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MPA

WABP



(ABC

September 1978

Progressive Architecture

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Interior design

16D1 **Designer's Saturday**

A special section, appearing only in P/A's Eastern edition, outlines the events and new products to be seen at this three-day weekend in New York.

Introduction: Interior design: What is it? Who does it? 69 Interior designers are professionals, often architects, who prefer to

design, from the beginning, within the context of the architecture.

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Seven design professionals, in a roundtable discussion, are unanimous in their feeling that interior design is an integral part of architecture.

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The interior designs of Frank Gehry are sometimes simple and well-ordered, often experimental and far-out-but always imaginative in either case.

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Two interiors designed by Francisco + Aldo Piccaluga, Inc., far apart in cost, point up the benefits to be realized by close control of design.

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Comfortable, undated, uncluttered styling characterizes the work of Ward Bennett who believes in the 'total design' approach to a project.

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In eleven years, Stephen Kiviat and James Rappoport have expanded their small shop into Atelier International catering to the contract market.

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Although primarily an architect, Emilio Ambasz works in a wide range of design fields, combining grace with utility in items of everyday use.

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The husband-and-wife team of Lella and Massimo Vignelli, both architects, pursues interior design in a disciplined way, enlivened with creativity.

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Cover: Axonometric of offices by Frank O. Gehry & Associates, Inc. Drawing by John Clagett. Design by George Coderre, assisted by Susan Newberry.



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The other side of architecture

September 1978

The Bauhaus embodied a dream that all design, from textiles and graphics to buildings and city planning, would be part of a sympathetic continuum. It was a dream that had been realized before—in the Chinese court and in the domains of Louis XV, for instance—but the complexities of modern life made this ideal almost impossible to attain in our century. The best we could hope for, it seems, was to match the design consistency of the best turn-of-thecentury works of Gaudí, Wright, and Hoffman.

All along, there has been an established set of building types in which interior and exterior are expected to be under unified design control: banks, libraries, theaters, churches, and ceremonial portions of public buildings. But the majority of the buildings in our world—houses, apartment buildings, office buildings, shopping centers—are empty shells ready for interiors that meet the needs and whims of their occupants. The ideal of consistency between container and contained in these cases is not only hard to achieve, but—in our pluralistic society—it is not even defensible as an objective.

The differences between interiors under control of the architect and those assigned to the occupant were clearly established back in the 19th Century. Louis Sullivan could give the most meticulous attention to the interior of a bank or a theater, but in an office or government building, his control stopped at the lobby. These limitations were then accepted by architects of all persuasions. One of Frank Lloyd Wright's great innovations was to carry out the interior design of whole office buildings—for Larkin and for Johnson's Wax. And, as in his houses, his way of integrating the design made it virtually unthinkable to redo the insides. In more recent decades, firms such as SOM and Roche/Dinkeloo had some signal successes in total inside-outside design.

But meanwhile a whole profession had grown up to complete all those square feet left to the occupants' discretion. In this scheme of things, interior design tended to be a less serious art—throw-away design that could be much more personal, more responsible to passing fashion, and, frankly, much flimsier than anything architects were trained to work with. (In the magazines, publication of residential or commercial buildings has traditionally involved a good bit of worry over the design treatment of the typical living room or corner office.) The interior designer was not subject to licensing authorities, nor was the work bound by building codes. The more imaginative designers could create theatrical environmental effects where Modern architects would have imposed more puritanical strictures.

But these distinctions are getting blurred. Architects with more inclusivist attitudes are once again interested in the potential of interiors for visual experiment, for whimsy, for ambiguity and complexity. Interior design has become increasingly an accepted means for young architects to show their capabilities (and go on to major buildings, while continuing to do interiors, as Stanford White did decades earlier).

In the recent economic crunch, of course, architects sought interior design commissions—for other than their own buildings—to an unprecedented extent. And interior design firms, which had been acquiring a good deal of professional maturity in recent decades, have given them some very formidable competition. Again, the distinction is blurring, since some interiors firms now find it vital to have architects on their staffs, just as architects have long encompassed interior design departments—some functioning as in-house firms. (For a thoughtful discussion of these fluid professional roles, see p. 70.)

P/A takes no sides as to which type of firm should have responsibility for the interior. Even in a building with strong identity between inside and outside, such as the new St. Peter's Church in New York (p. 102), there is no doubt that the whole benefited from the collaboration of an independent designer with the building architects. On the other hand, the interiors of the Charlestown Savings Bank surely benefit from the sympathetic work of the architects' own interior design department (Long live the Bauhaus!). We feel it is constructive to consider, in this issue, who does the interior design—and what remarkably varied capabilities and backgrounds they bring to the work. But whoever does it, what really matters—what we really want to examine for our readers—is the quality of the result.

John Maris Difa

How saving money on roof insulation is a quick way to go broke

NEW CONSTRUCTION Economic Insulation Amount– Heating and Cooling

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But there's more to come. The original equipment cost for heating and cooling our not so farfetched example could run as high as \$1,900,000. How's that for a quick way to go broke!

R = 16.67

C = .06R = 14.29

C = .07

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ance: 1.50—summer, 1.11 winter. Insulation ³4″ fiber glass.

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| Fiberglas Roof Insulation Thermal Values | | |
|---|------------|-----------------------------|
| <u>''R''</u> | <u>"C"</u> | Nominαl <u>Thickness</u> |
| 9.09 | .11 | 2-1/4" |
| 7.69 | .13 | 1-7/8″ |
| 6.67 | .15 | 1-5/8″ |
| 5.26 | .19 | 1-5/16" |
| 4.17 | .24 | 1-1/16" |
| 3.70 | .27 | 15/16" |
| 2.78 | .36 | 3/4" |
| | | |

| FURI Insulation Thermal Values | | | |
|-----------------------------------|------------|-----------------------------|--|
| <u>''R''</u> | <u>"C"</u> | Nominal <u>Thickness</u> | |
| 20.00 | .05 | 3-3/4" | |
| 16.67 | .06 | 3-3/16" | |
| 14.29 | .07 | 2-5/8" | |
| 12.50 | .08 | 2-3/8" | |
| 11.11 | .09 | 2″ | |
| 10.00 | .10 | 1-13/16" | |
| 9.09 | .11 | 1-11/16" | |

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Views

Darth Vader drafts

Just got my first look at your July Star Wars issue. It's handsome, exciting, and scary. If the Hopkins house becomes a trend-setter in residential architecture, the average household's antimacassar and aspidistra budget should drop to almost nothing. *Marilyn E. Ludwig San Francisco, Ca*

High Tech in the wind

Rarely do I take time to write to editors of any magazine or journal. However, your editorial in the July, 1978 issue of PA prompts me to do so.

I remember Mies van der Rohe saying to me one time that he would not use materials that were new or untested in actual construction. He said that the only materials to build with were those that we know will perform as we expect them to. He is often quoted as having said "God is in the detail."

During a recent visit to Chicago, I returned to the Lake Shore Drive Apartment Towers that Mies had done in the fifties. Twenty years later they are in bad condition. The detailing has failed. Water and wind have taken their toll.

The point I want to make is this. Buildings in the so-called "High-Tech" style as well as the many others built today regardless of style or "content" still have to face wind and water. These two among others are constants for any architect. It is in the detailing of the building that an architect succeeds or fails. The judgment will be made of our work once it has withstood the sun baking it, the rain beating upon it, the ice splitting it and all those other facts of life that words cannot confront.

There are traditions in detailing and there are details that are not new—details that have been tested. Perhaps what Mies said about materials should be said about details. I suspect that a visit to many of the "High-Tech" styled buildings (and those of other "content") 20 years after they are built will provide you with the truth. The Lake Shore Drive Apartments provide real evidence of the fact that there is no God, only truth, and truth is in the detail. Delbert Highlands AIA Highlands & Gilberti Architects Pittsburgh, Pa



Dark brown plastic panels clad Rotork Controls factory in Cambridge, Md (1972), virtual twin of the company's factory in Bath, both by the Farrell/Grimshaw Partnership.

Stateside cousin

Readers of the article on the Herman Miller Ltd., Bath, England factory in your July issue may be interested to know that Architects Farrell/ Grimshaw designed a building in Cambridge, Maryland in 1972. The project was a small light industrial building and incorporated the fiberglass panel type design for which they are becoming well known.

Raymond R. Firmin, Vice President Hanscomb Associates Inc. New York, NY

The subject of murals

In previous visits to Boston I have admired the Boston Architectural Center and I was appalled to see in P.A. July 1978 that a COLONIAL Mural has been painted on its west façade, not by accident; your article mentioned that it took two years to plan.

I am a conservationist, but Colonialism belongs in Colonial buildings not in a Modern Masterpiece of Architecture. To top it all the artist Richard Haas was given the Gold Medal by the American Institute of Architects. His art work may be great but he should have tried a modern mural in a modern building. A good example of this is the Bacardi building on Biscayne Blvd., Miami, which has a white and blue ceramic tile abstract mural on its façade.

There is nothing wrong in painting buildings when appropriate subjects are chosen. How will the AIA like to have a mural of the Capitol painted in the façade of their headquarters in Washington?

Ramiro Palma, Architect

Orlando, Fl

[It is indication of the rate of change in our profession that P/A, the Boston Architectural Center, and the AIA jury all consider this mural appropriately modern. We do not, of course, see it as "Colonial." It is, in fact, based on presentation techniques of the 19th-Century Ecole des Beaux-Arts; as such, it seems to us a timeless reference to the process of architectural design. For a Bacardi building, something else might be appropriate.—Editors]

Aftertaste

Your recent issue devoted to Taste in America (June, 1978) was a delight, and made for stimulating reading. It was a masterful piece of architectural journalism. Special compliments must go to Suzanne Stephens for her brilliantly funny piece "Purveyors of Taste.".

Humor, and the ability to laugh at ourselves can help us cope with MacDonald's, the interiors of Delmonico's, and even with Philip Johnson's new AT&T building. *Arnold Friedmann, Designer Hadley, Ma*

I would like to congratulate you on an excellent issue (June) and your delightful sense of humor and sense of perspective on our "industry." I have seldom if ever devoured a professional journal from cover to cover and looked for more to read—much less quoted and read aloud from it at dinner parties. Your magazine parodies were delightful, especially the recipe in "Hearth and Vegetable" and the family history of the eyeball paperweight in "Architectural Digress." You got them all where it hurts the most. I would love to know if their reactions responded in kind.

I, like you, have always had personal questions regarding the desirability and "place" of developments like River Hills and think you portrayed it fairly in its context.

In closing I'll share my favorite professional salve with you: "Nobody ever went broke underestimating the taste of the American Public." Again thanks and congratulations on "Taste in America."

Clarke Plaxco Director of Community Planning Brandermill, Midlothian, Va

McDonald's: your kind of place?

Popular acceptance, the passage of 25 years, and writers like David Morton (June '78 issue) have finally brought McDonald's golden arches to architectural respectability. I'm pleased, because I have the dubious distinction of being the first to put those arches to paper, along with the original red and white candy-stripe tile.

Most of the presently popular articles on the origin of the McDonald's phenomenon become somewhat hazy when they deal with the pre-Ray Kroc period, and Mr. Morton's is no exception. There are a few points I'd like to comment on from personal experience.

While Mr. Morton correctly minimizes the original function of the arches, he attaches an early symbolism to them which simply didn't exist. When Richard and Maurice McDonald described to me and my employer in late 1952 what they wanted, the arches had no symbolism other than their attention-attracting shape. Mr. Morton's suggestion (which I have heard before) that Saarinen's Gateway Arch might have influenced their design is pure speculation. There was no indication that the St. Louis arch was on the McDonalds' minds in 1952, and it certainly was not in mine. The specific parabolic shape of the arches was plotted on my drawing board from a 1949 or '50 school exercise involving a similar mathematical curve.

[Continued on page 15]



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Views continued from page 10

The mid-50's first model in Cincinnati pictured on page 66 is actually two or three years and several generations removed from the true first model. The glass-enclosed customer area was an add-on when Mr. Kroc leap-frogged franchise development from southern California to the midwest climate, and the squashed shape of the arch was the result of several redrawings of the curve by other hands after mine.

The first true "golden arches" model constructed (there were several earlier McDonald's "stores" in remodeled southern California driveins which were used to develop and refine the system) was completed in January, 1954, in Alhambra, California, near Los Angeles. One of the first two or three units, still well maintained and in active business, is on Foothill Boulevard in Azusa, California, but the one built later in 1954 at the McDonald brothers' headquarters on E Street in San Bernardino was demolished long ago. All that remains is a fragment of the street-front sign arch, and there is no bronze historical marker in sight among the weeds.

My thanks to Messrs. Morton, Abbott, and Grosvenor for helping me relieve my mind on the question of "taste" as it applies to those arches. They were drawn within my first year out of school, and I suspect that few architects have been confronted so long and insistently with an early creation.

Charles W. Fish, AIA Bird, Fujimoto & Fish AIA Architects San Diego, Ca How disappointing to see P/A publish David Morton's sycophantic and facile article on McDonald's. This is not to say that McDonald's is not architecture, but rather that Mr. Morton has misplaced the meaning of the significant and telling architecture that it is.

It is a mistake to look upon McDonald's as an expression of popular culture and taste. McDonald's architecture does embody some of the essence of our society, and does change as the society does. Yet the architecture of McDonald's is one created by a small group of corporate architects, designers, and executives, whose distance from the people who actually eat at McDonald's is shown very clearly by the necessity for regulations requiring this group to spend time in their stores.

I think of the 4000-plus small restaurants that might have survived or been started if 4000 McDonald's did not exist, and of how much more those restaurants would reflect popular culture, architecturally and otherwise. The sad truth of the matter is that the "culture" we have allowed McDonald's to create for us is an alltoo-barren one. The architecture, like the food, is overwhelmingly standardized and uniform, and to speak of an emphasis on "personalizing" individual McDonald's stores is to discuss a phenomenon about as significant as painting the little boxes made of ticky-tacky different colors.

McDonald's is not involved in reflecting the taste of the American people but rather in creating a mass-culture, lowest-commondenominator, highly depersonalized set of commercial establishments which are impoverished—architecturally, gustatorially, socioculturally. If, as Mr. Morton tells us, McDonald's is a worthy object of study for what it reveals about us, we should not act so proud of the revelations we find there. *Bill W. Prince, Student Atlanta*

Credit extended

Friday Architects/Planners, designers of the Old Pine Community Center (June P/A, p. 74) have identified the rest of the "young group of architects" in their office as Donald Matzkin, Lynn Bensel, Frank Mallas, and Terry Garfield—the first three of which were directly involved with the community center.

Team credits

Harry Weese & Associates informs us that, while they are competing for the prime architectural contract in the Level III Design Competition for a new master plan for the Federal Triangle in Washington, DC (P/A, July 1978, p. 21), there are nine subcontractors: transportation planning, Barton-Aschman Associates, Inc.; socioeconomic analysis, Economics Research Associates; landscape architects, Zion & Breen Associates, Inc.; architectural historian, Dr. James Marston Fitch; architect, Louis E. Fry, Jr.; structural consultants, James Madison Cutts, Consulting Structural Engineers; mechanical & electrical engineering, Smith & Faass, Consulting Engineers, Inc.; lighting consultant, Claude R. Engle; cost estimating, Turner Construction Company.



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You're invited ... Designer's Saturday New York October 6–7.

Friday and Saturday October 6 and 7

Designer's Saturday 1978

The eleventh Designer's Saturday will be held on October 6–7 in the New York showrooms of the members of Designer's Saturday, Inc. New introductions will be shown in all showrooms. Special student's day October 5th.

GALA-Metropolitan Museum, Saturday evening, October 7th, from 7–9 PM.

Special hotel rates are available for those attending Designer's Saturday.

For more information, write Designer's Saturday, Inc. P.O. Box 1103 F.D.R. Station New York, NY 10022

- 40 E. 49 St: Cumberland Furniture Corp.
- 299 Park Ave: Steelcase, Inc.
- 515 Madison Ave: Brickel Associates, Inc.
- 689 Fifth Ave: Vecta Contract
- 160 E. 56 St: Edward Axel Roffman Associates, Inc.
- 919 Third Ave: Harter Corp.
- 136 E. 57 St: CI Designs

- 145 E. 57 St: ICF, Inc. (International Contract Furnishings)
- 950 Third Ave: Castelli Furniture, Inc. Stow/Davis Furniture Company
- 745 Fifth Ave: B&B America Knoll International
- 595 Madison Ave: Atelier International, Ltd.
- 600 Madison Ave: Herman Miller, Inc.
- 150 E. 58 St: Airborne/Arconas Corp. Intrex, Inc. J.G. Furniture Company, Inc. Lehigh/Leopold Furniture Sunar Limited
- 979 Third Ave: Metropolitan Furniture Corporation Harvey Probber, Inc. John Stuart International, Inc.
- 315 E. 62 St: Helikon
- 321 E. 62 St: The Pace Collection, Inc.
- 410 E. 62 St: Stendig, Inc.
- 305 E. 63 St: Beylerian Limited Dunbar
 - Thonet Turner Ltd.
- Fifth Avenue & 82 Street: The Metropolitan Museum of Art





Designer's Saturday participants:

Airborne/Arconas Corp. 150 East 58 St.

Atelier International Ltd. 595 Madison Ave.

B & B America 745 Fifth Ave.

Beylerian Limited 305 East 63 St.

Brickel Associates, Inc. 515 Madison Ave.

Castelli Furniture, Inc. 950 Third Ave.

CI Designs 136 East 57 St.

Cumberland Furniture Corp. 40 East 49 St.

Dunbar 305 East 63 St.

Harter Corp. 919 Third Ave.

Helikon 315 East 62 St.

ICF Inc. (International Contract Furnishings) 145 East 57 St.

Intrex, Inc. 150 East 58 St.

JG Furniture Company Inc. 150 East 58 St.

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Lehigh-Leopold Furniture 150 East 58 St.

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John Stuart International Inc. 979 Third Ave.

Sunar Limited 150 East 58 St.

Thonet 305 East 63 St.

Turner Ltd. 305 East 63 St.

Vecta Contract 689 Fifth Ave.



Something to write howe

As Designer's Saturday enters its second decade, it becomes clear how well it has succeeded in living up to its original purpose. Back in 1967, a small group of contract furnishings manufacturers and distributors in New York decided to open their showrooms to the design profession on a Saturday, creating a convenient and unique opportunity for those outside the city to visit outside of normal business hours. Those initial Designer's Saturday participants decided to limit membership in this small group to those firms which have a real commitment to the design, and not merely the selling, of quality contract furnishings.

Thus, Designer's Saturday itself would be the first to admit that there are larger shows, more comprehensive shows, shows with much wider appeal to the full spectrum of the interior design profession. But that's just the way they want it. By purposely limiting the size of their show ("a mini-mart," snorted one participant in the vastly larger NEOCON show in Chicago), the Designer's Saturday group has also limited its offerings to the full range of interests of an admittedly smaller, but likewise much more select, group of interior designers, architects, and specifiers. Thus the impact of what's introduced at Designer's Saturday can indeed have a much larger effect on interior design trends than its larger rivals, both national and regional. The main reason for that? Well, it can be summed up in four words . . .

New York, New York

New York's central place in several key industries involved with the dissemination of design ideas makes the impact of this small but highly influential show easily understandable. As the center of the interior design and architectural professions in this country (there are more design firms in New York than in any other city in the country), it is no wonder that this city produces more (and higher quality) visitors per exhibitor than any other show of its kind. New York is also the national center for several interior design product areas—fabrics, imports and antiques, and "accessories"—that are also of interest to many Designer's Saturday attendees, making a trip to New York for the show even more comprehensive. And, as the nerve center of the design media, New York is the place where the new trends in interior design begin to enter the pages of dozens of design and "lifestyle" publications, and then the consciousness of the American public in general. Besides, after traveling to marts in more or less remote places (some of which, alas, are exceedingly dull), the idea of taking a business trip to New York (especially in the early fall, its most glorious season of all) comes as a most enticing opportunity to all but the most jaded business travelers.

So what's new?

In the following pages you will see selected new offerings (but by no means all of them) from each of the 29 Designer's Saturday participants. But there's much more than that, too. For one thing, this is the first year that Designer's Saturday will be functioning on a three-day schedule. As those who have attended Designer's Saturday for the past few years have noted, the number of interior design and architecture students attending (especially) the weekend day of the show has grown tremendously. Realizing, though, that the students' interests are not necessarily those of the practicing designer or architect, Designer's Saturday and the Institute of Business Designers (IBD) have organized a special "Student Rally" to be held on Thursday, October 5. A complete listing of that day's programs and events can be found further on in this Designer's Saturday special section, on p. D24. Few of the students (or architects and designers, for that matter) who will be attending Designer's Saturday this year probably know anything about Designer's Saturday's awards program, one of the best-kept secrets of this annual event. Further information about that important, and unfortunately underpublicized, aspect of Designer's Saturday's commitment to the design profession can be found on p. D4.

Get me to the shrine on time

One of the most eagerly awaited bits of news about Designer's Saturday is inevitably, "Where's the party going to be?" This year, it can be reported, Designer's Saturday has held to its tradition of providing spectacular settings for its big wrap-up fête. Its coup this year is its obtaining permission to hold the annual gathering in the fabled Temple of Dendur, the reconstructed ancient Egyptian shrine that will have been officially opened only a few days



earlier at the Metropolitan Museum of Art on upper Fifth Avenue. Dramatically housed in a huge, glittering glass vitrine designed by Roche, Dinkeloo & Associates, the Temple of Dendur is as timely a location as it is a theatrical one-for as the design industries feel the full impact of the Tutankhamania that has yet to reach its peak in the US, what could be a more appropriate setting? Long known for its originality in providing imaginative locales for its Saturday night bash, Designer's Saturday will have a great deal of trouble topping this one next year.

The new seriousness

This talk of temples and good times had by all should not mislead one into thinking of Designer's Saturday as a frivolous occasion, a chance to write off a busman's holiday to New York. The 29 members of Designer's Saturday have together decided to limit the nonprofessional aspects of their showroom programs this year, emphasizing not exotic buffets or novel giveaways, but rather the person-to-person contact with concerned and knowledgeable designers, architects, and students. What started out in the spirit of having a few friends over for a drink has grown to a show of major proportions, and the competitive entertainment among the Designer's Saturday participants grew accordingly. But now that the show has so clearly emerged as an important annual learning experience for so many of its attendees (especially for those from parts of the country where there are no showrooms such as these), Designer's Saturday has decided to put the emphasis back on the products, where it ought to be.

A decade of excellence

All of this is quite in keeping with the increasing professionalization of the interior design industry, and by and large it is a reordering of priorities that Designer's Saturday believes it is within its best interests to uphold. As one of the first groups to recognize that interior design was more than a commercial venture, the founders of Designer's Saturday have grown to include other like-minded manufacturers who also believe in innovation, good design, and responsiveness to design professionals. Entering its second decade, it really can be said that Designer's Saturday is something to write home about.

Something to

The Designer's Saturday Student Scholarship Program The second annual Designer's Saturday Student Scholarships will be awarded at the annual reception at the Metropolitan Museum of Art on Saturday evening, October 7. The \$3000 award has been given this year to the Fashion Institute of Technology in New York, which will in turn present three scholarships (\$1500, \$1000, and \$500 respectively) to three students from its Department of Interior Design. The names of those students will be announced at the reception by FIT Interior Design department chairman Albino Cimonetti. This year's awards jury included Mr. Cimonetti; John Mascheroni, ASID; R. Michael Brown, ASID; Nadine Bertin of House & Garden; Jack Lowery, ASID; Giorgio Cavaglieri, AIA; and Mario Buatta. Last year's winner was Pratt Institute.

You are cordially invited to attend The Annual Designer's Saturday Evening Gala on Saturday, October seventh from seven to nine o'clock The Lila Acheson Wallace Egyptian Collection The Temple of Dendur The Metropolitan Museum of Art at Fifth Avenue at Eighty-second Street New York r.s.v.p. Designer's Saturday P.O. Box 1103, FDR Station New York, New York 10022 Ten dollars per person

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On the following pages are 29 postcards from New Yorkone each from the participants in Designer's Saturday. The sights they illustrate are not the familiar New York. landmarks like the Empire State Building or the Statue of Liberty, but rather the new designs that will be introduced for the first time at Designer's Saturday. This collection of outstanding designs is but a small fraction of the new and innovative contract furnishings that will be seen at the showrooms of Designer's Saturday members. But even this partial sampling is sufficient evidence of why Designer's Saturday, in just a little over a decade, has become synonymous with "high-end"-that segment of the market that combines quality with design excellence, the leading edge of design that has an immense influence on the rest of the contract market. Wish you were here!



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Atelier International Ltd.: Cab chair designed by Mario Bellini. Circle 101 on reader service card





Beylerian Ltd.: Elco Linear System by Rodolfo Bonetto. Circle 103 on reader service card





Brickel Associates: Ward Bennett's Alexandria chair. Circle 104 on reader service card



Castelli Furniture, Inc.: Plano folding table. Circle 105 on reader service card





Circle 106 on reader service card



Dunbar: "Task Groups" Table Desk by Jack Dunbar & Lydia DePol Circle 108 on reader service card

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Intrex, Inc.: Armchair redesigned by Robert Haussman. Circle 112 on reader service card



Harter Corp.: Helland-Thurston executive seating. Circle 109 on reader service card



ICF Inc.: FUNCTIONWall system designed by Herbert Hirsche. Circle 111 on reader service card



JG Furniture Co., Inc.: Robin Armless seating by Dave Woods. Circle 113 on reader service card





Knoll International: Zapf Plus System features new options. Circle 114 on reader service card



Lehigh-Leopold Furniture: Sculptures in Wood[®] by Warren Platner. Circle 115 on reader service card



Herman Miller, Inc.: Action Office by Robert Propst. Circle 117 on reader service card



Metropolitan Furniture Corp.: Concentra-2 (547) side chair. *Circle 116 on reader service card*



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Harvey Probber, Inc.: Houston II executive desk chair. Circle 119 on reader service card



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Stow/Davis Furniture Co.: Paradigm Series 180 desk chair. *Circle 123 on reader service card*

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IBD/Designer's Saturday Student Rally New York, October 5, 6 & 7, 1978

For the first time, the New York Chapter of the Institute of Business Designers (IBD) and Designer's Saturday, Inc. will co-sponsor a Student Rally in conjunction with the annual Designer's Saturday program. Over the past few years, student attendance at Designer's Saturday has grown so significantly that special student preview visits to the 29 participating Designer's Saturday showrooms have been arranged for Thursday, October 5. Friday, October 6 will feature visits to IBD trade member showrooms, and on Saturday, October 7 there will be a special day-long seminar/workshop/ luncheon program. A full schedule of the three-day event is given below:

Thursday, October 5

8:45–10:00 AM Orientation and distribution of program portfolio, specific information, free maps and tickets at Cinema I, 1011 Third Ave. (Between 59th and 60th Sts.).

Rest of day Students' Day at Designer's Saturday Member Showrooms. Visit all 29 showrooms and receive undivided attention to questions and requests for information. Refreshments will be served.

Evening The New York Chapter of IBD invites registered participants to be its guests at a *Chinese Banquet* in Chinatown.

Friday, October 6

8:45–10:00 AM Orientation

Rest of day Students' Day at IBD Trade Member Showrooms. Represented are furniture, fabrics, wallcoverings and floorcoverings. A comprehensive survey of the many sources serving the design profession. Refreshments will be served.

Evening Your night on the town, with discounts at restaurants and places of entertainment.

Saturday, October 7

Seminar programs at Fashion Institute of Technology Main Auditorium, 227 West 27th Street (Seventh Avenue)

9:00 AM Introduction:

Leonard Eisen, President, Intrex, Inc., and President, Designer's Saturday, Inc.

Del James Blessinger, President, N.Y. Chapter, IBD. *Pamela Baldwin,* National President and Chairman of the Board, IBD.

9:30–10:45 *How to land a job:* How to function, move ahead, and stay ahead.

Moderator: *Bettye Young*, Manager, Interior Design Dept., Griswold Heckel & Kelly, Inc.

Speakers: Dean Samuel Magdoff, Associate Dean, Parsons School of Design, New York Woody Gibson, Executive Vice President, Architectural & Interior Design Search & Placement, RitaSue Siegel Agency, New York.

Joe D'Urso, President, Joe D'Urso Design, New York. Carol Groh, Skidmore, Owings & Merrill, New York.

11:00–12:30 Contract design—and your options.

Moderator: Juliette Lam, Director of Business Development, ISD, Inc., New York.

Speakers: *Charles Morris Mount,* President, Charles Mount Associates, New York.

Anthony LaBua, Senior Architectural Facilities Planning, IBM, Inc.

Jim Vaughn, President, Related Designs, Inc., New York.

12:30–1:45 Lunch, courtesy of Designer's Saturday, Inc.

1:45–3:00 How to sell your design: to your boss and the client—the various approaches.

Speakers: *Carol Farren,* Designer and Principal, CD/3, New York.

Richard Korchein, Senior Vice President, Saphier Lerner Schindler-Environetics, Inc., New York.

Del James Blessinger, Senior Designer, Saphier Lerner Schindler-Environetics, Inc. New York, and President, New York Chapter, IBD.

3:15–4:30 The New York Design Experience: Where to go. A visual tour conducted by *Suzanne Slesin*, Senior Editor, Esquire Fortnightly Magazine.

7:00–9:00 Designer's Saturday Evening Gala, Metropolitan Museum of Art, Fifth Avenue at 82nd St.

Registration

Registration fee for the three-day event is \$20.00 if students register before September 15, 1978, and is \$30.00 thereafter. Registration forms and further information on the rally are available from:

IBD/New York Chapter P.O. Box 86 FDR Station New York, NY 10022

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News report

P/A survey of interiors market

A survey conducted by P/A shows that 10,800 architectural firms are engaged in interior design as part of their practice, and that 7873 firms actively solicit interiors commissions. In 1979, the architectural interiors market will reach an estimated \$3.4 billion; it has increased 62.9 percent in five years.

These findings are based on a questionnaire sent this year to 3000 P/A subscribers selected at random; the response was 19 percent. Included in the sample were owners of firms, executives, registered staff architects, and interior designers employed by architectural firms or in private practice.

Respondents indicated that 96.5 percent are involved in interiors for new construction and 90.8 percent in remodeling. The category which led the list was office interiors, at 84 percent, followed by banks, 47 percent, retail and educational, 46 percent each, and government, 43 percent.

Award-winning chair store design

A creative approach to the display of chairs won an award for Swaney Kerns Architects of Washington, DC, but didn't prevent the client from closing business at that store, 1700 M St., NW. The new concern is Earl Allen, a dress retailer. "As it turns out, ladies' clothes seem to sell better at this location than chairs," reported project ar-



Chairs and Company interior won a design citation; later converted to clothing store



chitect Alan Hansen, remarking that "adaptive reuse" came to the rescue.

The original client was Chairs and Company which needed a store to sell only chairs; the maximum number of chairs within 900 sq ft was to be displayed, and a strong street image also was required. The solution was a display on radial platforms sandwiched within a series of arched plywood panels. Wallwash backlighting by Claude Engle III accented the

News report

silhouette of the already sculptural merchandise. The front elevation was designed as the cut section of an otherwise continuous progression. The store won a citation of merit in the seventh annual Plywood Design Awards program.

Study aids redesign of Colony Square

Atlanta's Colony Square, which opened its phase I office tower in 1970, was a new breed of in-town multi-use center with high expectations of acceptance. Built of concrete, its components joined and interlocked in a way that proclaimed a selfcontained megastructure which addressed, but stood aloof from, the surrounding neighborhood. The final flourish was the opening of the luxury hotel (P/A, Nov. 1974, p. 23), managed by the prestigious Fairmont chain out of San Francisco.

The Fairmont's interior designer brought a look of "Victorian elegance" to the hotel, but it was the wrong touch. Three-story concrete columns in the lobby were painted gold, for example, and the color, texture, and scale didn't work together. The complex lacked the kind of popularity that would ensure financial success; but in 1977, after bankruptcy proceedings, a turnaround was proclaimed (P/A, April 1978, p. 32).

Prudential Insurance Co., which assumed control of all except the residential portions of the complex, set a renovation budget of \$4.85 million. Architects Thompson, Ventulett, Stainback & Associates of Atlanta were hired to take charge of redesign, and a study was conducted to determine what users wanted. The response was: all-enclosed spaces, not uncomfortable transitions between indoors and outdoors: convenience retail shops, not high-priced specialty stores; moderately priced, quickserve restaurants, not expensive dining rooms; visual and actual unity of the various elements of the complex, not isolation and architectural barriers; a contemporary, comfortable decor.

TVS and interior designers Howard Hirsch & Associates of Beverly Hills



Colony Square's lounge and mall in former ice rink area (above), hotel lobby (below).



designed major renovations, completed in recent months. The results, report real estate managers Carter & Associates, are encouraging. Office occupancy is up to 88 percent from 75 percent; retail space occupancy is up to 78 percent from 36 percent; and hotel occupancy is expected to reach 55 percent by the end of the year from 45 percent a year ago.

The key renovation effort—unification of the complex—was removal of the indoor ice skating rink and cocktail lounge, and replacement by a retail "town square" and a terraced, landscaped lounge called "The Verandah" that links the hotel lobby with the retail area.

The hotel lobby was redecorated. The controversial gold columns were encased in gypsum board painted off-white. Restaurants were relocated and redesigned; modern conference facilities were provided in a space formerly used as a nightclub. The escalator between the underground parking garage and the complex, previously exposed to the weather, was enclosed, and the walkways between the two office towers and other parts of the complex were enclosed so workers could use the facility year-round in comfort. A convenient pickup and dropoff station for automobiles was built

Charles Eames 1907–1978

Charles Eames, world-renowned architect, designer, and film-maker, died Aug. 21 in St. Louis, his birthplace, where he was at work on one of his many projects. With his wife and collaborator, Ray, he had received the AIA's 25-year Award last May for the 1949 Eames house near Los Angeles.

'New Wave' from Japan

The Institute for Architecture and Urban Studies, New York, with grants from the National Endowment for the Arts and other sources, is sponsoring a national exhibit and lecture tour based on the work of five Japanese architects.

"A New Wave of Japanese Architecture" lectures will begin Sept. 25 at the IAUS and continue through Nov. 14. The exhibit, organized by IAUS program director Andrew MacNair, will have a catalog edited by Kenneth Frampton with an introduction by Fumihiko Maki and Arata Isozaki. The tour will include 10 cities; each lecturer, whose work will be presented in the exhibit, will visit each city in a round robin of talks. Accompanying each speaker will be a traveling show of drawings and photographs.

The five featured architects and the subjects of their talks are: Takefumi Aida, "The Image of My Work"; Minoru Takeyama, "Heterology in Architecture"; Hiromi Fujii, "About My Method"; Hiroshi Hara, "AntiTraditional Devices"; and Arata Isozaki, "Japanese Conceptualism." Included in the touring exhibit will be work by Tadao Ando, Toyoo Ito, Monta Mozuna, Osamu Ishiyama, and Atelier Zo.

Sponsoring institutions are University of California at Berkeley, San Francisco AIA, and Western Addition and Off Centre Books, San Francisco; University of Houston and Houston AIA; the Architecture Club of Miami and Miami AIA; University of Maryland; the Japan Society, New York; the Graham Foundation, Chicago; the University of Minnesota and Walker Art Center, Minneapolis; the University of Utah and Utah AIA; and the University of Washington and the Japan/ American Society, Seattle. These institutions will provide local details of the exhibit/talks. Dates are listed in the P/A Exhibits Survey (see below). [News report continued on page 28]

1978–1979 exhibition survey

The Octagon, American Institute of Architects Foundation, Washington, DC—Travel Sketches of Louis I. Kahn (Sept. 22–Dec. 29).

The Drawing Center, New York—Travel Sketches of Louis I. Kahn (until Sept. 9); Visionary Drawings: Architecture and Planning (Nov. 18–Jan. 13).

Museum of Modern Art, New York— Architecture of Gunnar Asplund, Swedish architect (until Sept. 10); Sound Installation by Max Neuhaus (through Sept.); Designed for Film, visual presentations including movie set models (until Sept. 26); Philip L. Goodwin Galleries, ongoing exhibit of architecture and design.

Consanti Foundation, Scottsdale, Az—Toward Arcology—Works in Progress, traveling lecture/exhibit: Southern University, Baton Rouge, La (Sept. 11–14); West Virginia University, Morgantown (Sept. 18–22); Allegheny College, Meadville, Pa (Oct. 10–14); Southern Oregon State College, Ashland (Nov. 6–8); Central Missouri State University, Warrensburg (April 2–4); Hiram College, Oh (April 24–26); Radford College, Va (May 7–11).

Cooper-Hewitt Museum, New York, NY— Looking at LA (until Sept. 17); Designs from the Movies, (until Oct. 7); Cross Currents, neoclassical drawings and prints from the museum's collection (Sept. 19–Nov. 5); Vienna Moderne decorative and graphic arts (Nov. 21–Feb. 4); Ornament in the 20th Century (Oct. 3–Jan. 7).

Museum of Contemporary Crafts, New York, NY—Young Americans: Clay/Glass, new directions in clay and glass artistry (until Oct. 13); New Handmade Furniture (Jan. 26–April 8); Young Americans: Metal/Enamel (April 20– July 8).

Whitney Museum of American Art, New York, NY—Inner City: An Environment model of a city block at night, by Michael McMillen (closes Sept. 17); Mouse Museum and Ray Gun Wing: Two Collections/Two Buildings by Claes Oldenburg (Sept. 28–Nov. 26).

Boston Architectural Center, Boston, Ma— Boston Society of Architects/Exports and Housing Awards (Sept. 4–22); Steve Dunwell, "Run of the Mill," (Sept. 25–Oct. 9); Oldest and Newest: Exhibit of Boston Subways Systems (Oct. 16– Nov. 10); Women in Design (Nov. 15–Dec. 1); Student/Faculty (Jan. 15–Feb. 15); van den Broek and Bakema (April 15–May 15).

Boston Society of Architects, Boston, Ma— Award-winning projects (Sept. 4–22, Boston Architectural Center); 6th Annual BSA Architect's Architectural Show, including seminars, housing theme (April 3–4, Howard Johnson's 57 Motor Hotel).

Spaced Gallery of Architecture, New York— Giovanni Battista Piranesi, prints (Sept. 14–Oct. 21); Lebbeus Woods, drawings (Oct. 27–Dec. 2). Other exhibits to be announced.

National Gallery of Art, Washington, DC— Piranesi: Early Architectural Fantasies (until Oct. 1).

University City Science Center, Philadelphia, Pa—Art-in-Science Exhibition, Alexander Messinger, architect, town planner (Sept. 12–Oct. 12, University of Pennsylvania Faculty Club).

Renwick Gallery, Washington, DC—Printed, Painted, and Dyed: The New Fabric Surface, work by 30 craftsmen (until Oct. 15); New Stained Glass (Sept. 1–Feb. 10).

New Jersey State Museum Cultural Center, Trenton, NJ—Architecture: Service/Craft/Art (Sept. 16–Nov. 26); exhibit will be shown at Muhlenberg College, Allentown, Pa, in January and February.

High Museum of Art, Atlanta—Children in America, environmental show designed by architect Mack Scogin (Sept. 30–May 27); Miniature Art Galleries designed by artist Scott Belville (mid-Dec.–mid-Jan.); Frank Lloyd Wright (March 31–May 6).

Institute for Architecture and Urban Studies,

New York—Philip Johnson: Modernism/Post-Modernism (Sept.); Lauretta Vinciarelli: Theoretical Drawings about Architecture (Nov.); Architectural Drawing: A Critical Perspective (Dec.); Giuseppi Terragni: Unpublished Projects (Jan.); A New Wave of Japanese Architecture (March); Wallace Harrison: New York Architect (May); Diana Agrest: Recent Work (June).

National Architecture Exchange, Institute for Architecture and Urban Studies, New York—A New Wave of Japanese Architecture, lectures and exhibits by Takefumi Aida, Minoru Takeyama, Hiromi Fujii, Hiroshi Hara, Arata Isozaki: San Francisco, Mondays (Sept. 25–Oct. 23); Los Angeles, Wednesdays (Sept. 27–Oct. 23); Houston, Thursdays (Sept. 28–Oct. 26); Miami (Oct. 2–Oct. 31); Washington, DC (Oct. 4–Nov. 1); New York (Oct. 6–Nov. 3); Chicago (Oct. 9–Nov. 6); Minneapolis (Oct. 11–Nov. 9); Salt Lake City (Oct. 13–Nov. 10); Seattle (Oct. 16–Nov. 13).

Art Institute of Chicago—Pompeii AD 79 (until Nov. 12); American Institute of Architects (July 28–Aug. 26 tentative).

Guggenheim Museum, New York—OMA: The Sparkling Metropolis, architectural works on paper by Rem Koolhaas, Madelon Vriesendorp, Eliz Zenghelis, Zoe Zenghelis (Nov. 17– Dec. 17).

Walker Art Center, Minneapolis—Town Houses: The Chicago Seven and Winners of the Graham Foundation Competition (Dec.).

University Art Galleries, University of California, Santa Barbara—Samuel and Joseph Cather Newsom, 19th-Century architects (April 4– May 6).

Frank Lloyd Wright Memorial Foundation, Scottsdale, Az—Traveling exhibit of FLW work comprises photomurals, color lithographs, and furniture.

Architectural Exhibitions, list of available architectural exhibits compiled by the American Institute of Architects Foundation, Washington, DC. Several dozen traveling exhibits including America's Architectural Heritage (Smithsonian Institution); Architecture of James Stirling: Four Works (Walker Art Center); An Exhibit of Work (Washington Women in Architecture).

Note—All listings are subject to change, and the reader is advised to check with the exhibitor for exact details. P/A's monthly Calendar also will show up-to-date information as well as report on additional exhibits as announced. News report continued from page 27

Technology for courts, press

For six months, justices of the Superior Court and Court of Appeals of the District of Columbia used a prototypical courtroom that hummed and blinked with audio-visual equipment. Based on the acceptance of the trial run, this in-the-round prototype was used for 45 courtrooms in the new courthouse that opened in May. Architects were Hellmuth, Obata & Kassabaum, who initiated and researched the idea and then built the life-scale model with a grant from the Law Enforcement Assistance Administration.

The application of technology expedites the court calendar by electronic recording, dissemination, and retrieval of information. The round room was selected to provide optimum visual and physical proximity for all parties in the court proceedings. Materials are rust-colored fabrics, oak wood, and brown leather.

HOK also designed the renovated interiors of the *St. Louis Post-Dispatch* newsroom to accommodate the introduction of computer terminals. The project designer maximized use of the terminals by placing them on turntables, lazy-Susan style, so four reporters could have access to each unit. New office furniture and the creation of a computer floor were included in the project. But, reflected an HOK designer, "In spite of the new technology and efficient work stations, the clutter and character of the newsroom continues."

Final report on coliseum collapse

According to the final report of an investigation, the collapse of the Hartford Civic Center coliseum roof (P/A, March 1978, p. 21) is attributed to design errors relating to members of the space frame system, and to failure to correct excessive buckling of the truss, which began from the start. The investigation was led by Lev Zetlin Associates, a New York engineering and design firm.

Conclusions reiterated findings of an interim report which said the col-



Audio-visual equipment and circular format in courtroom adopted after a six months' trial run.



Design applied to 45 courtrooms in new building.

lapse, which occurred during a winter storm in January, was a progressive failure of the truss components. The city has filed suit against the major contractors and designers, and the insurance company has filed suit to recover more than \$14 million paid in claims.

The design of the truss made use of computer calculations based on members of specified cross-section area sizes. Some of the cross-sections later were reduced, thereby contributing to greater deflection of the truss than anticipated. Also, the design was based on steel weighing 18 lb per sq ft whereas the actual steel weight was approximately 24 lb per sq ft.

"In summary," stated the report, "the deflection of the space truss did not conform to the expectations of the designer. We believe that this should have been cause for concern on the part of all parties involved."

"The initiating cause of the collapse of the Hartford coliseum space-truss



Newsroom computer terminal on 'lazy Susan.'

roof was a design deficiency related directly to inadequate bracing of all top-chord compression members of the space truss," the final report concluded. Calculations for axial compressive capacities were based on the assumption that all top-chord members were supported or braced at midpoints. In fact, the unsupported length of top-chord members was in excess of 15 ft, investigators said.

Inadequacy of bracing produced bending moments "so great that many of the members were loaded to many times their actual failure load. The most severely overstressed members began to bow out and fail on the day the lifting of the space truss began."

A major contributing cause of the collapse, the report claimed, was underestimation of total loads on the structure—such as steel weight and hanging loads—by a margin of 20 percent. Also cited were factors in connection with overall review of the [News report continued on page 32]



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News report continued from page 28

design, construction, materials, and administration of the construction. On-site inspections and followup should have revealed some of the problems, such as fit-up difficulties with the space truss, which was visually distorted. "This should have been a warning signal or red flag to indicate that something may have been seriously wrong with the space truss," the report said.

"The inspection and/or quality con-

trol procedures utilized by the city, construction manager, general contractor, designers, inspection parties, structural steel contractor, and any other party with responsibility for the construction of the space truss and roof were inadequate and poorly handled. The absence of a full-time registered structural engineer experienced with the design and construction of long-span special structures was a serious mistake."

The report included a positive recommendation of the space truss as a reliable structural system. "Two-way



Architect: Graham Anderson Probst & White, Chicago, IL





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space trusses have been employed successfully on many projects. In the case of the Hartford coliseum, unfortunately, certain aspects of the design and construction were not implemented correctly."

The special Committee to Investigate the Coliseum Roof Failure, a Hartford Council-appointed group chaired by council member Barbara B. Kennelly, submitted its own findings and recommendations, which concluded: "To the extent the collapse may symbolize failures within our governmental system, we should take heed."

The special committee's report cited architect Vincent Kling's testimony as a turning point in its investigation. "Early in its work the committee questioned whether its investigation could succeed if third parties . . . saw fit not to cooperate. Vincent Kling's testimony before the committee on Feb. 27 erased that question and gave the hearings a momentum which continued through the date of Dr. Thornton's public testimony on March 29." Charles Thornton is president of Lev Zetlin Associates, the engineering firm heading the investigation.

The special committee said it is satisfied that LZA answered major questions about the cause of the collapse. Among important unanswered questions, it added, are: Did the engineers Fraioli-Blum-Yesselman of Norfolk, Va, adequately consider revised estimates of the weight? Did Kling advise F-B-Y "in a timely fashion" of the additional weight of the revised roofing system?

The special committee recommended that the city set standards for determining when an independent engineering review of a structure should be conducted and that the city should require "as built" data of the new coliseum's roof (under construction; by architects Ellerbe of Bloomington, Mn). It also raised the issue of whether or not the city should institute a license for firms that conduct on-site inspections.

The reports of both LZA and the special committee are readable documents that should be valuable, from a background point of view, for any architect or engineer practicing today. They outline the events of a typical major project, the problems and [News report continued on page 38]

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issues that arise, and the mechanisms of dealing with them.

Fraioli-Blum-Yesselman retained its own investigative engineering team headed by J.R. Janney and O.C. Guedelhoefer of Wiss, Janney, Elstner & Associates of Chicago. Counsel for F-B-Y said the firm strongly disputes the report of Lev Zetlin Associates. "We believe that many areas of investigation and much physical evidence have either been overlooked or too lightly considered by Dr. Thornton," said a statement on behalf of the engineering firm. It charged that the LZA final report differed substantially from its preliminary findings.

"For example," the F-B-Y statement said, "In his preliminary report Dr. Thornton relied heavily upon alleged miscalculation of dead loads as a major factor in the cause of the collapse. In his final report, while he apparently continues to rely upon such alleged miscalculations to sustain his ultimate finding, Dr. Thornton acknowledges that he would have estimated the weight of the total roofing system in the same manner as Fraioli-Blum-Yesselman, the higher weight of such total roofing system occurring as a result of post design conditions."

The F-B-Y statement also cited a report by Charles McSheffrey, director of Hartford's Department of Licenses and Inspections, which showed that frozen or clogged roof drains on the coliseum coupled with extraordinary weather conditions resulted in ponding, a condition that contributed to roof failures of a number of buildings throughout New England and New York last winter. " 'Were the drains on the coliseum roof clear and operative on Jan. 17 and 18, the roof would still be there,' "said the F-B-Y statement quoting from McSheffrey's report.

Chicago Town House competition

The Graham Foundation for Advanced Studies in the Fine Arts and The Chicago Seven group of architects recently cosponsored the Town House Architectural Competition to present new talent in Chicago. The response was extraordinary considering that the only prize was public exhibition of the winners' work and a small stipend to help with the cost of the required halfinch scale model.

From 169 entries, the winners were Deborah Doyle, Robert Fugman, James Goettsch, Steven Gross, Anders Nereim, Joseph Poli, Peter Pran, and Frederich Read, plus 21 honorable mentions. The exhibit of the work was held May 18–June 16 at the Graham Foundation, and it will be displayed at the Walker Art Center, Minneapolis, in December.

"Surely the House of Architecture is richer for its many different mansions—the realized and the unrealized, even unrealizable . . .," wrote Carter Manny in the exhibition catalog. Commented Stanley Tigerman, one of the Seven, "The work was skilled, seductive, and up-beat," and the conceptual attitudes were, said Tigerman, "open, inclusive, ironic, and anything but coy (an accusation sometimes leveled at recent Chicago architectural thought.)"

In addition to the competition winners, town houses by the Chicago Seven also were exhibited. This was

the highly acclaimed work shown initially in December at the Walter Kelly Gallery. The theme essentially was the same, and in fact was the inspiration for the competition: town houses designed for 20' x 125' sites in a city block. Writing for The New Art Examiner, a Chicago-based newspaper on the visual arts, Christian Laine compared the town house exercise to the Surrealists' collective essays devised to produce unconventional imagery. "The exhibition's strength," Laine wrote, "lies in its inventory of new and lost symbols, the cataloging of those ideas, and the spiritual awareness derived from that art." Most of the work was not easily recognizable as either architecture or interior design, he observed; little was said about the practical or functional aspects of the dwellings-understandably.

The Chicago Seven came into being with an exhibition in December, 1976, at Richard Gray Gallery (PA, April 1977, p. 38) with architects Thomas Beeby, Laurence Booth, Stuart Cohen, James Freed, James Nagle, Stanley Tigerman, and Ben Weese. Helmut Jahn joined the group for the second exhibit, the Kelly Gallery show officially titled "The Exquisite Corpse." The Chicago Seven was formed not as a response to the New York Five or the L.A. 12 but to continue an ideological confrontation with Chicago's architectural establishment begun by two major exhibits in 1976: "100 Years of Chicago Architecture" and "Chicago Architects." Now the Chicago Seven has increased to 11 with the addition of Gerald Horn, Kenneth Schroeder, and Cynthia Weese, and it was this assembly that served as jury for the Town House Competition. [News report continued on page 42]

Town houses by (from left) Thomas Beeby, Laurence Booth, Stuart Cohen, James Freed, Helmut Jahn, James Nagle, Stanley Tigerman, Ben Weese.





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News report continued from page 38

Members of the Seven are not all native to Chicago by birth or training, and some are relative newcomers. Their work does not have a "Chicago" look, and is developing along lines similar to the work in the East: various theoretical, conceptual, and symbolic trends comfortably grouped together under the term "Post-Modern."

Interest generated by the Chicago Seven has been especially keen because Chicagoans have so identified with an architectural tradition that the somewhat rebellious Seven have stirred curiosity as to what the revolution is all about. Walter Kelly reports that attendance at his gallery during the Chicago Seven show was ten times greater than the usual numbers. The Logan Square Redevelopment Association, a nonprofit group, came forward wanting to build the houses on the Near West Side of Chicago. The cost proved prohibitive, and so the group, with Kelly, is seeking grant money from two federal government sources to sponsor another competition to design houses around \$70,000.

Neighborhoods in two worlds

Brooklyn and Tehran have a lot in common, though it may not have been apparent before an exhibition this spring at the Tehran Museum of Contemporary Art. Photos of neighborhoods in these two places, taken for this show and its catalog, sum up planning issues facing cities in both the developing world and the industrialized West.

Organized to recall the experience of passing through the neighborhoods, the show illustrated both similarities and differences—for instance, in degrees of privacy from the street. Films shown in darkened alcoves gave viewers parallel scenes of street activity in Brooklyn and Tehran. For both cities, traditional residential and commercial areas were contrasted with recent high-rise developments.

Also shown were examples of current projects for Iran and for Brooklyn that incorporate low-rise, high-density concepts now being rediscovered.



Installation of urban neighborhoods exhibit at Tehran Museum of Contemporary Art.

Viewers were encouraged to consider the concept of neighborhood as it would apply to their own lives.

Curator for the exhibition was architect Theodore Liebman, president of Housing and Urban Services International, Inc. (HAUS), New York, who worked closely with Kamran Diba, director of the Museum, and Nasrine Faghih, curator of the Architecture and Design Division—both architects (P/A, Jan. 1978, p. 27). Liebman is gratified that the Iranian press treated the event as more than a design show, delving into its implicit arguments for the virtues of traditional development patterns. The exhibition may travel to the United States. [JMD]

John Margolies Guggenheim fellow

John Margolies, a New York writer/ photographer and commentator on vernacular design whose works have appeared in P/A, is the only Guggenheim fellow in the field of architecture from among 292 this year. Margolies received the fellowship for architectural criticism specializing in commercial architecture of the 20th Century. Designer Gordon Ashby of Inverness, Ca, was offered a Guggenheim, but declined it.

Margolies first wrote for *Progressive Architecture* on the Miami hotels of Morris Lapidus (P/A, Sept. 1970, p. 118), an article published in conjunction with a show of Lapidus's work, or-



Guggenheim recipient John Margolies and a 1932 Colonial tile Gulf station in New York.

ganized by Margolies and exhibited at the Architectural League of New York. He later wrote on the fantasy design of Madonna Inn, San Luis Obispo, Ca, in P/A's first annual issue on interior architecture (Nov. 1973, p. 124), and he photographed and documented resorts in the Catskills, NY, for a theme issue on hotels (P/A, Feb. 1978, p. 46).

He holds a bachelor's degree in journalism from the University of Pennsylvania and a master's in photography from the Annenberg School of Communications. [News report continued on page 46]

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News report

In perspective

"Designs from the Movies," an exhibit on view through Oct. 7 at the Cooper-Hewitt Museum, New York, examines the architecture and interior design of Hollywood movie sets on the premise that they taught America as much about design as any other source. The major portion of the show is photographic; the displays are dozens of movie stills juxtaposed with photos of actual places to show how one inspired the other.

Who would expect a career single of the 1940s to live in a spacious apartment with high-design furniture, baby grand piano, and bar? And yet this image lured more than one generation of young sophisticates to the city later to depart, perhaps disappointed, for the promise of the country home in suburbia. "These celluloid images of place—



Set from The Single Standard, part of 'Designs from the Movies' exhibition.

the New York apartment, suburban country club, upper-class home were so influential because they flickered chimerically on the borderline between fantasy, reality, and cliché, and reflected the aspirations and accomplishments of a highconsumption, upwardly mobile culture," a summary of the exhibit stated. The show was organized by Richard Oliver, curator of architecture and design, with the assistance of Jon Evans and Lindsay Stamm Shapiro. A substantial amount of the exhibit is from the Alfred Junge Collection, University of Texas at Austin.

Court says 'no' to MOMA's tower

A special law which allowed the Museum of Modern Art, New York, to plan a 44- to 50-story condominium tower on its West 53rd Street site (P/A, Nov. 1977, p. 21) has been declared unconstitutional by the Appellate Division of the New York State Supreme Court. In a 3-1 vote, the court reversed a lower court's ruling and cited three counts of unconstitutionality: that the state legislature enacted a law applying to just one municipality; that the law creates conditions which benefit just one institution; and that it granted condemnation powers primarily for revenue-producing purposes (the condominiums) and not public use.

The museum is expected to appeal the decision. The suit was brought by the Dorset Hotel, a neighbor of the museum. "We will overcome the difficulties put in our path by the court ruling," said museum chairman William S. Paley. The tower proposal was key to the museum's plan of expansion and meeting increasing operational expenses. Blanchette Rockefeller, president of the museum, said in a reply to widespread criticism of the



Ghost Parking Lot: American mobilized experience symbolized by asphalt-covered cars.

museum's tower proposal, "I hope we're not going to sell our birthright just to raise money."

Ghost parking lot is new SITE project

Turning heads in Hamden, Ct, is the recently opened Ghost Parking Lot at the Hamden Plaza Shopping Center on Dixwell Ave. Buried beneath the asphalt are 20 cars permanently occupying parking spaces; their eerie shapes reveal windshield wipers, rear-view mirrors, hood ornaments, and grilles. The project is another by SITE, the New York firm which pursues its own unconventional aesthetic while winning very business-oriented clients, such as National Shopping Centers, owner of the Ghost Parking Lot. SITE partners in charge were Emilio Sousa and James Wines.

They explain that the project concept is to transform two typical ingredients of the shopping center—automobiles and asphalt—into another frame of reference. The process then presents a number of insights into America's fetishism of the car and the indeterminacy of place and object.

The technical process required the cars to be reinforced and then filled with concrete; next they were placed in the excavated parking spaces. Exposed surfaces were sprayed with a sealer to create the "skin," and finally, a thin layer of asphalt was applied. [News report continued on page 50]

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News report continued from page 46

Student Rally in New York

The program for the first Student Rally sponsored by Designer's Saturday and the Institute of Business Designers (IBD) has been set. Dates for the rally, Oct. 5, 6, and 7, coincide with the 11th Designer's Saturday showroom open house in New York, Oct. 6 and 7. The schedule is:

Thursday, Oct. 5-Preview De-

signer's Saturday showrooms, lunch, Chinatown banquet.

Friday, Oct. 6—IBD showrooms, lunch.

Saturday, Oct. 7—All-day seminar/workshop, including lunch, at the Fashion Institute of Technology. Morning—How to land a job: how to function, move ahead, and stay ahead, with panelists Samuel Magdoff, associate dean, Parsons School of Design; Woody Gibson, executive with Ritasue Siegel Agency; James Vaughn, president of Related Designs; Carol Groh of Skidmore, Owings & Merrill. Contract design and



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BUCKINGHAM-VIRGINIA SLATE CORPORATION 4110 Fitzhugh Ave., Richmond, Va. 23230 Telephone: 804-355-4351 your options: corporate, store, restaurant, with Anthony LaBua, facilities manager with International Business Machines; other panelists to be announced. Afternoon-How to sell your design: to your boss and the client; the various approaches, with Carol Farren, principal, CD/3; Richard Korchein, senior vice president, and Del James Blessinger, senior designer, both of Saphier Lerner Schindler, Environetics Inc., New York. The afternoon session will conclude with a slide presentation by Suzanne Slesin, senior editor Esquire magazine, "The New York Design Experience: Where to Go." Students will be invited to the Saturday evening reception at the Metropolitan Museum of Art.

Registration is \$30 (\$20 before Sept. 15) by writing Designer's Saturday, Inc., P.O. Box 1103, FDR Station, New York, NY 10022.

Calendar

Sept. 30–Oct. 4. American Institute of Planners annual conference, Hyatt Regency, New Orleans.

Oct. 1. Deadline for entries in the American Institute of Steel Construction 1978 Architectural Awards of Excellence. For information write to the Institute at 1221 Avenue of the Americas, New York, NY 10020.

Oct. 5–7. Designers' Saturday, New York, including special day, Oct. 5, for students (see pp. 16D1–16D24). Oct. 5–10. International Brick Masonry Conference, Hyatt Regency Hotel, Washington, DC.

Oct. 16. Deadline for entries in Downtown Research & Development Center Awards Competition. For information write to the Center, 270 Madison Ave., New York, NY 10016. Oct. 16–18. Building & Construction Exposition & Conference, McCormick Place, Chicago.

Oct. 18–20. National Conference on Energy and The Future of America's Communities, Tulsa, Ok.

Oct. 22–25. Council of Educational Facility Planners annual conference, Holiday Mart Plaza and Merchandise Mart, Chicago.

Oct. 23–25. National Fire Prevention and Control Administration annual conference, Olympic Hotel, Seattle. Nov. 15–17. Producers' Council annual meeting, St. Petersburg, Fl. [News report continued on page 54]

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EARLY SCHEME: MODERN STYLE



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1 Stanford Court Hotel—Esherick Homsey Dodge & Davis, San Francisco, are undertaking the expansion and renovation of the Stanford Court Hotel restaurant and lounge. New construction will step down the hill parallel to a retaining wall standing since 1876, when Sen. Leland Stanford built his mansion on the corner site. The addition will have a copper roof with decorative metalwork; the floors in the dining area will be brick, and wood flooring will be used in the lounge. A wine cellar will have textured plaster walls with redwood lattice panels. Cost of the project is estimated at \$1 million.

2 Transportation building—Special legislation was enacted to allow commercial use of the new Massachusetts State Transportation Building that will enter construction next year in Boston's aging theater district. Architects Goody, Clancy & Associates, Boston, assisted in shaping the site to preserve older structures in the neighborhood and to relate the new building designed to house 2000 employees—to existing buildings. An eight-story atrium will be the focus of activity; a dead-end street will be extended through the new building to link the theater district with Boston Common. Arcade shops and restaurants will be open in the evening as well as daytime.

3 New York Hyatt Hotel-With a special "vocabulary of materials," Dale Keller & Associates, New York, a London-based interior design firm, is creating an atmosphere of "Manhattan today" for the New York Hyatt Hotel (P/A, March 1978, p. 50). The 1400-room hotel is under construction in the shell of the old Commodore; architectural work is by Gruzen & Partners with Der Scutt, consulting architect. Keller's major public spaces are the lobby, characterized by a double colonnade with a red-lacquer look, red granite circulation areas, and red carpeting in seating areas. Guest rooms will be sophisticated in style, with pattern and texture in the furnishings in contrast to plain walls. Completion is scheduled for 1980.

4 Fashion Center—La Cienega Center in midtown Los Angeles is a \$50 million high fashion complex near the Pacific Design Center (P/A, Oct. 1976, p. 78), a locale fast becoming a "life style" district. La Cienega is by Welton Becket Associates Architects of Los Angeles. The building will contain two department stores, retail shopping, an interior mall, and integral parking. Target completion is set for the 1980s.

5 Santa Barbara Museum of Art-The museum wanted a 100 percent expansion on a site less than half the existing museum width. The first solutions presented by Kamnitzer, Marks, Lappin & Vreeland, were International Style and were rejected as unsuitable for the Spanish architecture of the town. However, the basic plan remained the same throughout four revisions. All staff offices, new entrances, and the lobby are to be contained in the new fourstory "element" between the museum and the addition. Towers at either end will contain vertical circulation, duct risers, and plumbing. The exterior now reflects the Italian 16th-Century style of the existing museum, designed by David Adler. Construction of the \$7 million project is expected to begin next year.

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Interior design: What is it? Who does it?

The reintegration of architecture and interior design requires a definition of the current state of the art. A look at the pieces of the puzzle reveals a pattern that is, paradoxically, as unified as it is diverse.

The significant growth of the interior design profession and the increasing presence of the architect within it-has changed the nature of interior design practice considerably during the past few years. In P/A's first issue devoted entirely to interior design (P/A, Oct. 1962), the first question asked of a distinguished panel of architects and designers was, "Is there a professional activity, guite separate from other aspects of architecture, that should be recognized and distinguished as 'interior design'?" A loaded guestion, perhaps, but one in which the key word "separate" was seized upon by most of the 15 respondents. Interestingly, it was the architects in that group who spoke most vocally against the notion of a separable discipline, invoking the historical precedent of such architects as Frank Lloyd Wright, whose commitment to total design quite naturally embraced interior design as well. But interior design had indeed become "separate," as reluctant as architects were to admit it, as loath as they were to recognize the default of one of their most important areas of responsibility. Traditionally, there had not been such a distinction. Architects had always designed both the insides and the outsides of buildings. But the 20th Century, with its widespread cultural fragmentation, saw the gradual separation of those duties. So prevalent had the division become, that those architects who continued to design interiors became the exception and not the rule, more related to the 19th-Century pioneers of modern design than to 20th-Century realities. In time, the chain was broken, and the older attitudes toward interior design became mere antecedents, not part of a continuing cultural development.

The rise of the "interior decorator" in the years following World War I was in large part a response to this breakdown, and the image of that new occupation was, from the start, viewed with scorn by architects. And not only architects. The common impression was summed up succinctly by Ernest Hemingway in 1932 in *Death in the After-* *noon:* "Prose is architecture," the exponent of spare, uncluttered writing wrote, "not," he added with a hint of derision, "interior decoration." The rift persisted through the Depression and war years, when the design profession was by no means vigorous enough to effect such a major change in the status quo. The unprecedented postwar construction boom (which lasted through the 1960s) confirmed the split between what had, by then, become two separate disciplines. It was only the dire economic setbacks faced by the architectural profession during the first half of the current decade (the most severe since the Great Depression itself) that brought about a change in attitude among architects toward interior design.

Like many other changes brought about by economics (a good case can be made for the primacy of an economic interpretation of history), this reawakened interest in interior design was more quickly and completely accepted than it would have been on its purely philosophical merits. Accordingly, P/A in this issue examines the current state of interior design by looking at eight firms: from the oneperson office to the large corporate firm, from offices recently opened to those established for decades, from firms in which interior design is the only business to those in which it is only one aspect of total design.

What interior design is, we hope, will be defined by the unifying characteristics that bind together the diverse group of practitioners we have assembled here. Chief among those characteristics, we feel, is the commitment to logical, coherent design, respectful of program, context, and users—qualities that must prevail regardless of the nomenclature or job description of the person who addresses those concerns. Who *does* interior design will thus be answered, we feel, as a function of what interior design *is*.

We begin this inquiry, in the next four pages, with a roundtable discussion not unlike that first panel discussion 16 years ago. This panel seeks to define the current state of affairs in interior design, and we hope it will create the context wherein the individual profiles will be seen as components of a larger picture. For the breadth of viewpoint that we wish to promote is essential, we feel, to the reestablishment of a unity that is not just a historic tradition, but a cultural imperative as well. [Martin Filler]

Interior design: Patterns of change

The current state of interior design, and its future, are discussed by a panel of seven interiors experts, representing a cross section of the design community. From a diversity of viewpoints comes one message: Interior design has come of age as a profession, and architects' recognition of that fact must now follow.

DeHaan: I don't believe the interior design profession has changed as much as the client's perception of interior design has changed. I think what has happened in, and to, interior design is a reflection of what has happened in our society. Tom Wolfe has called this "The Me Too Era," with its absorption with oneself, the popular inner direction of our society. I think that's what's causing this awareness. It has reflected the spread from an elite, from the intellectual's clamoring about "total environment," and has expanded the public's awareness to embrace the whole office, the whole home, and eventually the structure and its setting and surroundings.

Daroff: One of the most important things that we've found is that clients are becoming more and more aware, and. that the demands put on the interior designer are growing constantly.

Pulgram: There is the realization now by the user, the consumer, the executives, that there is a relationship between productivity and space. Functionality is twofold, physical and psychological. All that brings interior design, interior planning, interior architecture up to a level that it

The panel

Pamela Babey, head of interior design, Kaplan/McLaughlin Architects/ Planners, San Francisco; Karen Daroff, President, Daroff Design, Inc., Philadelphia and New York; Norman DeHaan, AIA, FASID, President, Norman DeHaan Associates, Inc., Chicago; Pat Hoffman, Vice President, International Contract Furnishings, Inc. (ICF), New York; Robert J. LeFort, Chairman and Chief Executive Officer, Interspace Incorporated, Philadelphia; William L. Pulgram, AIA, ASID, President, Associated Space Design, Inc., Atlanta; Kenneth Walker, AIA, President, Walker/ Group, Inc., New York.



Kutak, Rock & Huie law offices, Omaha. Renovation and interior design: K McLaughlin Architects/Planners, Pamela Babey, head of interior design.

"We shouldn't be able to divorce the architecture from the interiors. It's like a song—you can't separate the words from the music." Pamela Babey

has never enjoyed before.

Walker: I think that interior design is about 10 years behind architecture, and about 20 years behind painting and sculpture. I think the state of interior design is reasonably dreadful and getting better.

The architect vs the interior designer

Daroff: Both the architect and the contract interior designer have made a commitment to provide a quality professional product. I know that the interior designer recognizes the role of the architect, and I think it's time the architect recognizes the role of the contract interior designer.

DeHaan: I think the architect has always been involved in interior design, but in the past era of knock-'em-downand-build-anew, all the press (and therefore public awareness) went to "Bulldoze for a Bigger and Better Boom." It is certainly true that many architects are now looking at interior design as a source of revenue. But I think that is all to the good. I think that any change in the role of the architect in what's happening inside the structure can benefit not only the profession, but society as a whole.

Hoffman: Thank God for the recession. I think this is one of the main things responsible for having architects stop looking at interior design as something someone else should do, and begin to become more interested in it again themselves.

Walker: I think the firms that are doing good, innovative architecture are, without consciously knowing it, doing damned good interior design. Look at Gwathmey Siegel, or Hardy Holzman Pfeiffer. They've been doing incredible interiors for the past five years, and that's given them an architectural reputation.

LeFort: I am neither an architect nor a designer. I have approached interior design as a business whose product is design. I had felt for many years that there was a great void here, and that there was great opportunity. I grew up with the understanding that the profession belonged to the



Dining area, corporate suite, Waldorf-Astoria Hotel, New York; interior design: Daroff Design, Inc., Karen Daroff, president.

'There is still a feeling that you haven't fulfilled your obligation in life after architecture school if you work with an interior design firm.'' *Karen Daroff*

architect, and that you couldn't start a design firm because the architect controlled all the business. I feel that the design profession has arrived, and has filled a void left there by the architect. We have achieved some success, and I would like to tell you it was because of our abilities. But it was an omission of the architectural profession that gave us our start. The architect could have put his foot down and stamped us and never let us rise. We didn't rise in defiance or opposition to the architect. We rose in defense of our need to serve our clients.

Pulgram: One of the reasons why architects have looked down on interior designers is because they were decorators. They were not trained toward the conceptual elements of a building, of creating three-dimensional space. They came in and decorated a room versus creating a space. The more we go into systems building, the more we go into a systems interior, and you can no longer separate the interior aspect from the architectural.

Is it architecture, or is it interior design?

Hoffman: If you look at the great modern masters, it's hard to tell where a building's interior begins and where its exterior ends. They are all one. If you've been to Houston, you know that sometimes you never see the exterior of a building. You drive right into the parking garage. You go from an air-conditioned, sealed car, to an air-conditioned, sealed parking garage, into an air-conditioned lobby, and you spend all your time inside. So how can the architect turn over the part of the building where people really spend all their time to someone else? What this profession needs, in my humble opinion, is a closer relationship between the two.

Daroff: Our design team is made up of architects and interior designers, and I find it very hard to separate them. We respond very closely to the architecture of our projects, and in fact we are very integrally involved with interior architecture. Many architectural firms have found the need to offer interior design services to their clients, while the interior design firm is now working more and more with ar-



Reception area, Romanek Golub & Co., Chicago. Renovation and interior design: Norman DeHaan Assocs., Norman DeHaan, AIA, FASID, president.

"I can imagine some horrendous future with high-rise architects and contract designers in one firm, and residential designers and architects in another." *Norman DeHaan*

chitectural elements. If interior designers are to do our job properly, we can't divorce ourselves from that aspect. But the interior design firm is not licensed to practice architecture, yet we find ourselves bordering on architecture all the time. The problem is, where does interior design end and where does architecture begin? The shame is that we have to define that, because in fact they really should not have to be separated.

In our case, we are an interior design firm that is now forming an architectural subsidiary. We have been forced into this position, but it is something that we feel we have no other choice but to do. Many interior design firms that are autonomous are outgrowths of other architectural firms. That is exactly what is happening to us, only the other way around.

Babey: We shouldn't be able to divorce architecture from interiors. It's like a song. You can't separate the words from the music, you can't separate Gilbert and Sullivan. **DeHaan:** In Europe they have interior architects, building architects, interior designers, and it's all split up and it's a mess. You've got 9000 different examinations and registrations. ASID has traditionally said the term "architect" or "architecture" falls under the credits of the AIA. If you use the term "architect," the implication is that you are a licensed architect. It doesn't matter if you say "interior architect," or "exterior architect." It's confusing enough for the public to even recognize interior designers and architects. They haven't gotten used to the change from the term "decorator" yet. Implicit in that is the hope that the AIA and the architects will recognize the term "interior designer." I personally wish they would invent a new word like "realtor," something we could patent or trademark.

The credibility gap

LeFort: We are finally achieving a degree of credibility and acceptance by the architect. We are no longer the broad-brimmed-hat decorator with a throwing-the-fabricover-the-back-of-the-chair image. I think it was a cop-out for the architect to put us down because he didn't under-



International Contract Furnishings, Inc. (ICF) showroom, The Merchandise Mart, Chicago. Interior design: Pat Hoffman, vice president, ICF.

"If we can ask architects to do anything for us, it is to start team work early and consider it a team, rather than a fight." Pat Hoffman

stand us. Therefore that was his way of assuming it was a nonprofessional profession.

Walker: What has always bothered me about interior design is that it's been such an easy entry business. Anybody could be an interior designer. There's a credibility gap in interior design—a gap that is unbelievable. Most clients won't second-guess you on architecture to the extent that they will second-guess you on interiors.

Hoffman: When architects do interiors, they frequently have no concern for detail. They could spend a week worrying about a balustrade if it were outdoors, but the minute they get indoors there is very little concern about detail. When they select fabrics, architects—except for a few very talented ones—just want to know what color it is and if it wears well. There is not much concern about the texture of it, the feel of it.

Daroff: We lose people in our firm because they're given an opportunity with an architectural firm. The interior design profession has not been able to achieve the proper image. There is still that sensitivity about working with an interior design firm, a feeling that you haven't fulfilled your obligation in life after going to architecture school if you work with an interior design firm.

Babey: Even in very large firms I think there is a real feeling that the interior designers are over here and the architects are over there, that we've got a line between us and the interior designers are second-class citizens. I know that having an architecture degree has been a little bit of an advantage. Just by saying you have it, people suddenly think, "Oh well, maybe she's all right then." **Walker:** I find that because we're an architectural firm, even though we do little pure architecture, it is infinitely easier to market ourselves. The credibility factor on that approach is fairly high. Whereas it's much harder to market yourself as an interior designer, even if you are the first one through the door.

The licensing controversy

LeFort: I think licensing is important. We have strived our



Federal Reserve Bank, Philadelphia. Architects: Ewing Cole Erdman Rizzio Cherry Parsky. Interior design: Interspace Inc., R. LeFort, president.

"It was an omission of the architectural profession that gave us our start. The architect could have put his foot down and never let us rise." Robert LeFort

entire existence to establish credibility, and to some degree licensing may move us up so we can say to a client, "We are accredited."

DeHaan: If you look at the licensing controversy in New York and Connecticut, they're bringing about licensing for interior designers not because interior designers felt they needed licensing. It was a question of respectability. They really went about asking for licensing because laws had been passed that discriminated against interior designers, but not against the architect. What's come out of all this is not so much the architect's being opposed to licensing in principle, but it hurts their respectability, too. They are suddenly waking up to the fact of what happens if state law now allows an interior designer to team up with an engineering firm: you no longer need architects. This represents a real economic fear on the part of architects. There's a real concern on the architects' part that laws will be written in such a way that all the things that they've been using as guidelines and practice will be subverted and picked up by somebody else.

Walker: There should be some qualitative method for being called a professional in whatever you do, some qualitative standard you have to pass. Whether one gets licensed as an interior designer or not, one is going to have to become more professional to deal with the kind of bureaucratic rigamarole that's going to creep more and more into interior design work.

Educating the interior designer

Pulgram: I am willing to go on record that there has to be a very serious and thorough overhaul of education in this total design field. In architecture I think we're in pretty good shape, but in interior design I think we're pretty bad. **DeHaan:** I don't think so. Let's face it: interior design is extremely profitable, and every school in the country is opening an interior design department. Interior design schools are changing very rapidly. California just voted last year that all interior design schools are going to be accredited. **Daroff:** When I graduated in interior design I still had a lot



Corporate headquarters, Island Creek Coal Co., Lexington, Ky. Interior design: Associated Space Design, Inc., William L. Pulgram, president.

I am willing to go on record that there has to be a very serious and thorough overhaul of education in this total design field." *William Pulgram*

of learning to do. Finally we've gotten interior design schools to teach how to write a specification. What do the schools teach about writing a business letter, or a contract? That is all changing—slowly.

Babey: Do you really learn spec writing in school? I did working drawings in school. Once you're out of school, you discover that the working drawing class you took really wasn't real. There is no substitute for being in the field, for experiencing what it really is like, for experiencing the compromises you have to make to the architect, to the client. It doesn't happen in school. You have to get out and train, and learn, and get that background in real life that's the most important part of your education.

Pulgram: Maybe there should be an architectural degree specializing in interiors. That is what our committee on the AIA is recommending. The educational part of the interior designer should be parallel with that of the architect, and at a certain time being given specialization not precluding that person's eventually becoming a registered architect.

Conclusions and forecasts

Hoffman: If architects recognize that technology is making the single grand master obsolete, and if architects are going to accept large jobs, they have little choice but to recognize that they need some sort of consultants or teammates. I think the main thing we've learned is that these teams have to work together from the start. If we can ask these architectural readers to do anything for us, for themselves, for their clients, for everybody, it is to start team work early and consider it a team, rather than a fight. **DeHaan:** The real concern is not so much about architects and interior designers working together as a team, but whether the architect who wants to go into interior design truly understands the professional commitment to space, personnel, materials, and long-term cash investment that is involved.

Babey: The architect must realize the need for a specialist, and that is what the interior designer has to offer. The architect has always called upon the support and



Junior department, Burdine's department store, Sarasota, Fl. Interior design: Walker/Group, Inc., Kenneth Walker, president.

"There's a credibility gap that's unbelievable. Most clients won't second-guess you on architecture to the extent they will on interiors." Kenneth Walker

resources of structural engineers, mechanical engineers, lighting consultants, and they call on them very early in the process. Many times they don't do that with the interior designer, and I think that's the prime improvement that could be made to architecture and interior design services. **Pulgram:** I also think the furniture manufacturer needs to enter the picture very early in the game and be a part of the overall conceptual team. I am talking about total interior systems, not just office systems. As we approach more and more systems building, we need more and more systems interiors.

DeHaan: My fear of the future is that this essential stress on the technical aspects of the interior design profession could result in a rift not just among interior designers between residential designers and contract designers but perhaps also a rift between the high-rise architect and the single-family-dwelling architect. I can imagine some horrendous future with high-rise architects and contract designers in one firm, and residential designers and residential architects in another.

LeFort: I think in spec building we've taken over. It will be awfully hard for the architect to get spec building back. **Walker:** In the future there will be more firms in which the disciplines are really, truly integrated, not just lip service. Projects will be more successful when architects get to the clients at that initial programming stage where they can develop a program for space, not fit space into a preexisting shell. Graphics and industrial design will become part of the disciplines you will need to know to do successful interiors. The days of the Renaissance Man are over, but the days of the Renaissance Firm are not over. In the future, you are going to see a da Vinci drawing, but instead of it having one guy in the circle, it is going to have 17 guys in the circle.

Pulgram: Interior design, or interior architecture, or whatever you want to call it, has finally come of age. I see the relationship of interiors and exteriors growing much closer in the future, becoming more and more of a total entity, striving toward total design, toward total architecture. \Box



Frank O. Gehry has been enjoying a lot of publicity lately. Some of it has to do with the size and range of recent commissions like the renovation of the Hollywood Bowl (P/A, Nov. 1975, p. 58), or the design of Rouse Headquarters in Columbia, Md (P/A, Feb. 1976, p. 58). But it would probably be closer to the point to say that Gehry's explorations in architecture as art, evident for example in his trapezoidal house for artist Ron Davis (P/A, Dec. 1974, p. 40) and other work, account for most of the attention. In the day of constant debate about modernism's deficiencies, this latter affinity to minimal sculpture made of industrial parts quickly captures professional fancy. It retains certain accepted principles while advancing transformations in the aesthetic. Despite Gehry's East Coast backing (i.e., clients), the Toronto-born architect has been based in LA since he came there in 1947 at age seventeen. He first studied art at USC, but then switched to architecture. Attracted to the California modernist tradition of post-and-beam architecture with Japanese overtones during his school years, Gehry was most influenced by the work of Raphael Soriano, Harwell Harris, and Gregory Ain.

In 1952, he joined Victor Gruen's office, interrupting that to study city planning one year at Harvard University. As Gehry has noted in a recent issue of *L.A. Architect*, during this period at Gruen, he came into contact with more LA artists who proved influential to his increasing fascination with the perceptual aspects of form and with the minimalist aesthetic.

In 1962, after a stint in Paris, Gehry opened his own office. The practice has grown over the years, although the affinities with the artists and art have remained strong. Work comes in at a good flow, and young architects like Frederick Fisher (P/A Design Award, Jan. 1977, p. 56) gravitate to the firm. Some, like Greg Walsh, former classmate of Gehry's at USC, have been mainstays. In the aggregate, the office continues to strike a rather interesting balance between straightforward and experimental work, between large-scale and small-scale commissions. Frank O. Gehry & Associates, Inc.

Where categories collide

Interiors work becomes the testing ground for architectural experiments applied later on a grander scale.

Understanding of Frank Gehry's work is sometimes difficult for the most adventuresome client, the most seasoned patron of the art of architecture. He acknowledges the fact in reference to some of his domestic architecture, adding "the more I am finding one thing, the less it seems people want it."

While the statement may sound a bit ingenuous, Gehry in this case refers to his work as falling into two general categories: the experimental designs most concerned with pushing the art of architecture to its limit, even to its breaking point; versus the straightforward work where designs are simpler, more ordered, more common to a general perception of architecture.

Several examples of these two poles of expression and activity can be seen on the page opposite. A look at the model Gehry first created for the Familian residence instantly lets you know which category it falls into. Rather like a stage set for an avantgarde play with its stud-wall-as-sculpture erupting cataclysmically from the box, one understands why clients might hesitate. As Gehry puts it, "I've jumped off the cliff, but am holding on by one finger."

The house (not shown) that Gehry is remodeling for himself in LA is almost as outré. A 1920s painted cedar shingle-sided house of the Norman Rockwell vernacular is being overlaid with a corrugated metal screen wall interrupted by protuberances of the stud-wall-as-sculpture variety. Norman Rockwell meets Richard Serra. The neighbors are threatening a lawsuit. A townhouse for an art collector in New York (opposite) would appear less difficult to live with, although this extensive a renovation is not being undertaken.

Gehry seems resigned to the fact that his extreme experiments with formal and conceptually oriented areas of architecture may not meet with extreme enthusiasm by potential users. This is rule breaking and going beyond the limits of what architecture is about: rather than refining its code or combining new and old elements in poetically allusive ways, he appears to be destroying codes through smashups or collisions. He even leaves ends dangling. He leaves the observer (this one at any rate) with a desire to applaud the bravado of the experiments but still unconvinced that architecture not art, not stage-set design—is being advanced here.

Gehry's greater body of "straight" work, such as the Santa Monica Place project, on the other hand, appears instantly more palatable. An existing shopping center will be expanded, with a garage added but masked by a white-dipped chain-link fence over which vines are to crawl. Paradoxically this design, which will make use of graphics à la old Santa Monica Pier, effectively employs the stage-set-like "scrim" of fencing as an ordering device.

But this and other kinds of similar commissions do not make Gehry's pulse quicken. He likes to have them, of course, but feels a bit held in check.

Law offices

Interior design commissions present the sort of possibility for architectural probing that can be *realized* (and appeal to Gehry as well as a larger audience). They may be more limited in scale, but nevertheless provide a place where ideas can be tested to a considerable degree. As Gehry puts it, "I'll design the john, if I can do it my way."

With the offices for lawyers Berger, Berger, Kahn, Shafton & Moss in LA, Gehry got to design 15,600 sq ft in a new speculative building *almost* his own way. The space on one floor involved the design for three office suites, two conference rooms, lounges, library, and reception rooms, some of which space is sublet.

Gehry decided against dropping the ceiling, leaving the 12-ft floor-to-floor height. The paraphernalia that runs beneath the underside of the concrete slab is treated as sculpture. Besides the ducts, pipes, and wiring, light troughs are suspended from the ceiling, where fluorescent strips diffuse light upward.



Model for Santa Monica Place, where white chain-link fencing will mask garage parking.



Model, Familian house.



Laminated corrugated furniture, 1970.





Model for New York townhouse renovation (above); law office furniture (below and next page).



Frank O. Gehry & Associates, Inc.

A continuation of his earlier experiments with indirect lighting, light here bounces against the ceiling according to whatever configuration the ceiling plane has taken above. But the ambient quality permeates the landscape below, where partitions are painted 22 light pastel shades, and take on different hues depending on the play of natural and artificial light. There is a good deal of natural light, since the work spaces are arranged with that in mind.

The partners' suites have been treated as sculptural units—one semicircular, one with a canted skylight, one with red cedar walls. The offices present a legibility that nicely enough does not announce status. Originally, however, Gehry sought to sheath one office in corrugated tin, another in logs, an artistic gesture the lawyers felt would test too much their clients' (insurance companies) sang-froid.

The geometric incisions, the stepped profiles in partitions, the puncturing of planes to make allusion, for example, to a courthouse's columns and pediment, illustrate that the opportunity has been seized for a formal and evocative play. Gehry also designed a good deal of the furniture, though Victorian antiques could be comfortably inserted into the setting.

Hints of German Expressionism à la film set for *The Cabinet of Dr. Caligari* pop up, but without somber exaggeration. Accident and surprise occur, but no loss of orientation. There is wit, particularly in the clunky charm of the Gehry-designed reception room chairs (see p. 75). But the offices do come across as serious—serious enough for the firm's staid no-film-star clientele. There is even restraint in the way the ducts ram through the partitions—a loose kind of restraint to be sure, but not a sloppy bashing of elements. Details for gypsum-board walls and soffits are always precise and clean.

Thus, the offices appear to be extremely successful on all levels—a workable but provocative setting for its users, a testing ground for the architect. This is the way interior design can be imaginatively exploited. [Suzanne Stephens]

Data

Project: law offices, Los Angeles, Ca.
Architect: Frank O. Gehry & Associates, Inc.
Frank Gehry, Greg Walsh, Ken Francis, John Clagett, Frederick Fisher, project team.
Client: Berger, Berger, Kahn, Shafton & Moss.
Program: 15,600 sq ft in a spec building with conference room, deposition room, library, reception, offices for partners.
Major materials: gypsum board on metal stud

walls; beige carpeting on concrete floors; painted concrete ceilings; indirect fluorescent lighting mounted in suspended gypsum-board troughs. (See Building materials, p. 179.) **Consultants:** Athans Enterprises, lighting; Dickerson & Associates, HVAC. **Cost:** \$426,500; \$27.34 per sq ft. **Photography:** Tim Street Porter. **Axononometric:** John Clagett.







Gehry designed offices of the partners t distinctive, like the one (above) sheathe in redwood. Office for depositions has Gehry-designed trapezoidal table, large scale cardboard chairs.





Lighting troughs (above) cast ambient glow; oval table was designed by Gehry for one partner's office (below); entrance of columns and cut-out pediment to deposition offices.







Francesco and Aldo Piccaluga believe that small is beautiful, and intentionally have kept theirs a two-man office. "You either want to be a businessman and let your company grow to corporate size," says Francesco Piccaluga, "or you go to the opposite extreme. It is our decision to remain small and to continue to produce quality design. We have observed the expanding and shrinking of many firms, the desperate hurry for more and more work. But we need very little to survive. In fact, we have become a little bit choosy. It's not just a business."

Born in Genoa in the 1930s, Francesco Piccaluga and his younger brother Aldo studied architecture and design at the University of Rome. They began work in Beirut, where their father, a diplomat, was assigned to the Italian Embassy. In Lebanon, the Piccaluga brothers designed a number of banks for a wide variety of international clients, among them Barclay's Bank of London, the Moscow Narodny Bank, and Credit Lyonnais Francaise. Several residences and a farming community there were also designed by the pair.

The Piccalugas have shown an astute knack for avoiding the political turmoil that has subsequently engulfed the places where they have (or might have) practiced their profession. Sensing a change in attitude toward foreigners in Lebanon after the war with Israel in 1967, the brothers decided to emigrate to a country with a more stable political climate. They rejected a return to Italy, felt the U.S. too ridden with social unrest, and eventually chose English-speaking Canada, avoiding (again wisely) separatist Quebec.

In their 10 years in Toronto, the Piccalugas have developed a practice ranging from pure architecture to furniture design, from lighting design to interiors. Their most visible works in Canada to date are the restaurants in the CN Tower in Toronto, including the revolving restaurant atop the 1830-ft. landmark. Twenty years after beginning their careers, the Piccalugas work without political or corporate distractions. For them, there is only design: "It is too involving a profession to do anything else."

Keeping it personal

Two recent projects by a two-man office show the benefits that the close control of the interior design process can bring.

"Multum in parvo," the ancient Romans said: "Much in a little." Thus might well be described two new interiors designed by a Toronto firm that has a special talent for turning challenges of program and budget into some most imaginative designs Francesco and Aldo Piccaluga have at the base of their design philosophy the belief that the best results come from a designer's direct and continuing involvement at all steps in the design process, from conception to completion. The division of labor in large firms disturbs these designers no less than the artificial split between architecture and design that they have sensed in North America.

In two recent projects, the Piccalugas have demonstrated their personal approach to interior design with notable success. And although one of the jobs cost over 16 times more than the other, both projects make economical use of their respective spaces, and show that whatever the price tag, quality interior design is more a function of talent than it is of money.

Playing all their angles

Lawrence Wolf approached the Piccalugas for the design of new offices for his advertising agency with that nowfamiliar refrain, "We-have-no-money, wehave-no-space, make-somethingwonderful-for-us." What the client did have was 1000 feet of exceedingly mediocre rental office space in a downtown Buffalo high-rise. He also had the desire (do they mimeograph these scenarios?) for a great deal of privacy, but also spaciousness, within the newly designed agency. Undaunted by these contradictions (made all the more contradictory by the raw space itself), the Piccalugas set forth to provide just that. And more surprisingly, they did.

The designers began dealing with their task diagrammatically, but achieved results far more satisfactory than most architecture that adheres to strict diagrammatic solutions. Given the inflexible, one-story space, there was really not too much that could be done with it in any other way, so for once the diagram became the most valid means to design resolution. The Piccalugas began by inserting a circle into the rigidly orthogonal rental space, providing the one immutably private area required—a conference room—while simultaneously breaking the rectilinear grid imposed by the building.

Further freedom came with the introduction of the 45-degree angle to the plan, which opened up new illusionistic horizons. The expression of that diagonal against the long window wall of the existing area greatly increased the perception of depth within the space. It also allowed partitions and walls to break up the space without consuming it. The use of a neutral color scheme (orange cushions of a builtin banquette provide one of the few touches of bright color) further expands our visual sense of the interiors. Furnishings were all designed by the Piccalugas, including tubular metal desk chairs which glide, arms and all, under desk tops-a simple but unusual capability when compared to much commercially produced office furniture.

The Piccalugas' solutions for another client turn out to be equally fitting to profession and program, in their own way, as do their simple, but remarkably effective, settings for the Lawrence Wolf Advertising Agency.

Eaton Centre in Toronto was promised by its developers to be North America's answer to Milan's Galleria. Things never quite turned out that way, and it does not begin to approach the discreet charm of its would-be European prototype. Easily the best thing within Eaton Centre is Francesco and Aldo Piccaluga's DeBerardinis Hair Salon, a sleek and chic expression of high Italian interior design that recalls the headier moments of the decade before this in Milan. Though this cool, marbled crescent of a space set its owners back some \$400,000 (that's an awful lot of blow-dries by anybody's calculations), it







Piccaluga designs (from left): molded fiberglass and leather chairs, distributed in U.S. by Intrex; "Telescopus" lamp; modular metal table and stools.



FLOOR PLAN

£-----

10' - 3m



Neutral colors also give feeling of space.



Strong emphasis of diagonals at Wolf Agency makes the small office seem larger than it is.



Data

Project: Lawrence Wolf Advertising Agency, Buffalo, NY.

Interior design: Francesco + Aldo Piccaluga, Inc.

Program: Design of 1000 sq ft of rental office space to provide maximum separation of offices, conference room, and reception area for small advertising agency.

Major materials: Painted gypsum board walls and ceilings, carpeted floors (see Building materials p. 179).

materials, p. 179). **Cost:** \$24,000; \$24 per sq ft. **Photography:** Francesco Piccaluga

Francesco + Aldo Piccaluga, Inc.



still turns out to be an intelligent and even thrifty use of Eaton Centre's high priced rental space.

Playing with all their marbles

Since footage opening directly onto the mall itself commanded very high rentals, the designers decided to use as little of that as possible, and instead exploited the considerably less expensive space (virtually dismissed as unusable) that was left around the periphery of one of the Centre's spiral parking ramps. The hair salon's unique shape emerged from that sow's ear of an existing form, and the Piccalugas have achieved a design there that would never suggest the economy (nor the imagination) involved in that siting decision.

The simple façade of the salon is in marked contrast to the loud and garish shop fronts of its immediate neighbors. Behind a glass portal, a flight of mottled white marble steps, each riser illuminated, ascends to the main floor of the salon, seeming more the proverbial stairway to paradise than a mere walk-up to the crimpers. From the reception desk at the top of the stairs, the customer is led to one of 28 identical, prefabricated, white molded-polyurethane work stations that are set, like beads in a necklace, around the perimeter of the salon. The curvilinear motif is underscored by the flooring of the corridor that winds its way around the space. Three equal bands of marble in dark gray, light gray, and the same grayveined white marble of the stairway demonstrate how handsome that stone (which can so easily look like plastic) can appear when it is designed with care and installed with skill.

Detailing throughout—from hairdrying lamps to ventilation grilles—is custom design by the Piccalugas, and the attention shows. The sense of craftsmanship at the DeBerardinis Salon is as apparent as it should be: evident to those who seek it, unobtrusive to those who don't. As for the client, nothing has succeeded like success: he has asked the Piccalugas to design another salon in another mall near Toronto, molto presto. [Martin Filler]



Entrance to DeBerardinis Hair Salon in Eaton Centre, Toronto (above) and salon logo (above left).



Work stations at salon (above and below) are prefabricated units of molded polyurethane.







Reception desk at salon (left). Curving corridor (below and bottom) is floored with bands of gradated marble: dark gray, light gray, and mottled white, as are steps (above).



Curved configuration of salon allows a feeling of privacy, yet can also create a desirable impression of activity, even on slow days.



Data

Project: DeBerardinis Unisex Hair Salon, Eaton Centre, Toronto, Ontario, Canada. **Interior design:** Francesco + Aldo Piccaluga,

Interior design: Francesco + Aldo Piccaluga, Inc.

Program: Design of a hair salon with daily capacity of 400 customers, making use of inexpensive and otherwise unusable rental space in a large urban shopping mall.

Major materials: Plastic-laminate polyurethane-finish walls, marble and mosaic tile floors, gypsum plaster and painted ceilings (see Building materials, p. 179.)

Consultants: Ellard-Willson Ltd., mechanical and electrical. Silvio Russo, corporate image and logo design.

Cost: \$400,000; \$120 per sq ft. **Photography:** Francesco Piccaluga.



Ward Bennett did not go to the Bauhaus. Nor to Cranbrook nor the Hochschule at Ulm. In fact he did not go to any design school. But he did become a designer who crosses all disciplines in his oeuvre, with the same kind of commitment to principles of design as if he had been so trained. Son of an actor-vaudevillian-bookie and a tightrope walker, Bennett departed their company at age 14 in 1931 to take up delivering fabrics in the garment center. Twelve lessons in fashion illustration launched him into his first career. By age 16, Bennett was on board the Normandie to capture with pen and pencil the latest in the Parisian collections for a New York clothing manufacturer. At 20 he was in Florence to study life-class drawing, selling original fashion designs to American buyers in Paris to support his art.

When the war broke out, Bennett worked on window display for Hattie Carnegie's fashionable emporium in New York. His (often disembodied) mannequins occupied surreal settings. He won an award, and made *Time* with his War Bond windows portraying wounded veterans waiting for artificial limbs. Lady shoppers were fainting on the sidewalk.

In the meantime, Bennett studied painting with Hans Hoffman by night. Because of a previous brief stint in the Army, he was able to go back to Paris on the G.I. Bill after the war to study sculpture from Zadkine. He came away more influenced by his contact with Brancusi and Le Corbusier.

In the early 1950s, he was back in New York exhibiting sculpture and jewelry. Here, too, interior design and remodeling commissions began sneaking in—at first for friends and families, and eventually for corporate clients. In the mid 1950s, the furniture Bennett designed for an interiors job with Armand Bartos for Crown Zellerbach's midtown offices led to yet another endeavor: soon Lehigh Furniture was producing Bennett's designs.

Now he sells about 100 designs through Brickel Associates; now he designs whole houses and renovates palazzi, in addition to designing pottery, flatware, and fabrics. It just goes on. He is only 60. Ward Bennett

Keeping it clean

From furs to furniture, window display to architecture, designer Ward Bennett has consistently shown that similar design principles operate throughout.

All his interior design life Bennett has carried on a small but influential crusade against the valance and fringed lampshade set who drive him up a flocked wall. Instead he has adhered to the ruggedly basic principles that only he and a handful of designers, the Museum of Modern Art, and the architectural profession espoused with any earnestness since the early 1950s—function, timelessness, simplicity.

Bennett defends these principles with an iconoclastic fervor from challenges by today's inclusivist, pluralistically minded younger architects. Yet like the architectural postmodern camp, he does fault modernism for being too cold, too uncomfortable, too uncompromising. So while he won't give up some of modernism's basic tenets like exposing the frame of the chair, he does put cushions on that chair. He inclines the chair back to fit the body, instead of making it conform more to geometric aesthetics.

Ten vears ago Bennett was often considered not pure enough for the Miesian traditionalists, not avant-garde and innovative enough for the spirited revolutionaries. Today, his furniture is enjoying a surge in popularity among modernist architects tired of strictly modern, and even among some of the more historically allusive architects who find the Bennett low-key adaptation of the Regency or Deco pieces appealing. The ash-framed Alexandria chair (opposite) introduced this year was inspired by the "gorge" cornice seen at the Temple of Horus in Edfu, Egypt. The same "adaptive" modernism seen in his furniture design threads through all of Ward Bennett's work, from the glassware for Tiffany's to his residential architecture.

In fact Bennett makes quite a point about the commitment to total design, as he invokes the names of Robert and James Adam, William Morris, and Frank Lloyd Wright. Architects "simply go and pull pieces of furniture out of a warehouse" rather than approaching each commission as a unique totality.

It may sound odd, even perverse, for a designer who makes a killing selling his furniture to architects, designers, and decorators to suggest they do it themselves, but Bennett does qualify the stance according to the interior type. His furniture line is executed for contract work—a situation where desks and chairs are definitely necessary. "In residential interiors you really need only a dining chair—everything else should be built in," he maintains. Also, he concedes, his designs for the contract market have to be more conservative and safer than the kind of thing he can do for a private clientele. "There are things I design for myself that I know wouldn't sell through the showroom," he adds. "My years in fashion did give me a sense of what sells, and of what the market will buy.

The design of apartments which led to extensive remodeling commissions, which led even to the design of whole houses, thus gave Bennett a latitude he wants for testing out ideas.

Inside architecture

The redwood house stained charcoal brown in East Hampton that Bennett designed for himself he describes as a simple one-room shack. Actually it is a tworoom shack since a bedroom/office floor is tucked underneath the living/dining room entered at grade. As shacks go, the 3200-sq-ft house is fairly special. It continues the California/Japanese tradition of beautiful detailing and craftsmanship, appropriate siting in the landscape, and a certain timelessness. Unusual things do happen-one enters the house through a small kitchen in one corner, for example. Exterior barn-door-type walls swing in on tracks to partition space and open the interior to view.

Inside the house, the designer surrounds himself with his trademark design elements: the beige sisal rugs, the natural blond wood furniture (not *that* much is built in here), the slate floors, industrial shelv-







Alexandria chair with white ash frame.



Stainless steel flatware for Supreme Cutlery; glass for Tiffany.



Bennett-designed beach home (above); living room (below) topped by 20' x 20' skylight.



Ward Bennett

ing, a few well chosen objets d'art, an extensive collection of Nuddistbuddist books.

PDC showroom

When designing for commercial clients, his palette turns to slicker materials. With the showroom for Brickel/Bennett at the Pacific Design Center in Los Angeles, one sees both strains come together. Fortunately slick materials mesh nicely with natural, though the space gets close to Madison Avenue chic. From the 45-ft expanse of stainless-steel paneled walls ten feet high, punctured by 46-in.-diameter portholes, to the elongated oval light trough above the elongated oval display platform anchored by circular columns, to the stainless steel rear door with its elongated oval window, to the elongated oval steel electric sockets, one notices certain materials and motifs heavily at work. Bennett has limited the colors to green upholstery and plants, beige sisal floor, and blond wood furniture, black rubber top for the display platform, black rubber gaskets to edge the rug and the porthole glazing.

It must be said, nevertheless, that most of the showrooms at the Pacific Design Center happen to be very blah or crowded, junky affairs where few design themes are initiated, much less carried out. The Brickel/Bennett showroom, a small space of 2400 sq ft, thus comes as a welcome and well-designed relief. The sensuous rigor focuses the attention on furniture. Although Brickel carries almost 100 different Ward Bennett designs including his own line of fabrics, Bennett chose to display only top selling items. (The showroom benefits, of course, from selling only Ward Bennett furniture, since other showrooms must cram the full range of their designers' work into small spaces.)

What Bennett does bring to design then is that belief in consistency, control, simplicity of line and color, with a commitment to "quality." One does not see this kind of austerity and sense of conviction enough in the interiors world. The value of such principles could be easily ignored at the moment when architects are reacting against previous puristic stances. [Suzanne Stephens]

Data

Project: Brickel Associates Inc./Ward Bennett Designs, Pacific Design Center, Los Angeles. **Designer:** Ward Bennett in association with Timothy Walker & Associates.

Program: provide display space 2400 sq ft for limited selection of contract furniture and textiles designed by Ward Bennett, so that furniture can be seen and moved around easily. **Major materials:** stainless steel, sisal rug, white

painted gypsum board (see Building materials p. 179).

Contractor: H. C. Beck. Cost: \$64,000 total; \$26.50 per sq ft. Photography: Michael Patemen pp. 82–83 George Meinzinger pp. 84–85







Bennett-designed details for ducts (above), stainless steel outlets (left), and door to offices (below) in Pacific Design showroom, with floor plan (above).







Stainless steel panels cover 45-ft showroom exterior (above left); inside elongated oval motif derived from Capsule line of furniture.



TAC Interiors



TAC Interiors (clockwise from bottom left, above: Director Klaus Muller, Bob Wolfsfelt, Chuck Gibson, Harish Patel, Saralee Erwin, Pamela Hulstead, Jim Jeas, Ann Elwell) was not established as a separate branch of The Architects Collaborative until 21 years after Walter Gropius and eight other architects founded the parent company in 1946. It was in 1967 that the company, which today has 210 employees working on projects in the U.S., Europe, and the Middle East, was awarded its first large commission-the design of the Shawmut Bank of Boston and the interior planning and design of 580,000 sq ft of space within the 40-story building. Since then, the department has completed many large-scale projects, which makes one wonder how a staff of only eight can keep up with the amount of work. But here, the advantages of being able to draw upon the resources of a larger organization are seen.

Collaboration and computerization

Department director Klaus Muller explains that TAC Interiors works in the same way as the rest of the company, through the collaborative method of teamwork that TAC originally introduced to the field of architecture. "If we need a draftsman or other professional," he notes, "we borrow from the company for the time we need the person." That way the department can stay small and, one suspects, maintain tighter control over what it does. But there is another advantage at TAC Interiors, and that is in being able to use the company's computer-based system for building design, called the Facilities Information System. Interiors/FIS, which is used from the time of initial space programming, can take over a great deal of the red tape for the department to free the staff for more meaningful work. In addition to recording such descriptive information as dimensions, costs, and availability of items of furnishings and equipment assigned to each space in a building, the computer also makes shipping labels for final delivery. And sometimes it has even been used for design.

Bold discretions

If one thing characterizes the work of TAC Interiors, it is clean space with dramatic but subtle use of bold colors.

Although TAC has been established in the Boston area for 32 years, it could by no means be considered a regional firm. Partly because of its location, however, and the fact that many of its staff members have maintained faculty positions at Harvard and MIT, the office has completed a large body of work at those two institutions.

One of the earliest commissions at Harvard was the Harvard Graduate Center of 1949. Although this work was accomplished long before TAC had established a separate interiors department, it shows, even with its striking Miro mural (below), a certain ordered cleanliness that continues to be seen in the firm's interior work today. The same trend, for instance, can be seen in the new Harvard University Athletic Facilities' Blodgett Pool (facing page), where color has been used with discretion to underscore spatial elements for decorative effect or to render space more legible. Here, even the specially designed vandal-proof metalphoto signs are extremely subtle—never intruding on the space but leaving no question as to their clear directives.

In the Josiah Quincy Community School in Boston's South Cove (P/A, Dec. 1977, p. 34), colorful banners have been used as an effective but inexpensive way to enliven a busy interior street in the exposed concrete structure (facing page, top left).

Even though TAC has accomplished a large body of work in the Boston region, it has long operated on both the national and international levels.

One of the largest commissions to date has been a vacation complex of three separate hotels for the Yugoslavian government on the Adriatic coast. TAC Inte-

The Harvard University Graduate Center of 1949 is an early example of TAC's interior work.




Banners at Quincy school in Boston (above); and (below) TAC's 30-year celebration poster.





Graphics (above) at Harvard pool (below, right).





Dining room at Hotel Bernadin in Piran, Yugoslavia, shows TAC's subtle but bold use of color.



For the Charlestown Bank on a busy corner in downtown Boston, TAC's interiors department has maintained the indoor/outdoor effect of the glazed entry plane by bringing the exterior plaza pavers into the banking lobby and by facing the interior walls with granite panels similar to those used on the outside.

riors designed all of the interiors for the 2500-bed Hotel Bernadin Resort in Piran, which included 12 restaurants and a nightclub in addition to the guest rooms and public spaces. In one of the restaurants (previous page, top right), color is again used strongly, but with discretion, to define functional areas within the large open-plan dining hall.

Charlestown Savings Bank

On a congested corner in downtown Boston, the new main office for Charlestown Savings Bank has been cut back to give pedestrians more room to pass. Behind a shaded plaza, the TAC architects have detailed the recessed main entry façade somewhat as a greenhouse, with a slanted glass roof that extends into the main banking floor. In a gesture to maintain this effect, the interior designers have brought the exterior pavers into the most heavily trafficked portions of the ground floor, and have also used large indoor plants to reinforce the image. Elsewhere, though, the interior is as sophisticated and as high-style urban as one is likely to find anywhere.

The bank, which is not one of Boston's oldest, nevertheless wanted a new image-something that would say, precisely, that it was not one of the old institutions. Inside the 10-story steel-frame glass tower set between two granite-faced service cores, TAC Interiors again shows its bold but controlled use of color. To maintain the indoor/outdoor image, the exterior granite facing material has been extended around the interior perimeter walls and columns of the two-story-high banking lobby. This establishes a neutral background which is continued by the white mezzanine, escalator, and ceiling, the dark wood desks and light gray chairs. Into the space, the single colored element of "electric" dark blue carpeting has been used in the officers' and lounge areas. The effect of this simple but bold gesture is to charge the space with a dynamic vitality that somehow manages to be somewhat refined but quite vigorous at the same time. On the mezzanine, light-colored carpeting is used, in contrast with dark fur-



nishings, for its light-reflecting qualities in the recessed, low-ceilinged space. Throughout the lobby an appropriate banking image is maintained, but it is one that is not intimidated by preconceived or conservative notions of what a bank should be. [David Morton]

Data

Project: Charlestown Savings Bank, Boston, Ma.

Architects: The Architects Collaborative; John C. Harkness, principal; Joe Hoskins, senior associate; Richard Puffer, associate.

Interior design: TAC Interiors; Ann Elwell, Randie Davis.

Program: 73,000-sq-ft headquarters for savings bank.

Major materials: granite wall facing, brick pavers, carpet tiles, carpet (see Building materials, p. 179).

Client: Charlestown Savings Bank. Costs: \$9.3 million, total for building. Photography: Nick Wheeler.











Something for everyone



Daroff Design, Inc. has enjoyed a meteoric rise in the interior design world that is all the more astonishing when one considers when it happened. Daroff Design was founded in 1973, the year that was perhaps the nadir of the recession that had such a devastating effect on the architectural profession in America. But in the five years since, the firm has become one of the largest interior design groups in this country. Daroff Design was ranked 36th among "75 Interior Design Giants" by Interior Design magazine (Jan. 1978), though the firm's founder and president, Karen Daroff, disputes that position, claiming that her company's billings last year (and not mere volume of profit) would actually put it in about fifth or sixth place.

How did it all happen? Not surprisingly, times of change and turmoil for some people are usually times of opportunity and profit for others. With a shrewd sense of the shifting patterns of interior design practice, Karen Daroff quickly established her firm as a provider of the comprehensive interiors services that architectural firms were then rarely equipped to handle. Having graduated from Philadelphia's Moore College of Art, she found herself unprepared for the increasingly important business aspects of interior design practice. She supplemented her design education with business and management courses, and after a four-year apprenticeship with the Vincent Kling Partnership, she opened her own office.

Since that time, her firm (now employing over 50 in two offices, in Philadelphia and New York, with a third to open soon in Atlantic City) has acquired an extensive list of clients, including the Girard Bank (Daroff Design has done 33 of their branch offices in and around Philadelphia), and the Prudential Insurance Co. Its commissions have included health-care facilities. professional offices, theaters, restaurants and clubs, stores, showrooms, and a synagogue. "Our clients are interested in functional interiors that will solve their problems," says the president. At age 30 she is not despairing of new worlds to conquer. Karen Daroff is one tough cookie.

A big, young design firm wants to reach the entire interiors market, and thus it produces work in a wide range of styles.

Traditionally there has been a sharp distinction between interiors designed by architects and those done by interior designers, to the extent that a relatively unadorned interior by a designer would be deemed "architectural," while architects were chary of producing interiors that would seem too "decorative." Those boundaries have blurred somewhat of late, with a feeling of much greater freedom on both sides of the interior design fence.

One firm that supports that pluralist viewpoint is Daroff Design, Inc. The rapid growth of that five-year-old office has been due in large measure to its willingness to give its clients what they want-ever attracting new ones as a result of that allembracing approach. Theirs is not the philosophy of inclusivism as espoused by architectural theorists. Rather it is the canny realization that major commercial clients, more often than not, do know what they want, and will get it from someone else if not from you. This give-'em-whatthey-want attitude, combined with the firm's primary commitment to realities of cost, function, and maintenance, has led a number of large companies to beat a path to Daroff Design's door. This office knows how to speak Big Business's language, and it is becoming more and more fluent in that lucrative tongue with each new year.

History's revenge?

There is hardly a building type for which Daroff Design has not done interiors. To those used to a unified (or at least related) "look" in the output of a single office, the diversity of styles that pour out of this one can come, at first, as somewhat of a shock. To some, it might seem to be the vivid evidence of the cultural and aesthetic dissociation of our times. Others might see such a grab-bag approach as a mordant commentary on an architectural and design tradition that has been interpreted primarily in terms of style. But whatever one's conclusions, one thing is sure: these people know what they are doing.

Several restaurants designed by the Daroff office illustrate not only the firm's range of treatments for a single building type, but also demonstrate quite well their skill in handling each. The Set Table is a kosher restaurant housed in a remodeled building on the fringes of downtown Philadelphia. The owner wanted to avoid any decor of a specifically ethnic nature, and was thus given simple, restrained interiors with a decidedly International Style flavor. A prototype scheme for the Gino's fast food chain employs warm earth tones, natural materials (quarry tile and light oak seating based on the classic Windsor chair), and intelligent space planning (service counters are placed well away from dining areas)—a vast improvement over the client's former plastic palaces.

Do you ever dream of Vienna?

Perhaps the most interesting of all of Daroff Design's restaurant interiors is the new Café Fanny, recently remodeled from the old Men's Bar at New York's Biltmore Hotel. America has a seemingly insatiable appetite for what is known as "theme dining," an experience that is to be differentiated from the mere choice of cuisine by the all-important factor of "atmosphere." With more Americans dining out than ever before, it has become necessary for restaurateurs to appeal to more than the public's palate. Thus have the Trader Vic's and the Rusty Scuppers of this world come into being.

One of the most successful restaurant entrepreneurs in the U.S. is George Lang, who has made a speciality of bringing moribund restaurants back to life for fun and profit. It was he who proposed the conversion of the lackluster old bar into a "re-creation" of a Viennese café, naming it after the legendary Fanny Elssler, a Viennese dancer who swept New York off its feet in 1840. First, the huge oval bar that dominated the center of the room was removed, part of it placed to one far side of the café, into a space claimed from the incorporation of an adjacent area that was





1

By Daroff Design: **1.** Model, Prudential Group Insurance offices, Parsippany-Troy Hills, NJ, in progress. **2.** Gregory Lewis showroom, The Marketplace, Philadelphia, 1971. **3.** Lobby Trianon Apartments, Bala Cynwyd, Pa, 1978. **4.** Gino's restaurant, Philadelphia, 1971. **5.** Set Table restaurant, Philadelphia, 1976.







Daroff Design, Inc.



once occupied by a boutique. To further promote a new feeling of spaciousness (while actually increasing the number of tables), a multi-level seating arrangement was introduced, creating a sense of privacy, but also visibility, at every place in the room.

Daroff Design convinced the hotel's owners that quality materials—among them mahogany paneling, marble tabletops, marble and wood parquet floors, beveled glass partitions, velvet and silk upholstery, brass hardware, and wellmade millwork moldings—were worth the extra cost, and they were right. For here is that rare "period" restaurant interior that eschews the clichés of red flocked wallpaper, plastic "crystal" chandeliers, and gilded plaster cherubs. This is no "Chug 'n' Chew" chain restaurant, and its patrons know the difference. If we must have new interiors of the nostalgic sort, it would be better to have restaurants that follow the design tradition of such American classics as Gage & Tollner in Brooklyn and Jack's in San Francisco (two very old interiors of incomparable, enduring style). That would be a really contemporary solution. [Martin Filler]

Data

Project: Café Fanny, Biltmore Hotel, New York. **Interior design:** Daroff Design, Inc. Steven Smith, project manager; Bo Kass, project designer.

Program: redesign of men's bar of a large downtown hotel into a 3500-sq-ft restaurant. **Major materials:** mahogany paneled walls;

marble and wood parquet floors; plaster, acoustical tile, and wood molding ceilings (see Building materials, p. 179).

Consultants: Donald Gerstoff, lighting; Milton Glaser, graphics; George Lang, restaurant; Silvio Miletta, PE, engineering.

General contractor: Budd Contracting Corp. **Client:** Realty Hotels, Inc.

Cost: withheld at request of client. **Photography:** Tom Crane.



Plan (above) of Café Fanny. Dining room (above and opposite page), entry to back room (below).







Stephen Kiviat and James Rappoport are two architects who own one of the best known to-the-trade-only furniture outfits in the country. The two, now 37, started Atelier International in 1967. Friends from their days at Cornell University's school of architecture, Rappoport, with his master's in architecture from Columbia, and Kiviat, with a master's from Harvard, had not planned for their careers to take this turn.

In the early expectant days of first arriving in New York, they were doing what young architects usually do. They worked for other architects like SOM (Rappoport) and Horowitz & Chun (Kiviat), stopping off at the Four Seasons bar every now and then to fantasize about the future.

At the time, it was hard to buy the one furniture staple of any self-respecting architect: Corbusier furniture. When the Cassina company received the license from Corbusier's estate to manufacture the furniture in Italy, Rappoport and Kiviat arranged to buy some for themselves and friends. Soon the idea occurred: why not distribute Cassina's Corb furniture here. The showroom operation ("a boutique, really"), for an architectural clientele, would give the two enough economic stability to open an architectural office.

At that time, Kiviat and Rappoport recall, they were not that aware of Cassina's Italian lines of furniture, and Cassina, for its part, did not know the architects were young. But the two formed a partnership with a lawyer, Eric Rosenfeld, and a businessman, Edward Epstein, to bring more clout to bear on the situation. Without any capital to speak of, they launched Atelier International. From the beginning, when the showroom was housed in a small townhouse, it was a success. Soon Al moved to two floors in a building on 57th Street; now it occupies even larger quarters. Rappoport and Kiviat, now solely in charge, have opened showrooms in Dallas, Chicago, and Los Angeles.

Up until a few years ago, they maintained a small design practice too, now dormant. Someday they want to revive it. Now there is hardly time even to return for nostalgic visits to the Four Seasons bar.

Big-time on 57th Street

Two architects anxious to start their own practice ended up launching one of the leading prestige furnishings businesses.

From a small exclusive "shop" type operation of avant-garde Italian design and Corb furniture for the residential design trade, Atelier International quickly expanded into the contract market in eleven years. Because the contract business involves selling to dealers as well as designers and architects, the scope of the enterprise has taken on quite another dimension.

The designs still come largely from Italy, supplemented by pieces from Germany. Scandinavia, and the rest of Europe. But Al now has a plant on Long Island to produce approximately 50 percent of its line. According to Kiviat and Rappoport, the decision to buy the hard goods and capitalintensive parts from suppliers in Europe, and manufacture the designs here, resulted from the need both to pare shipping costs and to make available upholstered furniture that meets U.S. fire regulations. In addition, parts for repair and maintenance of their designs can be more easily secured, quite an advantage with a bill-ofmaterials list that totals over 10,000 units.

As operations expanded, the two architects split their responsibilities: Rappoport runs the manufacturing part of the business; Kiviat takes care of the marketing end. When the business was still small in the early 1970s, Kiviat and Rappoport had time to devote to a design practice, specializing mainly in interiors and graphics.

The Schnabel apartment, designed in 1970, shows their penchant for built-in furniture and storage, multi-level spaces, clean lines, monochromatic colors, and rich materials. In this 1800-sq-ft apartment for an art dealer, partner-in-charge-ofdesign Stephen Kiviat subdivided spaces with partitions covered in felt the color of weathering steel and topped by a brownish marble. A continuous channel in the marble sill and the lowered soffit along two living room walls support acrylic glass panels into which prints can be easily slipped. The step-down into the beigecarpeted living room holds flat storage for additional prints. A bedroom (p. 97), an extravaganza of built-in storage, looks as if it could be folded up and packed away when not in use. Not only do storage units surround the bed, but additional storage occupies the carpeted steps behind white cabinets on casters.

Showroom focus

In recent years, their design work has been focused on new showrooms. The Kiviat-Rappoport graphics for Al illustrate their approach—clean, active, punchy. The logo functions not only as an identifying emblem but often as the most visually active element in the showroom (besides the furniture, of course), counterbalancing the understated character of the setting.

The showrooms need to satisfy several objectives—showing the goods obviously, but, more subtly, communicating an image of modern high design, "without turning off the people who want butterflies on their upholstery," as Rappoport puts it. Kiviat and Rappoport want to reach a broad range of taste markets: they want to keep the standards and toniness of their imported lines, but be able to traffic in less expensive items as well. This is not easy to do. The showrooms must convey an image of being neither too precious, too haute couture, nor drably commonplace and conventional.

In the New York showroom, Kiviat and Rappoport sought a means of presenting a range of items in the 12,500-sq-ft space so that they could be easily seen and tested. Custom-designed platform blocks of different heights display furniture dramatically and efficiently, so much of the collection can be taken in at a glance. The subway-grating metal-frame and wooddeck platforms were made sturdy enough to support the clientele climbing around.

The Chicago and Los Angeles showrooms, newly opened, are smaller— Chicago's space, 3000 sq ft; Los Angeles', 4000 sq ft. While the two showrooms are unified by the same vocabulary of design elements, unfortunately the wood and







Past work of the two architects under the name Kiviat-Rappoport Inc. includes graphics and interior design. The AI graphics and letterhead are shown at top; the design firm logo, above. Shown at right is the Schnabel apartment (see text) with seating by Scarpa; shown above, the interior of Kiviat's Manhattan townhouse displaying the Mario Bellini seating also from AI.





Stephen Kiviat-James Rappoport

metal platform modules seen in New York are missing. Evidently the system proved too expensive to use again. The effectiveness in display of this functional yet unique installation device is not matched in the other showrooms.

The showrooms in Los Angeles' Pacific Design Center and Chicago's Merchandise Mart appear sensible enough, though without drama. Carpeted L-shaped partitions subdivide areas, and can be turned upside down to function as display platforms. The plywood L's come in units 4' x 8' x 4' and can be bolted in pairs to expand as needed. The rest of the interiors are also simple—spots on tracks, ceilings surfaced in white reflective acoustical tile, walls covered in beige Belgian linen.

The most dramatic parts of the display are the displayed pieces themselves—a good idea, actually, for a showroom. The Charles Rennie Mackintosh chairs benefit particularly from their kind of "museum" installation. The vitrines in both showrooms deserve mention: linen-covered panels of the vitrine, set into the wall, create niches for the display of lighting fixtures, textiles, and other objects. The 45-degree-angle panels open to allow easy access to the electrical outlets behind.

Other demands

Although the architects must concentrate more on the furniture business for the moment, they do not rule out the possibility (or desire) to take up the design practice again. Meanwhile this challenge demands some creativity: "You learn how to solve problems in architecture school," Kiviat comments, "but in this business there is no guarantee that you have found the right solution or the best means of getting to it." Rappoport notes that little in his education prepared him for the kind of communication and management skills he needs now, "most of which can't be learned on the job." In this sense, it is not so simple to cross disciplines the way designers may go from the design of buildings to the design of fabrics. It is to their credit that, as a successful enterprise, AI does reflect strongly the design commitment and conviction to quality of its architect-trained owners. So far they have been able to adhere to the ideals and standards they began with, and still expand their markets. One assumes (and hopes) it will continue. [Suzanne Stephens]

Data

Project: showrooms for Atelier International in New York, Chicago, Los Angeles. Architect: Kiviat-Rappoport; Stephen Kiviat, partner-in-charge; Frank Emery, project designer for Chicago and LA; Joseph Alonge, project designer for New York City. (Program and major materials, see text.) Contractor: H.C. Beck, LA; Merchandise Mart, Chicago; Rein Construction, New York. Photographs: Norman McGrath except as noted.







The architects used a similar vocabulary of design elements in the Los Angeles showroom (photo left, below) and the Chicago showroom (photo opposite, top). L-shaped carpet-covered plywood partitions, 4 ft high, 8 ft long, and 4 ft deep, subdivide spaces and provide display platforms for furniture. Seating by Vico Magistretti with coffee table by Mario Bellini occupies foreground in Chicago showroom, with Mackintosh furniture to the left, Corbu furniture in the background. In the LA showroom, Scarpa dining chairs and Bellini dining table are in the foreground, Scarpa chaise behind, Gerd Lange stacking seating in the distance.

The New York showroom features multi-level display of both Pirelli rubber-covered platforms and the custom-designed metal and wood decking platforms. Featured are Tecno Design Group seating (below), and Mackintosh and Rietveld furniture (bottom). In the bedroom of the Schnabel apartment (left), multi-level surfaces and platforms articulate space, here for built-in storage, not display. Surfaces are covered in carpet, windows in casement fabric.







Emilio Ambasz



Emilio Ambasz once wrote "Architecture is not the answer to the pragmatic needs of man (that is the task of building), but . . ." the act of "giving poetic form to the pragmatic." At first, this statement may not sound unlike others heard in the past, but the difference with Ambasz lies in the seriousness he attaches to poetics and pragmatics. In his work one will never see art for its own sake, historical allusion of any sort, or decoration added for effect. All of the projects represent direct answers to pragmatic needs, solved at the conceptual level by poetic means.

As language is reorganized in poetry to produce insights or meanings that did not exist before, Ambasz also reorganizes the elements of an established system (or systems) in ways that produce a reinterpretation of the system(s), or a new invention.

In the project for the Community Arts Center in Grand Rapids, Mi (P/A, Jan. 1976, p. 60), an existing Beaux-Arts building is completely transformed through the seemingly simple intervention of a new "high-tech" entry plane inserted at an incline through the courtyard at the rear of the old building. At the Center for Applied Computer Research and Programming in construction outside of Mexico City (P/A, May 1975, p. 76), Ambasz has combined elements and methods from shipbuilding, agriculture, billboard advertising, sports, and solar energy with traditional building forms to produce a highly flexible and energy-efficient facility that can easily be transformed into a public garden when no longer needed for its original purpose. In each case, as in all of Ambasz's work, available systems and technologies are used in the service of highly original but practical solutions to real problems. And always, the eye and mind of a gifted artist is at work, whether the problem is one of industrial or interior design as shown on these pages, or of architecture, graphic or exhibition design. Whichever it is, the former curator of design at the Museum of Modern Art, and a cofounder of the Institute for Architecture and Urban Studies, moves about the various disciplines with equal facility.

In a wide range of design activity, Emilio Ambasz's main intention is to give poetic form to the pragmatic.

Poetic pragmatics

Although Ambasz is at home in many design fields, his major work has been in architecture, and has included projects for agrarian communities in Peru and California, cooperative housing in Georgia, an arts center in Michigan, a computer center in Mexico, and houses in Belgium and Spain. In other fields, he curated and designed the influential MOMA exhibitions "Italy: the New Domestic Landscape" and "The Taxi Project: Realistic Solutions for Today," and designed the apartment interior and seating system shown here.

The object transformed

After extensive vascular and orthopedic research into back disorders, Emilio Ambasz and Giancarlo Piretti (designer of the folding Plia chair and Platone desk) have designed the first seating system that automatically adjusts to any normal seated position while continuing to support the body in an ideal posture. To do this, the Vertebra Seating System incorporates a mechanically advanced contoured sliding seat and contoured tilting backrest that adjust automatically and independently of each other to "relax" and "upright" positions. Some models have "lean forward" and "tilt backward" positions, where the chair tilts from its pedestal 6 degrees downward or 12 degrees backward.

The system includes executive, managerial, operational, institutional, and tandem seating models with options available (depending upon the chair) for various types of arms, upholstery, bases, and adjustment capabilities. Basically constructed of various high-impact plastics, tubular steel, and die-cast aluminum, the chairs have been exhaustively tested to ensure they will neither fail mechanically nor need future maintenance.

The Vertebra System came about in a way that is as unusual and in some respects as revolutionary as the chairs themselves. Ambasz knew that if he ap-



Collection, Museum of Modern Art, gift of the designe

Die-cut poster for graphics exhibit of 1967.

proached a manufacturer only with drawings of such a mechanically advanced chair he probably would be told that it could not be produced in the way it was designed, or that the tooling investment would not be justified by the size of the market. Consequently, he decided to form a group that could reinvent the activities of design, development, and the capacity to build production tools. He went to Bologna, Italy, where there still exists a solid tradition of craftsmanship, with medium-size mold and machine-making shops. He visited a wood-model maker, some industrial mechanics, a mold maker, a production manager, and other craftsmen, and proposed that they form a cooperative, which came to be known as the Center for Design Research and Development. To support it in the early stages, Ambasz sold the patent for his invention of tapered piping, which allows a greater-than-normal number of pipes to be shipped by slipping one into the next.

The group then began work on the Vertebra prototype, continually testing it until it was time to build the molds, dies, and even the machines for producing it. When the production equipment was completed, CDRD telephoned a U.S. manufacturer who had never heard of them before. If the manufacturer turned them down, nothing



For MOMA's taxi project of 1976 (above), designed and directed by Ambasz, manufacturers designed special vehicles accessible to the handicapped.







UPRIGHT

ORTHOPEDICALLY CONTOURED, MOULDED THERMOPLASTIC BACKREST AND SEAT



50 000 800 OC RELAX TILT BACKWARD

Extensive orthopedic and vascular research went into the Vertebra Seating System. For each model (see drawing above), the seat slides forward from the pedestal while the back independently reclines to maintain ideal posture in any normal seated position. Five models are available, with various base, arm, and back options.



Emilio Ambasz



1 Bedroom 2 Dressing 3 Bath 4 Bar 5 Wardrobe 6 Study 7 Storage 8 Entrance

could prevent the group from manufacturing the chairs themselves. But the manufacturer did not turn down the offer, and Kreuger now produces a very popular series of chairs.

The landscape formed

Like the top floor of most New York City brownstone houses, the one shown on these pages was also a long, narrow space with bedrooms at each end separated by service areas. The floor had been the master bedroom suite for the family's 15 years in the house, but the client was never satisfied with it or with any schemes for its revision. She wanted a separate sleeping and office area and three times more storage space, all in a place to retire in solitude. Also, as a trustee of the Museum of Modern Art and a knowledgable art collector, the client said, "I spend most of my life in art, and I wanted a place where I could get away from it.'

Without removing anything existing, Ambasz transformed the space by sheathing the middle service area with new walls, and then extending them into and around the front office/sitting area and the rear bedroom. The new space, he notes, "is conceived as an urban landscape where the furnishing elements are especially designed as architectural pieces capable of being reorganized into a variety of configurations of diverse use and meaning."

In the bedroom, a modular system of shelving is organized as a colonnade near the perimeter of two walls, forming an "ambulatory" around a "courtyard." The service core is treated as a street, with "street doors" on one side, solid walls and niches on the other. In the front room, the couch/desk plays the role of a monumental minimalist sculpture in an urban park. The wood furnishing elements are lacquered with alternating coats of lilac and gray, and emanate a warm tone from the apparently gray surface, especially when illuminated from the "headlamp" floor fixtures directed toward the lavender velvet wall covering. Then, at night, one is also most aware of the sky painted above. [David Morton]

Data

Project: renovation of house top floor, NYC. **Architect:** Emilio Ambasz.

Program: transform space into quiet retreat. Major materials: custom-made lacquered wood furniture, deep-pile carpet, velvet wall covering, Noce floor lamps. Client: withheld at client's request. Costs: withheld at client's request. Photography: Norman McGrath.



In New York apartment, service corridor (below) connects office (above) to bedroom (below right)





Bedroom (this page), as well as entire floor, is treated by Ambasz as metaphor of urban landscape, with painted sky enhancing the whole effect.





Vignelli Associates, founded in New York seven years ago by Massimo and Lella Vignelli, has become one of the world's leading design offices, its output a familiar and influential part of our visual surroundings. From their ubiquitous plastic stacking mug for Heller Designs to the controversial New York City subway map, from the graphic design of *Oppositions* to the corporate identity of Knoll International, the Vignellis' work has proved to be among the best and most varied being done today.

"Discipline, appropriateness, ambiguity," is Massimo Vignelli's credo. His wife explains, "We are very disciplined, very rational. There is a grid behind everything we do. But then we add that little kick of ambiguity, of creativity, when we no longer follow our own rules." That creative departure from the rules is sufficient to separate the distinctive, recognizable work of the Vignellis from that of their small army of imitators. Thus, since they opened their first office together in Milan in 1960, Lella and Massimo Vignelli have been able to produce a corpus of design that, viewed as a whole, is coherent, unified, and evolutionary to a degree rarely seen in a profession often led by fad and fashion.

Massimo Vignelli was born in Milan in 1931, and studied architecture at the University of Venice. Lella Vignelli, born near Venice, received her *Dottore Architetto* from that university also. She comes from a family of architects (her father was one, her brother is Gino Valle), and met her future husband at an architectural convention. After their marriage in 1957, he taught at IIT, while she worked as a junior interior designer at SOM Chicago.

Recognition of the Vignellis' accomplishments has been widespread: examples of the firm's work are in the permanent collection of the Museum of Modern Art, which also mounted a traveling exhibition of their designs. In 1973, the AIA awarded its Industrial Arts Medal to the couple. The wide range of their activities (interior, graphic, furniture, product, and packaging design, among others) has attracted a long list of international clients that is, in the end, the best recognition of all. **Vignelli Associates**

Leaving it better than they found it

The work of this husband-and-wife team frequently transcends its settings, and shows the power of good interior design.

Anyone who doubts the validity of interior design as a legitimate artistic pursuit ought to take a close look at the work of Lella and Massimo Vignelli. Though trained as architects, they rarely practice pure architecture per se. Like many other designers educated in Europe, they do not see the distinctions between disciplines so often perceived by American architects and designers. To the Vignellis, and most of their compatriots, all design is one, free from the artificial categorizations so common in our specialization-conscious age. Granted, these are two extraordinarily talented people, and the mere adoption of an integrated outlook will not raise the average designer to their standard of invention and artistry. But examination of their designs-and some recent ones in particular-will show how first-rate interior design can stand on its own merits.

Making the best of a bad situation

The Vignellis have long excelled at exhibit design. One of the frequent requirements of that branch of interior design is the skillful triumph over a given space that at first might seem inhospitable (if not downright inimical) to the things meant to be displayed within it. Making the space serve the objects becomes the first charge of such an assignment. Thus was the case at the Louvre in 1972, when the guintessentially modern furniture designs of Knoll International were exhibited in a setting more usually hung with vast canvases set in gilded frames. The Vignellis' dramatic displays-plexiglass vitrines bathed in down-spots amidst deep, dark backgrounds-created a sensation.

These designers have subsequently produced subtle variations on that theme. Their installation at the Minneapolis Museum of Fine Arts allows human-scale Chinese porcelains and bronzes to hold their own against a hall full of monumental columns. A further modification of that idea, at the Leigh Yawkey Woodson Ar Museum in Wisconsin, gives a covey o doubtful Dorothy Doughty birds a bette chance of aesthetic credibility by letting see them against a background of leaf boughs outside the window behind the

The Vignellis faced a similar set of circumstances when they were asked to execute the interior design of the new S Peter's Lutheran Church at the recently completed Citicorp Center in New York is at best an ungrateful task for a desig to be called in to do a job that ought to part of an architect's overall conception is even worse when the space reveals too clearly the lack of any such conception in the first place.

Brendan Gill tells the story of Helen Hayes asking St. Peter's pastor where glass "steps" of the church's slanting skylight lead. "Why, to heaven, of courhe answered. "They certainly made it h for us, didn't they?" replied The First La of the American Theater. Harder yet for Lella and Massimo Vignelli. They were given a space that is ungainly in the extreme, the stepchild of an external form quite unconcerned with interior develo ment, further hampered by detailing th egregious and gross. The effect of the Vignellis' admirable solution is therefor the more easily appreciated against a background of such disparate quality.

The first evidence of the Vignellis' we we see upon entering the church is the large three-dimensional Greek cross d sign raised on a partition that screens view of the sanctuary. Used also on pra book covers and church bulletins, this

A sampling of the work of Vignelli Associate **1.** New York City subway map, 1972. **2.** Disp case, Leigh Yawkey Woodson Art Museum, Wausau, Wi, 1976. **3.** Furniture collection fo tronova, 1964. **4.** *Knoll au Louvre* exhibition 1972. **5.** Plastic mug for Heller Designs, 197 **6.** Lobby interior, Greenwich Savings Bank, York, 1974. **7.** Graphic design, *Oppositions* stitute for Architecture and Urban Studies, N York, 1973. **8.** Interior design, Minneapolis S ciety of Fine Arts, 1974.



















Vignelli Associates

signia becomes, in effect, St. Peter's logo, a "corporate identity" that seems appropriate for an area of life that has suffered image problems of late. Depending on the occasion at hand (St. Peter's famous "jazz ministry" sponsors many musical offerings), the ingenious modular system of stepped wooden platforms designed by the Vignellis might be set up in any number of configurations.

Wrong church, right pews

Given the changing needs for seating at St. Peter's, the designers had to provide pews that would be movable, though substantial in appearance. The Vignellis adapted the boxlike pew forms that were used in early American church design. At St. Peter's, the pews are crafted from that favorite 1970s wood: light oak butcher block. Of the same material is the sanctuary's altar (the sacrificial reference is an intriguing, though unintentional, one). The various liturgical accessories candlesticks of white-painted metal tubing, censer, ewer, paten and chalice of silver—are things of stunning simplicity and grace.

If the church building so notably lacks a unified feeling, the interior design does not. The Vignellis worked with the fabricator on the arrangement of the exposed pipes of the new organ. The designers even devised a geometric pattern for the pew cushions, rejecting the use of a religious symbol. ("It would be disrespectful to sit on a cross," says Lella solemnly, reflecting her Italian upbringing.) Their similar thoughtful treatment of the smaller Chapel of the Good Shepherd at the church is just as successful, though that space is hardly the Vence chapel the church hoped for when it asked Louise Nevelson to design sculptures and vestments for it. The quality of the smaller components at St. Peter's far exceeds that of its larger ones, a reversal of magnitudes unusual for a church (which should lead our thoughts from the specific to the universal), but one for which all concerned can still be most truly thankful. [Martin Filler]

Data

Project: St. Peter's Lutheran Church, Citicorp Center, New York.

Architect: Hugh Stubbins Associates, Inc. Interior design: Vignelli Associates. Lella and Massimo Vignelli, interior designers. Associate designer: Henry Altchek.

Program: design of pews, altar, seating, organ case, liturgical accessories, and graphic design for main sanctuary and chapel of a new church. Major materials: granite and white oak floors, white oak ceilings, white oak butcher block seat steps, movable platforms, pews, and altar. Consultants: Louise Nevelson, sculpture and vestments, Chapel of the Good Shepherd. Cost: interior design approximately \$500,000. Photography: Jan Staller.



Needlepoint pew cushions (above) were designed by the Vignellis, and are being made by parishioner



Chapel (above and below) has sculptures by Louise Nevelson, pews and altar by the Vignellis.





All interior design appointments at St. Peter's, from granite baptismal font and organ case (below) to altar and furnishings (above), are by the Vignellis.



Marriott Corp. specifies steel framing for new headquarters building in Washington, D.C. area.

Owner/Construction Manager: Marriott Corporation, Washington, D.C. Architect: Mills & Petticord/Hellmuth, Obata & Kassabaum, Washington, D.C. Structural Engineer: Gillum-Colaco, Washington, D.C. Fabricator: Montague-Betts Co., Inc., Lynchburg, VA. Erector: Williams Enterprises, Inc. Merrifield, VA. Cost and speed of construction determined the choice of steel over other structural systems for the new Marriott Corporation International Headquarters at Bethesda, Maryland.

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10:30-12:00 Noon: THE ARCHITECT & DEVELOPER WORKING CLOSER TOGETHER IN SEARCH OF QUALITY - the case for design quality in the market place.

Speaker: Mr. Arthur Cotton Moore, Architect - Arthur Cotton Moore Associates

Moderator: Mr. Walter F. Wagner, Architectural Record Magazine

SESSION V-A, Tuesday, Oct. 17

2:00-3:30 P.M .: REMODELING & HOME IMPROVEMENT One of the most active and growing business opportunities on today's scene is in the field of remodeling and home improvement. This session will examine all aspects of this market growth opportunity.

SESSION V-B, Tuesday, Oct. 17

2:00-3:30 P.M .: THE LIABILITY DISTORTION One of the most serious problems confronting the building industry today is the rapidly rising number of legal suits and other forms of costly litigation. How does one best protect against this increasing and costly problem? All facets of this subject including insurance coverage will be discussed in this session by top experts.

SESSION VI-A, Wednesday, Oct. 18 10:30-12:00 Noon: PROFITABLE BUILDING SYSTEMS AND INDUSTRIALIZED HOUSING

Speakers: Mr. Bernard E. Ury, President-Bernard E. Ury Associates, Inc. Mr. R.L. Rotto , President—Trussway, Inc. Mr. Willard J. Schulner, President—Wisconsin Trust, Inc. Mr. Anthony F. Bosco, Product Manager-Trusses—Wickes Shelter

Systems

Moderator: Mr. Don O. Carlson, Editor & Publisher — Automation in Housing & Systems Building News

SESSION VI-B, Wednesday, Oct. 18 10:30-12:00 Noon: THE REHABILITATION OF OUR INNER CITIES -CHALLENGE AND AN OPPORTUNITY FOR THE CONSTRUCTION INDUSTRY Trends of "back to the inner city" is on the move in many of our older cities, which has introduced considerable capital improvement, new construction and the upgrading of existing buildings and homes. Several success stories will be presented during this session, including ideas on how members of the building team can profitably participate.

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Technics: Specification clinic

Developing fasttrack documents

William T. Lohmann

A fast-track construction procedure needs forethought, and requires careful structuring of time and paperwork.

The effect of fast-track construction on the designdocumentation process must be anticipated by the architect and engineer. Since scheduling within the office is based on construction needs, early decisions are necessary and often irrevocable. Therefore, feedback into the design process becomes critical to maintain a clear definition of each contract package and its relationship to others. The schedule for each package must include programming, design, approvals, and preparation of construction documents. It must also allow sufficient time for bidding, permits, shop drawings, fabrication, and installation. The mounting pressure of successive dependent contracts has been referred to as the snowball effect.

Because of the early commitment to build without knowing the final cost, close cost control is also critical to successful fast-track operations. The project coordinator normally sets high-low targets for each portion of the work and adjusts subsequent packages, thereby minimizing the owner's risk. Redesign of later elements is one of the means of accomplishing it. The owner can also transfer his risk to a general contractor or construction manager by awarding a single contract at a firm (or maximum) price before all of the bids are in.

The concept of multiple contracts imposes special demands on the project manual as well as on the architect's or engineer's office route. Compared to the documents prepared for a project let under a single contract, the emphasis changes in several ways. Coordination becomes more important. Consistent nomenclature, always important, becomes critical, especially for contract designations, section titles, parties to the contract, alternates, and unit prices. Whereas separate project manuals are usually prepared for each contract, a single accumulative volume may be more appropriate for a general contractor taking separate sub-bids. Specification section numbers for successive similar contracts should be numbered sequentially (03301, 03302, 03303). In each case, a table of contents listing current and previously issued documents is beneficial.

Bidding requirements: Occasionally, documents are issued for several contracts at one time because of scheduling requirements, opening the possibility of taking single or combined bids. The Advertisement for Bids (for public work), Instructions to Bidders, and separate bid forms must reflect that option.

General and supplementary conditions: When standard general conditions, such as AIA Document A201 and NSPE 1910-8, are used for fast-track documents, modifications are necessary. Basic to effective management is a careful definition of the role of the project coordinator. If the architect or engineer is serving that function, his expanded duties must be added to the standard definition. The requirements of mutual responsibility of separate contractors must be expanded regarding coordination, damage to the work, and delays. Retention and closeout procedures also change for multiple contracts. Always a problem, insurance coverage must be established before the first work is done. Once determined, the insurance program and other requirements of the General Conditions and Supplementary Conditions should be identical for all contracts.

Specifications: Division 1 of the specifications carries the major burden of defining the basic responsibility of each contractor. In the Summary of Work section, the specifier must describe the current work packages, concurrent and future contracts, and their scheduling ramifications. Elsewhere, the specifications must describe the project coordinator's role in scheduling, conducting meetings, logging and jogging submittals, and occasionally providing temporary facilities. The requirements for temporary facilities may be different for every contract, sometimes overlapping, sometimes being furnished and installed by one contractor and removed by another. For instance, coordination between initial temporary electrical service and later use of the building systems can be harrowing. The specifier often finds that he must describe such facilities, however, and others that are normally left to the general contractor to organize. In Divisions 2 through 16, a detailed description of work limits for each section and extensive cross-referencing of related work are mandatory. The cross-references are helpful to bidders and also serve as a convenient checklist for the specifier.

Drawings: The increased emphasis on coordination, nomenclature, contract designation, and issue dates is as applicable to the drawings as it is to the project manual. Areas of potential conflict between separate contracts are most easily resolved before the documents are released. Connections can be detailed on the drawings and products selected to minimize the number of involved trades. Depending on the complexity of the project, a separate set of drawings may be prepared for each major contract or a single set issued with coding for the interface of separate contracts. Subsequent drawings should be issued for the information of contractors already at the site. \Box

Author: William T. Lohmann, AIA, FCSI, is Chief Specifier for C.F. Murphy Associates, Chicago, Illinois.

Facts on a hot built-up roof

The forces acting on the built-up roof do not change. The materials and modes of application have changed, as have the priorities assigned to those old forces. The result has been an evolution process of the roof and an era of adjustment in the construction industry.

Prior to the Second World War, a built-up roof was a sound investment for all concerned. The roofs were designed to last 20 years and typically lasted 40. The owner was confident of his purchase and satisfied with the results. Manufacturers made money when the unused balance of the roof bond penal sum stayed in the bank, earning interest. Architects and contractors had a system which changed little from year to year and worked well.

Following the war, the built-up roof system began to change. The changes brought an increased frequency of court cases, lawyers' fees, and, what is worse, confusion. The result was a nervous industry. Fortunately, modern technology has come to the rescue with hard facts. The quagmire of accusation and finger-pointing is due for a lull once the era of adjustment is complete. Even so, writing about the subject is like planting rose bushes in a mine field.

Why is the built-up roof so complicated? Isn't it a simple sandwich? The elements of a built-up roof are clear enough; the problem is that the material properties within the elements elude generalization. All modern B.U.R. systems contain a roof deck, a layer of insulation, a waterproof membrane, and a protective top surface. The sandwich might contain a vapor barrier and a ceiling may exist below the roof, altering its total performance.

All roof decks serve as the major support of the roof assembly, but there are a half dozen different kinds, some nailable, others not. Some decks have good insulation value, or can serve as a partial weather barrier. A deck can be rigid and massive or light and flexible. Different decks absorb sound, or reflect or transmit it. Fire resistance varies from deck to deck.

The insulating quality of the roof deck can be augmented with the addition of insulation material. The material, usually rigid, can be either organic or inorganic, and is applied dry or formed in place. Obviously, the dozen or so different materials have good heat resistance capacity in common, but respond differently to moisture, bitumens, adhesives, metal connectors, fire, and structural stress (see P/A, November 1977).

A vital ingredient is the waterproof membrane to protect either the deck or the insulation or both. The bitumen keeps the water out; the roofing felts mainly act as reinforcing. Bitumen can be hot-applied (asphalt or coal tar pitch) or cold-applied (usually asphaltic), while reinforcing is either organic, asbestos, or fiber glass. The products vary in strength, dimensional stability, and fire protection (to name just a few properties).

All B.U.R. systems need a protective surface on the roof top. The product serves to protect the upper layers of the roof from deterioration by sunlight, weather, and airborne chemical waste. It reflects heat, resists fire, and protects the rest of the roof from the use and misuse of humans. The weight and color must be chosen, and it may be smooth or rough. The typical protective surface can be applied in sheet form, blown on, shoveled into place (as with gravel), or laid in place (as with pavers).

Minor elements include metal fasteners and/or adhesives, and possibly a ceiling below the roof. Studies of the effectiveness of the vapor barrier have found it only to be necessary in avoiding condensation within the roof in extreme cases of humidity.

Some architects attribute all of this complexity to nature's way of saying: "slope the roof, dummy." William Cullen of the National Bureau of Standards stresses the importance of roof slope, and recommends a minimum slope of 1/4 in. per ft.

The task of designing a good roof is not hopeless, but it is definitely not easy. The forces generating the problem are relatively fixed. The current subject of investigation and debate within the industry is the order which the elements take vertically in the system, and the effect the interrelationship between the elements has on the performance and the life of the roof.

As architects, we do not design roof systems, we select them. Insurance criteria, codes, and bond requirements offer only a finite number of possibilities. We rely on the counsel of engineers, but it is the architect who must understand the roof as a total system.



What's the matter with the materials?

The materials are all right.

Very few buildings are designed with flat roofs which are meant to be seen. It is no surprise to find a set of stock details for built-up roofs used from building to building by an architectural office. Lately, some of these trusty old designs have been developing flaws. Could one answer be the materials themselves?

Organic felts: The early organic felts used newsprint in the manufacturing process. Newspaper publishers are finding ingenious ways of retrieving and reusing newsprint, increasing its scarcity. It is not uncommon today for mixed wastepaper to find its way into organic felts. Mixed wastepaper is what you throw into your office wastepaper basket. The metal is removed, but the kind of paper on which this article is printed has more clay content than newsprint, and introduces additional ash ingredients to the felts. Old felts also had cotton or wool rags in them. Although today's synthetic clothes cannot be successfully used, most felts today have largely replaced rags with wood-pulp fibers. Heavy pollution-control restrictions have meant the use of recycled water which can possibly distribute undesirable particles into the process, and also threatens the quality of the material.

Despite these necessary changes, the product has handsomely adapted, and has maintained its high standard. The result, however, is a different organic roofing felt. It is a good product, and still makes a good roof. It simply must be recognized as a different roofing felt from that used forty or fifty years ago. It can be stiffer, and might accept less asphalt than in the old days. Organic felts are still the least expensive, most widely used roofing felts. Asbestos felts: The asbestos felt industry has not gone unscathed by discoveries of ill effects to humans caused by sprayed asbestos. Plant controls must keep people from inhaling the asbestos fibers. It is the reduced access to wood fiber, however, altering cellulose additives to felt products, which could yield a different result. Even if the higher price spread might be a little stiffer, the advantage of a smoother roof surface, and its corollary of easy repair and maintenance, increases the use of asbestos felts yearly

Fiberglass felts: A post-war innovation in roofing felt manufacture has been the fiberglass felt made on fiberglass mats. Early attempts at mat fabrication proved to be inferior to the market standards. Steam was used to layer plies of short glass fibers and asphalt. Today, however, new product developments show great strength characteristics especially at higher temperatures. One manufacturer uses a textile manufacturing process. A single, exceptionally strong glass fiber is designed to unravel before it snaps, and is five times stronger than the old, weaker mats. Another manufacturer uses glass fibers blended in a mat of uniform density and porosity. The process used is a wet process similar to

| Materials | used in preparation of test speci | mens | Flexural strength of membrane | | | | | | | |
|-----------------------------------|-----------------------------------|---------------------|--------------------------------------|-----------------------------|-------|-----|-----|--|--|--|
| Membrane designation Materials | | ASTM designation | Type of membrane | Maximum load at midspan, lb | | | | | | |
| , | Bitumens: | | | | 73 °F | (|)°F | | | |
| | Asphalt | D312, Type I | | La | ть | L | т | | | |
| | Coal-tar pitch | 450, Type A | | | | | | | | |
| | Reinforcing felt: | | | | | | | | | |
| А | Coal-tar saturated organic felt | D227 | Organic felt and coal tar | 73 | 44 | 141 | 39 | | | |
| В | Asphalt saturated organic felt | D226, 15 lb type | Organic felt and asphalt | 48 | 33 | 143 | 43 | | | |
| С | Asphalt saturated asbestos felt | D250, 15 lb type | Asbestos felt and asphalt | 45 | 17 | 97 | 17 | | | |
| D | Asphalt impregnated glass mat | D2178, Type I | Glass felt (Type I) and asphalt | 39 | 23 | 26 | 24 | | | |
| E* | Asphalt impregnated glass mat | New product | Glass felt (new product) and asphalt | 164 | 126 | 159 | 132 | | | |

Tensile strength of membranes

| Type of membrane | Membrane designation | Tensile strength, lb/in | | | | | | | | |
|--------------------------------------|-------------------------|-------------------------|-----|-------|-----|-----|-----|--------|-----|--|
| Type of memorane | designation | 73 °F | | 30 °F | | 0°F | | -30 °F | | |
| | | La | ть | L | т | L | т | L | т | |
| Organic felt and coal tar | A | 126 | 62 | 395 | 217 | 468 | 265 | 410 | 237 | |
| Organic felt and asphalt | В | 141 | 60 | 396 | 186 | 506 | 267 | 592 | 283 | |
| Asbestos felt and asphalt | C | 120 | 36 | 301 | 123 | 448 | 182 | 479 | 165 | |
| Glass felt (Type I) and asphalt | D | 86 | 70 | 190 | 161 | 175 | 144 | 184 | 123 | |
| Glass felt (new product) and asphalt | E | 202 | 159 | 510 | 408 | 448 | 365 | 372 | 301 | |

^aL denotes longitudinal or machine direction of felts. ^bT denotes transverse or cross machine direction of felts. ¹This type of asphalt impregnated glass mat was recently developed and therefore was not included in all the laboratory tests. Source: NBS Building Science Series 55 Preliminary Performance Criteria for Membrane Roofing.

paper making. Fiberglass mats are light in weight and strong. They are coated with bitumen as opposed to organic felts which are saturated. They come in longer rolls than the conventional felts, and the new machinery has been designed to adapt to the metric standards that will soon be upon us. Time will certainly erode the cost difference between conventional felts and the new fiberglass versions.

Hot bitumens: Asphalt and coal-tar pitch still are, and always have been, the backbone of the built-up roof concept. Once the sun, other weathering mechanisms, or misuse has deteriorated the waterproof membrane, it's time to man the lifeboats. Each type of bitumen has its own domain. Roofs with only a slight pitch use coal-tar pitch, and the steeper slopes use asphalt. Their properties are well known.

Asphalt is made, of course, from petroleum, the international political hockey puck of the 1970s. For a while, bargain hunting and confusion meant that oil came from many different sources, and asphalt manufacturers could not always predict the quality of their oil. These practices had ramifications up on the roof. Since then, companies have become much more selective in their source of crude oil. In addition, the Asphalt Roofing Manufacturers Association (ARMA) has released a report suggesting testing procedures for asphalt, and explaining methods to predict the future durability of a given sample of the material. The report also suggests what can be done to improve the quality of a batch of asphalt which has been found to be weak. The test is based upon observation of fluorescent particles exposed in black light which settle in the asphalt.

Coal-tar pitch comes from coke and the steel industry. A slowdown in steel construction means the supply of coal tar can go down, and the price can go up. Researchers are studying the effect that contact with hot pitch has on our bodies, but product quality has varied little with time. Cold bitumens: Hot application of bitumen has always been a hellish experience. The people who apply built-up roofing would be the first to embrace an alternative which would not cost more money and would do as good a job. A cold adhesive has existed for years, but was used only as a repair material because of the excessive cost. It was known as "cap sheet and smear." With the rising costs and restrictions on hot-applied bitumens, these old, cold solutions have undergone new scrutiny and increased mechanization.

Today, asphaltic-based cold adhesives are available to be sprayed on the felts. The product comes ready to use from the factory, and embodies all of the implied control advantages. It is sprayed using conventional equipment from containers that may rest on the ground. Accuracy of the spray may be controlled relative to the distance the nozzle stays from the work. The result is a neater and cleaner job than most conventional practice.

There are restrictions. The cold, asphaltic-based bitumen reacts adversely to polystyrene insulation material. Coated felts must be used, and three to five days' time is recommended before traffic is allowed on the roof. An obvious advantage to the spray application is that it may also be applied to a steeper, sloping roof. Mineral granules may be blown in place on the uppermost coat, or an aluminum-based mastic and paint may be used. In communities excessively concerned about the sight and smell of hot applications, the cold adhesives have found a ready market. The solvents in cold adhesives, however, also have their nonvisual effect on the atmosphere.

What is the problem with the solution?

Most industry experts agree that roof faults are partly due to changes in the materials themselves, such as those already mentioned. They are quick to point out, however, that the major portion of the blame lies not with the materials but with a change in priorities of the building shell.

Since the 1940s, new buildings have been installing air-conditioning systems. Buildings relieved of ventilation problems began to sprawl. Roof-spans became longer, and lightweight steel deck was needed as the roof deck material. Areas of roofs increased, requiring more concern with expansion joints. The air-conditioning machinery went up on the roof, and often stuck its base through the membrane. The light deck was more flexible than the old concrete roof decks, and strained membrane reinforcing. The biggest problem was the insulation of the metal roof deck.

Roofs constructed prior to 1945 relied on the heat-sink qualities of the concrete deck to control heat exchange. No concern was given to additional insulation. The popular post-war metal roofs required insulation boards. These boards were placed between the roof membrane and the deck, with a thick layer of asphalt as an adhesive between the deck and the insulation. In the prewar solution, the membrane temperature gradient between day and night saw a typical variation of 50F, for example (see the accompanying diagram). The night temperature cooled the massive concrete deck, and slowly the sun heated it during the day. The insulation on the steel decks resisted heat flow, but had no mass to retard the rise in temperature during the day, or stay the temperature drop of the membrane at night. The temperature variation of the membrane doubled. The membrane expanded and contracted more drastically than ever before. The insulation also expanded and contracted, and witnessed greater shear stresses trying to keep the membrane and the roof deck together.

On August 12, 1953, a \$55 million fire in a GM plant in Livonia, Mi, had a dramatic effect on the roofing industry. Examination after the fire led investigators to believe that the ignition of the asphalt adhesive between the insulation and the deck had been a contributing factor in the rapid spread of the fire. As a result, the permissible amount of asphalt adhesive in highrisk roofs was drastically reduced. Firerated built-up roof assemblies were required in class-one roofs, and manufacturers were pressured to substitute other organic-based adhesives and vapor barriers. The new standards caused confusion on the roof. Roofing crews, accustomed to slopping on asphalt, had to delicately line the ribs of the steel deck.

If the adhesion to the deck is incomplete, the insulation boards are moved with the membrane. If another part of the roof has insulation well adhered, that part does not move. The result is a split in the membrane, or membrane and insulation pulled away from the roof parapets. In short, trouble. Other roof deck coverings took to the air in a windstorm. A century-old roofing principle had been tampered with, but no one had foreseen the consequences. Perspiration turned to desperation.

Enter technology and reason in shining armor. The National Bureau of Standards began to investigate the situation physically. Strengths of the different materials were examined as well as their capacity to absorb expansion and thermal shock; roof performance standards were proposed. What is most important, people began to understand the complete interrelationship between the different elements of the roof.

Mechanical fasteners have solved part of the problem. Special nails have been developed to secure the waterproof membrane to the insulation in some cases. Other fasteners are designed to secure the insulation to the roof deck. These insulation fasteners are now required at the borders of the roof where control of wind uplift is critical

Regional and local climatic conditions are investigated, and materials matched to appropriate temperature extremes, wind, and moisture. Roofers are not so anxious to install a roof in bad weather, nor are owners encouraged to skimp on materials. The industry as a whole is intent upon educating the architect and roofer. Plans are being made for a national school of roofing and attempts are being made to restore confidence in a trusted roofing system.

The roof bond

Many industry spokesmen attribute the recent problems with the built-up roof to a decline in craftsmanship in roof application and the lack of responsible programs of roof maintenance. These problems are linked to the decline in confidence and efficacy of the roof bond.

The original applicators of the built-up roof were also the manufacturers of the roofing products themselves. When the industry expanded, the manufacturer separated his responsibility from that of the roofing contractor. His link to the quality of the roof was maintained, however, with the invention of the roof bonding system. The first written roof bonds were used in 1916 by Barrett, a New York roofing firm. The original bond was an agreement between the owner of the building and the roofing manufacturer in which the owner paid a sum of money upon completion of the roof. This money reserved a larger sum for him with the manufacturer. It was called the penal sum. For the duration of the bond period, that sum of money was reserved for the repair of the roof. If the accumulated roof repairs exceeded the penal sum amount, the owner was responsible for the costs.



Thermal Contraction of 4-Ply Roof Membranes Temp Dron Inches of Shrink

| Degrees F | Over 100 Ft. of Roof | | | | | | | |
|-------------|----------------------|----------|----------------|-----------------------------|--|--|--|--|
| | Organic | Asbestos | Tar Organic | ¹ Fiber Glass | | | | |
| 140° to 70° | .252 | .168 | .150* | .252 | | | | |
| 70° to 0° | .420 | .426 | 1.050 | .504 | | | | |
| 0° to -60° | 1.296 | .756 | 1.040 | 2.088 | | | | |
| Total in | | | | | | | | |
| 200° Drop | 1.968 | 1 386 | 2 240 | 2 844 | | | | |

Source: NBS Tech. Note 231 12/16/63 Cullen Transverse Direction Assumed *Estimated

¹Perma Ply-11



















A built-up roof over a metal roof deck requires insulation to control heat loss from a building. The use of insulation has a dramatic effect on the temperature of the waterproof membrane (1). Membrane constructions have varying capacities to expand and contract when heated or cooled (2). Understanding the behavior of the different elements of the built-up roof requires that we measure the temperatures of the roof system throughout the roof section (5) in both the summer (6) and winter (7). Fireproofing requirements have restricted the amounts of adhesive permitted on class one roofs (3). Good adhesion is essential to a successful roof. If the insulation is poorly attached to the roof deck in some sections as shown (4) and well attached in others, the result can be a roof split or pulling away of the membrane from the parapets.


















Koppers





11

10

Built-up roof problems: Tracing the origin of roof problems is rarely a simple task. Many can be reduced to maintenance problems (1) while others may result from a failure of the materials themselves, perhaps due to overexposure to ultraviolet rays or simple aging (5). Because of the nonvisual character of the roof, its design can be too often neglected by the architect. Misunderstanding the relationship between the roof and those objects which must penetrate it (3) (6), sit on it (4), or stick to it in the hot sun (2) is certain to lead to failure. If the roofer cannot reach the area to be roofed (7), how can the roof succeed? Careless construction crews must also accept part of the blame for roof problems. Effective practices for application of the bitumen and felts are well known for both hot (11) and cold (8) systems. The roofing felts must be broomed during hot application procedures, and wrinkles or air bubbles eliminated (9). Prior to use, materials must be stored and carefully covered with due respect to the weather (10) (12). Roof splits (13) and blisters (14) are the most common price that we pay for our ignorance and carelessness. Roof repair is much more expensive than doing the job correctly the first time. Clearly we need to coordinate all our efforts.



1978 STATUS — A PARTIAL LISTING OF COMPETITIVE DOCUMENTS AVAILABLE

| Manufacturer | Document | System | No. of Years | Comments | |
|----------------------------|---|--|------------------|--|--|
| Bird & Son | Bond | 3-4 Ply BUR | 10, 15, 20 | | |
| Celotex | (2) Bond | 3-4 Ply BUR | 10, 20 5+5 | (To be discontinued 1979) | |
| | Inspection and Service Contract | 3-4 Ply BUR | | (To be discontinued 1979) | |
| | Inverted Roof Guarantee | 3-4 Ply Protected Membrane | 10 | Must be all Celotex construction. | |
| Certainteed | Bond | 3-5 Ply BUR | 5+5 | Glass felts only. | |
| Dow | Warranty | 3-5 Ply Protected Membrane | 10 | | |
| Flintkote | Limited Warranty Guarantee | 2 Ply Coated sheet BUR | 10 | Cold Adhesive | |
| | Guarantee | 3 Ply BUR 4 Ply BUR | 15 20 | Waterproof mem. only Waterproof mem. only | |
| GAF | (2) Inspection and Service Guarantee | 3 Ply Mineral Shield 3-4 Ply BUR | 5+5 | | |
| | Service Guarantee | 3-4 Ply BOR 3 Ply Mineral Shield 3-4 Ply BUR | 10 | | |
| Johns-Manville | (2) Guarantee | 3-4 Ply BUR | 5+5 10+10 | | |
| Koppers | Bond | 3-4 Ply BUR 4 Ply BUR | 10, 15 | Coal tar pitch only | |
| | (2) Guarantee | 4 Ply BUR | 10 5+5 | | |
| Owens-Corning Fiberglas | Bond | 3 Ply Glass BUR 4 Ply Organic BUR | 10, 15, 20 10 | | |
| Pittsburgh-Corning | Guarantee | 4 Ply BUR | 10+10 | No cost to owner | |
| Silbrico | Warranty | 4 Ply Protected Membrane 3-4 Ply BUR | 5+5 | No cost to owner | |
| | | | 5+5 | No cost to owner | |
| W.R. Grace | Warranty | 4 Ply BUR | 10 | | |





Mechanical fastening devices may prove to be a solution to many roof problems. Products are developed for attaching the insulation to the metal deck (above top), or for fixing the base membrane felt to the insulation itself.

The company only sold its materials to approved contractors. In those days, this was an honor and a distinction carried with pride by contractors. The manufacturer inspected the construction site to make sure all of the proper materials and application techniques were used. Decks were to be flat, dry, smooth, and free of debris before the work began. If something went wrong, and the source was determined to be defective material or normal wear and tear, the roof was repaired by the manufacturer to the extent of the penal sum.

After World War II, the profit motive pressured some manufacturers to approve unqualified contractors. The roof inspector frequently became the salesman who sold the material in the first place. The owner sometimes got a poor roof. The manufacturer used up the penal fund, and the owner was left to his own resources. The industry was slapped with propertydamage suits in addition to roof repairs.

The response to this situation was clear. Owners demanded a complete guarantee of their roofs. The industry has provided that guarantee. The scale of the failure had changed, and the scale of the responsibility as well. All of these guarantees, warranties, and service contracts specify clearly the required construction of the roof. Some permit products other than those they manufacture to be used, others do not. Some include both the insulation and membrane. Other plans specify that inspection procedures will occur at a specified time (after five years, for example). An extension is available on the original guarantee provided the roof is brought up

to its original condition by the owner. Some of the guarantees are provided at a fee per roofing square (100 sq ft); others do not charge for the guarantee. None of the warranties and guarantees involves a penal sum. The roof is completely guaranteed against failure under normal use.

The pendulum has begun its swing back towards the original quality of the built-up roof. Now that total roof systems are understood, the era of adjustment is nearing completion. As confidence returns, many manufacturers believe the popularity of the bond will return with it as the proper scale of insurance for a well-designed and wellexecuted roof.

Brave new world

In short, sun, wind, and fire problems have been setting the stage for rain and snow. A split and blistered roof gets battered by the law of gravity. Manufacturers began in the early 1960s to search for ways to protect the roof membrane itself. At first, these attempts seemed about as logical as slapping a piece of rye bread between two slices of salami. Wiser heads remember the lessons of sod roofs in "folk" architecture. Insulation material was layered over the membrane and then covered with gravel for sun protection and sometimes for ballast. The result was that the waterproof membrane no longer endured large temperature swings between day and night. As a matter of fact, with the membrane next to the roof deck, it stayed practically constant in temperature all day long, all year long! Without excessive heat, there can be no blisters! Score one for

human ingenuity. Not so fast: the membrane is protected, but now we must protect the insulation, and we must hold everything in place!

True, one brace of problems seemed only to replace the other, but certain manufacturers felt that their products could cope. The new problem was exposure of insulation to human traffic, puncture, and greater variations of temperature. Roof drainage had to be solved, uplift from rain and wind conquered, and access to the membrane provided in the case of a leak. Let us examine how these systems work.

The protected membrane roof

Expanded polystyrene: In the system, as designed by The Dow Chemical Co., hot asphalt is spread on the top surface of the waterproof membrane and allowed to cool slightly. The bitumen is still sticky when the foam boards are butt-jointed and walked into place. The bottom edges of the boards are notched to act as guides for the water; then gravel covers the foam boards. In reality, the adhesion of the boards to the membrane is assumed to be imperfect. The water on the roof finds its way to the membrane through the cracks at the joints of the boards, but does not freeze because the surface of the membrane is warm from the building beneath. Instead, even in the coldest weather, it meanders to the drain. Because of the potential of water under the insulation, the boards must be weighted down against buoyancy.

Industry critics point to the cracks in the insulation and the draining water, and in-

THREE COMPETITIVE EQUALLY INSULATED PROTECTED MEMBRANE ASSEMBLIES All are assumed equally waterproof, wind resistant, and fire resistant. We assume a metal roof deck.

| Comparison Criteria | Silbrico | Celotex | Dow |
|--|--|---|---|
| R value of insulation (common values) | R=10 | R=10 | R=10 |
| R value/inch | 2.2 | 7.14 | 5 |
| Thickness Necessary (insulation only) | 4.0'' | 1.4" | 2'' |
| Available Thicknesses (insulation only) | Variable (compacted in place) | .8′′-3.0′′ | 1''-31/2'' |
| Weight above the deck (membrane, deck prep. for membrane, gravel, and insulation) | 19.2 psf | 8.56 psf | 14 psf |
| Water Absorption | Low | Low | Most moisture resistant |
| | Water resistant and sloped | Water resistant material | insulation and low WVTR (water vapor transmission rate) |
| Drainage | Pitched to drain | Pitched to drain (1/4" minimum) | Displaces water to drain and pitch to drain |
| Insulation Continuity | Monolithic, no joints | Modular (Sealed Joints) | Modular (Butted Joints) |
| Installation Procedure | Requires compacting roller otherwise conventional. | Conventional Hand trimmed in field | Conventional Hand trimmed in field |
| Cost | Slight premium over conventional | Same as conventional | Same as conventional |
| Strongest competitive attribute. | All-weather Crete is a single product that provides drainage and insulation. No dissimilar materials are used to slope and then to insulate; there are no split responsibilities. | Superior performance at the same cost as a conventional roof. | Long term retention of thermal value, proven performance, and most versatile retrofit insulation on the market. |



THE DOW CHEMICAL SYSTEM

THE CELOTEX SYSTEM

THE SILBRICO SYSTEM

The table above compares three protected membrane roofing systems currently on the market. The Silbrico system uses compacted asphalt and perlite aggregate for insulation; the Celotex version prefers urethane foam boards; the Dow Chemical solution chooses expanded polystyrene.

sist that the resistance to heat flow offered by the system must be affected. They also criticize the additional cost of structure necessitated by the increased gravel weight. Compared to a smooth asbestos conventional roof, a protected membrane system seems remote for finding leaks.

The Dow Chemical Co. counters with data that show the heat loss through the cracks is not significant. The same rain which steals heat in the winter helps drain off unwanted heat in the summer. The net result, they explain, is insignificant. Insulation can be added to the roof by merely sweeping away the gravel, adding a layer of adhesive, and doubling up the insulation boards. Finding a leak in their system is reduced to examining the membrane area just above the leak. A conventional system might have wet insulation under the leaking membrane, which allows the leak to travel a great distance from its origin before entering the building. Urethane: An equally prominent protected-membrane system is that manufactured by Celotex. The system begins with a hot-asphalt layer over the top of the membrane, but does not need cooling time. The urethane foam boards are laid directly in the hot asphalt, which acts as an adhesive. Once the insulating layer is in place, the joints are hand-poured with asphalt. A hot flood-coat layer of asphalt is then applied, creating a surface in which the top layer of gravel is embedded. The roof deck underneath is sloped to drain. Water is not permitted under the insulation, and the gravel needed is the same weight as conventionally necessary. The surface of the insulation is faced with asphalt-saturated felts, and its core is reinforced with glass fibers.

The system does not add extra weight to the structure, and the sealed joints do not produce criticism for heat loss. The excellent insulating qualities of urethane, however, undoubtedly heat up the surface coat of the asphalt as it did the original membrane, and critics claim new problems can develop on the surface. Unexpected excess foot traffic also threatens to decrease the effectiveness of this protective surface.

Compacted asphalt and perlite. Another product on the market is offered by Silbrico. It is not a board insulation product but rather a monolithic, formed-in-place layer of compacted asphalt and perlite aggregate. The insulating material is applied directly over the waterproof membrane, and roller compacted. It will conform to any geometry as long as access is provided for the rolling device. The finished surface is pitched to drain, and covered with a layer of gravel. The Silbrico product is tough and durable. Traditionalists point to the sloping roof with delight, especially in climates where rain and moisture are ever present.

Competitors criticize the necessity of the heavy roller as being a drawback. The insulation material's weight in general surpasses that of the other two systems. As an asphalt product, it is also slightly more expensive than a conventional system. Architects, however, seem to be comfortable walking on its durable, monolithic surface.

All of the protected-membrane systems require a surface-preparation layer for the membrane when used over a fluted metal deck. A layer of gypsum board is used for the board insulation versions, with mechanical fasteners or steep asphalt adhesive. Pressboard is preferred for the monolithic asphalt-base system. The preparation layer must have a low resistance to heat flow if the membrane is to retain the temperature of the roof deck itself. The compacted asphalt and perlite system also uses a protective surface over the membrane to avoid damage to the membrane during construction.

On the horizon

Roofing systems as a subject are not static. There are today almost as many replacement systems for built-up roofing as there are variations of the conventional B.U.R. Some involve only a single membrane encompassing insulation and waterproofing. Other manufacturers are developing liquid membrane systems or foam-in-place insulation. The problems of the last thirty years have matured the B.U.R. It is a tough and fierce competitor with its logic restored. The opponents who challenge its place at the top had better expect a battle! [Richard Rush]

Acknowledgements

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For built-up roofing product and literature information, see p. 158.

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

The differences? Tempchek has organic instead of inorganic s, a different chemical composition, and a different color. all y because it doesn't have to be fire-rated like Thermax And one more thing.

er costs.

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

| R FACIOR COMPARISON (Typical Thicknesses) | | | | | |
|---|----------------------------|-----------------------------|---------------------------------------|------------------|-------------------------|
| ··R" | Thermax Roof Insulation | Tempchek Roof Insulation | Perlite & Urethane Composite Board | Fibrous Glass | Perlite & Fiberboard |
| 8.3 | 1.2″ | 1.2″ | | | 3″* |
| 10.0 | 1.4″ | 1.4″ | 1.9″ | 2-1/4" | 4″* |
| 11.1 | 1 6″ | 1.6″ | | 2-7/16" | the state |
| 12.5 | 1.8″ | CLAR PERS | 2.2″ | State of the | 1 Basis |
| 14.3 | 2 0″ | 2.0″ | 2.5″ | | |
| 16.7 | 2.3″ | 2 3″ | 2.8″ | 4 | |
| 20.0 | | 2.8″ | 3 2″ | | |
| 25.0 | | 3.0″ | | | |

*In two layers.

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

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



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

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

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What makes the most protective roof practical?

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

beneath the insulation and will not alligator.

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

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

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Norman Coplan

Despite some pressure to hold architects liable for defective designs, 'product liability' decisions are based on negligence in not using reasonable skill.

If suit is instituted against an architect for damages sustained by an owner arising out of a defective building project, such suit is usually premised upon a claim of malpractice or breach of contract. On occasion, a claim will be asserted that an architect is liable for a defective building project, even in the absence of fault on his part, on the theory and under a doctrine generally known as "strict product liability." This doctrine arose in the law of sales, and in essence provides that the manufacturer or seller of a product impliedly warrants that such product is fit for the purpose intended and he is liable to the buyer for a defective product regardless of the question of negligence.

The doctrine of strict product liability has not been applied generally to create liability in persons who are furnishing services, as distinguished from selling products. In Michigan, for example, the court held in Chapel vs *Clark*, 117 Mich. 638, that such doctrine was inapplicable to architectural services. In Van Ornum vs Otter Tail Power Co., 210 N.W. 2d 188, the North Dakota Court ruled that "an architect is not strictly liable for defective designs" but "may be held liable for negligence only in failing to exercise the ordinary skill of his profession." In Allied Properties vs John A. Blume & Associates, 25 Cal. App. 3d 848, the California Court said that "where the primary objective to a transaction is to obtain services, the doctrines of implied warranty and strict liability do not apply." In Pennsylvania, Alaska, and in other jurisdictions where the courts have appeared to apply liability based upon an "implied warranty of fitness" to transactions which involve the furnishing of services, what was actually imposed was no more than a "warranty" that the person rendering the services would not act negligently or would possess and provide a degree of care and skill a reasonably gualified person would exercise or possess in the performance of the profession (Bloomsburg Mills vs Sordoni Constr. Co.,

401 Pa. 358; Pepsi Cola Bottling Co. vs Superior Burner Service, 427 P. 2d 823; Wolfe vs Virusky, 306 F. Supp. 519).

Generally architects have relied upon the traditional rule that they do not guarantee perfect performance, but only that they will perform without negligence. The question of whether the practice of the architecture should be subject to a stricter liability equivalent to the strict product liability doctrine is often raised, and in some jurisdictions, this issue has not been finally settled. This subject has recently been dealt with in New York by decisions of that state's highest court, the Court of Appeals. In the case of Milau Associates vs North Avenue Development, 42 N.Y. 2d 482, an action was instituted against a general contractor arising from a massive burst in an underground pipe connecting a sprinkler system to the City water line causing substantial damage to merchandise which was stored in a a warehouse. The suit was based on the alternative theory of negligence and breach of an implied warranty of fitness for a particular purpose. The intermediate appeals court suggested that, in certain instances, such doctrine of implied warranty might apply to a contract involving services. Upon appeal, the New York Court of Appeals said:

"... this court ... has held that 'when service predominates, and transfer of personal property is but an incidental feature of the transaction,' the exacting warranty standards for imposing liability without proof of fault will not be imported from the law of sales. . . . Those who hire experts for the predominant purpose of rendering services, relying on their special skills, cannot expect infallibility.... Reasonable expectations, not perfect results in the face of any and all contingencies, will be ensured under a traditional negligence standard of conduct. . . . Given the predominantly service-oriented character of the transaction, neither the code nor the common law of this State can be read to imply an undertaking to guard against economic loss stemming from the nonnegligent performance by a construction firm which has not contractually bound itself to provide perfect results."

The court pointed out that there was a different social policy underlying the development of the law in respect to sales of products as compared to the furnishing of services, stating:

"... to a much greater extent than professionals ... in the services arena where standards are usually set contractually, sellers of goods typically encourage mass public reliance on products' fitness and safety through advertising, packaging and other promotional devices.... No such situation presents itself here and we can find no reasonable basis in policy or in law for reading what would amount to a warranty of perfect results into the contractual relationships defined by the parties to this action."

Although the *Milau* case involved the services of a general contractor, its rationale would be applicable to professional services of any kind. The New York Court of Appeals, shortly after its *Milau* decision, applied its conclusion in a case involving architectural services (*Sears*, *Roebuck & Co.* vs *Enco Associates*, *Inc.*), stating:

"Finally we note our agreement with the determinations below that no action lies for breach of implied warranty, or what is now known as strict product liability, on behalf of an owner against the architect with whom he has his contract. Certainly this is true in New York."



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T. R. Scowden, Water Company Pumping Station, Louisville, Ky 1860.

A Pictorial History of Architecture in America, by G. E. Kidder Smith, with chapter introductions by Marshall B. Davidson. New York, American Heritage Pub. Co., 1976. 2 vols., 832 pp., \$39.95.

The appearance of G.E. Kidder Smith's two-volume survey Architecture in America marks a long-awaited event. It is the first photographic documentary of this country's architecture from its earliest known manifestations in 12th-Century Southwest Indian shelters to, as Kidder Smith puts it, "the often awesome projects of our own time." Chronological and regional organization of the material is particularly commendable. Not only can the reader follow the idiosyncratic lines of development in civic, domestic, commercial, educational, religious, and industrial design within each region, but also, by flipping back and forth, these stages and categories can be compared from one region to another. As the great visual panorama unfolds, the viewer is increasingly persuaded that, as editor Marshall B. Davidson states: "Over the years this country has probably produced more different styles of buildings than any other nation in the same span of time."

A brief, historical essay by Davidson introduces each region. The following photographic sequence is larded with additional commentary on important people and events associated with the buildings. Beyond basic stylistic and programmatic descriptions, however, there is little penetrating architectural analysis. Nor is there any real assessment of the implications of architectural form in terms of the interactions between architectural theory and social, political, and economic factors. This lack is missed most in the boom period following World War II, when complex cultural factors coincided with technological developments to bring forth the glassy office tower, the corporate country palaces, innovative plans for schools, and the [continued on page 146] Why should a future-oriented company buy the Am Se Co Open Office Furniture System?

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Books continued from page 142

pervasive assimilation of International Style principles into residential design. However, given the scope of the project, the text is informative and constructs useful bridges between the photographs. Understandably, it elaborates the more coherent past, growing increasingly *pro forma* as it approaches the present.

Preservation is a persistent theme. It hardly needs emphasis when the very course of architecture as presented testifies that there is no recapitulating the past. Once destroyed, it can be restored only at vast expense.

The revealed progression from the human-scaled orderliness of the pre-Modern, low technology buildings to the mega-scaled, expressive order of contemporary hightechnology structures prompts speculation about where it is all leading. Significantly, the qualities of even the most impressive pre-Modern buildings are adequately conveyed at close photographic range. By contrast, photos of many of the post-World War II monuments show only abstract fragments that reduce the subject to some readable format but do not present its overall effect. At least this is the way Kidder Smith has managed it. His general concern with scale is a great help to the viewer. By providing, in nearly all ground-level photos, at least a glimpse of a human form, he gives valuable clues to size and space.

By the author's admission, the selection of the buildings was a personal one, reinforced by research, and finally determined by on-site inspection. Some 3000 buildings processed in 130,000 miles is an impressive record, even for such an indefatigable tourist as Kidder Smith. It may not be everyone's list; those with extensive knowledge of certain regions may miss some favorites. But once again, the scope of the project excuses a few omissions. Furthermore, the personal bias of a knowledgeable observer contributes to the work's value as a document of its time.

However, it is disturbing to find some of the selections given such shorthand visual treatment that it severely curtails the viewer's understanding of the subject. If, as the caption states on p. 342, the Owens-Thomas House in Savannah, Ga, is considered by many to be the finest Regency house in America, why does the photo show only a part of a ground floor wall with an enticing, wrought-iron balcony? Similarly, Lavius Fillmore's Congregational Church in Middlebury, "considered by many to be Fillmore's masterpiece and the finest church in Vermont," is puzzlingly abbreviated to two doorways. Admitting that the presentation of large-scale, contemporary buildings is problematic, the viewer may still feel at times that Kidder Smith expects him to be able to cross-reference every other well-known photo of a given subject. Although this is great fun for the well-informed, it is somewhat irresponsible in a publication broadly aimed at raising the general public's level of knowledge. For the uninitiated, the photo on p. 247 of Mies's Seagram Building seems designed to veil it in mystery; while, for the cognoscenti, the water tower of Saarinen's G.M. Technical Center can never represent the complex of buildings in their splendidly composed setting.

Finally, for anyone whose delight in architecture is [continued on page 150]



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Books continued from page 146

deeply bound up with a sensuous pleasure in the texture of materials and the play of light on form, these volumes will hold unending delight. A reverential concern for communicating these qualities greets the eye on every page, not only in dramatic contrasts like the juxtaposition of the jagged, rocky, 1919 Gillette Castle with the silky-smooth, 1962 Comsat Earth Station (pp. 98-99), but also within photos like those of the 1637 Hoxie House (pp. 22-23) where the textures of shingles and foliage magically interact. In the best tradition of pictorial histories, these volumes are a true armchair *invitation à voyager*. [Sally Woodbridge]



Boat as house

Houseboat, by Ben Dennis/Betsy Case. Seattle, Smugglers Cove Publishing, illus., 126 pp., \$9.95 paper, \$14.95 hardbound. Reviewed by James Murphy, P/A Managing Editor.

There are only a few ways to describe this little book, but it would be hard to avoid modifiers such as "very nice," or even "beautiful." Beginning with 30 pages of fascinating history about the origins of houseboating in North America, the book prepares the reader in a factual way for a thoroughly delightful 96 pages of color photos. The section on history is illustrated with old shots which help to document the sometimes folksy events of the old West. The text throughout the rest of the book is just enough to convey the lifestyle of houseboaters without becoming tedious, or for that matter, trite. It is clear that the authors fully enjoyed themselves while putting their facts together. The warmth of the visits to so many boating families comes through in the text, and the photographs are breathtaking in subject matter and composition.

This fine effort will find its way to many coffee tables, indeed where this reviewer saw the first copy, and it should. It is a book about life on the water, about how the families and people who have houseboats feel about their way of life. It is, in short, a "lifestyle" book, and is thoroughly enjoyable and lovely. We can highly recommend readers buy this one, it is a bargain at the price, and one which will delight all but the coldest of hearts.



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Arizona Bank Plaza itects: edman and Jobusch chitects and gineers, Inc. tractor: FCO Construction,

slinger-Lefler, Inc. er Elevators Illed by ona Elevator, Inc.

No. 331

Progressive Architecture

Products and literature



Trifoglio dining/conference tables.



Interior design

The items below specifically relate to the interior design articles beginning on page 69 in this issue. They are grouped here for the reader's convenience.

Products

Trifoglio dining/conference tables, either round or rectangular, have a base of three polished chromium intersecting circles from which extend three columns. Tops are available in a variety of marbles, slate, travertine, granite, and smoked glass. The round table is 29 in. high and comes in four diameters: 36, 42, 48 or 54 in. The rectangular version is 84" x 42" on a double pedestal, with a top of Carpathian elm burl. Stendig, Inc.

Circle 129 on reader service card

Wool prints, designed by Milo Baughman for Wool Prints International, are all 100 percent natural wool. There are two large- and two small-scale designs in the group, with prints in char/brown, charcoal, and camel. Connecting arches, one of the patterns, is shown on a chair also designed by Milo Baughman for Thayer Coggin. The collection is being used on the company's new pieces. Thayer Coggin, Inc. Circle 130 on reader service card

Office chairs added to the 450 Series are a high-back, swivel-tilt chair and a fiveadjustment secretary's chair. Improved leg design featured on the new designs, with optional dual wheel casters, will be used on the entire line. A wide choice of fabrics is offered. GF Business Equipment, Inc. Circle 131 on reader service card

Workstations of the 9000+ Series have passthrough or hang-on options. Added to the line are 145 new assemblies to increase design flexibility. The panels have dual-circuit power distribution, with 20 amps for lighting and 20 amps for office machines. Both sound-barrier and sound-deadening materials are used, and





Office chairs

Workstations



Sound dividers.

panels have a flexible hinge that serves as sight and sound seal. Heights range from 42 in. to 75 in. Steelcase.

Circle 132 on reader service card

Sound dividers define work areas and provide uniform appearance in an open office plan. The panels are three in. thick, consisting of an aluminum frame, a rigid metal septum, and a 1-in. layer of Fiberglas insulation on each side of the septum for speech privacy. The design incorporates a cavity for electrical and telephone wires. Leveling glides are provided at end panels and intersections. Panels are available in 5-ft or 6-ft heights. The acoustical system in the Flint Ink Co. office shown includes ceiling tiles. Owens-Corning Fiberglas Corp. Circle 133 on reader service card



Lytetubes.

Lytetubes are the first fluorescent lamps with striking design. They come in 62-in. and 110-in. overall lengths, and 31/4-in. diameter. Finishes are polished aluminum, brass, and bronze; colors are bright white, red, yellow, blue, and brown. Mountings include pendant, track, and stem. Lightolier.

Circle 134 on reader service card

Sculptures In Wood. Office furniture, designed by Warren Platner, is made from wood, leather, and granite. Included in the group are work and conference tables, desks, credenzas, secretarial work stations, telephone console, and occasional tables. All have beveled edges and radiused surfaces. Lehigh-Leopold Furniture. Circle 135 on reader service card [continued on page 160]

Disco's revolutionary T-2001 thermal window will reduce initial HVAC equipment costs, maintenance and energy use

Heli-arc welded corners give greater in-place frame stability.



Poured-in-place polyurethane thermal break provides a full %" separation between the interior and exterior surfaces of the frame members.



Blind maintenance is virtually eliminated with the fully enclosed narrow slat venetian blind. Blinds are available in any color, and can be raised, lowered or turned without opening the window by using the control knob. Independent life-cycling costing studies show that the cost of the T-2001 used in commercial buildings place investment recovery periods at four to five years. On a 20-to-40 year projection the T-2001 will save millions of dollars by reducing energy costs and maintenance.

The T-2001 is the only side-hinged, in-swinging aluminum casement window with a pouredin-place polyurethane thermal break which provides a full %" separation between the interior and exterior surfaces of the frame members.

The corners are heli-arc welded and the windows are wedge-glazed to provide a high compression seal between the glass and aluminum. Disco's T-2001 has a U-value of 0.46. (Air-to-air coefficient of heat transfer in B.T.U.'s per-hour-per-square-foot-per-degree fahrenheit.) It has a shading coefficient factor of 0.20 which represents an 83% reflection of solar heat. Sound transmission is reduced to a STC rating of 41. We can provide certified test results from an independent laboratory on these performance factors.

For more information write Disco or send us your specifications for a no-cost, independent life-cycling costing study on your next project. It will prove our T-2001 is the best commercial thermal window on the market.



Products continued from page 158

Cab chair, especially suitable as a dining chair, was designed by Mario Bellini. It consists of a tubular steel frame with a one-piece "belt leather" zip-on cover. The chair is said to provide excellent lower back support. The covering comes in black, red, and natural Russian leather. Atelier International, Ltd.

Circle 136 on reader service card

The ZAPF Plus office system includes new panel sizes, provisions for word-processing equipment, closet and drawer fittings, wire organizers, and dolly and jack equipment for changing positions of individual stations or files. Three new veneers available are mahogany, in a medium brown; Aniegre, a light-to-medium bisque color hardwood; and Techgrain, a patented process veneer. Knoll International. *Circle 137 on reader service card* **Irish Tweedcloth** of 100 percent wool is made in Ireland of local wools in designs by Ward Bennett. The fabric is said to be strong enough to make backing unnecessary. Designs, available in 18 yarn-dyed colors, are reversible, allowing a variety of color coordinations. Brickel Associates Inc.

Circle 138 on reader service card

The Georgian Collection. Furniture in the 18th-Century Georgian style is offered in a complete office line of desks, wall units, and seating. Options are available to suit work patterns and office arrangements. Kittinger Co. *Circle 139 on reader service card*

Conference/dining table groups, in round and rectangular collections, have tops in a variety of materials. The round group have ¼-in. solid wood edges, with tops in diameters from 36 in. to 66 in., set on 28½-in. high steel columns. Bases are x-shaped stainless steel. Tops can



The ZAPF Plus office system. Irish Tweedcloth.





The Georgian Collection.



Conference/dining table groups.



Triton II office modules. Commercial carpet collection.



be walnut, oak, plastic, teak, rosewood, or polished glass. Rectangular shapes have 6-in. radius corners, with a 1¾-in. solid wood bullnose. They have either four or six round stainless steel legs, depending on top size. Tops are walnut, oak, teak, rosewood, or elm burl. Both are offered in custom woods. Helikon Furniture Co., Inc.

Circle 140 on reader service card

Triton II is a group of wood open office modules for executive offices. In addition to desks there are storage units and panels that serve as office walls, and work surfaces. Major components are already assembled, but modules can be added to provide the work and storage area required. The system is complete with prewired ambient and task lighting. Woods and veneers are oak or walnut, with oil finish. IKD Corp. *Circle 141 on reader service card*

Commercial carpet, Series 88, comes in three prints totaling 13 colors which can be coordinated with 18 solid colors in the Election group. The carpet is 29.5-oz tight, dense, cut pile construction of anti-static nylon fiber. A four-step process of heat-setting, plying, and tufting of the yarns eliminates pilling and fuzzing, according to the manufacturer. Designs are "Metropole" (shown), a geometric; "Checkmark," a tailored check pattern; and "Braemar," a plaid. All are available in 12-ft width with jute secondary backing. Armstrong Cork Co. *Circle 200 on reader service card*

Reception seating system, an expansion of the company's Bentwood Series, is based on the 4010 chair. Wood finish is oak or walnut, and chairs may be covered in company's fabric or to customer's order. Mueller Furniture Corp. *Circle 201 on reader service card*

Paradigm Series office seating comprises six chairs: armless; with metal open arms; with upholstered arms, either open or closed; and high-backed with upholstered arms, either open or closed. Recessed arms avoid contact with work surface edges, and swivel bases have blunt edges to avoid damaging shoes or back cabinets. Upholstery fabrics include vinyl, glove leather, and lightly textured fabrics. Stow/Davis. *Circle 202 on reader service card*

Operable Walls in the 2500 Series, available in continuous hinged units, come in a variety of surfaces including decorative textured or woodgrain materials. Exposed aluminum surfaces have a dark bronze finish. Panels may be stored outside of the function room, inside the room, or along the wall. Continuous contact seals on the panels provide light and sound barrier. Richards-Wilcox Manufacturing Co. *Circle 203 on reader service card*

Drafting stool has contoured seat and back to avoid fatigue. Seat height is adjustable with gas-operated lift. Simple controls adjust back up or down, forward or back. Polished cast aluminum base has five-leg pedestal with either casters or nylon glides. Choice of fabrics is offered, or it can be covered in customer's own material. Loewenstein. *Circle 204 on reader service card* [continued on page 164]

Another beautiful reason to design with Alma.

Series 3500 is one of the many Alma lines designed for efficiency and comfort. Alma offers the designer a range of styling from the traditional to the contemporary. For details write: Alma Desk Company, P.O. Box 2250, High Point, North Carolina 27261. Or visit your nearest Alma showroom.

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Products continued from page 160

Wallcoverings and companion fabrics. The "Gloria" collection of designs by Gloria Vanderbilt comprises 21 wallcoverings in 86 colorways and nine coordinated fabrics in 28 colorways. The wallcoverings are gravure-printed on fabric-backed, scrubbable vinyl and Du Pont Mylar® grounds. Fabrics are easy-care cottons and cotton/polyester blends. James Seeman Studios, Inc., Div. of Masonite Corp. *Circle 205 on reader service card*

Chairs in a contemporary style feature stainless steel frames. The C-1200 series includes a straight-leg, open-arm occasional chair; a straight-leg, upholstered, closed-arm occasional chair; and a closed-arm desk chair on a swivel base. Covers in textures, stripes, and solids in wool, synthetics, and vinyls offer decorating flexibility. St. Timothy Chair Co. *Circle 206 on reader service card*

Dormitory furniture. Solid wood Roommate dormitory furniture features a solid planked ash desk, wardrobe, chest, and single or bunkable bed. The pieces, available individually or as a set, are designed to withstand demanding dormitory use. Adden Furniture, Inc. *Circle 207 on reader service card*

The TriAmbient Lighting System consists of panel-mounted HID (high intensity discharge), panel-mounted fluorescent, and freestanding HID fixtures. The three-part system, according to the company, provides efficient, effective light levels in the open plan layout, regardless of work station layout and component positions. The lights are design- and color-coordinated with the company's UniGroup Office Interiors. Haworth, Inc.

Circle 208 on reader service card

Wood lounge seating, Series 5200, comes in one-, two-, and three-seat models in a variety of fabric and vinyl upholsteries. Occasional and side tables are included in the line. InterRoyal. *Circle 209 on reader service card*

Elevator doors and cab interiors are available in bonded bronze, bonded copper, bonded aluminum, and bonded nickel silver. The lowrelief designs come in castings or panels. Standard bronze castings, approximately 1/8 in. thick, weigh approximately 1.2 pounds per sq ft. Castings also are available with flattened back for application with contact adhesive to metal doors. Panels are castings laminated to plywood backing for use in elevator interiors. Forms & Surfaces. *Circle 210 on reader service card*

The Ultimate System, a modular office system, has wall sections in 30-, 55-, 80-, and 92½-in. heights for privacy. Complementing the walls are desks and work stations. Components are standardized, integrated, and interchange-able—even movable when an office is moved to a new location. Systems can be enlarged by adding units. Lighting and accommodation for power and telephone cables are provided. Discovery Concepts, Inc.

Circle 211 on reader service card



Wallcoverings and companion fabrics.



Chairs in a contemporary style.



Dormitory furniture.



The TriAmbient Lighting System. Wood lounge seating.





Private Office System (POS).

Private Office System (POS). Elements of POS are the executive desk, credenzas, and modules for filing, storage, and work surfaces. Builtin 20-amp wiring provides power to the system, which also includes task and display lighting. Optional back panels can be ordered with a choice of fabrics. All units are available in American walnut and oak veneers. Davis Furniture Industries, Inc.

Circle 212 on reader service card

Literature

Nylon carpet fibers. Two brochures explain characteristics and advantages of nylon carpet fibers. The 8-page Zeflon 500 Solution Dyed Nylon publication discusses color fastness and color matching, soil hiding ability, anti-shock properties, and durability. The 4-page Zeflon Subdued Luster Nylon folder compares appearance to wool carpets, and covers color versatility, soil-hiding quality, shock control, and long life. Dow Badische Co. *Circle 213 on reader service card*

Circle 215 on reader service card

Antron[®] III nylon carpets. Specification guide provides information on carpet construction, color selection, cleanability, and performance features of Antron III nylon fibers. Lists business and commercial facilities where carpets of this fiber have been installed. Du Pont Carpet Fibers.

Circle 214 on reader service card

Library/Media Center Equipment. Full-color, eight-page catalog features tables, carrels, book trucks, and charge counters, in a range of types and sizes, with laminated plastic finishes in colors and woodgrains. There also are card catalog units, technical pieces, table bases, and shelving. Norco Mfg. Corp. *Circle 215 on reader service card*

A new look at Herculon. Full-color, 20-page booklet discusses the use of Herculon olefin fibers in commercial and institutional floor coverings. Compares the fiber's properties with those of acrylic, nylon, wool, and polyester. Yarn systems are described as to type and colors available. Charts show some of the many colorations possible. Also covers carpet construction, testing, and care. Hercules, Inc. *Circle 216 on reader service card*



Window treatment with Bali blinds.

Window treatment with Bali blinds. "Tricks of the Trade" brochure provides information on the cost efficiency, energy efficiency, and technical specifications of blinds. Diagrams illustrate components and method of operation. Case histories point out how blinds have been incorporated into the total design of buildings. Sample specifications are written to provide information needed to specify without further research. Marathon Carey-McFall Co. *Circle 217 on reader service card*

High intensity discharge lamps, properly designed, produce efficient, effective, glareless lighting. This 12-page pamphlet discusses aspects of energy effectiveness, HID vs incandescent, and HID vs fluorescent, and compares annual operating costs of typical installations. Lightolier.

Circle 218 on reader service card

Axminster carpets. Full-color brochures describe and illustrate Axminster woven patterns for contract carpet. Crestwood II shows 21 patterns, and Premier IX shows 18. Alexander Smith Carpet.

Circle 219 on reader service card

Fluorescent lighting. Four-page catalog describes a hardwood-framed fluorescent lighting fixture. Includes specification features, illustrations with and without optional grid, catalog listings, and installation details. Guth Lighting. *Circle 220 on reader service card*

Acrylic furniture. A collection of hand-crafted acrylic furniture is illustrated in this 16-page catalog. Included are tables, pedestals, mirrors, wall systems, benches, and chairs. For a copy of the catalog, send request on letterhead to Paul Associates, 155 E. 55 St., New York, NY 10022.

Panel systems. Movable, acoustical panel systems for open office space are discussed in 16-page brochure. Panels are covered with fabric, vinyl, or carpet, including a series of multicolored custom designs in pile carpet. Frames are oil-finished hardwood, anodized aluminum, or baked-on acrylic. Full- and partial-vision panels are available with clear or smoked glass. Panel Concepts, Inc. *Circle 221 on reader service card* [continued on page 166]



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Products continued from page 165

Roofing systems

The items below specifically relate to the technics article on roofing materials beginning on page 122 of this issue. They are grouped here for the reader's convenience.

Products

Contour Taper Tile® System. This system, which uses tiles made from expanded polystyrene, is said to provide roof drainage and insulation in one product. According to the manufacturer, addition of a ½-in. fiber roof insulation board or a ¾-in. layer of perlite roof insulation provides an excellent base for built-up roofing or reroofing applications. Contour Packaging. *Circle 222 on reader service card*

Sure-Seal roofing systems. EPDM elastomer sheet membrane has ozone resistance, and remains elastic through a wide temperature range. It is impermeable, and resistant to ultraviolet and weathering, making it suitable for exposed areas. Neoprene membrane is impermeable, self-extinguishing, and ozone resistant. Liquiseal is a self-curing liquid that forms a continuous, seamless rubber membrane for application between concrete slabs. It bonds to the slab, preventing lateral transfer of water. Carlisle Tire & Rubber Co. *Circle 223 on reader service card*

Polyurethane insulation for fire-rated roofs. Trymer U-Thane[®] 210 boardstock insulation is

said to qualify for Factory Mutual approval for Class I insulated steel roof deck construction. The manufacturer states that the rigid, modified-isocyanurate foam board retains its structural properties in service at a temperature range from –65F to 250F. Recommended installation on a steel deck includes perlite roof insulation board, Trymer U-Thane, and a minimum 3-ply built-up roof covering, topped with gravel. Upjohn, CPR Div.

Circle 224 on reader service card

Coreroof is a one-step metal roof system that combines structural deck, insulation, and weather-tight, standing-seam roof into one unit. The aluminum-coated steel surface is estimated to reflect 85 percent of solar heat. The interior surface is embossed steel coated with white polyester paint to provide a bright, reflective ceiling. Polyurethane insulation is sandwiched between the steel layers. The system's light weight (2½ pounds per sq ft) permits reduction in the roof structurel support system. Granco Div., National Steel Products Co. *Circle 225 on reader service card*

A liquid roof membrane for waterproofing is designed to be sprayed on as one coat, or rolled on in two coats. It is intended for application directly over the primary substrate, over cellular foam insulation, or over some types of existing roofing systems. It is composed of Ter-Polymer sealant and a fire-retardant coating. VIP Products.

Circle 226 on reader service card



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Aztec panels above kitchen counter

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Panels above greenhouse extension

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Literature

Designing a leak-proof roof deck system is a 16-page booklet describing and illustrating methods of eliminating roofing failures. Charts show heat flow and vapor transmission. Detail drawings are provided for various types of installation. Design notes cover basic information about designing for built-up roofing. Silbrico Corporation.

Circle 227 on reader service card

Fiberglas Built-Up Roofing Reference Man-

ual. Offers guidelines and recommendations for built-up roofing on commercial and industrial buildings. The fifteen sections of this 200-page, loose-leaf manual cover Fiberglas roof insulation; reroofing and recovering; nailable and nonnailable decks; Fiberglas built-up roofing specifications; and other related subjects. Copies are available, at \$8 each, from Z.D. Meeks, Owens-Corning Fiberglas Corp., Fiberglas Tower, Toledo, Oh 43659.

Roof systems 1978. Manual contains 28 pages of roofing specifications and procedures for planning and constructing roofing systems. It covers coal tar bitumen built-up roofing, roofing applications, and built-up roof specifications for deck constructions of wood, concrete, gypsum, and metal decks. Diagrams show flashing details. Koppers, Architectural and Construction Materials.

Circle 228 on reader service card

Texmastic Protective Coatings and Cement Roofing Specialties. Twelve-page brochure provides information about various protective coatings and cements used on roofs, metal, wood, and masonry surfaces of commercial and residential construction. Roofing specialties include Plastiglas cement, and glass fiber fabric for both repair and new roof construction. J & P Petroleum Products, Inc.

Circle 229 on reader service card

Good roofs save energy. Manual offers information about roofs as they relate to energy saving, including roof insulation, with a discussion of heat transfer. Shows examples of how to calculate heating and cooling costs. Tabular material includes: Efficiencies of heating systems; Heating value of fuels; Heating/cooling weather data of major cities across the country; Conductance and resistance values of building materials; and worksheets for making calculations. Copies can be ordered, at \$4 each, from National Roofing Contractors Association, 1515 N. Harlem Ave., Oak Park, II 60302.

Inverted Roof Assembly Systems. Discusses the components of the inverted roof assembly, and shows diagram of cross section. Outlines general requirements of good roofing practices for several types of nailable and nonnailable decks. Charts show U-values of various thicknesses of roofing insulation. Diagrams of flashing details are included in this 20-page brochure. The Celotex Corp. *Circle 230 on reader service card* [continued on page 173]







Poolside shelter, Hotel Meridien, Jeddah, Saudi Arabia. Architect:Samir H. Khairallah, London, U.K.

LUMINOUS

Interior lighting enables this tensioned membrane poolside shelter to become a dramatic visual accent at night as well as during the day. Its unique curvilinear shape echos the curves of the hotel pool in a way possible with no other type of structure.

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55900. INTERIOR PLANTSCAPING. Richard L. Gaines. Comprehensive reference shows how to de-sign the spaces that will house plants, includes defi-nitions, photos and illustrations covering lighting, screening, nutrition, drainage. \$22.95

87930. A WORLD WITH A VIEW: An Inquiry into the Nature of Scenic Values. Christopher Tunnard. Impassioned critique of urban man's relationship to the physical world around him. Spotlights basic causes of environmental decay, and shows how we can change our approach to design. \$15.00

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Refer to Sweet's Catalog 11.20/Je for quick reference.

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Literature continued from page 167

Roof insulation and drainage. Design and estimating guidelines for selecting and applying Dri-Deck® roof insulation and drainage systems are provided in two brochures. The guidebook for architects and engineers, 8 pp, explains design criteria to be considered in specifying this built-up roofing system. The estimators' guidebook, 12 pp, gives detailed instructions for layout of various configurations, including application patterns and methods of estimating material requirements. Johns-Manville. *Circle 231 on reader service card*

How to avoid roof troubles. Brochure on roofing maintenance covers periodic roof inspection. Illustrations show potential trouble spots in roofs, and text discusses areas to be examined to avoid having major problems develop. Pittsburgh Corning Corp.

Circle 232 on reader service card

Permalite Roof Insulations provides product descriptions, advantages, and application of four types of insulation for built-up roofing: Permalite sealskin, urethane, Pk, and Pk plus. Also lists limitations, physical properties, and thickness requirements of each. Charts show heat transmission values, availability, and cost. Grefco, Inc.

Circle 233 on reader service card

Answers to questions about IRMA. Insulated Roof Membrane Assembly (IRMA) is a patented roofing system that uses Styrofoam® expanded polystyrene insulation, topped with stone, over the roof membrane to protect it from ultraviolet degradation and the damaging effects of weather. This 12-page booklet, in a questionand-answer format, provides information about the installation and use of the system, and summarizes the benefits of IRMA. Dow Chemical U.S.A.

Circle 234 on reader service card

Plywood roof systems. Design data for several plywood roof systems, including diaphragms, special components, and plywood under special coatings, are provided in this 12-page brochure. Information is also offered on plywood roof assemblies with wind- and fireresistance ratings. Charts show grades, maximum loads, span lengths, and similar design criteria. American Plywood Association. *Circle 235 on reader service card*

Mineral Shield Roofing. Brochure describes a cold-applied roofing system. Covers application and flashing recommendations and specifications, and insulation for built-up roofing systems. Twelve pages. GAF Corporation, Building Materials Group.

Circle 236 on reader service card

Flashing systems. Technical bulletin describes, and provides specifications for, Springlok counterflashing, surface-mounted Expan-O-Seal system, Fry original reglet, spacer channel, and reglet and flashing. Diagrams show typical installations in concrete, masonry, brick and stucco. Fry Reglet Corp. *Circle 237 on reader service card*

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Building materials

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

Brickel Associates Inc./Ward Bennett Designs, Pacific Design Center, Los Angeles (p. 82). Designer: Ward Bennett, Timothy H. Walker & Associates, associated designers. Stainless steel: Forms and Surfaces. Carpet: Alice T. Seymour. Lighting: Lightolier.

Berger, Berger, Kahn, Shafton and Moss Law Offices, Los Angeles (p. 74). Architects: Frank O. Gehry & Associates, Inc., Los Angeles. Carpeting: Stratton. Indirect fluorescent lighting: Prudential. Manufacturers for custom-designed furniture: Kasparians, Shell Furniture, Meyerhoff Cabinetry. Cardboard furniture designed by architect: Peter Carlson. Paint: Pratt & Lambert, Sinclair.

DeBerardinis Hair Salon, Eaton Centre, To-

ronto. (p. 78). Architects and interior designers: Francesco + Aldo Piccaluga, Inc., Toronto. Plastic laminate polyurethane finishes: Arbolite Domtar; Sico Paints. Mosaic tiles: Briare. Marble: Carrara. Incandescent lighting: iGuzzini, Inc.; Sonnenberg Industries, Ltd. Electrical devices and intercom system: Ticino-Bassani s.p.a.

Lawrence Wolf Advertising Agency, Buffalo, NY (p. 78). Architects and interior designers: Francesco + Aldo Piccaluga, Inc., Toronto. Incandescent portable fixtures: Flos; Targhetti.

Charlestown Savings Bank, Boston, Ma

(p. 86). Architects: The Architects Collaborative, Inc., Cambridge, Ma. Interior designers: TAC Interiors, Cambridge, Ma. Steel furniture: Steelcase. Wood furniture: Helikon Furniture Co., Dunbar, Stow Davis. Carpet tiles: Carpets International. Carpets: V'soske, Mort West Mills, Stratton.

Café Fanny, Biltmore Hotel, New York (p. 90).

Interior designer: Daroff Design, Inc., Philadelphia and New York. Millwork: Rimi Woodcraft, Inc. Banquettes: Art Upholstery. Josef Hoffmann fabric (settees): International Contract Furnishings, Inc. (ICF). Tabletops and chairs: Chairmasters. Painting and silkscreening: Spanjer Painting. Kitchen: American Metal Restaurant Equipment. Canopy: Awning Corp. of America.

St. Peter's Lutheran Church, Citicorp Center, New York (p. 102). Architects: Hugh Stubbins Associates, Cambridge, Ma. Interior designer: Vignelli Associates, New York. Step seats, movable platforms and steps, pews, altar and liturgical accessories: Pilot Woodworking.

HIGH-PRIORITY QUESTION:

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When the questions are how to conserve energy or preserve open space, the answer is obvious. Go underground with reinforced concrete.

Architect: Meyers and Bennett Architect/ BRW, Edina, Minnesota. Structural Engineer: Meyer, Borgman and Johnson, Inc., Minneapolis, Minnesota. General Contractor: Lovering Associates, Inc., St. Paul, Minnesota. Owner: University of Minnesota, Minneapolis Campus.



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Vertebra Institutional Tablet Arm Chairs Cook County Criminal Court Administration Building, Chicago, IL Architects: Lester B. Knight and Associates, Inc., Chicago, IL



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