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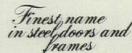
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MABP (MPA

7 Editorial: Competition contention 3

Architectural design: Urban shopping centers

81 Introduction: Shopping goes to town

New malls in three U.S. cities and a unique Italian supermarket are the subjects of articles, followed by a discussion by P/A editors of three such centers by The Rouse Company.

Downtown devitalized

The author feels that, in some cases, in-town malls are detrimental to the business district rather than enhancing it. By Roberta Brandes Gratz.

Mall modifications

Designers of newer urban and suburban shopping areas are trying to respond to the environment more responsibly than some earlier ones did.

84 A place in Santa Monica

Santa Monica Place, designed for The Rouse Corporation by Frank O. Gehry & Associates with Gruen Associates, is a retailing success and an architectural contribution to the area.

Energy analysis Vladimir Bazjanac provides an energy analysis of Santa Monica Place.

90 As Troy turns

Uncle Sam Atrium, Troy, NY, by architects Geoffrey Freeman Associates and the ELS Design Group sounds like a soap opera.

94 Procession in Pasadena

Charles Kober Associates demonstrates contextual sensitivity in the design for Plaza Pasadena, a downtown shopping center

98 Supermercato

Franco Paulis combined elements of the past and present in his design for Euromercato Brianza, a supermarket on the outskirts of Milan, Italy.

100 Roundtable on Rouse

P/A editors discuss three Rouse Corporation shopping centers: Faneuil Hall Market Place, Boston; Harborplace, Baltimore; and South Street Seaport, New York.

Technics

115 Interior technics: Mirage

Photomurals are emerging more than ever as part of interior design. Technical aspects to consider in their selection include printing method, mounting, adhesives, and lighting.

Body insults from buildings

Building design presents potential hazards to users. Efforts are focusing on ways to reduce such accidents and injuries.

131 Specifications clinic: Furniture flammability standards

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Cover: Santa Monica Place, Santa Monica, Ca (p. 84), designed by Frank O. Gehry, as approached from the south. Photo: Tim Street-Porter.



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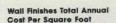
But in every comparison the imitators can't stand the heat...they can char or ignite and some emit toxic fumes when burned.

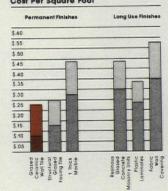
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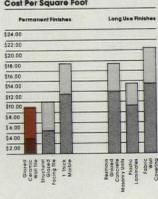
Perhaps these are the reasons why the United States is entering the "ceramic era"... value, performance and product integrity will be the real buying influences.

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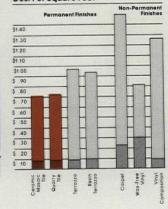




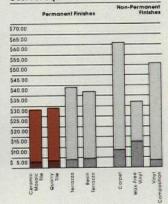
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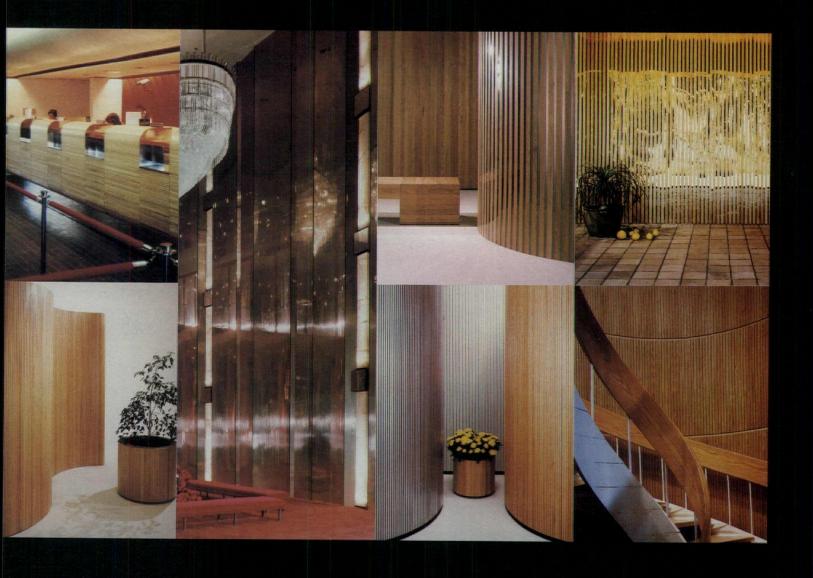
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Competition contention 3

There are signs that the AIA may make a continued commitment to adequate, unbiased guidance on design competitions. Otherwise, negative expectations about them may be selffulfilling.

AIA's ambivalence toward competitions may finally be resolving into disinterest.

A paralyzing ambivalence set in a decade ago, after the Federal government took AIA out of the business of approving competitions; shorn of power or obligation to regulate competitions, the institute went into a period of bickering over their validity, while defending "normal" methods of architect selection. Disinterest, by contrast, permits impartial action on the subject; a disinterested AIA can make a point of providing informed guidance for competitions to interested members of the public and the profession. It does not take sides on the validity of competitions, but in describing the requisites of an effective competition, it makes clear both the virtues and the pitfalls of the process. A few of the more significant points raised:

The professional adviser—a role as crucial to a genuine competition as that of the jury-"must have no vested interest in the project, either as designer or as an employee of the sponsor." There should be, however, a "single person of authority within the sponsor's organization" as the adviser's principal point of contact. And the adviser-sponsor agreement should cover the possibility of the adviser's quitting in protest.

Technical consultants, "to preserve objectivity," should not be drawn from the sponsor's staff.

Entry fees should be an indication of the participant's seriousness of purpose; competitors should not be "put in a position of subsidizing a competition in addition to the expense involved in preparing a submission."

The cost of holding a competition will typically range from around 2 percent of total cost for a small commission down to much lower percentages for large ones-0.20 percent, for instance, for the Boston City Hall. (These costs are the sponsor's only.)

The jury's role is portrayed rather dryly as evaluating entries in relation to stated requirements, without "interjecting considerations in addition to or contrary to those specifically described in the program." Would-be competitors are urged "to be wary of architect-jurors who are principally known for a particular approach to design." In their understandable desire to make the competition process dependable, the handbook drafters may have envisioned a jury too docile to select—or even attract—really advanced so-

The value of the jury report is clearly explained, as is the need to avoid a minority report, as such, in making its deliberations public. Any open dissent on the first-place winner can fatally undermine the majority choice, particularly if the proposal must undergo review by other bodies.

Specific provisions are urged to cover the rare instance where the jury finds no entry worthy of first place. Other contingency situations to cover: alternate compensation to the first-place winner if the project doesn't proceed; permission for incorporation of features from a non-winning entry into the actual project.

A very telling sign of the times is a recommendation that the rules cover revenue from sale of competition drawings

Finally, the handbook offers prospective competition planners a source of model programs from the AIA.

The handbook itself is to be distributed to AIA components and can be obtained free by any interested parties from the AIA headquarters in Washington.

The competitions handbook is an excellent step, in itself, but effective guidance on the subject can be provided only if AIA continues to maintain an adequate, informed staff capability in this area. Since February 1980, the institute has offered a full-time Competition Advisory Service, supported in part by a matching grant from the National Endowment for the Arts. The grant, plus cash, staff time, and the volunteered effort of some devoted members, has made possible publication of the handbook, organization of a competitions archive, and informed answers to inquiries. But the NEA grant terminates next month-and with it the service, unless the AIA can come up with other funding.

A recent meeting of the AIA's Committee on Design called upon the institute to maintain the advisory service—as a source of guidance and with some additional roles: reviewing competition programs for conformity to handbook recommendations—thus affording an optional "approval" mechanism; disseminating information on current competitions to AIA members; issuing guidelines on the now proliferating quasi-competitions. (More on these processes next month.) These recommendations—plus another to take a survey of AIA members' positions regarding competitions—have been favorably received at intermediate levels of the organization, so there is hope that the AIA will be able to do right by architectural competitions, after all.

John Maris Difa

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Minimal memorial

The arrogance exhibited by the jury in their selection of, and participation in, the winning design for the Vietnam Veterans Memorial was extremely disappointing. Their first place winner is certainly "minimal": minimal in effort; minimal in result; minimal in the number of people who will notice it; and worst of all, minimal in the number of design criteria that it meets.

The following program requirements are not addressed:

- 1 What of the veterans who didn't die?2 What of the conciliatory require-
- ments of the memorial?

 3 What of the barrier free requirements?
- 4 What of the budget?

The poetic description prepared by the designer is a beautiful explanation of all elements of her entry. The most striking part of this narrative is the beautiful description of the beginning and end aspect of the chronological listing of the dead.

While preparing my own entry, I realized that the only logical way to list the names is *alphabetical*. Otherwise, distant relatives, classmates, neighbors, etc., would have to read through more than 57,000 names to find the one they want. When the significance of the point where the walls meet becomes the place where the m's end and the n's begin, the design becomes even more "minimal."

This entry is interesting but certainly not worthy of the tremendous ideas that it *must* convey.

John R. Johansen, AIA Houghton, Mi

[The questions raised are worth considering. We see no basis, however, for ascribing "arrogance" to the jury. The program did not call for explicit recognition of "those who didn't die" or of "conciliation" and deliberately set no budget limits. We, too, raised the question of barrier-free access in our news coverage (June 1980, p. 34). The alphabetical listing deserves to be considered.—Editors]

Corrections

The building on a Manila Bay site by architects Jorge Y. Ramos & Associates and The Architects Collaborative was incorrectly identified in the April news "In progress," p. 64. It is the Govern-

ment Services Insurance Systems building.

Edward D. Levinson, who wrote the news article on Noguchi's Miami bay-front park (P/A, May 1981), was incorrectly identified. He is a professor of architecture at the Miami-Dade Community College.

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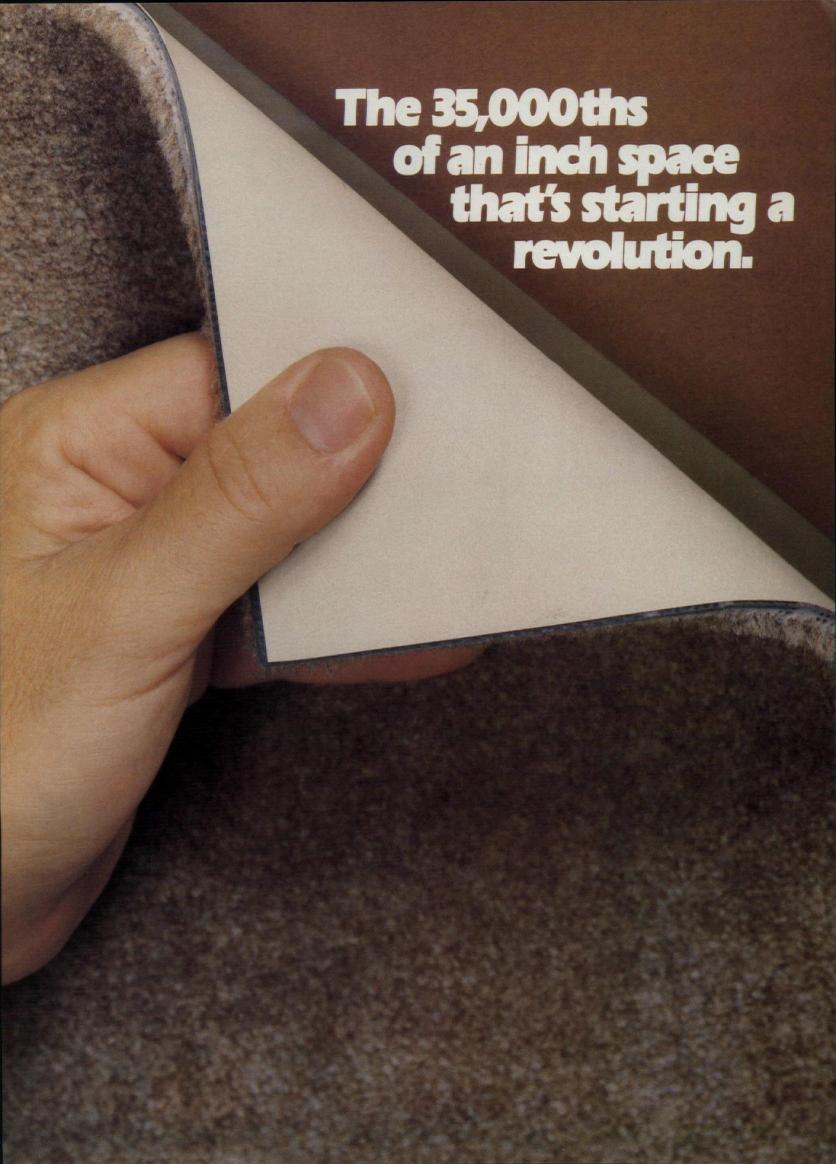
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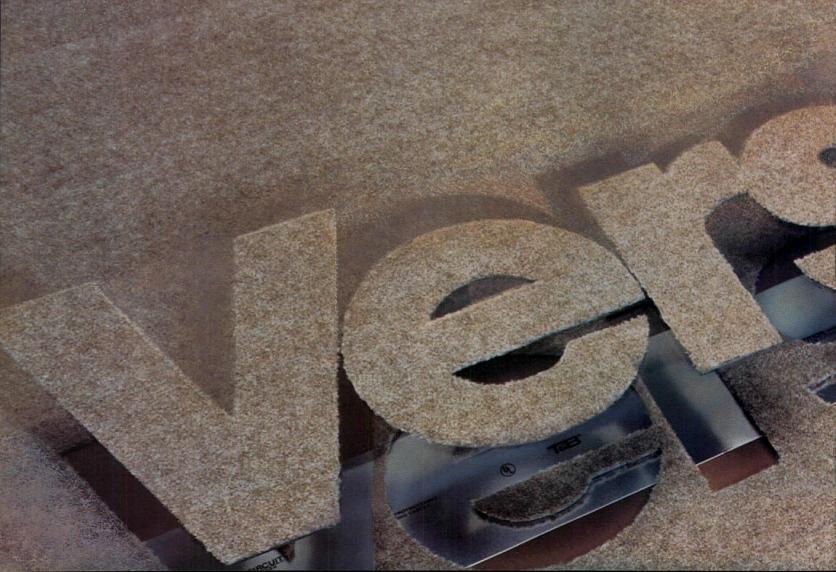
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Judging will take place in Stamford, CT, during September 1981. Winners will be notified - confidentially - before Oct. 1. First public announcement of the winners will be made at a presentation ceremony in New York in January 1982, and winning entries will be featured in the January 1982 P/A. Recognition will be extended to clients, as well as professionals responsible. P/A will arrange for coverage of winning entries in national and local press.

Eligibility

1 Architects and other environmental design professionals practicing in the U.S. or Canada may enter one or more submissions. Proposals may be for any location, but work must have been directed and substantially executed in U.S. and/or Canadian offices. 2 All entries must have been commissioned by a specific client. Only work initiated on the client's behalf - not in fulfillment of academic requirements - is eligible (but design teams may include students). 3 Any project is ineligible if it has been, or will be before Feb. 1982, the subject of publication (on one full page or more) in Architectural Record or AIA Journal. 4 Architectural design entries may include only buildings or complexes, new or remodeled, scheduled to be under any phase of construction during 1982. 5 Urban design and planning entries may include only proposals or reports accepted by the client for implementation before

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Your attention is called in particular to revised rules in paragraphs 3 and 7.

the end of 1982. Feasibility and implementation strategy should be documented.

6 Research entries may include only reports accepted by the client for implementation before the end of 1982. Submissions should deal with programming, design guidelines, or post-evaluation for a *type* of project or problem. Research methodology and ways of disseminating findings should be documented.

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8 If the submission should win, the entrant agrees to make available further information, original drawings, or models, as necessary, for publication in the January 1982 P/A. The entrant will also provide appropriate slides for the presentation ceremony and reproducible black-and-white graphic material for press releases.

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12 Each submission must include a onepage synopsis, in English, on the first page inside the binder, summarizing the intent and principal features of the entry. Synopsis should take up economic, environmental, energy, and user need aspects of the proposal. Synopsis must conclude with a statement on: why this submission deserves recognition.

13 Each submission must be accompanied by a signed entry form, to be found on this page. Reproductions of this form are acceptable. All four sections of the form must be filled out — using typewriter, please. Insert entire form, intact, into unsealed envelope attached inside back cover of submission.

14 For purposes of jury procedure only, please identify each entry as one of the following: Education, Housing (Singlefamily), Housing (Multiple-unit), Commercial, Industrial, Governmental, Cultural, Recreational, Religious, Health, Planning and/or Urban Design, Applied Research. Mixed-use entries should be classified by the larger function. If unable to classify, enter Miscellaneous.

15 Entry fee of \$30 must accompany each submission, inserted into *unsealed* envelope containing entry form (see 13 above). Make check or money order (no cash, please) payable to *Progressive Architecture*.

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17 Deadline for mailing is August 31. Other methods of delivery are acceptable. In any case, entries must show postmark or other evidence of being en route by deadline. Hand-delivered entries must be received at the address shown here by August 31.

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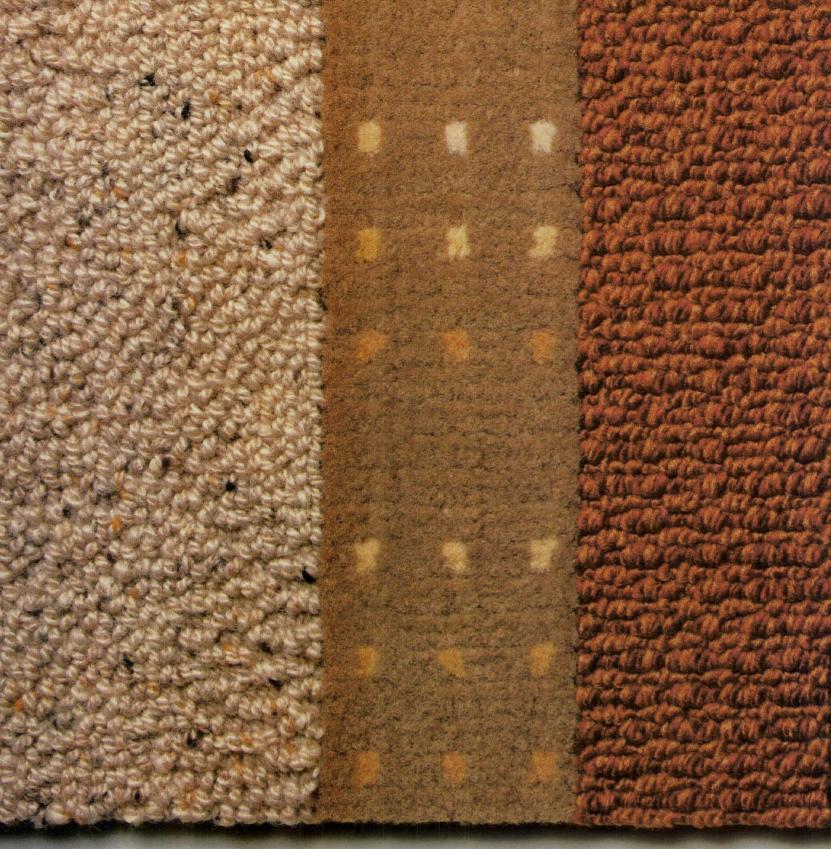
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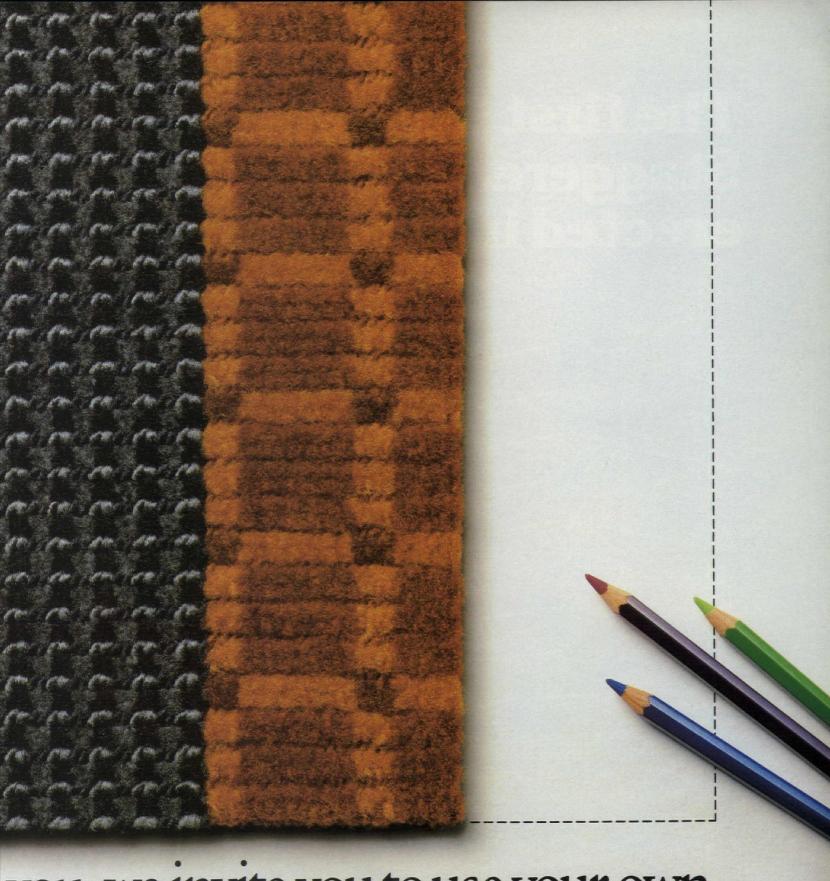


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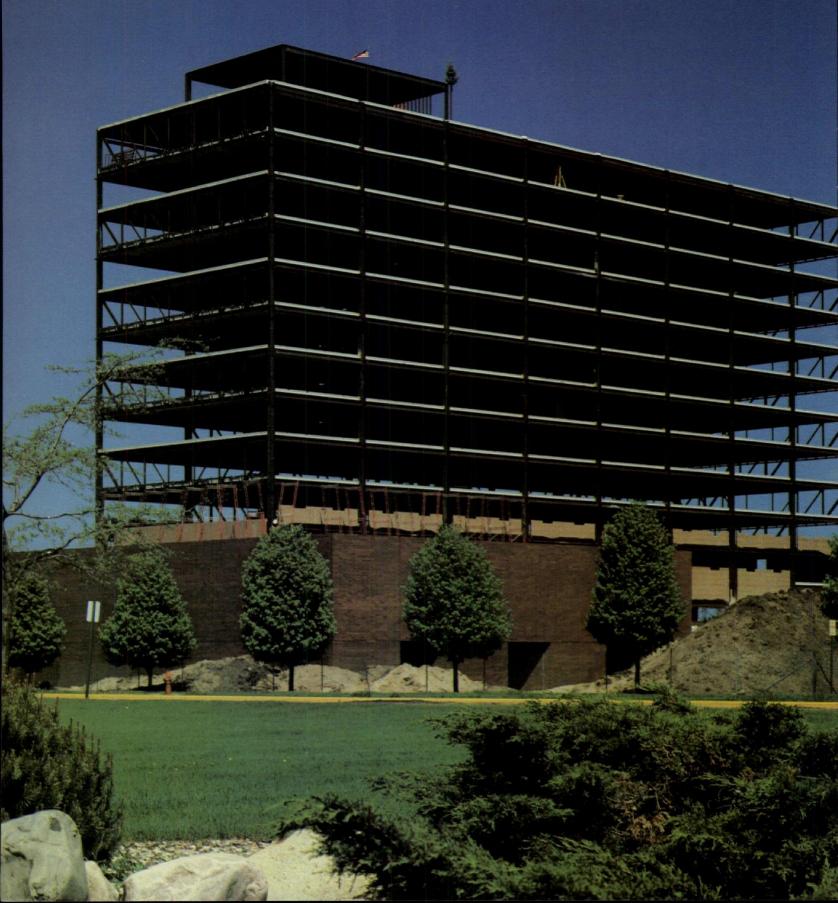
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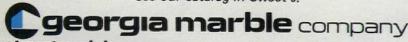
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PA News report

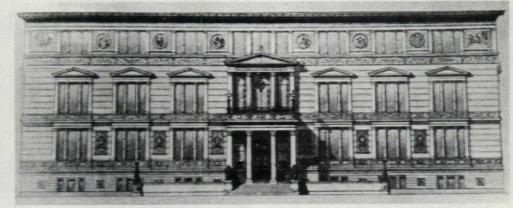
Schinkel exhibitions in both Berlins

In light of the current efforts to reverse the reductive trend of Modern architecture, it is of critical concern that the cities of East and West Berlin both recently mounted pivotal exhibitions celebrating the bicentennial anniversary of the birth of Prussia's most allusive architectural virtuoso, Karl Friedrich Schin-kel (1781-1841). Schinkel's corpus of work interweaves Neo-Classicism, traditional Germanic Gothicism, Romanticism, and visionary fantasy while acknowledging the rapidly approaching industrial revolution, and thus complements today's resurgent interest in historicism and cultural context and satisfies the trend to reevaluate previously discounted architectural strate-

In East Berlin, the Schinkel exhibition (October 1980 to March 1981) occupied the entire main floor of the Alte Museum, Schinkel's recently restored masterpiece of restrained Neo-Classicism. And in West Berlin, two separate official exhibitions were mounted: the main exhibit at Charlottenburg Palace will continue through September 13, 1981, and the more informal exhibit at the Martin-Gropius-Bau closed in May.

The wide scope of Schinkel's oeuvre is most clearly manifested in the East Berlin exhibition. The collection comprehends not only his built architecture, but his unbuilt fantasy projects as well: schemes for a Palace on the Acropolis, a Palace for the Czarina of Russia at Orianda, a reconstruction of Pliny's villa, and a Palace at Charlottenhof are illustrated by Schinkel's striking polychromatic drawings. Furthermore, his designs for stage decorations (for Mozart's "The Magic Flute," for example), furniture, and utilitarian objects (glazed pottery, glassware, and picture frames) prove Schinkel's masterly craftsmanship. Finally, the Charlotten-burg Palace display of Schinkel's paintings, executed in the romantic tradition of Philipp Otto Runge and Caspar David Friedrich, complete the overwhelming impression of Schinkel's renaissance-like range. The catalog of the main West Berlin exhibition reflects this range, with essays on "Karl Friedrich Schinkel: Personality and Work, "Schinkel as a Painter," "Schinkel as the Architect of the City of Berlin," "Karl Friedrich Schinkel: Thoughts on Art,"









Cathedral at Wasser, Schinkel with Wilhelm Ahlborn (top); Martin-Gropius-Bau (middle); Palace at Orianda (bottom left); Alte Museum (bottom right).

"Stage Decorations after 1815," and "Schinkel as an Industrial Designer."

The exhibitions' displays of Schinkel's built works proved his ability to circumvent the traditional meaning of the word "style": by fusing diverse vocabularies without relying heavily on any one idiom, he focused attention on the idea of composition. The Römische Bäder (1833) combines elements of a Tuscan vineyard environment with Greek Doric architecture in a romantic ensemble loosely enclosing a garden court. The Neue Wilhelmstrasse (1819), a series of shops, links the Spree River with Berlin's main avenue in a manner reminiscent of the Uffizi connection between the Piazza della Signoria and the Arno River in Florence. The main façade of the Alte Museum (1823) derives from the monumental colonnade of the Classical Greek stoa, but the side and rear facades, influenced by Boullée and Ledoux, employ one of the first examples of the modern "reveal" to emphasize the expression of the building's structure. Finally, the Bauakademie (1831) combines cast-iron structural framing, seen by Schinkel in his 1826 visit to England, with a façade built in the tradition of German "Backstein" (a polychromatic arrangement of brick and ornamental terra cotta) and classically pedimented fenestration.

Although many architects are only now "rediscovering" Schinkel as a potential source of inspiration, the West German Martin-Gropius-Bau exhibit illustrates that Schinkel has always been a recognized fount. The show includes a section devoted to the "Schinkel-Schüler," followers of Schinkel's style, who heretofore have attracted little attention outside of Germany. The design of the Martin-Gropius-Bau itself is representative of the Schinkel-Schüler in that it extends Schinkel's discipline of "Backstein" and incorporates many elements inspired by the Bauakademie and "das Architektonische Lehrbuch," Schinkel's unpublished treatise on architecture. Originally the Arts and Crafts Museum for the City of Berlin, the building was designed in 1875 by two protégés of Schinkel, Martin Gropius and Heino Schneiden. Located against the Berlin Wall and damaged during World War II, it is only now being restored.

Through a striking comparison of the Römische Bäder (1833) with Frank Lloyd Wright's Dana House (1899), the Martin-Gropius-Bau exhibition suggests Schinkel's international influence on Modern architecture. The similarities are startling and undeniable. They stimulate one's memory to produce further comparisons. The strong affinity between the Alte Museum and Mies van der Rohe's Crown Hall (1952) comes immediately to mind. The acknowledged effect of Schinkel's sketches from the gardens of the Villa Borghese in Rome (1803) on the design of Michael Graves's penthouse pavilion for the Portland Public Service Building (1980),

and the influence of the Neue Wache (1817) on Charles Moore's design for the Piazza d'Italia (1978) are contemporary examples of the tradition which draws on Schinkel's *ouevre* for inspiration.

The Berlin exhibitions clarify Schinkel's position as a figure whose work expanded the concerns of architecture. And as an architect who drew upon Gothicism, Romanticism, Neo-Classicism, and Modern architecture, Schinkel can serve as a model for contemporary designers attempting to bridge orthodox Modern architecture and the past. [Kenneth Steele Hazlett]

Kenneth Steele Hazlett is a principal in the architectural firm Studio Chicago. He is one of three editors of a limited facsimile edition of Karl Friedrich Schinkel's Sammlung Architektonischer Entwurfe, "Collection of Architectural Designs," published in April 1981 by Exedra Books Inc., Chicago.

Furniture by architects

"It is not surprising," write Rodolfo Machado and Jorge Silvetti in the catalog to Furniture by Architects, "to see the renewed interest in furniture design by leading architects today. It corresponds to a 'comeback' of the discipline of design in general after a hiatus of almost two decades in which design relinquished its most precious attributes to other professions and disciplines."

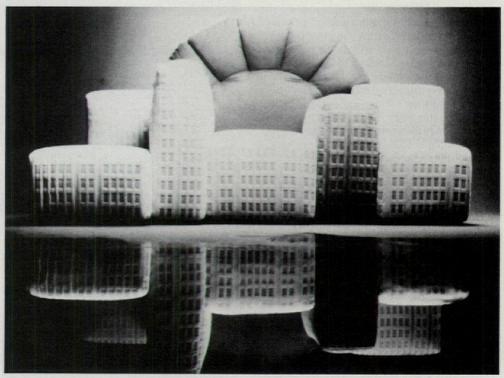
While much has been written about the disappointment of post-war Modernism, the exhibit at MIT's Hayden Gallery, May 16-June 28 is among the first to show this aspect of the efforts to redress that disappointment.

It is an eccentric little show, ranging from work by Italy's acclaimed designer Vico Magistretti to a not-yet-produced piece by talented beginner Elizabeth Diller. And as most of the designers in the show have actual pieces or prototypes on display, it makes for an interesting and concrete juxtaposition of various directions now being explored. Included is Frank Gehry's revolutionary cardboard furniture of a decade ago, an attempt to produce low-cost furniture in an era where the Bauhaus's socialist aims had become completely inverted by the marketplace. There is Emilio Ambasz's and Ĝiancarlo Piretti's "vertebra" chair, an advanced statement of ergonomic design. The current embrace of tradition is represented by Michael Graves and Richard Meier. Slightly more ironic are the classically derived pastiches of Machado and Silvetti. And pure humor lies behind a Corinthian column lamp by Stanley Tigerman and the "Sunset over New York" sofa by Gaetano Pesce.

The recent investigation of urban form as interior stage set is shown to advantage with a beautifully crafted chair by Tod Williams and Billie Tsien. There is even a piece, derived somewhat peripherally, from the emerging New Wave aesthetic by James Evanson.

Storyboards attempt a kind of recent history of furniture but, as in the exhibit, there is no real point of view. As an exhibit, it is too soon or perhaps only too broad. But the collector's instinct for a happening—the keen pursuit of furniture design by a wide range of architects—is very much to the point. [NM]

[News report continued on page 31]



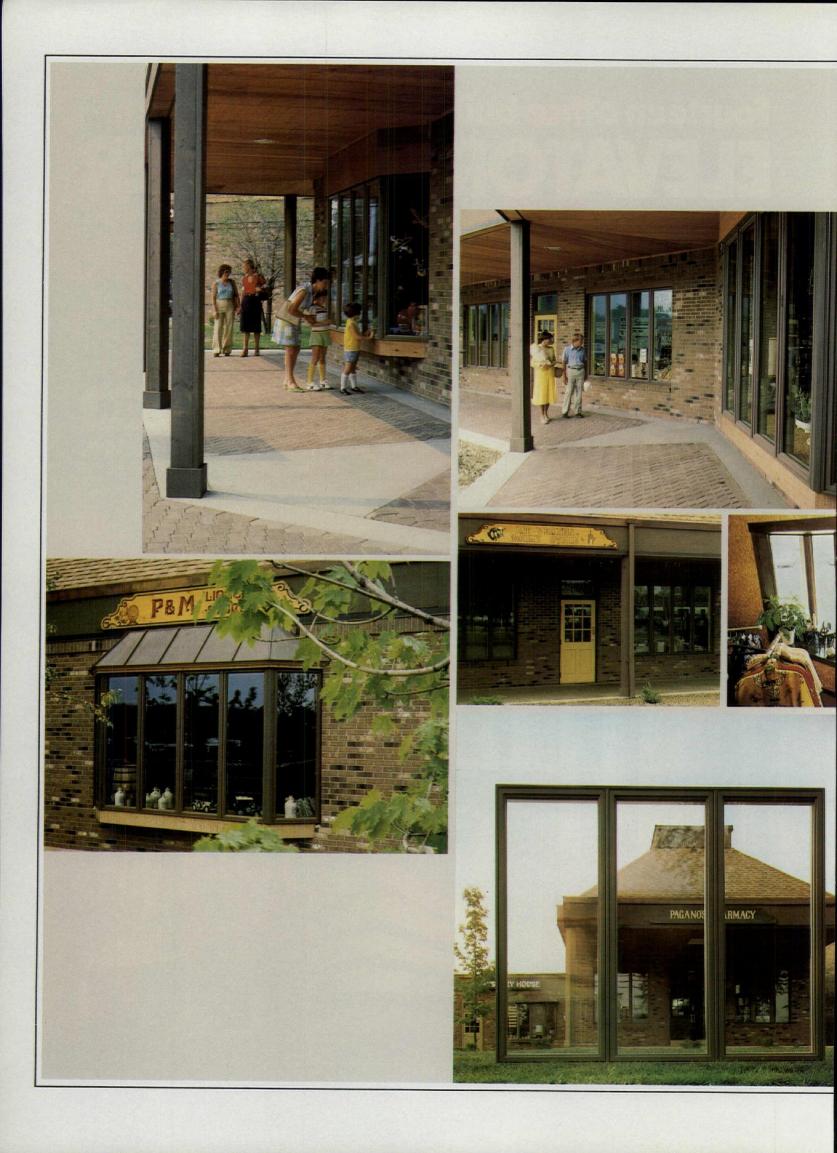
Gaetano Pesce's "Sunset in New York" sofa.



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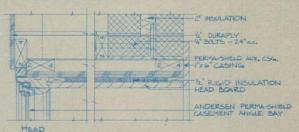
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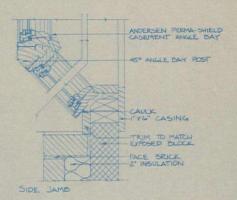
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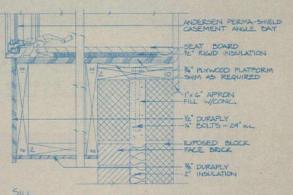
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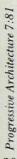


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Learning from Las Vegas?

Hennepin Avenue, once the Main Street of Minneapolis, is also the closest thing the city has ever had to Manhattan's Forty-Second Street. With its strip joints, "specialty bars," porno parlors and gap-toothed profile of parking lots and deteriorating commercial buildings, it is a sad echo of its former days as the main entertainment strip in the Upper Midwest. A block away is the squeakyclean planners' paradise of Nicollet Mall (P/A, July 1966, p. 60), the heart of the retail district. Nearby is Butler Square, the centerpiece of a quaint and still sleepy warehouse district where some redevelopment has been occurring. The raucous character of Hennepin has until now insulated it from the pressure of surrounding development.

Until now. Development push has come to shove, and Hennepin Avenue, the subject of numerous planning studies and proposals for a dozen years, is the current center of a controversy of taste surrounding the most recent (and likely buildable) plans for its revitalization. The proposal is by two local firms, BRW and Williams/O'Brien, and design consultants Venturi, Rauch & Scott

Brown of Philadelphia.

Less than a week after the Minneapolis Tribune published the consultants' renderings of their design proposal, the design team faced a packed and already highly polarized audience at a presentation forum held at the Walker Art Center. The hisses and groans that greeted Denise Scott Brown's descriptions of an entertainment "centrum' lined with "sparkle trees" were ironically familiar, reminiscent as they were of similar greetings to Robert Venturi ten years ago, when he addressed a symposium on Hennepin's future and told a rather skeptical audience that "Hennepin is almost all right now."

It seems that Hennepin's future is about to arrive, 1980s Venturi-style, in the form of 42 35-ft-high aluminum "reflector trees," the single most visible and controversial part of the consultants' design proposals. While nominally intended as lighting standards, the trees in reality symbolize the city's willingness to create a highly visible public sector

presence on the Avenue.

There are those—this observer among them-who think that particular symbol is heavy-handed, and not especially sensitive to the Avenue's current balance of visual and cultural diversity. Among the organized opposition are a group of artists who presented the consultants with seven pages of objections during the lively two-hour forum.

The design development

The city's overall concept for revitalizing Hennepin calls for the development of a transit/entertainment mall centered on a stretch of the Avenue between Fourth and Tenth Streets, aspects of



Hennepin Avenue Entertainment Centrum.

which were spelled out as early as 1970 in the planning commission's Metro Center 85 report. The city planning department, with urban design program manager John Burg, began working with the Downtown Council, the Hennepin Area Council, and the Hennepin Improvement People in February of 1979 to develop the concept that included an entertainment streetscape, traffic and transit planning, skyway connections to transit plazas, and oneway pairing of Hennepin and First Avenues. Implementation of the traffic

measures began last fall.

Meanwhile, the city established a management committee composed of interagency staff members and a 14member advisory committee made up of representatives of civic, business, governmental, and arts groups to sift through recommendations flowing from the design consultants and from a series of four public workshops held periodically during the eight-month study. The workshops, which drew between 30 and 150 participants (members of the design community as well as business people involved in the area) studied the traffic and economic analyses and discussed design alternatives. During this period, over 50 meetings were held with business and resident groups.

Unfortunately, in at least one workshop conducted by Scott Brown in January, the architects responded minimally to the participants' ideas. "There really wasn't enough giving on their part," says Minneapolis Arts Commis-sion member Melissande Charles, who represented the arts community on the advisory committee; and a local architect reluctantly agrees: "They are reputedly interested in public participation, but they really tended to work in a bubble in Philadelphia." John Burg, on the other hand, feels that "the process worked quite well. Inevitably you have people at the end who get interested and have different ideas.

The proposals

The proposals printed in the Tribune and presented at the Walker included widened streets, transit stations that also would function as entertainment plazas or small food stands, benches, "appropriate" trash receptacles, and the 42 artificial trees, or torchieres. According to Scott Brown, the trees will serve as standards for light reflectors, casting a soaring arc of white light in a continuous band in a public zone above the pedestrian area, which itself would retain its gaudy vernacular assemblages of neon and paint. The intent is to try to preserve Hennepin's existing flavor ("a red petticoat amidst all that grey flannel," says Scott Brown), provide continuity, and stimulate further entertainment-oriented activity for the city's nighttime users while increasing the attractiveness of the street to private developers.

Counter-proposals

The city may be trying to do the impossible: to have its color and clean it too. Clearly something is necessary to change the current pattern of underutilization and decay. Many believe the solution to be some form of entertainment to support the high rents that new development will bring. Some city planners propose to introduce new office and even residential buildings, within a somewhat sanitized version of the current environment. There are others, among them the dissenters at the Walker forum, who wish to protect Hennepin as a creative, anarchical zone [News report continued on page 34]

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within the surrounding functional blandness. To flaunt that anarchy, the artists' group presented an alternative to the reflector trees: illuminated signs installed by the merchants, with financial incentives from the city, to provide "a flickering wall of light and color articulating the syncopated rhythm of the building façades that line each side of the street." The consultants heatedly deny that they disagree with this proposal. "May I remind you," said Denise Scott Brown, "that we wrote the book on that subject." Nevertheless, the concept, which had been endorsed by the Advisory Committee, wasn't included in the formal presentation.

A second series of concerns was raised early in the design phase by a group of a dozen or more local architects. They submitted a four-page statement arguing that the proposals failed to address climate, design parameters for façade development, and integration of the city's second-level skyway bridges as a major generator of pedestrian activity to and across the avenue.

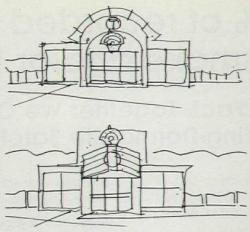
"We've written strict requirements for development," counters Tom Martinson, principal planner in the city's economic development division. "And we have a specific shopping list of entertainment uses we're looking for."

Underlying issues

The problem is far more than a matter of taste. The marketplace seems likely to change the economic equation whether or not the city implements the scheme. Property values are already rising, pushed by such major downtown development/SOM-designed City Center on Hennepin. As Scott Brown points out, "You take a risk if you say no, too." Development is expected to take the form of high-rise commercial towers that will almost certainly price the existing small businesses out of the vicinity unless strong tax incentives are created to keep them there.

At this point, the metal trees are an easy target—"Oh tinsmith, spare that tree." Perhaps too much attention is being paid to cosmetic improvements, and too little to possible financial or tax innovations which could produce fundamental changes in the development process. While the Avenue attracts the only significant nightlife to downtown, it is a dreary sight by day, and offices, housing, shops, and restaurants will increase daytime use and contribute to a more palatable atmosphere. That in turn can attract larger segments of the population to share in the Avenue's future stability.

But can the city and private developers sanitize elements that attract the street life without defeating their own objective of retaining it as an entertainment district? The situation has elements transplanted from New York's Times Square debate to the less garrulous Upper Midwest. If no planning is done, developers may well create an-



Precedent studies for Hennepin area transit stations.

other ten blocks of white color banality in the midst of Minneapolis's most crowded and diverse meeting place. But when the City does step in, is it appropriate for it to go to great lengths to preserve what many, after all, regard as sleazy?

Regrettably, rather than celebrating the vitality of Hennepin's bawdy diversity, the design proposals seem merely tacky. The Advisory Committee seems subconsciously to want a slicked-up Nicollet Mall with metallic trees instead of organic ones, rather than something bolder and more dynamic.

At this writing, the proposal will go to the city council in late June. If it is approved, the city will seek an estimated \$23 million in federal and state funding for implementation in 1983. Dissenters are already discussing the formation of an elite corps of urban guerrillas to continue to seek alternatives. It doesn't sound as if Main Street is almost all right yet. [Joanna Baymiller]

AIA convenes in Minneapolis

With a record number of registrants—over 7000—this year's AIA Convention concentrated heavily on its theme, "A Line on Design and Energy." Minneapolis played its host city role very well, providing glittering backdrops for several of the social events. There was also a certain amount of glitter in the list of attendees, including such names as Pei, Fuller, and Sert.

For all of that, the convention lacked a certain air of excitement in its attention to technical seminars and in the absence of many truly controversial business/ practice issues. While few could argue with the prominence with which energy was treated, opinions on the value of some sessions varied. Viewpoints ranged from those who felt they don't want "classes" in energy at the convention to those who advocated that energy be just another consideration, like structure or landscaping. The sessions were well attended, however, and the theme

left no question of the AIA position on energy issues.

On practice

Floor discussion did take on unaccustomed life when the issue of degree requirements as prerequisites for licensing came up. The subject was raised by the NCARB's recent resolution to require a professional degree for their certification. There was much reference in floor discussion to the many American architects-Sullivan and Wright among them-who never got the proper degrees; on the other side was the assertion that today's architects must confirm their place among the "learned professions." Jack Hartray of Chicago took on the latter argument head-on: the learned professions have been defined since the Middle Ages, he said, law, medicine, and theology-those that required a knowledge of Latin. While these scholars were debating prescriptions for leeches and the displacement of angels, he pointed out, the unlearned progenitors of today's architects were creating the great cathedrals. Applause.

There were wise assertions that no amount of experience could really be equivalent to professional education as such—and, on the other side, that degree requirements would handicap women and minority members disproportionately, since they are most likely to have to cut short their professional education. In the end, the vote was strongly against the degree require-

ment

Direction 80s

A preconvention gathering on directions for the 1980s indicated widespread discontent with AIA Washington's service to components. Some speakers asserted that they saw little value in certain national committee and staff effortsbut that may be more a matter of communications than substance. There was some indication that small chapters found national programs much more valuable than major metropolitan chapters, which have, in fact, formed their own caucus to consider this problem. Beyond merely carping, the big-chapter officers also hope to find better ways to disseminate their local accomplishments throughout the national organizations.

During the business sessions, delegates defeated a resolution aimed at establishing a national AIA process for setting goals, presenting those goals at next year's Hawaii convention. It was the opinion of some that, between the AIA Board of Directors and the Grassroots meetings, a goal-setting mechanism already exists.

Another defeated resolution would have asked the AIA Board to prepare a bylaw amendment granting associate AIA membership to graduates of accredited architecture colleges "regardless of the nature of his or her employment." Also defeated was a resolution asking the Board to study whether it would be feasible to vote for national officers by mail.

In other action, the convention [News report continued on page 38]



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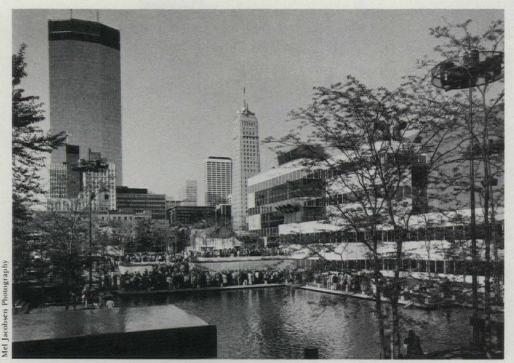
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Convention-goers gather in Peavey Plaza Park for the Minnesota Society/AIA event held in Orchestra Hall.

adopted a resolution to refer a set of proposed roofing design minimum standards to the AIA Practice Commission for review. If approved, it could possibly be included in future editions of the National Roofing Contractors Association Manual. Also adopted was a resolution reaffirming AIA dedication to barrier-free architecture. Delegates tabled an amendment providing associate membership representation on the AIA Board.

On energy

Appropriately for a convention oriented to energy concerns, Ralph Knowles of the University of Southern California gave the keynote address. While he made reference to the effects of energy on design form, his talk largely focused on solar shading problems and solutions. He went on to say that his challenge was not limited to solar zoning, but is addressed to making a rich, diversified environment to make creativity more possible.

In another session, TV commentator and newspaper columnist Carl Rowan stated that Americans do not want to believe the reality of the present energy problem, a situation heightened by the current administration's lack of effort to educate the public. Architect Richard Stein, in still another discussion said, "The impact of energy on the design process will have a more profound and lasting effect on the shape and appearance of our buildings, our cities, and our suburban and rural areas than any other single factor." Robert MacNeil of public television's "MacNeil-Lehrer Report," who moderated another panel, asked how deep was the profession's commitment to solving energy problems. In reply, William Caudill of CRS said that the

concept of energy-conscious design had not permeated the entire profession.

Other thoughts

On the equally elusive issue of design excellence, an all-star panel held forth at the Gold Medal dinner. Comprising R. Buckminster Fuller, I.M. Pei, and Josep Lluis Sert, the panel tried gamely to overcome the acoustics of The Crystal Court at IDS Center-a delightful space, but not meant for speeches. Pei noted that the infrastructure of cities is not adequate, and Fuller stated that our narcissistic concern with the art of build-

ing is a threat to cities.

Sert tried in his Gold Medal acceptance speech to correct our recollection of recent actual history, particularly the view that the C.I.A.M. group held a unanimous commitment to one style. The organization revered many historical precedents and made a point of holding meetings where that could be affirmed. But, he admitted, "many dreams have not come to pass and others have become nightmares." Modern architecture produced too many mindless variations on the forms of its leaders, and Sert "can understand recent reactions." But Modernism, he asserted, has not yet run its course. It is, in fact, "still alive and young" and may yet produce a superior built environment. Later, at a seminar on AIA awardwinning projects, he thoughtfully discussed his firm's Roosevelt Island housing in New York as an effort to contribute to an urban context.

Institute vice president Robert Broshar of Waterloo, Ia, was elected vice president first vice president/president-elect at the

Minneapolis Convention. As such, he will head the institute in 1983. Three national vice presidents were also elected: Ellis W. Bullock, Jr., of Pensacola, Fl; James R. Nelson of Wilmington, De; and William A. Rose, Jr., of White Plains, NY. Henry Schirmer of Topeka, Ks, was elected to a two-year term as treasurer, and Harry W. Harmon will continue his term as secretary

Another annual event at the convention-this year marks the 25this the award ceremony for the R.S. Reynolds Memorial Award for distinguished architecture using aluminum. It was presented this year to Hugh Stubbins & Associates for Citicorp Center in New York. The award carries with it a \$25,000 prize. Also presented at the luncheon were the 1981 Reynolds Aluminum Award for Architectural Students, two Honorable Mentions and a Certificate of Excellence. The national award went to Ian Frederick Taberner of Pratt Institute for his design for a cultural center on Cyprus. He shares the \$5000 prize with his school.

The two Honorable Mentions went to Robert Barker, Oklahoma State University, and Christian LeBlanc of Clemson University. Barker's design was for a showroom for electric cars, while Le-Blanc designed a helium-supported modular aluminum aircraft hangar. They share \$1000 prizes with their respective schools. The Certificate of Excellence cited Peggy Colleen Minger of California Polytechnic State University for a floating exhibit pavilion for Howard Hughes's Flying Boat. [JM]

Birkerts wins Academy-Institute award

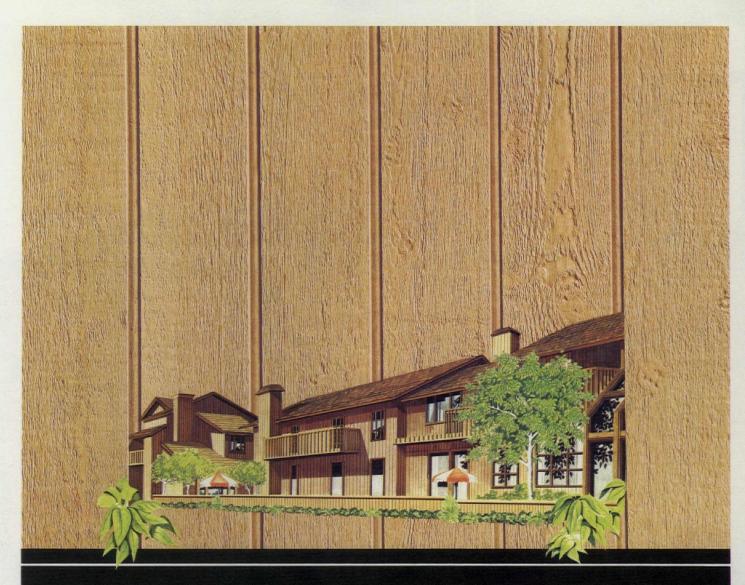
Gunnar Birkerts, FAIA, is the 1981 winner of the Arnold W. Brunner Memorial Prize in Architecture, given annually by the American Academy and Institute of Arts and Letters. The \$1000 prize was presented to Birkerts at the Academy-Institute's annual Awards Ceremonial held in New York City in May.

Birkerts, born in Latvia and trained in Germany, worked for Eero Saarinen and Minoru Yamasaki before establishing his own practice in 1959. Among his major projects are the Federal Reserve Bank of Minneapolis, 1973; the Contemporary Arts Museum in Houston, 1972; the Corning Glass Center in Corning, NY, 1980; and the United States Embassy in Helsinki, not yet completed. He is a professor of architecture at the University of Michigan.

Prior winners of the Memorial Prize include Louis Kahn (1960), I.M. Pei (1961), and Charles Moore (1979).

At the same ceremony, the Academy-Institute's Gold Medal was presented to Raphael Soyer for painting and to Malcolm Cowley for belles lettres and criticism; the award for Distinguished Service to the Arts went to producer Joseph Papp; and actor James Earl Jones received the Medal for Spoken Language. [News report continued on page 42]





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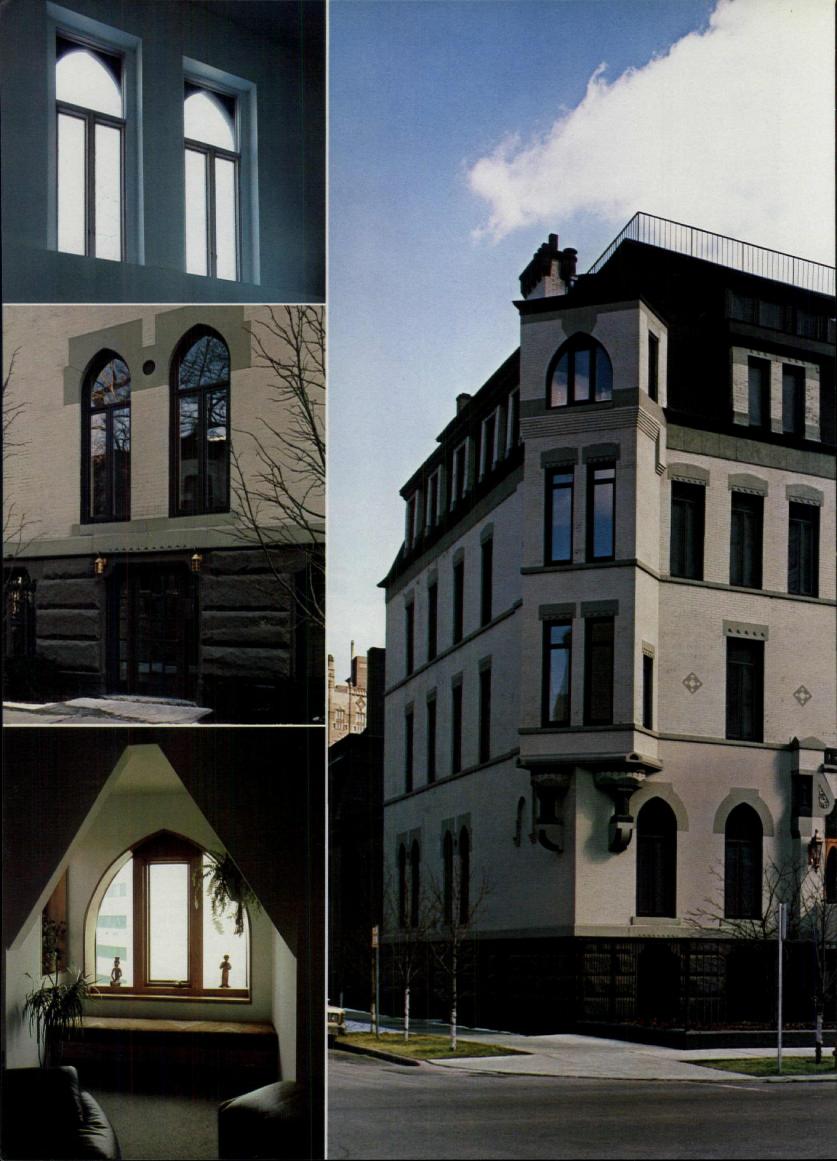
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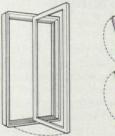
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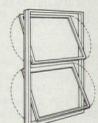
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Bradbury Building interior.

Bradbury Building endangered

In March, the Los Angeles Department of Building and Safety ordered the historic Bradbury Building closed down by April 9; it did not comply with the upgraded fire code requiring open stairwells to be closed in and sprinkler systems installed. If carried out, it would be the first time the building was vacant in its 88 years. At a hearing on April 1, the attorney for the owner (Bradbury Square Corp.) argued that the building was exempt because the stairs were suspended in the open court, and as they did not puncture the floors, fire would not spread as it would through an open stairwell. Walls facing the 6000-sq-ft glazed court are brick and tile, the structure cast iron, and the only combustible material is the oak of the coffered ceilings of the balconies and the door and window frames of the offices facing the court. At no time has there ever been a fire in the building.

The argument was rejected, and Jack Fratt, General Manager of Building and Safety, opposed a delay in closing the building. The Building and Safety Commission, however, voted to hear proposals from the owner on April 14. At that meeting, the owner agreed to install 50 smoke alarms and several smoke sensors immediately, and a sprinkler system at a later date.

The elegant building was originally occupied by lawyers because of its proximity to City Hall and the courts, but as the city moved westward, it gradually became a haven for the garment industry because of the daylighting from street and court. The affection for the building grew as the neighborhood declined, and finally in the 1960s, the owner slowly restored it, stripping away layer after layer of paint, patiently working down to the intricate patterns in the tile, cleaning the marble that was encased in the cast-iron treads of the stairs, replacing the pistons that operated the open-cage elevators with hydraulic cables, and generally bringing the building up to code. The restoration attracted the Los Angeles AIA Chapter and individual architectural and planning firms as tenants. Rentals are \$9 to \$12 a sq ft annually, compared to \$30 to \$50 a sq ft in new buildings. The building is well maintained, problems arising only from theft of brass hardware and the cranks that open the ventilating windows below the skylight.

Jack Fratt's hard line apparently comes from the owner's slowness in responding to the order to install sprinklers. The cost of this is variously estimated at \$100,000 and \$250,000. Whether the owner will find it economically feasible in view of the rental income is outside the concern of Building and Safety. In the meantime, the city has been under pressure to adopt the State Historic Building Code (SHBC), passed by the State in 1975; this is an alternative code, which meets the safety intent while recognizing the unique construction problems in historic buildings. Building and Safety has opposed it and also opposes calling in SHBC experts in old buildings for consultation on an isolated case. This bodes ill for the many old unreinforced brick buildings, which on paper don't bear up seismically, but fare better when analyzed case by case. John Kariotis, a structural engineer who received a National Science Foundation grant to analyze archaic materials and construction of old buildings, has assigned new values to these materials and methods. His report may in time revise the seismic code.

The Bradbury Building was designed by 32-year-old George H. Wyman, who had moved to Los Angeles two years before from Dayton, Oh. The wealth of cast-iron architecture in Dayton and Wyman's passion for Edward Bellamy's "Looking Backward" influenced the design. Bellamy had described a typical building of the year 2000 as "a vast hall full of light, received not alone from the windows on all sides but from the dome, the point of which was 100 ft above" which did not escape Wyman's notice, according to his nephew, a science fiction writer.

Louis Bradbury, who had made a fortune in mining in Mexico, rejected a first plan by Sumner P. Hunt and offered Hunt's young draftsman the commission. Wyman, with only a few years' experience in the Dayton office of his uncle, Luther Peters, refused it. That evening his wife got out the planchette board. The message was clear: "Take the Bradbury Building. It will make you famous." It did. After the acclaim died down, Wyman took a correspondence course in architecture and never again designed a famous building. [Esther McCoy]



L.A. Central Library.

L.A. Central Library: Future uncertain

Built in 1926, the Los Angeles Central Library is the city's oldest, and arguably its finest, major public building. Sited on five acres of prime downtown land, its modest ground coverage and comfortable scale contrast sharply with skyscrapers rising on all sides.

An intriguing transitional work by Bertram G. Goodhue, it marks his evolution from polished historicism toward a simpler Modern style. Crowned by a pyramidal tile roof, its central tower terminates the vistas up and down Hope Street, and its murals, sculpture, and inscriptions all proclaim the building's conscious theme: Light and Learning.

Despite its virtues and its National Historic Landmark status, Goodhue's last work has been under steady assault over the last 15 years. A library facilities consultants' report found it physically inadequate as early as 1966; its formal west gardens and fountain were re-placed soon after by blacktop to provide convenient employee parking. The building has been threatened with either loss of its original function (by conversion to a museum or a retailing magnet), radical alteration, abandonment, or demolition for commercial development on at least five occasions during the years that followed.

In 1977, after earlier advising the city that the building was not worth rehabilitating for continued library use, Charles Luckman Associates (now the Luckman Partnership) drew up plans for expanding the monument and altering its interior and grounds to such a degree that much of its character was compromised. This official proposal led to an Environmental Impact Report that found, in contradiction to parts of its [News report continued on page 46]

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Progressive Architecture 7:81

own text, that the Luckman Plan was the least harmful of several dozen alternatives. The Southern California (now Los Angeles) Chapter of the AIA, which had attempted to safeguard the library's architectural character by forming a special advisory group, found the EIR's adequacy questionable and brought suit against the city on those grounds. Before the case went to court, California's tax-cutting Proposition 13 made the issue moot by drying up the funding sources for the project.

The latest threat materialized last February, when the City Librarian, after extensive consultation with real estate interests but not with the AIA or preservationist groups, presented a draft Request for Proposals to develop the library site commercially. Under this plan, which the Library Board approved without delay, it was hoped that developers would provide a new or expanded library building of 400,000 net sq ft, worth \$60 to \$80 million, in exchange for a 50-year ground lease on the present property. Experienced observers feel, however, that it would be almost impossible to meet the Library Board's expectations while still saving the Goodhue landmark. If it were possible, the library would be wedged between two immense buildings so that the original design concept of a freestanding structure on generous landscaped grounds would be violated.

Preservationists have called this a "stacked deck" for destruction of the library, particularly since the RFP provides no tangible incentives for retention of the landmark. The City Librarian and his staff see the problem essentially as one of providing a "facility," and the City Planning Director seems to share that view. The influential Los Angeles Times has given the issue scant and one-sided attention, while the Mayor has avoided a clear public position for eight years, although he has given tacit support to more than one plan that endangered the Goodhue

building.

Lately, however, there are signs that a satisfactory compromise is possible. Preservationists are conceding that a new building would be better suited for central library purposes, and local corporations are more convinced of the necessity for retaining Goodhue's building and restoring its parklike grounds. Influential business organizations, conservationists, and the city's Community Redevelopment Agency have formed a Task Force for Central Library Development to analyze the central library program within the context of the citywide system. The review seems long overdue, since the City Librarian's building program is based on a 15-year-old report that reflects neither the changes in library science nor the straitened municipal budgets that have emerged since 1966.

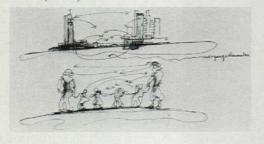
Pointedly misunderstanding the Task Force's objective to reassess the library problem within a comprehensive framework, the City Librarian suggested that the group be treated like "any other prospective developer," and declined an invitation to join their ranks. The Board voted early in June to delay consideration of the request to allow time for a more careful consideration of the issue. [John Pastier]

John Pastier is a former critic of architecture for the Los Angeles Times. He has written a Whitney Library of Design book on Cesar Pelli, and is currently working on a history of Texas architecture.





Bakema's Tel Aviv City Centre project, 1963 (top); Townhall Ternheusen, completed 1972 (above); "Transitional Elements" sketch (below).



Jacob B. Bakema (1914–1981)

On February 20, just before his 67th birthday, the influential Dutch architect Jacob B. Bakema passed away. Bakema's design work and teaching, spanning the last four decades, have formed a vital link between the early Modern Movement innovators and today's on-going efforts in The Netherlands to develop a more pluralistic and human architecture.

Bakema's connections to the Dutch Nieuwe Zakelijkeheid's rationalism were well established through his association with Van Eesteren and Van Tijen in 1937 and through a brief period of study with Mart Stam. In 1948 he became associated with J.H. Van den Broek in a firm whose legacy through Brinkman and Van der Vlugt included such buildings as the important Van Nelle factory in Rotterdam. Their partnership, evolving into Architectengemeenschap (Architects' community) Van den Broek and Bakema in 1970, went on to become the most prolific architectural office in The Netherlands.

Bakema's design work shows an obvious debt to Le Corbusier, but in many cases the characteristics of the Dutch context are stronger influences. There is a pervasive urbanism in Bakema's work, whatever the scale, and he was always most comfortable with commissions that allowed a full exploration of the hierarchies of urban relationships. Bakema left a particularly strong stamp on the post-war reconstruction of Rotterdam; the Lijnbaan shopping center is the best known example. Among Bakema's numerous important projects are housing in Berlin and Eindhoven, churches in Schiedam and Nagele, city halls in Marl and Terneuzen, "het Dorp" housing for the handicapped in Arnhem, the central library in Rotterdam, and the auditorium complex in Delft. At the time of his death, Bakema had been supervising what he was fond of calling the "architecturbanistic" reconstruction design for a portion of Scheveningen.

However distinctly Dutch was Bakema's personality and professional outlook, his influence was international. Along with Aldo van Eyck, Alison and Peter Smithson, and others, Bakema was a key member of Team 10, the loose association of reform-minded architects who were involved in preparing the CIAM meeting in Dubrovnic in 1956. As early as 1942, Bakema had been expressing the fallibility of a solely analytical approach to design, and he was instrumental in initiating the international climate in which the social and psychological dimensions of architecture would be taken seriously. As polemicist and teacher, Bakema served as coeditor of the influential Dutch periodical Forum between 1959 and 1964, and as professor of architecture at the Technical University in Delft from 1963. Through numerous visiting professorships in the United States and Europe, Bakema leaves a large community of students and friends who experienced first hand his intensity, sense of humor, and architectural sensibility. [Donald Grinberg]

Donald I. Grinberg is an architect, practicing in the Boston office of Howard Needles Tammen Bergdorff, who studied under Bakema in the Technische Hogeschool in Delft. He has written articles about Dutch housing and a book, Housing in the Netherlands, 1900–1940.

[News report continued on page 50]

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Summit Junior High School, Ashland, KY / Architects: James E. Moore & Associates / General Contractor; W. B. Fossons & Sons

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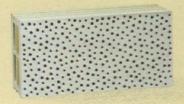
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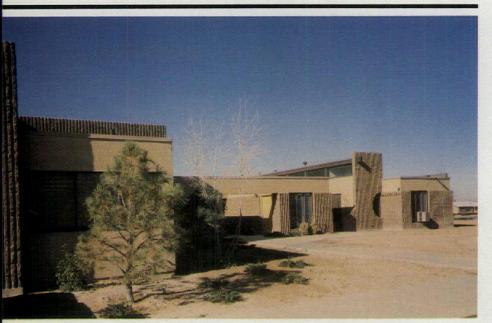
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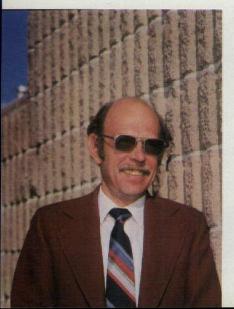


Left & right. Two views of the unique Trombe wall. The left photo shows the Trombe wall under construction. The ducts will distribute the heated air from the wall area to other parts of the

building. The right photo shows the split ribbed units. The glass area is comprised of double-glazed standard patio doors located 8" in front of the wall.



Two of the buildings showing the handsome design effect achieved with concrete masonry split ribbed units. Another of the clerestory windows can be seen.



"Excellent heat storage, aesthetics and structural properties in one building material."

Donald A. Krueger, Architect

"I am most pleased with the performance of concrete masonry as a passive solar system at Comanche Place. The craggy surface of the split ribbed units, in our experience, delivers more heat storage capacity than other surfaces. And with block, you have the advantage of working with a proven, available material."

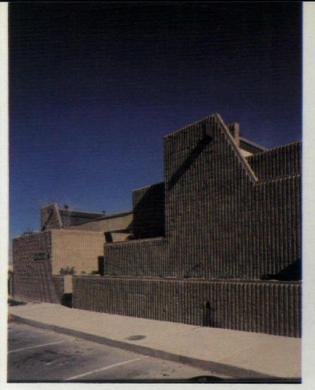
Concrete masonry passive solar architecture expected to save 50% in energy costs at Comanche Place,

Albuquerque, New Mexico

New building complex features unique Trombe wall.

The mile high altitude of Albuquerque produces a Winter climate of comfortable sunny days and crisp, cold nights—and occasionally, mid-western style blizzards. A good test for passive solar concrete masonry architecture.

Comanche Place, when completed, will consist of nine buildings,



Another view of two of the completed buildings. One of the clerestory windows, which provides sunlight in Winter, can be seen at the top of the picture.



Above & below. The "greenhouse" provides an additional heat sink which employs the floor and concrete masonry walls for heat storage. The diagram below shows the orientation of the building to low Winter and high

Summer sun.

The interior of the "greenhouse" entrance showing the concrete masonry walls and the clerestory window above, which allows Winter sunlight to heat the masonry walls.

totalling over 30,000 sq. ft. Four buildings are complete; another is under construction.

All are loadbearing passive solar concrete masonry structures.

Architect Donald Krueger reports substantial energy savings in the four completed buildings. One of the completed buildings features a unique Trombe wall. Energy savings in this building are expected to be on the order of 50%. This building is the subject of a research study to establish exact energy savings.

At Comanche Place, concrete masonry is the principal component in the passive solar energy system, the principal structural material and provides the aesthetics, economy, fire safety and sound control, as well.



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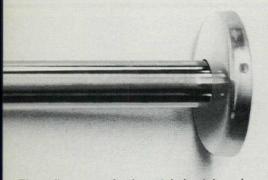
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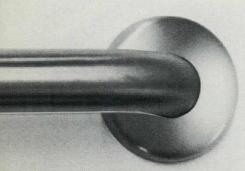
For a well-rounded washroom



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News report continued from page 46

Breuer honored at GFI/Knoll Symposium

Marcel Breuer was given the award for Creative Leadership at the fifth annual General Felt Industries/Knoll Symposium held in Boston May 1–2. The opening reception, held at the Kennedy Library, proved to be festive, although Breuer, unfortunately, was too ill to attend. In his place, his wife Constance accepted the sculpture and the \$10,000 grant given in the winner's name to Harvard University's Graduate School of Design. Keynote speaker at the dinner kicking off the symposium on the theme of "creative leadership" was The Honorable John Anderson, 1980 independent presidential candidate.

The next morning the theme was taken up again at Harvard Graduate School of Design's Gund Hall by an array of speakers approaching the topic from political, economic, cultural—and humorous—points of view. Art Buchwald provided the humor, and Joan Mondale, Zbigniew Brzezinski, G. William Miller, and Arthur Levitt, American Stock Exchange president, presented reflections and some reminiscences (of the Carter White House) when "creative leadership" involved a stronger governmental commitment to arts and architecture. [SS]

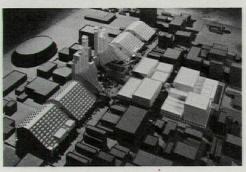
Retail charrette

A competitive team charrette for the design of a hypothetical shopping center in Richmond, Va, was staged by the Mississippi State University this winter and then presented in a conference by New York University's Institute for Retail Management in New York at the end of March. The idea for the charrette, first explored by Mississippi when it sponsored a design charrette for a library in Biloxi in 1975, then ended in a built winning scheme by William Turnbull. In the 1975 and 1981 sessions, the various team leaders were composed of visiting "high-design" architects who guided the students through a week-long design process.

This time participating architects were Peter Eisenman, Hugh Newell Jacobsen, Paul Kennon, Charles Moore, Robert A.M. Stern, and Stanley Tigerman. Although the shopping center is not to be realized, the second part of this program, a day-long conference in New York with retailers and developers, proved exceedingly valuable.

At the New York meeting, each architect presented his team's proposal before a panel of developers, planners, retailers, and other architects and an audience of similar backgrounds. The panel responses were often quite illuminating and gave indication that "high-design" architects working with "high-volume" retailers and developers need not in itself be so hypothetical a situation as normally expected.







Shopping center proposals by Stern (top), Moore (middle), and Eisenman (bottom).

Of the morning's presentations by Paul Kennon of CRS, Stanley Tigerman, and Robert Stern, the panel was most favorable toward Stern's mixeduse scheme. South Bronx Development director Edward Logue preferred the scheme for its attempt at a certain density, while developer Ernest Hahn (Trizec Corporation) felt that it had all the elements there but should be arranged differently to encourage "more synergism between retail space and hotel rooms." Another retailer, Monk Askew of Rouse, criticized it for its vertical levels of retail space. Nevertheless, the panelists rated it over the Kennon team scheme (too much going on for Richmond) and the Tigerman team entry (too timid).

In the afternoon, a different panel found the Eisenman team's scheme most responsive to questions of retailing and reinvigorating downtown, of making symbolic and visual connections with landmarks, using historical elements, and emphasizing access routes into the architecture and retail and other urban activities. With Charles Moore's entry, some panelists were worried about the scale in relation to the demographics, plus the emphasis on the "theme park concept." Jacobsen's scheme was re-ceived well for its easily implemented quality, although some were not sure about the ability to sustain various retail activities all the time. [SS]

[News report continued on page 54]



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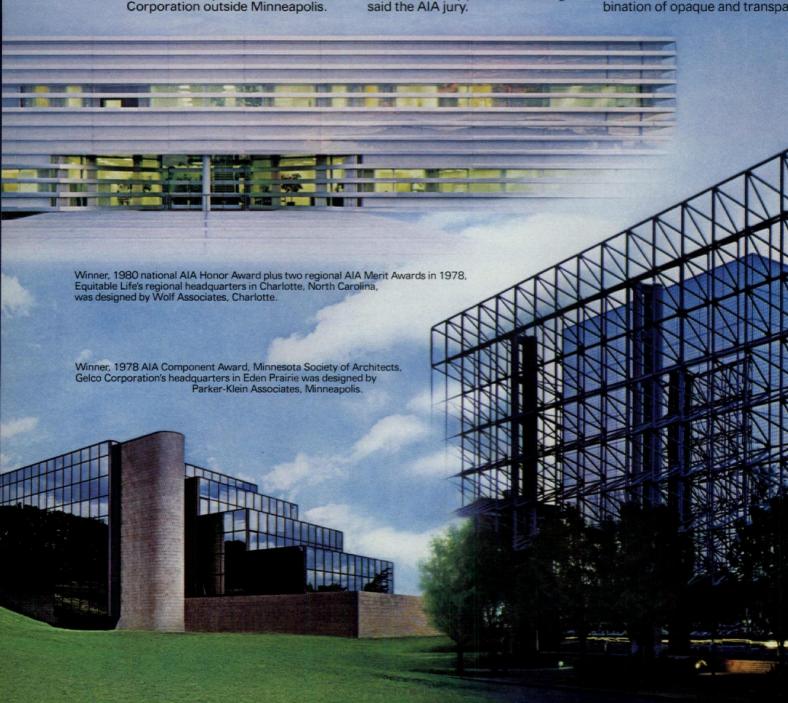
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AIA QUEST studies Minneapolis-St. Paul

The first report by the AIA-organized Quality Urban Environmental Study Team focused on Minneapolis-St. Paul, and was presented at the annual convention in May. The team, headed by former HUD Secretary Moon Landrieu, found the Twin Cities "one of the nation's highest quality urban environments," and while it praised the local noteworthy buildings (which include Johnson/Burgee's IDS Center, Law-rence Halprin's Nicollet Mall, Gunnar Birkerts's Federal Reserve Bank, and Edward Larrabee Barnes's Walker Art Center), it gave credit for the cities' success to the residents, "migrants of North European stock" who "exude a sense of independence and confidence.'

While Minneapolis and St. Paul have their share of mediocre buildings; while they have little street life at night nor any outstanding sense of identity in the downtown; and while they do have some social problems related to architectural developments (at the slum clearance project Cedar Riverside, for example), the QUEST report concentrated on the cities' prosperity, homogeneity, and

relative social stability.

In fact, it is the purpose of the QUEST investigations of American cities to identify positive factors leading to a city's positive image (in contrast to the R/UDAT studies which attempt to

solve problems of cities or regions).

Ben H. Cunningham, QUEST national program director, cites the study's importance in identifying not only the positive qualities in a city, but the reasons behind these qualities—not only architectural reasons, but broader ones: political, economic, social, which architects should understand in order to play an effective role in shaping cities. For this purpose, the QUEST members come from a variety of backgrounds. It is not the duty of the QUEST studies to make judgments as to the transferability of the positive features they identify; on the other hand, certain systems brought to light by the Twin Cities report are clearly applicable elsewhere: The Five Percent Club (where major businesses donate 5 percent of their pretax profits to the community), and the Downtown Council (in which downtown retail facilities are represented).

The highlighting by professionals of favorable urban characteristics to be applied by other professionals is a useful idea, but as QUEST member and urban affairs consultant and writer William Conway points out, it is also a constraining one. The process of gathering such information with only a limited number of representatives speaking for the cities can lead to some sweeping generalities, some of which the QUEST team realizes it made. Conway emphasizes, however, that the nation does need to understand these positive factors; the fact that the method needs to be improved is only a

function of this being the first try at such

an approach.

The members of the principal QUEST team for the Twin Cities report (in addition to Landrieu and Conway) were Judith Martin, urban historian at the University of Minnesota; Jaquelin Taylor Robertson, dean of the University of Virginia School of Architecture and practicing architect in New York City; and Gerald Sheff, executive vice president of the Cadillac Fairview Corporation Limited, Toronto. They were assisted by a five-member support team and a student team.

Hounds Hill Centre, Blackpool, England

Flamboyant Edwardian "leisure" architecture is the legacy of Blackpool, an important shopping, residential, and seaside resort town, which developed as the holiday center for the cotton-spinning Lancashire area. Hounds Hill, a covered shopping center, is an infill scheme that has been designed to harmonize with its surroundings by its use of red brick, cast-iron arcades, and the traditional "red rose" symbol that resolves the junction between the outer rings of each arch and the columns.

The development by the Building Design Partnership comprises 100,000 sq ft of shopping and storage space in 40 shop units, with four pedestrian malls leading to a central plaza containing a restaurant and coffee bar. Elevators connect the plaza to the parking level above, and a [News report continued on page 58]

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From Main Street...

It's a Saturday morning, March 10, 1906, in Kansas City, Missouri. Ithe still fresh 20th Century looks ward to its seventh spring, a ung architect sets out to turn a od idea into an industry. Two ars earlier, the architect, Francis and, had been inspired to invent a colutionary resilient molding for refront windows. And on this recial day in 1906, the Kawneer ampany begins the long journey its Diamond Jubilee Year. 1981.

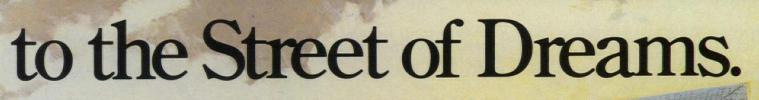
Main Street, U.S.A. It was the center of life for turn-of-the-century America. Here, the goods and services of a growing economy were presented to a ready market. And it was on Main Street that the young Kawneer Company made its mark. Francis Plym, Kawneer's founder, saw that the common wood glazing of the time was easily damaged by rain and condensation. His solution was a resilient metal molding which not only lasted longer, but also allowed larger panes of display glass,

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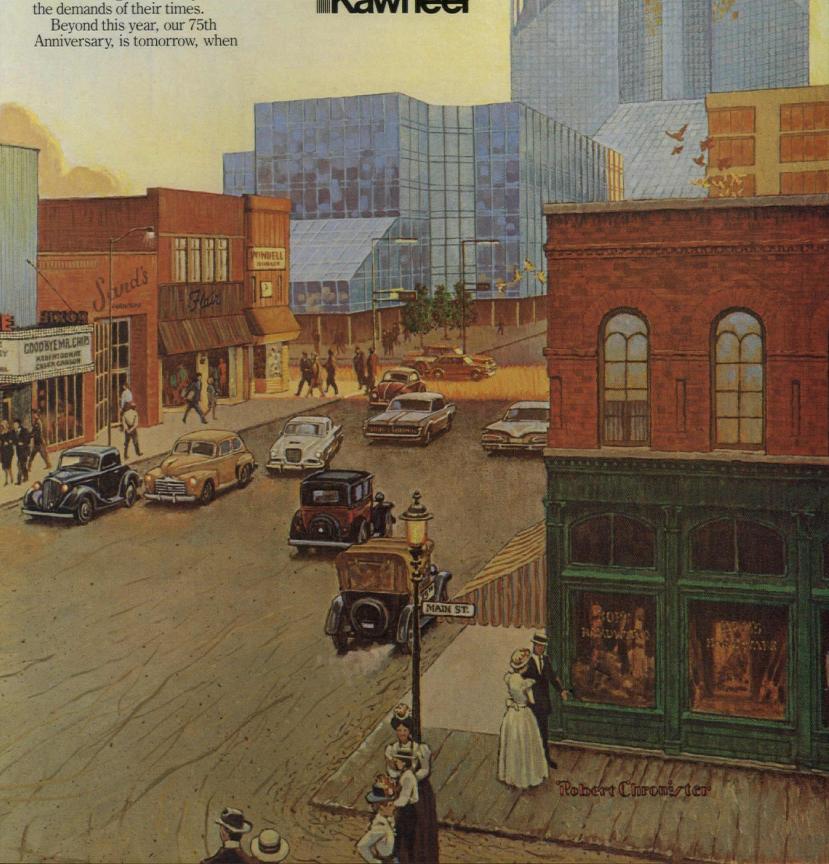


express their new designs through the imaginative use of architectural metals. First, in brass. And, in the early 1930's, aluminum.

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the dreams of the present become the landmarks of the future. And knowing this, we at the Kawneer Company take this moment to thank all of our friends for their seventy-five years of support and patronage. But we can spare only a moment. Because, we've got the next seventy-five years to plan for.

Kawneer





Hounds Hill Shopping Centre.

raised walkway brings shoppers in from the promenade.

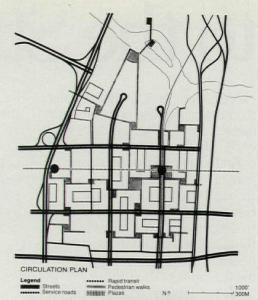
Interior finishes include terrazzo floors, stainless steel cladding on the columns, molded glass-reinforced plas-

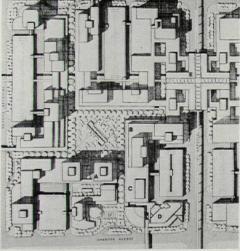
tic walls in the coffee bar and restaurant, and decorative stainless steel panels in the central plaza.

The Hounds Hill malls will eventually form the main axis of a continuous pedestrian route planned for the town.

New Center for San Juan taking shape

A tract of over 300 acres of undeveloped land in the shadow of Puerto Rico's tallest office towers is the site of an ambitious planned development known as the Nuevo Centro de San Juan. In a particularly clear demonstration of a familiar urban pattern, the commercial center of this island metropolis has moved repeatedly south and east from its original promontory site, now the protected landmark district of Old San Juan, arriving by the 1960s at Hato Rey, where sheer towers of glass





PLAN-CENTRAL BLOCK

Legend
A Government office tower (completed)
B General Library of Puerto Rico (designed)

State Lottery (designed)
Free School of Music (under construction)
Rapid Transit Station (proposed)

and travertine symbolize San Juan's world-class ambitions.

By the mid-1960s, the development potential of the large government-owned tract at Hato Rey was becoming obvious; a citizens' committee was formed and planning studies undertaken with funds from government, private enterprise, and the Ford Foundation. An initial planning concept, drawn up by a committee of local planners and architects in 1969, called for separation of vehicular and pedestrian circulation and for multiple uses, including commercial, institutional, and residential; it also called for establishment of a Nuevo Centro de San Juan (NCSJ) Corporation to plan and coordinate with city and commonwealth agencies.

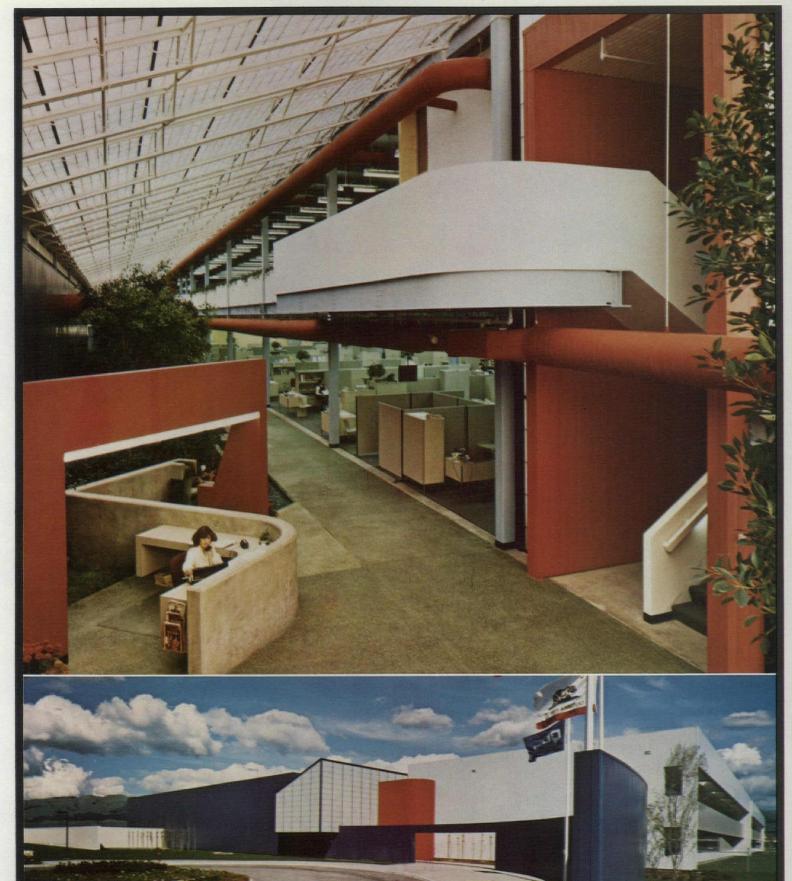
By 1972, NCSJ had developed the overall plan that now governs development. Major roads divide the Nuevo Centro into nine districts of varying uses and densities, each with an internal walkway network leading to its own central plaza; vehicular traffic penetrates these districts in loops off the main arteries, which lead to parking areas in lower density portions, multistory garages in the denser ones. The most intense development is planned for the districts adjoining the main junction of the proposed metropolitan elevated transit system, where north-south and [News report continued on page 62]



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Craig Buchanan photos

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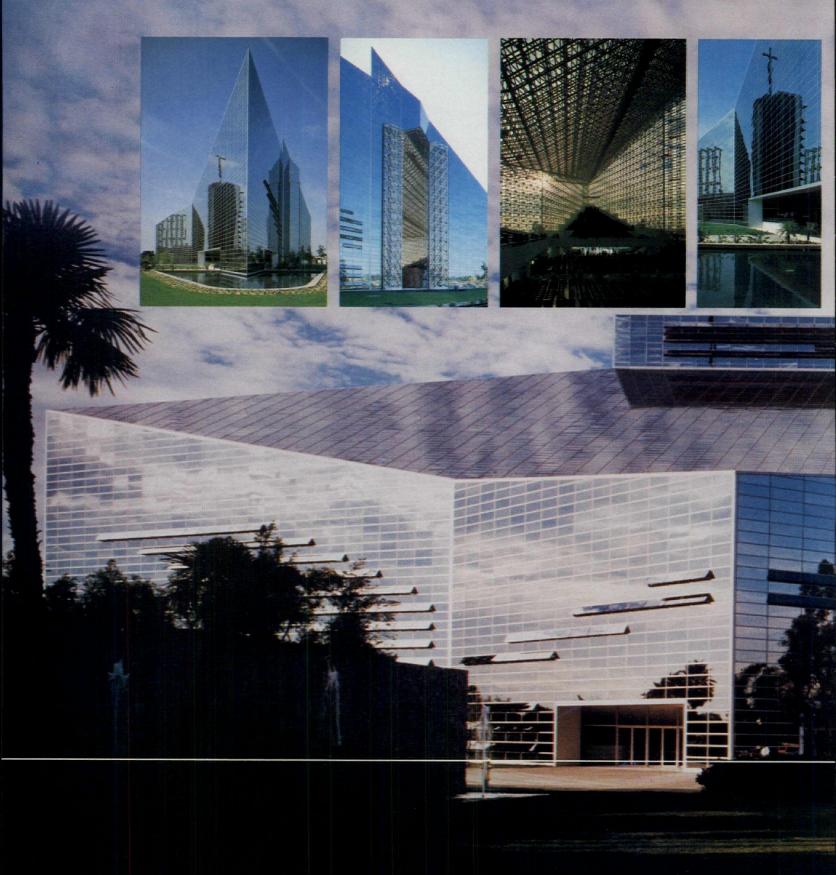
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between office and plant areas. Qume Corporation wanted a pleasant atmosphere for its employees, and the design team won a 1980 AIA Honor Award in providing it.

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1 Free School of Music: competition-winning design by Quiñones-Rodriguez-Quiñones, Architects. 2 Housing under construction on northwest block of development, this portion by Segundo Cardona, Architect. 3 Lottery Building, by Torres, Beauchamp, Marvel & Associates. 4 General Library of Puerto Rico: competition-winning design by A. Marques Carrión, Architect.



east-west lines are to cross (see circulation plan).

Around the central plaza of the central block of Nuevo Centro, a number of institutional structures are to be clustered, sharing plaza frontage with government offices (one tower already completed) and proposed high-rise apartments. NCSJ has cosponsored design competitions for two of these buildings (see renderings): the Free School of Music, a regional facility, now under

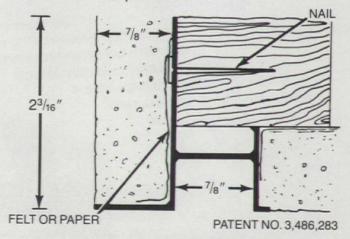
construction; and the General Library of Puerto Rico, for which working drawings are now being completed. Between them will stand the new headquarters of the state lottery. A major art museum is also to face this plaza.

In the northwest block of the area, low-rise, high-density housing designed by several local firms is now under construction. A major Catholic church proposed for a site in the north central portion of the Nuevo Centro was the subject of a competition, but church authorities have delayed public announcement of the design pending a final decision to proceed.

The development of the new center embodies no radical planning ideas, but is instead a serious, large-scale test of some well-established concepts about neighborhood identity, traffic separation, and mixed use-with much of its planned housing in dense low-rise enclaves. Though closely integrated with metropolitan rapid transit plans, the development is not wholly dependent on such an imponderable. The cluster of institutional structures, serving all of Puerto Rico, which will give some weight to the term "center," are of moderate scale and are being designed by local firms, using competitions as a stimulus for design quality. As the first evidence of public planning initiative in this crazy-quilt metropolitan district since the Spanish laid out Old San Juan in the 16th Century, the Nuevo Centro shares with that antecedent a sobriety and practicality that may make it, too, workable over a period of centuries. [JMD] [News report continued on page 66]

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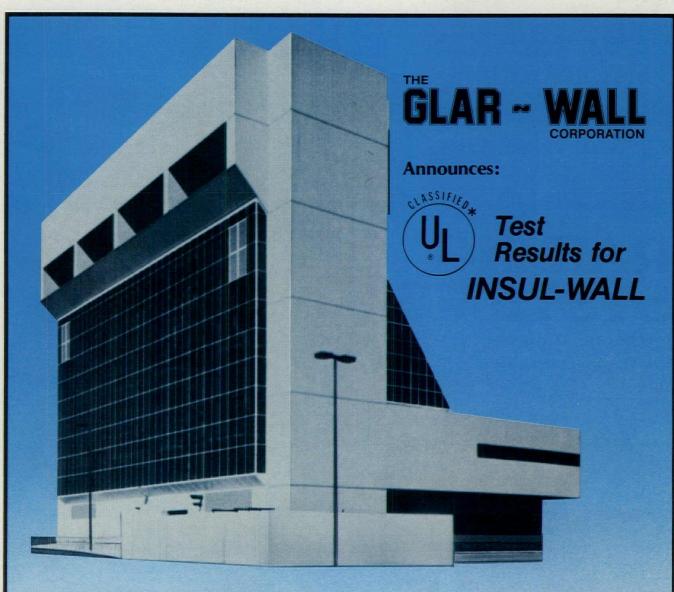
HARLECO CORPORATION Gibbstown, New Jersey – Designer/Fabr: Southern Steel Fabricators, Inc.

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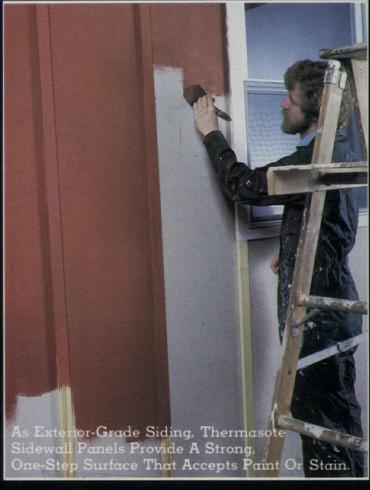
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Bobrick Architectural Service 60 East 42nd Street New York, NY 10165 News report continued from page 62

Calendar

Exhibitions

Through July 26. America's Architectural Heritage, a major photographic exhibition. Federal Hall National Memorial, 26 Wall St., New York.

Through July 31. P.B. Wight: Architect, Contractor, and Critic, 1838–1925. Burnham Gallery of Architecture, The Art Institute of Chicago.

Through July 31. Louis I. Kahn Drawings. Max Protetch Gallery, New York. Through Aug. 16. Late Entries to the Chicago Tribune Tower Competition. National Academy of Design, New York.

Through Aug. 30. Architecture and Ornament in Late 19th-Century America. The Octagon, Washington, DC. Through Aug. 31. The Kling Partner-

Through Aug. 31. The Kling Partnership Retrospective Show. Kling Gallery, 2301 Chestnut St., Philadelphia.

Through Sept. 15. Metaphors for a Sense of Place: Wall Street at "0" Gravity, drawings by architect Grover Mouton. The Lobby, 369 Lexington Ave., New York.

July 10-Aug. 5. Sadin-Karant: Con-

July 10-Aug. 5. Sadin-Karant: Contemporary color architectural photography. Frumkin & Struve, Chicago.

July 18-Aug. 31. The Drawings of Andrea Palladio. The Art Institute of Chicago.



Breuer's Aluminum Armchair, 1933.

July 25-Sept. 15. Marcel Breuer: Furniture and Interiors. The Museum of Modern Art, New York.

Aug. 28–Sept. 23. Fisher/Florian: an exhibition comparing the work of two urbanists. Frumkin & Struve, Chicago.

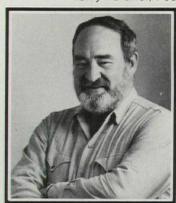
Conferences, seminars, workshops July-mid-Sept. Royal Institute of British Architects one-day guided architectual tours. Contact Margaret Hallett, RIBA, 66 Portland Place, London W1N 4AD, United Kingdom.

July 24–27. ASID National Conference. St. Louis, Mo.

July 29-Aug. 7. Principles of Construction Specifications Writing. University of Wisconsin-Extension, Madison campus. Contact Philip M. Bennett, Dept. of Engineering, U. of Wisconsin-Exten-[News report continued on page 70]

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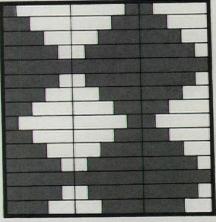
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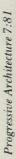
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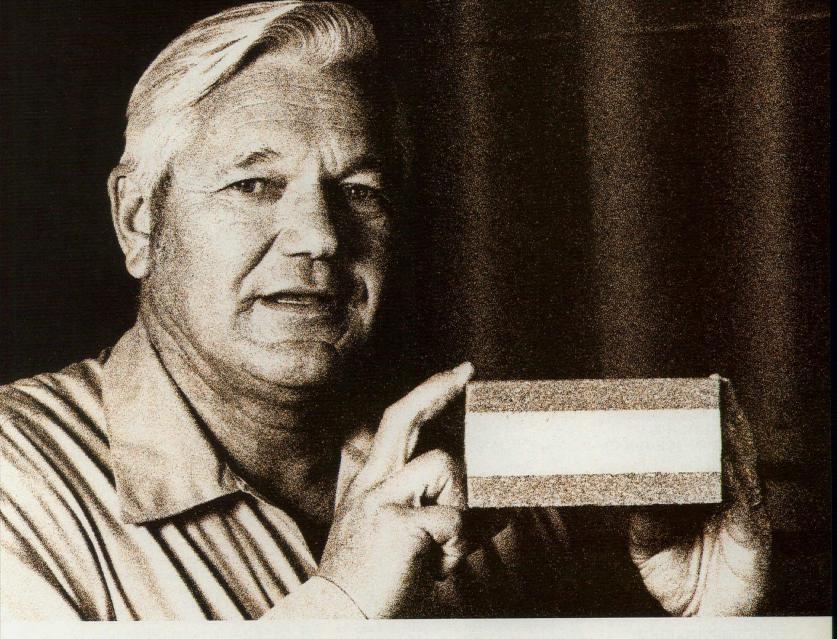
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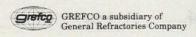
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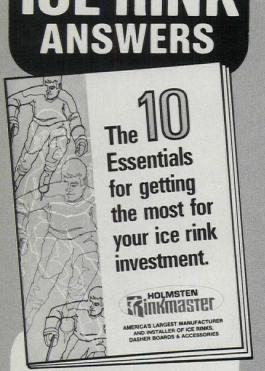
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Aug. 5–11. XVIIth Congress of the International Society of City and Regional Planners. Stockholm, Sweden. Contact the Society, Wassenaarseweg 43, 2596 CG, The Hague, Netherlands. Aug. 6–9. International Solar Film Festival, to take place in Veynes, France. Contact the Organization Committee, Mairie de Veynes, 05400 Veynes, France.

Aug. 9–13. Illuminating Engineering Society of North America Annual Technical Conference, Harbour Castle Hilton Hotel, Toronto. Contact Katherine Jones (212) 644-7927.

Aug. 17–Sept. 5. Summer Institute for Sustainable Design multidisciplinary workshop. University of Venice, Italy. Contact Mike Holtz, Coordinator, International Institute for Energy & Architecture, 1708 13th St., Boulder, Co 30302.

Aug. 21–23. 30th Northwest Regional Conference, The American Institute of Architects. White Pass, Wa. Contact: Ed Weber, 633 Miller Bldg., Yakima, Wa 98901.

Sept. 5–11. International Federation of Landscape Architects Congress, Canberra, Australia. Contact Congress Secretariat, P.O. Box 3, Belconnen, A.C.T. 2616.

Sept. 19–21. Teilhard and Metamorphosis, An International Centennial Conference/Celebration, Arcosanti, Az. Contact Jeff Stein, 6433 Doubletree Rd., Scottsdale, Az 85253.

Competitions

July 15. Registration deadline for Riverfront Corridor Design Competition, sponsored by NEA and the Missoula/ City Spirit Facilities Steering Committee. First stage deadline Aug. 31. Contact Les Prentice, Missoula Redevelopment Agency, 201 W. Spruce St., Missoula, Mt 59801.

Aug. 1. Submission deadline for Prestressed Concrete Institute 1981 Awards Program. Contact PSI, 201 N. Wells St., Chicago, Il 60606.

Aug. 28. Submission deadline, Owens-Corning Fiberglas 10th Annual Energy Conservation Awards Program. Contact Mary G. Reinbolt, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Oh 43659 (419) 248-8053.

Aug. 31. Submission deadline for Shinkenchiku Residential Design Competition: An Exhibition on the Grounds of a Museum of the Twentieth Century. Contact Shinkenchiku-sha Co., Ltd., Attn. Editorial Section of the *Japan Architect*, 31-2 Yushima 2-chome, Bunkyo-ku, Tokyo, Japan.

Aug. 31. Mailing deadline for P/A Awards entries (see entry rules p. 17). Sept. 30. Registration deadline for Walker/Group Student Competition. Contact Competition Director, Walker/Group, Inc., 304 E. 45th St., New York 10017.

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An architectural crisis. Versacor: Robertson's response.

International in scope. ing with water vapor to Acid precipitation has become an architectural crisis of international proportions. And it's a crisis that directly affects your buildings,

wherever they may be. Last year alone, three international conferences addressed the problem. A recent Scientific American article reported: "On an annual basis, rain and snow over large regions of the world are now from five to 30 times more acid than unpolluted rain. The rain of individual storms can be from several hundred to several thousand times more acid than expected."

What causes acid rain? Airborne sulfur and nitrogen pollutants (from automobiles, smelters, and power plants, among others), often traveling hundreds of miles before combinform an acid solution, can fall unpredictablyperhaps on your latest building site.



In many areas, fish are already dying from the effects of acid rain.

The end of the noncorrosive building environment.

The fact is, almost every location-rural or urban, commercial as well as industrial—is now subject to everincreasing corrosive attack from acid rain.

Already stone, masonry, automotive finishes, and singlelayer metal wall finishes are proving inadequate—in fact, even the timeless beauty of the Taj Mahal in India is beginning to deteriorate. It's for this kind

of world that Robertson created Versacor.®

Versacor—beauty that's proven itself in acid rain.

Robertson saw the necessity for a special product to meet the specific problems of metal walls and roofs in Scandinavia, where acid rain had already begun corroding buildings in the 1950s. Versacor was initially tested there and has outperformed every other paint system in over 10 years of exposure.

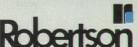
Now the Versacor multi-layer protective coating system, with its unique epoxy base coat, is available in the U.S. Versacor has been proven superior to competitive finishes in a battery of independent laboratory testsespecially the Kesternich test, an accurate predictor of resistance to actual acid rain

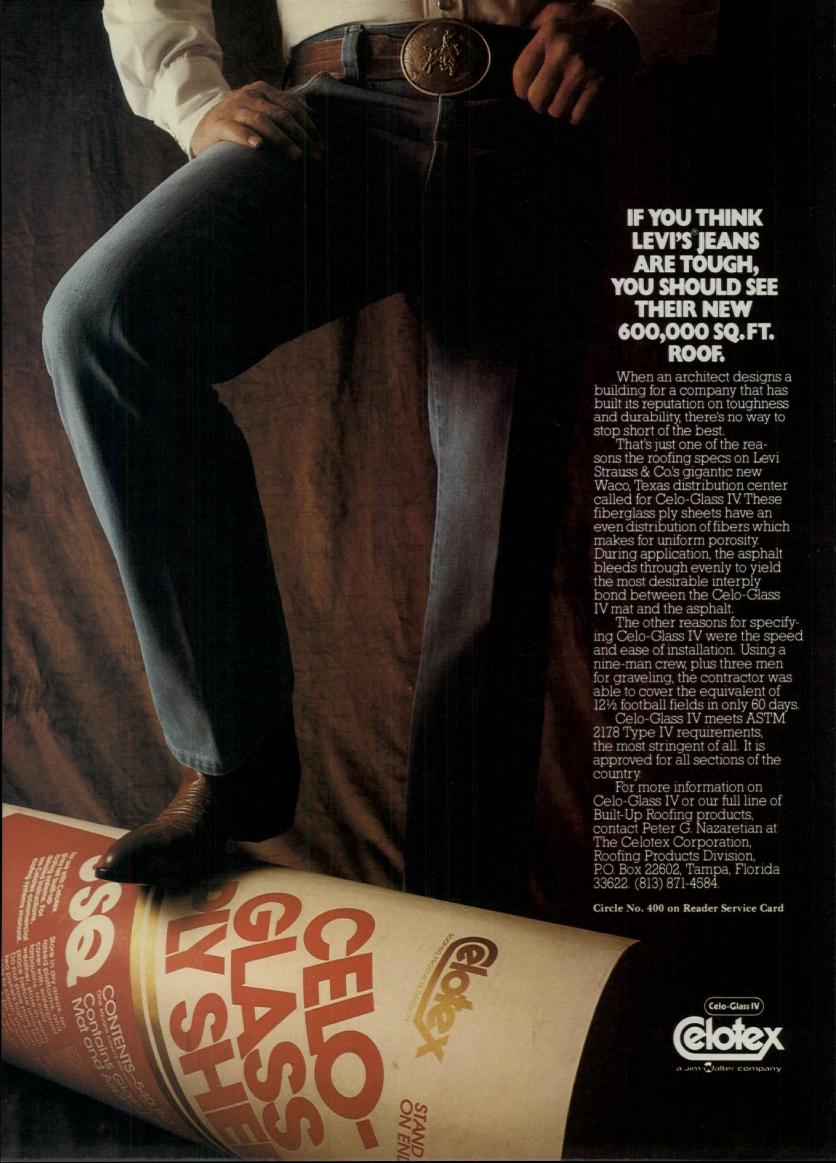
conditions.

Available in flat wall and profiled shapes, Versacor can meet your most demanding aesthetic criteria for all kinds of buildings. And that's essential—because all kinds of buildings now face the long-term challenge of acid rain.

For more information about Versacor, write to H.H. Robertson Company, Department P-7. 400 Holiday Drive, Pittsburgh, PA 15220.





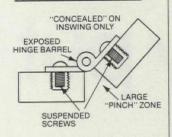


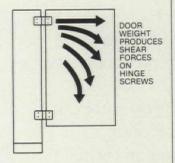
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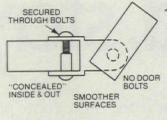
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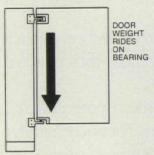
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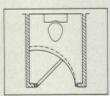
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Sanymetal pivoting door uses less space for full arc when compared to surface mounted hinges ... provides significantly more usable space in compartment... saves valuable floor space... adds convenience.

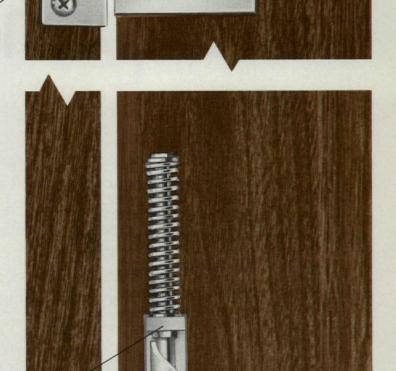


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The knowledge business



Progressive Architecture announces the second annual competition recognizing outstanding furniture and lighting design proposals, not yet being marketed by any manufacturer as of entry deadline, January 26, 1982. The competition is intended to give the design professions a forum to express ideas about the next generation of furniture design. Designers are encouraged to consider the aesthetic and ideological implications for furniture design implied by the current concerns within architecture and other design disciplines. Physical feasibility must be considered, but the design need not be constrained by existing production or marketing practices.

Winning projects will be published in the May 1982 P/A in an article by Nory Miller, P/A Interior Design Editor, who developed the competition, and they will be displayed at NEOCON 14, the National Exposition of Contract Interior Furnishings, at Chicago's Merchandise Mart, June 1982. Awards will be presented to winners in an evening program attended by press, designers, and NEOCON manufacturers. A traveling exhibit of winning projects to major cities is also planned.

In addition to the exposure afforded the submissions, the competition will encourage further discourse between the entrants and respected furniture producers. Any ongoing discussions will, of course, be up to the individual designers and manufacturers, but benefit to both is anticipated.

Submissions are invited in all categories including chairs, seating systems, sofas, tables, desks, work stations, storage systems, lighting, and miscellaneous furniture pieces. Designations of award and citation may be made by the invited jury, based on overall excellence and advances in the art.

The jury for this competition:

Emilio Ambasz, architect, graphic and industrial designer, former curator of design at The Museum of Modern Art, New York.

Kenneth Frampton, Professor of Architecture, Columbia University, Fellow of the Institute for Architectural and Urban Studies, an editor of Oppositions, and author of Modern Architecture: A Critical History.

David Gebhard, architectural historian, Professor of Architectural History and Curator of architectural drawing collection, University of California at Santa Barbara, currently president of the National Society of Architectural Historians

Hans Hollein, architect in practice in Vienna, author, and Professor at Academy of Art, Dusseldorf.

Coy Howard, designer, principal of Coy Howard and Company, Venice, Ca.

Judging will take place in New York City during the month of February. Winners will be notified—confidentially—before March 15. Public announcement of the winners will be made at the presentation ceremony at NEOCON 14 and in the May 1982 issue of P/A. P/A will arrange for covInternational Conceptual Furniture Competition

sponsored by

Progressive Architecture

with winning projects to be displayed at

NEOCON 14

June 1982 The Merchandise Mart Chicago erage of winning entries in national and local press.

Eligibility

1 Architects, interior designers, industrial designers, and design students from all countries may enter one or more submissions.

2 Design must be original. If found to be substantially identical to any existing product design, entry will receive no recognition.

3 Designer may be under contract to or in negotiation with a manufacturer for this design, but design must not be available in the marketplace as of entry deadline.

Entry form: International Conceptual Furniture Competition

Please fill out all parts and submit, intact, with each entry (see paragraph 11 of instructions). Use typewriter, please. Copies of this form may be used.

Entrant:
Address:
Entrant phone number: Category:
Entrant: Address:
Audress.
Designer(s) responsible for this submission (identify individual roles if appropriate):
I confirm that the attached entry meets eligibility requirements (paragraph 1-3)
and that stipulations of publication agreement (paragraphs 4-6) will be met.
I verify that the submission is entirely the work of those listed on this form (or an attached list as necessary).
Signature
Name (typed)
Furniture Competition
Progressive Architecture
600 Summer Street, Stamford, CT 06904
(Receipt)
Your submission has been received and assigned number:
Entrant:
Address:
Entrant:
Address:

Publication agreement

4 If the submission should win, the entrant agrees to make available further information, original drawings or model photographs as necessary, for publication in the May 1982 P/A and exhibition at NEOCON in Chicago and other major cities

5 P/A retains the rights to first publication of winning designs and exhibition of all entries. Designer retains rights to actual design.

6 P/A assumes no obligation for designer's rights. Concerned designers are advised to document their work (date and authorship) and seek counsel on pertinent copyright and patent protections.

Submission requirements

7 Submissions become the property of P/A and will not be returned.

8 Drawing(s) and/or model photo(s) of the design should be mounted *on one side* only of one 20" x 30" foamcore board presented horizontally.

9 There are no limits to the number of illustrations mounted on the board, but all must be visible at once (no overlays to fold back). No actual models will be accepted

10 Each submission must include a 5" x 7" index card mounted on the front side of the board with the following information typed on it: intended dimensions of the piece of furniture, color(s), materials, components, brief description of important features, design assumptions and intentions. This information is to be presented in English.

II Each submission must be accompanied by an entry form, to be found on this page. Reproductions of this form are acceptable. All sections must be filled out (by typewriter, please). Insert entire form into unsealed envelope taped to back of submission board. P/A will seal stub of entry form in envelope before judging.

12 For purposes of jury procedure only, projects are to be assigned by the entrant to a category on the entry form. Please identify each entry as one of the following: Chair, Seating System, Sofa, Table, Desk, Work Station, Storage System, Lighting. If necessary, the category "Miscellaneous" may be designated.

13 Entry fee of \$15 must accompany each submission, inserted into *unsealed* envelope containing entry form (see 11 above). Make check or money order (no cash, please) payable to *Progressive Architecture*.

14 To maintain anonymity, no identification of the entrant may appear on any part of the submission, except on entry form. Designer should attach list of collaborators to be credited as necessary.

15 Deadline for mailing is January 26, 1982. Other methods of delivery are acceptable. Entries must show postmark or other evidence of being en route by deadline. Hand-delivered entries must be received at the address shown here by January 26.

Address entries to:

International Conceptual Furniture Competition Progressive Architecture 600 Summer Street Stamford, CT 06904

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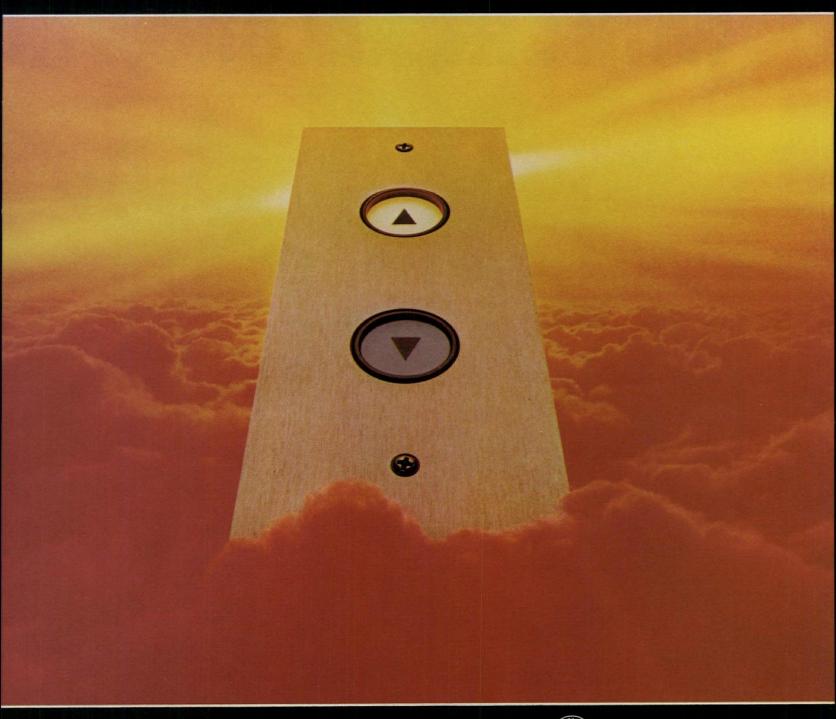
each elevator car to within $\frac{1}{10}$ inch. It has been generally recognized as the industry standard for years.

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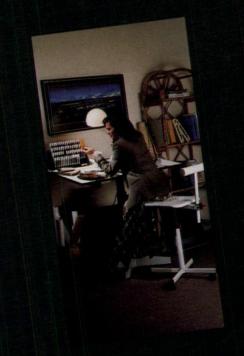
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Shopping goes to town

The suburban shopping mall is moving to inner city. There, without modification, it is a building type antithetical to the urban experience.

In the following pages, urban critic Roberta Brandes Gratz discusses in-town shopping malls; then P/A analyzes three recent examples in Santa Monica and Pasadena, Ca, and Troy, NY. They are followed by a new supermarket in Milan, Italy, and then by a discussion by P/A editors on three important projects in Boston, Baltimore, and New York. We open with the peerless example of the urban shopping complex-Galleria Vittorio Emanuele II in Milan.

The Galleria, completed in 1867 by Giuseppe Mengoni, was not the first such complex. Others had been built, mainly in France and England, since the end of the 18th Century, but the Milan Galleria quickly became, and for many still is, the most important example of its type. The reasons for this are clear. It is not just a covered shopping mall, but rather one that is intricately woven into the existing fabric of the city. It maintains streets and creates new ones; its major axis is designed as the main, and most direct, linkage between two of the city's most important institutions: the Duomo and La Scala opera house. And around much of the perimeter, covered arcades lead to glass-fronted shops. It is the antithesis of the monolithic shopping fortress that we know, and it is also perhaps the most important model for what shopping malls can be as they move to inner city. [David Morton]



Progressive Architecture 7:81

Downtown devitalized

Roberta Brandes Gratz

The author argues that downtowns are not revitalized but are in fact devitalized by bringing into them both the suburban shopping mall type of complex and the large, multiuse urban center—neither of which recognizes the natural regenerative potential of cities.

The ever-increasing proliferation of suburban shopping centers has been crippling cities from the outside for decades. Now, with the rediscovery of downtown, the shrinking availability of empty hayfields, and the growing resistance of local citizen groups, the large-scaled mall threatens to switch direction and turn into the new, popular, formula approach for commercial revitalization of cities.

With the idea of the larger and larger downtown mall as a key tool for revitalization, a fundamental understanding of how cities actually function is lost or ignored. We are locked into approaching problems with bureaucratic bigness and overwhelming scale. There is no room to learn from the positive changes that have occurred differently and despite prevailing attitudes. Tragically, we have lost sight of the natural regenerative potential of cities. We persist in believing that urban revitalization is something that can and must be "planned" and "designed," and created by big infusions of public and private money.

Yet almost every city these days has a wondrously rejuvenated area that either turned around on its own while the "experts" weren't watching or was assisted by novel, small-scaled initiatives, such as those seen in Seattle, Savannah, or Sacramento. Genuine revitalization occurs naturally, incrementally, slowly, and in small but meaningful doses—with small successes and small mistakes. Too much should not happen in one place at once.

The successfully rejuvenated downtowns are not the ones that fought back on suburban terms, clearing their acreage to impose elaborate malls, whether vertical or horizontal, in the heart of downtown. Instead, the successful cities have competed on their own urban terms, respecting the street, restoring what's left of the fabric built over time, weaving the new to fit in with the old, and continuing the layering process through which cities evolved in the first place.

Too many cities across the country, from Long Beach, Ca, to Plattsburgh, NY, have no downtown left. They are nothing more than a dreary assortment of in-town shopping centers. Cities like Ithaca and Saratoga, NY, and Burlington, Vt, learned to compete with outside malls by restoring their urbanism successfully. Cities like Corning, NY, and those involved in the Main Street Project of the National Trust for Historic Preservation show how preservation can be an extremely successful tool for economic revival.

Rebuilding downtown in a suburban mold is a danger that goes beyond retail malls to civic centers, cultural centers, sports centers, and hotel/convention centers. These sort out and separate functions; they "clean up" and "redesign" the city fabric; and they diminish pedestrian pleasures. But they make car access easy. They are blatantly anticity, but they are always promoted as the centerpiece of a new city rebuilding effort.

The concept of redesigning cities to accommodate the car is to redesign them out of existence. The first thing a self-contained mall does to an urban downtown is eliminate the street. Every other design decision pivots around that first fundamental misstep. By its very singular design, the mall is antithetical to downtown. It cannot be emphasized enough how important the street is to the city. Streets are an ancient invention that still works. Streets are the trunk of every city tree. The grid design has a logic that is timeless. Too much urban redevelopment has been designed by people who can't leave a good thing alone, who insist they can do better, who try to improve, but destroy in the process. The street is the most important thread in a city's fabric; it is what knits it all together as a city.

Eliminating the street removes the one factor that singularly and permanently defines a city-or a section of it-and from which all other characteristics emanate. Whether as the main street of a one-street town or one part of an enormous grid in a big city, the street is the focal point where people and commerce meet, market, mix, mingle, and mesh. Malls have no streets. They have pedestrian passages between parking lots and store entrances. Those passages have a distinct and limited beginning and end. Streets, on the other hand, link all the mixed functions of a city. Through the streets, the connections work. A mall separates, divides, disconnects, isolates. It is only appropriate, when it is appropriate at all, when it is placed in an undeveloped field where it is logically reached by car and where it doesn't intrude upon an existing physical fabric.

In-town suburban malls do more than interrupt the natural urban flow; they run counter to some other essential characteristics of the city. A city is not the creation of one person at one frozen moment in time. Nor should it be. It is an *evolutionary*, everchanging organism. It is marked with the imprint of both powerful leaders and anonymous citizens. Its character is never permanently defined, and should not be, and certainly not by one person or corporate group.

Unless modestly woven into the city fabric and its basic street system—letting the pedestrian in as easily as out, and creating no dead walls—the mall is no solution for revitalization of downtown commerce. If not done gently and with restraint, it can siphon commercial activity from fragile nearby neighborhoods as destructively as can outside suburban malls.

There is much to learn from the operational and merchandising aspects of regional shopping malls that can be useful in revitalizing downtowns. But it is one thing to learn from and adapt what is useful and appropriate, and another thing to produce a variation of the same theme. The first means tinkering with the urban process; the other means erasing and replacing it. \Box

Roberta Brandes Gratz is an urban critic living in New York. Some of the material used in this article is from her forthcoming book to be published by Random House.







From top to bottom: Santa Monica Place, Santa Monica, Ca; Uncle Sam's, Troy, NY; Plaza Pasadena, Pasadena, Ca; Faneuil Hall Market, Boston, Ma; Harborplace, Baltimore, Md; South Street Seaport, NY; Euromercato supermarket, Milan, Italy.

Although it is true that many towns and cities view the shopping mall as a crucial key to urban revitalization, some communities are nevertheless beginning to fight not only to keep malls out of downtown, but out of the suburbs as well. They recognize the drawing power that shopping malls can have, whether in town or not. This does not mean, though, that a mall is necessarily detrimental to a town simply by its presence. One town fought a suburban mall and lost the battle, but it seems to be winning the war.

In 1974, a large shopping complex was announced for the outskirts of Saratoga Springs, NY—a gracious town that had seen better days. The mall was completed in 1976, but in 1979 the town began a program of façade restoration and sidewalk renovation and beautification. Julia Stokes, executive director of the Saratoga Springs Preservation Foundation, explains that "the renovations are part of a sharing plan in which the downtown property owners pay an additional five percent per year on their total property taxes for 20 years, and the city has allocated a share of sales tax revenues for downtown improvements." It has paid off. According to Stokes, summer season sales increased \$1.6 million last year. But that is not all. She also says that some stores have left the mall and moved downtown.

What is important about Saratoga Springs is exactly what Roberta Gratz discusses on the preceding page: the town revitalized itself through its own natural regenerative processes, and in this case even with a new mall on the outskirts.

The in-town malls shown on the following pages represent a different story. Although each has its own problems, which are discussed, all in some respects show an awareness of the same forces that were instrumental to Saratoga Springs' success. Except for Harborplace, which is all new, they work with the existing urban fabric and seek to reinforce it. None, except perhaps for Faneuil Hall Market, goes as far in this direction as the Milan Galleria (p. 81), but to the degree that they show awareness of the environment at all, they represent a new and encouraging type of shopping mall.

Although Santa Monica Place has no street-front shops, it has large, glazed atrium entrances, terraces overlooking the ocean, and a main interior mall that repeats a previously existing street pattern to connect an older mall to an existing major department store. In Troy, NY, Uncle Sam's is neatly connected to the town's circulation, and its low silhouette, small scale, and red-brick and glass façade are direct responses to the surroundings. At Plaza Pasadena, a major street becomes the main axis of the mall in the form of a monumental, arched and skylighted pedestrian passage; and in an unprecedented break, the complex has street-front shops.

Faneuil Hall Market, as is now well known,

revitalized an entire section of Boston by reusing long unoccupied landmark buildings for specialty shopping. In Baltimore, Harborplace puts similar uses in new structures on long-vacant inner-city waterfront land. A run-down section of New York will be revitalized with South Street Seaport's integration of old and new buildings containing shops, restaurants, and offices. The city's grid will be maintained, and a retail pavilion will be built on a new pier in the river.

The only project that does not really fit into these pages is the specialty supermarket outside Milan, Italy. It is suburban, but the lessons it has to teach are no less important for its setting than, in a different context, are those of the Milan galleria in town. This supermarket picks up on the American type, but unlike those, it shows a direct response to its environment through the innovative use of highway imagery. Inside, it gives further clues to what a supermarket could become. Will Italy teach us? We already refer to many of our gallerias by their word. Perhaps one day some of our supermarkets will become supermercati. [David Morton]









A place in Santa Monica

Barbara Goldstein

The Rouse Corporation's new Santa Monica Place, designed by Frank O. Gehry & Associates with Gruen Associates as consulting architects, has ended up a resounding success, notwithstanding some design problems.

MALL LEVEL PLAN

Legend

- 1 Entrance
- 2 Robinson's
- 3 South Parking Structure
- North Parking Structure
- 5 The Broadway
- 6 Access to Mall 7 Second Street
- 8 Broadway
- 9 Fourth Street
- 10 Colorado Avenue

Greater Los Angeles has often been described as a group of suburbs in search of a city-an endless sprawl where the nearest thing to a civic event is the Academy Awards Presentation or the Hollywood Christmas Parade. The description is true to a certain extent; there is no real center in Los Angeles, but instead several small communities with their own identifiable cores, and these are developing into cities in their own right.

Santa Monica is just such a place. Over the last ten years, its single-family houses and small-scaled bungalow courts have given way to condominiums, high-rise office blocks, and stripside shopping centers. Much of the new development is an aesthetic disaster, and many mourn the loss of the old, small-town atmosphere. But the growth was inevitable, given the burgeoning affluent population and the desirability of the locale. Here is a place with clean air, a nice beach, and a freeway within five minutes' drive. The small beach community has grown up to become a seaside city.

Santa Monica Place is at the core of the new development, and it sets a positive example of sensitive design in a transitional area. It was planned by the city as part of an incremental redevelopment scheme initiated in the late 1950s. It is outstanding because it successfully translates a suburban model—the regional shopping center-into an urban center, tying together the old and the new. The shopping center is the result of creative collaboration between the City of Santa Monica. The Rouse Corporation, and their architects Frank O. Gehry & Associates, Inc. A bold departure from the typical windowless fortress surrounded by a sea of parked cars, this shopping center proposes an architectural response to its location. And it succeeds in creating a place—a center for people to shop, stroll, meet, and dine.

Santa Monica Place was required to comply with a number of legal restraints: It was the first shopping center to respond to the protective and aesthetic requirements of the Coastal Commission, the first to comply with Title 24 energy requirements and the stringent new earthquake controls. The developers were required to route the traffic around the building and provide bus channels. Normally, a shopping center developer is engaged in a juggling act, trying to balance the demands of the department stores, small retailers, and shoppers. The additional restraints imposed by regulations could have

resulted in a conservative and unimaginative scheme, but the reverse proved true.

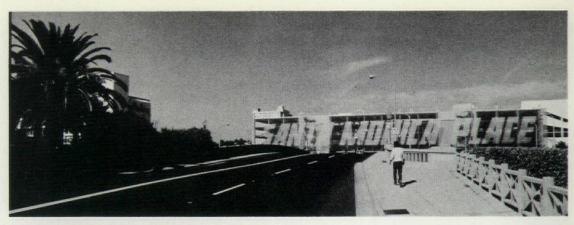
Santa Monica Place is on a ten-acre site that takes up two city blocks beginning one street inland from the beach and running east. Extending from the middle of the site to the north is the old Santa Monica Mall, an openair pedestrianized shopping area that was the first stage of the city's redevelopment scheme. To the south is a Sears department store. These mark the two busiest pedestrian entrances. To the east and west, the shopping center faces small-scaled buildings that will undoubtedly be replaced by larger developments in the next few years. The bus stops are on these two streets

In order to accommodate the retail stores, department stores, and parking spaces necessary to make the scheme economically viable, the shopping center took the form of two six-story parking structures linked by a three-level galleria. The Broadway and Robinson's department stores are located at either end. Altogether there are 163 shops—which on a suburban site would have required 50 to 60 acres!

A major difference between Santa Monica Place and most shopping centers is its break from the traditional "dumbbell plan," which closes each end of the mall axis with a department store. Here, by shifting Robinson's and The Broadway to diagonal corners of the long axis, the architects were able to open the galleria to the street on all four sides, and also gain 10,000 sq ft of additional high-rent shops.

Both the developers and Gehry felt it was important to design the exterior as several distinct elements in order to give it an "urban" scale. Each building was considered in relation to its surroundings, with the result that the shopping center appears to be an agglomeration of buildings rather than one monolithic heap. And although there are few actual windows facing the street, the design variety of the façades creates a real architectural texture through the use of such devices as the superimposed grid on the parking structure facing the old mall, the stepped balconies facing the ocean, and the canopies at every entrance.

As an architectural composition, Santa Monica Place looks best approached from the south in a moving car. Here Gehry made his Double layers of chain-link fence on the parking structure announce Santa Monica Place as approached from the south. The plan (facing page) does not follow the standard "dumbbell" scheme, but places "anchors" at diagonal corners.













boldest gesture: a veil of chain link hanging in front of the parking structure, spelling out SANTA MONICA PLACE in a second layer of blue chain-link capital letters. The vision of this veil rising above the hill as one approaches the building is quite powerful. The southern entrance court, a dynamic construction of white stucco walls and slashed-out diagonal windows, provides another dramatic note.

One of the project's aims was to link the old Mall and Sears, thus continuing the north-south axis that was originally Third Street. In order to terminate the old mall visually and at the same time draw people into Santa Monica Place, the architects built a gigantic glass house at the north side that acts as a monumental portal. Shoppers entering here now move directly into the Picnic Court—a series of fast-food stands surrounding a cluster of tables and chairs—a trademark of the Rouse Corporation.

Because it faces slightly away from the old mall and is flanked by a high parking structure on one side and a monolithic department store on the other, the glass house itself is not as visually dominant as it first appeared in early models. This entrance, which is the busiest one, is usually in shadow and therefore lacks sparkle. The sidewalk in front of it does not appear particularly generous because it steps down to the mall; and the inside space is disappointing. Although there is an open, two-story court with a twisting staircase up to Robinson's, the space quickly leads into a low passageway to the main mall court. Rather than the bright natural light and soaring gallery space one would expect in a glass house, there is a low ceiling with a low lighting level. In addition, it's necessary to negotiate a set of fire doors and a passage with people milling around tables in order to reach the main space. This entrance, although intended to be a clear gesture, is not very convenient, especially for anyone disabled or wheeling a stroller.

The magnificent galleria that one expects in the shopping center is along the long east-west axis connecting the two department stores. The interior of this space is filled with light and excitement, and where the two interior streets meet, the geometry is shifted slightly to create a diagonal "town square," framed by columns and escalators.

Along the central axis, the balconies are cut back successively to admit daylight through the many clerestories and skylights. Both the bright daylight and the relationship between the height of the gallery and the width of the "street" give the space a small-town scale. This is reinforced by the continuous row of columns along the spine, making the "street" an "arcade." As in Victorian arcades, the structure and stairs become occasions for visual delight.

At the west end of the mall, the upper levels open out to 10,000 sq ft of deck, which results from the Coastal Commission's requirement for allowing people to enjoy the ocean. Here, Gehry designed an open framework of white stucco and blue awnings, alluding to the nearby Santa Monica Pier.

Although the project succeeds on many

levels, there were certain areas over which neither Gehry nor the Rouse Corporation had control, such as in the design of the department stores. While all of Gehry's entrance courts are welcoming and humane, as a whole the exterior of Santa Monica Place is unpleasant at sidewalk level because of the department store design. These buildings, designed by their own in-house architects, are almost entirely lacking in scale. For example, The Broadway, although it conceded to the city to build some outside display windows, has no street-level entrances outside the mall. The only doors on the street are puny, blank fire doors. Robinson's, although still incomplete because of fire damage, is equally bland. In both cases, one longs for a traditional city department store with deep display windows and grand entrances on the street-in short, for architecture that aspires to the quality of the rest of the mall and acknowledges its urban location.

Both the Rouse Corporation and Gehry felt responsible for making Santa Monica Place an integral part of the city; and the architecture of what they controlled, because of its distinctive and open nature, makes a great contribution to this end.

Aside from the annual tax revenue the shopping center earns for the city, there are several community services within the scheme. For example, the Rouse Corporation, through its "Art in the Marketplace" program, has supported a branch of the Craft and Folk Art Museum in one of the mall shops. There is also a well-used 4000-sq-ft community room in the project.

In certain areas, however, the developers could have taken more risks. Gehry wanted to depart from some of the prescribed signage and building materials, but more problematic were some of the "formula" design features. For example, each department store has a small circular pool in front of it, forcing people around the ground level shops on their way in. Although this is traditionally a sound retailing idea, the pools themselves are unimaginative in form and execution. Surely another element, such as a newsstand or a cluster of checkerboard tables and seats, would have accomplished the same end. Also, the sound level in the mall is annoying—not the noise of the crowds, but the unrelenting presence of Muzak!

An annoying psychological trick shopping malls play is to lead the shopper past as many shops as possible on the way from one department store to another. This is, again, a sound retailing idea, but it is extremely frustrating to hike long distances to reach the down escalator. This must be doubly frustrating for the handicapped, who have in the entire mall only one elevator, which is located at the far end near Robinson's rather than centrally, where it would have become more accessible and could also have become an important design feature.

However, Santa Monica Place is still a huge success, both as a retailing venture and as an

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The north entrance (facing page, top) faces old Santa Monica Mall. The new interior mall extends to south façade (next photo), which faces Sears. The main atrium (third photo) is at complex's center, but elevators (bottom) are only at one end. The west side (this page) is the most highly detailed, with levels of terraces facing Pacific.



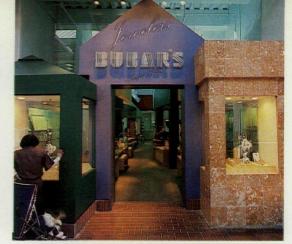




Santa Monica Mall

Major interior spaces are all white, with delicately colored streamers as accent. Bubar's jewelry store (right) was designed by Frank Gehry and Stephen Tomko.

architectural contribution to the city. Since its opening, even without Robinson's department store, it has attracted up to 125,000 shoppers a week, thus exceeding Rouse's expectations. The old mall has perked up, enjoying increased activity, and some nearby shops have even indulged in facelifts. Within the mall, people treat the space like an amenity, sitting on benches and at tables, watching other people and enjoying the atmosphere. In a difficult arena, with little precedent to guide them, the city, the developers, and the architects have succeeded in what they set out to do: to create a Place in Santa Monica. □



Data

Project: Santa Monica Place, Santa Monica, Ca.

Architects: Frank O. Gehry & Associates; Frank O. Gehry, Hak Sik Son (project designer), Greg Walsh, Rene Ilustre, Stephen Tomko, design team; Gruen Associates, Inc., Consulting Architects.

Program: urban shopping center based on suburban type, including 163 shops, mall, and other amenities anchored by two department stores designed by other architects; total including 285,000-sq-ft leasable area, 10,000-sq-ft public deck, 2034 on-site parking spaces, and 280,000 sq ft for the two department stores.

Site: two-square-block area of 9 acres in redevelopment area land adjacent to existing pedestrian shopping street.

Structural system: concrete piles, poured concrete, and block retaining walls at grades; structural steel and composite slabs elsewhere.

Major materials: concrete plaster and glass in aluminum frames on exterior; gypsum board interior cladding (see Building materials, p. 168).

Mechanical system: rooftop

package air-conditioning units with economizer cycle; no heating.

Consultants: OMI-Lang Associates, landscape; Johnson & Nielsen Associates, structural; Donald F. Dickerson Associates and Western Air & Refrigeration, Inc., mechanical; Barton-Aschman Associates, traffic; Harry Y. Silver & Associates, electrical.

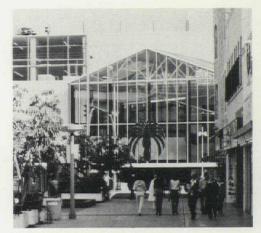
General contractor: E.W. Hahn, Inc.

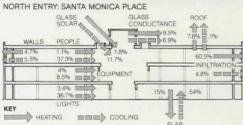
Cost: \$50 million, including department stores and parking structures.

Photography: Tim Street-Porter.



Energy analysis





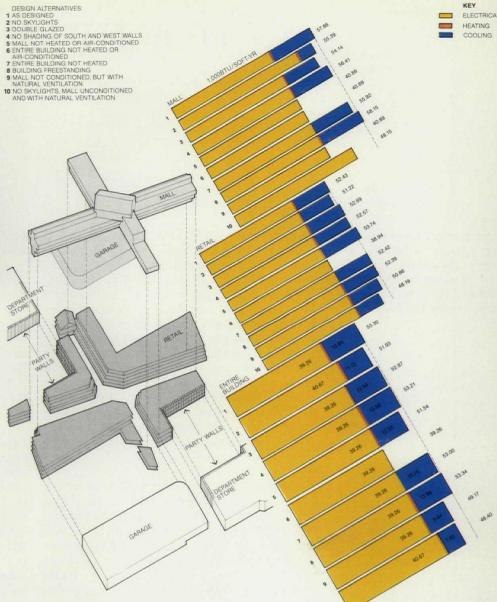
COMPONENTS OF LOADS

This analysis was prepared in the Center for Planning and Development Research, College of Environmental Design, University of California, Berkeley; Vladimir Bazjanac, Ph.D., Project Director. The work is funded by the Buildings Division of the U.S. Department of Energy.

The energy performance of Santa Monica Place is characterized by very high internal loads. Because of an almost ideal micro-climate in Santa Monica, Ca (temperatures most of the time are in the sixties and the seventies), which has little adverse effect on the building, modifications of the building skin have very little impact. Heating load during the operating hours is so small that it can be neglected. The effective energy conservation strategies for this building must concentrate on the reduction of the internal loads and the resulting cooling load.

Internal loads account for 74 percent of the building's cooling load. Almost one-half of that comes from lighting fixtures. The most effective energy conservation strategy appears to be the use of natural ventilation.

Skylights contribute much to the natural lighting of the mall. They are not adequately shaded, however, and thus also contribute to the cooling load. About 65 percent of all skylights are horizontal. If they were all vertical facing north, the cooling load would drop slightly. If skylights were eliminated, the cooling load of the mall would drop by almost two-thirds. The resulting reduction of daylighting would increase the



COMPARISON OF ANNUAL ENERGY PERFORMANCE

electrical consumption from lights in the mall by almost 20 percent; still, the overall reduction of demand for energy in the mall would be 4 percent. For the entire building it would be 2.5 percent.

The removal of party walls and building shades has practically no effect. The building is shaded by its surroundings. The introduction of double glazing would reduce the conductive heat loss. It would also reduce the transmissivity from 44 percent (as designed) to 34 percent, which would reduce the solar gain and some of the cooling load.

If the mall were not to be conditioned, the energy consumption in the building would drop by over 3 percent, though the cooling load in retail spaces would somewhat increase. If the entire building were left unconditioned, the only demand for energy would result from artificial lighting and user-operated equipment; this would reduce the demand for energy for the entire building by more than 26 percent. The probability of temperature in the retail space being 68-78 F during the operating hours (10 AM to 10 PM) would be 63 percent, for 78-85 F it would be 36 percent, and for less than 68 F only 1 percent.

If the mall were to be conditioned and also naturally ventilated during the cooling season, the cooling load in the entire building would drop by 29.5 percent. If, in addition, skylights were removed in the mall, the cooling load would drop by 45.5 percent. The temperatures in the mall (at any time of the day) would still be 68–78 F 74 percent of the time, 55–68 F 23 percent of the time, and 78–85 F only 3 percent of the time. This alternative would reduce the overall demand for energy in the building significantly (more than 9 percent) with the retail spaces still fully conditioned.

The analysis of the energy performance of this building does not include the performance of the mechanical systems in the building. It is based on annual simulations with DOE-2.1, using custom weighting factors, and the weather tape for California Climate Zone 6. Its accuracy is limited to the accuracy of DOE-2.1 in representing the building's thermal behavior and does not necessarily conform to all of the details of the actual performance of the existing building (P/A, April 1980, p. 100).

As Troy turns

A soap opera format is most appropriate to describe a saga of downtown revitalization. Nothing has been changed to protect the innocent, except for emphasis. **Episode 1:** We begin our serial melodrama in downtown Troy, NY, a truly "gritty" city, which served as the center for steel manufacture in the U.S. during the 19th Century, until Andrew Carnegie so malevolently launched a steel manufacturing empire of his own in Pittsburgh. Thus the decline of Troy begins, although the poor town has been for many years still able to eke out an existence through the manufacture of guns, shirts, and chocolate chip cookies. Bit by bit, however, a teetering-on-brink-of-poverty image takes over downtown as its once splendid mills, warehouses, Victorian mansions, brownstones and commercial brick structures settle into a seedy squalor.

Episode 2: Enter the concerned businessmen of the city of 61,000 people, who in the 1970s decide to bring Troy back to its former luster. What is needed is a shopping mall, of the sort that has been drawing people out to the suburbs. But who is going to volunteer to be the developer of such a risky venture? None other than Carl Grimm, a civic-minded building supplier with a long white beard, who resembles Uncle Sam, the legendary Troy patriot for whom the mall will soon be named. Grimm proposes building the two-story mall of specialty shops and department store. Only. . . .

Episode 3: He first hires local architects, and the project looks to some too much like a suburban shopping mall—an introverted self-contained ship moored in a sea of asphalt, simply docked downtown. The civic group behind the project turns to Patrick Quinn, then dean of the architecture school at Rensselaer Polytechnic Institute in Troy, who

quickly comes up with names of architects known for imaginative work in this area.

Episode 4: Galloping into town in a cloud of dust come Elbasani, Logan, Severin & Freeman, architects from Berkeley and New York who have executed similar projects (Kalamazoo Center, P/A, May 1976, p. 64). By the time the project is completed, they will have split into two firms, Geoffrey Freeman Associates and ELS Design Group, but through no fault of this task. Meanwhile back in Troy. . . .

Episode 5: To their surprise, the architects discover when they begin to draw up the plans that the steel framing for part of the complex is already in the ground. In the nick of time, the developer agrees to cut down some of the steel columns, and the architects begin to make some design inroads. The scheme calls for a two-story 550-car garage on one parcel of land, with the two-story shopping mall wrapped around the 1890s Frear building on an adjacent parcel.

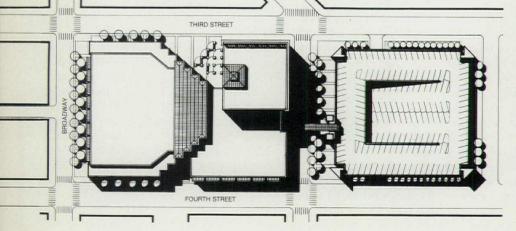
Episode 6: Who should arrive on the scene but the Federal Government, which under a UDAG program will cough up a \$1.75 million grant for the public portion of the mall, a 17,000-sq-ft glass-enclosed atrium. Meanwhile Grimm will finance the \$7.5 million construction for the department store and the two levels of shops totaling 160,000 sq ft in return for tax exemptions. Even DOE comes up with money for solar panels on the mall roof to cut heating costs by almost 40 percent. The renovation of the Frear building is postponed for the time being.

Episode 7: The Uncle Sam Atrium opens to much fanfare in March 1979. HUD Secretary Pat Harris is on hand to inaugurate the first project completed under the UDAG program. All looks well. . . .

Episode 8: The Atrium is clearly the tour de force of the design. Its tall, shaftlike forms topped with glass gable roofs in staggered formation evoke imagery of campanile and towers of architecture gone by. Opening in two directions, one toward Fourth Street the other toward Third, and with two tentacle-like arms reaching out to other streets, the glassed-in atrium surely will function as an active node for the town, as well as for the center. Glass, sunlight, trees, exposed ducts,











joists, pipes and steel, and concrete give a strong character to the place. For extra panache, the architects have designed a main stairwell to be a curving sculptural form providing seating and planting. Its grotto-like quality rather appeals to all the characters in this melodrama, in spite of its playing-to-the-grandstands picturesqueness.

Episode 9: On the exterior of the building, the architects spruce up the entrances with a polished razzle-dazzle for down-at-the-heels town of Troy. The Atrium's red metal door frames are pulled away from the glass shafts and shifted to read as distinct portals. The glass shafts themselves are set back in staggered formation from the entry to ingeniously mold an intimate entry space. The connection of the shafts to the long stretch of gridded glass curtainwall enveloping the sides of the center is handled with a sensitivity to the issues of continuity and line.

Episode 10: But some mysterious features appear in the otherwise serene setting: What is this brick grotto-like stairway doing on the *outside* of the building where it has reemerged as an extension from the second level of the stair in the atrium proper? Who is meant to use these stairs? Do the citizens of Troy want to go into the building by first going up the

Stair entrance leading to second level from Third Street (left); glass shafts of aluminum and steel mullions signal steel-framed entry on Fourth Street (below).



Uncle Sam Atrium

Brick sculptured tiers form seating, stairs, and subdivide space in skylit atrium (below). Originally architects had planned two pronglike paths to lead from atrium to corners of complex fronting Broadway (plans, opposite). Denby's, however, filled in the Third Street public route with its own store functions (not shown).

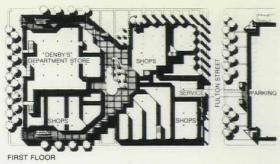
outside steps to the second floor bridge and then down again once inside the atrium? Or will they just enter through the doors at street level? We shall see.

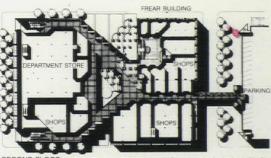
Episode 11: It looks as if they are *ignoring* the outside stair. There it sits for now, quite deserted. Its obsessively curvilinear brick tiers edged in brightly painted metal pipe railing seen in contrast with the lightweight glass skin behind it look a little *de trop*. However... wait, it seems as if the top terrace will soon sport an outdoor café, so that there will be *raison d'etre* for going up those stairs.

Episode 12: Wrong—the café is not ready to go ahead yet. . . . Maybe in the future. Meanwhile ripples in the not so smooth surfaces can be seen. The design of the brick exterior walls for the actual shopping mall contribute the most to the misreading of the spirit of the enterprise. Because of the limited budget from private funds for this portion, these walls have been clearly given short shrift. While they are designed with 10' x 12' large plate-glass windows along the ground floor, the windows are not used for display purposes, and in fact are simply bricked in. Bent. and crinkly flashing edges the tops of the windows, a misguided gesture at echoing the coping seen on older buildings nearby. Many









efforts are made to articulate the surface—by scoring it with vertical reveals at each bay, by changing brick patterns at rhythmic intervals, by laying the brick in zigzag notches in the second-floor level to correspond to placement of fenestration at ground floor. But all efforts stay too half-hearted. Downtown Troy, with its blocks of 19th-Century brick buildings and brownstones, offers up a strong backdrop of cornices, brackets, pediments, and moldings as the context for the mall. Already some dub the new building by the usual shopping center ephithet—"the brick box."

Episode 13: Most of the trouble centers on the elevation fronting Broadway. The exterior wall facing this main thoroughfare of downtown Troy is not treated architecturally as worthy of esteem. Even in the middle of the wall, where one would expect the entrance, is a truck delivery driveway, replete with rolling door. The corners serve as entries to the buildings, one leading to the public walk extending from the Atrium, the other right into Denby's department store. Both are called out in blue signage one could only describe as "Fifties Klutzy." To make things worse Denby's, heralded as savior of the mall by its decision to play the department store "anchor," engages in the "battered architecture syndrome" by outrageously mistreating its own window space. Not only does it not use the windows for display, but it even bricks up some, including one where brick is filled in right behind the glass plate. As one architect said, it gives a new definition to the term "window wall." And a major public walk (or "tentacle") planned to extend from the atrium to the corner has been absorbed by Denby's.

Episode 14: On top of that, Denby's has brutally mishandled the gridded glass curtainwall wrapping around the corner to the Third Street side, equally in full view of all passersby. By placing partitions of gypsum

board (and a few of glass block) against the exterior glass curtainwall, the store quashes any possibility of seeing the merchandise within. By ignoring any opportunities for effective display, the store has indeed shown itself to be in the rear guard of merchandising and window design techniques today. Bloomingdale's need not worry. Denby's remorselessly continues its destructive ways with its interior store design—executed with all the verve of the local dime store.

Episode 15: The sad tale of how retail practices can subvert the architectural possibilities inherent in a situation drags on. The design of the "specialty" stores through the mall brings tears to the eyes. The tenants, franchisers for the most part, have haphazardly installed their Thom McAn shoe displays under cheapo ceilings of fluorescent lighting and acoustic tile. Each store has fought to be more garish than the next. Add to that the lack of any cohesive pattern to the placement of the retail stores and you have a scene over which the Rouse Company could sneer.

Episode 16: Not surprisingly there is some dispute about how well the two-year-old shopping mall is doing economically. Raw space still exists in abundance. It is whispered that not even 60 percent has been leased. Grimm's office for the mall states on the contrary that 87 percent of the shops are leased with 10–12,000 sq ft remaining to go. Meanwhile, the Frear building next door still awaits renovation, and Grimm expects restaurants and cafés will soon agree to take the second-floor space. The movie theater at the corner, near the garage, and McDonald's, on the periphery of the garage, are both going reasonably strong. What will be the outcome?

Episode 17: To make things more intriguing, and raise a few more eyebrows, downtown Troy is becoming environmentally competitive. It is undertaking a façade improvement program. Stores on blocks all around are beginning to sport new paint jobs and carry newly executed signs, faithful to the type the 19th-Century buildings once bore. Storefronts are being restored to their glass originals-and embellished with appropriate displays. On a sunny day, crowds of shoppers can be seen strolling outdoors down the tree-lined streets, pausing under store awnings to look at merchandise moved outside. Meanwhile, back at the Atrium, the crowds are not so thick, the spirit not quite so urban.

In spite of good intentions of the city, the developer, and the architects, the building went only so far in fusing the "introspective" centered focus of the suburban mall with the "extroverted" orientation of traditional shops along city streets. Because of the plan and the mid-block Atrium, plus the budgetary restraints, too much of the building's exterior suffers—and in public view. Will the building eventually evolve a full aesthetic whole? Could its brick exterior walls be face-lifted? Will the Frear building be renovated? And will the venture become truly a success? Stay tuned for more. [Suzanne Stephens]

Data

Project: Uncle Sam Atrium, shopping mall, and garage, Troy, NY.

Architects: Geoffrey Freeman Associates, New York, and ELS Design Group, Berkeley (formerly Elbasani, Logan, Severin, Freeman, New York and Berkeley). Vincas Meilus, Leon Parham, project architects; Peter Aaron, Lynn Ross Malloy, assistant architects. Associated architects for commercial space: Harrison & Mero.

Client: City of Troy, John Buckley, City Manager. Site: 135,000 sq ft on two parcels of land in downtown; existing 1890s department store, 50,000 sq ft adjoining. Remainder of site cleared by urban renewal.

Program: parking garage for 550 cars; pedestrian bridge; department store of 40,000 sq ft; two levels of shops of 120,000 sq ft, and glass-covered atrium of 17,000 sq ft.

Structure: cast-in-place footings, fireproofed steel frame, metal deck, and concrete floors for shopping mall; reinforced cast-in-place footings and precast concrete girders, beams, columns and cast-in-place floor slabs for garage.

Major materials: brick cavity wall, 1-in.-thick green-tinted windows, aluminum-and-steel mullions, gypsum board on steel studs for interior partitions, brick floors, acoustic ceiling (see Building materials, p. 168).

Mechanical system: solar panels for partial heating; individual heat pump suspended from ceiling in shops; cool air from atrium circulated through stores.

Consultants: Office of Irwin Cantor, structural; Segner & Dalton, mechanical; Grove/ Slade Associates, traffic engineers.

General contractor: SAI Construction.

Costs: garage and pedestrian bridge: \$2.5 million; glass atrium: \$1.75 million; shops: \$7.75 million.

Photography: Vincas Meilus.

Procession in Pasadena

A 750,000-sq-ft shopping center dropped into an unusually distinguished city core displays serious efforts by architects Charles Kober Associates to reconcile circulation and form with a demanding context.



New complex joins Beaux-Arts civic center focused on domed city hall (above) by Bakewell & Brown, Arched tunnels along freeway from L.A. (below) are images of passage to Pasadena.



Pasadena is not all Rose Bowl Parade and Greene Brothers houses. It has a too-littleknown Beaux-Arts civic center, clustered around the exuberant domed city hall by Bakewell & Brown (who gave us the elegant San Francisco City Hall). At Colorado Boulevard, the axial order of the civic center used to collide with the unbridled variety of a typical Main Street shopping district. When that district began to lose out to remote shopping malls, downtown decided to fight back, with an in-town enclosed mall covering most of three city blocks, linked to parking garages on adjoining blocks.

During the 1970s, the Pasadena Redevelopment Agency bought and cleared the site, built parking garages, and signed on one of the nation's most prolific shopping center builders, Ernest W. Hahn. Because of the public backing, Hahn and his architects, Charles Kober Associates, were subjected to reviews by numerous committees and groups, which pressed to make the development as compatible as possible with its context.

If a self-contained structure of this scale had to be juxtaposed to the forms and axes of the civic center, the design by Charles Kober Associates accomplished it in the least disruptive way one could hope for-in the real world of American cities and developers. The scheme is most notable for two contextual devices: the continuation of the major Garfield Avenue axis through the project by way of a monumental arched passage; the provision of street-front stores—an unprecedented break from the shopping mall formula-to reinforce the remaining retail frontages along Colorado Boulevard. These are the features that prompted the jury for the 26th annual P/A Awards program to select the design for a citation (P/A, Jan. 1979, pp. 92-93).

The sequence of arches and vaults forming the grand pedestrian entrances on the Garfield Avenue axis has turned out to be very effective. The series of thin planes, all pierced by the same arched shape, have formal qualities more closely related to works of Charles Moore and to recent environmental art than to its Classical Revival neighbors. (Ronald Altoon, principal in charge of design, claims that inspiration for the arches came not from nearby buildings, but from the

procession of vaulted tunnels along the L.A.to-Pasadena freeway.) The remotely Palladian arrangement of columns at the bases of these cutouts mediates nicely between the abstract, city-scale arches and the real building, with its floor levels and enclosure details. The required enclosure of the passage is dematerialized very well by overhead light entering between arched planes and by the visual prominence of bridges spanning the space. Finally, the murals by Terry Schoonover high up in the central crossingthe most successful products of a \$175,000 art budget established by the redevelopment agency—emphasize the loftiness of this urban gesture in comparison to the more mundane scale of the retail mall extending out to either

The P/A jury foresaw that the working retail portion of this mall, with none of the Classical devices suggested by the grand entrance, was going to be quite ordinary. A ceiling of modest height has cautious areas of finned skylight-energy-wise for Pasadena's warm, sunny climate, but of no visual distinction. The plan abandons Classical axes for the meandering geometry of Anywhere Mall, USA, with escalators and planters at rakish 45-degree angles. Continuation of the graybeige brick veneer throughout the mall was ruled out by a budget squeeze that led to vast areas of off-white gypboard; designs for bold railings gave way to more basic models.

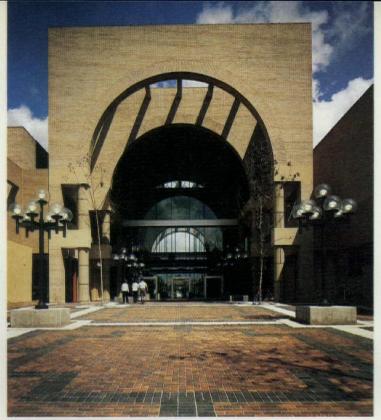
The streetside storefronts that impressed the P/A jury-and won allies for the project among concerned local citizens—are there, as planned, but they have no connections through to the mall, and tenants such as the Telephone Store do not generate heavy shopper traffic. The architects' happy concept of projecting canopies and greenhouse fragments for the storefronts is not executed with quite the pizzazz envisioned in their renderings, and the fragmentation of the upper walls-while clearly preferable to vast uniform planes—looks like monochromatic sculpture on Main Street themes, quite detached from the real thing. Where the wall steps back toward the axial arch, with some shops turning the corners and restaurants spilling out onto upper terraces—there is some real interaction. Here some of the shoppers who enter from garages—up escalators or over second-level bridges-may be tempted out onto the sidewalk.

The south side of the building faces an inward-turning conference center, grouped

Progressive Architecture 7:81

Axis of Garfield Avenue pene-trates complex through series of arches (right and bottom). Three-block-long Colorado Blvd. front (below and far right) is broken up in volumes at scale of facing store buildings; garage entrance is marked by arched cut-out, and projections onto sidewalk identify street-front stores.





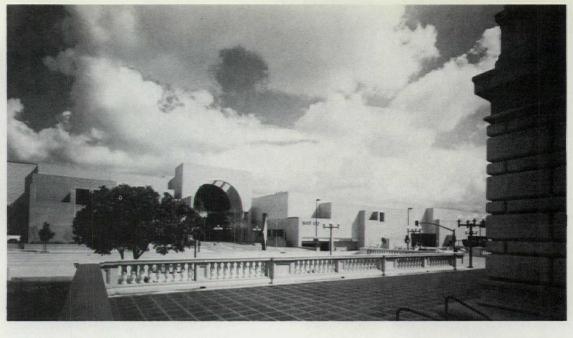




Plaza Pasadena



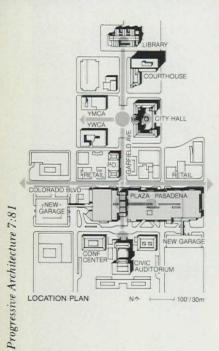
Identifying arches—seen at night (above) and from terrace of Classical auditorium (right). Façade of old store is retained over one garage entrance (below). Broadway store by Kober firm (bottom) has dark-glazed entry projections.

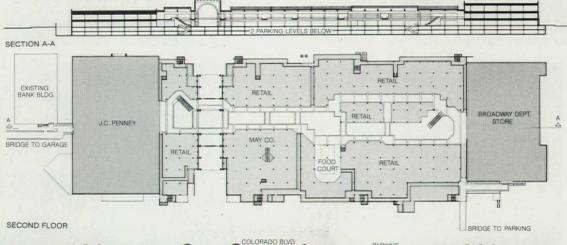


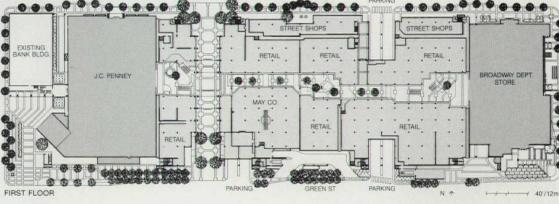








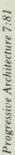




around the elegant old Civic Auditorium. Here there is no retail on either side and no excuse for pedestrian movement except at the axis that links the big south arch with the Classical auditorium front.

The department stores at either end of the complex, which really needed to be only blank volumes, were taken up as architectural challenges. The Kober firm allowed most of the Broadway store to be large-scale brickclad volume, with projecting angular glass enclosures calling out north and south entrances. Architect Millard Archuleta, who designed the Penney store, chose to embellish its Colorado Boulevard front with a series of smaller arches that do little to complement the big ones. The Kober firm preserved the upper part of one old storefront-in California Rococo with red tile cresting-as an entrance to the parking ramp.

Altogether, Plaza Pasadena represents a kind of landmark in contextual sensitivity for new urban commercial centers of such scale. In the form of its envelope and in the one big civic gesture that passes through it, it embodies a couple of valuable architectural lessons; in its streetside shops, it addresses the problem of the inward-focused mall, but without fundamentally altering it. Still, such limited victories are rare and worth examining. [John Morris Dixon]





In second-floor Food Court (above) umbrellas temper sky light. Murals by Terry Schoonover at crossing (right) comment on architecture of civic center and shopping center. Front for May Co. by Kober office (below right) carries hint of Classicism into mall proper.

Data

Project: the Plaza Pasadena, Pasadena, Ca.

Architects: Charles Kober Associates, Los Angeles, Ca, for retail mall, Broadway Department Store, May Company storefront, on-site parking garage, and pedestrian bridges to off-site garages. (Principal for design/ architecture: Ronald A. Altoon. Principal for design/planning phase: John Adams Jerde. Principal in charge/project director: Paul K. Curran. Senior project designer: B. Hyun Kim. Project architect: James W. Lamm.) Architects for J.C. Penney Building, Millard Archuleta Associates; tenant storefronts and interiors by various firms; off-site public parking structures, Marion J. Varner Associates.

Site: 10 acres, assembled of 3 previous city blocks, along Colorado Blvd. (main commercial street) cleared of previous com-





mercial buildings, except for Security Pacific Bank Building and façade of Mordisco Drug Building.

Program: two-level enclosed retail mall connecting two department stores, plus some street-front retail stores. As-built areas in sq ft (gross leasable/gross building): J.C. Penney (2 levels), 133,911/143,538; Broadway (3 levels), 152,547/158,505; developer stores, 292,298/330,823 (19,835 of leasable in street-front stores); remain-

der of mall building 6101 (food court)/113,696; total, 584,957/746,835. Subterranean parking (2 levels, under all new construction), 845,453 sq ft, 1987 cars. Off-site public parking, 2 structures (4 and 5 levels) totaling 431,000 sq ft, 1241 cars.

Structural system: precast concrete, parking levels; steel frame above.

Major materials: face brick, plaster on metal stud walls, gravel on capsheet roofing on fiberglass insulation (see Building materials, p. 168).

Mechanical system: package electric VAC units for mall. Variable volume AC for tenant stores, by groups. Food service spaces on separate system. Central exhaust for toilets, service spaces, etc.

Consultants: Lawrence Reed Moline, interior landscape. Pod, Inc., exterior landscape. Ruthroff & Englekirk, structural. David Chen & Associates/ Donald F. Dicerson Associates, mechanical. Store, Matakovich & Wolfberg, electrical. Richard F. Roti Associates, parking.

Client and general contractor: Ernest W. Hahn, Inc.

Costs (actual, excluding tenant work, with costs per gross sqft in parentheses): parking (excluding off-site) \$14,458,029 (18); mall, \$15,104,870 (34); Broadway store (excluding fixtures and furnishings) \$5,603,355 (35); May Company, \$1,335,278 (27); pedestrian bridges to off-site garages, \$918,428 (116); restoration of Mordisco front, \$181,397.

Photos: Wayne Thom, except as noted.

Supermercato

On the outskirts of Milan, a shopping complex combines elements and images of the past with those of today.

Traditional elements used at the supermarket include the checkered tablecloth motif both inside and outside the cafeteria in green and white, and in red and white at the wine section. The long mall separates self-service from individual shops (facing page). The processed meat section (this page) uses the image of a smokehouse.

Data

Project: Euromercato Brianza, Paderno Dugnano (Milan), Italy

Architects: Studio Laboratorio di Architettura, Milan, Franco Paulis, partner in charge; and Tekne V.R.C., Milan.

Client: Euromercato, Paderno Dugnano.

Program: 258,000-sq-ft shopping complex including parking for 2500 cars and cafeteria seating 250.

Site: 1 million sq ft of flat land facing autostrada 20 miles from Milan.

Structural system: reinforced concrete frame.

Major materials: reinforced concrete panels, metal roofing, ceramic tile flooring.

Photography: Foto Casali, Milan.

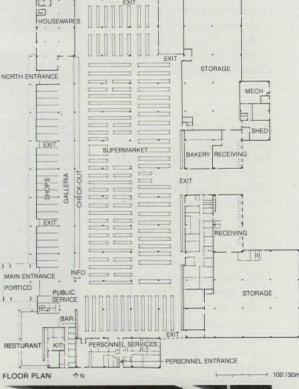
A huge new shopping complex on an autostrada in the outskirts of Milan, Italy, is not a shopping center in the way we know them, nor is it a supermarket of the type that would be familiar to most Americans. Rather, it is a combination of the two. In 118,000 sq ft of open space under a single roof, one can buy everything from food and wine to cameras, jewelry, appliances, hi-fi, and stationery. This new type of shopping facility is generically called a "hyper-market," and the one shown here, the Euromercato Brianza, is the prototype for a new series being developed by an Italo-French distribution chain.

One of the most interesting aspects of this complex is that in the services and goods offered, it is not very different from the traditional open-air market found in the centers of most Italian cities and towns. Of course it varies greatly from those, however, in being under a single roof, and in using a system of signs and symbols that would be as unusual to the old markets as they are to the new ones.

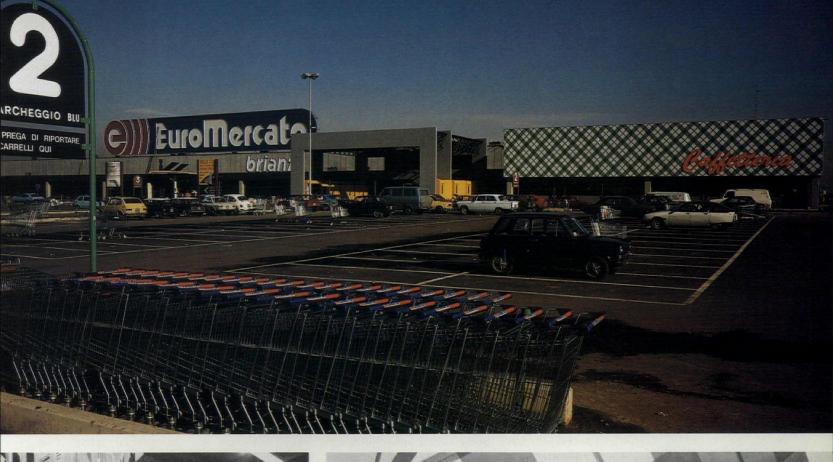
The vast (258,000 sq ft, including storage areas) reinforced concrete one-story structure is basically just a large box with no glazing except at the cafeteria area. "In terms of image," the architects say, "the problem was how to make the building recognizable in an anonymous and degraded suburban setting where the only things that stand out are the road signs." Instead of competing with these, the architects took their cue from them and treated the building as a series of gigantic signs. This would probably be an unusual attitude for Italian architects, but Franco Paulis studied under the Venturis.

The biggest of the signs, which is 180 ft long and 20 ft high, carries the facility's name. The entrance to the building, the architects say, is "reminiscent of triumphal archways," with four 26-ft-high portals connected by iron trusses. Across the top of the cafeteria, the image of a gigantic tablecloth proclaims its function.

If giving identity to the exterior was a problem, it was in a sense no less of one for the interior. There, the same kinds of symbols have been used to help direct shoppers to various sales areas. The cafeteria, for instance, repeats the green and white tablecloth motif of the exterior; the wine section uses a red and white checkered tablecloth. The meat and cheese section is identified by a "smokehouse" roof, and above the aisles, other signs hang down almost as they might above a highway. A major mall runs the length of the interior, separating the small, individual shops from the larger self-service area. Above this, a series of red steel triangular frames supports a long yellow tube that contains all the electrical and telephone wiring, pneumatic tubes, and other automated service apparatus. The architects, however, never forget that the whole world is not made up of highway hightech imagery. Although the eight fiberglass boxes under the entry portico continue that theme, they are actually stalls for itinerant salesmen, such as one would find in the old market places. [David Morton]













Roundtable on Rouse

P/A's editors discuss the advantages and disadvantages of renovating old buildings and erecting new ones in downtown areas for retail shopping developments.

The Faneuilization of America is proceeding apace. The Rouse Company, developers of the hugely popular Faneuil Hall Market in Boston were so happy over its \$300 a sq ft per annum gross sales, they followed up with Harborplace in Baltimore's Inner Harbor. Here new marketplace buildings, designed by Faneuil Hall Market's architects Benjamin Thompson & Associates, were built from scratch. Now the Thompson/Rouse team is designing three buildings in and renovating portions of the 19th-Century enclave of New York City's South Street Seaport district.

In all three cases, the projects, however successful, have been called into question. Faneuil Hall was criticized for installing upbeat, chic, fast food instead of the produce vendors who were once there. Harborplace required a referendum to see whether residents would agree to turn over part of the waterfront designated for parks and promenades to Rouse for a long-term lease. In New York's South Street Seaport, major complaints originally came from residents threatened with displacement and from fish vendors who feared being driven out by the new development. Even now, preservationists and other community groups have voiced fears that the district will lose its low-key historic character with so much sell, and that the South Street Seaport Museum will not coexist well with an eating/buying attraction. Because of these issues and because other downtowns have looked to the Rouse-Thompson success story for inspiration, P/A has decided to hold a roundtable among its editors to explore these questions further. [SS]

The lure of the marketplace

Murphy: These developments, based on demonstrably sound economic thinking, have brought private and public funding to reconstruction efforts, life to areas that have declined seriously, and fun to the public. Boston, Baltimore, and New York vary widely on the composition of that public and in what each project attempts. In Boston, the physical plant was there, unoccupied; in Baltimore, the land was waiting for years, part of a greater scheme; in New York, part of the buildings exist. With the Wall Street area pressing for more space, the historic buildings would do far worse at the hands of less sympathetic protagonists/developers.

Miller: The Rouse/Thompson efforts add considerable retail and tax revenue to their cities and, so far, have been put only in aban-

doned areas, not displacing other commercial enterprises. Whether breaths of fresh air or urban hyperventilation, they delighted most inner-city advocates.

Stephens: One can understand why South Street Seaport would think of this means for getting people back to the waterfront. But revitalization isn't a matter of restoring a few buildings and installing a market. Broadway theaters are fuller than ever for a lot of reasons, including the introduction of credit card transactions by phone, as well as the city's "clean up Times Square" operation.

With the South Street Seaport revitalization plan, however, the commercial activities of the old seaport are not being reinforced in the way that Broadway has been. While the situation differs considerably, rather than wholesale fish operations being strengthened, new and different uses are being injected. It is difficult to predict exactly how the new commercial uses—which depend on tourism—will enhance or reinforce the old commercial character of the area—which has depended on wholesale fish marketing.

Knee-jerk responses

Dixon: Some of the objection to efforts such as Faneuil Hall Market and South Street Seaport stems, I am convinced, from sheer snobbery—the snobbery of the city dwellers who do not want their favorite seedy haunts invaded by people who do not share their appreciation of cities and are not making a full-time commitment to maintaining them.

But economically, the cities can use the income and the job opportunities that such places provide; culturally and politically, they need increased positive contact with the growing majority of the U.S. population that does *not* live in cities.

Murphy: Although I have developed a certain set of preferences and values over the years, I feel we should try our best to view these three Rouse developments as would their tenants and the public. Despite my own lack of interest in giant chocolate-chip cookies, plant carts, and pizza slices, they obviously have their constituency.

Stephens: But as the Rouse Company has stated, "Food is the anchor." Will food always

South Street Seaport Projected development: The Rouse Company, under a subsidiary entitled Seaport Marketplace, Inc., will construct and renovate space for a 240,000sq-ft specialty retail center in New York's South Street Seaport District. Rouse will sublet for 75 to 92 years the land on which the development sits from the South Street Seaport Museum, which in turn leases the property from the city and the state. The development will be concentrated within a four-block area of the elevenblock Seaport District adjacent to the East River, north of Wall

Street.

Architects: Benjamin

Thompson & Associates, Cambridge, will design the new Rouse buildings, and renovate the old

[continued on page 102]



SITE PLAN

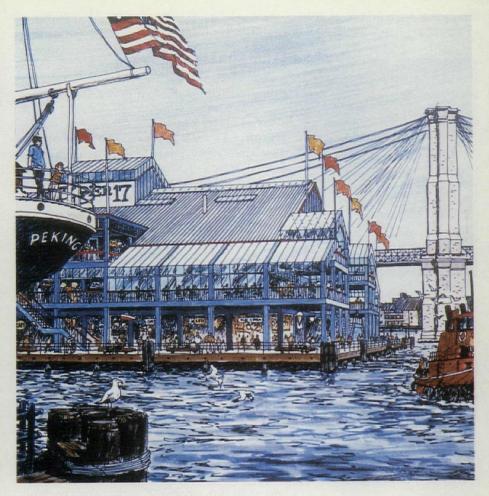
be a "draw"? While it sounds weird to venture this suspicion, food could be a "fad"-at least in retail developments. For example, fresh produce markets are a prime attraction largely because most national chains of supermarkets don't sell strawberries in the winter or arugala any time of year. With increased exposure and subsequent public demand for such items, it is likely that supermarkets nationwide might start selling these products competitively. Faneuil Hall and Harborplace succeed largely on sales of "gourmet fast food," such as fresh fruit cups or oysters on the half shell. Since Rouse doesn't allow franchise operations into these projects, the foods are unique. But the franchise operations themselves are beginning to discover gourmet items; witness the croissant chains opening up now in some cities. The public could soon find this kind of choice closer to home.

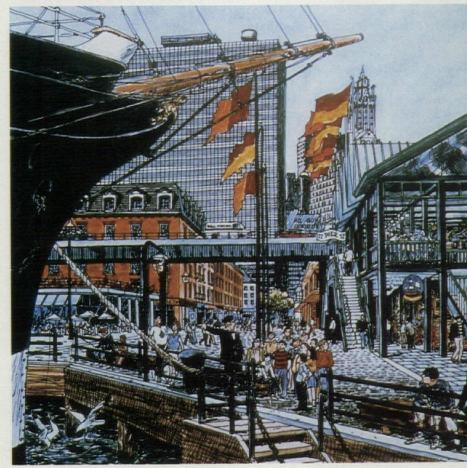
The invasion of the cookie-snatchers

Dixon: Some critics of Faneuil Hall Market Place and its progeny see in them an intrusion of suburban shopping centers into the city. The element that comes from suburbia is the concept of a large commercial complex, with many tenants, under one ownership and management, maintained and operated in a way that critics can call "sanitized." What is definitely not found in the suburbs is the kind of specialized products they offer—though, as pointed out, this distinction could fade.

Miller: Rouse and the Thompsons describe their joint creations as places for gathering and social exchange, like Arab bazaars. Certainly they are places to gather. There are constantly throngs of people. But while an Arab market carries necessities, which one purchases every day in the company of one's friends and neighbors, Rouse's markets combine vegetables with "impulse goods," and draw shoppers from a wide metropolitan area requiring a special trip outside the neighborhood. Not only do people not know each other, it is not the kind of preselected group (like the PTA) in which many are likely to introduce themselves.

Stephens: As Jane Thompson has observed (*Urban Design International*, Nov.–Dec. 1979), spending patterns of tourists differ from locals. Impulse buying patterns, plus a preference for lightweight items that are not too





Architect's renderings of South Street Seaport as it will look when Pier pavilion and waterfront buildings open in two years.





Continued from page 100 structures, except for the Rouse space in the tower on the Telco site.

Phase I

Museum block (Beekman, Fulton, Front, and Water Streets): Rouse will renovate 21,000 sqft of 130,000-sq-ft total in historic block on long-term lease.

The Market structure (Fulton, Front Streets): A new building, 61,000 sq ft, is to be erected on site of historic Fulton Fish Market, demolished in 1953, then replaced with one-story garage-type building. The structure is to be built alongside and over existing fish market of 15,000 sq ft. Rouse will pay for construction, city for any demolition, renovation, and relocation of existing tenants. Rouse will lease building and land, owned by city, for long term.

Phase II

Pier Pavilion: Two-story 111,000-sq-ft building will be constructed by Rouse on new pier built by city between piers 17 and 18. A UDAG grant will pay for cost of building new pier.

Pilot House: A new one-story glass-enclosed building, 8500 sq ft, will be constructed by Rouse, which will lease land and building from city.

Schermerhorn Row: Historic row of buildings, built 1810 to 1820, is being renovated by architect Jan Pokorny. 21,500 sqft of its 150,000 sqft will be leased by owner, New York State, expensive, dictate the character of the merchandise sold. The merchandise being marketed then prescribes the type of customer. Even at Faneuil Hall, as Jane Thompson has commented, the pressure to sell "fast" items predominates: the florist may sell sodas.

That's entertainment

Murphy: Faneuil Markets and Harborplace have demonstrated appeal to a certain residential segment, and South Street Seaport should, too. These projects are different in almost every way from Disneyland, or even SoHo, and the reasons for going to the Rouse projects are different. Tourists will find all of the above attractive. City residents of all three Rouse locations will in part support, and in part turn up cultured noses at, each development. There will still be objections on the basis of "taste."

Miller: These are places that, by their very nature, turn everyone into a tourist, native or not. They are isolated, self-conscious, and organized for entertainment. What they most remind me of is Atlantic City's boardwalk with a touch of Disneyland.

Stephens: A major issue concerning South Street Seaport is whether the cultural functions of the museum will come into conflict with the commercial functions of the Rouse marketplace—can cultural and commercial experiences be combined or will they come into collision, with the cultural experience being dominated (and thereby diminished) by the prevailing commercial one?

Murphy: Why can't they coexist? This museum is nautical in nature, not devoted to fine arts or natural history. Its patronage seems compatible with the market visitors.

Dixon: But the branch of the Boston Museum of Fine Arts at Faneuil Hall Market, hailed for attracting more viewers than the homemuseum, seems isolated and inert in the garret above the real action.

Stephens: Essentially, "the museum experience" like "the retail experience" is looked on as being a form of entertainment. The best way to induce people to spend is to entertain them. But by being subsumed under this category of entertainment, museum-going and shopping become blurred. This is not to say that museum-going and shopping should be made into chores, but the fusion of identities means that one kind of value system (commercial) can easily dominate the other (cultural) without the culture-seeker being aware.

Admittedly the history of the marketplace has always had a strong social component. But one feels at these developments that you don't come here to actually shop; you come to be titillated—even if the "thrills" are just eating a sinfully delicious fudge brownie.

Obviously one doesn't want to see the seaport turned into a quaint little museum village. A touristic history-en-gelée, with costumes, tour guides, and roped-off period rooms has usually been avoided by Ben Thompson. Nevertheless, seeing hordes of people trooping through old buildings munching on popovers *doesn't* seem much different from an amusement park ambiance.

The real and the unreal

Miller: Rouse and the Thompsons describe the three projects as "authentic," "genuine," full of "local flavor." But compare any of the three with, say, Boston's North End or Miami's Calle Ocho or New York's SoHo (which isn't the province of a specific immigrant group but is as specifically recognizable as a neighborhood). Some attempts have been made to create the appearance of local connections, but the stores sell things like pottery, baskets, and kites—which, if they are local anywhere, were local to Northern California 15 years ago. Many of the clothes shops are chains. And the fast food puts fried rice next to souvlaki, coke with everything.

For comparison, Baltimore still has a number of its farmer's markets. They exist in old market buildings, sell fresh produce, at lower prices, with few distractions—serving neighborhoods that are slowly being rehabilitated without nearly the kind of government aid being poured into the residential area near Harborplace.

Stephens: Sociologist Dean McCannell has written that the search for authenticity has generated elements of the "spurious"—those reminders of the real sights which are detached from them and are mere copies. Since everyday life is filled with these spurious elements, the craving for the real, and the belief that it exists somewhere, increases. The dividing line between the genuine and the spurious is in the realm of the commercial since "Spurious social relations and structural elements can be bought, sold, traded, and distributed throughout the world." Traces of the "spurious" permeating Faneuil Hall and Harborplace will no doubt creep into South Street Seaport.

Dixon: The Thompsons seem as concerned as anyone except maybe the established tenants (among which, at Faneuil Hall, they are included as restaurant owners) about the potential for decline into total kitsch. If such places lose their leasing magic, the developer is bound to sell out to the taco-tossers and cuddly bear purveyors. There is in all of these cases, even at the beginning, some shortfall from the announced standards: some shops do come very close to being national chain operations-and despite injunctions against cute shop names in the Faneuil Hall Market Place guidelines, we find there "The Name of the Game," "Frillz," "Dalliance" (for lingerie). In fairness, you can also get enough solid food to take home and prepare a very real meal—at both of the Rouse bazaars that are now open and operating; you could not say that for Ghirardelli Square.

Will success spoil the marketplace?

Stephens: Jane and Ben Thompson warn that there are inherent dangers in the success of the marketplace concept: the incursion of franchises that would rob individual shop owners of their uniqueness; the "natural drift to homogenization," to appeal to a mass mar-

Progressive Architecture 7:81

ket; the deterioration in the environment through laxity in design controls or laxity in clean-up operations. The impact of tourism, the Thompsons point out, must be acknowledged and a balance between tourists and local populace achieved.

Will success breed this decline? If not at Rouse's projects, at the projects being executed in response to Rouse? Unfortunately with any knock-off, standards do slacken. Places like Pier 39 (in San Francisco) await to cash in on the popularity of The Concept.

Murphy: Faneuil Hall Market and Harborplace have raised the expectations of the consumer and the public to the point where even the clones and knockoffs will be forced to a higher level of quality. The sophistication of the shops at Ghirardelli and the Cannery is quite high and gives hope that today's T-shirts will slip into the background in the merchandising revolution under way at Faneuil Hall and Harborplace.

Stephens: Gourmet fast food is a great tourist item because everyone has something of an appetite. Even very exotic portable foods often sell for under \$5—so there can be a good lucrative turnover. Since the items disappear and appetite returns, people probably buy more. Moreover, unlike souvenir shops, gourmet foods look like a "class" operation, while still having "mass" appeal.

Dixon: A widely expressed concern about these specialty marketplaces is that they will attract initial crowds of curious tourists and locals who will lose interest after a visit or two;

lacking much appeal to the day-to-day concerns of nearby residents and workers, they may not have long-term economic success. This concern is valid enough, but we have now seen years of intense activity in places such as Ghirardelli Square and the Cannery, and now at Faneuil Hall Market Place, to demonstrate that such schemes are not so ephemeral. Tenants choose these places over conventional shopping streets because management promises ample, well-maintained pedestrian space, a complementary mix of tenants, and promotion to attract customers. Alternative locations, such as Boston's Newbury Street, with no management or publicity, draws fewer visitors of all kinds-and there is always the risk a discount outlet will open next door.

Stephens: To assume, however, that the Fulton fish market and the Rouse marketplace at South Street Seaport will bolster each other because they all belong to the same category of consumable items is stretching it. Many fishing ports have wharves with retail shops and restaurants, and manage to keep that old briny seafaring character of yore. But those ports maintain strong fishing boat operations so the activities of tourism-as-commerce and fishing-as-commerce dovetail to a degree. The fishing boat days of South Street Seaport are long gone, of course, and the wholesale fishmarket exists there by grace of traditions and trucking.

However, marina activities integrated with nautical museum exhibits plus seafood resthrough UDC to Rouse, who will pay for interior work. **Telco tower** (John, Fulton, Water, Front Streets): A 35-story tower is to be designed by Der Scutt of Swanke Hayden & Connell for developer Jack Resnick & Sons. The \$93 million tower on an air rights transfer parcel will lease 65,000 sq ft to Rouse for retail space.

Other properties: Approximately 60 percent of buildings within 100-building district are privately owned, although listed on the National Register of Historic Places, and part of NYC historic district.

Lease agreement: Rouse will sublet the land, new buildings, and portions of old buildings from the museum, which in turn leases the property from the city or state. Rouse will charge rent to tenants, plus maintenance. Fifty percent of rent is paid to museum. Of remaining, 50 percent is paid to museum after debt service and operating expenditures are deducted. The museum pays the City \$2.40 per sqft of retail space plus 20 percent of profit. (These payments are made in lieu of rent or taxes.)

Status: Board of Estimate has approved the \$209 million package (of which \$70 million is being provided by Rouse for building construction and renovation, \$93 million by Resnick for the building on the Telco site, \$20.5 million for Federal UDAG grant, \$6.5 million by New York State for Schermerhorn Row). Next, the Landmarks Preservation Commission must approve the design of new buildings and kiosks.

History: South Street Seaport Museum was created in 1967; the District was created in 1973, with scheme allowing air rights of historic buildings to be transferred to other sites.

The museum acquired properties in Seaport area through bank loans. The \$10 million debt was dropped in return for a \$2 million pwyment by the city for the property and the banks retaining excess development rights, which they would then sell to developers. In addition the museum arranged to pay \$6 million to the banks over a period of time as it realized income from its real estate. This is where Rouse entered the picture.



Shopping centers downtown





Harborplace, Baltimore

This \$18 million complex along 3.2 acres of Baltimore's Inner Harbor was the second such venture by the Rouse Company with Benjamin Thompson & Associates in charge of design. The complex, on city-owned land, is composed of two new glassenclosed pavilions, totaling 240,000 sq ft and accommodating 136 businesses.

taurants and oyster bars, along with the wholesale fish stores, would have established a thematic continuity. Instead, clothing shops, ethnic foods, etc., add another kind of "cultural" overlay.

Thematic design effects

Miller: Although the discussion keeps centering around tourism and retailing, a few words should be said about design. Essentially, both Rouse and the Thompsons have developed the state of the art at building type but are less successful at formal decisions. And while Thompson likes to hint that the two are inherently contradictory, this is patently not so. The circulation patterns, insertions of balconies, greenhouses, etc., are very successful, as is their pursuit of transparency, where the connection is kept not only between stores, but between inside and outside. But proportions, line, color, material are remarkably clumsy. The buildings of Harborplace are a mash of clichés-high tech, antique store, post-war Modern, 19th-Century bandshell, and pavilion-by-the-sea-not well reconciled to each other nor resolved in themselves. Ben Thompson says, however tongue-in-cheek, that he is not interested in architecture, that it baffles him. He also says that his first design was to hide Harborplace behind trees on all sides, that he still hopes the spindly stock planting will grow up to do so. It is a very good idea.

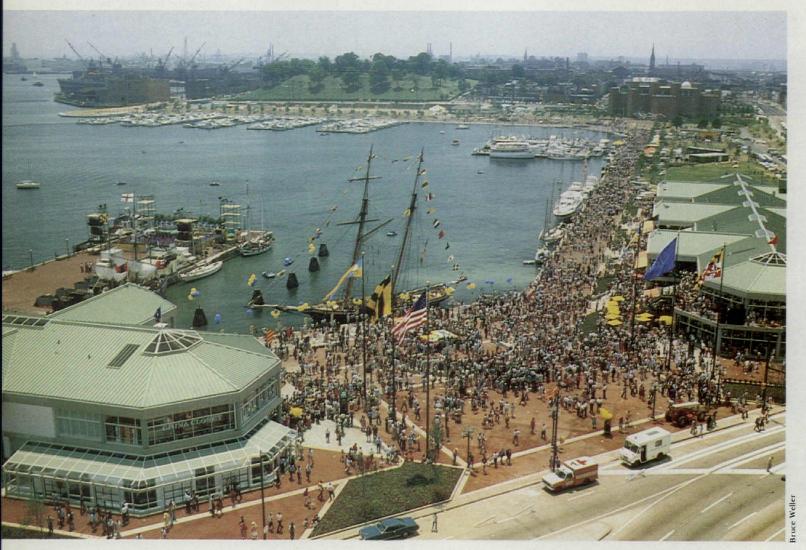
Nor could its architecture be considered local in any way. It sports a green metal roof,

lots of zips and zaps in a Design Research concrete and glass contour, with scattered references to seaside pavilions with flags. Quincy Market is composed of actual market and pier buildings. However, nothing the Thompsons added or changed—such as the huge lunettes of glass—could be called vernacular.

Dixon: In form and layout, the buildings at Harborplace begin to do the right things. They are basically pavilions, without fronts and backs, broken up—as they should be—in silhouette. But formally, I find the buildings too heavy-handed, a bit too massive and stolid for the festive atmosphere they are to engender. Others—the architects included—undoubtedly value this avoidance of frivolity, seeing in it a link to the serious business of the old-time waterfront.

Murphy: Architecturally I think Faneuil Market is a successful combination of old and new, as intended by the Thompsons. Harborplace, as new architecture, may not be great; but it succeeds in being light, transparent, and pleasant for what it attempts. South Street, it appears, will again be a combination.

Stephens: The design of the bars and cafés at Faneuil Hall is the type now commonly associated with a "youthful" nine-to-five clientele. Jazzy colorful banners, antique signs, craftsy interiors, turn-of-the-century type furnishings, and globe lights, canopies, and skylights all now belong to a basic renovation vocabulary for retail/restaurant use—even, as



Faneuil Hall Market Place

This \$19 million restoration on six acres in the downtown government area of Boston was Rouse and Benjamin Thompson & Associates' first such retail venture together. Faneuil Hall, built in 1742, was expanded in 1823 under Mayor Josiah Quincy, who had architect Alexander Parris design the long Greek Revival Building (called Quincy Market) plus two flanking north and south granitefaced market buildings. These buildings, on city-owned land, now house 150 shops plus two dozen restaurants in 400,000 sq ft of space.

is the case with Baltimore's Harborplace, the buildings are brand new. But the upbeat vocabulary of Faneuil Hall Market often hides the old architecture of the buildings. Although Faneuil Hall Market has more architectural character per square foot than most old buildings waiting to be preserved, it is difficult to see the walls of the central market for all the glass canopies. The most telling clues to the historic quality of the buildings arise from their size and the design of the roofs. The fact that the Thompsons could design Harborplace from scratch, using schematic forms of Faneuil Hall, indicates the extent to which the "market" image takes over the actual architecture.

Dixon: It is important in trying to evaluate Faneuil Hall Market Place to consider its history: the original buildings represent a very adventurous urban design undertaking, in both scale and design, for the early 1800slandmarks of the first rank; they stood almost entirely vacant for years before Rouse became involved, during which time they were physically rehabilitated for no definite purpose. An important physical legacy was given a commercial use that fit its form and location. The few physical changes made for Rouse's program—principally the addition of the glazed extensions in the volume once occupied by sheet-metal loading docks-was considered appropriate by a P/A Awards jury (Jan. 1975, p. 61), and I believe they were right. The closing of streets within the project to vehicles actually made the complex more

accessible and permeable for foot traffic. I remember well when you had to walk over rotting vegetables and between idling trucks to get into the market hall; it was great when you reached it, but the wholesalers who made it so had moved away years before Rouse and Thompson.

By-products

Stephens: Some of those vendors you can now find at the rear of the Faneuil Hall complex, where they operate out of shantylike "real" stalls, selling lots of produce (more than Faneuil Hall and at lower prices). The impact of such a Faneuil Hall-type market in planning terms should be predicted a little more sympathetically.

There is another impact that the South Street Seaport market will have to contend with, even if its own "indigenous" fish markets are protected. That other impact is the lack of parking spaces for the 10 million visitors a year expected. The nearby financial district may offer a number of parking slots on weekends, but not on weekdays. This parking availability would, I imagine, further tip the balance to heavy weekend invasion of tourists in cars.

Murphy: Transit to and from South Street seems the least thought out aspect. Both Boston and Baltimore seem to handle this acceptably, but New York's Lower Lower East Side is no picnic to get to. Urbanistically, I think each scheme can be strong, again in very different ways. Boston, because it rebuilt



an integral part of the existing fabric; Baltimore because it is a strong catalyst in a bigger revitalizing scheme; New York, though I agree with the development team that it is too soon to tell, could combine some of both.

Stephens: But the dangers of the "Faneuilization" process applied at South Street Seaport may occur not so much from Rouse's involvement as from other side effects. What about the privately owned buildings still remaining in the South Street Seaport district? They total 60 percent. The economic success of the Seaport marketplace may well cause owners of these buildings to install their own retail operations—without the quality controls imposed by Rouse on its retail tenants.

Additional side effects could be specifically architectural. The Telco building, for example, will be designed by Der Scutt of Swanke Hayden & Connell—a decision that could make one think the Seaport is in for a tall gold zig-zag reflective glass tower of the sort Scutt is doing at 56th and Fifth.

Faneuilization as a formula

Miller: What is interesting is the type as a phenomenon, an invention of our time, a function of an economy that produces "disposable income" for large numbers of people. **Stephens:** With Faneuil Hall the Thompsons

attempted to create a sense of place, where new architecture enhances the old, but can be distinguished from it, where the out-of-doors is brought into contact with the shoppers, and where the retail operations have a direct connection with the city as a whole.

Even though the place looks as if it comes close to having a terminal case of the "cutes," the principal question that has to be asked is, can this bouillabaisse be recreated elsewhere? Jane Thompson explains it is not a formula, but a composition of ingredients, selected, balanced, mixed, and arranged according to the time and the place. In spite of the fact that the Rouse/Thompson team have put on their dancing shoes in these three places, with success in two, the Fred and Ginger routine can't be copied everywhere, maybe not even by themselves. Yet every downtown wants it.

The outcome of the South Street Seaport will depend literally on the "critical mass" or balance of new buildings, with new activities, and the old. Let's face it, the 111,000-sq-ft pier structure, devoted to food and fun, plus the other new waterside buildings and the glittering high-rises on the three air-rights transfer parcels, will dominate those nice little fixed up Seaport buildings, both in physical presence and image. Whether the Museum likes it or not, our visual perception of the Seaport, as we know it today, will be replaced by another quite different impression—one that hasn't gradually evolved over time.



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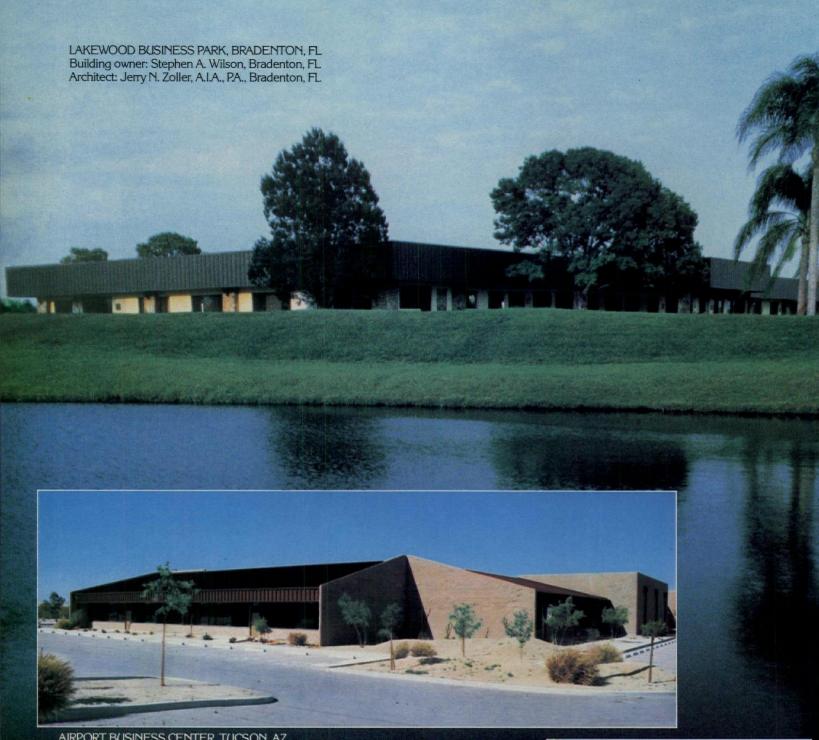
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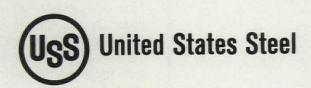
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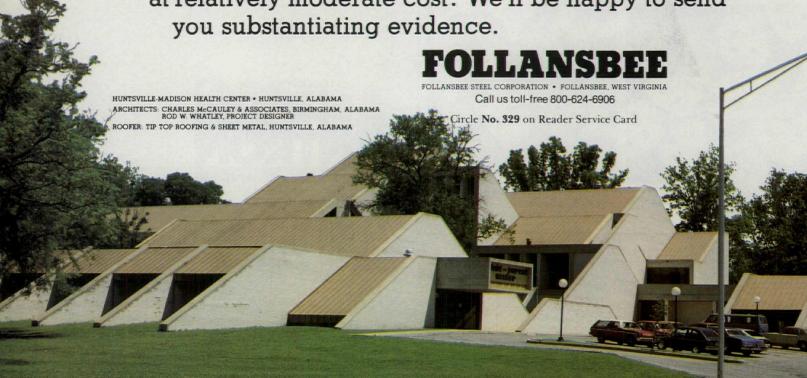




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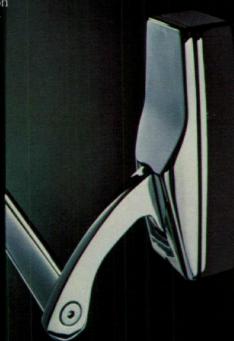
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Mirage

Stephen Knapp

With the resurgent interest in decoration, photomurals have become part of the architectural vocabulary. The mechanics involved, however, are both technical and continually changing. Photomurals are enjoying a popularity not experienced since black-and-white murals were popular in the 1950s. An expanded technology has made color viable for large-scaled murals, and a reaction against abstraction has made the trompe l'oeil effect of photomurals an appealing technique. Recent years have also added many materials and processes not available in the 1950s.

To begin with, the paper

Black-and-white mural paper is available from a number of manufacturers. Differences are the widths of material available and whether or not the paper is rag-based or resin-coated base, which will determine what mounting to use. Surfaces available range from glossy to matte. For sepia-toned murals or other colored images, the standard practice has been to take black-and-white paper and use a colored toner. Whether the paper is resin-coated or rag-based affects the way the color of the toner affects the image. Ragbased papers tend to have a richness and a saturation of color that the resin-coated papers cannot achieve; yet aesthetically, the resin-coated stock may work equally well.

A recent development in monochromatic images is the use of color print paper, which is then filtered to give a sepia look or other colored image. The advantage is a much wider range of colors to choose from.

For color prints there are essentially three types of papers. One uses a chromogenic process, in which color dyes are formed chemically. This is the process used in Kodak Ektacolor papers. Kodak also makes the materials for dye transfer prints, in which the color original is separated into three blackand-white matrices. These in turn are used separately, in exact registration, to add layers of dye to the base paper. Dye transfer prints offer the most control over final colors, but because of the hand work involved are also the most expensive. Finally, there is the dye bleach process that Cibachrome uses, in which extremely stable azo dyes are incorporated into the material from the start, and unwanted color is etched away during processing.

Scanamurals, developed in Japan and distributed by 3M, takes a photograph or other original piece of art, and uses a video scanner to transmit impulses to four airbrushes that paint the image onto paper or fabric as it rotates on a large drum. The resulting material can be hung like a tapestry or wallpaper.

Photosilkscreen can be used in black and white, any color, or in full color. Its inks can be applied to any number of bases, ranging from paper to vinyl to cloth wallpaper to glass to plexiglass.

Porcelain enamel uses a silkscreen-like process to bake images into porcelain for a durable mural for interior or exterior use. The porcelain enamel process is limited in that it cannot give a true "four-color" effect, although a number of colors may be used. Metal photopanels similarly are limited in size and range of colors, but offer a durable medium for hard use areas.

Transparencies are also used, either backlit or hung as room dividers. Many companies are now providing wallpaper in a series of photographic wall murals. They may be ordered in sections and repeats, and varied according to length desired.

Permanence

Fading in sunlight is a fact of life. In direct sunlight, only porcelain enamel and black-and-white metal photopanels or photosilk-screens have consistently withstood fading. But with the minimal direct sunlight of most interior spaces, black-and-white murals have lasted for years, and new processes can make them last even longer.

For color murals the situation varies quite a bit. The most common kinds of color print materials, the chromogenic prints, are the least permanent. They are, however, becoming better. An average projected life today, under good conditions, is 10 to 15 years before there is any noticeable fading. Recent improvements make fading occur in a more attractive manner. Dye transfers have a comparable life and have the advantage of being made from black-and-white separations, which can be stored and used to reproduce the original at some future point.

Of the photographic processes, though, Cibachrome is generally considered to be the state of the art for color permanence in larger scaled prints. Its dye bleach process uses the

Stephen Knapp is a photographer who has been specializing in photomurals for the past eight years.







Installations. Top: Rosenthal showroom in New York by David Kenneth Specter. Rosenthal photography by Louis Jurado. Installation shot by Norman McGrath. Middle: Central Federal Savings and Loan, New York, by Jack Lowery & Associates. Photography and installation shot by Stephen Knapp, photosilkscreen on vinyl. Bottom: Crown Center Hyatt Hotel, Kansas City, by Duncan Architects, Monroe & Lefebure Architects, and Patty, Berkebile, Nelson Architects. Panoramic photo by Jack Rankin, installation shot by Phil Neal.

stable azo dyes to achieve prints that should last 30 to 50 years. Coating can add more years, but changes the look.

Photosilkscreen and 3M's Scanamural processes involve paints or inks that are more stable than photographic dyes. Here too, however, direct sunlight can cause fading. Black-and-white metal photopanels will last for years in exterior applications, but color ones will not. Colored metal photopanels, however, will give long-term use inside.

Fluorescent light, although not as harmful as sunlight, contains untraviolet radiation that can cause fading. This can be ameliorated with UV filters in front of the fixture or over the tubes themselves. Incandescent lights generate less fading, as long as there is sufficient distance to prevent heat buildup.

Photographic paper is a fertile medium for fungus or bacterial growth, which can be brought on by a combination of high humidity and high temperatures. Various pollutants, such as chemical fumes, can also affect photographic prints, and sharp variations in temperature can make the material brittle.

Mounting

Most of the early photographic murals were rag-based, and the mounting methods were quite different. They could be applied simply with wallpaper paste to the walls. To mount them on panels, a paint roller and white glue were all that were needed and the results were quite good. Today, some black-and-white papers can still be mounted that way, but the resin-coated papers require a different approach.

When the resin-coated bases were first introduced, there were many problems in mounting them. Changes in heat and humidity were enough to bubble the prints away from the surface. In some cases the adhesive would work well enough, but the dimensional instability of the print would make the backing board separate from the layers underneath it. Many of the new adhesives have licked these problems, but different adhesives are compatible with different mounts. Photographic paper can be mounted directly onto walls, but some color laboratories recommend against it. A regular wallpaper paste works for rag-based papers, but a vinyl wallpaper paste is needed for resin-coated papers. For RC-based prints, the prints should first be sprayed with photo lacquer. Prespraying avoids the problem of spraying on location and allows excess glue to be wiped off the surface after installation.

Wall preparation is the same as for any delicate paper or foil. Any uneveness in the wall will be magnified by the surface of the photographic paper, though a semi-matte lacquer on the surface of the print will help tone that down. The wall should be sealed to prevent moisture from seeping behind the photographic paper. To keep the mural removable, a backing paper can be applied first. For the rag-based papers, an overlapping of the image and a double cut are recommended. With RC-papers, a butt mount works best.

Mounting on panels instead of directly on the wall allows more control over the mounting and a wider variety of mounting techniques. It also avoids problems as the building settles. For large panels, card stock and paper mounting board are susceptible to separation of layers. A tempered hardboard will avoid this. Anodized aluminum also works, and there are some recent products on the market that have an aluminum skin with a foam or plastic center. Other boards that work for pieces that are going to be framed are foam core or rigid foam core. Plexiglass may also be used to mount prints on, but presents problems for long-term mounting, since the dimensional stability of the plexiglass and photographs may differ.

Mounting the panels to the wall permanently can be done with panel adhesive or contact cement. To keep them fairly close to the wall and still have the option of removal, Velcro strips can be mounted on the back and then mounted onto the wall. By far the most common type of mounting involves backing the panels with either wood or metal strips. For a series of panels that are going to be butted together, the strips are mounted top, bottom, and sides of the panel. The panels are then placed face down on the floor and joined at the sides. The final assembly is then hung over a cleat at the top. On the bottom there is the option of positioning a corresponding cleat on the wall. Securing it at the bottom with either a recessed set screw or a special security screw can hold it snug to the wall and help prevent warping. It also helps prevent theft.

More and more frequently, murals are being made with a slight space between panels, often with the edges and space between painted black. The eye bridges the gap, and the problems of a butt mount are avoided.

For a raised panel, there are two approaches. The least expensive is to back the panel with wood strips—top, bottom, and sides—recessed an inch or two from the edges. The panel then floats on the wall. Museum box mounts are also used. A panel is made with a flush edge that is usually covered with a matte-surfaced plastic laminate or painted black. Box mounts such as these have been used successfully for years instead of frames and work equally well on a large scale because they can be braced in back.

In any of these cases, if the photograph is mounted on tempered hardboard, plywood, or composition board panel, the back of the panel should be sealed to prevent moisture penetration and possible warping.

Adhesives

Dry mounting processes have been around for some time and are being improved constantly. Because they require heat, they are



Courtesy of HIGH-TECH © 1978 by Joan Kron and Suzanne Slesin.

not recommended for some color processes. Double-faced adhesives have been available for some time also, but it has been only recently, with the improvements in roller/laminators and improved adhesives, that the result on large prints has been consistently good. These give some of the smoothest mounts.

There are also a variety of spray-type photo mount adhesives, which work with varying degrees of permanence. The most reliable multiuse mounting adhesive is a low-sulphur-content contact cement, which is sprayed onto the print and the panel. With the base of most new photographic papers, the chance of the adhesive eating through and destroying the image is remote.

Lacquers

For photographic prints, a photo lacquer on the face is almost a necessity. Although the basic photo lacquers will not protect a print from abuse, they will help withstand normal wear and tear. They will also allow the mural to be wiped off with a damp cloth whenever necessary and will prevent abrasion of the surface while it is being cleaned. As a sealer, lacquer can prevent moisture from getting at the print, thus prolonging its life.

Photo lacquer finishes run from matte to gloss surface, with luster or semi-matte in between. A good photo lab will often be able to offer variations on all of these to handle Miller residence, New York City, by Alan Buchsbaum, Design Coalition. Photograph and installation shot by Charles Nesbit.

Photomurals

specific lighting problems. A totally gloss lacquer can cause enough reflectance to make the mural difficult to see. A totally matte surface tends to take away from the "snap" of the original photograph, muting the details in both shadow and highlight areas. It also is more difficult to clean, for the surface generally has some "tooth" to it, which holds dust. Small samples of different finishes can be tried under the appropriate lighting to determine the best.

Vandalism

To protect murals from abuse, they can be covered with glass or plexiglass, lacquered, embedded in fiberglass, recessed, or made of highly resistant materials.

For sheer durability in public areas such as subways, where vandalism may be expected and there is no constant supervision, porcelain enamel on steel or aluminum is the most reliable. Metal photopanels also make sense here. They are not so durable as the porcelain murals, but they will withstand considerable abuse. Photosilkscreen on vinyl is a relatively tough material. The vinyl inks that screen the image actually penetrate the material. A sharp edge may cut the vinyl, but the image cannot be scratched off the surface. Also with photosilkscreen, for little more than the cost of the material and handling, a second copy may be made and stored for replacement of damaged sections later. The 3M Scanamurals are generally more durable than photographic papers and may be cleaned and restored, if necessary.

Most photographic papers, properly mounted, are tougher than might be expected. Photo lacquer, as mentioned, helps protect and seal the surface so it can be cleaned and dusted. The resin-coated or polyester-based papers are generally stronger than rag-based ones and less subject to wear and tear. Installing the murals behind plate or plexiglass is a possibility, but it also curtails visibility and immediacy.

Photographic paper can also be protected by being laminated in protective sheetings. These will not only protect the photograph from damage, but can add considerable years to the color stability of a print. One of the disadvantages here is that the end product may have too much of a plastic look. Photographic murals have also been embedded successfully in fiberglass. As with laminate materials, there is a UV inhibitor in the material that will add years of life to a color photograph. Urethanes and varnishes are occasionally used to accomplish the same result, but should generally be avoided for longspan use because they yellow quickly. It can be less expensive to budget for replacement than to try to protect the image, especially when photographic wallpaper is inexpensive to replace.

Original photography

Today's technology has made vast changes in the photographic material needed for a photomural. Even ten years ago, a 35mm slide was considered a format that could not be enlarged successfully beyond 11" x 14", or possibly 16" x 10" at the outside. Today 35mm slides are routinely enlarged to 30" x 40" and 40" x 60" prints and larger, and it is not uncommon to find 8' x 20' or 30' long murals that were enlarged from a 35mm slide or a portion of one. One reason for this change is simply experience. Film was better than people realized. The grain structure of most films also has become finer, so a photomural does not have to look like a lumpy newspaper reproduction.

There have also been improvements in the intermediate films and the final papers. When going to a large print, the 35mm slide is usually remade into an intermediate negative or transparency. These intermediates, usually 8" x 10" for large murals, and 4" x 5" for smaller prints, no longer show much loss from the original. Past problems with color fidelity and contrast have been reduced. In fact, it is now even possible to make changes from the original in the intermediate step and influence the final print for the better.

Finally, the end product has improved enormously. The faster emulsions of some of the new papers have meant shorter exposures and better image quality. With color masking now inherent in many of the new materials, one color no longer dominates in certain areas of the enlargement. Shorter exposures have also resulted in fewer problems with dust in the air and fewer problems with reciprocity failure, which can cause color shifts during long exposures.

All things being equal, however, the larger the original, the better, and for color, slides are better than negatives. Predictably, sharpness is also a salient factor. Retouching or airbrushing small imperfections is always possible, but it can be quite expensive, and there can be problems reconciling the material used in the airbrushing with the lacquer finish that will cover the final mural. An inexpensive way to determine if there will be any problems in the final mural is to take a section of the original and enlarge it in proportion to the final size. The sample can also be used to make any determinations about lighting.

Color fidelity

With better papers and film, color saturation is rarely a problem. One problem that can exist is color fidelity. Claims are often made about the exact reproduction available with this method or that method, but in fact exact reproduction does not exist. Different types

Available from Kodak is a glossary of photographic terms for architects, builders, and designers. Write for Publication No. K-14, Eastman Kodak Co., Rochester, NY 14650. The company also offers a directory of color labs that can provide preparation services for photomurals.

A

ABERRATIONS The various optical defects of lenses.

ACETATE Cellulose acetate film base.

ACETATE BASE Transparent support for film emulsion. Sometimes called "safety base." Is being superseded by a polyester material of greater strength. See "Film Base."

ACETATE FILTERS In printing, these filters are used over the light source, not over the lens

ACID RINSE See "Stop Bath." A solution, usually dilute acetic acid, used after development to stop developer action.

ACTIVATION PROCESSING A rapid-access method of processing in which a paper incorporating developing agent is used. In the KODAK ROYALPRINT Processor, Model 417, the remainder of the process is conventional, and a print of optimum stability is obtained in less than a minute.

AERATED WATER Bubbles from aerated water cling to the surfaces of films and papers and interfere with processing and washing. See Kodak Publication No. K-13. Photolab Design, for information.

AFTERGLOW Glow from filament of electric lamp when current is switched off. Phosphorescent glow from fluorescent tube when current is switched off. See "White Light."

AGITATION Movement of photographic material in a solution to insure uniform action of the processing solution over the whole area of the film or paper.

AIRBRUSH Small spray gun used for retouching prints. Needs oil-free air at 30 to 40 psi.

ANAMORPHIC EFFECT Elongation or foreshortening of a photographic image

ANGULAR COVERAGE Area within the circle of illumination of a lens. Area of acceptable definition.

APERTURE The opening in a lens through which light passes. The stop. The *f*-number indicates the relative size of the aperture. See "Lens."

ARC Carbon-arc light used for exposing in graphic arts applications of photography.

AUTO-FOCUS Self-focusing. See "Enlarger."

В

BASE Support for film emulsion. May be glass, paper, polyester plastic, or cellulose acetate.

BASKET A rectangular container used to transport color prints or films through a process

BASKET LINE A processor in which the prints or films are transported in baskets through a line of tanks.

BATCH A number of prints or negatives processed together. A quantity of sensitized material coated with the same batch of emulsion. A quantity of processing solution mixed from a specific amount of chemicals.

"B" COLORS Darker colors of asphalt tile. The most suitable asphalt tile for darkroom floors.

BIG ENLARGEMENTS Generally, photographic enlargements larger than 20 x 24 inches. See "Photomurals."

B/W Black-and-White

BLACK-AND-WHITE Images that are registered on the film or paper in black, white, and tones of gray.

BLACK-AND-WHITE PRINTING ROOM
Darkroom in which black-and-white prints are
made

BLUE In photography, one of the additive primary colors of light. An equal combination of cyan and magenta. (See "Color.") In artists' terms, the color blue-violet.

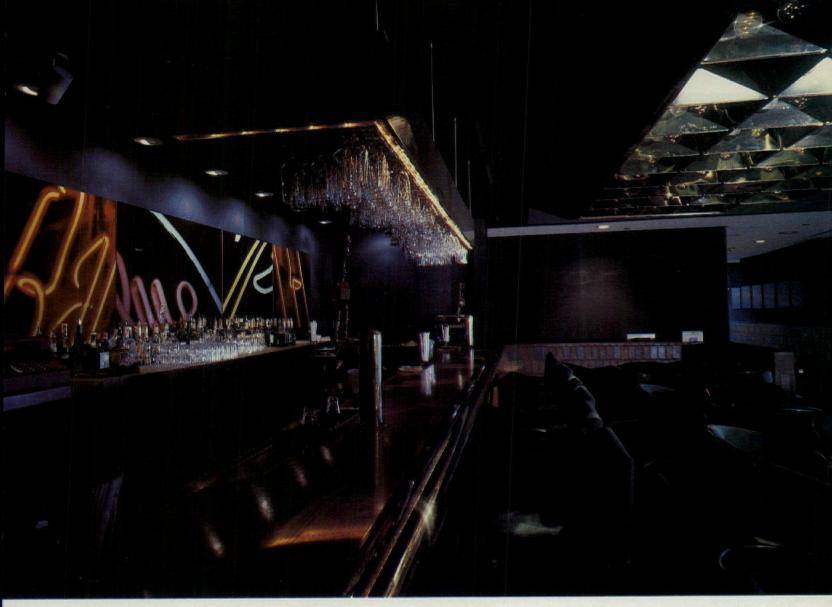
BLUE SENSITIVE Photographic material sensitive only to blue light. Not sensitive to green or red light.

C

"C" PRINT A color print made from a color

CAMERA An instrument for taking photographs
Varies in size from a small pocket camera to a





of film record color differently. This can be used to advantage in preparation for the mural. Certain films tend to work better for foggy, hazy scenes. Others tend to "pop" more and give bright colors in the final mural.

From film to print there are additional discrepancies, unless the mural is to be a large transparency. For one thing, there is the difference between the range of the print material and that of the transparency material. Print materials cannot show as much detail in both highlight and shadow areas as the original transparency might show. Special printing may be able to bring out details in either area, but in some cases this may not be possible. Also, most color print materials are better suited for some ranges of colors than for others. Quite often the final print that works best does not exactly match the colors of the original, but rather best captures the contrast of colors.

Lighting

Depending on the lighting available and the effect desired, photographs can be printed lighter or darker to accommodate. They can be made darker at the top and brighter below to adjust for light throw. And color rendition can be adjusted to the spectral curve of the light source.

Size restrictions

Photomurals can be pieced, spliced, or butted together to make up almost any size mural, but there are a number of size restrictions to consider. One limitation comes when using the material for a single print on one piece of paper. For these, the following restrictions apply:

a Black-and-white paper—40 in. to 54 in. or 60 in. wide, depending on manufacturer and surface, by 8 ft to 12 ft long. This material, like color print material, comes in rolls, so theoretically longer lengths can be obtained, but these are usually considered practical limitations.

b Ektacolor paper—48 in. workable width by 8 ft to 12 ft.

c Cibachrome—40 in. workable width by 8 ft to 12 ft. (Note: A 50-in. material has been under development for some time.)

d Dye transfer—40" x 60" prints are generally considered the maximum.

e Ektachrome and Duratrans transparencies—40 in. workable width by 8 ft to 12 ft.

f Cibachrome transparency—40 in. workable width by 9 ft to 12 ft.

Harrah's Marina Hotel Casino, Atlantic City, by Hugh Stubbins Interiors. Cibachrome photomural by Stephen Knapp; installation photo by Cy Fox.





Preselected images are available on the market, either as photographic wallpaper like this Rain Forest scene by David Muench from Naturescapes (top) or as stock photographs to be prepared in whichever manner, such as the Eliot Porter landscape from Meisel (bottom).

There are also limitations on the boards on which the single prints will be mounted. It is not advisable to splice the boards and then mount over the seam. Tempered hardboards generally come 48" x 96", but can be ordered specially in widths up to 5 ft and in lengths up to 12 ft and, in some instances, up to 16 ft long. Because of handling problems, edges frequently have to be trimmed, so the final size is apt to be somewhat smaller. Plywood can be found in widths up to 5 ft, but it is not as good a mounting surface as the tempered hardboards.

Both porcelain enamel and silkscreen can be done in widths up to 60 in., but line film, which is needed for the photographic intermediate, does not come that wide. With some photographic images, the line film may be spliced to accommodate the larger size. Others, such as a mezzotint screen or other textured screen, may prove more difficult to splice, making smaller sizes more appropriate.

Silkscreened images may be done in widths up to 60 in. and lengths up to 10 ft or 12 ft. Most silkscreen tables are set for a standard 4' x 8' maximum image, and anything over that usually commands a premium to produce.

Porcelain enamel panels come in various widths. Aluminum panels come in widths up to 5 ft and in lengths up to 24 ft, but a good workable dimension for photographic panels is 4' x 10' to 12'. The steel panels can be made as wide as 4 ft and as long as 12 ft, with 4' x 8' the maximum workable size for photographic panels. Metal photopanels are limited in size to 24" x 40".

Scanamurals

3M Scanamurals offer another dimension in wall murals: the texture of the fabrics and the airbrush technique used to produce them give them a softer look than photographs. With photographic papers, a glossy surface is usually better than a matte surface for showing details and sharp lines. With Scanamurals it is just the opposite. Because of the airbrush technique, with a smooth surface the overspray actually produces a softening of sharp lines. By going to a textured fabric, the overspray is lost in the weave, and the image appears sharper.

Where a wall mount is required, the 3M process is stable because it has been developed to hang as wallpaper. In fabric that is not paper-backed, it can also be used as a tapestry or be stretched mounted. Since it is a paint process rather than photographic, the color reproduction is not the same as a photograph. There is a loss of detail. Also, in general, delivery time can be slower than for conventional photographic processes. Scanamurals come from the manufacturer in various widths from 54 in. to 10 ft. Their tapestry material can provide single images up to 10' x 15'. This process can also be done COM, in widths up to 10 ft, provided that a sample is tested and that it images properly.

Transparencies

Large transparencies, once used only for product display, have moved into interior design, from backlit photomurals to transparent ceilings to window effects to transparent or translucent room dividers. Here the advent of Cibachrome transparencies has made the biggest difference. With a color stability unequaled by other processes, they have been able to withstand fluorescent illumination for years.

There are, of course, competitors. Kodak's new Duratrans can be viewed as either a transparency or a print. Kodak's dye-transfer process is also applicable for transparencies. However, this is more expensive. Transparencies can also be produced by non-photographic printing processes. These are most applicable to multiple image orders.

Transparencies have some obvious differences from other photomurals. Because they are transparent, all parts of the image do not necessarily read more clearly than an object behind the installation, especially when used as a room divider. One antidote to this is to place a diffusion screen (for instance, a plate of white translucent plexiglass) behind the film image. The plexiglass should be either rigid or backed by plate glass. An added bonus is that the UV screen in the plexiglass will prolong the life of the transparency. There is also background sheeting for this purpose that comes in 40-in. widths and can be stretched with the transparency.

For built-in installations, fluorescent lighting gives the best overall combination of color accuracy, flexibility, and economical maintenance. Tungsten halogen gives even finer color but has a shorter lifespan and more heat build-up. What is more, it is a point source of light which requires extensive distancing to be successfully diffused. Cold cathode will also work, can be made to any size and shape desired, but its color rendition is less accurate. It is recommended that the particular bulb chosen have a color rendering index (CRI) 90 or above.

For even and diffused light, fluorescent tubes should be placed 8 in. to 10 in. on center, 6 in. to 8 in. from the transparency. Painting the inside of the light box with a nonyellowing white paint or using a reflector will increase the efficiency of the light. Both bulbs and transparency require continuing access. The front of the box can be of either plate glass or plexiglass. The transparency can be sprayed with a matte photo lacquer to prevent it from sticking to the front piece of glass and to prevent any unnecessary reflections. This, however, is controversial. Small transparencies are designed to be sandwiched into position with the edges taped to hold them in place. Large transparencies are usually punched on the sides and then stretched.

For transparencies over 40 in. wide, there are two approaches. Duratrans may be



seamed with a special coated tape. This bonds the material and usually melds it into one piece, which can then be successfully stretched. Cibachrome has a different base. A stretched, taped Cibachrome will eventually pull apart. Therefore it is best to tape the seams, sandwich the transparency between plexiglass or glass, and avoid stretching.

Cost

Each of the processes has a different price structure, and within each process the prices vary considerably. There are also a number of "hidden" costs to consider. A square footage price is one place to start. There is also the cost of the original photography. Will it have to be commissioned, or can it be "rented" from a stock photo house? There is the cost of the intermediate, and quite often a guide print is part of the process. Mounting charges and lacquering charges are usually in addition to the basic print charge.

There are ways to keep the costs down. If the display is likely to be changed within a few years, a process that is not so colorfast might be less expensive and more than adequate. Multiple prints offer another way to cut costs. Labor plays as much a part of the overall cost as do the photographic materials. Once all of the tests are made and the proper balance is achieved for printing, subsequent prints can cost considerably less than the original. Negatives can be reversed to change the image, mirror images can be created, and series can

be put together. Photosilkscreen really comes into its own in multiple prints. For large numbers of images or whole photomurals, its cost per square foot can be quite low. For single photomurals, if a repeat pattern is employed or a progression is done from a few screens, the cost savings can also be significant. Screens 4' x 8' are standard; larger murals can be produced at a lower cost if the actual image size is kept to 4' x 8'. Photographic wallpaper is the least expensive.

As more of the technical problems of dealing with photography on a large scale are ameliorated, the use of photomurals is increasing. By mounting on different level panels, sculptural photowalls have been created. Images have been broken into small pieces to create a mosaic and embedded into tiles. Photographic mobiles and photographic banners are now possibilities. Black-and-white murals can be hand-colored, and color murals hand-dyed for a softer mood. The medium is just starting to develop; the possibilities are endless. \square

Bank of Ireland in New York by Warren Hansen Associates. 3M Scanamural supplied by Imero Fiorentino Associates; installation photo by Peter Crawford.

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Progressive Architecture 7:81

Body insults from buildings

Because they are often isolated incidents, accidental injuries in buildings are not often specifically addressed in design. They are, however, an alarming health hazard which is getting attention in research and public policy. A slip on the stairs quite often begins with a slip on the drafting board.

Somewhere between leaping from the top of a building and having one collapse on top of you lies the full spectrum of personal injury involving buildings. Within the same spectrum, the responsibility shifts from the user of the building to its designer.

For centuries, people have been slipping, tripping, stumbling, and falling onto, into, and around buildings. More recently we have accumulated new injuries in buildings from the addition of electrical and chemical energy. Here is a partial list of the kinds of injury problems to expect:

Walkways: Smooth, horizontal walkways combine with bad weather and result in thousands of slips and falls each year. An abrupt change in walking surface traction can also represent a

Ramps: In addition to the problems of horizontal surfaces, ramp slope can be too steep. Sides need rails, and sufficient contrast must be provided on the ramp surface to call attention to its angle change.

Stairs: Slips and falls on stairs or escalators represent injury potential in all types of buildings. The increased physical effort needed for stairs by itself makes them a problem for the elderly. Deteriorating vision also aggravates the problem for the same people.

Handrails and guardrails: They are misshaped, misplaced, or nonexistent where they are needed for level changes of all sorts.

Balustrades: Small children must be considered in balustrade height and bar spacings. (P/A, Feb. 1981, p. 120, "It's the law")

Proximity: Stairs, ramps, walkways, and escalators placed next to certain build-

ing uses (food services, exterior spaces, waste disposal, etc.) can be hazardous.

Maintenance: Poor or sporadic maintenance, or design that does not permit adequate cleaning, often results in slips and falls. Accidents can also occur during maintenance. Floor cleaners and polishes can have a significant effect on surface traction.

Glazing: Concealed mullions and the use of breakable transparent glazing in windows and doors have sent people crashing into glazed openings.

Doors: Among many potential problems, placement of doors and their hardware fittings frequently will permit their easy operation by small children, resulting in caught fingers and stair injuries. Automated doors also need careful attention and coordination with floor surfaces.

Lighting: Abrupt changes in lighting levels, glare, and insufficient illumination can cause confusion and accentuate all of the previous hazards.

Scalds and burns: Tap water that is excessively hot results in scalds; heating elements accessible to crawling children result in burns.

Ventilation: The decline in air quality is a subject of growing concern (P/A, April 1981, p. 173). For example, in work areas using toxic chemicals directly, general ventilation rather than localized exhaust is incorrectly employed. Local exhaust at the point of hazard eliminates toxic air without getting rid of large quantities of heat.

Signs and symbols: Potential hazard warnings are often incomprehensible, misplaced, or rendered useless in time of need.

Statistics on the causes of death in the U.S. are kept at the Center for Disease Control in Atlanta, as part of the Public Health Service. Non-motor vehicle accidents rank fourth after heart disease, cancer, and cerebrovascular disease. According to CDC, 51 percent of these accidents are attributed to lifestyle, 31 percent to the environment, and only 4 percent to human biology. There is

ample reason to believe, however, that deaths may result from a combination of such factors.

The National Electronic Injury Surveillance System (NEISS) is a computerized data collection system administered by CPSC (Consumer Product Safety Commission). Data extend back to 1972. The current system collects information from the emergency departments in 74 hospitals throughout the U.S. and its territories. It serves to provide a sample of the number and severity of injuries related to products and also records the names of injury victims for further statistical analysis. The inherent danger involved with home stairs shows up very strongly in these statistics as being the number one cause of injury (the national projection for 1981 is 709,000 based upon the last quarter of 1980).

Who is being injured?

The experts tell us that there are four main problem groups: young children, problem drinkers, the elderly, and people unacquainted with their environment. Noted epidemiologist Dr. Julian Waller of the University of Vermont College of Medicine estimates, for example, that falls cause over 13.5 million injuries in the U.S. per year. Forty percent of those injuries are expected among persons less than 15 years old. Fatalities from falls in 1974 in the U.S. numbered 14,000-just over half of which occurred in or around the home. and 16 percent of them were among people age 65 to 74. Sixty-five percent of the fatalities were people over 75. Estimates of the proportion of all fatalities from falls in the U.S. that occur to elderly people run as high as 75 percent. To illustrate the nature of an elderly person's sight impairment, Dr. Waller suggests, "put on a pair of yellow snow goggles, smear them lightly with Vaseline, and squint." Similarly, quoting Dr. Waller: "Among middle-aged and to some extent elderly adults, impairment by alcohol is a major contributor to falls." In one study, alcohol was identified in 70 percent of persons who died

The distribution is not exclusively fall-related. For example, the Consumer

Product Safety Commission estimates that some 2600 people are injured in the home each year from tap-water scalds. Only two seconds in 150 F water is needed for a third degree burn; it takes six seconds in 140 F water and thirty seconds in water 130 F. According to CPSC, children under the age of five and the elderly account for over 60 percent of such burns.

Statistics related to accidental injury are always open to dispute. One pronounced problem is that the only reported incidents are the ones serious enough to demand medical attention. Another obvious source of injury information is lawsuits. The January 4, 1981 New York Times reported 469 personal injury and property damage claims from slips and falls pending in city courts. Accidental injuries lawsuits are usually filed against the building owner, but can eventually involve the building designer. They rarely involve building product manufacturers (P/A, March 1980, "It's the law").

Building type

What does all of this mean in terms of building type? Statistics on building type are difficult to find. Because the home is a succinct and easily definable type, with great similarities of contents, the available statistics are the most precise for homes. It is also true that the home dominates the statistics of injuries. Small children, the elderly, and people under the influence of alcohol are all found in the home.

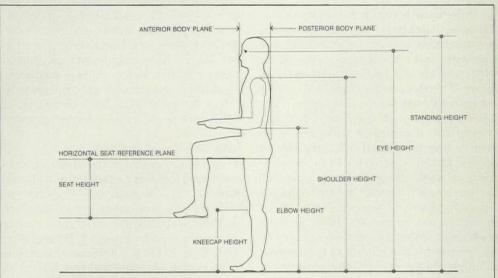
One would speculate that the largest number of accidents relating to unfamiliar environments occurs outside the home. While the opportunity for stairrelated injuries is obviously lessened in the upper stories of an elevatored building, the plaza and lobbies of the ground floor have a heightened occurrence of slips and falls. The bank, the post office, and the library, all must reconcile durability, elegance, maintenance, and weather around the entry (P/A, Dec. 1978, p. 88). They also include more possibility of wider, railless stairs and level changes with only a small number of stairs. Governmental buildings and exterior public places offer a great variety and number of people and a great opportunity for confusion and disorientation. One also expects to find large numbers of people in transit stations of all forms, increasing the likelihood of automated pedestrian building elements (P/A, Dec. 1979, p. 92).

One is less likely to find children and elderly people in an office building. The changing requirements affecting retirement at age 65 could, however, re-





Designing for the 95th percentile is often excluding the very segment of the population most prone to accident.



BODY MEASUREMENTS RELATED TO GUARDRAIL HEIGHT

Type of Measurement	Percentile Level	Male inches	Female inches	Average Adult inches
Standing Height	97.5 50.0 2.5	74.0 68.8 63.6	68.5 63.6 58.7	66.2
Eye Height	97.5 50.0 2.5	69.3 64.4 59.6	64.1 59.6 54.7	62.0
Shoulder Height	97.5 50.0 2.5	61.4 56.6 51.9	56.2 51.9 47.8	54.2
Elbow Height	97.5 50.0 2.5	45.3 42.0 38.6	41.8 38.6 35.2	40.3
Crotch Height	97.5 50.0 2.5	35.3 32.5 29.6	36.2 33.3 30.4	32.9
Seat Height	97.5 50.0 2.5	18.5 17.0 15.6	16.9 15.6 14.3	16.3
Kneecap Height	97.5 50.0 2.5	21.4 19.7 18.0	19.6 18.0 16.5	18.9

HEIGHT MEASUREMENTS FROM THE FLOOR LEVEL WITH HUMAN SUBJECTS IN STANDING OR SITTING

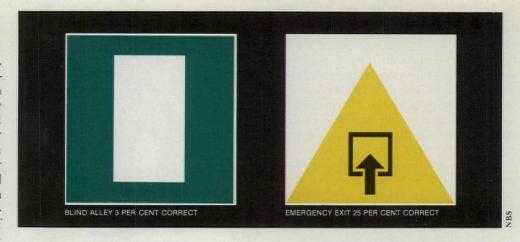
Causes and cures

A simple explanation for an unexpected injury is that a particular task demanded a higher degree of performance than an individual was capable of giving at the time. Children have the problems of undeveloped body coordination and strength and insufficient experience with and knowledge of their environment. The drinking person has dulled senses and locomotive skills before the injury, heightened sensitivity to injury during the event, and difficulty comprehending the extent of injury after it occurs. Elderly people are of diminished strength and speed of reaction, as well as impaired senses. Epidemiologists stress that many of the causes of injuries in the young or old are from physical problems common to all such people. By the year 2000, the elderly may comprise as much as 18 percent of the population.

A long-term attack on the body by the destructive elements of the environment may be described as disease or sickness. An attack of very short duration (like an accident) is usually called an injury. While civilization was producing the profession of medicine to prevent and cure disease, the prevention of injury was not a subject of medical attention and was largely left to the potential victim and his luck, fate, religious beliefs, or ignorance.

In this century, great strides have been made in the development of a kind of preventive medicine for accidental injury. The last 50 years have witnessed the development of human factors research, or ergonomics, which has concentrated on understanding and predicting capabilities of humans of all ages and body characteristics. In the last 20 years, the field of epidemiology has adapted its methods of analyzing disease as a statistical entity to consideration of accidental injuries and attempts to understand their distribution and causes.

Within the last decade, the government has been in the business of injury prevention in federal as well as private



buildings on a large scale, with the creation of both the Occupational Safety and Health Administration (1970), and the Consumer Product Safety Commission (1972).

NIOSH (the National Institutes of Occupational Safety and Health) is the research arm of OSHA and has provided funding in the field of injury research. The National Bureau of Standards has played a substantial role in the research as have a handful of universities. Such efforts have increased general interest in the subject. Safety engineering is today a masters degree program in half a dozen schools, and the State of California registers its safety engineers.

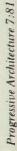
NRS

A significant force in the research into accidental injuries has been the National Bureau of Standards. Projects to evaluate slip resistance in floors date back to the 1920s; the most recent work was performed by Robert J. Brungraber (P/A, Dec. 1978, p. 88). Stair research is more recent at NBS and has served as the basis for continuing research at Georgia Tech (more later). The Bureau also aided in the creation of the Safety Standards for Architectural Glazing Materials for the Consumer Product Safety Commission in the late 1970s and sponsored the award-winning research by BOSTI (The Buffalo Organization for Social and Technical Innovation), which resulted in the Home Safety Guidelines for Architects and Builders (P/A, Jan. 1981, p. 114). BOSTI has been particularly lauded for its attempt to create cost-effective solutions rather than just theory. Fire safety and construction safety are large areas of ongoing research at NBS.

The Evaluation of Safety Symbols: The most recent area of innovation in safety research at NBS has been in the evaluation of visual symbols used in buildings. It deals directly with the comprehension of hazards already discussed as a dominant building problem. The work began in 1978, when an NBS study raised questions over the U.S. adoption of the International Standards Organization (ISO) symbols on equipment for fire protection and fire fighting. Of the 20 symbols suggested, there were over half a dozen with substantial problems of understandability. There were some examples with as little as 5 percent comprehension. Some actually were perceived to give the opposite of information intended.

As a result of this work, members of the Occupancy Safety Group at NBS participated substantially in the creation of the new NFPA Standard Symbols for Fire Fighting Operations (NFPA 178). NBS's Brian Pierman is chairman of the NFPA Fire Safety Symbols Committee. Research continues under a grant from NIOSH and the U.S. Bureau of Mines to evaluate 30 commonly used workplace symbols. Similar work is being done on signs for the workplace for OSHA. Research team member Belinda Collins of NBS is chairperson of ANSI's subcommittee on safety symbols. The findings will be made available to ANSI.

A successful warning symbol is expected to communicate without written words. It must be detected, recognized, understood, and complied with. The key, of course, is understanding. So far, the research has concentrated on this aspect. The simplicity of the problem is deceptive. The questions are easy enough, but the answers can be ambiguous. Says Pierman: "We get surprises." The evaluation of existing symbols is straightforward enough and obviously involves the use of response forms. For the creation of a new symbol, the participant is asked to draw a symbol, and each approach is dissected to reach for commonality. In some cases,







NFPA STANDARD SYMBOLS FOR FIRE FIGHTING OPERATIONS

Although striking visually, the symbols opposite were found by NBS researchers Belinda Collins and Neil Lerner to have a very low level of understandability. Directly above are the ten Standard Symbols for Fire Fighting Operations from NFPA 178. A product of the NBS research, the symbols were chosen for their clarity and high understandability. At the top is the symbol found to be very effective as an indication of emergency exit.

words may actually communicate better than pictures. The words "Beware of dog," for example, can usually conjure up a much more fearsome animal than a photo of the one in question.

Another aspect of the recognition of symbols is to test them under the conditions in which they are actually used. Dust, fog, and smoke, for example, are very demanding on the color of signs, as are certain types of lighting. One rather remarkable example of sign failure is the standard fire exit sign. The signs are usually placed above exit doors. As the smoke from a fire fills a room, it does so from the ceiling down. The sign becomes obscured while people are still seeking the exit, nullifying its warning value. The Japanese have been experimenting with emergency fire arrows at the base of walls for this reason.

The study has taken researchers out of the laboratory and into the work-place. On site they have discovered a variety of signs being used to convey the same message. These are then brought back to the lab where they are evaluated for degrees of comprehension, visibility, and legibility.

Communications for those building occupants with impaired sight or hearing present special problems. Should the particular sign or signal warn only these people, all building occupants, or only those with full use of their senses?

Signs also have practical aspects. The cost usually implies a two-dimensional solution. The nature of the warning usually implies that it be serious. It must be simultaneously inconspicuous and easily seen. Most important, the placement and reading of the sign must not itself be distracting enough to cause a person to stumble on a stair or stop unexpectedly, blocking passage to those following. This problem is especially critical for the elderly.

"One problem," says Pierman, "is that graphic designers want to do their own symbols." Unfortunately, the test sampling for effectiveness is usually limited to other members of the design firm. What may result then is a sign or symbol repair job, and as Pierman is convinced, "fixes are always ugly."

Stair research

Stair research in this country began in earnest roughly in 1970, due primarily to efforts by two men, John A. Templer and John Archea, both now at Georgia Tech. Templer's interest began simply enough by observing a high injury rate on four stairs in front of New York's Metropolitan Opera House. While Templer was completing his doctoral dissertation on the subject of stairs at Columbia University in the early 1970s,

Archea was completing an exhaustive four-year study of stairs at NBS. Templer's work resulted in an article in the Scientific American, with James Marston Fitch and Paul Corcoran, "The Dimensions of Stairs." Archea's work was published by NBS. Since 1974, three publications have been issued by NBS on the subject. The most recent publication, Guidelines for Stair Safety, was coauthored by John Archea, Belinda Collins (involved in the symbols research mentioned above), and Fred I. Stahl.

Three paragraphs from this document serve to summarize the group's General Recommendations:

To ensure the physical integrity of a stair, it should be designed with uniform riser/tread dimensions, and with uniformly clear headroom. There should be no projections, rough surfaces, or exposed glass areas within the stairway itself. Handrails should be provided, along with adequate light that does not vary greatly over the stair area or over time. There should be adequate contrast between the stair and its surroundings. The use of winders and open risers should be avoided. The stairs should be structurally sound, with stable surfaces and foundations

The researchers further emphasize the "tactile-kinesthetic perception" of stair use:

It is essential that the stair be designed so that the user can pay maximum attention to those sensory cues necessary for correct perception of the stair and its surroundings. In this regard, adequate lighting becomes a critical issue, because it can maximize the detectability of visual cues. Hence, good color and lighting contrast are essential elements of safe stairway design. There should be no deceptive visual cues, inadequate lighting levels, glare, or any other sort of visual misinformation present in the stairway. Equally important, the tactile cues should be readily recognizable and accurate. The user should be able to feel tread nosings so that his or her foot does not roll off the stair. He or she should be able to use a handrail as a guide-which means the rail should be free from splinters and easily grasped. Perhaps extra cues should be available for the visually handicapped

The stair surroundings must not be distracting to the user. Orientation edges should be minimized in the design of safe stairs. The user's attention should focus on the stair, rather than the surrounding space. Visual distractions can be as dangerous to the stair user as incomplete or inaccurate visual or tactile information.

The table shown on the next page, also published in the report, summarized related numerical data. Not mentioned here, but stressed by John Archea, is the fact that the majority of accidents seem to occur on the first and

The findings expressed in the research papers on stairs represent thousands of hours of observation, both live and videotaped, of people using stairs. There is also considerable effort made to duplicate the findings in the laboratory. In Great Britain, similar studies have been conducted, with people in safety harnesses falling down breakaway stairs and their actions documented and studied.

In spite of the decade of heavy research, changes in stair design standards and regulations have been slow to follow. As Templer states it: "The standards are running well behind the state of the knowledge." He continues: "The bulk of the accidents in buildings are occurring on the stairs." A stronger emphasis should be placed on the range of people who use a building. "We have been very lax. We design for a group of people who don't exist." To date, the Georgia Tech researchers have isolated 46 different groups of people when classified by their disabilities. Precise universal dimensions are hard to come by. For example, after all this time says Templer, "Nobody knows how high a handrail should be."

Ergonomics and OSHA

The Occupational Safety and Health Act of 1970 created the Occupational Safety and Health Administration (OSHA) and directed the agency to pursue a safe and healthful workplace for the nation's working force. By the spring of 1971, OSHA had issued its first set of standards. Today there are two publications describing them: OSHA 2207 for the Construction Industry, which pertains to buildings under construction, and OSHA 2206 or General Industry Standards, which refers to buildings that are occupied. State and local government buildings are exempted from the standards. Other structures may also be covered by an overriding set of safety regulations.

As recently as December of 1980, Subpart "L" of the General Industry Standards was revised to incorporate new safety standards dealing with fire protection requirements in the workplace. Presently under consideration are recommendations for further modifications of the General Industry Standards, 5

Variable High-Risk

Steps

Width Riser Height

Tread Depth

Nosing Projection

Stair Surface

Lateral View

Ascent and descent

Overhead View Ascent and descent

Orientation edge-descent

Position of step in stair

2, 3, 9 steps 60 in., 61 in., 66 in.

less than 61/4 in.

12 in or less

Polished terrazzo

Rich view* on one side

Open above (open plus rich view*-

ascent) 2 or more changes

first 3 or last 3 steps-70% of accidents

1 or less changes

Middle

Low-Risk

18, 24 steps

49 in., 59 in. wide

more than 61/4 in.

Open 1 side or rich view

12 in, or more

Yes

Other

both sides

Closed above

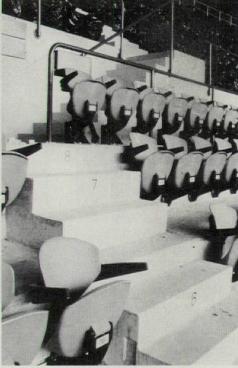
*"rich view." -- connotes a view with many people or great variety in environmental conditions attracting the stair user's attention

CHARACTERISTICS OF HIGH AND LOW-RISK STAIRS



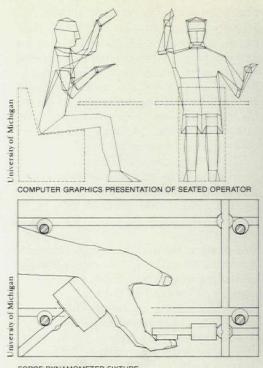








Stairs can represent varying degrees of hazard. Falling down a two-riser stair onto carpeting is less dangerous than a full flight of sharp-edged stone or concrete treads. 1 Slight irregularities in stair construction cause the body to make unexpected slight corrections. 2 The pattern in the carpet can be so strong as to obscure the stair itself. 3 Seethrough stairs can be a distraction when misplaced. 4 Gross inequities such as this will cause problems for us all. 5 Oddly enough, when a stair is obviously dangerous it can be less hazardous.



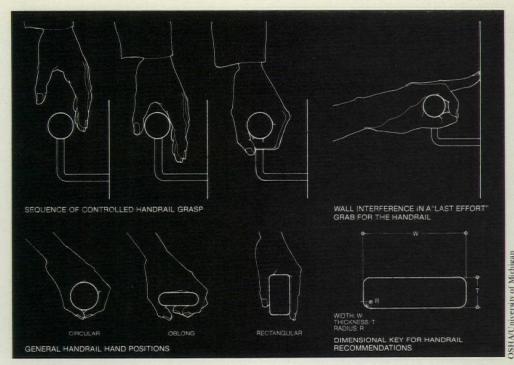
FORCE DYNAMOMETER FIXTURE

The computer model of biomechanical functions (top) generated by Dr. Chaffin and his staff at the University of Michigan has a vast range of predicting potential. The dynamometer shown (bottom) is just one of the tools available to measure grip strength. Both the computer and the dynamometer are useful in ergonomic analysis of the handrail as explained below.

specifically Subpart D: Walking and Working Surfaces. The new recommendations are significant in that they are based on ergonomic data, a field which has thus far pertained primarily to the interface between people and tools, equipment and transportation rather than the building environment.

Frank and Lillian Gilbreth are generally credited as early proponents of ergonomic principles in the U.S. in the 1930s. What started as an intense analysis of the human body in the workplace took an abrupt turn in wartime to try to make armament systems "idiotproof." The Air Force made particularly apt use of these subjects in the design of cockpits and instrument panels. The size, shape, color, and position of dials and controls were researched, and knowledge was extended into design. In the last 30 years, the field has expanded into outer space as well as the automotive industry. In this country, the field consists of hybrid psychologists and engineers. In Europe, the life sciences are also a fundamental segment, making a tripart marriage.

University of Michigan: The goal of ergonomics is to be able to think about the human component of a task in very specific terms. Such a goal points naturally to the potential application of the computer sciences. The largest group of ergonomic researchers in academia are in the Department of Industrial and



HANDRAIL GRASP ANALYSIS

Operations Engineering in the College of Engineering at the University of Michigan. One segment of the department's activities, under the direction of Don B. Chaffin, has programmed its computer with physical data from thousands of people tested in the laboratory and in the field. The purpose is to alter the task to which someone is put to eliminate physical strain or possible injury. Provided with a description of a given task in space, the computer can respond with data on what segment of the population will have difficulty accomplishing it. The system can also work in reverse for the purpose of accident analysis. When someone is injured on the job, the computer can simulate the task and describe the physical stresses which have been placed on the individual.

To be more specific, Chaffin's computer can model: 1 Cycle time for a repetitive job. 2 The proportion of the population that can reach objects, move heavy ones, see required objects, and continue a job for eight hours without discomfort or decrease in performance. 3 The body positions assumed most frequently for various strata of the population performing specific manual work. 4 The expected number of cycles before an untrained operator attains a preset standard performance time. 5 The length of time that a person could sustain hot environments and the recovery time between heat exposures.

One of the subjects addressed in the new OSHA recommendations is handrails. Handrails are particularly appropriate for ergonomics because of similarity between the grip required on a rail and that employed wielding a handtool. The essence of the handrail recommendations is the recognition of the importance of positioning the handrail and

shaping it in such a manner as to permit a full "power" grip. Allowing the hand to encircle the railing allows an estimated four times the force than if a "pinch" grip or incomplete grasp is used. Based upon such information, the group created the following recommended statements:

Handrails shall be circular, oval, or oblong in cross section; the use of rectangular handrails that do not allow a power grip is not allowed. Other forms of handrails (e.g., angle iron) are not allowed.

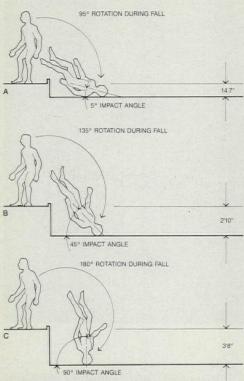
Handrail circumference should be no less than 4.4 inches and no greater than 5.2 inches. For cylindrical rails, this translates to a diameter of 1.4 inches and 1.65 inches respectively. The width (W) and thickness (T) of oblong handrails shall be determined using the following relationship: 4.4 inches $\leq (2W+2T+2\pi R)$ \leq 5.2 inches where $R \geq$.25 inch.

Handrail height, measured from the top surface of the handrail to the tread surface at the leading edge of the tread, shall range from 31 inches to 33 inches, with 33 inches the preferred value whenever possible.

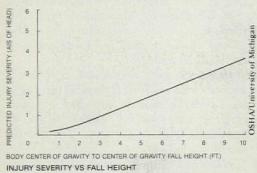
Handrails shall have a 45%-inch finger clearance from any other object. If physical limitations do not permit a 4%-inch clearance, then a minimum of 21/4-inch finger clearance from any other object is acceptable.

As Templer emphasizes, the exact dimensions are still open to question. The research method is universally lauded. Using similar methods of study, the same group was able to determine that low fall heights of two feet or less on smooth surfaces do not usually represent a danger that requires a guardrail;

Technics: Design for safety



ALLOWABLE PLATFORM-TO-PLATFORM HEIGHTS WITH HEAD-TORSO IMPACT ORIENTATION OF (A) 5° (B) 45° (C) 90°



As the level change increases, the diagrams and data clearly show an increase in bodily injury. In the AIS (Abbreviated Injury Scale) used in the graph, AIS =1 is an expected minor injury, AIS =2 is moderate, and AIS =3 is severe non-life-threatening.

a warning is sufficient. Over four feet drop in elevation can represent a serious hazard and demands a guardrail. The issue of traction is related to the guardrail height. Chaffin has applied ergonomic principles to determine 5–5½-in. safe spacing for balustrades, in conjunction with Ornamental Aluminum Manufacturers Association.

The field of ergonomics, because of its direct interface with the human being, in addition to statistics, has access to highly specialized medical equipment to measure everything from oxygen intake to skin temperature. Says Chaffin, "We have a basic underlying theory, especially in biomechanics." This theory offers a firm footing for design, but is not

yet available in a very useful form. He agrees with Templer that the designer needs "a more thorough understanding of the variance of human users." What we call "normal" strength incorporates a variability in strength of 40 to 1. Ergonomics can tell you precisely how to reduce injuries; the setting of priorities, however, is left to epidemiology.

Epidemiology

Unlike ergonomics, the study of epidemiology centers on the overall population rather than the specific capabilities of the individual. Broadly speaking, it originated in the study of epidemic diseases. The techniques of study which began with disease have proven applicable in the hazard prevention field. As Dr. Waller explains it: "First you find a non-random distribution of events in time, place, and person. Then you ask the question: What are the causes of those events based upon the non-random distribution?" He emphasizes that there may, in fact, be multiple causes.

Epidemiologists don't like the word "building safety." Says William Haddon: "We don't find the notion of safety useful." Designing with safety as a goal is impossible. They feel comfortable that they can reduce the number of injuries, but not achieve perfect safety. The same experts find the word accident "scientifically inappropriate" because it implies that such injuries are randomly dispersed and this proves to be untrue. They also don't like the term "normal" people to describe the user of a building because, as discussed, they see a great range of normal variation.

The person to whom the injury occurs is the "host." The specific aspect of the environment which causes the injury is the "agent." The place in which the event occurs is its "environment." Injuries occur when there are abnormal energy exchanges not tolerable by the human body. In the "pre-injury" state, the energy is released in a damaging way. During the event, the energy exchange takes place. In "post event," the patient is maximizing the salvage of survival. In recent years, more and more time is being spent on the "event" state as opposed to exclusively the "preevent." In other words, how to reduce injuries during the event.

There is not much difference between drawing or detailing a building situation that will eventually result in injury and actually being in the situation that causes the injury. A designer has to make a decision quickly, has insufficient information, misjudges the risk involved, and draws the wrong lines or specifies the wrong materials. In short, his performance does not match the task. As a result, the person is injured through no choice of his own.

If, in fact, the building hazard has been created by design, then the act of designing could be construed as the hazard. We could discuss the "predesign," the "design," and the "post-design" stages.

Pre-design: Before the actual problem is addressed in design, there is pressure mounting to get the job done-very frequently, a contractor standing over the shoulder waiting to build what is desired. The other quantity accumulating is knowledge. How much of the available knowledge is present either in documented form or memory? How many other decisions, which have already been made in the building, predetermine the form of the detail to be created? How many requirements have been translated into effective regulation? Design: The actual design process is dependent, of course, upon the skills of the designer, his ability to conceive in three dimensions, his experience, how well he has analyzed the situation, how well he can synthesize. Most important, how effectively has the design been communicated to the person who will actually build the design?

Post-design: After the bid documents have been prepared, the design can change. It may be altered because of product availability for instance. Until the design is actually built, there will be alterations, sometimes not even under control of the designer who made the original decision.

Even after the construction is complete, the building owner may make changes or a new owner may renovate. Alterations could make the building less hazardous or more hazardous. If a hazard has been created during the design phase, and if someone is hurt, the built situation is usually altered and the hazard eliminated.

A seminal paper on the study of injury reduction was published in May of 1970 in the Technology Review (a publication of the Alumni Association of MIT). Its title was "On the Escape of Tigers: An Ecologic Note," by William Haddon, Jr., now president of the Insurance Institute of Highway Safety, located in Washington, DC. Haddon is a physician who served formerly with the New York State Department of Health and as director of the National Highway Safety Bureau. Haddon's paper has been reprinted many times and recently has been somewhat rewritten and published in the September/October 1980 issue of

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Hazard Prevention magazine (of the Systems Safety Society). The core of the paper and the importance of it was the creation of ten succinct statements which are intended to define all of the options possible for reducing damage from hazards of all kinds. Although Haddon has been involved heavily in reducing automobile hazards, the influence of the paper has been felt in many areas of hazard research and is thought to be universal. Michael Brill, Bonnie See, and Terry Collison, in their article "The Hidden Epidemic" (P/A, April 1974, p. 76-81), applied the ten principles in some length to environmental design. We would like to reprint here, with Dr. Haddon's permission, the ten options he has expressed and to explore the relevance to consideration of design as the hazard (at right).

The field of "safety" is in itself not all that healthy. It is at best a splintered group. Dr. Waller explains: "There is no single field for safety; it is a spinoff problem area for many different groups." Although professionals agree that common principles can certainly be applied in other fields, highway safety, product safety, aircraft or navigational safety, and building safety are all working individually with very little contact and communication.

Both the Consumer Product Safety Commission and the Occupational Safety and Health Administration are not popular in the business community and are fighting for their lives in the Reagan budget. Congressman George Hanson of Idaho wants to abolish OSHA. Thomas Seymour of OSHA explains: "OSHA has been growing; now it is going to shrink." The National Bureau of Standards has just lost over 200 researchers in budget cuts. Whatever one thinks of the effectiveness of such organizations, these vacuums are not easily filled in a business environment. Slip-resistance research, for example, has come to a dead stop.

Every client wants a "safe" building whether he states the desire or not. While it is an impossible goal, we can certainly come closer than we have. "Too often," says Dr. Waller, "we say let's try it. If it's not worth evaluating, it's not worth trying." Dr. Waller states very clearly another dictum that perhaps all people in health fields tell themselves to fall asleep each night: "If there is a state of the art available and people do follow it, I think we are doing the best that we can—with no expectation that we will reduce the number of injury events to zero." [Richard Rush]

- 1 To prevent the creation of the hazard in the first place. *Examples*: prevent production of plutonium, thalidomide, LSD.
- 2 To reduce the amount of hazard brought into being. Examples: reduce speeds of vehicles, lead content of paint, mining of asbestos.
- 3 To prevent the release of the hazard that already exists. *Examples:* pasteurizing milk, bolting or timbering mine roofs, impounding nuclear wastes.
- 4 To modify the rate or spatial distribution of release of the hazard from its source. Examples: brakes, shutoff valves, reactor control rods.
- 5 To separate, in time or space, the hazard and that which is to be protected. Examples: isolation of persons with communicable diseases, walkways over or around hazards, evacuation.
- 6 To separate the hazard and that which is to be protected by interposition of a material barrier. Examples: surgeon's gloves, containment structures, childproof poison-container closures.
- 7 To modify relevant basic qualities of the hazard. Examples: altering pharmacological agents to reduce side effects, using breakaway roadside poles, making crib slat spacings too narrow to strangle a child.
- 8 To make what is to be protected more resistant to damage from the hazard. Examples: immunization, making structures more fire- and earthquakeresistant, giving salt to workers under thermal stress.
- **9** To begin to counter the damage already done by the environmental hazard. *Examples:* rescuing the shipwrecked, reattaching severed limbs, extricating trapped miners.
- 10 To stablize, repair, and rehabilitate the object of the damage. Examples: post-traumatic cosmetic surgery, physical rehabilitation, rebuilding after fires and earthquakes.

The ten possible options for reducing hazards of all kinds are reprinted above in abbreviated form with the permission of their author, William Haddon. Design (at right) itself is conceived as the hazard and becomes an interpretation of Haddon's options.

Acknowledgments

We would like to thank the following organizations, institutions, and health professionals for sharing their opinions and knowledge with us: ANSI; ASTM; BOSTI; CPSC, Harry I. Cohen; Georgia Institute of Technology, John Archea, John Templer; Dr. William Haddon, Jr.; National Bureau of Standards, Francis T. Ventre, Brian C. Pierman, Belinda L. Collins, Neil D. Lerner; National Fire Protection Association; National Safety Council; NIOSH; OSHA, Thomas H. Seymour; U.S. Department of Health and Human Services, Center for Disease Control; University of Michigan, Dr. Don B. Chaffin; University of Vermont, Dr. Julian A.

For literature related to this article, see p. 148.

I If we insert the word "design" for "hazard" the result is: to prevent the creation of the design in the first place. Clearly, if hazard reduction knowledge were more fundamentally part of the architectural registration examination for the profession, no one would be permitted to "stamp" a set of drawings without at least exposure to the knowledge.

2 This becomes: to reduce the amount of design which comes into being. Clearly the number of building-related injuries would decrease if existing buildings were left as corrected and there were fewer new

buildings.

3 To prevent the release of the design that already exists. This could be accomplished at the plan review level. No building permits for buildings with hazardous designs. Of course this exists to some degree with the enforcement of building codes and standards. Reducing design hazards, however, is clearly not a question of surface understanding of concepts, and the ultimate control of designs should be made by a safety professional with a thorough training experience and background.

4 To modify the rate or spatial distribution of release of the design from its source. Clearly, if designers took more time to study the documented research prior to or during the design process, the situation would improve. One could also conclude that more frequent observation of how numerous real people respond to existing designs would be instructive.

5 To separate, in time or in space, the design and that which is to be protected. Build all of the buildings which are hazardous due to poor design in an inac-

cessible place.

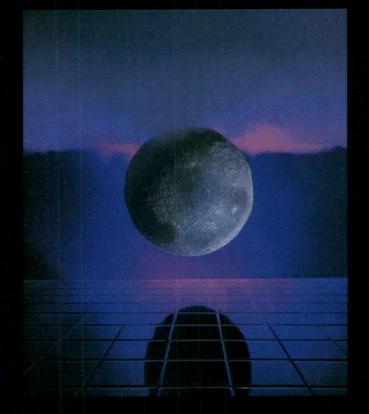
6 To separate the design and that which is to be protected by the interposition of a material "barrier." If the design is what we protect, we could let the building be built, but lock the doors.

7 To modify the relevant basic qualities of the design. The answer here could quite possibly be to employ a consultant to review the plans during their creation.

- 8 To make that to be protected more resistant to damage from the design. The answer here may be to make the contractor more aware of the problems as well as those who manufacture the materials specified by architects and designers.
- 9 To begin to counter damage already done by the environmental design. Publication and criticism of poor designs and caution against using the designs or designers we know to be unconcerned about such hazards. Another interpretation might be to concentrate on the designers whom we are educating now and make sure they are aware of the problems.

10 To stabilize, repair, and rehabilitate the object of the damage. This is a giant task and one to which the experts in this field devote themselves daily.

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JMI Johns-Manville

Furniture flammability standards

Alvin D. Skolnik

The first line of defense against fire is frequently the furnishings of a space. Whether the furniture serves as a fire barrier or the fuel itself is not only a decision of the specifier, but also a clear reflection of the state of the art of furniture fire standards.

In the wake of a number of recent major fires in hotels and office buildings, officials in many cities are reevaluating current codes and considering more stringent fire safety requirements. A good deal of attention is being given to construction features and materials, including systems for fire suppression, detection, alarm and communications, smoke control, elevatoring (automatic recall and fireman's service), emergency power, and so forth. These, and many other features of a building, determine to a large extent how resistant it will be to fire, how readily a fire can be detected and controlled, and how likely it will be that the occupants survive. Obviously, requirements will vary with the nature of occupancy. The average person in a commercial building is more apt to be capable of evacuating the premises than the occupants in a custodial care facility, if both buildings had fires of a similar nature and of equal severity.

While current building codes have requirements for interior finish, many of those codes do not have requirements governing flammability of carpets, drapery, or furni-

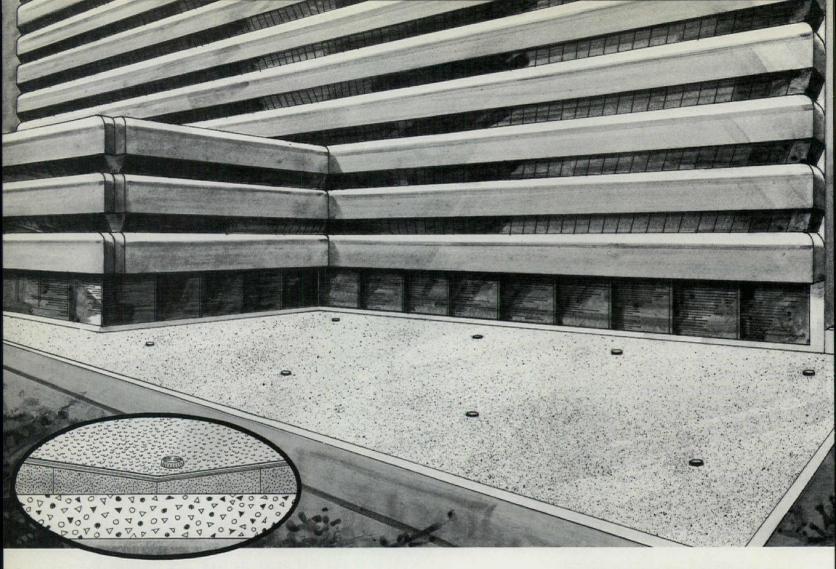
A review of current codes reveals a considerable variation in requirements for furniture flammability standards. As an example, BOCA, UBC, and New York City have no requirements; NFPA, the State of California (Department of Consumer Affairs, Bureau of Home Furnishings), and the Port Authority of New York and New Jersey do have requirements. In Boston, authority is delegated to the fire commissioner and is regulated under the Boston Fire Prevention Code. Overall, there are a few hundred codes with many similar or identical requirements, many that are quite different, and many with no requirements at all. There are voluntary standards and programs being promoted, such as those sponsored by The Business and Institutional Furniture Manufacturers Association (BIFMA) and the Upholstered Furniture Action Council (UFAC). Many of the current codes have references to test methods no longer being published under the designation in the code, or have test methods that have been superseded and methods which have been revised since establishment of the code. The Department of Commerce no longer sponsors CS 191-53, which has been replaced by ASTM D1230-61 (1972). Federal Specification CCC-T-191 b, Method 5903, should now be referred to as Federal Test Method Standard No. 191, Method 5903.2. One of the basic test methods referred to has been ASTM D635 "Flammability of Self-Supporting Plastics." Several years ago the ASTM was revised to the extent that certain definitions previously contained in the document are no longer included. The effect of this ASTM revision was to render reference to it as meaningless in the context in which it is used. In fact, there is language indicating that no correlation is implied between the data obtained from this test method and flammability under actual use conditions. Such lack of correlation between small-scaled laboratory tests and actual use conditions is frequently the case.

Just as the synergistic effect must be considered when determining appropriate standards for the construction features and materials used in buildings, such effect must likewise be considered in establishing standards for furniture. All components of a piece of upholstered furniture and the effect of how they are assembled must be controlled in order to create a flame-resistant finished upholstered piece. It does not necessarily follow that if each component meets the flammability standards established for the respective individual components, the assembled piece will be satisfactorily fire resistant. Full-scale testing of prototypes would provide a more meaningful basis for predicting behavior in a fire. This would, however, create a cost problem when mass produced identical units are not involved.

To illustrate the complexity of the matter, let us isolate only the fabric and consider what characteristics must be controlled in order to regularly and accurately reproduce fabrics meeting a given standard. The flame resistance of a fabric may change if any one of the following characteristics change: 1 yarn content, 2 type of yarn, 3 staple length and diameter, 4 weave and method of assembling the yarn (pile weaving, flat weaving, etc.), 5 fabric pattern, 6 dye used in the yarn, 7 fabric weight, and 8 after-processing of the fabric (Scotchgarding, backing, flameproofing, etc.). The flame resistance of a fabric is a product of all eight factors.

With all the attention now being given to code reassessment, the time is right for building officials, design professionals, and industry jointly to develop meaningful standards. Consideration should be given to the building occupancy and the construction features and materials discussed in the opening paragraph. Testing laboratories should be required to obtain accreditation. In this way, we will improve fire safety in buildings.

Alvin D. Skolnik, FCSI, is Director of Research and Specifications, Skidmore, Owings & Merrill, New York.



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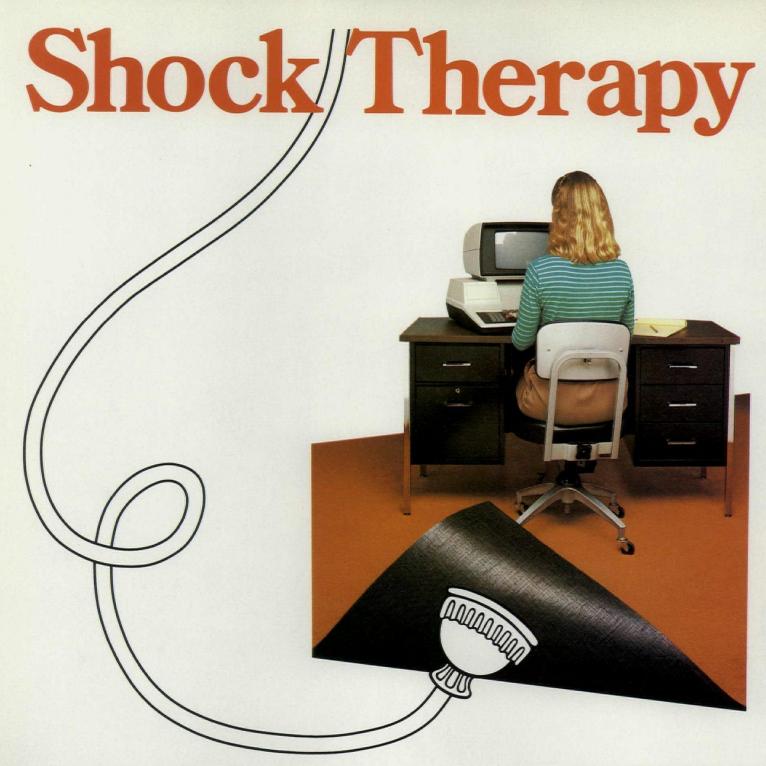
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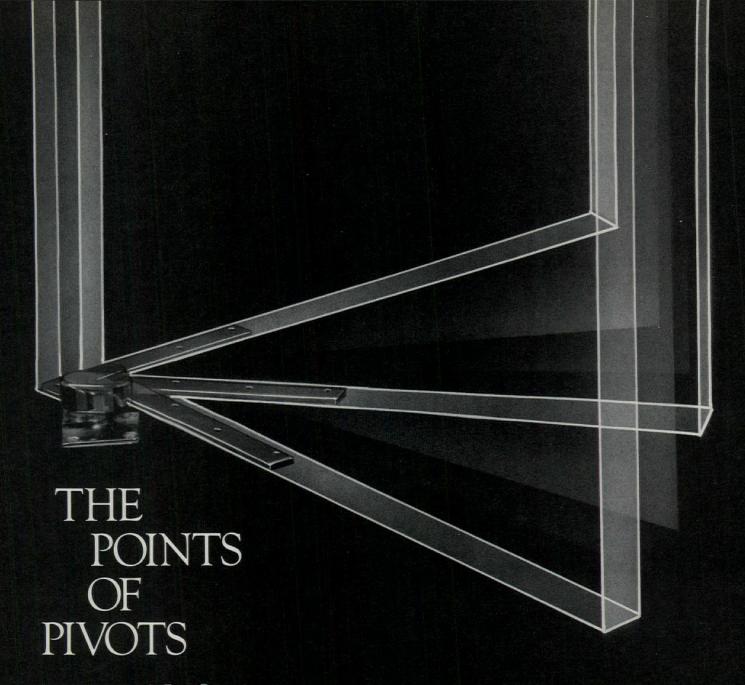
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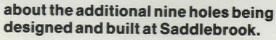
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Liability for user safety

Norman Coplan

Although proof of design negligence is still the criterion, architects are increasingly being held liable for building safety.

If an architect's design of a building project does not adequately provide for the safety of its users, he may be subject to liability in the event of injury to person or damage to property arising from an unsafe condition. To establish liability, the claimant must prove that the architect was negligent in performing his professional duties. Although the general rules as to the standard of care that an architect must satisfy have remained relatively constant, there appears to be an acceleration in the number of decisions subjecting the design professional to liability for negligent design. These decisions suggest that a more stringent or demanding measurement of the architect's performance is being applied than might have been the case some years ago.

A partial explanation of this apparent increased risk lies in the improving state of the art. With this improvement come higher expectations. Another explanation is that the increasing general public concern for safety factors relating to the activities of the elderly, the young, and the handicapped is reflected in the assessment of a design that may be considered inadequate to assure such protection.

Holding the architect to a higher quality of performance is not the only reason why the area of the architect's potential liability for negligent design has expanded. Rules of law which in the past afforded the design professional some exemption from liability have been modified, and this area of the law continues to be quite fluid. For example, the prevailing rule in New York for a period of approximately 25 years was that an architect would not be subject to liability to third parties for negligent design if the defect arising from that design was patent or observable at the time the owner accepted the building project. This ruling was first established in a landmark decision in 1957 by New York's highest court, which case involved injury to a child who had fallen from a stoop of an apartment building that contained no railing. Similarly, in a case in which a school child was injured during a basketball game as the result of being pushed against the end of a railing that protruded from the end of a folding bleachers in the school gymnasium, the same court dismissed the suit against the architect for negligent design on the ground that the defect was neither hidden nor concealed and that, therefore, the owner's acceptance of the project terminated any liability of the architect to third persons.

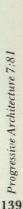
In 1980, however, the rule of law described above was seriously challenged by a lower appelate court in New York (Cubito v. Gindele & Johnson, P/A, "It's the law," March 1980). This case involved an injury occasioned to a tenant in an apartment building who claimed that the architect had negligently planned and designed a laundry room resulting in the accumulation of water on the floor of that room causing her to slip. The injury occurred many years following the completion of the archi-

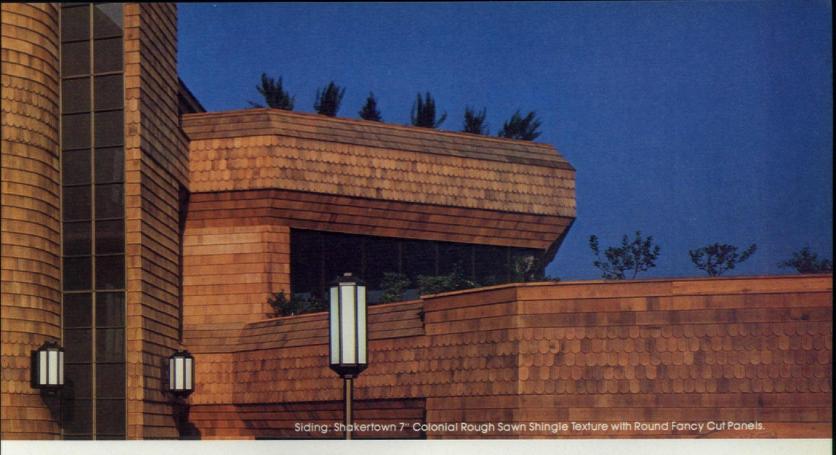
tect's services. The defendant contended that the defect in the laundry room was patent or observable and that therefore the architect's liability was cut off when the owner had accepted the building. In response, the court stated that under more modern decisions a manufacturer is subject to liability for defects in his product regardless of their patency, and that there was no justification for distinguishing between the liability of a manufacturer and a design professional. The Court said that "by parity of reasoning the liability of an architect must now be treated under the same tests now being applied toward an industrial manufacturer. That is to say, the test of patent or latent defect is not to be applied, and the question of liability depends rather on whether the architect exercised due care

in preparing his plans.'

The Cubito case was appealed to New York's highest appellate court, and the New York State Association of Architects, AIA, intervened in the action as a "friend of the court." The Association contended that to subject design professionals and manufacturers to the same rules of liability was inappropriate. A manufacturer produces a standard product for the direct use of consumers, whereas an architect designs to satisfy the requirements of his client and not directly for the benefit of third parties whose future use of the project is incidental to the direct obligation that the architect owes his client. The owner of the building controls, uses, and maintains the building project, all of which are intervening elements between the injury of the third party and the original design of the building. There is no such intervention between manufacturer and consumer. Further, argued the Association, the extension of potential liability of design professionals would discourage competent and creative persons from following the profession, inhibit the production of creative or pioneering design to take advantage of developments in modern technology, and increase the cost of professional liability insurance to prohibitive levels.

Without in any way referring to the arguments made by the Association, the New York Court of Appeals recently affirmed the determination of the intermediate appellate court, thereby establishing a new rule in New York that an architect may be liable to third persons for a negligent design, even though the defect that results is observable and apparent and the injury occurs many years after the architect has performed his services. This decision reflects the continuing trend of expanding liability which correspondingly increases the pressures and costs of the practice of architecture.





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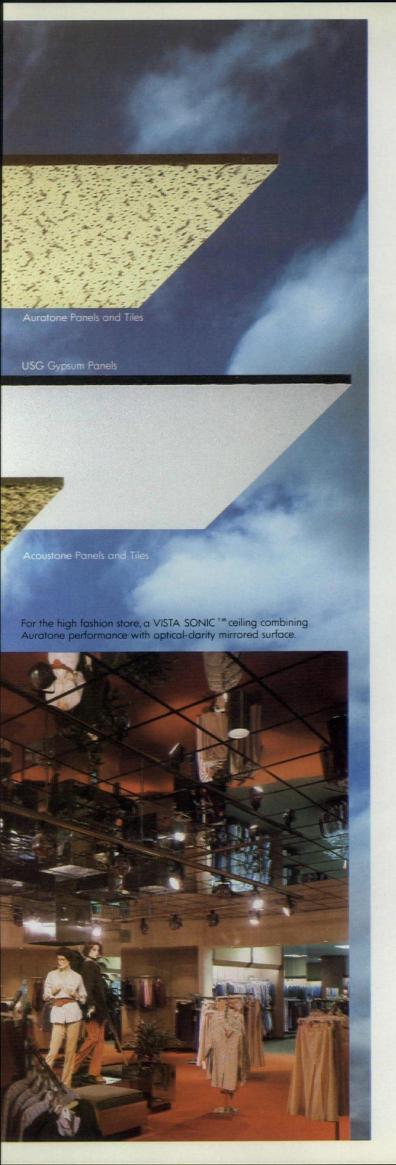
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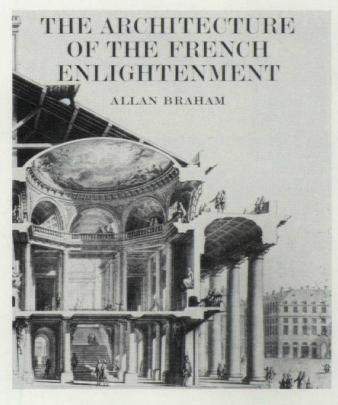
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From Classic to Neoclassic

Books



The Architecture of the French Enlightenment by Allan Braham. Berkeley, University of California Press, 1980. 288 pp., illus., \$55.

The First Moderns: The Architects of the Eighteenth Century by Joseph Rykwert. Cambridge, The MIT Press, 1980. 585 pp., illus. \$50.

Reviewed by Elizabeth G. Grossman, adjunct professor in the Liberal Arts Division, Rhode Island School of Design.

With the probable exception of those designers who fell for the futurist rhetoric of Modernism, most architects have leaned on past architecture for stimulation if not for guidance. Historians, whether deliberately or not, have assisted them in this activity, both by providing an intellectual framework to structure the use of tradition, and by providing information about the buildings themselves.

Allan Braham's book The Architecture of the French Enlightenment makes no acknowledgment of the current architectural interest in Neoclassicism and, in fact, Braham wants us to see this architecture as the product of a singular society. Nonetheless, whether he intended it or not, this straightforward, well-illustrated book will make life a lot easier for architects who have been pursuing French Neoclassicism through monographs and French histories with murky or dispersed plates. Braham has collected this material in one place and presented it in chapters that read rather like encyclopedia entries on the major architects: Soufflot, Peyre, DeWailly, Gondoin, Victor Louis, Brongniart, Chalgrin, Boullée, Gabriel, P. Rousseau, Ledoux, etc. Although his writing is less than scintillating and he makes little effort at generalization or linkage, he nevertheless tells us a lot about the individual buildings, including the stories of the commissions. Although [Books continued on page 145]



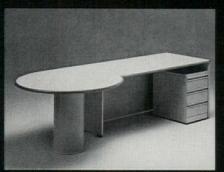
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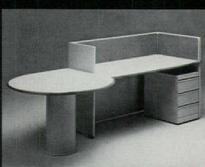
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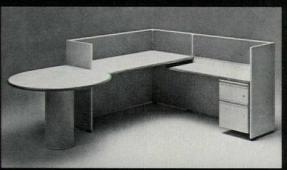
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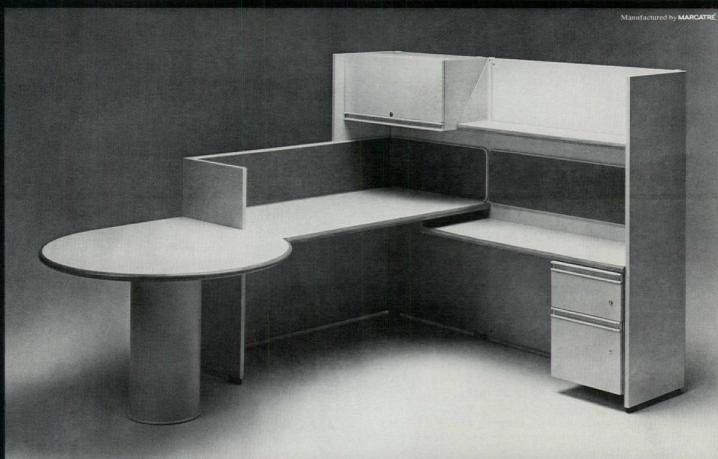
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the facts and the visual material are th

the facts and the visual material are the immediate attraction of the book, one will also find Braham's fascination with

French society diverting.

The 424 black-and-white plates are small but crisp and include many reproductions of 18th-Century engravings of elevations, plans, and sections. Viewing the architecture through these contemporary graphics reinforces Braham's delineation of the Neoclassical style by heightening our awareness of the austerity of volumes and richness of chiaroscuro, of the juxtaposition of wall and column, and of contrast between ele-

gant interiors and monumental elevations.

In discussing individual buildings, Braham walks us through the plans, providing valuable information about the circulation pattern and identifying rooms. Regrettably, he makes no effort to characterize the volumetric sequence. This omission is particularly unfortunate because Neoclassical architects were enamored of wayward promenades, at least in residences, and the sections drawings, sliced as they are along the main axes, just do not provide sufficient information. Likewise, although Braham refers to the top lighting necessary in the dense plans and to the intimacy between house and garden, he does not analyze these new features in sufficient detail.

Braham is instructive, however, about the nuances of the Classical vocabulary, and he stresses the relation between 18th-Century Classicism and the new interest in Greek and Roman antiquity at this time. In his discussion of Gondoin's École de Chirurgie, for example, he points out that a change in the traditional angle of a volute or the elimination of an architrave was, for an 18th-Century architect, an innovative gesture. Throughout, Braham is at pains to define Neoclassicism as a style that accommodated contemporary French needs, traditional French planning and Classicism, and the

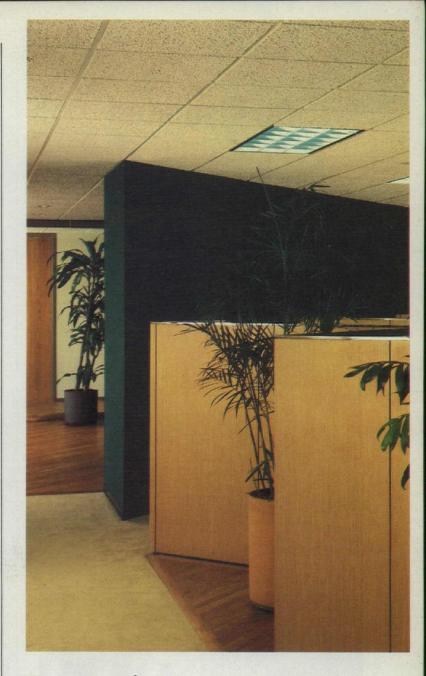
new obsession with the facts of antiquity.

Whereas Braham is inclined to let his visual material tell us about the French Neoclassical style, he is almost obsessive about providing us with information on the commissions themselves—why, for whom, and where buildings were built. This documentation is intrinsically related to his view that these buildings were seen, at least in some circles, as social events. He gives us contemporary accounts of this architecture so we can appreciate the fashion of that day for going on house tours, and he connects the location, size, and elegance of the buildings to the status or social aspirations of the client. In his laconic way, Braham provides us with a veritable society-page account of Neoclassicism. To give just one example, he tells us that the architect Chalgrin was married to a woman who was "an intimate of Mme. Vigée Lebrun: She, but not her husband, was present at the famous Greek supper that Mme. Vigée Lebrun improvised early in the 1780s for her closest friends." Mme. Lebrun, in her turn, was a visitor at Château de Louveciennes designed by Ledoux for Mme. Du Barry, the favorite of Louis XV, and herself commissioned a hôtel. With information like this, Braham evokes an intimate social world, including architects and dancers, princes and bankers, governesses and philosophers, in which women played a highly visible and effective role. This milieu produced French Neoclassicism in order to provide a setting for its public and private lives.

If Braham is fascinated by the society of the Ancien Régime, Joseph Rykwert is obsessed with an international intellectual discourse that began in the French academy in the late 17th Century, which he believes raised the issues that have confronted architects ever since. Ironically, however, his book The First Moderns is difficult for anyone not familiar with the philosophy, politics, theology, science, and even the architec-

ture of the 18th Century.

Given the obscurity of much of the material, the density of the text, and Rykwert's rather impenetrable writing style, should one bother with this baffling book at all? The answer is yes, even for those without a passion for the 18th-Century "polymathic" discourse. This work contains a well-hidden but provocative argument that is directed particularly to architects. Rykwert says in conclusion: "This book recalls a time [Books continued on page 146]



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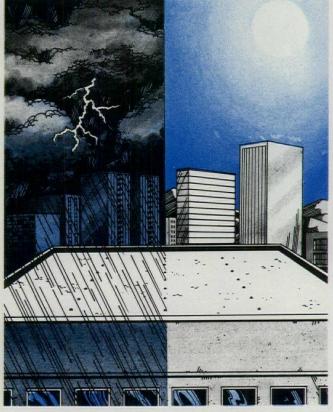
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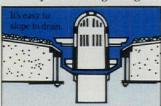
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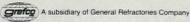


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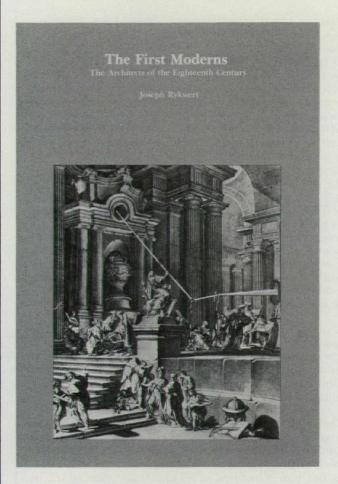
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when the architect's business was (about problems of form). Perhaps, if there is to be a place for the architect's work within a future social fabric, he will have to learn how to deal with such problems again."

Stated baldly, the problem as Rykwert sees it is this. In the 1660s, the French academy, which was created by Louis XIV to codify the rules of architecture, confronted evidence of substantive variations among measurements of the Classical orders in the buildings of antiquity. Claude Perrault's response to this issue was to argue that the academy should cease to view the orders as the key to the divine system of proportion. Rather it should recognize that our sense of right proportion was conditioned by reason, common sense, and custom on the one hand, and by taste on the other. Moreover, whereas everyone could appreciate beauties founded in reason, taste was the purview of specialists, i.e., architects. The job of the academy was to inculcate taste.

The subject of Rykwert's book is the various responses, or alternatives, to Perrault's revolutionary idea. Ostensibly Rykwert takes an impartial view of all of them. Actually, however, one might infer that Rykwert feels that most of them are inadequate, if fascinating, episodes in the history of taste. However, one theoretical position, "Neoclassicism," he sees as more significant. It offers not merely a stylistic but a methodological answer to the Perraultian split between reason and taste.

Rykwert's "Neoclassicism" is hardly what we would expect after reading Braham. In fact, Rykwert is so unconventional that David Watkin, coauthor of another new book about 18th-Century architecture, in reviewing it has dismissed Rykwert's chapter on Neoclassicism as "concentrating on a few minor Italian buildings" (Journal of Society of Architectural Historians, March 1981).

Rykwert, however, is not interested in buildings per se, but in theories, and he finds those of the Venetian "polymath," Carlo Lodoli, particularly provocative. The "idiosyncratic" Lodoli is just the sort of character that Rykwert relishes; his ideas are known to us only through the writings of others, and these conflict because some of his circle were more opportunistic than veracious. Previous scholars have cast Lodoli as a utilitarian functionalist who was obsessed with the rational use

of materials and had no use for ornament. But according to Rykwert, this interpretation is wrong: Lodoli did not want to eliminate ornament, but to control it through the scientific laws of materials and also the laws of history. With the crumbling of the traditional, classical view of history as a unified, idealized continuum, the way was open to the discovery of true laws of history. Through the rational application of these laws, one could reform architecture and improve the moral climate of society.

Rykwert seems even more enamored of Piranesi, Lodoli's "most brilliant and influential disciple." You will recognize in his elaborate exegesis of Piranesi's hermetic suites of etchings those themes he has already identified in Lodoli's works. Piranesi's obsession with construction and invention reiterates the Lodolian insistence on the truth of science and the truth of history. His ornament emulates, but does not copy, the ancients, and so can precisely represent the present and also

criticize established authority.

In the chapters preceding these climatic ones, Rykwert depicts the vogue for exotic cultures, the development of archaeology, the taste for the simplified Classicism of Perrault's Louvre, the rococo, the Classical system, and Perrault's revolutionary treatise. The most challenging chapter investigates the English intellectual tradition that Rykwert sees as an antithesis to the French. Whereas the latter was academic and authoritarian, the "polymaths" of England sought a "socially integrative" system. Rykwert is particularly interested in the English freemasonry; he finds, in its concern with discovering the laws of architecture in the first building—the Temple of Solomon—and in its belief in a secretive reform of society, ideas that inform "Neoclassicism."

For his dénouement, Rykwert returns us to France. The material here—Blondel, Gabriel, Contant d'Ivry, and Laugier—leads inevitably to Soufflot's Ste-Geneviève. Rykwert is particularly interested in the 1764 scheme, which he characterizes as "the last architectural hieroglyph, so rarified . . . that it had to break." This Ste-Geneviève Rykwert sees as a futile effort to maintain the use of the past as "a quarry of detail and of allusion: the division of history into periodic styles separated such forms into specific reference on one hand and conventional surfacing on the other." From Ste-Geneviève it is all downhill. Those efforts to retrieve the architect from his isolated position as tastemaker led merely to an elevation of "mechanical skills" and a reduction of the importance of formal issues until architects ceased altogether

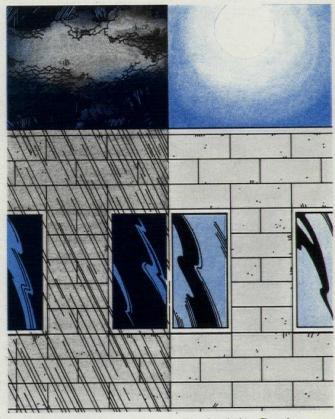
to be concerned with problems of form.

This summary of Rykwert's book conveys nothing of the complexity, richness, overlapping, intermittent awareness of events that distinguish this remarkable history. Nor does it begin to suggest the wealth of facts, theories, and personalities that encourage or force us to read the book, paragraph by paragraph, and thereby to lose sight of the whole. For example, in the chapter seductively titled "The Marvelous and the Distant," which is concerned with the interest in exotic cultures, Rykwert tells us about the fashion for fairy tales and coffee, about the 18th-Century view of porcelain as an artifact of nature, and about Jesuit Missionaries to China. The diversionary quality of this material is reinforced by Rykwert's method. To avoid a linear history with implications of cause and effect, he avoids transitional sentences and, it seems, deliberately misplaces thematic paragraphs. Unfortunately, the difficulties of this strategy are all needlessly compounded because he indulges in historical usage—Sublime Porte for Constantinople, for example—writes incomplete sentences, uses undefined pronouns, and sometimes constructs whole paragraphs (such that at the top of Page 61) that are incomprehensible.

The book is important, nonetheless, and rewards our efforts. Rykwert is warning us to heed the lessons of his first Moderns and to recognize that a return to a concern with form means a return to problems like those confronting 18th-Century architects caught in the breakup of the Classical system. If we try to impose form by fiat or fashion, or indulge in demonstrations of personal taste, or attempt synthetic compositions of historical motifs, at best we solve only immediate problems. What is needed, Rykwert suggests, is a rational method that can allow architecture both to represent

the present and to reform it.

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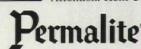
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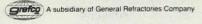
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Products and literature

The following items are related to the interior technics article on photomurals. They are grouped here for the reader's convenience.

Photomural literature

Photographic decor, based on photographs by Eliot Porter, is illustrated in color in a six-page folder. Shown are 24 of a collection of 40 of Porter's photographs, along with work from other photographers that includes scenic, nature, and florals; two major collections are "Great Scapes" and "The American Cowboy." Meisel Photochrome Corpo-

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'Photo Decor: A Guide to the Enjoyment of Photographic Art' discusses the use of photographs in interior design. It suggests sources and provides information about photographic techniques, designing a photo wall, mounting, hanging, and lighting photographic art. Copies of Publication 0-22 (90 pages) are \$8.95 each and may be ordered from Eastman Kodak Company, Rochester, NY 14650.



The Scenic Collection of photomurals is shown in a six-page brochure, in full color. Taken from 8" x 10" master transparencies, the company says they can be enlarged to virtually any size. They also offer black-and-white photos and a collection of reproductions of old posters and labels. PS Decor, Photographic Specialties.

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Scanamural brochure illustrates the use of photography in building interiors. Transparencies can be reproduced on paper, fabrics, vinyls, polyesters, and even carpeting. Several unusual installations are illustrated in this 20-page color brochure. Architectural Murals/3M. Circle 202 on reader service card

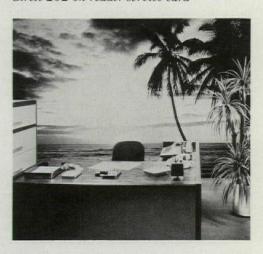


Photo murals suitable for both commercial and residential applications are offered in budget-priced paper form and in vinyl-acrylic. Murals are available that are both scrubbable and strippable. Environmental Graphics.

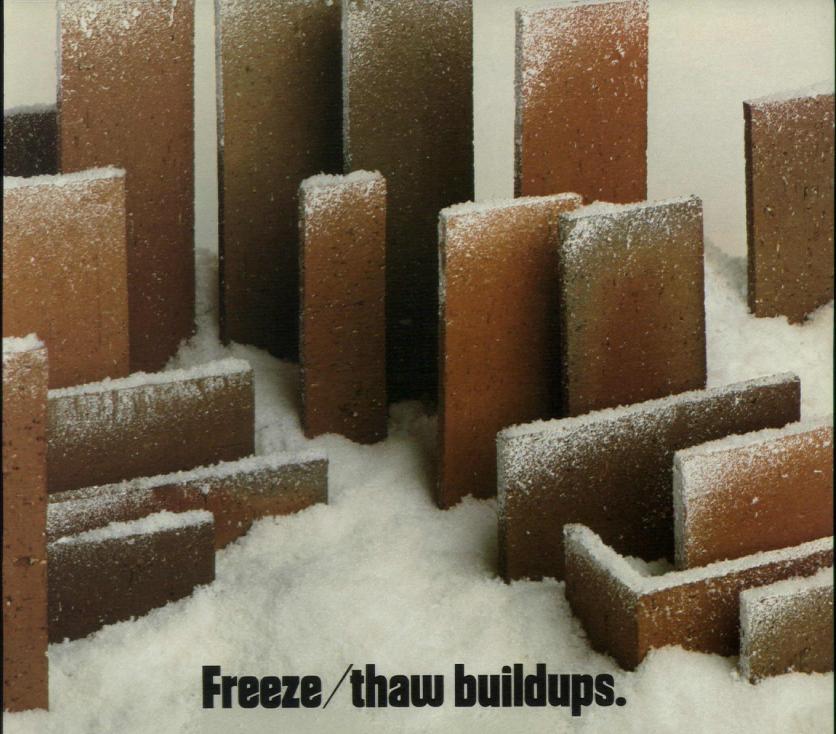
Circle 203 on reader service card

Photo murals, reproduced on a durable synthetic material, are waterproof and washable, dry strippable, and have a flammability rating according to ASTM E-84-68 of 17.95-0-0. Featured in room settings in a 24-page color brochure are samples of photos available from work of photographer/naturalists. Naturescapes, Inc. Circle 204 on reader service card

The following items are related to the technics article on designing for safety. They are grouped here for the reader's convenience.

Safety literature

'Guidelines for Stair Safety' (129 pages) is sponsored by the U.S. Consumer Product Safety Commission and compiled for the National Bureau of Standards. It summarizes information in research in the area of stair use. The seven categories are: structural integrity and quality of stairs; physical attributes of stair surfaces; appearance of stair surfaces; handrails; physical attributes of the surrounding stairway environment; appearance of the surrounding stairway environment; and signs and symbols. [Literature continued on page 151]



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'Standard Symbols for Fire Fighting Operations 1980' presents standard referents and symbols intended to alert firefighters to location of utilities and firefighting equipment. Each of the ten symbols is described and its application discussed. The 20-page booklet, NFPA 178, is \$4 per copy and may be ordered from National Fire Protection Association, Inc., Batterymarch Park, Quincy, MA 02269.

'An Ergonomic Basis for Recommendations Pertaining to Specific Sections of OSHA Standard, 29CFR Part 1910, Subpart D—Walking and Working Surfaces' (185 pages). This research was done by the University of Michigan for OSHA. It discusses: fall injury; basis for selecting fall protection systems; stairrailing height; handrail dimensions; wire rope for fall guarding; scaffold cross-bracing; fixed ladder dimensions; and fall warning systems. Order copies of Report PB-284-370, at \$15.50 each, from National Technical Information Service, Springfield, Va 22161.

'Home Safety Guidelines for Architects and Builders' (126 pages). This document, produced by BOSTI for the National Bureau of Standards, brings to-

gether research findings on accidents occurring in the home involving fixed architectural elements such as stairs, floors, bathtubs and showers, doors, and windows. It is intended for architects as a guide to design and construction. Order copies of Report NBS-GCR 78-156, at \$7.25 each, from National Technical Information Service, Springfield, Va 22161.

'General Industry Standards' (over 800 pages) provides OSHA safety and health provisions for all working environments. It applies to employment in all the states, the District of Columbia, U.S. possessions and territories. Order copies at \$6.50 each (Stock No. 029-015-00054-6) from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

'Construction Industry' (over 800 pages) provides OSHA safety and health standards specifically related to all aspects of the construction industry. It includes personal protective equipment, safety procedures, environmental hazards protection, and other related information. Order copies at \$10 each (Stock No. 029-015-00056-2) from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

'The Assessment of Safety Symbol Understanding by Different Testing Methods' (60 pages) reports the results of experiments on the understandability of pictorial symbols. Twenty-five sym-

bols were presented, and subjects were asked either to define their meaning or choose from a list of four possible answers. Order copies at \$7 each (Report No. NBSIR 80-2088) from National Technical Information Service, Springfield, Va 22161.

'A History of Walkway Slip-Resistance Research at the National Bureau of Standards' (36 pages) summarizes NBS research on walkway and shoe slip resistance measurement since 1924. It outlines current activities that will provide a technical basis for slip-resistance measurement and proposes further research that will help to develop means of reducing deaths and injuries caused by slips and falls. Order copies at \$1.75 each (Stock No. SN003-003-02142-3) from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

'Workplace Safety Symbols: Current Status and Research Needs' (61 pages) discusses effectiveness of symbols for conveying safety information compared to written signs. It documents an initial assessment of current symbol use and future needs. Included is a review of technical literature on symbol research. Order copies at \$7 each (Report No. NBSIR 80-2003) from National Technical Information Service, Springfield, Va 22161.

'Safety on Stairs' (122 pages) discusses existing stairways, inferences about in-[Literature continued on page 152]

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'An Analysis of the Behavior of Stair Users' (74 pages) reports on research intended to find out ways to reduce the frequency and severity of stair and landing accidents. It is based on about 50 hours of videotape on stair use. The re-

port proposes 44 performance statements that, if applied to stair design, should reduce such accidents. Order copies at \$5.25 each (Report No. NBSIR-78-1554) from National Technical Information Service, Springfield, Va 22161.

'Walkway Surfaces: Measurement of Slip Resistance' is a collection of papers presented at the Symposium on Pedestrian Friction held in Denver, Co, in June 1977. The 105-page booklet, edited by Carl Anderson of American Olean Tile Co. and John Senne of John Senne & Associates, contains eight papers on the subject. Order copies, at \$8 each, from The American Society for Testing and Materials, 1916 Race St., Philadelphia, Pa 19103.

'A New Portable Tester for the Evaluation of the Slip-Resistance of Walkway Surfaces' (51 pages) describes the NBS-Brungraber tester and its development. It tests the slip-resistance developed between walkway surfaces and shoe sole or heel materials. Order copies of Technical Note 953, No. C13.46:953, at \$2 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

'An Overview of Floor Slip-Resistance Research with Annotated Bibliography' (113 pages) is the second of a series of reports describing the results of a government study on slip resistance. It

deals with various aspects of the problem and explains the present status of government efforts to establish standards in this area. Order copies of NBS Technical Note 895, No. C13.46:895, at \$2.30 each from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

Safety information materials are listed in a catalog of publications, fact sheets, slide presentations, and films. Subjects of possible interest to architects include those related to residences, such as insulation, fireplaces, stairways, and heaters; playground equipment; and fabric flammability. Prices and ordering information are shown for each. Consumer Product Safety Commission. Circle 206 on reader service card

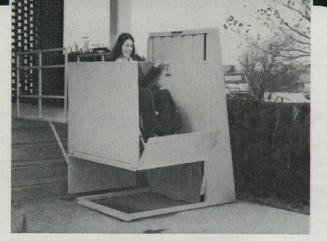
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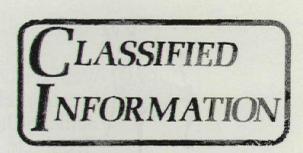
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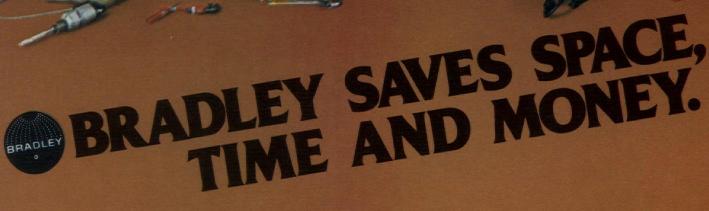
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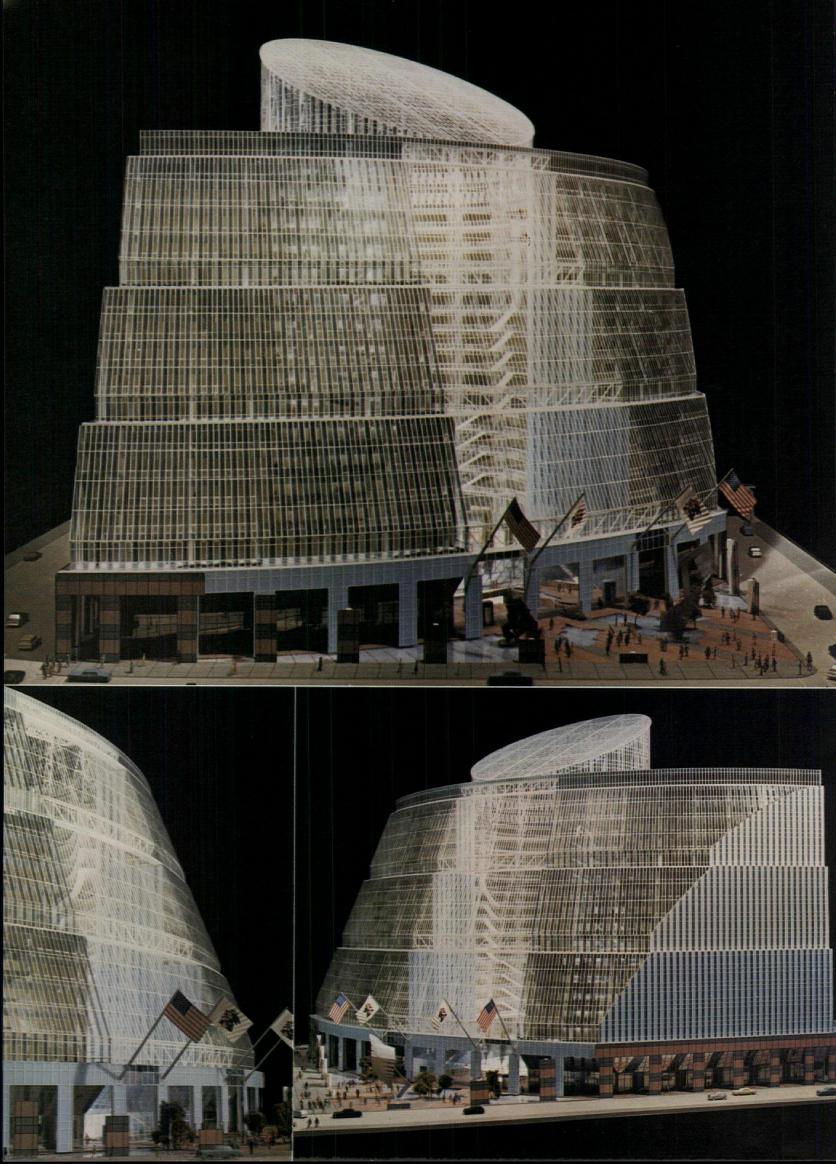
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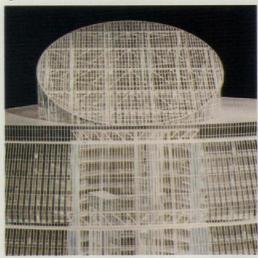
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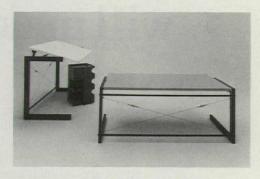
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Mall plate pavers have superior abrasion resistance, according to the company, and less than three percent water absorption. They are recommended for freeze-thaw conditions and for heavyduty use, both interior and exterior. Colors are brown, red, gold, white, black, and gray, with shades varying from tile to tile because of the firing method. Trim shapes are available in all colors. Applications include shopping malls, restaurants, and hotels, as well as light commercial and residential areas. Huntington/Pacific Ceramics, Inc. Circle 103 on reader service card

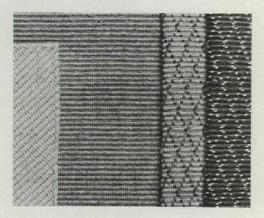
General Task Light and Display Light, for use in the Action Office, combine with Critical Task Light to provide localized lighting for office workers. General task lighting, located underneath a shelf, strikes the surface at a 25-degree angle and reflects at the same angle, eliminating glare. The display light provides accent lighting to vertical surfaces by means of a white reflector that deflects light away from the worker toward the wall. Herman Miller, Inc. Circle 104 on reader service card



Tables for the creative workplace come in desk or drafting heights in 5-ft and 6-ft lengths. All tops can be tilted, and standard two-drawer filing cabinets will fit underneath the tables. Legs are plastic-coated heavy steel in standard colors and have crossed tension cables and compression rods for rigidity. The laminate-covered 1½-in.-thick tops are standard in white, with colors available as an option. Ron Rezek/Lighting. Circle 105 on reader service card

The ConCentrx seating line is being offered in three new models: an operator's chair, an operational stool, and a fixed side chair. All are available with manual or touch-actuated pneumatic adjustments and can be ordered with or without arms. The operator's model also has a posture back with adjustable spring tension. Steelcase.

Circle 106 on reader service card



The Quantum Collection of coordinated wool textiles for the contract market consists of three patterns: twill, rib, and diamond. Twill is offered in nine colors, rib in twelve, and diamond in thirteen. Arc-Com Fabrics, Inc. Circle 107 on reader service card

Elevonic 401 microcomputer-operated elevators have a synthesized voice that announces floors, provides special directions, and delivers messages to passengers to aid the visually handicapped. [Products continued on page 158]

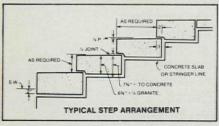
Granite.

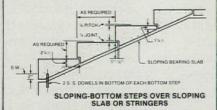
Tough enough to take the thunder of 10 billion feet.





Architect: Tinsley Higgins Lighter & Lyon, Des Moines, IA





What else but granite can take 38 years of wear and weather without fading, staining, or showing measurable wear? That's what made Cold Spring granite the ideal choice for the Banker's Life Insurance Building when it was built in Des Moines, Iowa, in 1939. And that same unique combination of beauty and unsurpassed durability make it ideal for today's floors, facades, core walls, steps, malls and walkways — wherever you need maxi-

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IBM Building, Southfield, Michigan Gunnar Birkerts and Associates, Architects Birmingham, Michigan

skins come in a number of different materials and 8 pleasing color finishes. And to satisfy energy needs, Alply panels are available in many thicknesses and in two core materials allowing you to choose the required "U" value.

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*The use of polyurethane, polystyrene and isocyanurate cores in these applications may present a fire hazard under certain circumstances. Consultation with building code officials and insurance company personnel is recommended.

The Stolle Corporation
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#801

Products continued from page 156

LED displays show floor numbers, the date, weather, and other information. The computer can be coded to seal off floors to all except those who have special coded access. Otis Elevator. Circle 108 on reader service card

Verosol® pleated fabric shades are permanently pleated polyester with aluminum vacuum bonded to the outside for insulation. Although they are sheer, they have an R value of 1.92, according to the manufacturer, and adding lined draperies increases it to 2.42. In the summer, the shades will reflect 60 percent of the sun's light and heat; in the winter, they will reflect the room's heated air back inside, cutting heat loss by 49 percent. In the raised position they stack neatly in a very small space. For instance, a 48-in. shade stacks to 2 in. Kirsch Co.

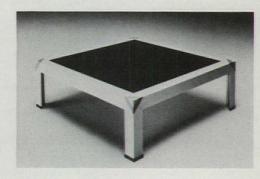
Circle 109 on reader service card

The FF (front fold) chair has a hardwood frame, heavy-duty canvas or nylon seat and back. The fabric is easily removed for cleaning or replacement. The chair folds from front to back for easy portability and storage. Gold Medal, Inc.

Circle 110 on reader service card

Fastaire® electric dry-air hand dryer has a vandalproof wall-mounted nozzle. The blower and its electric controls are concealed behind the partition or in a service tunnel, and the only exposed parts are the nozzle and its integrated start button. The high-velocity warm air flow dries hands and face in less than 30 seconds, according to the manufacturer. Humphrey, Inc.

Circle 111 on reader service card



A table system designed by Paul Haigh, for residential or contract use, consists of interchangeable side rails, legs, and tops for versatility. There are five side rail sizes, and two leg lengths, that can be used in combinations to create 24 different size tables. Sizes range from 3' x 3' lounge height to 3' x 5' desk to 4' x 7' dining or conference table. Knoll International, Inc.

Circle 112 on reader service card

The Capacity Plus kitchen sink is available with the small disposer section located at either the right or left side of the larger sink. It is made from 20-gauge stainless steel, polished to a bright satin finish. Elkay Manufacturing Co. Circle 113 on reader service card



Solid teak garden furniture, hand turned to resemble bamboo, can be used outdoors. Left unfinished, it will acquire a soft gray tone. It is also available with natural oil, charcoal, and Sahara sand finishes for added protection against weathering. Polyurethane cushions with zippered covers can be ordered for seating. Armchairs, folding chairs, a sun chaise, dining furniture, tables, and planters are included in the group. The McGuire Co.

Circle 114 on reader service card

A presentation stand that will accommodate the company's binders can be used to show plans, maps, charts, surveys, and anything else that can be put into the binders. Stand height is adjustable from 39 to 70 in.; binders are 18 to 42 in. in length. Plan Hold Corp. Circle 115 on reader service card

[Products continued on page 164]

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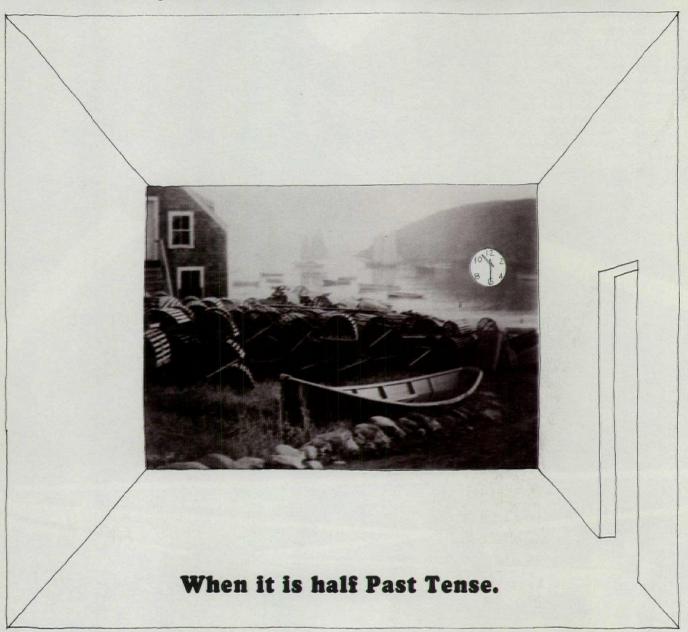
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Shown: studded pattern



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Progressive Architecture 7:81

Elderly housing design is an area that has directly benefited from research. Critics of applied architectural research have often decried the lack of concrete applicability to the design process. In the August issue, P/A will present a package of projects to which such research was not only applicable, but crucial, to the designs. Working with research teams headed by sociologists such as Galen Cranz and John Zeisel, the architects have arrived at designs that clearly reflect the interdisciplinary input.

The University of Florida at Gainesville has a new athletic facility under membrane roofs. Designed by CRS, this is one of two somewhat similar Florida structures by that firm. Shown under construction in the June 1980 issue of P/A, the Stephen C. O'Connell Center employs both tensile fabric roof "skirts" and airsupported main roof.





Elderly housing in Hyannis, Ma (top), Stephen C. O'Connell Center (middle), Sacramento State Office Building (bottom).

State Office Buildings in California are taking on a decidedly different look due to energy considerations. Just completed in Sacramento, a new state building informally called "Site 1-A" exhibits numerous combined methods of building for minimum energy consumption. Executed under two successive state architects, Sim Van der Ryn and Barry Wasserman, the design was the principal responsibility of Peter Calthorpe, Bruce Corson, and Scott Matthews.

Discussion of P/A's Energy Analyses was held during the AIA Convention in May. An article relating part of that dialogue will appear in August.

Interiors of two very different clients will also be featured. Sunar's new showroom in New York, by Michael Graves, is just opening. Piero Sartogo and Jon Michael Schwarting are the architects for the other featured interior, also in New York—the Italian Trade Center.

P/A in September will again be an interiors special issue, "Interior design: An archeological dig into the present."

Products continued from page 158

A water-saver kit, designed for installation in Royal flush valves now in use is said to reduce water consumption by as much as 22 percent. The saving of one gallon of water with each flush reportedly does not decrease effectiveness of the flush in 98 percent of laboratory and field tests performed. The retro water kit is completely assembled and can be installed in less than three minutes. Sloan Valve Co.

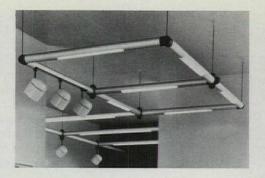
Circle 116 on reader service card

Caribou armchairs, with oak or walnut frames, have legs or sled bases. Closed arms are either hardwood or fully upholstered. Cushions are polyfoam with fabric upholstery. Tuohy Furniture Corp.

Circle 117 on reader service card

Other literature

A directory of landscape contractors contains over 900 listings for commercial landscape contractors throughout the U.S. It lists name, complete address, and telephone number for each and company specialties. Cross-indexing is provided by state and by individual name. The directory is available to specifiers of landscape contracting work. For a copy of 1981/1982 Who's Who in Landscape Contracting, send \$3 to ALC Publications, 1750 Old Meadow Rd., McLean, Va 22102.



The Tubular Lighting System combines incandescent track and fluorescent tube lighting. The 3-in.-diameter tubes, housing either single-circuit track or a series of fluorescent tubes, can be joined by any of a variety of couplers to create the desired configuration. Blank tubes are available for use where lighting is not needed. Finish is anodized or enamel. A 16-page brochure illustrates and describes the components and provides photometric and technical data. Staff Sales, Inc.

Circle 207 on reader service card

Turn of the Century Lighting Standards brochure illustrates some of the company's specialty lighting on standards. Models have from one to five lights. There are several stock and special finishes available. Also discussed is the company's ability to custom design poles. Western Lighting Standards. Circle 208 on reader service card

'The Wood Truss Handbook,' for architects and engineers, provides informa-

tion about theory, preliminary design, computer design assistance, roof and floor truss details, and special applications. Copies of the hard-bound manual at \$12.50 each are available from Gang-Nail Systems, P.O. Box 59-2037 AMF, Miami, Fl 33159.

EFG 601 exterior flush glazing cladding system meets ASTM E330-70 standard test for structural performance and ASTM E331-70 standard test for water penetration of exterior windows, curtain walls, and doors. The concealed metal retaining frame provides an unbroken façade. Spandrelite® glazing can be used for low reflectance, Solarcool® for high reflectance. A 16-page color brochure illustrates typical installations and provides a sample specification. PPG Industries, Environmental Glass Sales.

A central control system for energy management uses existing wiring to control lighting, business equipment, vending machines, meters, fans, air conditioners, heaters, and water coolers at considerable savings compared to dedicated wiring. The system consists of a command controller with keyboard, wall receptacle modules, wall switch modules, and box-mounted switch modules for junction boxes, fixtures, or near panels for controlled loads. The controller plugs into any 120 V outlet. Leviton Manufacturing Co., Inc.

Circle 210 on reader service card [Literature continued on page 166]

Circle 209 on reader service card



A LIMITED FACSIMILE EDITION of Karl Friedrich Schinkel's Sammlung Architektonischer Entwurfe, "Collection of Architectural Designs" is now available for immediate delivery from Exedra Books Incorporated. Fully respecting the delicate lithography of the 1866 edition, this new volume maintains the eighteen by twenty-four inch format and includes all 174 original plates plus the first complete English translation of Schinkel's own descriptive commentary. A preface by Mr. Philip Johnson and scholarly essays by Dr. Hermann G. Pundt, author of Schinkel's Berlin, and Professor Rand Carter provide contemporary criticism. This new edition of Schinkel's timeless work is limited to one thousand volumes, each in its own boxed folio.

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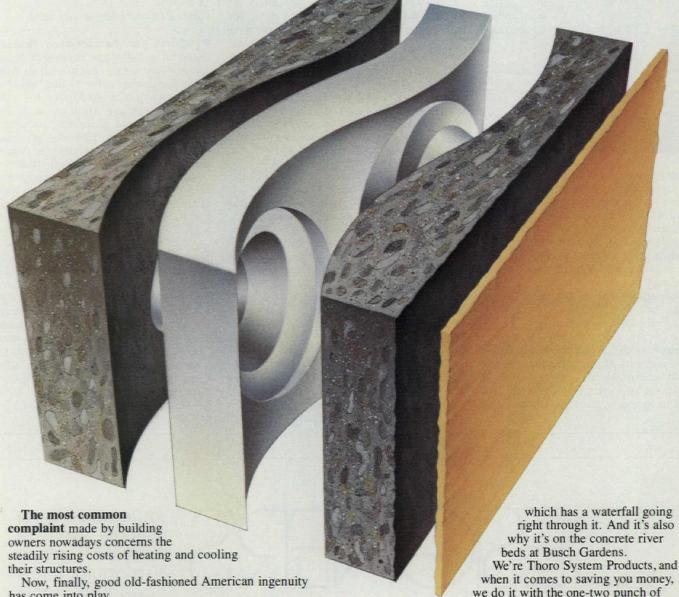
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Renovation ceilings that can be installed over existing ceilings are described in an eight-page brochure, with illustrations of typical installations in full color. Special carriers are attached to existing T-bars, and ceiling panels are snapped in place. They can be installed around existing lighting and ventilation. The ceilings come in a variety of contemporary and classic colors. Hunter Douglas, Inc.

Circle 211 on reader service card

'The Humus '80' composting toilet operates without plumbing connections, water, or chemicals. It requires only a venting pipe and an electric outlet. Developed in Sweden, the unit has a white

polystyrene shell and galvanized steel stirrer mechanism. It comes with an installation kit that includes humus starter, ventilation pipe, insulation, and roof flashing. A six-page brochure explains the composting process. Future Group/Sanitation.

Circle 212 on reader service card

Profilewood paneling is installed by means of clips that are stapled or nailed to furring strips. The clips not only protect the wood from nail holes and hammer dents, but allow room for expansion and contraction. The paneling also may be applied vertically with mastic. Panels are clear grain hemlock, fir, cedar, redwood, and spruce. An eightpage color brochure provides information about installation, woods available, insulation value, and flame spread rating. Ostermann & Scheiwe USA. Circle 213 on reader service card

Wood lateral files with walnut or oak finishes, in two- or four-drawer models, are described and illustrated in a four-page brochure. They are equipped with a mechanism that permits only one drawer to be opened at a time, in order to maintain balance and stability. They have a central locking device and letter or legal size filing capacity. Matching bookcases are also shown. Kimball Office Furniture Co.

Circle 214 on reader service card

Slimbrick® veneer is kiln-fired clay brick, ½-in. thick, for interior and exterior nonstructural wall covering. It

comes in two sizes— $3\frac{1}{2}$ " x $1\frac{1}{2}$ " x $\frac{1}{2}$ " and $2\frac{1}{2}$ " x $7\frac{1}{2}$ " x $\frac{1}{2}$ "—and five basic colors: Colonial, chocolate, toast, white, and adobe. Special sizes and colors are available on request. The four-page brochure describes the products, shows colors, illustrates typical installations, and provides suggested specifications. Interpace Corp., Structural Products Division.

Circle 215 on reader service card

Products for barrier-free design are listed in a 400-page catalog of approximately 500 items. Each section has general comments about the values and problems of the products for the disabled. There are appliances, hardware items, bath and plumbing fixtures, and other items that provide accessibility. Copies of Product Inventory of Hardware, Equipment, and Appliances for Barrier Free Design are \$20 (\$12 for nonprofit organizations). Order from The National Handicap Housing Institute, 12 South Sixth St., Suite 1216, Minneapolis, Mn 55402.

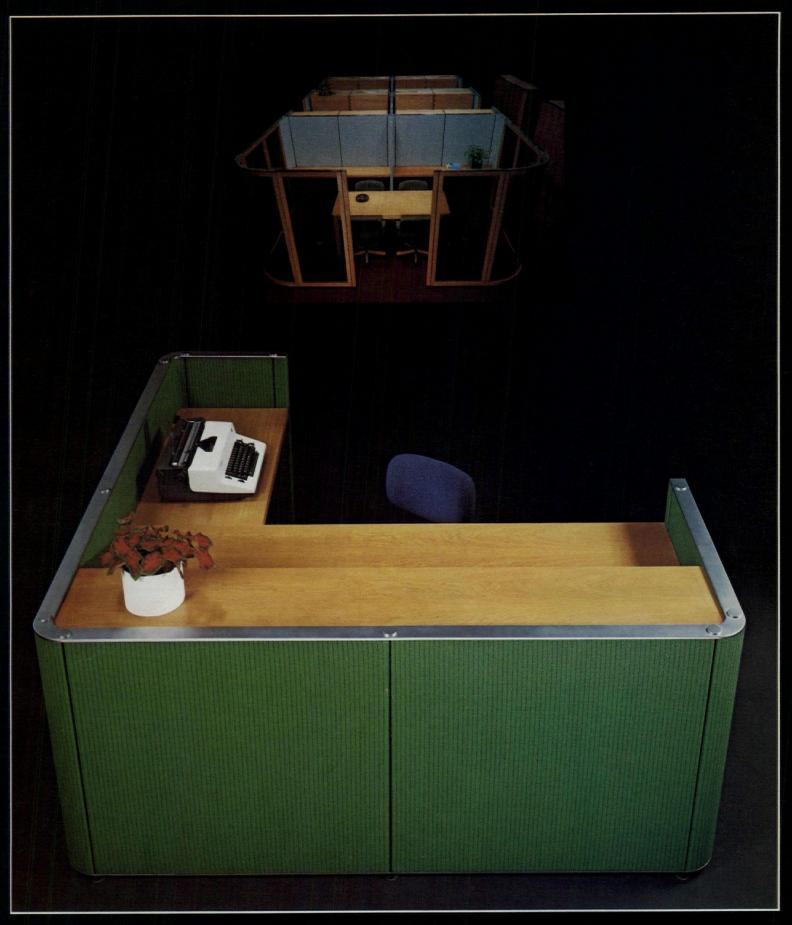
Decorative fountain installations are illustrated in full-color in a 16-page brochure. The fountains are offered in a variety of spray patterns and lighting effects. One is a self-contained fountain, the Aquavator, complete with submersible lights. A companion catalog provides specifications for patterns, lights, and pumps, along with installation information. Rain Jet Corp.

Circle 216 on reader service card [Literature continued on page 168]

DESIGNERS SATURDAY OCTOBER 16th and 17th

You're invited to the interiors event of the year. More than 40 manufacturers open their doors to what's new in design. Gala at the Metropolitan Museum. Mark your calendar now and watch P/A for news of this event.

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Circle 217 on reader service card

Building materials

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

Santa Monica Place, Santa Monica, Ca (p. 84). Architects: Frank O. Gehry & Associates; Gruen Associates, consulting architects. Structural steel: Stockton Steel. Exterior cladding panels, doors: Kawneer. Quarry tile: Gail International. Roofing: Johns-Manville. Paint: Sinclair Paint. Hardware: Rixson, Schlage, Adams-Rite, LCN, Von Duprin. Elevators, moving stairways: Montgomery. Handrails: Ornamental Specialties. Lighting: mc-Philben. Air conditioning: Western Air & Refrig.

Uncle Sam Atrium, Troy, NY (p. 90). Architects: Geoffrey Freeman Associates, New York, and ELS Design Group, Berkeley, Ca. Reinforcing for concrete foundations: Bethlehem Steel. Steel frame structure: Phelps Steel. Brick cavity wall: Colonie Block. Glass: L.O.F. Aluminum curtain wall: Kawneer. Metal panels: E.G. Smith. Aluminum frame skylights: Fisher Skylights. Aluminum frames for doors: Kawneer. Interior doors: Steelcraft. Acoustic ceiling: Armstrong. Hydraulic elevators: Montgomery. Oak rail on steel balustrade: Terminal Millwork.

Plaza Pasadena, Pasadena, Ca (p. 94). Architects: Charles Kober Associates, Los Angeles. Precast concrete: Spancrete. Reinforcing steel: Bethlehem. Metal deck: ASC Pacific. Face brick: Pacific Clay Building Products, Angeles Block. Tile pavers: Gail International. Glass at main entrance, 3/4" clear: PPG. Entrances: Kawneer, PPG. Hollow metal doors: Krieger Steel Products. Roll-up steel doors at service areas: Cookson. Brick pavers: Endicott Clay Products. Toilet room tile: American Olean. Aluminum slat ceilings: Sierra Acoustics. Office ceilings: Armstrong, with Donn suspension. Built-up mineral surface cap roofing: OCF. PVC waterproofing membrane: Richmond. Fiberglass roof insulation: OCF. Roof drains: Zurn. Interior partitions, gyp-sum board on metal studs: Dom-tar, Angelus Metal Systems. Paint: Ameritone Paint Corp., Dunn-Edwards.

Hinges: McKinney Mfg. Locksets: Falcon Lock Co., Adams-Rite, Reading-Dorma Closer. Panic hardware: Von Duprin. Stops and thresholds: Builder's Brass Works. Main entrance push/pull hardware: Julius Blum. Security cameras: CCTV by Panasonic. Communication control panel: Dukane Corp. Tree-well grates: Canterbury Design Group. Expansion joint covers: M.H. Powell, Metalines. Fiberglass planters: The Chandler Co. Hydraulic elevators: Montgomery. Handrails, oak on aluminum pickets: Hejlik Cabinets, Ornamental Specialties. Lighting (mercury vapor pole- and bracket-mounted, inside and out, with special refractors): Sterner Lighting Systems. PVC conduit (exterior lighting): Carlon, R.G. Sloane. Rigid aluminum conduit (interior): Kaiser, VAW. Switch gear: Westing-house, GTE Sylvania. Rigid steel and EMT conduit: Western Tube, Allied, Torrance Tubing. Water closets and counter lavatories: American-Standard. Toilet seats: Church. Flush valves: Sloan Royal. Steel, floor-mounted toilet stalls: Global Steel Products. Stainless steel washroom equipment: Bobrick. Water fountains: Haws. Sprinklers (chrome flush and pendant): Reliable Automatic Sprinkler. Air-conditioning system (v.a.v. rooftop units for tenants; package-type rooftop units for mall, electric): The Trane Co. Carbon monoxide monitoring system, underground garage: Beckman Instruments. Food court canopies and umbrellas: Canvas Specialties.

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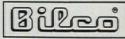


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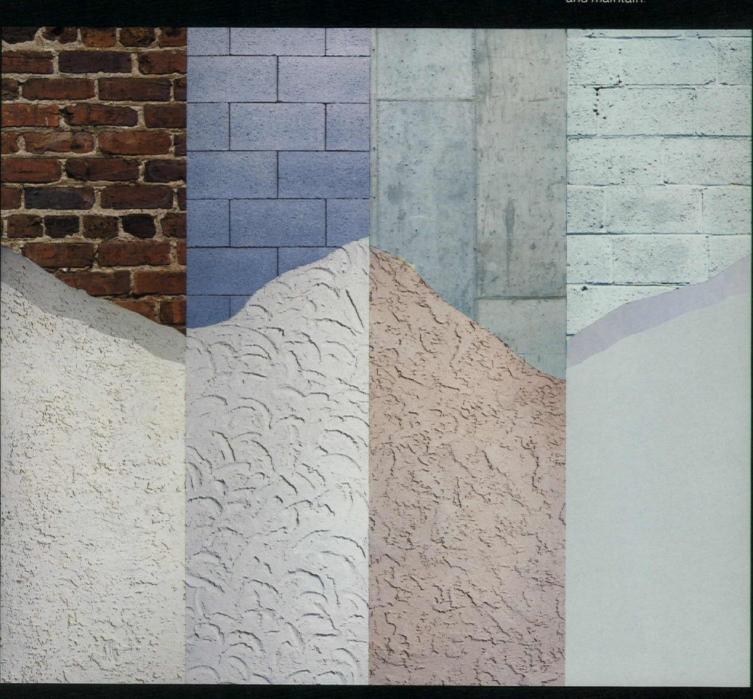
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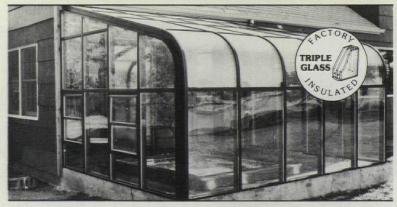
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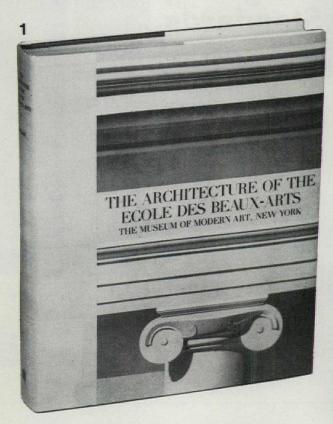
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[continued on page 174]

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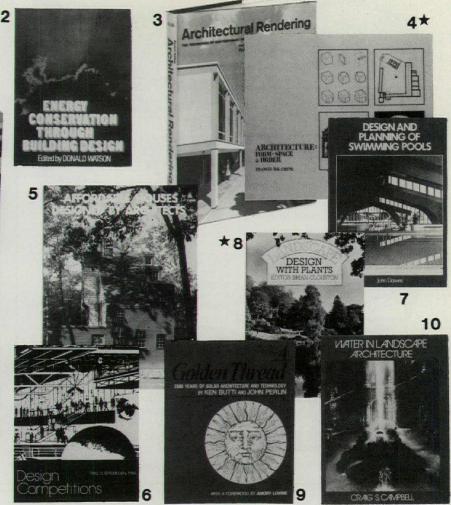
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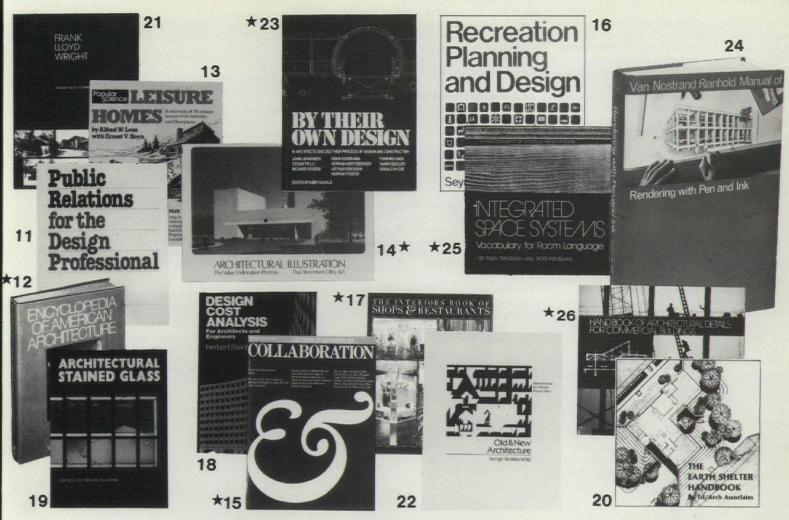
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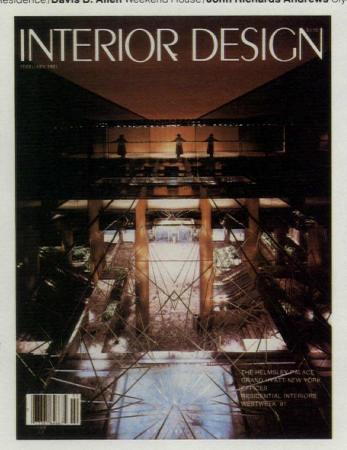
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