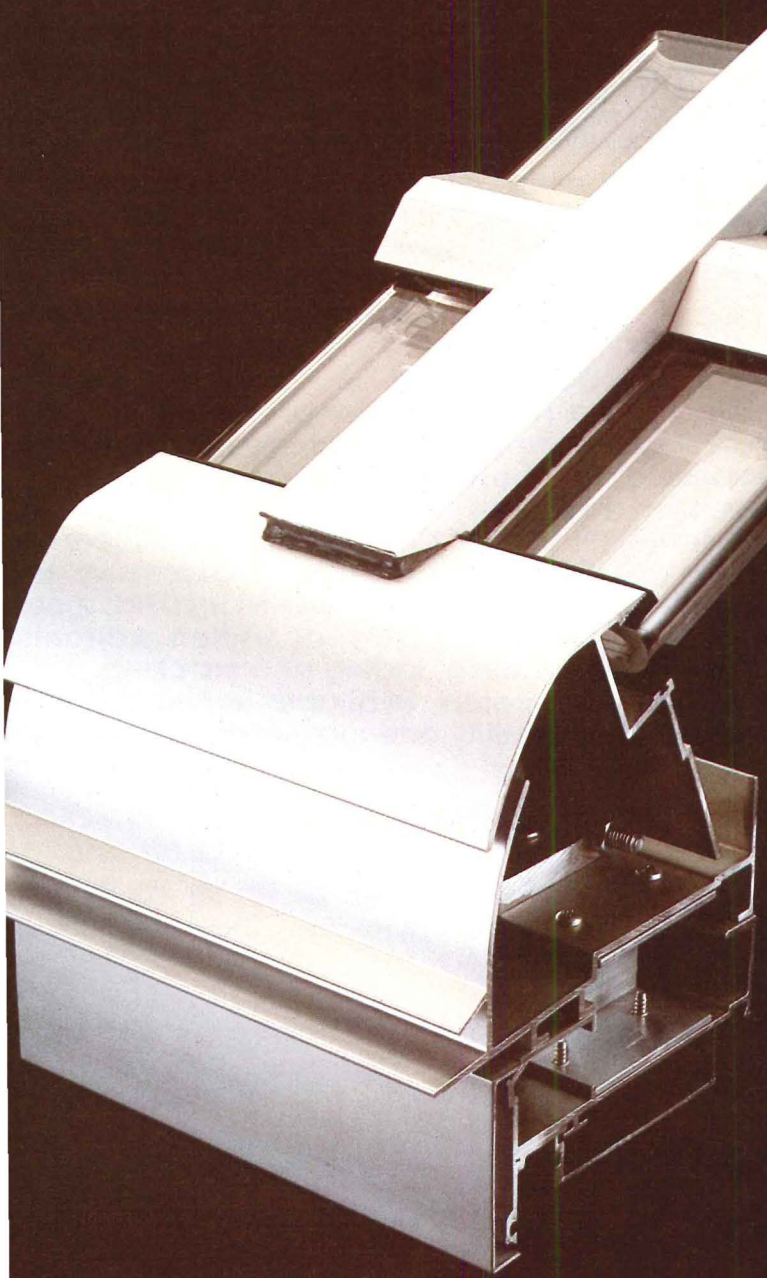

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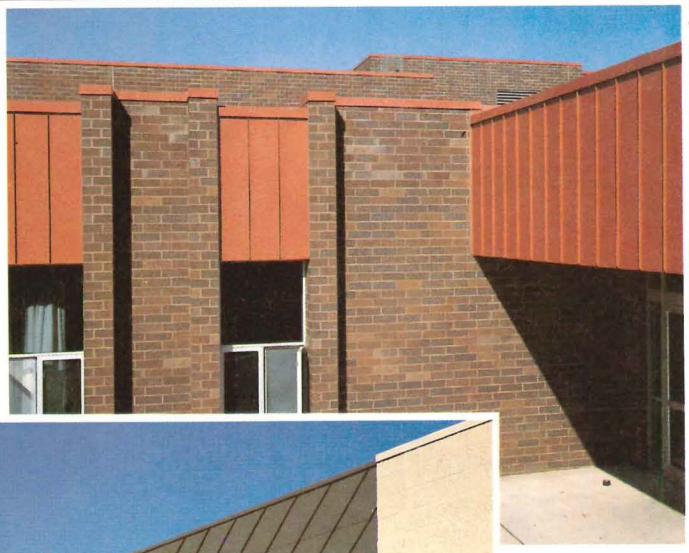



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The architect as arbiter

Norman Coplan

An architect's decision in resolving a conflict between the owner and the contractor can be challenged in court if it can be proven that he acted in bad faith.

Under the form A.I.A. Construction Contract commonly in use, the architect is, in the first instance, the arbiter of disputes between owner and contractor relating to the performance of both, and his decisions are subject to arbitration. It is not unusual, however, for a contract to provide that the architect's determinations of questions or disputes that may arise between owner and contractor shall be final, binding, and conclusive. The enforceability of such a provision may vary depending upon the law of the jurisdiction to which the construction contract is subject.

It is a general rule that unless the contract clearly and explicitly specifies that the architect's decision is final, the contract will be interpreted as subjecting his decision to appeal, whether it be to arbitration or to the courts. The reluctance to interpret a contract as granting the architect the power to determine a dispute conclusively may be based upon the feeling of many courts that the architect or engineer is primarily concerned with his client's interest, and therefore cannot be a truly impartial arbiter. Despite the imperative contained in many construction contracts that the architect shall favor neither the owner nor the contractor but shall judge all questions or disputes impartially, some courts feel that this is not a realistic or achievable goal. Other courts, however, are of the opinion that the architect or engineer, being intimately involved in the construction process, is eminently qualified to resolve questions or disputes which arise on the project and that his status as a licensed professional charged with the duty of protecting the interests of the public qualifies him to exercise his judgment without favor.

In a middle position are the decisions of some courts which, although holding that a provision of a construction contract that makes the architect's decisions final and binding is valid, permit such a decision to be attacked if the aggrieved party can establish that the architect was dishonest, fraudulent, or acted in bad faith. In the absence of such proof, however, the decision binds the parties even if the architect's decisions were incorrect or negligently made. The critical question, from this viewpoint, is the honesty of the architect and not the propriety or astuteness of his decision.

Illustrative of this middle position is a recent decision (*Ardsley Construction Co., Inc.* vs *Port Authority of New York and New Jersey,* Vol. 183 NYLJ No. 95, p. 10), which involved a contract between a general contractor and the Port Authority of New York and New Jersey for the construction of structural roadway repairs. The general contractor had entered into a subcontract to replace steel expansion joints in a bridge, known as expansion dams. This subcontract incorporated all of the terms and conditions of the general contract. The subcontractor asserted a claim against the general contractor for extra compensation based upon the premise that field conditions had differed from those represented by the construction contract, resulting in cost overruns. The general contractor thereafter asserted such claim against the owner.

The claim of the subcontractor arose from a requirement to "field fabricate" the expansion joints. As the work progressed, however, the subcontractor received permission from the owner to "shop fabricate" these units. This procedure proved impractical, and the subcontractor was compelled to revert to the original method called for.

In response to the contractor's contention that the claim for extra compensation was valid because field conditions differed from those reflected in the contract documents, the owner asserted that the conditions encountered may have occurred during welding operations and that the problem resulting in cost overruns was due to inadequate field measurements. The dispute was submitted to the chief engineer under a provision of the construction contract, which provided as follows:

". . . the Engineer . . . shall interpret the Contract Drawings, Specifications, and any Extra Orders, and shall decide all other questions in connection with the Contract."

The engineer eventually rendered his decision rejecting the claim and concluding that the conditions encountered could have been reasonably expected and anticipated and that "the problem found its germination in plaintiffs' failure to conduct accurate measurements." The general contractor instituted a legal action, and despite the engineer's decision, obtained a judgment against the owner which judgment was appealed by the owner.

In support of his position on such appeal the general contractor asserted that the owner had fraudulently failed to disclose the accurate conditions of the roadway. The Appellate Court, however, reversed the judgment, holding that the engineer's decision was binding in the absence of proof of bad faith or fraud. The court said:

"Plaintiffs have failed to consider the ramifications of the findings of defendant's Chief Engineer. In the absence of fraud, bad faith or palpable mistake on the part of the Chief Engineer, his decision was final as a matter of law. Other courts throughout the state have considered this question and are unanimous in their determination that the decision of the engineer/arbiter is conclusive and binding upon the plaintiffs. . . . Prior to any determination on the merits, plaintiffs must overcome this threshold problem. The pleadings before us, however, are devoid of any allegation of bad faith, fraud or palpable error in the Engineer's determination. Thus, no triable issue was presented. Nor does plaintiffs' mere disagreement with the conclusion reached rise to a level of bad faith." □

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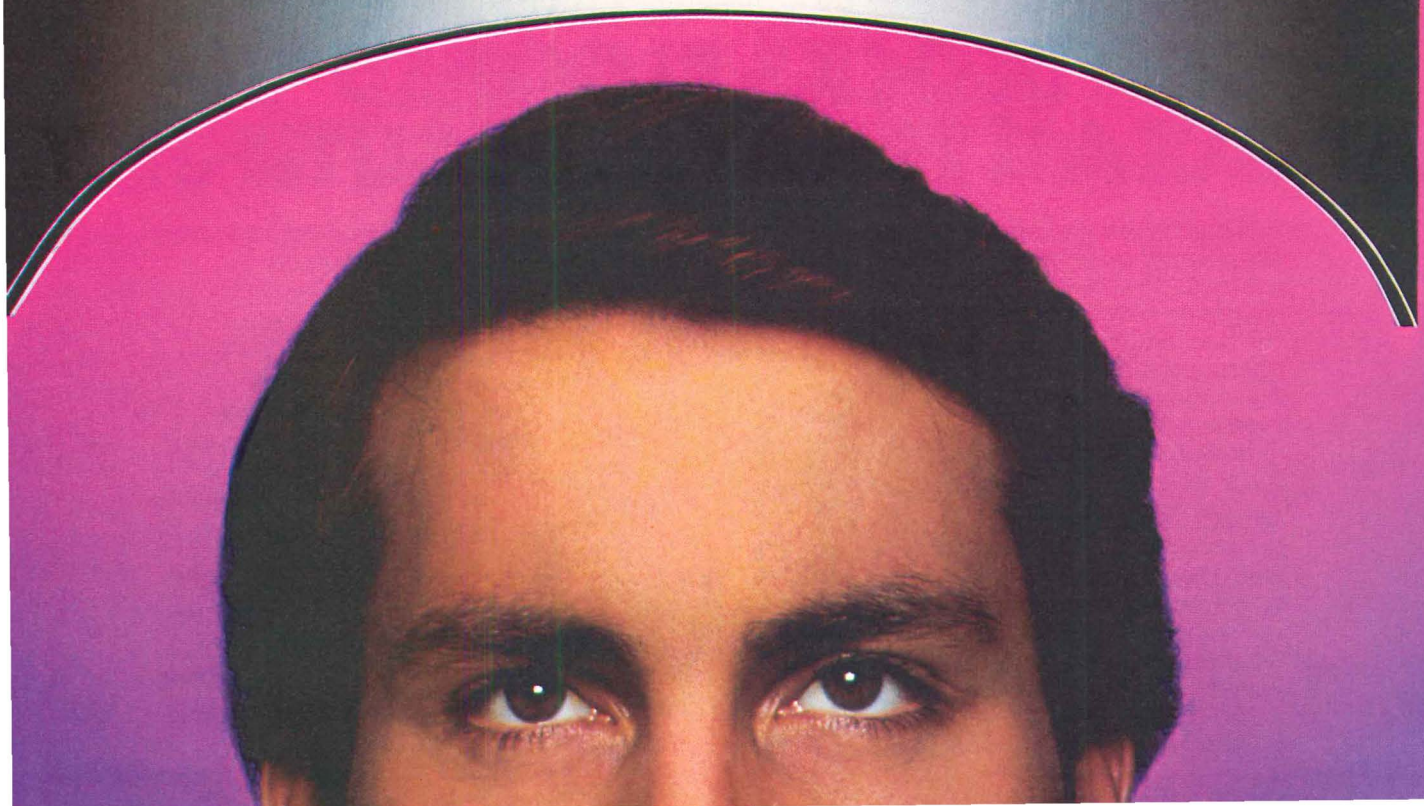

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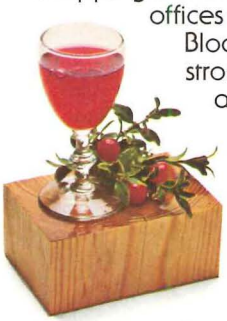

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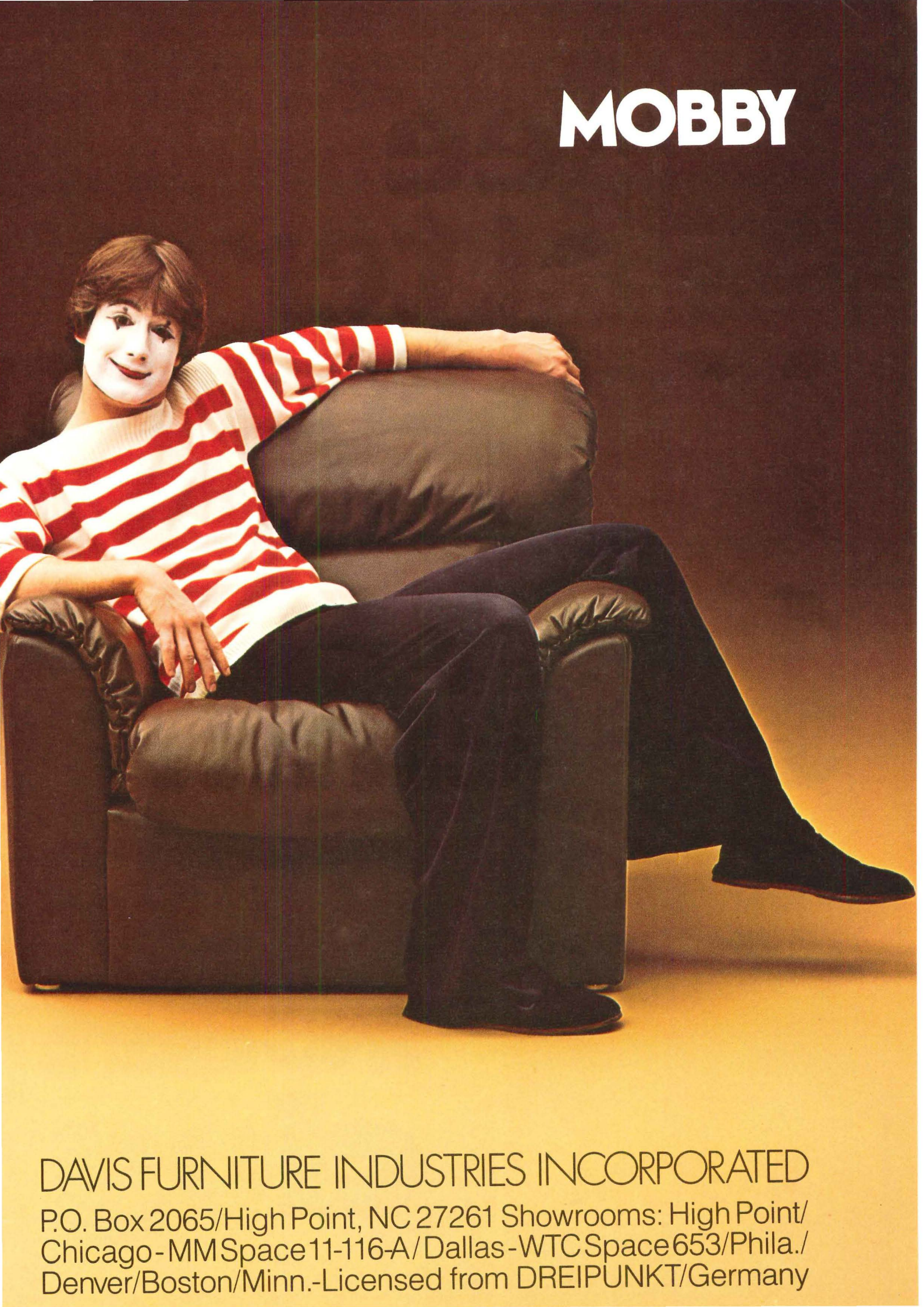

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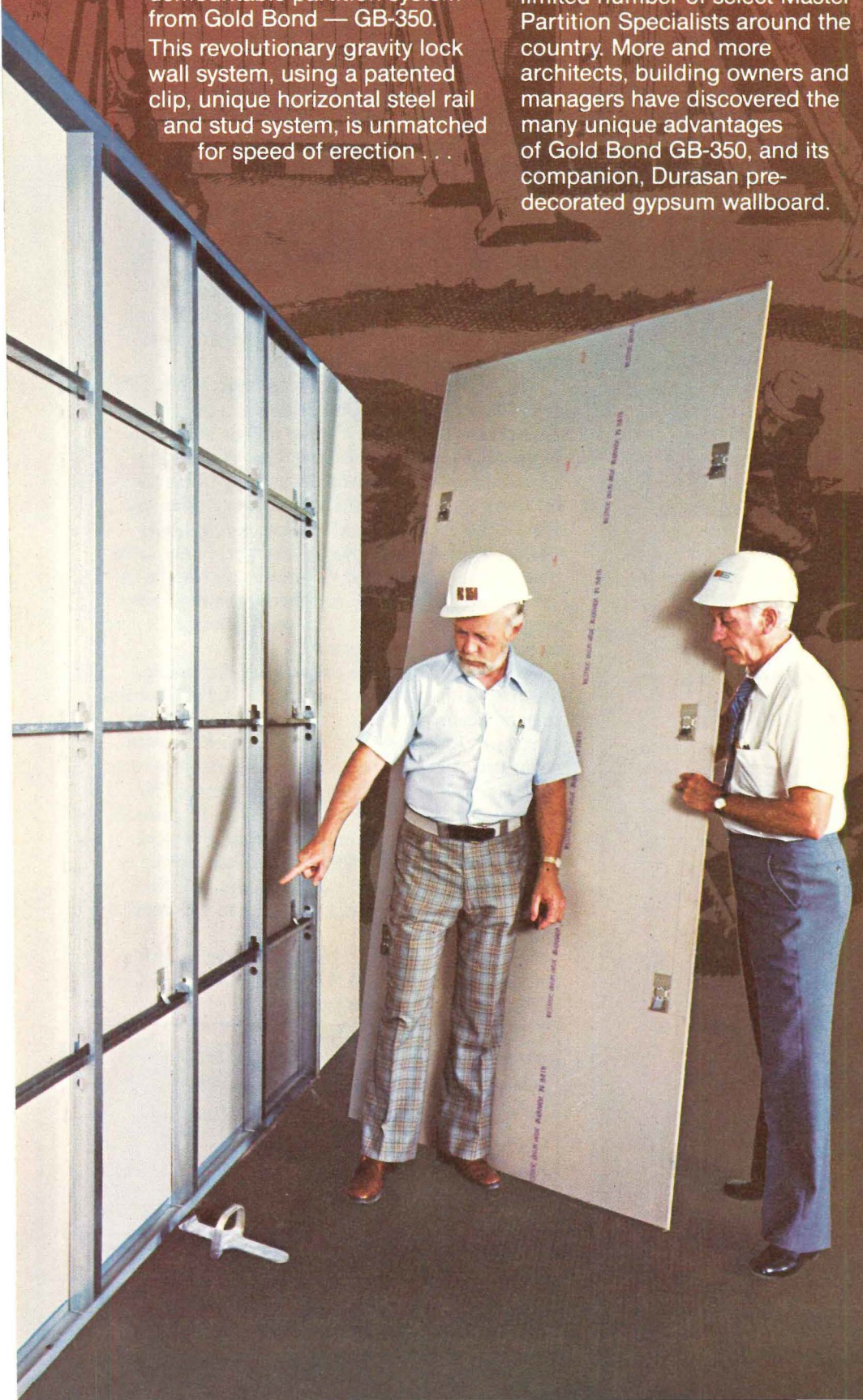

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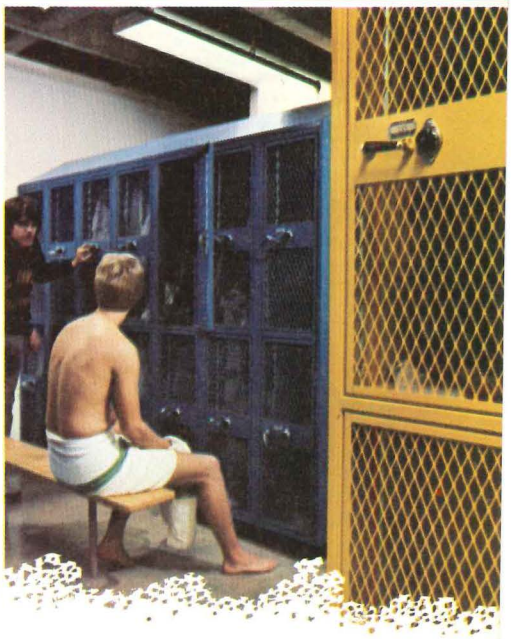

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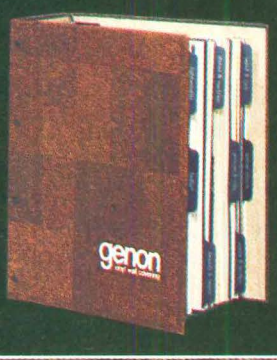

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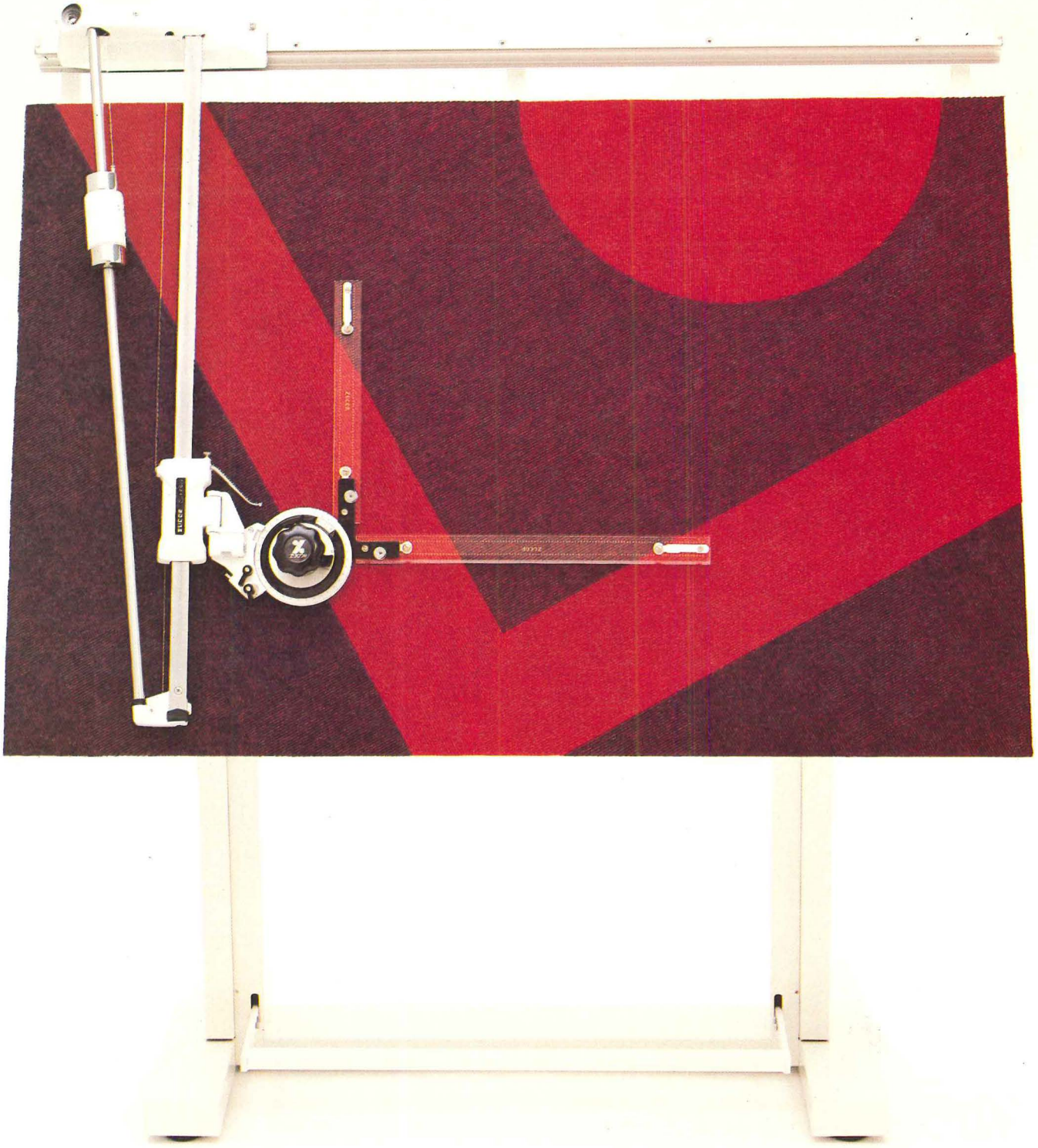

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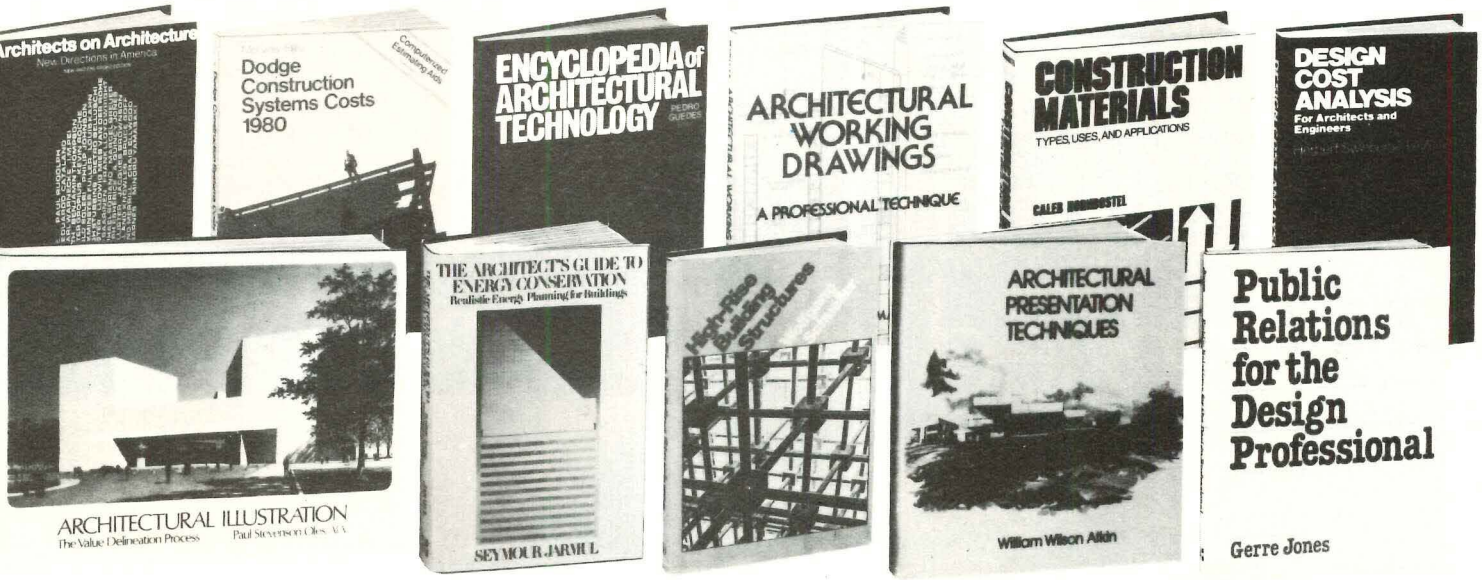

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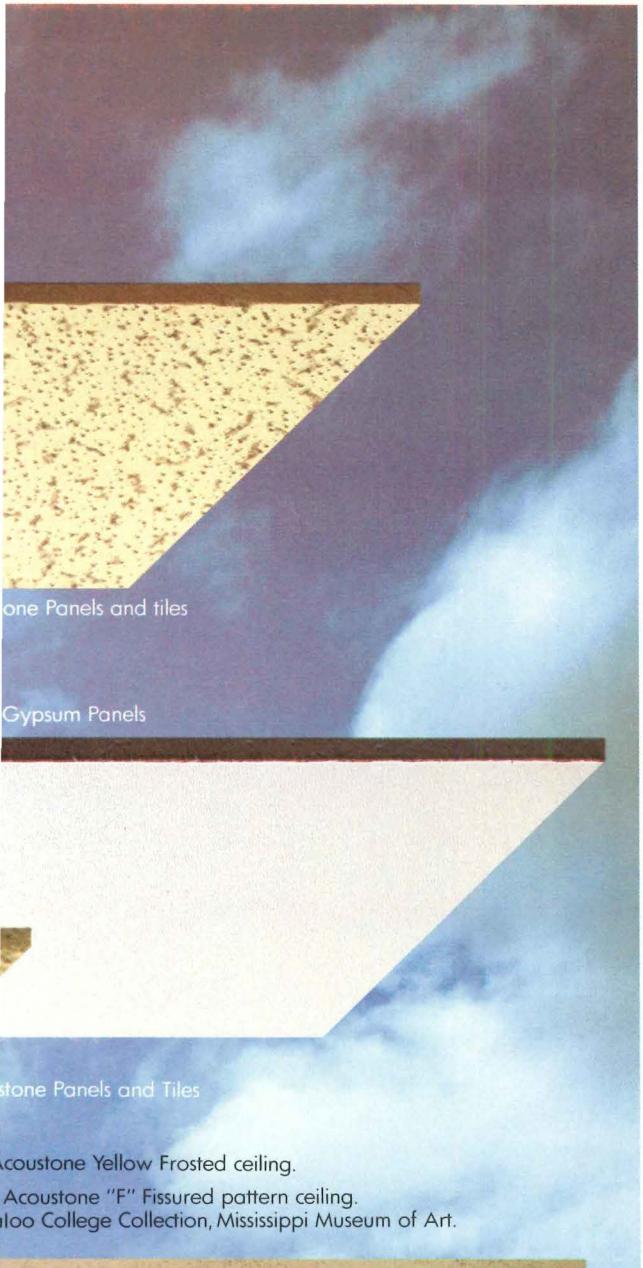

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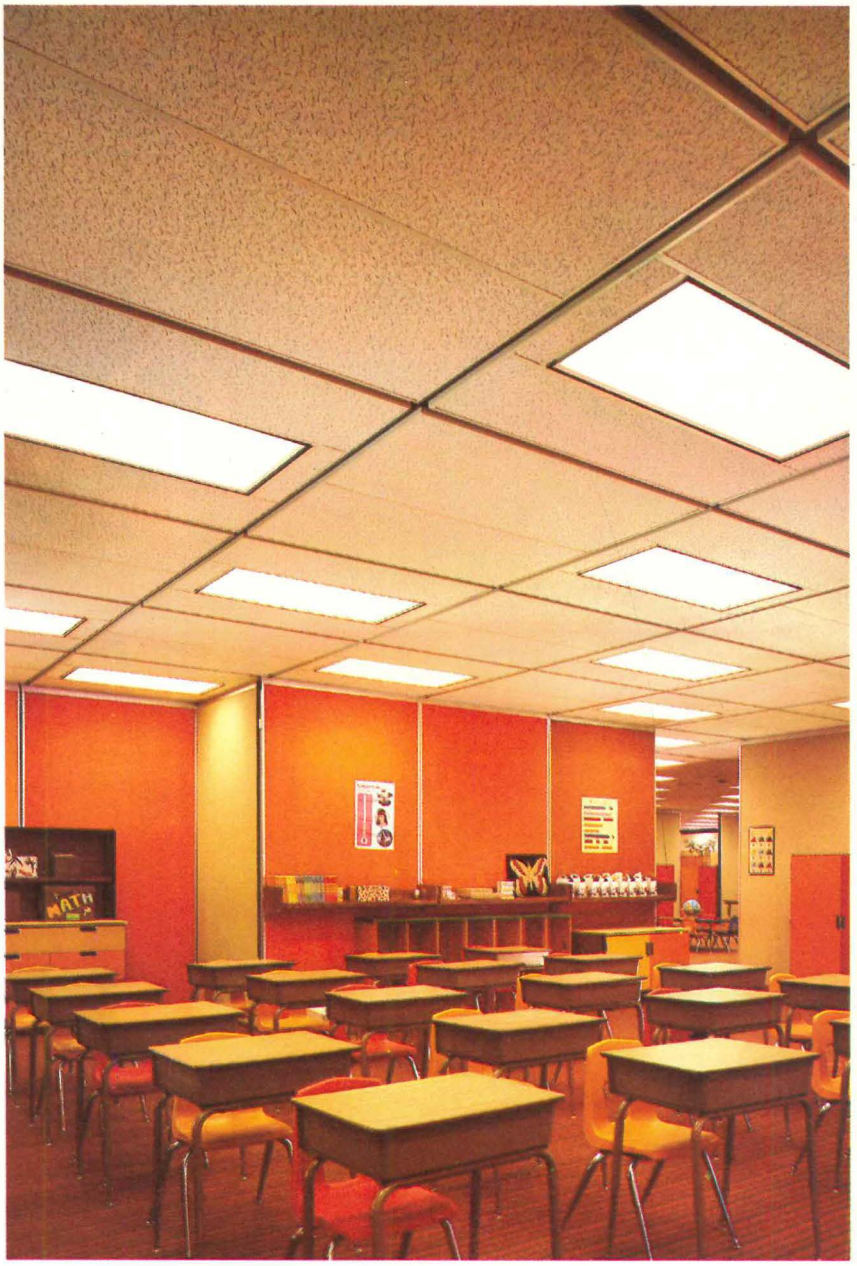

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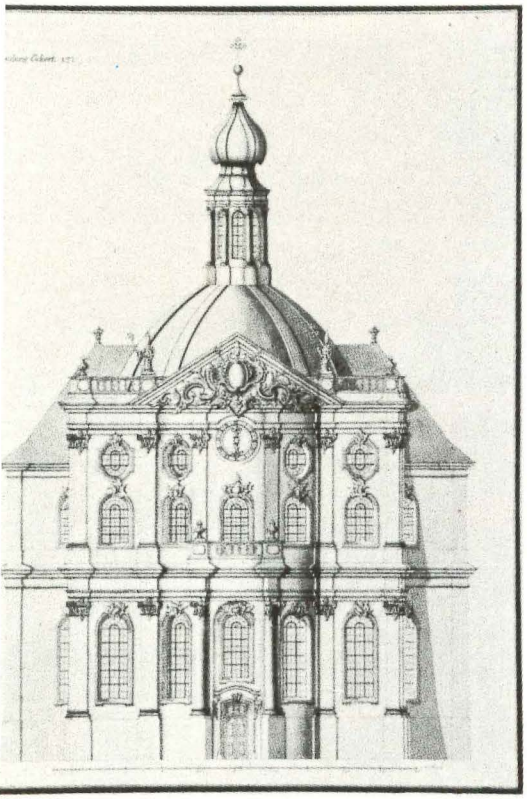

asar Neumann, Neresheim, begun 1748.

e into Light: The Churches of Balthasar Neumann *by tian F. Otto. The Architectural History Foundation, New York, MIT Press, Cambridge, Ma, 1980. 256 pp., illus., $35.*
viewed by Christian Norberg-Schulz, professor of architecture at University, Norway, and author of Meaning in Western Ar- cture *and its sequel,* Genius Loci: Towards a Phenomenol- of Architecture.

ough he is generally considered the greatest German ar- ct of the 18th Century, and one of the most important in ope as well, Balthasar Neumann (1687–1753) has never honored by a proper monograph. The existing books, as the ones by von Freeden and Reuther, are valuable oo short and insufficiently documented. The lack is quite rising, as most of the major architects of the Renaissance Baroque by now are covered by adequate studies.
general, Baroque research constitutes one of the more loped parts of European architectural history, a fact h puts particular demands on those who want to fill the which are still existing. After the first pioneering efforts Wölfflin and Riegl, useful conceptual frameworks have worked out by scholars such as Frankl, Sedlmayr, kower, Franz, Hager, Stefan, Lieb, Portoghesi and rs, which make it possible to describe and interpret the eties of Baroque spatial composition and formal articula- A new book on Balthasar Neumann therefore should be ething more than a mere survey of the history and con- tion of his buildings. It also ought to define their quality orks of art, as well as their position within Late Baroque itecture in general.
hristian F. Otto's book *Space into Light* certainly is the most plete and thorough study on Neumann's churches so far ished. Unfortunately the author does not include his sec- works. He excuses this obvious lack, saying: "Palaces . . . e minimal demands on his (i.e., Neumann's) creative

[*s continued on page 263*]



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s continued from page 261

ry" (p. 23). A surprising statement, indeed, which can y be shared by those who have admired the imagination nergy Neumann put into the design of a palace such as *esidenz* in Würzburg!

om the point of view of documentation, *Space into Light* sents an impressive achievement. From 1967 on, Otto arried through an exhaustive investigation of all possible es, as well as the monuments themselves. The collected ial is utilized in detailed descriptions of all the ecclesias- works of Neumann. An extensive apparatus of notes and ndixes completes the presentation. The book is there- gold mine for future students of Neumann's churches.

a general "Introduction," where the author offers an ring image of the abbey church at Neresheim and a what sketchy survey of the historical backround, he pro- , discussing "Training and Patronage" and "Design and truction Practise" in two informative chapters. Neu- 's works are treated in two chapters on "The Twenties Thirties" and "The Forties and Early Fifties," which rise careful descriptions of the buildings. The book ends a short chapter on "Pedigree, Theory, Symbol."

o's survey of Neumann's works is well written and con- many fine observations. Particularly successful is the dis- on of the Schönborn Chapel. Let me just make one re- . It really seems unlikely that the exterior of the chapel is on Welsch alone" (p. 60). As it stands (fig. 27), it corre- ds to Neumann's plan (fig. 25) rather than von Welsch's 24), and I also think that it is fair to say that it shows nann's hand.

general, however, Otto's descriptions rarely reach the of true structural analyses, not to say interpretations. y they appear as an adding up of detail, without grasp- nat "space composition" which, according to Otto him- vas Neumann's main concern. We certainly learn that his s are composed of squares, circles, and ovals, but the *how* sufficiently explained. After all, *most* church planes are osed of squares and circles, and Baroque ones of ovals as Neumann's interest in space, thus, was anything but but *the way he did it* deserves attention. Otto's statement: time when architecture was determined by illusionism he lavish integration of other arts, he (i.e., Neumann) ed clear, logical spaces that were effective in their own " (p. 27), does not satisfy. Did not Johann Michael er and Kilian Ignaz Dientzenhofer do the same? Just to two important contemporaries who are not mentioned to.

e reason for Otto's failure to grasp the buildings as *works hitecture* obviously is due to his fear of generalizations, comes out in the following statement: "To align his ns into a chronologically determined linear development leny them their individuality, variety and vitality for the us gain of abstract order. Accordingly, each building is ed here on its own terms. . . . From these individual graphs, a synthetic view of Neumann's architecture can ought into focus" (p. 57). Let us agree that a "linear" opment may be too "abstract," but an analysis of themes, ions, principles of spatial composition and formal ar- tion, as well as developments, does not necessarily have *linear*! And what does it mean to study a building "on its erms"? Are not "terms" necessarily generalizations? Ot- ook in fact proves that a study "on its own terms" is sible. He also has to use cross references, comparisons, al concepts, and look for influences, although he states . . . it is impossible to pinpoint specific influences in his ngs" (p. 27). On page 132, however, he writes ". . . anding columns, a notion that . . . he derived from e."

naissance and Baroque architecture (and sacred building neral) is to a very high extent based on common princi- and typologies which were "developed" by successive ations (sometimes even "linearly"), and it blocks our ac- the individual works if that is not properly understood. t, not only does Otto fail in his analyses of Neumann's , but his occasional references to other examples are y unsatisfactory.

continued on page 266]



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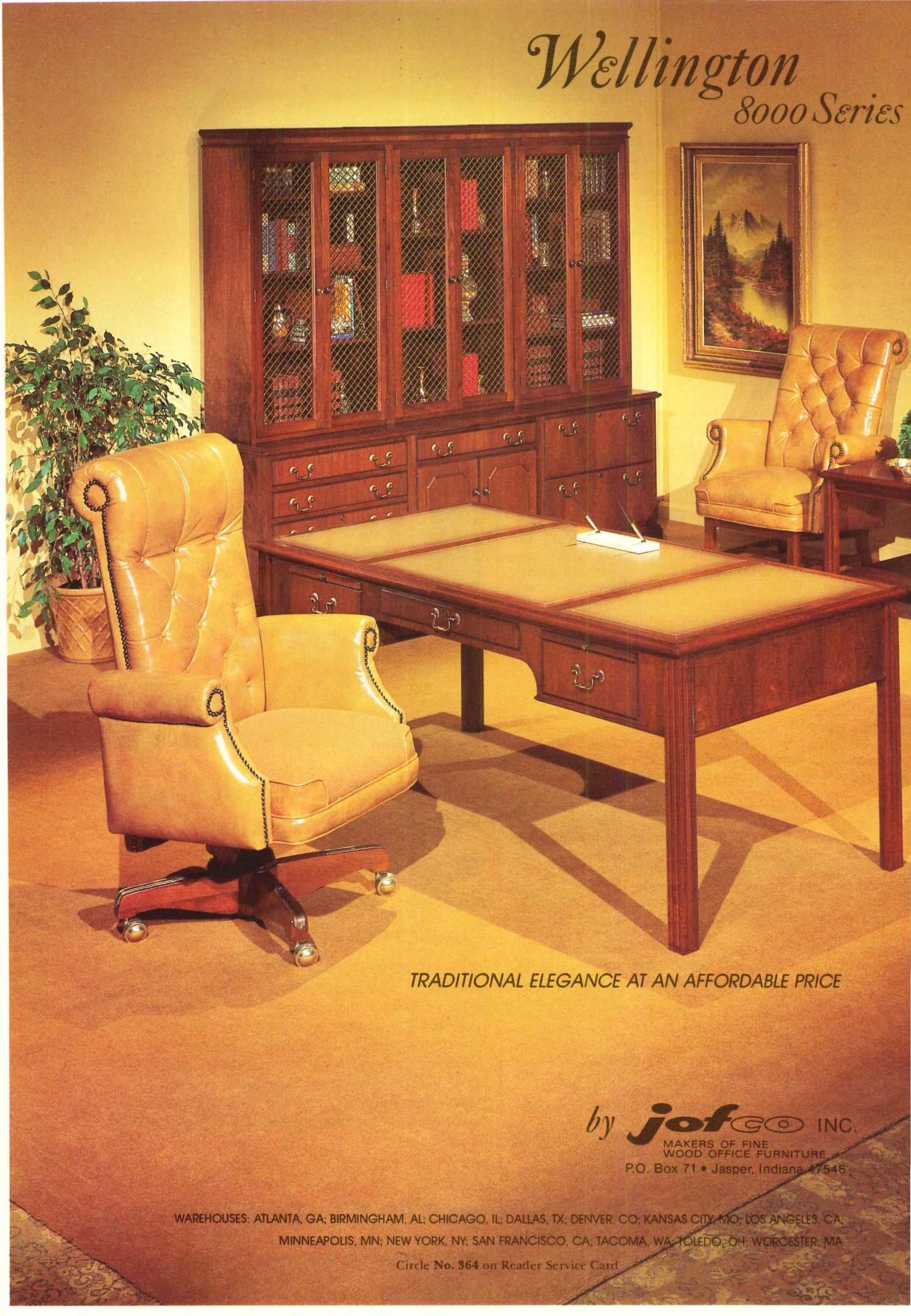
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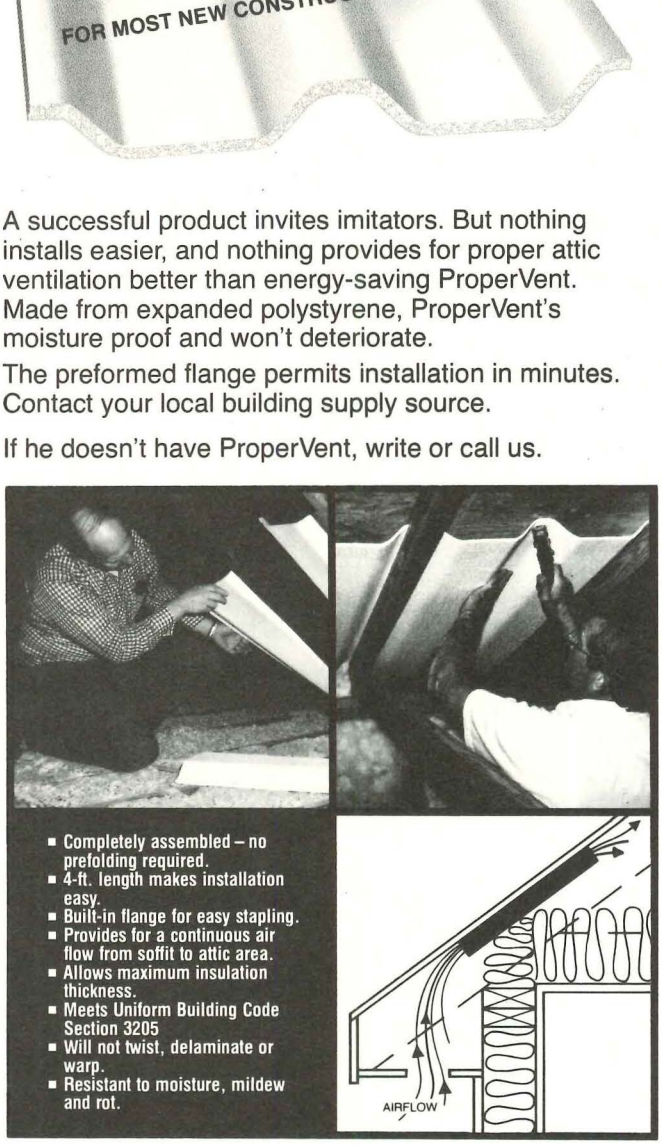

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Books continued from page 263

When he discusses the Hagia Sophia in the introducto chapter, he does not mention either its "double-shell" c limitation (Krautheimer), or its "baldachin" structu (Sedlmayr), two "themes" which were of constituent impo tance to Late Baroque architecture. When referring to Goth architecture, he shows the cathedral in Chartres, rather th a Central European *Hallenkirche,* a type which certainly forı part of Neumann's "background." And when he illustrat Late Baroque "space composition in Paris, Piedmont, Lo don, South Germany, Bohemia and Austria," he uses as example Christoph Dientzenhofer's chapel in Teplà, a mo est and quite unknown work, whose only interest (overlook by Otto) consists in the use of "Gothic" wall-piers. When in t concluding chapter Neumann's relation to Bohemi Baroque architecture is discussed, he states: "The exact cor spondence between vault, elevation and plan that chara terizes Neumann's interiors is not pursued in Bohemi work." But where do we find a closer correspondence than the churches of Kilian Ignaz Dientzenhofer?

In the same chapter it is asserted that Hildebrandt ". retained a sense of Roman severity." I should rather say th Hildebrandt, if any, was an innovator who indeed left Rom design traditions behind, and even approached the world the Rococo.

The lack of an adequate architectural understanding a comes forth in Otto's discussions of the relationship betwe client and architect. Here we read: "Façade design . . . w little discussed: this remained the architect's realm of creati responsibility" (p. 33). From the context we understand th the author implies that the *plan* more or less was decided the client! Any architect, however, knows that it is not *easy* make a plan, and that it indeed demands "creative respon bility" from the *architect.* (Art historians often seem to und rate what it means to *set* an idea *into work!*) We could add th façade design is something else than an afterthought to t plan. In this connection it may also be pointed out th Baroque "spatial composition" *demands* "constructed plan rather than sketches. Otto seems to have some difficulty understanding the different use of the two. The "geomet and proportional systems" employed in the constructed pla were also something more than mere "factual and commo sense" aids.

In the concluding chapter, Otto pretends to offer more general interpretation and evaluation of Neuman churches. Thus he says: "Previous scholars have searched the sources of Neumann's projects, but most of what th provide is not very informative, much less convincing . reflections about the meaning of Neumann's architecture a nonexistent. . . . To cope with this double-edged dilemma, t known range of Neumann's architectural experiences, contacts with various personalities and places, and the natu of his involvement with architectural theory will be cons ered" (p. 130). Unfortunately, however, the author fails in endeavor. After a few sketchy references to Bohemia, A tria, and France (5 pages) and a survey of the books contain in Neumann's library to show his "involvement with arc tectural theory" (4 pages), he dedicates one and a half pa (!) to an "explanation" of the main philosophical and religio ideas of the epoch, and to tell the reader that Neuman churches "record and express the religious sensibility that spired them." That could just as well have been said about a work from the history of ecclesiastical architecture! No word about the "synthetic view" promised at the outset offered, nor anything substantial and conclusive about th "space composition" which was Neumann's main conce The artistic quality of his works as well as his historical po tion thus remain obscure. In general we may conclude th *Space into Light* does not throw much light on the spaces question.

P.S. The layout of the book is old-fashioned and ma reading heavy. With the fine paper used, an integration text and illustrations would have been possible without creasing the cost. The color photographs are poor and t black-and-white ones of varying quality. The map on page is misleading as it does not specify which sites have buildi by Neumann. □

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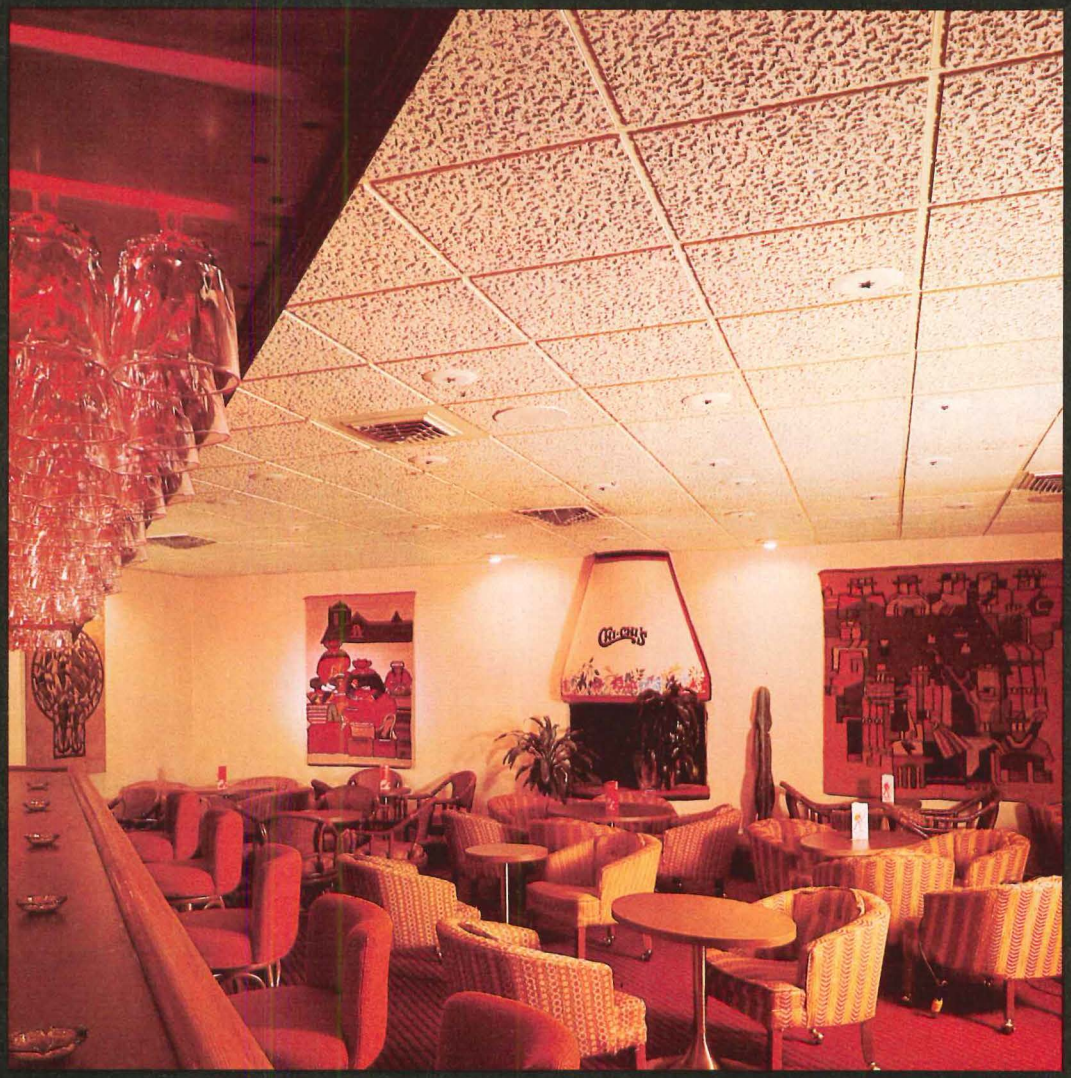

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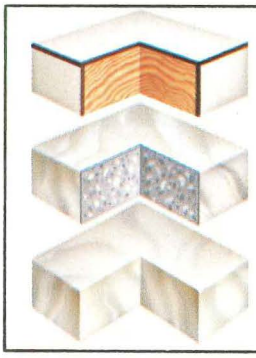

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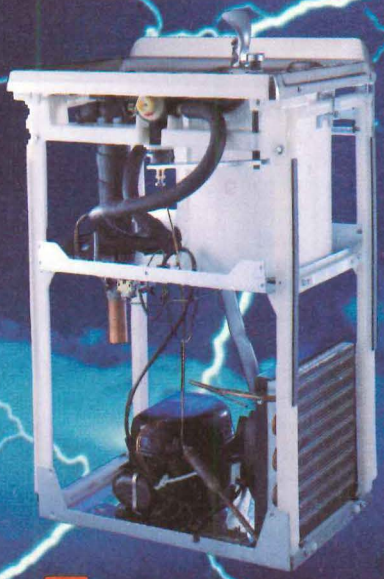

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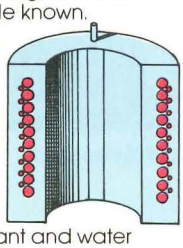

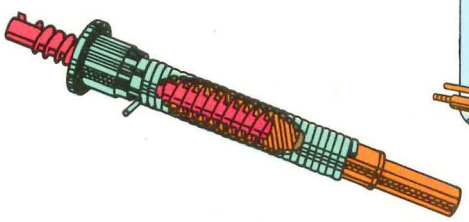

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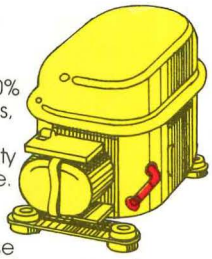

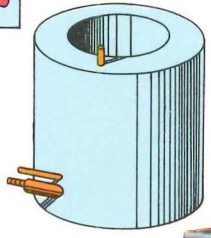

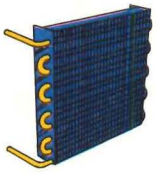

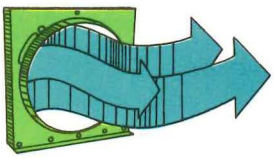

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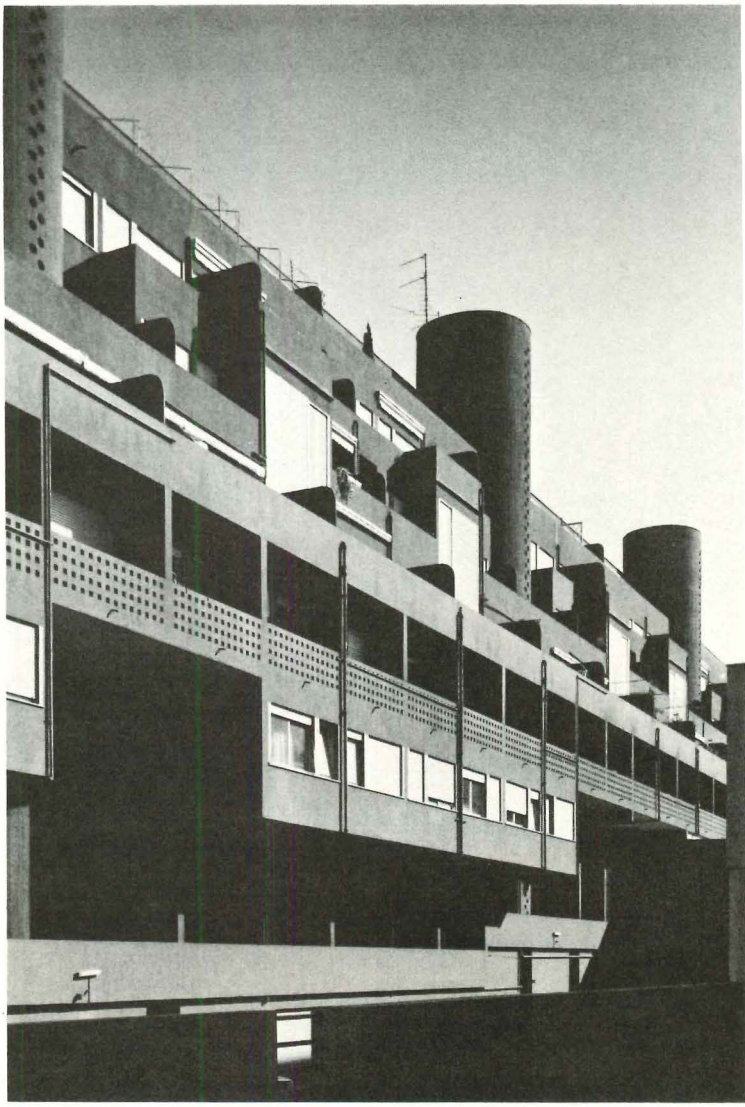
Italian Rationalists: Rossi and Aymonino

The severe walls and colonnades, cylinders and gables in the work of today's Italian Rationalists have had an influence far beyond those who have actually seen their buildings. As in previous eras, Northern Italy seems to have generated a new synthesis of architecture past and present. The two leaders of the school, Rossi and Aymonino, have combined the minimalism of Modern architecture with elements from local folk architecture, from Neoclassicism, and from Surrealism to produce bold imagery that is ageless, but not literally historical. Senior Editor David Morton will guide P/A readers through key works of these two challenging architects.



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Interiors: Tranquil allusions

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P/A in November

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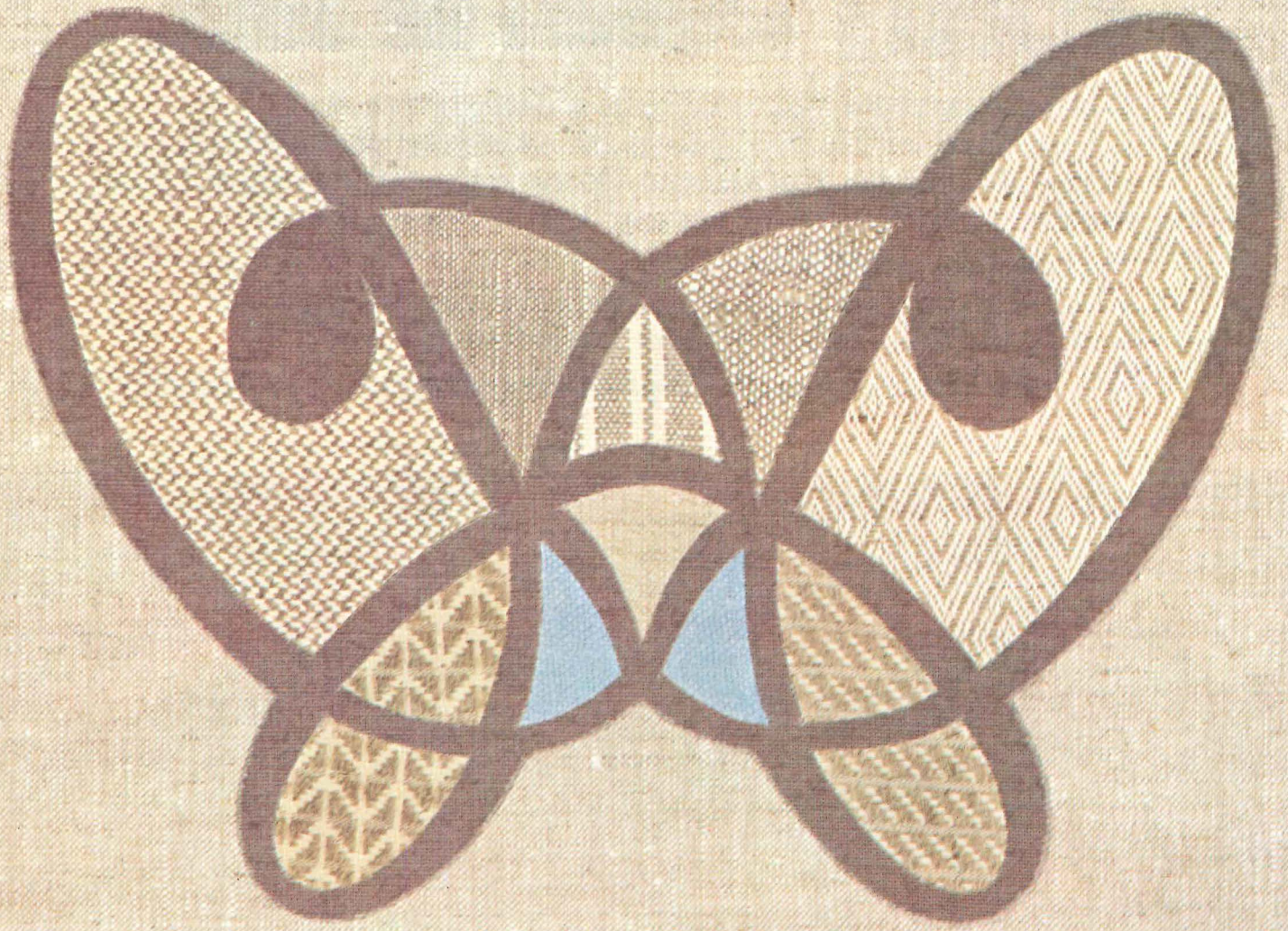

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With redwood's natural elegance inside and redwood's natural handsomeness outside, life's beautiful. No other wood takes and holds a finish better. Or needs as little care. Or ages as gracefully as redwood. But there's more to redwood's natural beauty than meets the eye.

- Redwood is naturally fire resistant.
- All-Heart redwood is naturally resistant to decay and insects.
- Redwood is an excellent insulator against heat and cold.

All of which makes redwood an especially beautiful investment. Naturally.

California Redwood Association • One Lombard Street, San Francisco, California 94111



REDWOOD

LIVING WITH NATURE

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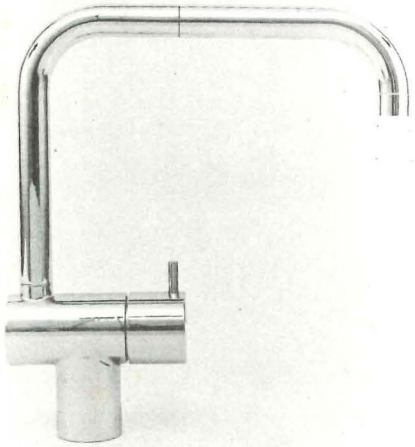
Products and literature

The following items are related to the theme of this issue—interiors. They are grouped together for the convenience of the reader.

Interior products



Vola deck-mounted faucet, with single control mixing valve, has a double-swivel spout that directs water to the back or sides of the sink without using a hand-held spray. Designed by Arne Jacobsen, it is part of a collection that is available in 10 epoxy colors, polished chromium, or brass. The system complies with American plumbing standards. Architectural Complements.
Circle 130 on reader service card

Soft Shelves, replacing a conventional chest of drawers, consists of 12 canvas compartments supported on a steel frame. A laundry bag hangs at one side, a shoebag hangs at the other, and a curtain slides across the front. Canvas sections of the easily assembled unit are washable. Up & Company.
Circle 131 on reader service card

The Wilkhahn 400 series consists of tables and chairs with upholstered seats and backs. Both have laminated hardwood plywood frames molded into compound curves and are said to be lighter and stronger than similar products of solid wood. Krueger.
Circle 132 on reader service card

Swedish Linen and Natural Burlap wallcoverings are additions to the company's product line. Swedish Linen comes in 70 natural tones in a range of patterns including textures, bouclés, verticals, plaids, and embroideries. Natural Burlap is paper-backed, vinylized for heavy traffic areas or prepared with paint for structural integrity. There are 49 clear bright and soft neutral colors. Reed Wallcoverings.
Circle 133 on reader service card

Pyramid, a seminar stacking chair, has contoured styling and seat cushioning for comfort. The frame is available in either oak or walnut, with or without arms, and upholstered in a wide choice of colors. The chairs can be stacked 12 deep on dollies for easy transportation. Monarch Furniture.
Circle 134 on reader service card

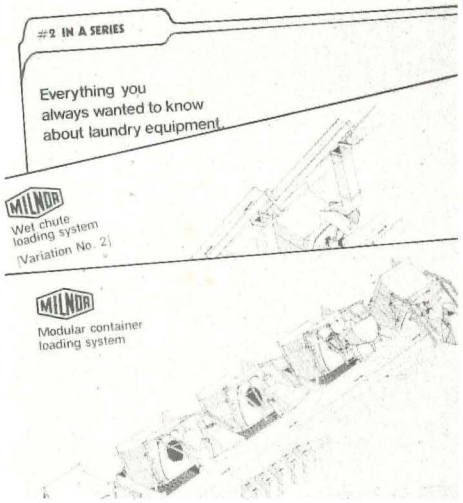
K/D Series contract seating is made up of lounge chairs, tandem seating, sofas, benches and tables. Woods are natural dark oak or walnut. Frames and cushions are shipped unassembled in stackable cartons less than one cubic yard in size, to be assembled on site by means of factory-positioned bolts using simple tools. Shipping costs are less than for uncrated furniture, and cartons can be stored easily until needed. Marden Manufacturing, Inc.
Circle 135 on reader service card

Clouds collection berber type carpet is suitable for residential and contract interior use. It is 12 ft wide and comes in four neutral colors: white, bone, beige, and flannel gray. Because it is all wool, it is resilient, durable, and has good soil release properties, says the manufacturer. Weave-Tuft Carpet Corp.
Circle 136 on reader service card

Libretto broadloom carpet is woven of 100 percent wool in berber loop texture. It comes in natural color in four designs. The carpet is suitable for residential use, but just as appropriate for contract applications in office buildings, hotel public and guest rooms, reception areas, banks, and similar installations. Robertex Associates, Inc.
Circle 137 on reader service card

Contract furniture data retrieval system uses micrographics to provide over 40,000 pages of information in less space than that of one catalog. Manufacturers' information is grouped by product—furniture, lamps, accessories. The service includes a microfiche reader, microfiche catalogs of over 400 contract manufacturers, monthly updates, and a completely new set of [*Products continued on page 277*]

Whose high-volume, automated laundry system uses the least space?



MILNOR's.

Most high-volume, automated laundry systems are three-step systems which require separate washers, extractors and conditioning tumblers, each linked by a materials handling system. MILNOR's Hands-Off Washing System is different. It's composed of washer-extractors that wash, extract and condition all in *one* machine. A materials handling system moves the goods to the machines and then to the finishing section. MILNOR's one-step Hands-Off system can be a big help when you're trying to put a lot of laundry system in a little space.

So, if an upcoming project includes a laundry, check with MILNOR's Laundry Planning Department. And for a free file on large laundry systems, check the readers service card or write us today.

MILNOR®

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P.O. Box 400, Kenner, La. 70063
(a suburb of New Orleans) 504-729-7381
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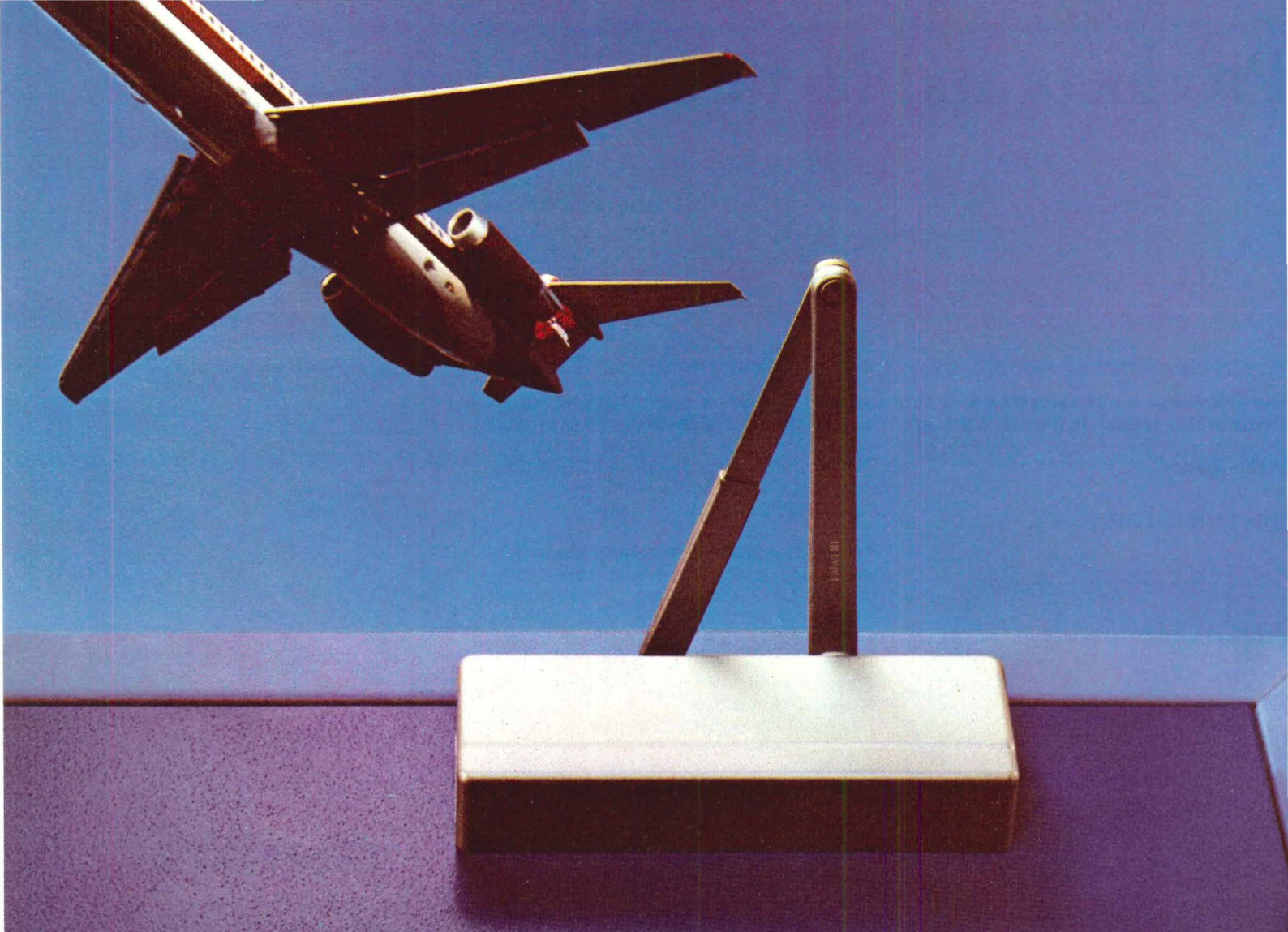
Circle **No. 392** on Reader Service Card



Up...and on time

Your Sargent hardware comes in... delivered right on time, just as your Sargent distributor promised. Up it goes, swiftly installed. And you appreciate, once again, the way Sargent helps get the job done right.

SARGENT

Division of Kidde, Inc.

KIDDE

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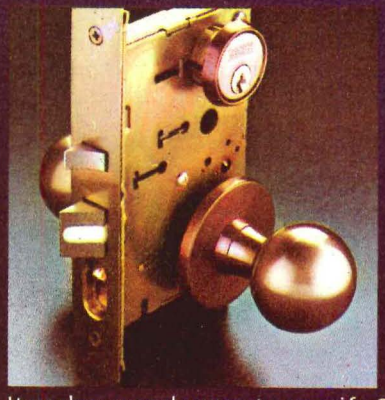
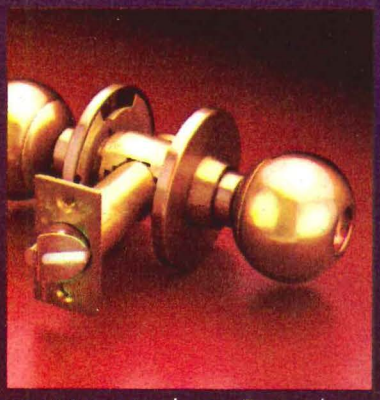






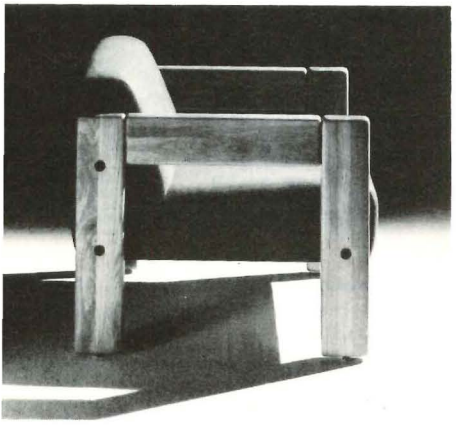


It makes good sense to specify Sargent everywhere. From door closers to exit devices: from bored-in and mortise locks to auxiliary dead bolts. Not to forget the dependable Sargent Keso Security System.

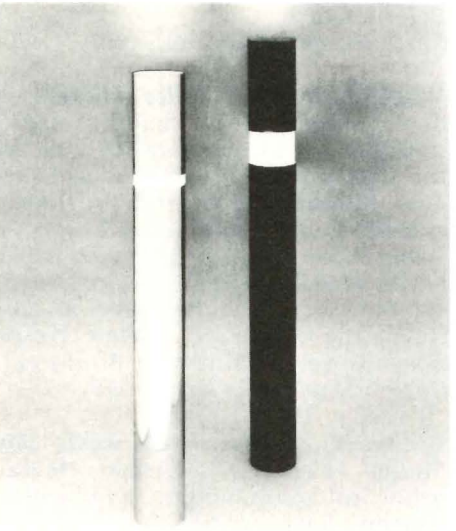
Sargent, New Haven, Connecticut 06509/Sargent (Canada) Ltd.

›ducts continued from page 275

alogs each year. Product lines, includ- prices, specifications, and other im- tant data, are supplied. A Phone ert service allows designers or spec- rs to request actual samples or alog pages. Xetron Corp., XETRON DRS System.
cle 138 on reader service card



kus chairs have solid oak frames, up- lstered seat and back, and removable shions that can be recovered easily. igged construction makes them suita- e for campus, lounge areas, or recep- n rooms, as well as homes. Brayton ternational.
rcle 139 on reader service card



ne Sabra floor lamp, designed by bram Alroy, is a 5-in.-diameter, 44- -high column. The top section can be oved up or down to vary the amount light through the glass section, which frosted to diffuse glare. It is finished polished aluminum, polished brass, hite, or black lacquer. Koch & Lowy.
rcle 140 on reader service card

curit office furniture produced in razil is a collection of executive and cretarial desks, tables, credenzas, and obile cabinets in wood, and various pes of office seating. Woods are puro, similar to oak, and Pau-Ferro, milar to rosewood. Office chairs are holstered in leather, synthetic ather, or fabric and have metal five-prong bases, adjustable seats, and adjustable backs. There are also side chairs, ganged seating with tables, and lounge area sofas. Brazilian Securit, Inc.
Circle 141 on reader service card

Marble design wallpapers include Carrara and Lugano, each in seven colors, and Pompeiian in six colors. All are on heavy paper stock with a lacquered, waterproof finish; the back is prepared for application. There are five sheets to the roll, each 25″ x 39″. The papers are also appropriate for applications on furniture and accessories. Patterson-Piazza, Decorators Walk.
Circle 142 on reader service card

Chairs in the Unimac™ series have compound curves in the backrest for comfort. Upholstered seat, back, and armrests adjust to fit individual needs. Models include executive, manager, professional, secretarial, and side chairs. Frames are finished in sand or black epoxy, bright or satin chrome. IKD Corp., Domore Office Furniture.
Circle 143 on reader service card

The 711 Stick Stack Stow™ chair has injection-molded seat and back completely sealed around the frame, eliminating exposed rods. The bright chrome-finished frame is solid steel rod, reinforced with steel supports and lateral braces. The chairs stack 42 high in a space 66 in. high and less than 24 in. wide. They are available in eight colors or upholstered in a range of fabrics and vinyls. Options include storage covers, tablet arm, bookrack, and connectors for ganging in rows. InterRoyal Corp.
Circle 144 on reader service card

Accord modular seating, with sled base of natural or medium oak or walnut finishes, is upholstered in nylon or vinyl. Backs are open for easy cleaning. Also available are table inserts with laminated tops of oak or walnut. Westwood Furniture Div., U.S. Furniture Industries.
Circle 145 on reader service card

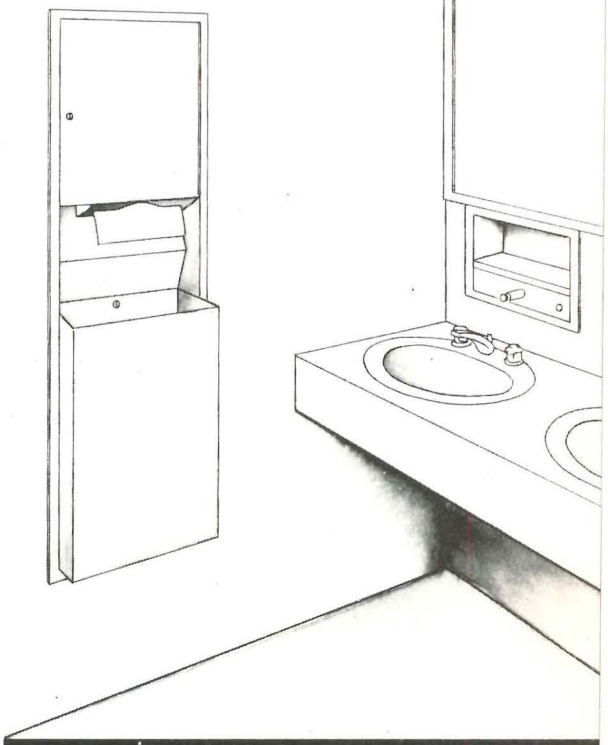
Special effects lighting. Tivoli low-voltage tube lighting consists of tiny, 4/10-watt clear or colored bulbs in clear tubing. It can be imbedded in floors, walls, or ceilings; hung as a chandelier; or formed into graphics. The manufacturer says that bulb life expectancy is in excess of 50 years. Other products include Tivolite® bulbs, Starlite panels, lighting controls, and lighting dividers. Tivoli Industries, Inc.
Circle 146 on reader service card

Interior literature

Office furniture brochure describes and illustrates some of the more than 600 casegoods and seating products available. It discusses construction of the elements, such as drawers and pedestals, and the finishes and fabrics. Casegoods include credenzas, lateral files, desks, and tables. Seating offered includes swivel posture chairs, stools, side chairs
[*Literature continued on page 278*]

washroom directions

The Men's Room– For Office Buildings



WASHROOM DIRECTIONS are reference manuals designed to guide specifiers in selecting the right Parker equipment for use in each of a wide variety of washroom categories. The stainless steel units in this washroom were taken from a WASHROOM DIRECTIONS checklist of essential and optional recessed units for use in a men's washroom in an office building. They include:

- WASTE RECEPTACLE & PAPER TOWEL DISPENSER — No. 654
- MIRROR — No. 3020
- SHELF & SOAP DISPENSER — No. 634

If recessed units are not desired, WASHROOM DIRECTIONS also provides checklists for surface mounted, space-saving, barrier-free and concealall washroom designs. Send for your WASHROOM DIRECTION and find out how easy specifying Parker units can be, whatever direction your washroom plans are taking.

charles parker

290 PRATT ST., MERIDEN, CT 06450
TEL: 203-235-6265

Literature continued from page 277

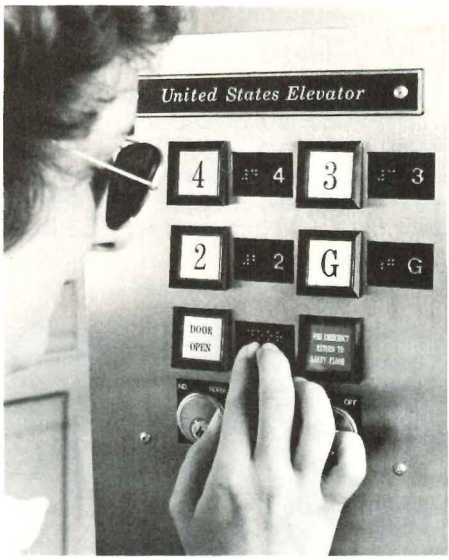
with sled bases, tandem styles, and lounge sofas and chairs. Executive Office Concepts.
Circle 200 on reader service card

The following items are related to the technics article on barrier-free design. They are grouped here for the convenience of the reader.

Barrier-free products

An automatic door opener, KM Series 100, can operate any door weighing 100 pounds or less. The opener will operate doors hinged on either the right or the left and can be installed inside or outside. It can be adjusted to hold the door open from 3 to 40 seconds. Optional controls include a floor-mounted switch that can be operated by foot or wheeled traffic and a wall switch that can be operated by hand, elbow, or knee. It has solid state controls, low voltage transformer, wiring, and push button switches. Keane Monroe Corp.
Circle 147 on reader service card

Gates for the handicapped are part of the MARTA (Metropolitan Rapid Transit Authority) system in Atlanta, Ga. Used in conjunction with the automatic fare collection system, the gates are engineered so that wheelchairs can pass through the extra wide doors, and fares can be paid readily. Cubic Corp., Cubic Western Data.
Circle 148 on reader service card



An elevator operating panel with rais Braille characters and raised floor nu bers is an aid to the blind who m operate elevators. The panels can be stalled in public buildings or where visually handicapped people must U.S. Elevator.
Circle 201 on reader service card

A panic bar door opener for vertical stallation can be operated by foot, hand, or by being pushed by a whe chair. Originally designed for operati at floor level in the event of a fire, i also suitable for hospitals, hotels, rest rants, and other public buildin Peterik Corp.
Circle 202 on reader service card

Wheelchair level water coolers w dual, side-mounted hand valves standard features, extend 18½ in. fr the wall to provide access at wheelch level. Mounted 35 in. from the floor, coolers can accommodate all users. T water cooler has a 7 gph rated capac and is available with beige vinyl finish standard or all stainless steel as an tra-charge option. White-Westi house Corp., Commercial Products.
Circle 203 on reader service card

Bradpack preassembled wash cen Model 1128 has sufficient clearan below to accommodate a wheelcha Faucets have wristblade handles easier use. All accessories are located more than 40 in. above the floor to accessible to all users. The unit is sta less steel with chromium-plated br fittings. It has a fluorescent light fixtu electric outlet, storage cabinet, pap towel dispenser, and optional cup a soap dispensers. Bradley Corp.
Circle 204 on reader service card

A water cooler for public areas opera by means of a self-closing push bar t requires only a very light touch. It ha nonpressurized cooling tank, which subject to line pressure only when i being operated. The cooler has a o piece stainless steel basin and ba splash, with vinyl cabinet in a choice colors. Elkay Manufacturing Co.
Circle 205 on reader service card
[*Products continued on page 280*]



Circle **No. 435** on Reader Service Card

Introducing the world's only non-stop pencil.

TK-matic advances the lead automatically.

The natural motion of your hand triggers a patented pump-action advance, constantly feeding extra-fine 0.5mm lead to the tip. So instead of stopping again and again to push a button, you keep going.

It's a brilliant system inside a simple, elegant barrel executed in the satin-finished metal shown, or in black with brushed metal accents.

To see this incredible advance in pencils, proceed non-stop to your FaberCastell Dealer. Or write Faber-Castell Corporation, TK-matic, Box 7099, Newark, NJ 07107.

The non-stop TK-matic. It's a beautiful idea.

FaberCastell

Circle **No. 345** on Reader Service Card



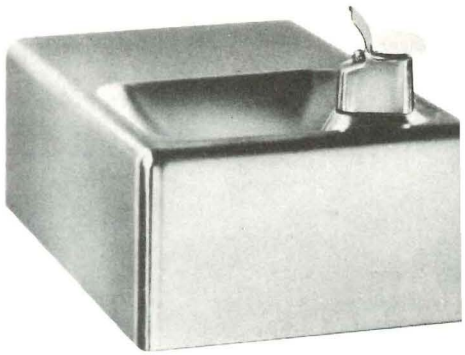
TK-matic®

Products continued from page 278

Mobility systems. Consultants design for the handicapped and fabricate products for private homes or public buildings, such as offices, schools, and industrial areas. Interior and exterior wheelchair lifts, bathroom facilities, kitchen designs, stairway glides, small elevators and other aids are offered. R.J. Mobility Systems, Inc.
Circle 206 on reader service card

Telette 1331 open telephone booths can be mounted at regular height or at a height suitable for use from wheelchairs. The booth has a one-piece aluminum housing and a stainless steel inside wall cut out to accommodate a recessed telephone. The booth can be used in private or public areas of office buildings, terminals, hospitals, and similar locations. Accessory Specialties, Inc.
Circle 207 on reader service card

Auto-Slide doors, 8000 series, provide easy access to buildings, especially important for the handicapped. In an emergency, however, the doors break out with only a slight push. The doors can also be opened fully to allow large objects to be moved through. Door operation can be by means of electric or pneumatic openers. The self-closing feature, which conserves energy, has a holding beam to prevent it from operating while the entrance is occupied. Stanley Magic-Door, Div. of Stanley Works.
Circle 208 on reader service card



Oasis® drinking fountains designed t meet the needs of handicapped peop include DF-140, Dial-A-Drink twist typ bubbler, and DF-140A, Soft Touc with a lever on each side operable wit light pressure up or down. The cabin is mounted on brackets and extenc 19¼ in. from the wall. Ebco Manufa turing Co.
Circle 209 on reader service card

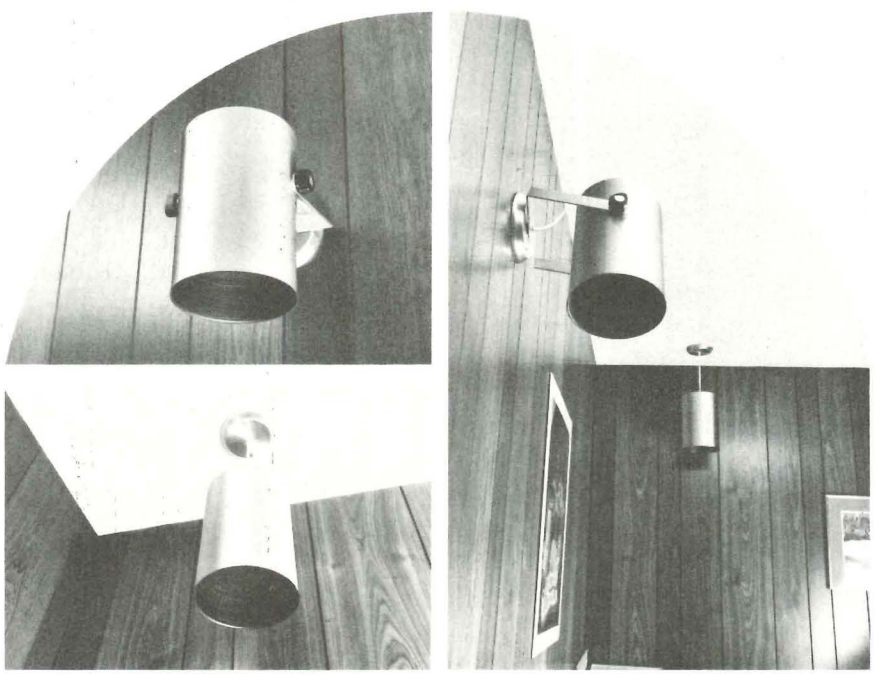
Stainless steel grab bars with 1½-i wall clearance conform with feder regulations for public facilities. Seri 600 grab bars, in 1¼-in. and 1½-i diameters, have either satin finish c nonslip gripping area. They come i straight lengths and designs for speci applications. The Charles Parker Co.
Circle 210 on reader service card

Swing-clear hinges permit doorways t be completely clear when the door is at 90-degree angle. They eliminate th approximately 2-in. obstruction of th door width that occurs when ordinar hinges are used. They come in standar wrought steel, brass, bronze, or stainle steel. H. Soss & Co.
Circle 211 on reader service card

A pool lift for the handicapped can b installed in new or existing pools. Fo public pools, it can be removed an stored when it is not needed. All in mersible parts are made of corrosion resistant stainless steel. It meets a standard pool and tank requirement but systems can be constructed to mee specific needs. Mecanaids.
Circle 212 on reader service card

A laminated plastic countertop, Seri 1098, provides 30 in. clear access fo wheelchairs when the countertop mounted 34 in. from the floor. The en tire top is seamless and has a 4-in. skir It is available in lengths from 18 to 14 in., with basins, soap dispenser, an plumbing fixture trim as optional acce sories. Bobrick Washroom Equipmen
Circle 213 on reader service card

Air doors create a curtain of air i doorways, acting to keep outside air ou and to maintain inside temperature, i addition to controlling insects. They ar available heated to protect against col drafts or unheated for use in areas suc as freezer or refrigerator doorways. Ai doors are suited for openings that mus remain open and barrier-free at times o heavy traffic and yet can be closed. Be cause they eliminate the need to ope and close doors, they are particularl
[*Products continued on page 283*]



Now Scamp sound masking gives your "closed" office the privacy you deserve.

Just because you don't have an open office doesn't mean you're not affected by noise such as typewriters, copying machines and the chatter of people using them. Even with your office door closed these sounds can seep through and hamper your work. No more! One or more decorative Scamp units for wall or ceiling, placed strategically in your office, can mask these sounds and provide the atmosphere for optimum efficiency.

The Scamp system provides speech privacy in most offices by generating a unique sound spectrum which masks unwanted speech, noise and its directivity without being intrusive itself. Scamps install quickly and easily and have music and paging capability.

Find out how Scamp can make a better working environment out of your office. Write or call us today. Also ask about Scamps for open office areas with dropped ceilings or high ceilings.



Dropped ceiling unit

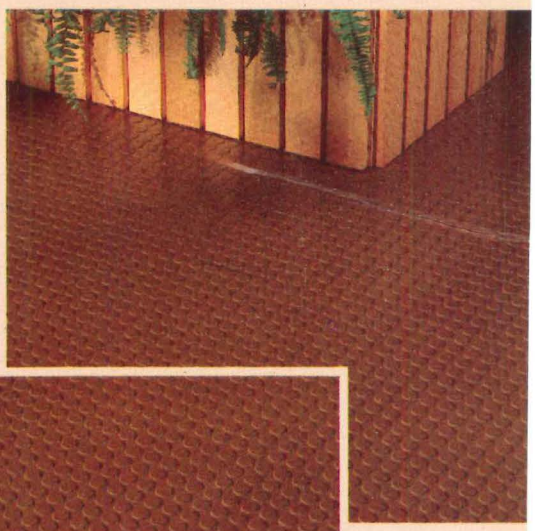
Control Electronics Co., Inc.

107 Allen Boulevard, Farmingdale, N.Y. 11735 • (516) 694-0125

See 1980 Sweets Catalog Vol. #3 9.1 Acoustical Treatment

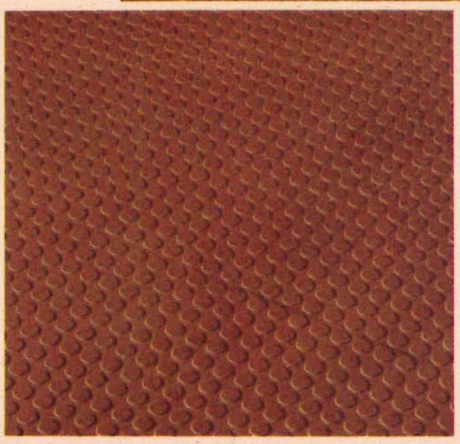
Circle **No. 329** on Reader Service Card

FLEXCO Radial Rubber Tile and Stair Treads



For safe footing and good looks in high traffic interiors . . .

This unique new rubber floor tile is designed especially for interior floors where safe footing is required and handsome, easy to maintain appearance is desired. 1″ diameter raised studs molded onto a special compound of tough, extra resilient rubber provides greater traction by allowing dirt and spilled liquids to drain off the walking surface. Extra resilience contributes substantially to safe footing.



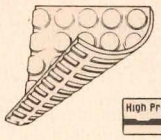
Radial rubber tile is recommended especially for high traffic areas such as air terminals, shopping centers, ramps, elevator lobbies, stair landings and offices. It is made in two profile designs and in overall thicknesses of 1/8″ and 3/16″ with smooth back, and .210″ and .235″ with Acoustibak™.

Flexco also makes matching radial rubber stair treads as well as a complete line of rubber and vinyl treads, risers and stringers, rubber tile, conductive vinyl tile, cove base and vinyl carpet accessories.

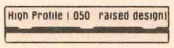
For areas which require Class A fire rating, Flexco can supply on special order Radial Tile, Stair Treads and accessories which meet ASTM-E84-77A flame spread rating of 25 or less and smoke density of 75 or less.

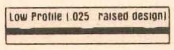
For samples and information, write or call (toll free):
FLEXCO™ division of Textile Rubber Co., Inc., Tuscumbia, AL 35674 ▫ 1-800-633-3151

Circle **No. 445**

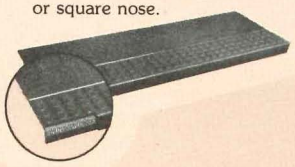


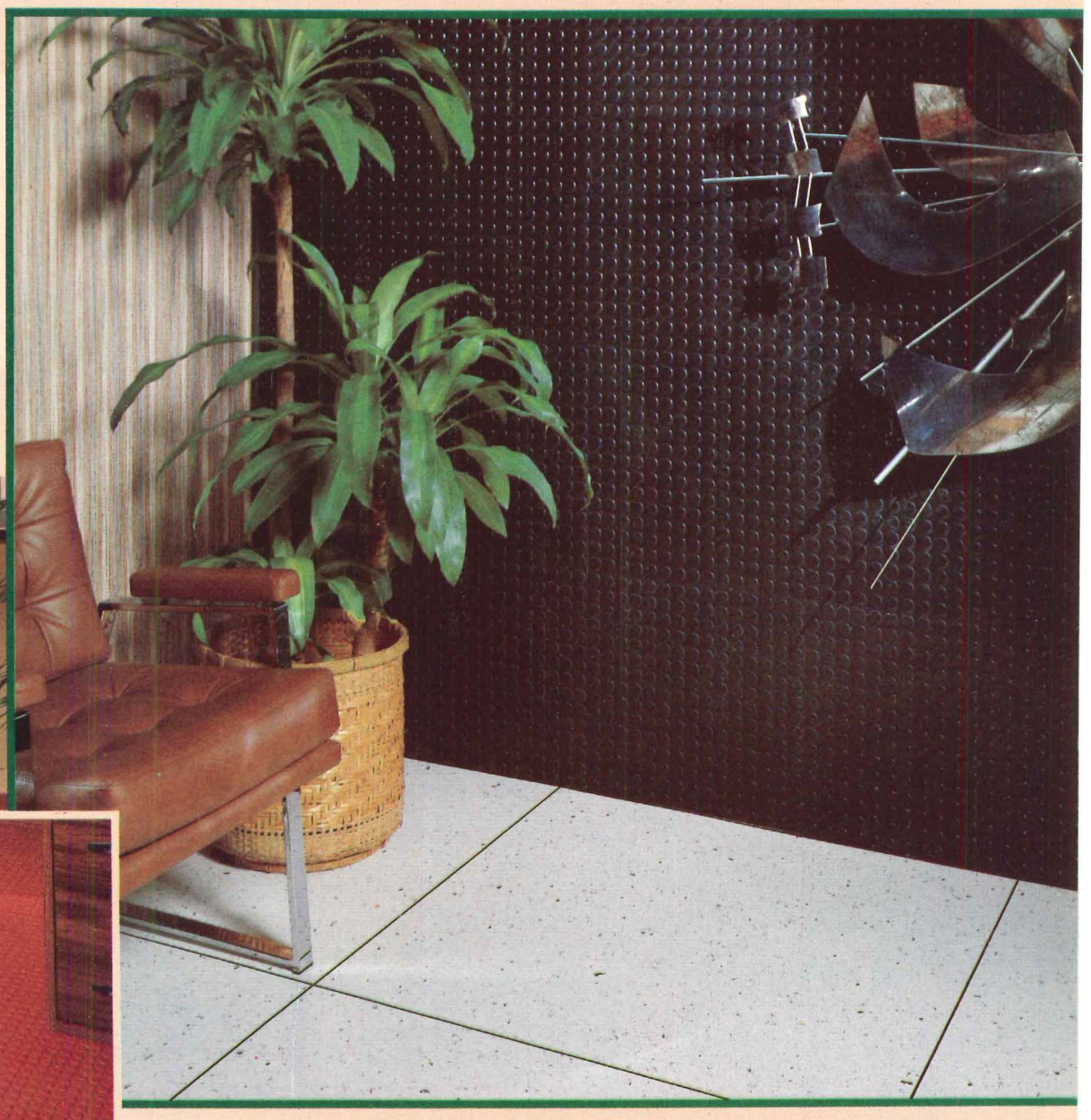
Tiles available with Acoustibak™.





Exclusive reinforced metal nose. Available in round or square nose.









Krueger plus Wilkhahn Program 400 equals new harmony in wood



Krueger has launched a new venture in conjunction with Wilkhahn of West Germany. You can now purchase Wilkhahn's classic Program 400 furniture in the United States or Canada and have it shipped from Krueger's Green Bay manufacturing facilities.

Program 400 is a landmark design. Honored with awards here and abroad, Program 400 was first introduced over a decade ago by Wilkhahn and has since been widely imitated. Its technical achievement of laminating plies of hardwood into multi-directional frame configurations provides a distinctive delicate linear appearance. Though lightly scaled, Program 400 frames are stronger than solid wood.

Program 400 is available in side and arm chairs as well as tables. Contact Krueger or showrooms for more information.

krueger

P.O. Box 8100; Green Bay, WI 54308; 414/468-8100
Boston 617/893-2752 • New York 212/371-9595 • Philadelphia 215/666-9696 • Atlanta 404/231-0913
Jackson, MS 601/362-8062 • Indianapolis 317/788-4737 • Chicago 312/467-6850 • St. Louis 314/241-8431
Dallas 214/823-4183 • Houston 713/222-1408 • Denver 303/534-6060 • Los Angeles 213/659-2133

Circle **No. 370** on Reader Service Card

ducts continued from page 280

ful for the handicapped. Mars Sales.
'le 214 on reader service card

rrier-free literature

ınning Guide for Designing Wash-m Facilities for the Physically ıdicapped' furnishes guidelines for selection of washroom equipment to et requirements for barrier-free de-ı. It lists recommended accessories, ws mounting heights, and provides ı views of large and small wash-ms, showers, bathtubs, and toilet ıpartments. Bobrick Washroom ıipment, Inc.
:le 215 on reader service card

lutions to Barrier Free Door Con-l' is a 12-page brochure that de-bes the principles of barrier-free ign related to door operation. It dis-ses controls that open doors and ovide delayed closing. Included in the chure is a control that automatically ses doors in the event of smoke or e. A selector chart of manual and eumatic door controls indicates suita-closers for various locations. Read-; Door Closer Corp.
cle 216 on reader service card

or closer catalog provides informa-n on codes and regulations applicable designing entrances for the handi-oped. Door closers for barrier-free access include the Equalizer®, which reduces door opening forces; Delayed Action Smoothee®, to slow down door closing time; Super Smoothee®, also for reduced opening forces; and fire door operators that close automatically when fire is detected. LCN Closers.
Circle 217 on reader service card

Automatic door systems, made up of sliding or swinging doors and actuating controls, are accessible to the handicapped. Operation methods include motion detectors, contact mats, elbow switches, kick plates, and push plates. An eight-page brochure describes the doors, provides specifications, and includes detail drawings of their installation and operation. Besam, Inc.
Circle 218 on reader service card

Drinking fountains for the physically handicapped are described in an eight-page, full color catalog. Specifications and mounting requirements are included for each of the nine models shown. Sunroc Corp.
Circle 219 on reader service card

"An Architectural Barrier Is" is a four-page brochure that shows some of the many barriers confronting the handicapped. It discusses two federal programs that offer direct funding for barrier removal projects and explains tax incentives encouraging the removal of barriers. Eastern Paralyzed Veterans Association.
Circle 220 on reader service card



Barrier-free manual entrances, Series 800, have thresholds omitted to eliminate obstacles to the handicapped. A fixed glass adjacent to the lock jamb permits the user to see and be seen. The opening is 34 in. to allow width necessary for access by wheelchair users. A switch on the door activates a force-reduction mechanism to make the door easier to open. Series 800 openers are available with several standard entrance styles. Kawneer Architectural Products.
Circle 221 on reader service card

Stainless steel grab bars and accessories are included in Catalog 795, which has a grab bar selector chart. Configurations of various styles of bathroom grab bars shown include those for toilets, lavatories, tubs, and showers. Among accessories are retractable
[Literature continued on page 284]

10 Distinctive BUILDING GRANITES

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Literature continued from page 283

shower seats for wheelchair users and the elderly. Diagrams illustrate methods of attachment. Tubular Specialties Manufacturing, Inc.
Circle 222 on reader service card

Wheelchair accessible drinking fountains are described and illustrated in a 16-page catalog. All models of the wall-mounted and pedestal styles are shown in color and have dimensional detailed drawings. Haws Drinking Faucet Co.
Circle 223 on reader service card

Drinking fountains and water coolers, shown in a six-page brochure, are barrier-free for use by the handicapped. They include bilevel and wheelchair-height fountains and coolers having self-closing valves with lever handles. Complete descriptions are provided for each of the six models illustrated, and diagrams show dimensions for installing bilevel styles. Halsey Taylor Div., King-Seeley Thermos Co.
Circle 224 on reader service card

Automatic sliding and swinging doors, described and illustrated in a 12-page brochure, provide barrier-free access to buildings. The complete door package includes doors, electric or pneumatic door operators, and actuating devices and accessories. Comprehensive product information and detail drawings are provided. Horton Automatics Div., Overhead Door Corp.
Circle 225 on reader service card

The following items are related to the Interior Technics article on ceilings. They are grouped here for the convenience of the reader.

Ceiling products



Wocomo™ ceilings are made of oak and have oak moldings with mitered corners. The panels can be integrated w lighting and with other types of pan and are also suitable for use on wa They install easily and can be remo for cleaning and replaced quic Wocomo Innovative Ceiling Systems
Circle 226 on reader service card

Nubby open-plan ceiling panels hav textured glass fabric surface, a gl fiber sound-absorbent core, and a backing. According to the manuf turer, the backing improves ove sound absorption, improves sou transmission loss, and blocks passage dirt-laden air through the panel, tending its life. The fabric surfa which is not painted, does not chip peel, and vacuuming removes loose c particles. Standard color is white, w custom colors available on large orde Capaul Ceilings Div., Acoustiflex Co
Circle 227 on reader service card

Communi-Power Poles, which exte from floor to ceiling, are factory p wired for electrical power distributi Space is also provided for electronic a communication on-site wiring. For n or existing buildings, the poles per work stations to be changed quickly a inexpensively. They can be used alo or as part of the company's modular c tribution system. Finishes are wood leather grains or anodized aluminu Electro-Products Div., 3M Co.
Circle 228 on reader service card
[Products continued on page 286]

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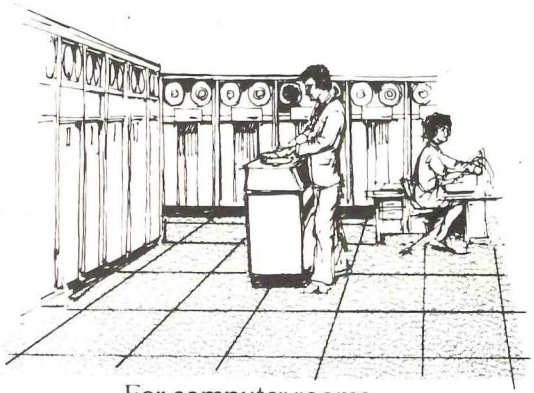

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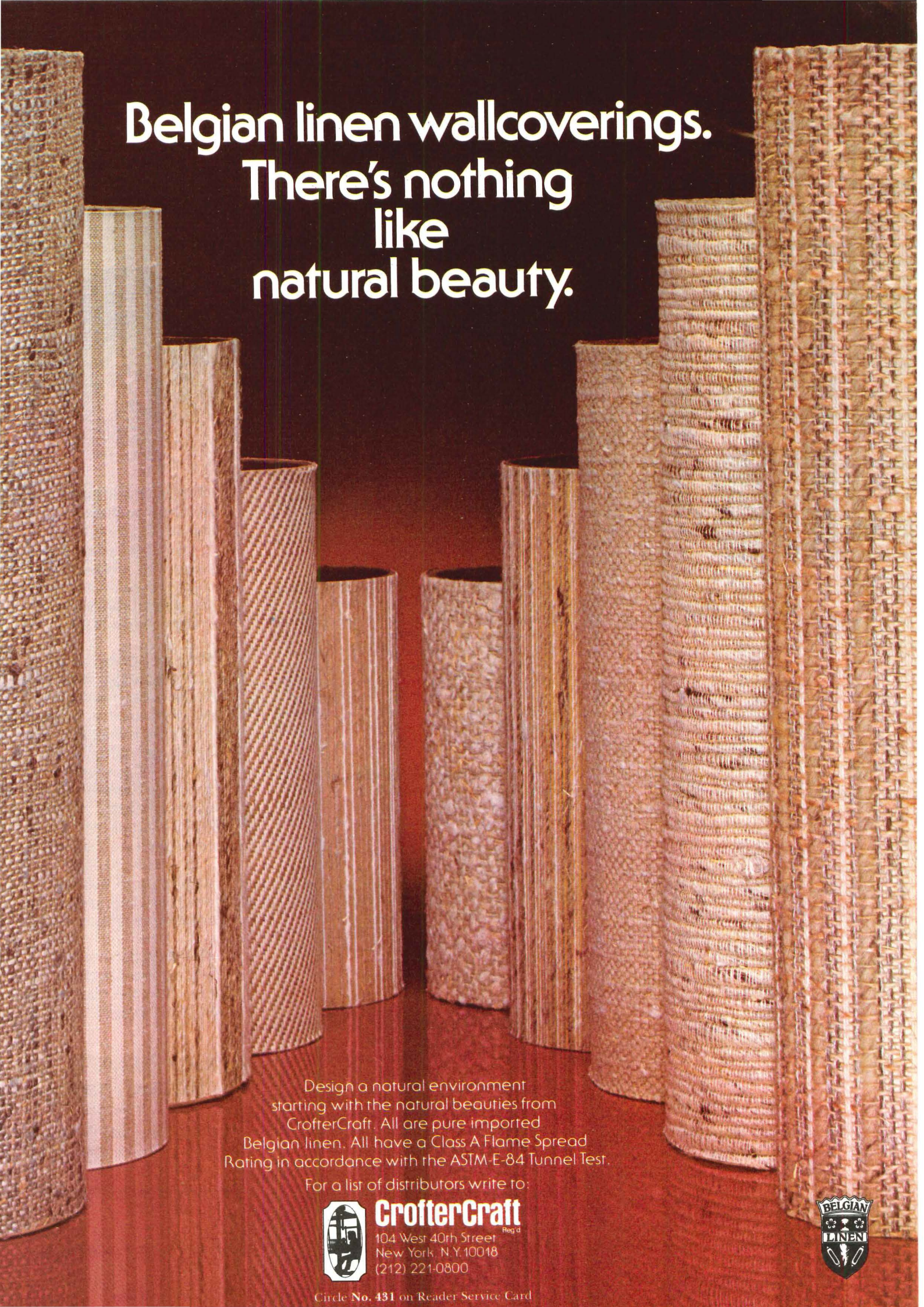

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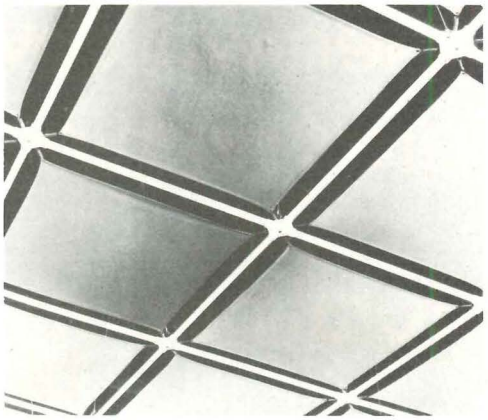
Products continued from page 284



A suspended ceiling, consisting of a metal pipe grid and fabric panels attached by springs to corner junctions, is available in 2-ft, 2½-ft, and 3-ft modules. The grid is finished in off-white, and the fabric panels of 100 percent cotton canvas come in 20 colors. The fabric, treated for flame retardance, has a flame spread rating of 10, smoke density of 15, and fuel contributed factor of 0 when tested in accordance with ASTM E-84 tunnel test. Integrated Ceilings.
Circle 229 on reader service card

The Trimlok System is a versatile ceiling using a standard 2′ x 2′ module. It can accommodate either simple lay-in panels or an integrated system of lighting fixtures, air distribution hardware, and acoustical treatment. The grid is a white-painted aluminum frame having a narrow exposed portion. Framing in custom colors can also be provided. Armstrong World Industries, Inc.
Circle 230 on reader service card

Luxalon® architectural ceiling panels of aluminum are available in a wide range of baked-on colors and in a choice of profiles. All components are noncombustible and resistant to corrosion. The panels are clipped to carriers, without screws, bolts, or rivets, and different types of carriers can be used in combination to produce varied patterns. Standard ventilation and lighting products can be used with the ceiling, and special air diffusers and lighting are also available. Hunter Douglas, Inc.
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Paraline™ linear metal ceilings of either steel for strength or aluminum for corrosion resistance have a two-hour fire rating. They come in a range of standard, factory-applied colors and polished aluminum. Also available are single-lamp or double-lamp light fixtures designed to blend with the ceiling, and air diffusers that can be incorporated into the ceiling. Donn Corp.
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[*Products continued on page 289*]

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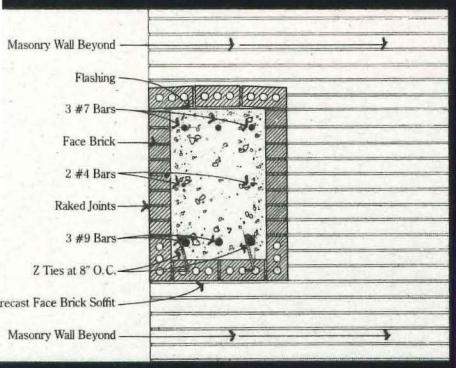
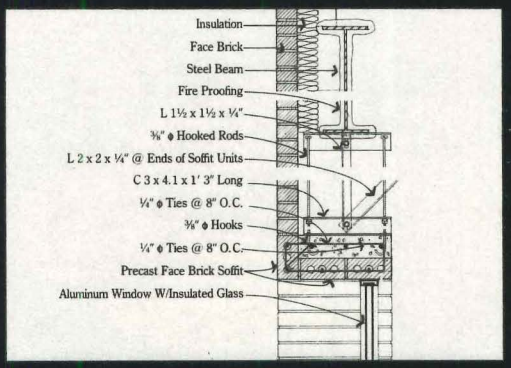
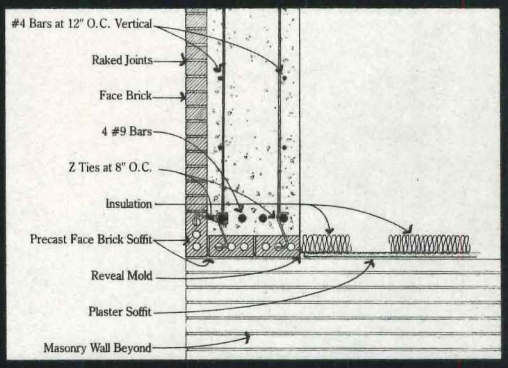


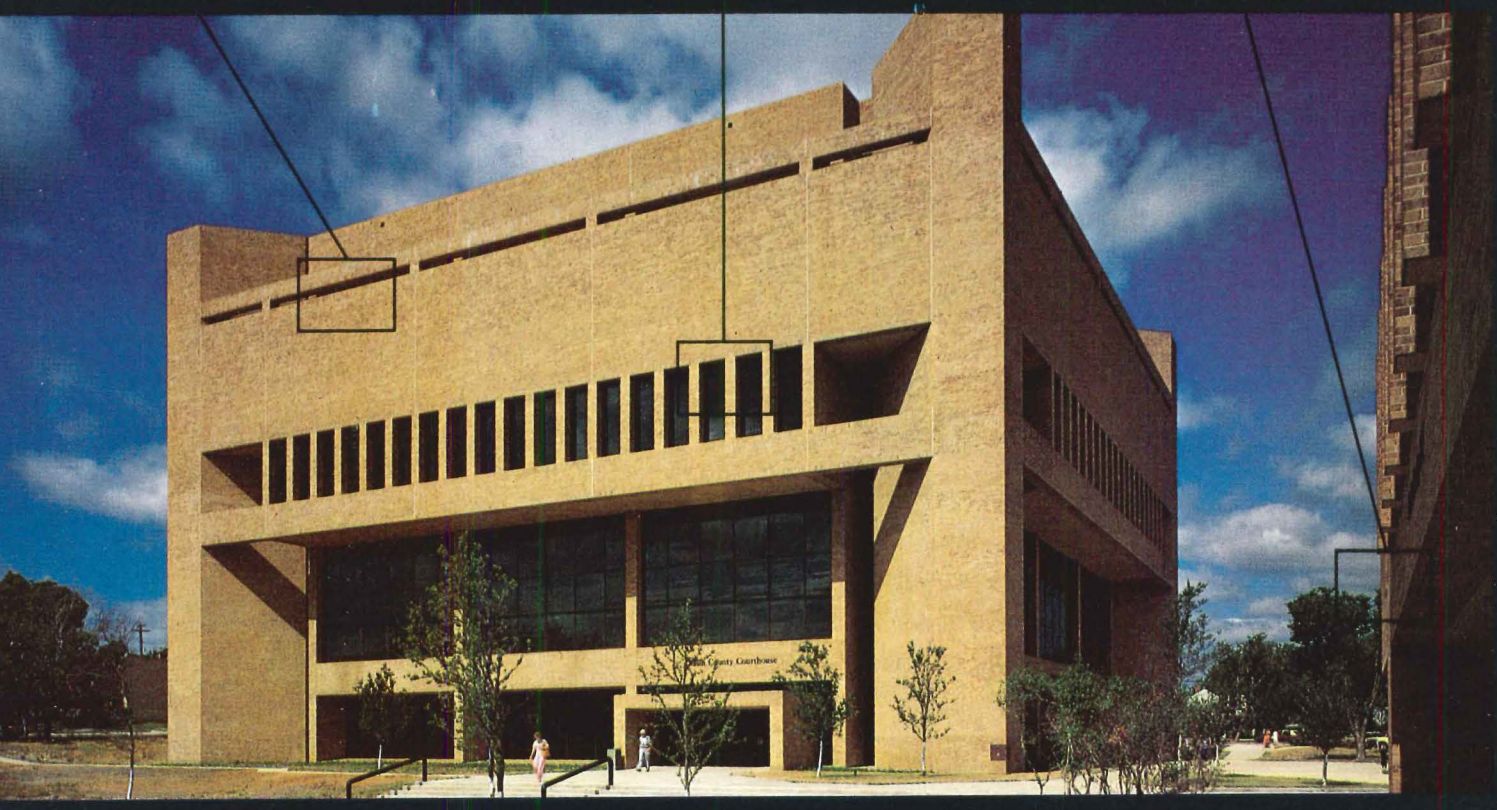
andrails were constructed by forming U-shaped channels. Reinforcing steel was then set in the els which were filled with concrete. The top e was finished with Acme Brick .



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



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



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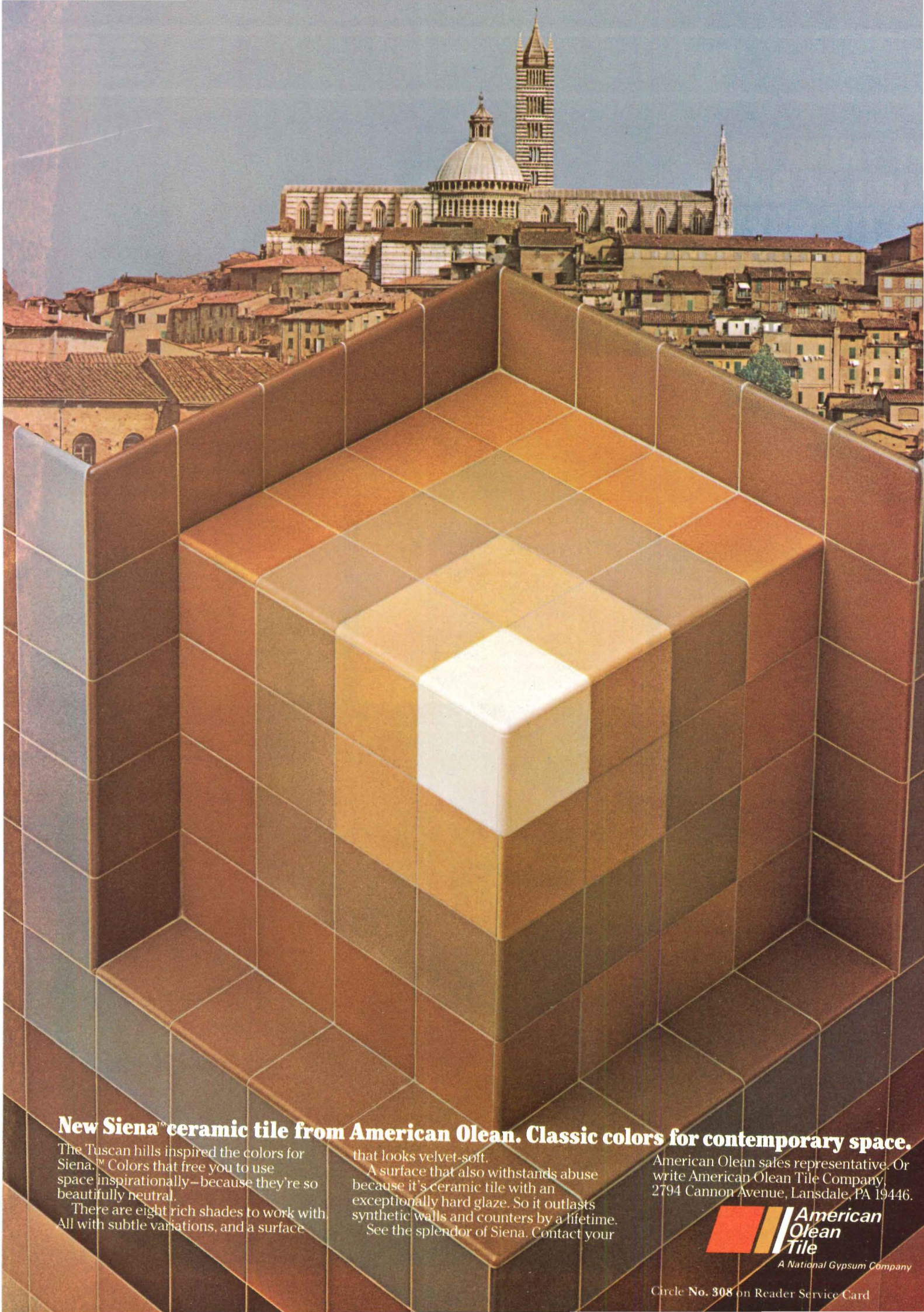

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roducts continued from page 286

bliced. There is a wide choice of colors nd finishes. Single and multitube lighting requires little fitting, and air distribution, designed to use slots between he panels, requires no panel modifications. Alcan Aluminum Corp., Alcan uilding Products.
ircle 233 on reader service card

aempa™ suspended ceilings consist of ghtweight aluminum panels, approximately 8 in. wide, which are available erforated, perforated with air slots, or nperforated. They can be used flat or ung as baffles. Single panels can be emoved for access to wiring, ducts, or ipes. There is a choice of more than 00 colors and metallic finishes. Levelor orentzen, Inc.
ircle 234 on reader service card

pan-Plank™ ceilings for new construction and Span-Plank + Plus for modernization consist of vinyl-laminated metal rips 3/16 in. wide and 3/4 in. deep, paced 1 in. apart. The planks snap onto nced tabs on a standard grid. Standard nishes are wood-grain and off-white. ir diffusers integrated into the system istribute air through the spaces between planks. Either fluorescent or high ntensity discharge lighting can be used. OK Products Co.
ircle 235 on reader service card

Solitude acoustical ceiling panels and tiles include perforated, fissured, and nondirectional designs. All have Class 25 acoustical ratings. Tested according to ASTM-E-84, the panels have a flame spread rating of 20; fuel contributed rating of 30; and smoke developed rating of 0. The panels come with a white, washable or scrubbable finish. Gold Bond Building Products Div., National Gypsum Co.
Circle 236 on reader service card

Acoustone® acoustical ceiling panels offer sound control, fire resistance, and improved insulation performance. The panels have a white textured finish over dark, solid colors of green, red, yellow, blue, brown, and charcoal, giving them a frosted look. United States Gypsum.
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Versa-Tile™ coffers are one-piece, rigid modules made from glass reinforced cement. Among finishes available are colored texture, exposed aggregate, acoustical foam coatings, or paint. They are capable of supporting most light fixtures without additional supports. Coffer depths range from 5 in. to 14 in. deep, and modules are 2, 3, 4, and 5 ft square. Matching flat panels are also available. The tiles have a Class 25 Flame Spread Index under the Federal Specification SS-S-118A. Johns-Manville, Holophane, Div.
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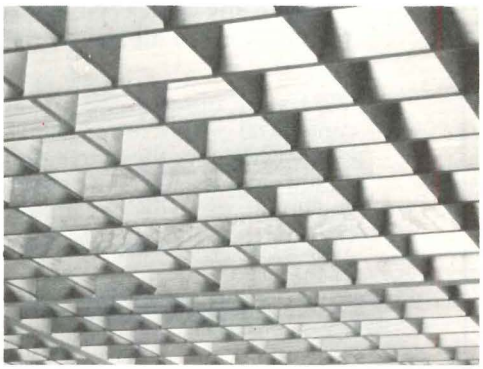
Ceiling literature



Ceiling Systems, an eight-page brochure, provides technical information about several types of ceilings: wood eggcrate; wood or chromium-plated steel grilles; and Sculpturewood solid wood profiles. Detail drawings show the various profiles, and full-color illustrations show the ceilings in typical installations. Forms & Surfaces.
Circle 239 on reader service card

'Ceiling Systems Handbook.' Directed primarily to ceiling installers, this handbook is also useful for architects. It describes the many methods of installing cemented, exposed grid, exposed or concealed Z-bar, H and T, nailer channel, and metal pan ceilings. A section on
[*Literature continued on page 290*]

Literature continued from page 289

special applications considers the installation of tiles in patterns, installations around lighting fixtures, access panels, and other specialized work. Information about integrated ceilings, luminous ceilings, and concealed grids is provided, along with a glossary of architectural terms and a list of safety procedures. The handbook is $10.25 a copy from: Ceilings & Interior Systems Contractors Association, 1800 Pickwick Ave., Glenview, Il 60025.

Several types of commercial ceilings are included in a 24-page interior products brochure. A ceiling selector chart provides dimensional data, insulating values, surface burning characteristics, and sound absorption coefficients of six ceiling panels. Surface textures are described and illustrated. Also in the brochure are insulation and noise barrier batts and acoustical wall products. Owens-Corning Fiberglas Corp., Interior Products Operating Division.
Circle 240 on reader service card

Luminaire ceiling systems combine lighting, air distribution, acoustical control, and fire-rated protection. A 30-page brochure describes the various types of ceilings and shows several installations. Technical information is included about lighting effectiveness, air distribution, noise control, and fire protection. Guide specifications are provided for the ceilings described. Armstrong World Industries.
Circle 241 on reader service card

Two types of ceiling system grids are Lok Steel Basic, a roll-formed steel tee grid and Drive Lok Basic, an extruded aluminum tee grid. Modules are 2′ x or 2′ x 4′, with custom adaptati available. A six-page brochure illustra grid options, typical modules, a examples of installations in color. T text discusses lighting, air handli sprinklers, and coffers/panels. Gu specifications are included for the t grids and components of the syste LOK Products Co.
Circle 242 on reader service card

Rock Face ceilings have a hard mine surface that resembles plaster. They a offered in a choice of reveal pan lay-in panels, or tiles. A six-pa brochure describes the ceilings, ill trates typical installations, and inclu a data summary chart for each ty Conwed Corp.
Circle 243 on reader service card

Soft Look ceilings have fabric surfa in six natural and six accent colors. T panels are ⅞ in. thick, made of per rated mineral fiberboard faced with fa ric. They are described in a four-pa four-color brochure that shows col available and provides physical data a specifications. Armstrong World Indu tries.
Circle 244 on reader service card

Controlens fluorescent lenses are d scribed in a six-page reference guid Performance data are provided on variations, along with a lighting patte for each. Photometric data tables, d mensions, specifications, and special fe tures are included. Johns-Manville.
Circle 245 on reader service card

Ceiling products catalog, 50 pag shows and describes designer ceilin problem-solving ceilings, and wall s tems. There is a ceiling panel and t selector for standard and fire-rat products. Methods of suspension a shown and described. Specifications f both systems and components are i cluded. Conwed Corp.
Circle 246 on reader service card

Acoustical ceiling systems catalog f 1980 lists characteristics and properti of several types of mineral fiber ceilin An explanation of the tests used to d termine fire resistance and sound a sorption is provided. Panels and typi installations are illustrated in color, i cluding a Mylar-coated panel for u where a mirror effect is desired. The are also architectural specifications a a section on ceiling cleaning a maintenance. Celotex Corp.
Circle 247 on reader service card

Walkerflex™ power systems consist cable sets that connect to hardwired d tribution systems. Each cable plugs in a receptacle which will accept anoth cable set. A series of up to 20 200-wa fixtures can be accommodated on standard 277-volt circuit. A six-pa full-color brochure describes the pow system and illustrates its elemen Walker Parkersburg Div. of Textro Inc.
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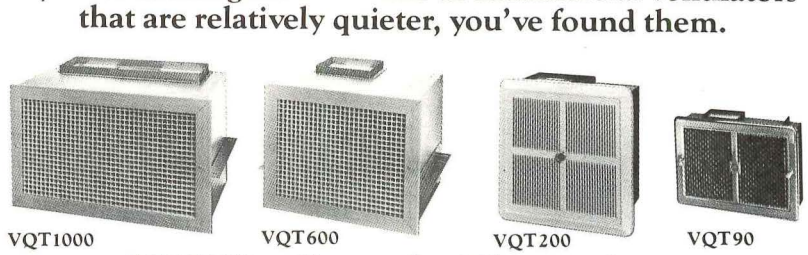

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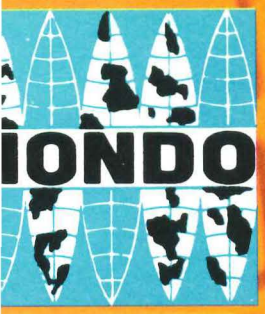

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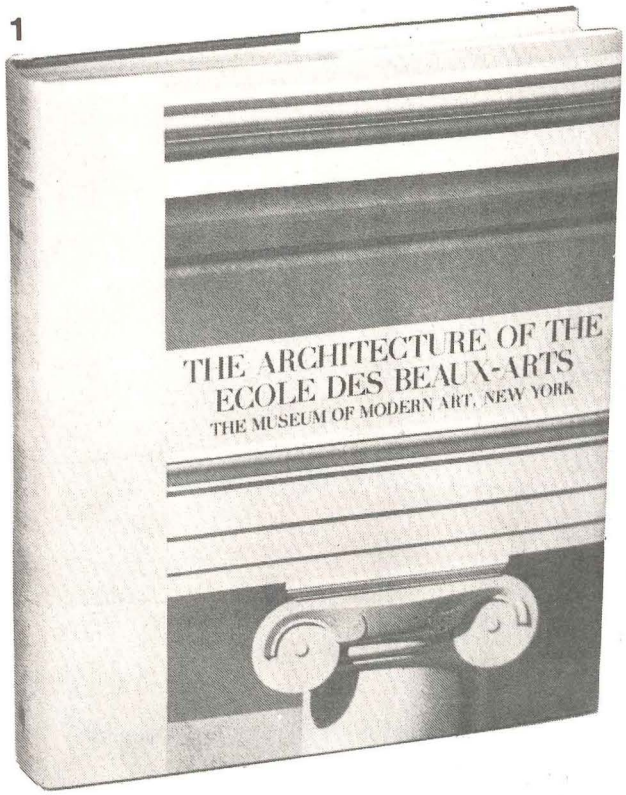

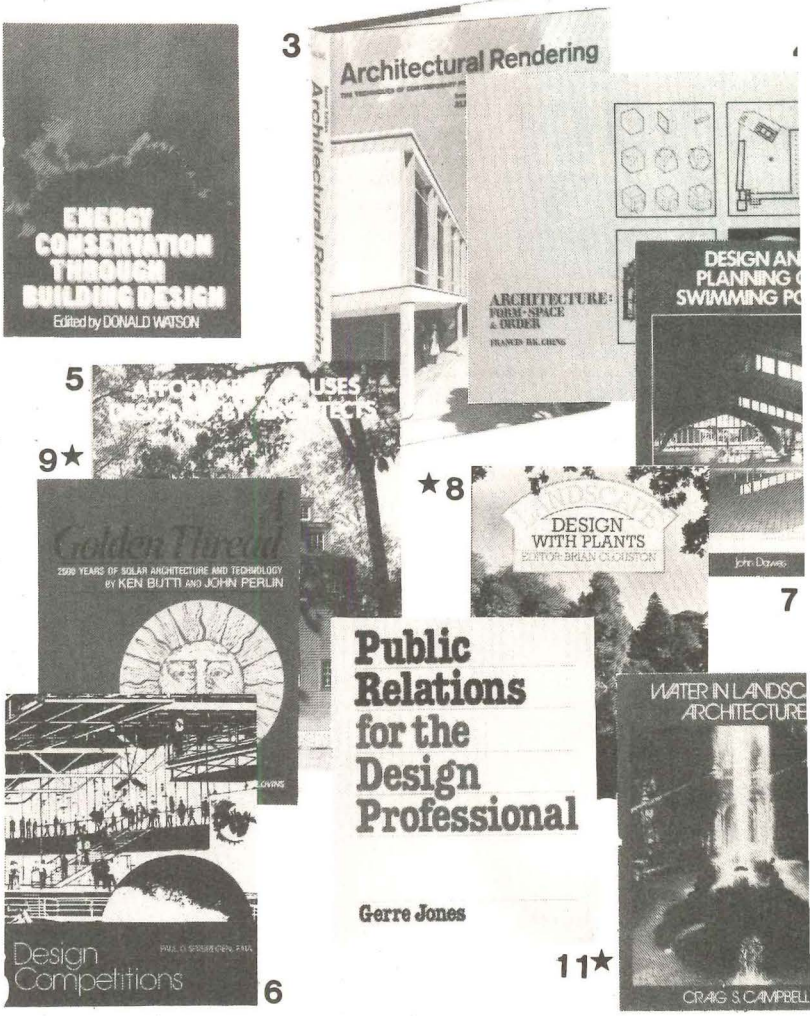

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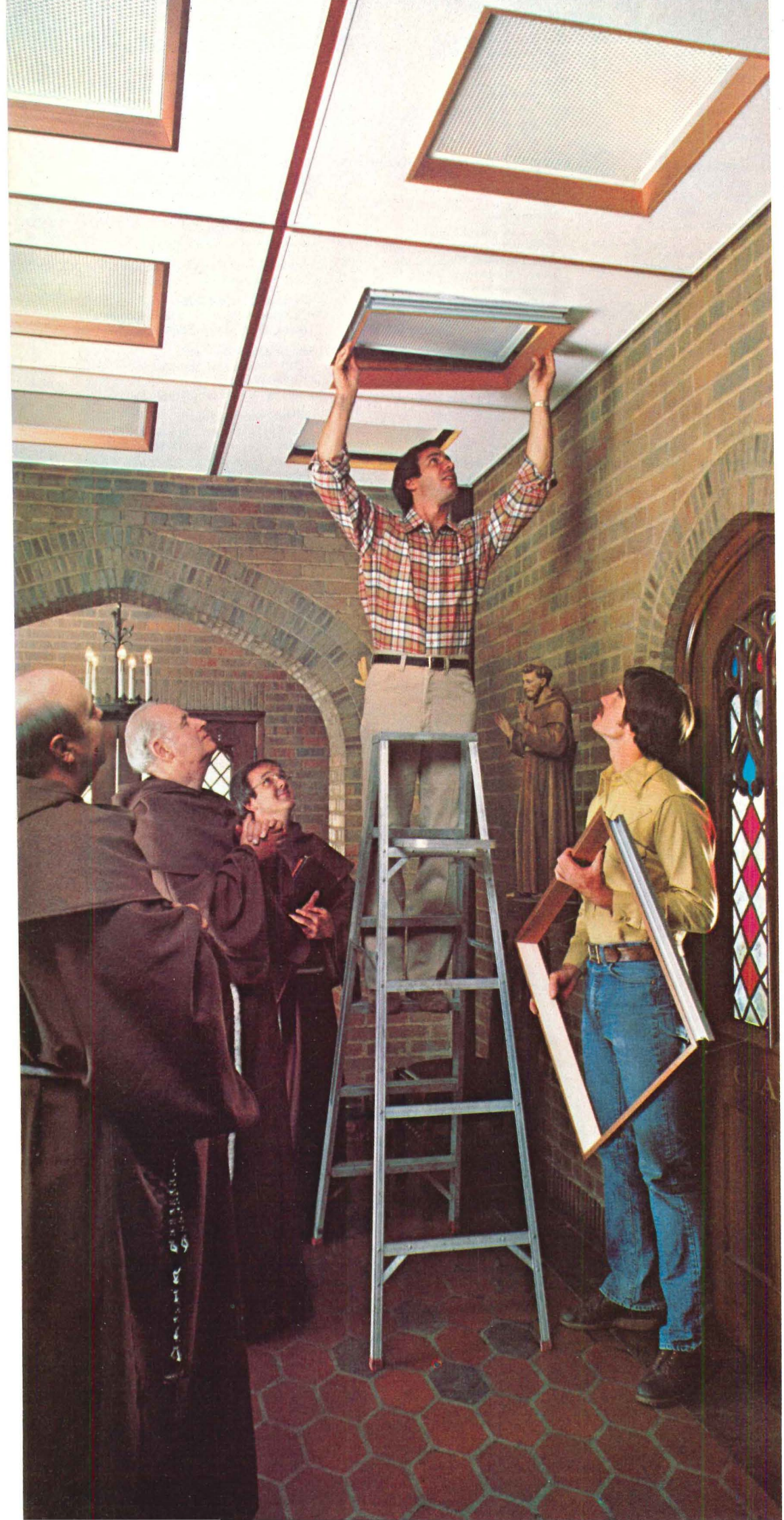

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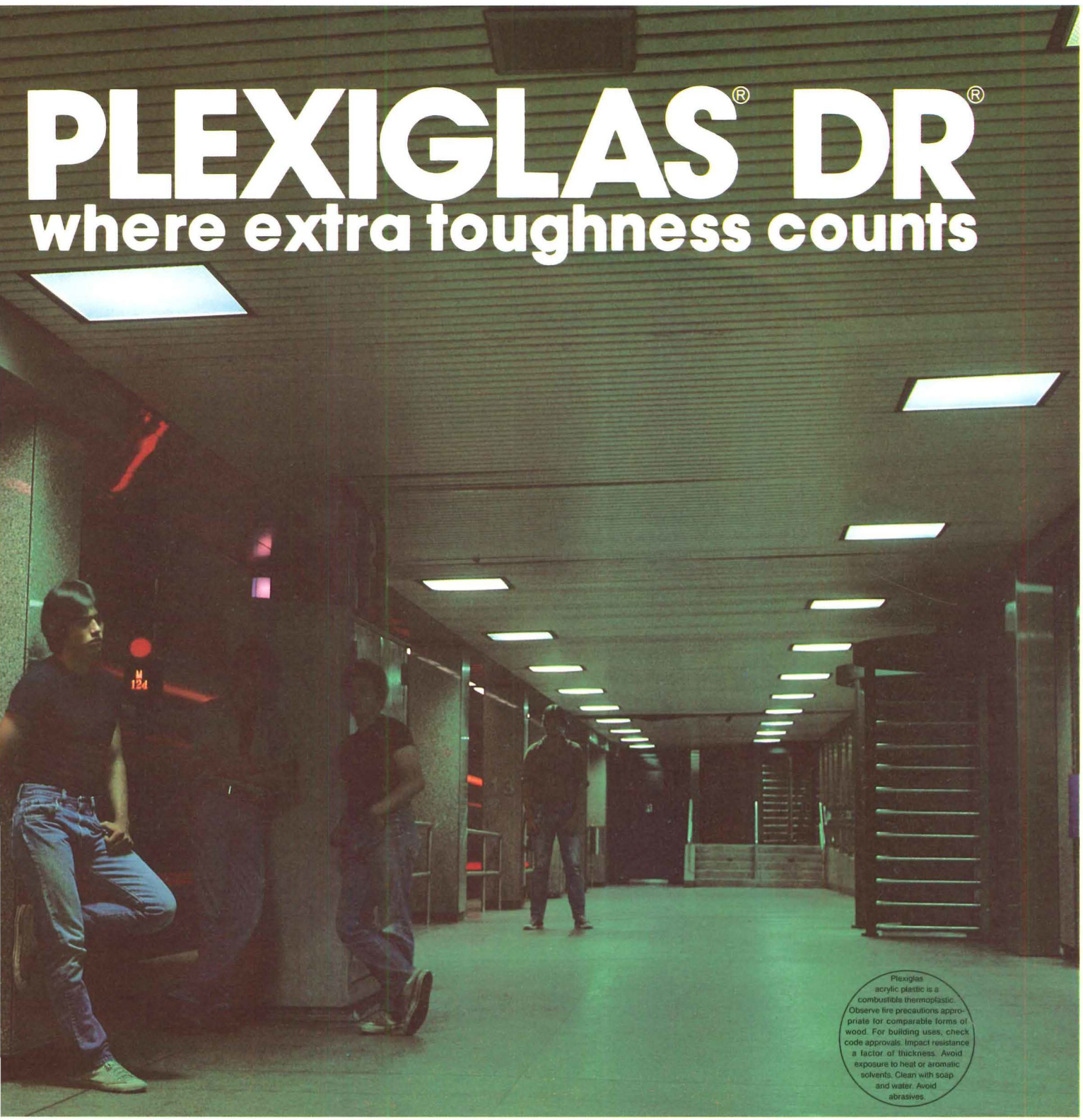

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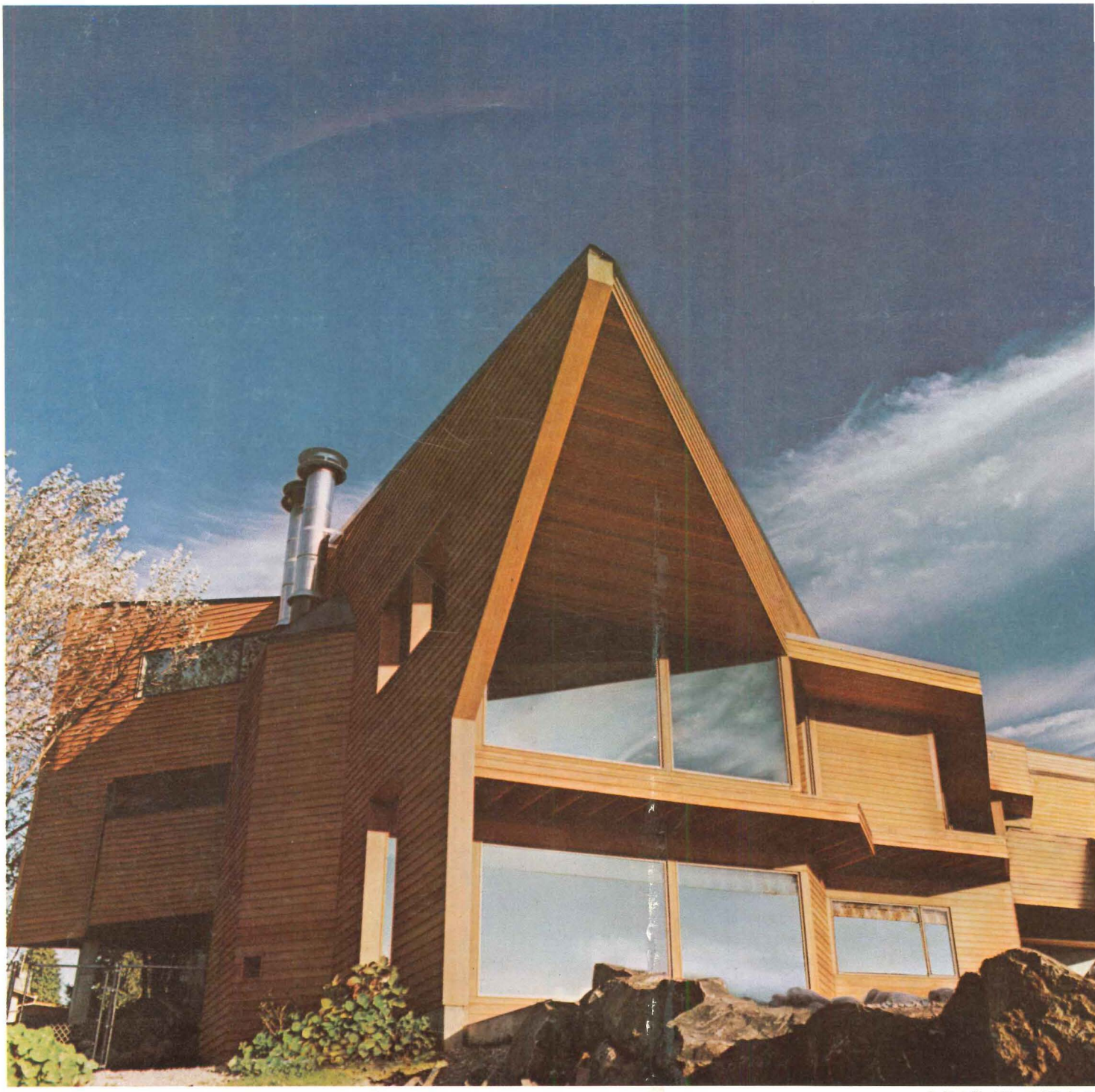

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