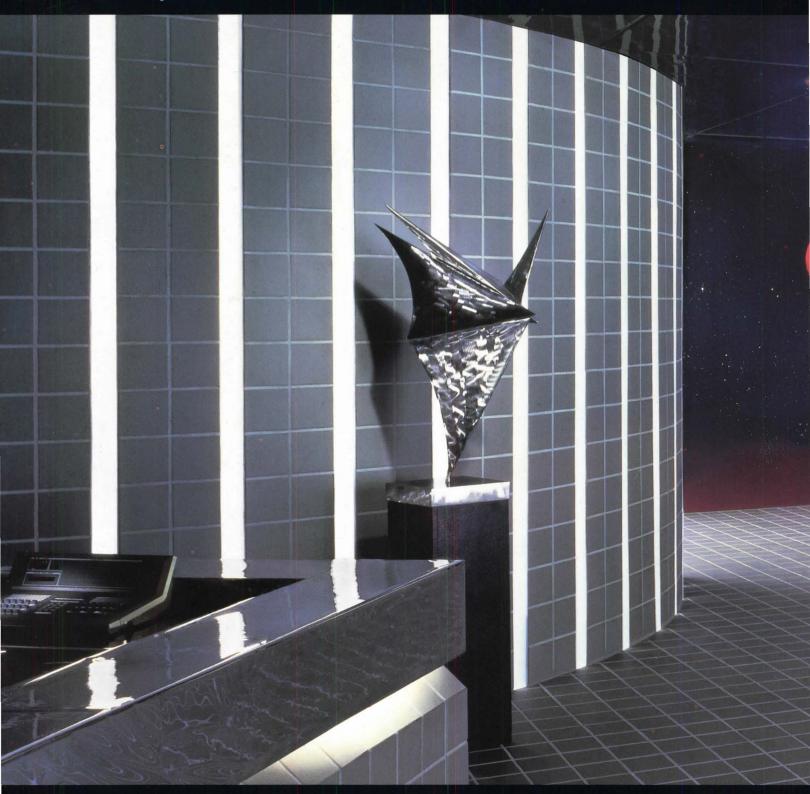


Welcome in the Year 2000.



Welcome to the lobby of next year or the next century. It's a space made possible by the drama of American Olean quarry tile. That's right, quarry tile. Creating the startling new environ-ment you see here with just one

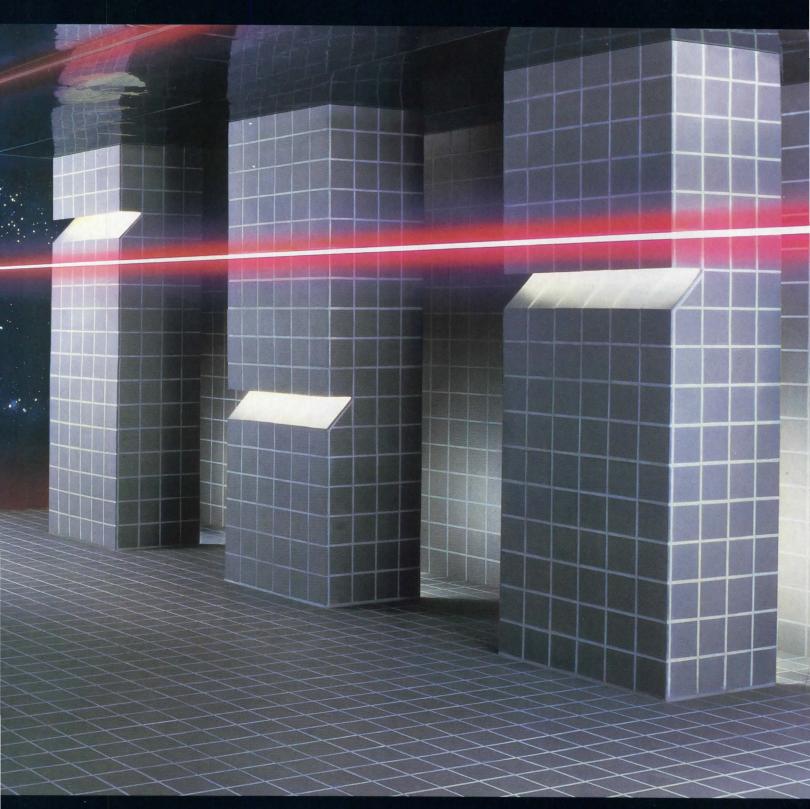
wonderful type of tile. Imagine the possibilities for experimentation and creation that our entire quarry line offers—with the broadest range of colors, shapes, sizes and textures in the industry.

You'll welcome the way our quarry tile can help change the

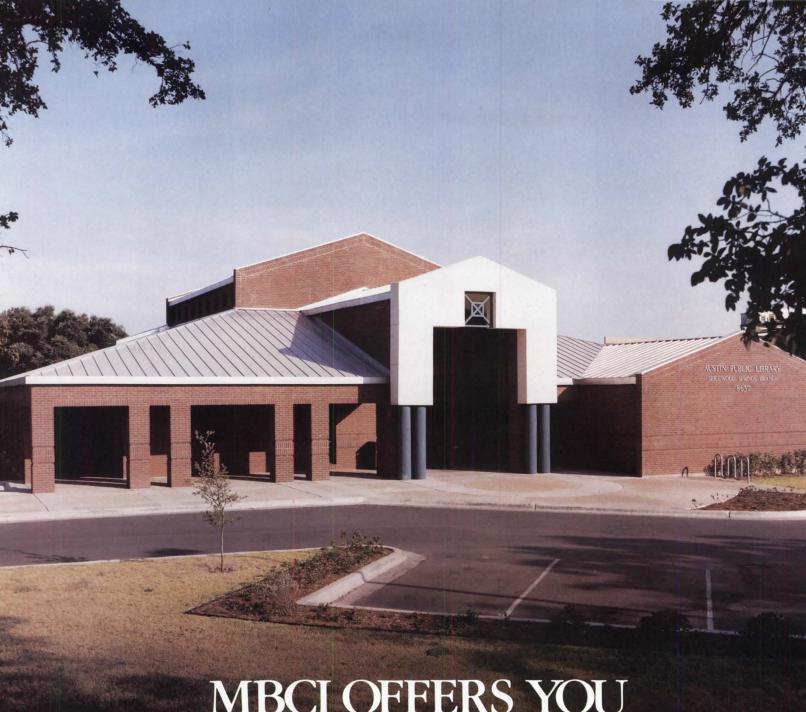
way you see a space. For information on our quarry tile line or our full ceramic tile line, write American Olean Tile Company, 3367 Cannon Avenue, Lansdale, PA 19446-0271. Or call (215) 855-1111.

Circle No. 325 on Reader Service Card





Touch the future with American Olean



MBCI OFFERS YOU A QUALITY ROOF SYSTEM

PLUS...

Architect:
O'Teri, Tisdale & Gayle

Product Shown: Craftsman Series with Small Batten Personal technical assistance. When you design and specify an MBCI architectural panel system, our Technical Consultants are ready to aid you in product selection and application. We want your project to be the way you designed it.

Personal technical assistance—another example of why MBCI has grown to be a major supplier of architectural panel systems for roofing, siding, facades, and soffits. For our complete line of quality products, see Sweet's 07410/MEB and 07610/MBC.



Houston 713/445-8555 Lubbock 806/747-4291 Oklahoma City 405/672-7676 San Antonio 512/661-2409 Dallas 214/988-3300 Atlanta 404/948-7568 Tampa 813/752-3474

Circle No. 355

Progressive Architecture

Editor John Morris Dixon, FAIA Executive Editor
David A. Morton David A. Morton
Profession and Industry Editor
James A. Murphy, AIA
Managing Editor
Valerie Kanter Sisca
Senior Editors
Valerie Kanter Sisca
Senior Editors Susan Doubilet, MRAIC, Features Pilar Viladas, Interior design Thomas R. Fisher, Technics Daralice D. Boles, News, Features Copy Editor Virginia Chatfield

Editorial Assistants Kay Daffron John Biase

Art Director Richelle J. Huff Associate Art Director Samuel G. Shelton Assistant Art Director Susan N. Ostheimer Architectural Drawing David W. Scott, AIA

Jessica Elin

Contributing Editors Norman Coplan, Hon. AIA William T. Lohmann, AIA, FCSI Walter Rosenfeld, AIA, CSI Correspondents
Esther McCoy, Los Angeles
Barbara Goldstein, Los Angeles Sally Woodbridge, San Francisco George McCue, St. Louis Peter Papademetriou, AIA, Houston Thomas Vonier, AIA, Washington Monica Pidgeon, London Donatella Smetana, Milan Jane Holtz Kay, Boston

Vice-President and Publisher Robert J. Osborn Business Manager Daniel H. Desimone Administrative Assistant Marnie Hayden Promotion Coordinator
Debra L. Jones
Communications Manager Jack Rudd Production Manager Laverne Adams Production Assistant Gerry Lynch Katz Director of Circulation Circulation Fulfillment Manager Pamela Agacki Circulation Marketing Manager Roselle Dagostino Customer Service Manager Marie P. DeFelice

Penton Publishing
Progressive Architecture (ISSN 0033-0752) is published monthly by Reinhold
Publishing, A Division of
Penton Publishing, 1100 Superior Ave.,
Cleveland, OH 44114: Philip H.
Hubbard, Jr., President; Harry
I. Martin, Robert J. Osborn,
Vice-Presidents; Penton; I. Martin, Robert J. Osborn, Vice-Presidents; Penton: Thomas L. Dempsey, Chairman; Sal F. Marino, President; James K. Gillam, N.N. Goodman, Jr., Paul Rolnick, Executive Vice-Presidents; Evecutive and Presidents. Executive and editorial offices, 600 Summer St., P.O. Box 1361, Stamford, CT 06904 (203-348-7531).

ABP



ARCHITECTURAL DESIGN

Editor in charge: John Morris Dixon

57 P/A Profile: Lapeña Torres

Work of Barcelona architects Jose Antonio Martinez Lapeña and Elias Torres Tur includes an 18th Century church converted to an art gallery, a concert hall, and a chapel; a remodeled apartment; and an urban park. Victoria Casasco

66 No Easy Symbolism

A feature on the Wick Alumni Center, University of Nebraska, Lincoln, which won a P/A citation for architects Gwathmey Siegel & Associates, is followed by a discussion of the firm's design and examples of two housing developments. John Morris Dixon

76 P/A POE: Kresge College Kresge College, Santa Cruz, Calif., by Charles Moore and William Turnbull, a P/A citation winner in 1970, is evaluated for its accomplishments. Nubra Floyd

Mixed Metaphors

The Riverside Convention Center, Rochester, N.Y., by James Stewart Polshek & Partners, a P/A citation winner in 1983, fits gracefully into its urban setting. Susan Doubilet

86 P/A Inquiry: Affordable Housing High land costs, high interest rates, and outmoded construction methods mean that fewer Americans are able to become homeowners. Some approaches to meeting the housing

challenge are explored, with examples of more successful efforts. Daralice D. Boles

TECHNICS

92 Industrialized Housing

Sekisui House in Japan and Roxbury Homes in the U.S. represent two different approaches to manufactured housing. Thomas Fisher

SPECIAL SECTION

97 West Week

Participants, program, and products featured at West Week, at the Pacific Design Center, Los Angeles.





	DEPARTM	ENTS	200	
7	Editorial	41 Calendar	153 P/A in March	Cover
8	Views	47 P/A Practice	154 Job Mart	Church conversion b
15	P/A Reader Poll	139 Products and	156 Advertisers' Index	Lapeña Torres (p.
23	News Report	Literature	157 Reader Service Card	57). Photo: Lourdes
35	Perspectives	150 Building Materials		Jansana.

Subscription information: Send all subscription orders, payments and changes of address to Progressive Architecture, P.O. Box 95759, Cleveland, OH 44101 (216-696-7000). When filing change of address, give former as well as new address and zip codes, and include recent address label if possible. Allow two months for change. Publisher reserves right to refuse unqualified subscriptions. Professionals include architectural and architectural-engineering firm personnel and architects, designers, engineers, and draftsmen employed in allied fields. Subscription rates for U.S. professionals are \$30 for 1 year (\$55 in Canada, \$65 for foreign), \$45 for 2 years (\$55 in Canada, \$65 for foreign), \$45 for 1 year (\$60 in Canada, \$85 for foreign). Single copies are \$7 in the U.S., \$8 in Canada, and in Canada, and \$20 for foreign. Permission to photocopy is granted for users registered with the Copyright Clearance Center (CCC), provided that the base fee of \$1 per copy of the article plus \$0.50 per page is paid directly to CCC, 21 Congress St., Salem, MA 01970. Code number is ISSN 033-0752 Indexedin Art Index, Architectural Index, Engineering Index. Second class postage rates paid at Cleveland, Ohio, and additional mailing offices. Volume LXVIII, No. 2. Printed in U.S.A. Copyright © 1987 by Penton Publishing Inc.

STOP SETTLING FOR AND BEAUTY OF ALU

What windows should you specify for a commercial project?

For years the standard answer to that standard question was standard aluminum. Aluminum windows offered the best combination of performance characteristics. Never mind that they left something to be desired in terms of insulation and beauty.

Now you have a beautiful and efficient alternative. Marvin Magnums. Wood windows that shatter commercial standards.

ENGINEERED TO OPEN THE MIND.

Where could you use a

commercial wood window? Practically anywhere you might use an aluminum window. High rise, low rise, hospitals, schools, renovation projects or new construction. The only limitation is your imagination.

Because these commercial wood windows perform.
Beautifully. Tests on a 48" x 64"
Marvin Magnum Tilt-Turn yielded these numbers:
Air infiltration: .01 cfm @ 25 mph. .02 cfm @ 50 mph.
Wind loads: 200 mph positive pressure. 256 mph negative pressure.

Water infiltration: 0 @ 66 mph. R values: as high as 4.55. U values: as low as .22.

MARVIN MAGNUMS PERFORM BECAUSE MARVIN PEOPLE PERFORM.

Those test results didn't happen by accident. They came about because Marvin people put all their pride and skill into every Marvin Magnum we make.

We don't warehouse an inventory of standard sizes. We make every window to order. Only the most precise hardware will do. And we specialize



THE WARMTH MINUM.

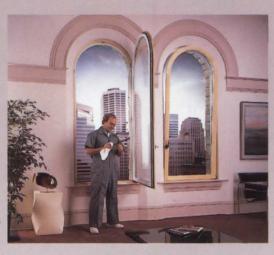
in extras such as weatherstripping that's welded at all four corners for the tightest possible seal.

Marvin people are with you every step of the way. From our design service up front to our field representatives, each of us is dedicated to making these windows the best choice you could possibly make.

EVERYTHING IS OPTIONAL. QUALITY IS STANDARD.

Marvin Magnums come in a variety of styles.

Our Tilt-Turns swing into the room for cleaning or tilt in for ventilation. Choose the simple, elegant lines of our basic Tilt-Turn or consider a Round Top or simulated double hung. For maintenance, there's a stationary unit with a system



of keyed locks. You can also specify the tilt-only hopper or an authentic double hung with sash that tilts into the room for washing.

Glazing options include 7/8" insulating, 1" insulating, solar bronze, solar gray, solar cool, Low-E or Low-E with Argon. For easy maintenance, most Magnums are available in medium bronze aluminum cladding or Polycron finishes. Even if you should want

Circle **No. 354** on Reader Service Card

to investigate your options, we'll gladly work with you.

YOUR TELEPHONE CALL WILL BE WARMLY RECEIVED.

We want to tell you much more about the Marvin Magnum series. Please call toll-free at **1-800-328-0268** (in Minnesota 1-612-854-1464). Or write Marvin Magnum Windows, 8043 24th Avenue South, Minneapolis, Minnesota 55420.

We'll show you how the future looks better through a warm, beautiful Marvin Magnum.

MARVIN MAGNUMS

ENGINEERED TO OPEN THE MIND.



NEW PRODUCTS





Great Benches

Concrete and wood are subtly combined to create a new architecturally scaled series of benches. These are coordinated with matching planters, litter receptacles and smoking urns. Available in lengths up to 12 feet. Concrete elements are available in 5 colors.

Circle No. 380



Lever Handles

New lever handles are forged in brass for strength, durability and unsurpassed quality of finish. Use with any major mortise lockset. U/L Fire Safety Classification for use with locksets rated up to 3 hours.

Circle No. 381

Tables

A beautiful new series
of table top and
pedestal designs for
outdoor or indoor
installations. Table
tops are fiberglass,
marble, or perforated
metal in a wide range
of colors. Pedestals
are concrete, metal or
marble.

Circle No. 382



Wood Ceilings

New CS400 Series wood ceilings consist of lay-in panels for easy installation in a 24" × 24" T-Bar grid. A wide range of hardwood veneers in plain or design faces are featured, plus Class 1 fire rating and various detail options.

Circle No. 383

Bonded Bronze®

Bonded Bronze, which has set a standard of excellence in the surfacing of walls, doors, columns, and other architectural elements, is now available in 16 new designs and geometric patterns.

Circle No. 384



Forms + Surfaces

Box 5215 Santa Barbara, California 93108 (805) 969-7721

Storybook Architects

The architect turns up occasionally as a character in fiction and popular nonfiction. What does a recent sampling indicate about architects?

"PROMINENT enough to be featured in *Progressive Architecture*": That is how the main character of Donald Barthelme's new novel *Paradise* was described by Michiko Kakutani in her *New York Times* book review (Oct. 22, 1986). Of course, I was eager to read this book, all the more so since I had often enjoyed the author's books and stories. As the son of a respected Houston architect (also named Donald Barthelme), the writer occasionally drops knowing comments about architecture into his works.

The plot of *Paradise* is simple: A Philadelphia architect, following the break-up of his marriage, moves to a loft in Manhattan, which he is soon sharing with three attractive, bright young women who are just doing odd jobs while deciding where to go next. The situation ought to be a macho male's dream come true—the source of the title—but it doesn't seem to excite any of the characters much. It's not that Simon is too old at 53 to share physical pleasures with all of them (a point I appreciated, since that is just my age), but they go about it with a certain indifference. Eventually, the three young women move on.

What does Barthelme reveal along the way about architects? The few direct observations sound remarkably familiar. When one of his young friends asks, "Do architects make a lot of money?" he says you can do well or go broke; "The more time you put into a job, the less money you make. My partners kept me solvent."

And what about other career satisfactions—the subject of this month's P/A Reader Poll report (p. 15)? "'Simon, you're famous!' Veronica says. She is waving a copy of *Progressive Architecture*." The subject is a work of his that cost "four million something." When she probes "What's it feel like to be famous?" he laconically replies "Feels very much like not being famous." Like many respondents to our poll, Simon gets more satisfaction from his own reactions to the work, and his clients', than from wider recognition.

Aside from the few direct references to his career, the main function of Simon's profession in this book is as a source for name-dropping: Kahn, Venturi, Pei, Schinkel, and Knoll are mentioned more or less as passwords to a club, contributing nothing more to the novel.

The most read-about architect of the past year is not a fictional creation, but William Rawn, the architect of the House in Tracy Kidder's best-selling book of the same name. This is one of those many current nonfiction works where the events read like fiction: How, we wonder, does the author record the intimate conversations and personal thoughts of these people without inventing some of the material?

In this detailed saga of single-family house construction, the architect comes off as very earnest and totally absorbed in his work. He is a dreamer, beset by realities such as deadlines and budgets. In *House*, we get details galore: Kidder traces the history of some lumber from the forest to the house's rafters and explains the subject of Rawn's Masters thesis and what places turn him on; we read that he risked arrest by climbing over Barcelona rooftops to get better views of Gaudí landmarks.

Rawn is by no means your typical architect, but he represents a type we may be hearing more from. He came to architecture after a liberal arts degree, a law degree and some practice, a university facilities planning position, then architecture school and four years at Davis Brody & Associates in New York. He is hence a person of rounded experience when he designs his very first work on his own—this house—a step that nevertheless involves some clammy-handed anxiety. Today, four years later, Rawn has employees and has begun to see other projects completed (some of which happen to be shown in this issue, page 89).

So there we have two architects of the year 1986—one burned out and half-heartedly trying hedonism, the other launching his career with single-mindedness and intellectual resources to spare. I neglected to mention that toward the end of his book Simon had set up a makeshift drafting table and was taking on modest assignments. Maybe real architects just prefer drawing to all that physical stuff.

The architect of popular perception is no longer the heroic misfit of Ayn Rand's *The Fountainhead*, but he (not she, yet) is nonetheless a loner, adapting to this world only with great effort.

John Maris Dife

Information Innovation

What a great way to start the New Year!

Your redefinition of the role of the magazine (P/A, Dec. 1986, p. 9) is both progressive and informative.

Of course I was struck by an issue about architecture which was all words and graphics with no pictures. But magazines are all about information, and so much of architecture is a connection between verbal and visual images that your December issue seems the proper way to clear the air at the end of this year.

Professional goals could well benefit from such definition and discussion.

Congratulations for your contribution to that effort. Hugh Hardy, FAIA Hardy Holzman Pfeiffer Associates New York, N.Y.

Environmental Educators

Robert Shibley's article on research in the December 1986 issue (p. 49) contained a word omission in the name of one of the grassroots offspring of the step-child field, architectural research. (Check the genealogy of that metaphor.) The national group of educators who are concerned with teaching and research of energy and environmental forces (thermal, acoustical, luminous, water) in architecture is known as The Society of Building Science Educators. It is no wonder that without a proper name, you were unable to classify us in your extensive "Information Sources" article. You could list us under Practice: Education; Design Considerations: Climate and Daylighting; and Special Interest: Energy Conservation. I am the current chair and serve as the organizational contact. Bruce Haglund Assistant Professor Department of Architecture University of Idaho Moscow, Idaho

Architects, by Definition Mr. William Krisel's letter regarding the use of the term "Architect" by P/A and other magazines (Nov. 1986, p. 11)

raises an important issue. I support the use of a broader definition of Architect by the architectural press as one who designs buildings or one who plans and achieves a difficult objective.

I am little concerned with the legal distinctions of the term Architect as I believe they do very little to protect the public. After all, my non-licensed counterpart uses the same building, handicap, energy, etc. codes as I do. While I would agree with Mr. Krisel that the esteem of architects has fallen in recent vears, this is not the result of an influx of non-licensed practitioners or their recognition in the press, but rather to the profession's general indifference to providing a service which addresses the needs of the public.

The solution to this problem, as Mr. Krisel implies, does not lie in passing more protectionist laws or in limiting the definition of "Architect" because in the end, as the saying goes, you get what you pay for. Richard A. Benson Architect Roland Miller Associates Santa Rosa, Calif.

P/A Classified

I was appalled to see your October issue P/A Job Mart section with the huge advertisement by the C.I.A. Can we look forward to future 3/3 page advertisements for mercenaries for Central America (bonus pay for terrorist experience)?

Your taste in featured architectural subjects is sensationalist (not sensational) but sometimes amusing. However, your taste in advertisers in Job Mart is abominable.

Robert C. Douglas Robert C. Douglas, Architect Portland, Oreg.

[Our advertising pages are open to any legitimate organization, and the C.I.A. is an agency of the U.S. Government, funded by Congress.—Editor]

Information Issue Corrections The following additions and correc-

tions include references to pages and headings where they should appear in the December 1986 P/A.

WestWeek, Mar 25-27, Pacific Design Center, Los Angeles (contact Pacific Design Center, (213) 657-0800) (p. 83, Interior Design, Conferences)

The conferences listed under the Lighting Research Institute conferences should have appeared as independent entries. International Lighting Show, (took place in Jan). Lighting World, May 11-13, Jacob K. Javits Center, New York (contact National Expositions Co, New York) (p. 90, Lighting, Conferences)

American Society of Heating, Refrigerating and Air-Conditioning Engineers Conferences: 1987 ASHRAE Annual Meeting, June 28–July 1, Opryland, Nashville, TN (contact ASHRAE (404) 636-8400) (p. 89, Heating, Ventilating & Air-Conditioning)

Association of Student Chapters/ AIA, corrected name: The American Institute of Architecture Students (p. 63, Educational Organizations)

Cold Regions Research and Engineering Laboratory, corrected address: 72 Lyme Road, Hanover, NH 03755-1290 (p. 76, Design Considerations, Climate, Associations)

National Glass Dealers Association, corrected name: National Glass Association. Additional publications: Glazing Reference Guides, Safety Glazing update, NGA Update (p. 85, Cladding, Glass)

Taunton Press, corrected address: The Taunton Press, PO Box 355, 63 S. Main St., Newtown, CT 06470 (p. 96, Media, Book Publishers)

Partners for Livable Places, additional information: database

available on the Design and Visual Arts Program grants of the National Endowment for the Arts (p. 84, Urban Design and Planning)

Society of Environmental Graphic Designers, 47 Third St., Cambridge, MA 02141, (617) 577-8995

Publications: Environmental Graphics Sourcebooks. SEGD Messages, quarterly. Conferences: Aug 6-8, Cranbrook Academy of Art, Bloom-

field Hills, MI. Regional meetings also held.

Competitions, student scholarships.

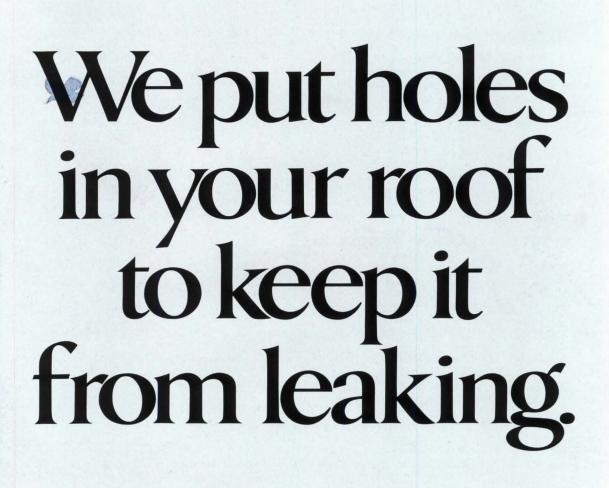
Additional information: maintains library and plans educational programs (p. 83, Graphic Design)

Canadian Society of Landscape Architects, PO Box 870, Station B, Ottawa, ON K1P 5P9, Canada (613) 232-6342. Conferences: CSLA Congress, Changing Tides, Aug 20–23, Halifax, Nova Scotia (contact Atlantic Provinces Association of Landscape Architects, Post Box 3415 South, Halifax, Nova Scotia B3J 3J1.) (p. 83, Landscape Architecture)

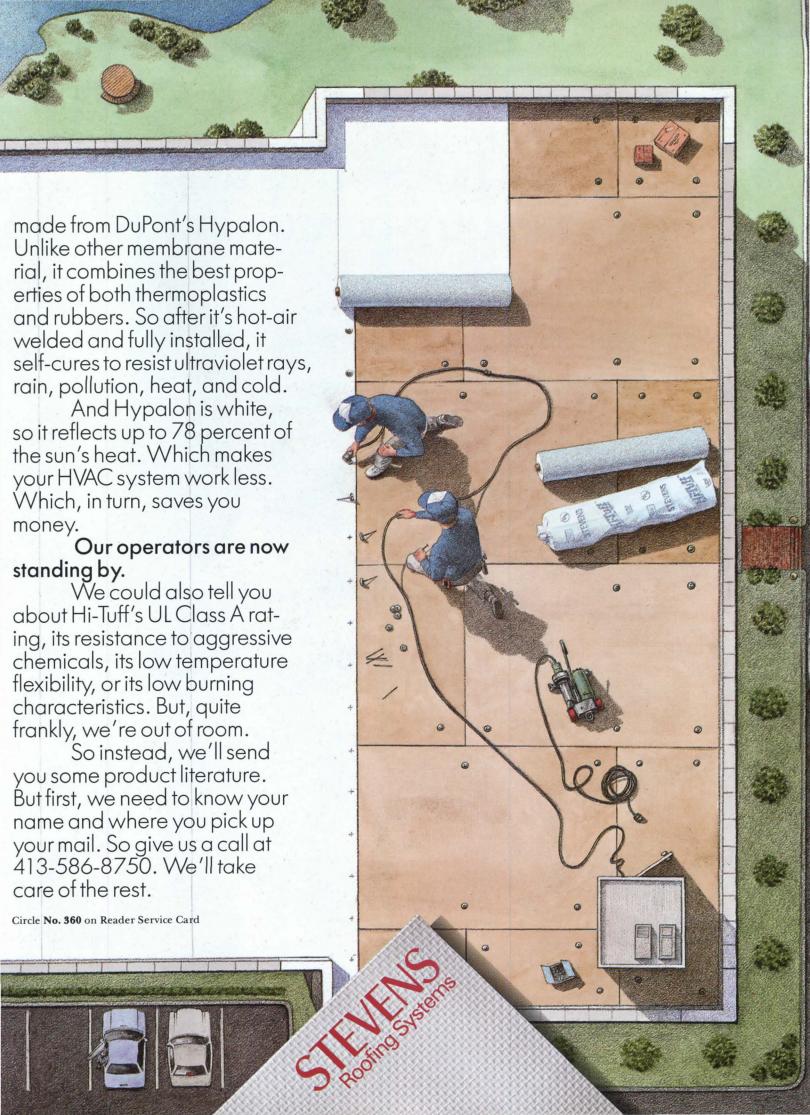
FAC-TV and FOCUS catalogs list additional titles on specific gardens. Correct cross reference is Historic Preservation, Audio Visuals (p. 79). The correct address for FAC-TV is FACT/ USA, 491 Broadway, 11th Floor, New York, NY 10012 (212) 966-0713 (p. 84, Landscape Architecture, Audiovisuals).

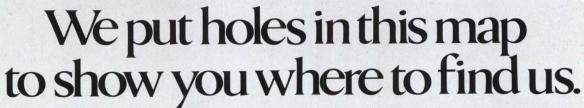
Additional Design Periodicals can be found listed in the Design and Allied Disciplines sections (p. 96, Design Publications). U.S. Department of Energy, Building Systems Division, Washington, DC 20585 Publications: numerous; listed in Buildings Energy Research: a Bibliography (p. 79, Energy Conservation).

For any further corrections, see this column in the March P/A.











Main Office J. P. Stevens & Co., Inc. Stevens Elastomerics/ Roofing Systems 395 Pleasant Street Northampton, MA 01061 413/586-8750

Alabama S. F. Products, Inc. Birmingham 205/823-7663

Arizona Western Allied Systems Co. Phoenix 602/938-0808

California Roofers Mart of Southern CA., Inc. Walnut 714/598-8408

714/598-8408 Western MacArthur Co. Fresno 209/237-3183

Western MacArthur Co. Sacramento 916/927-9911

Western MacArthur Co San Francisco 415/648-7800

Western MacArthur Co San Jose 408/971-9380

Colorado Western Allied Systems Co.

Denver 303/289-4601 Connecticut Valley Wholesale of Hartford, Inc. Hartford 203/728-5100

Florida Florida Roofing Supply Co. Ovieto 305/365-1476

Georgia Heely-Brown Co. Atlanta 404/352-0022

Illinois Allied Building Products Corp. Bensenville 312/766-3464 Allied Building Products Corp. Blue Island 312/396-1950

Saturn Associates Schaumburg 312/303-5520

Indiana Allied Building Products Corp. Indianapolis 317/243-7338

Saturn Associates Carmel 317/843-8230

lowa Allied Building Products Corp. West Des Moines 515/225-8530

Saturn Associates West Des Moines 515/224-0411

Louisiana S. F. Products, Inc Houma 504/876-7912

Maryland Allied Building Products Corp. Columbia 301/995-6540

Massachusetts Valley Wholesale of Boston, Inc. Haverhill 61/7374-9333 Valley Wholesale, Inc. West Springfield 413/781-7700

Michigan Allied Building Products Corp. Detroit 313/491-0300

Saturn Associates Bloomfield Hills 313/333-3535

Minnesota Saturn Associates Edina 612/922-2819

Mississippi S. F. Products, Inc. Jackson 601-362-8300 Missouri Saturn Associates St. Charles 314/966-7262

S. F. Products, Inc. North Kansas City 816/421-7589

Montana Western Allied Systems Co. Bozeman 406/586-2007

Nebraska Western Allied Systems Co. Omaho 402/592-1275

New Jersey Allied Building Products Corp. East Rutherford 201/935-0800

New York Allied Building Products Corp. Marcy 315/733-0415 Allied Building Products Corp. Mineola 516/248-6173

Allied Building Products Corp. Rochester 716/328-7330

North Carolina N. B. Handy Co. Charlotte 704/377-9903 N. B. Handy Co.

Greensboro 919/855-3900 N. B. Handy Co.

Raleigh 919/828-5421 North Dakota A K Foss Inc

A. K. Foss, Inc. Fargo 701/280-0440

Ohio Allied Building Products Corp. Cincinnati 513/771-6070 Saturn Associates Columbus 614/888-6455 Oregon Western Allied Systems Co. Beaverton 503/646-5836

Pennsylvania Allied Building Products Corp. Blandon 215/926-1009 Allied Building Products Corp. Bridgeville 412/221-8003

Allied Building Products Corp. Philadelphia 215/425-6780

Rhode Island Valley Wholesale of Rhode Island, Inc. Warwick 401/467-9400

South Carolina Roofers Supply of Greenville, Inc. Greenville 803/299-0055

Tennessee Heely-Brown Co. Knoxville 615/521-5060 S. F. Products, Inc. Memphis 901/363-7000 S. F. Products, Inc. Nashville 615/331-3900

Austin 512/452-4820 Railton, Inc. Corpus Christi 512/884-2872 Railton, Inc. Dallas 214/631-3948 Railton, Inc. Harlingen

Texas Railton, Inc. Railton, Inc. Houston 713/675-7456

Railton, Inc. Lubbock 806/763-1932 Railton, Inc. San Antonio 512/533-5023

Utah Western Allied Systems Co. Salt Lake City 801-964-0166

Virginie
N. B. Handy Co. Lynchburg
804/847-445
N. B. Handy Co. Norfolk
804/461-6470
N. B. Handy Co. Richmond
804/649-7064
N. B. Handy Co.

Koanoke 703/343-2467 Washington Western Allied Systems Co. Auburn 206/838-0109

Wisconsin Allied Building Products Corp. West Allis 414/476-6222 Satum Associates Wales 414/548-4393

Canada Lexcan Industrial Supply Ltd. Montreal 514/681-1452 Lexcan Industrial Supply Ltd. Rexdale, Ontain 416/249-8361 Lexcan Industrial Supply Ltd.

Vancouver 604/687-6330

*Manufacturing Plants

ANNOUNCING THE NEW PRIORITY CLUB® FROM HOLIDAY INN®



\$ 1986 Holiday Inns, Inc.

The new Holiday Inn Priority Club Program is the world's biggest frequent guest program. With more to offer you than ever before. More exciting travel and merchandise awards. More award choices. More travel-related awards. More free guest

privileges. More special offers and bonuses.

And because Holiday Inn has more hotels than any other hotel

chain, there are more places to earn points.

Begin earning points today. For a \$10 enrollment fee (payable with any major credit card), we'll start you off with an introductory package worth up to \$100, containing bonus offers for airlines, car rentals and hotel accommodations, as well as complete program information.

Join Priority Club. And make every trip count. 5m

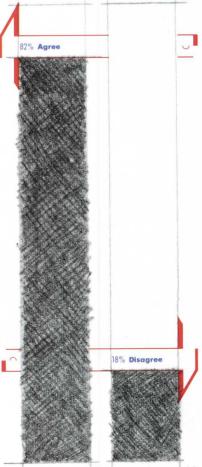
* Holiday Inn

Sign up today at any Holiday Inn hotel or call 1-800-654-6852 (Ext. 31)

Inpressions from from RAL Some call them colors...Bali calls them **IMPRESSIONS!** Our 26 NEW IMPRESSIONS are just what you'd expect from Bali, the leader in the window coverings industry. They re bold. Beautiful. And definitely exciting. They re also just what your customers are going to want. For additional contract applications, we offer 4 new Metallics specially designed for anodized window frames. Choose from-• Bronze • Pewter • White Gold • Winter Gold Impressions from Bali. You'll be impressed by what you see. ©1987 Carey-McFall Corporation Circle No. 376

P/A Reader Poll Career Satisfaction

The first two P/A Reader Polls found considerable dissatisfaction with compensation and worry over liability within the profession. This third poll looks at how those and other issues affect architects' satisfaction with their careers.



"If I had to do it all over again, I would still choose architecture as a career. (See Figure 3)

Of the readers who responded to this third P/A Reader Poll, 82 percent would still choose architecture as their career if they had to make that decision over again. Such a high percentage is encouraging, considering the profession's financial and liability troubles, but it should not be taken at face value. As the responses to this poll show, there are many aspects of an architectural career that even the most enthusiastic would change. That number also shouldn't overshadow the 18 percent who would not choose architecture again if given the chance. Their disenchantment, which should concern everyone in the profession, is not without reason nor possible remedy—as the following analyses show.

Who Responded (Figures 1, 2) As in the first two polls, this poll received the greatest response (77 percent) from people in architecture or architecture and engineering firms. Also, like the other polls, this one had the most responses (49 percent) from people in firms with less than ten employees.

The positions of the people who responded to this poll differed markedly from those involved in the last poll on liability. While 84 percent of the responses to that poll came from owners or principals of firms,

20% 10%

Figure 1 "What is your role in your firm?"

this one garnered a majority of responses from staff architects and project managers and from architects in mid-career. As we will see, such people also have the greatest dissatisfaction with the profession.

The last poll on liability also received less than 900 responses. This one drew over 2000 replies, suggesting to Morrison & Morrison, consultants for these polls, "that career satisfaction is an issue which is far more pertinent to a majority of P/A readers."

Career Decisions (Figures 3, 4)

While 82 percent of our readers would choose architecture again as a career, not everyone would do so with the same enthusiasm. Owners and principals of firms were much more likely than staff architects or project managers to choose an architectural career again without hesitation. The same was true of architects in the profession for over 20 years compared with those in it for less than three years (59 versus 46 percent).

That "a large population of architects are not completely satisfied with the profession,' observe the Morrisons, "may be due to many factors, not the least of which (may be the) widespread dissatisfaction with the financial rewards and compen-

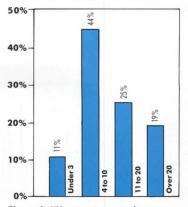


Figure 2 "How many years have you been in the profession?"

sation levels of the field."

Whatever misgivings some architects might have about their decision to enter the profession, most made their decision early on in life. Over a quarter (27 percent) decided to become architects before entering high school; another 42 percent decided during their high school years. The only significant variation occurred between males and females. Males were far more likely to decide upon an architectural career before entering high school (30 percent versus 10 percent of the females), while females are far more likely to do so during and after college (51 percent versus 27 percent of the males). That pattern may change, however, as architecture becomes a less maledominated profession.

Hindsight (Figures 5, 6)

When asked whether they would have been more successful had their education better prepared them for practice, 56 percent of our readers agreed.

Differences in age had little effect on people's responses, suggesting that, as the Morrisons observe, "the quality and nature of architectural education may not have changed significantly over the years."

The variations in responses depended, instead, upon the type of job and the type of firm

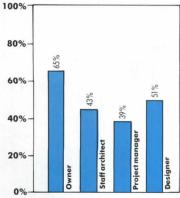


Figure 3 Readers who agreed completely to choosing architecture again as a career, according to their role in

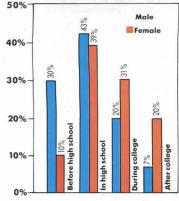


Figure 4 Period during which readers decided to become architects, according to their sex.

people worked for. Designers and draftspeople, for example, were somewhat more likely to have wanted a practice-oriented education than the owners and principals of firms (62 versus 55 percent). And architects working for design firms or for institutions or governments were somewhat more critical of their education than those working in architectural offices (66 versus 54 percent).

Similar variations occurred in readers' views of the noncreative assignments they were given during their early years in the profession. Staff architects expressed considerably more unhappiness than did owners and principals of firms (74 percent versus 53 percent). A somewhat narrower spread separated architects working for institutions and governments compared with those in architecture firms (79 versus 63 percent). Among those who were unhappy about noncreative assignments, however, 51 percent still felt that such tasks were essential. Only 14 percent found little value in them.

Personal Sacrifices (Figure 7)

A surprising unanimity characterized the responses to the question of whether architecture demands more sacrifices in one's personal life than other professions. Regardless of their roles in

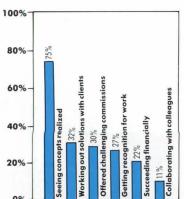


Figure 8 "What are the most rewarding experiences for an architectural professional?"

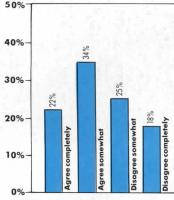


Figure 5 "Should my education have prepared me better for practice?"

firms, the types of firms they work for, or their age, 78 percent of our readers agreed with the question.

If work is interfering with personal life at all levels, comment the Morrisons, "we might assume that some owners are inefficient at orchestrating the efforts of their staff or that many firms may be poorly staffed in relation to the output of work required."

Personal rewards (Figure 8)

What rewards offset the sacrifices? The most important for our readers, by far, was seeing their concepts realized as buildings. Financial rewards were mentioned in only 22 percent of the replies.

Once again, people's roles and the types of firms they worked for affected their responses. Older architects and those who owned or were principals of firms valued working with clients more than younger designers and draftspeople, a reflection, no doubt, of the amount of contact and facility with clients each group has. Architects in institutions and governments valued working with clients and financial success considerably more than their colleagues in architecture and design firms, who placed more weight upon being offered challenging commissions and getting recognition for their

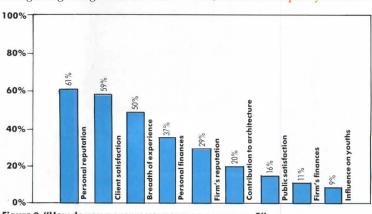


Figure 9 "How do you measure your own career success?"

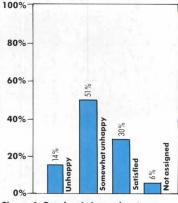


Figure 6 Readers' views about noncreative assignments early in career.

work. Another difference occurred between males and females. Males found financial success a more important reward than females (23 versus 14 percent) while females found collaborating with their colleagues more rewarding than males (21 versus 10 percent).

Measuring Success (Figure 9)

What readers found personally rewarding and a measure of their success were not always the same. Personal reputation, for example, came out on top as a measure of success, even though getting recognition for their work was rated fourth as a reward. The closer a person's connection to something, the more it was valued as a measure of success. Client satisfaction and breadth of experience rated highly; a firm's reputation or public satisfaction rated rather low.

The Morrisons note that "the highest rated measures of success—personal reputation and client satisfaction—are built privately and rather quietly. However, these word of mouth communications are certainly not the most efficient or effective means of marketing a business. To this point, we believe that architects underestimate the importance of public recognition of their work." They also see, in the discrepancy between

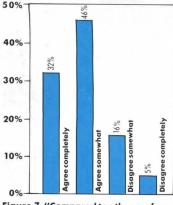


Figure 7 "Compared to other professions, architecture demands sacrifices in one's personal life to be successful."

personal finances as a measure of success and as a personal reward, "the serious dilemma the profession has with its current levels of compensation. Given this dissonance between desires to achieve personal wealth and the realities of the professional's market value, it is easy to understand why the most commonly employed measures of career success (reputation, client satisfaction, experience) are not financially based."

Career Paths (Figures 10, 11, 12)

Another aspect of architecture that sets it off from other professions is the value architects place upon a generalist practice. Eighty-two percent of our readers advocate that people entering the profession not specialize. While the differences were slight, architects who had been in practice the longest, who were in larger firms, or who were principals placed somewhat more emphasis on specialization than their younger colleagues in small firms.

Reinforcing the widespread support for a generalist practice were the responses favoring small firms as the best place for people entering the profession to begin their career. While 42 percent of the architects in small firms favored such an environ-

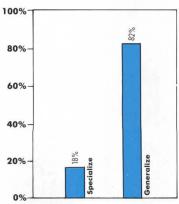


Figure 10 "Should today's young professionals specialize or maintain a generalist position?"

P/A Reader Poll Value of the AIA

Very Important/

Very Effective

Please tear out, fill in, and mail promptly. Results will be published in the May 1987 P/A.

1. FOR THIS QUESTION, USE THE SCALE BELOW.

-1 2 3 4 5 6-

Not Important/ Not Effective

P/A Reader Poll Value of the AIA

NOTE TO READERS: Whether or not you are a member of the AIA, we are interested in your opinions. If you are not a member, please base your answers on what you believe about the AIA.

FOR CLASSIFICATION PURPOSES, PLEASE CHECK THE

4. What is your current membership status?

APPROPRIATE ANSWERS BELOW.

isted activities are for a professional organization of architects and ON THE RIGHT how effective you feel the AIA is in these activities.	IF CURRENTLY A MEMBER, CHECK MEMBERSHIP CATEGORY BELOW. Corporate member, paying individual dues only		
MPORTANCE OF EFFECTIVENESS	☐ Corporate member, paying supplemental (firm)		
ACTIVITIES OF THE AIA	dues		
Increasing compensation levels for	☐ Associate member ☐ Student member		
architects			
Helping architects improve firm	☐ Emeritus member (retired)		
management Lobbying for laws benefiting architects	IF NOT CURRENTLY A MEMBER, CHECK CATEGORY BELOW.		
Improving the public image of architects	☐ Was a member previously, but not now		
Promoting design excellence	☐ Never a member, but expect to join sometime		
Professional conventions	☐ Never a member, and do not expect to join		
Professional seminars/continuing			
education education	5. If you have ever been an AIA member, how active		
Programs for those entering the	have you been?		
profession (such as Intern Development	□ Very □ Somewhat □ Not		
Program)	active active active		
Publishing standard contract documents			
Combating competition from other	6. Check which other professional organizations you		
professions	belong to:		
Taking stands on public issues (such as	Society of American Registered Architects		
housing and preservation)	☐ Architects, Designers, and Planners for Social Responsibility		
Publishing architectural magazines	☐ Professional Services Management Association		
Supporting/Stimulating architectural	☐ Local architecture organizations unaffiliated		
research	with AIA		
. Overall, how effective would you say the AIA is at:	7. Role in firm:		
(USE THE SAME SCALE AS IN QUESTION 1.)	☐ Owner/Principal ☐ Interior Designer		
lational level	☐ Project Manager or ☐ Engineer		
tate level	Equivalent Support		
ocal level	Staff Architect (Administration,		
lelping you, as an individual	☐ Designer/ Marketing, etc.) Draftsman ☐ Other		
professional	Didnishidh - Other		
il diessional	8. Type of firm:		
	☐ Architectural or ☐ Engineering or E/A		
FOR THIS QUESTION, USE THE SCALE BELOW TO	A/E Firm Firm		
INDICATE THE EXTENT TO WHICH YOU AGREE WITH THE STATEMENTS.	☐ Design Firm ☐ Contractor		
THE STATEMENTS.	□ Commercial/ □ Other		
Agree Disagree Disagree	Institutional/		
Completely Somewhat Somewhat Completely	Government		
A B C D	9. Number of employees in your firm:		
he AIA is:	□ 1-4 □ 20-49 □ Over 250		
good value for the dues it collects.	□ 5-9 □ 50-99		
Quick to act on critical issues.	□ 10-19 □ 100-249		
an effective information source.			
	10. How many years have you been in your		
esponsive to changing needs of the	profession?		
rofession.	☐ Student ☐ 4-10 ☐ Over 20 ☐ Under 3 ☐ 11-20		
taffed with competent, dedicated employees.	□ Under 3 □ 11-20		
ed by effective elected officials.			

P/A Reader Poll Value of the AIA

FASTEN HERE

Be sure your data and opinions are counted in this nationwide profile. Fill out and mail this form before March 2.

FOLD HERE



BUSINESS REPLY MAIL

FIRST CLASS MAIL

PERMIT NO. 36

CLEVELAND, OH

POSTAGE WILL BE PAID BY ADDRESSEE

Progressive Architecture P.O. BOX 657 PROSPECT, KY 40059 NO POSTAC NECESSAR IF MAILED IN THE UNITED STA

TOP LEVEL INTELLIGENCE

Build R/26 structural roof systems in one step with TUPS™: the smarter, faster way to build.

Smart architects have discovered an intelligent way to stay on top of current demands for higher energy ratings and lower costs.

They go to the very top and choose a structural, insulating roof system panel that can save energy, reduce cost, eliminate labor-intensive steps and cut time.

They choose TUPS.

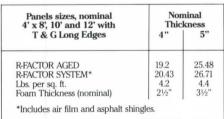
Only TUPS features a load bearing, stress skin panel integrating structural Homasote 440 Boards with an insulating core of rigid polyisocyanurate foam.

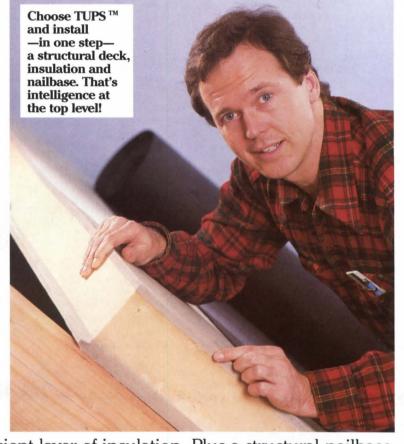
In just one step, you can install an interior ceiling ready for paint

or other finish. And an energy efficient layer of insulation. Plus a structural nailbase ready for shingles, slate, tile, BUR or single-ply membrane roofing system.

All with one-step TUPS roofing panels. That's intelligence at the top level.

For full details, call (609) 883-3300. Or write The Homasote Company directly.







P.O. Box 7240, West Trenton, New Jersey 08628-0240

SMART ARCHITECTS CHOOSE HOMASOTE.

Circle No. 344 on Reader Service Card

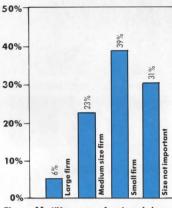


Figure 11 "Young professionals have a better chance of getting ahead if they

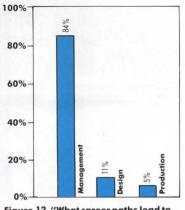


Figure 12 "What career paths lead to the greatest financial gain?

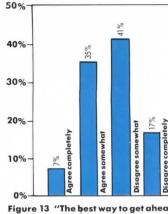


Figure 13 "The best way to get ahead is to change firms frequently."

ment, so did 43 percent of those in medium sized firms and 30 percent in large firms. Only 8 percent of the architects in large firms thought that theirs was a place for beginning profession-

The career path that a majority of readers (84 percent) saw as leading to the greatest financial gain was management. Design was mentioned in only 11 percent of the responses; and production, in only 5 percent. It's worth noting, however, that of those who saw design as the best path to follow, owners and principals—the people most responsible for promotions-represented the largest group (14 percent).

The Morrisons conclude from the data that "with such strong advice from current practitioners that the management career path leads to the greatest financial gain, it raises the question 'who will do the work?' . . . A solution may lie only in a profession-wide restructuring of current compensation levels."

Job Changes (Figures 13, 14) The data showed that people under three years in the profession will change jobs, on average, 2 or 3 times. Architects with more than 4 years' experience will usually switch firms 2 more times, for a career average of 5 job changes. Those averages

25% 20% 15% 10%

Figure 14 "How many different firms have you worked for?"

hold true, regardless of the type of firm or position of the archi-

Because architects change jobs so frequently, we asked our readers whether they saw that action as a way of getting ahead in the profession. Fifty-eight percent disagreed; 48 percent agreed. It is not surprising that owners and principals least favored job-hopping, since they are people usually left with the responsibility of filling the vacated positions. The data also show that architects working in institutions and governments saw greater value in changing jobs frequently than architects working in architectural firms (56 versus 40 percent). The most telling figures, though, came from architects who had changed jobs at least 6 times in their careers. A majority (63 percent) thought that it was the best way of getting ahead, compared with only 25 percent of those who had worked for 1 or 2 firms. That suggests that, for a sizeable number of architects, job-hopping was an intentional strategy to advance their careers.

The Morrisons add that, while a slight majority of "architects feel that excessive jobhopping is not conducive to career advancement . . . one must also avoid a tendency toward inertia. Three to five firm changes, the average reported

for this poll, seems to be a generally acceptable practice and is not considered to be 'frequent'."

Retaining employees (Figure 15)

When we asked readers from all types of positions what they thought was the most effective way for owners to retain employees, 53 percent advocated increasing compensation. After that came giving employees more control, responsibility, and variety. Staff architects and project managers placed much more importance upon increasing compensation than owners and principals (59 and 57 percent versus 49 percent). Owners, on the other hand, were more likely to favor offering equity in the firm (29 percent), possibly because that is something within their power to control. Other differences also emerge from the data. Male architects and those longer in the profession were more likely to want equity in a firm while female architects and those new to the profession were more likely to want more say over their work, broader experiences.

The Morrisons conclude from these results that when architects switch firms, "young people are seeking an environment where they can control their own work; mid-career architects, higher salaries; and

mature architects, a larger degree of responsibility. If an architectural firm desires to retain its best employees, it must address that person's needs based on his priorities in his career cycle.'

Conclusions

What conclusions can be drawn from this poll? It's clear that a sizeable number of architects are satisfied with their careers and get considerable reward—albeit at some sacrifice of their personal life-from seeing their work built and from satisfying the needs of clients. The most satisfied group were older architects and those who own or who are principals of firms. Where this group showed dissatisfaction was in areas such as the frequent job-hopping of their employees.

Mid-career staff architects and project managers had the greatest dissatisfaction with the profession and were the most frustrated by the low levels of compensation. The youngest architects were somewhere between the other two groups. They also were, by far, the most idealistic. When dissatisfaction emerged from this group, it usually revolved around questions of gaining more control, more responsibility, and more varied experiences.

What seems to unite the profession, then, is a strongly shared set of rewards and measures of success. But as this poll showed, beneath that common culture are some dramatically different needs and expectations defined largely by the age and position of architects. Owners and principals, the most satisfied group, also are the people most able to respond to and remedy the dissatisfaction. To them belongs, not only praise for the 82 percent of the profession who are happy with their choice of a career, but responsibility for the 18 percent who are not. Thomas Fisher

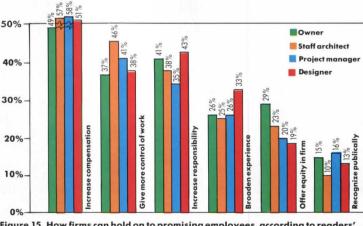
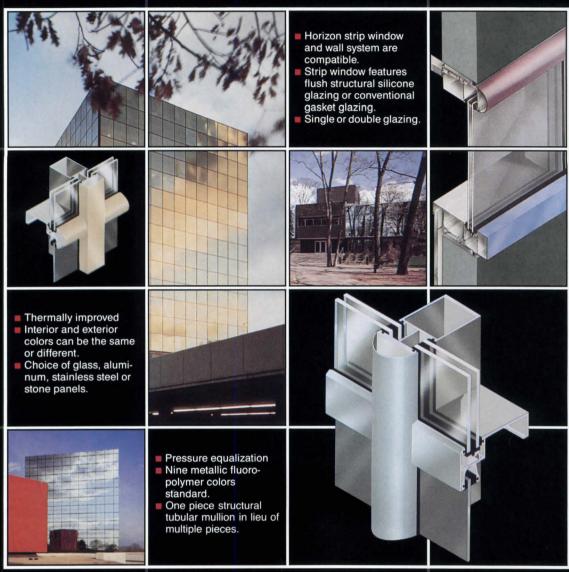


Figure 15 How firms can hold on to promising employees, according to readers' positions in firms.

The next P/A Reader Poll Report on the Value of the AIA, will appear in the May 1987 issue. With it will appear the questionnaire for the poll to follow that, on Computer Use.

Horzon



There's something new for Horizon...

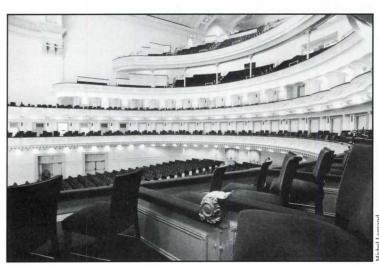
Now for the budget and energy conscious, Cupples offers the Horizon strip window system to compliment our Horizon series wall system. Horizon combines low-cost, high quality, preengineering and pre-testing in a commodity system with dealer distribution for quick delivery. For the design conscious, nine standard metallic fluoropolymer colors and the optional exterior covers give a custom appearance for a few additional cents.

CUPPLES PRODUCTS DIVISION OF H. H. ROBERTSON COMPANY 2650 South Hanley Road, St. Louis, Missouri 63144 Tele: 314-781-6729 Telex: 434393 • CUPPLESPRC STL Cable: CUPPLESPRC

TISCHLER WINDOWS AND DOORS. UNCOMMON. UNCOMPROMISING. 402444 402444 111 1111 1111 TISCHLER UND SOHN Made in Germany since 1888. Circle No. 370 on Reader Service Card

P/A News Report

- 24 Coldspring Competition
- 26 Boston 2076
- 35 Perspectives: Musée d'Orsay
- 41 Calendar



The renovated Carnegie Hall.

Carnegie Hall Reopens

When New York's famous but sadly worn Carnegie Hall closed for intensive renovation of its main spaces last May, the primary concern was that it retain the quality upon which its reputation was founded—the Main Hall's superlative acoustics. When the hall reopened on December 15th—with a gala event that included Zubin Mehta and the New York Philharmonic as well as Frank Sinatra and Liza Minelli—New Yorkers found not only that the acoustics had scarcely been altered, according to early reports by the music critics, but that the building's comfort and elegance had been improved significantly.

The intelligent renovation of the 95-year-old building (original architect: W.B. Tuthill) was executed in the remarkably short 28-week period by architect James Stewart Polshek & Partners, acoustician Abraham Melzer, and construction managers Tishman Construction Corporation. Polshek had prepared the renovation master plan in the early 1980s and redesigned the building's recital hall lobby, which opened in 1983. The latest phase of the work included renovation of the recital hall itself and reorganization of the backstage spaces, as well as refurbish-(continued on page 24)

Commentary: Codex Corporation

Proclaiming its new home an ecological paradise and a preservation feat, the Codex Corporation moved into the headquarters designed by Boston architects Koetter & Kim last fall.

Plans of this telecommunications corporation, a division of Motorola, for the 55-acre Prowse Farm formed the Boston area's most controversial environmental event of the early 1980s. When the company staged a design competition juried by the likes of Jaquelin Robertson to "select a building suited to the pastoral site," environmentalists argued that the company was, in fact, depriving the public of a view of the Blue Hills. While the architects claimed they were building "a contemporary office facility designed in the tradition of New England," nearby residents protested the loss of that (continued on page 28)



The controversial **Orsay Museum has** earned praise and censure for its eclectic art and architecture. See critique, p. 35.



Yaama Mosque, an Aga Khan award.

Aga Khan Awards for Architecture

Given every three years since 1976, the Aga Khan Award for Architecture was established to nurture an awareness of Islamic culture and encourage the development of a 20th-Century Islamic architecture. This year's jury honored six projects, selected from over 200 nominations, in three broad categories. Awards for preservation and restoration went to the ongoing conservation of Mostar Old Town, Mostar, Yugoslavia (continued on page 25)

Daylighting and Design

"The sun never knew how great it is until it struck the side of a building." With that Louis Kahn quote, Charles Moore opened the Second International Daylighting Conference in Long Beach, Calif. The first day of the conference featured Charles Moore, Henning Larsen, Joseph Esherick, Raphael Moneo, and Barton Myers discussing the use of natural light in their work. Their differences were more striking than their similarities. Joseph Esherick, for instance, takes an intuitive approach to the study of daylighting, rarely using models, while Henning Larsen deals with the problem in a more systematic way, building study models and making lighting calculations. Charles Moore often obscures the source of natural light in his buildings, creating a mysterious quality not unlike that in the Baroque churches he so admires. Raphael Moneo, in contrast, uses daylight to define and clarify space. (continued on page 31)

Pencil Points

Benjamin Thompson & Associates, Boston, has been chosen to receive the AIA's 1987 Architectural Firm Award. This year's Jury on Institute Honors, chaired by New York architect Lewis Davis, praised in particular BTA's Quincy Market in Boston, one of the earliest of a generation of urban marketplaces, which "gave new and spectacular impetus to a faltering tradition of adaption and rehabilitation." BTA is currently directing the renovation of Union Station in Washington, D.C.

J. Max Bond Jr., New York architect and dean of the architecture school at City College of New York, will receive the 1987 Whitney M. Young Jr. Citation, conferred by the AIA "in recognition of a significant contribution to social responsibility."

Joseph Monticciolo, New York, will receive the AIA's highest service award, the 1987 Edward C. Kemper Award for his work as an architect in the Department of Housing and Urban Development.

Housing the homeless is to be the theme of the 1987 Congress of the Union of International Architects, to be held in Brighton in July. For information contact the UIA Congress Secretariat, 72 Fielding Rd., Chiswick, London W4 1DB, UK.

Ball State University students and faculty are acting as the urban and venue design team for the Tenth Pan American Games, to be held in Indianapolis in August. Argentine architect Miguel Roca (P/A, Aug. 1985, pp. 75–80) will direct a studio assigned to transform major urban spaces for the games. A second studio will convert the U.S. Army's Fort Ben Harrison into an athletes' village.

The strictest practice act yet for interior designers has been passed in Washington, D.C. The bill prohibits the practice of interior design and use of the title "interior designer" by individuals not meeting specific requirements of education, experience, and examination. Three states—Alabama, Connecticut, and Louisiana—had restricted the use of the title "interior designer" to qualified professionals (P/A, April 1986, p. 25), but the D.C. bill calls for annual continuing education courses as a condition for license renewal.



Carnegie Hall lobby, before.

Carnegie (continued from page 23) ing the main hall, lobby, and exterior.

In the main hall, the most dramatic change is the stage: its domed ceiling, which had been punctured years back for a movie set, was restored and the camouflaging curtain removed, so that an even greater intimacy now exists between stage and audience. The sense of the stage as an elegant niche at the front of the hall is reinforced by the decorative treatment. Throughout the hall, the walls are a creamier white than previously, and the gilt picked out on parts of the restored ornamentation of plaster (not precast, as planned at one stage) delicately unifies the ensemble. Red, considered the building's signature color, is used for the plush new seating. The scheme, it should be noted, was devised on decorative grounds, not historical ones, as the hall had undergone wild shifts in color treatment over its life. Seat positions have been changed slightly in the hall, resulting in a dozen more seats overall while eliminating those with worst sight lines.

A new and exceptionally quiet distribution system for air conditioning was introduced with special care so not to puncture the hall's envelope; new acoustical entrance doors were installed; and new lighting, notably in a somewhat awkward "tiara" over the stage, has been added as transparently, acoustically, as possible. The hall's few dead spots have apparently been livened, and subway and street noise reduced, if not eliminated. Only the new wood floor has attracted the doubts of some music critics, who suspect that it is less resilient than the old floor. Although several critics describe the new sound as "brighter" than before, their judgments, so far, have been tentative.

The lobby has undergone



Lobby after the renovation.

more drastic changes. Before, it was a shallow and inconvenient space with too many conflicting circulation paths. Now, the floor has been lowered to street level, eliminating the front stairs and allowing space to be retrieved for box offices at the rear, under the new parterre landing. Stairs on either side of the lobby now lead to the parterre level and beyond. An entirely new decorative scheme has been devised for the lobby, with twin pilasters around the space based, says project architect Tyler Donaldson, on Vignola's Corinthian Order, and with materials derived from those used around the building, notably a red granite similar to that on the exterior. Unfortunately, the decorative scheme is not the lobby's strong point. The color combinationred and black, gray and whiteis not well balanced. Some elements, the twin pilasters, for example, are stilted; others, such as the lamp standards and overused metal grids for balcony railings and grills, are jarring. Surprisingly, despite these rather graceless appointments, pleasant proportions and usefulness of the new space are paramount.

The northwest corner of the exterior had been altered over the years by shop fronts. These have been removed and, in keeping with the building's landmark status, the architects replicated the original form. The canopy, however, is an entirely new invention, as there were many different versions over the years, none totally successful. This one, which covers all five entrance bays, has backlighted frosted glass in a gridded configuration, reminiscent of late 19th-Century New York canopies.

As Donaldson says, "All we hoped was that people would breathe a sigh of relief that Carnegie Hall is the same, but nicer." It is. Susan Doubilet

Coldspring Competition

Fifteen years ago the first 252 units of Coldspring New Town opened in Baltimore. Designed by Moshe Safdie & Associates, the Coldspring plan packed a projected population of 12,000 people in 3700 condominiums stacked atop parking and accessed by pedestrian decks.

Now the City of Baltimore proposes to complete Coldspring, but not according to the Safdie plan. Instead, under the direction of professional advisor John W. Hill, the City sponsored a design competition for a master plan encompassing 1000 new units at Coldspring and the adjacent Cylburn Arboretum and Botanical Gardens.

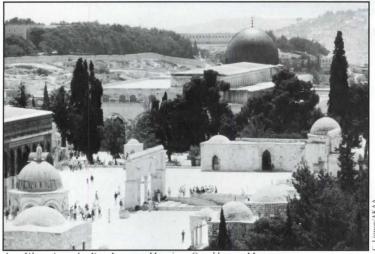
This unusual mix of public park and private housing is well served in the winning scheme by Schwartz-Kinnard Architects of Princeton, N.J. (Kenneth A. Schwartz & Judith A. Kinnard, team leaders; John Easter, project assistant). The architects, selected from a field of 36 contestants, also won first prize in last year's Hillside Housing Competition in Cincinnati.

The City was generous with prize money, awarding a \$20,000 first prize; \$10,000 second prize, given the team of Warren Byrd, Bethany Christenson, Susan Nelson, Neal Payton and Tim Love of Charlottesville, Va.; \$5,000 merit award given the team of Thomas A. Spain, Frank Martinez, and Juan Caruncho; and 4 honorable mentions of \$2,000 each. There is however no guarantee that the winning scheme will be implemented, or that the winning architects will be awarded whatever commissions emerge from this study period—caveats which, when combined with the difficulty of the program, may account for the small number of submissions.

Daralice D. Boles



Schwartz-Kinnard's Coldspring square.



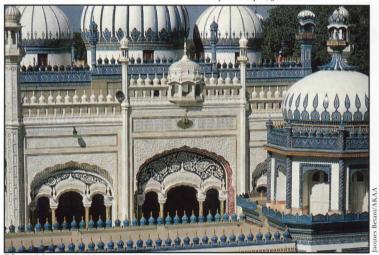
Aga Khan Awards: Dar Lamane Housing, Casablanca, Morocco.



Al-Aqsa Mosque, Jerusalem.



Social Security Complex, Istanbul.



Bhong Mosque, Rahim-Yar Khan, Pakistan



Mostar Old Town, Yugoslavia.

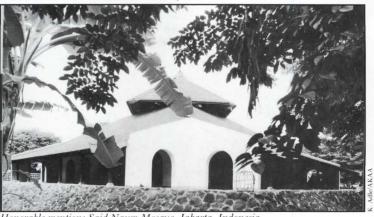
Aga Khan (continued from page 23) (StariGrad Mostar, conservator) and the restoration of alAqsa Mosque, Jerusalem (Isam Awwad, resident architect, and the International Center for the Conservation and Restoration of Monuments, conservators). The Dar Lamane Housing Community, Casablanca (Abderrahim Charai and Abdelaziz Lazrak, architects) won in the category of social housing. Three projects were selected for "excellence in contemporary architectural expression," including the Social Security Complex in Istanbul (Sedad Hakki Eldem, architect); Yaama Mosque, Tahoua, Niger (Falke Barmou, master mason); and Bhong Mosque, RahimYar Khan, Pakistan (Rais Ghazi Mohammad, patron/designer).

In addition, five projects received honorable mentions: Shushtar New Town, Iran; Said Naum Mosque, Jakarta; Kampung Kebalen infrastructure improvement program, Surabaya, Indonesia; urban development and housing projects, Ismailiyya, Egypt; and Historic Sites Development (including parks and houses), Istanbul.

Iraqi architect Rifat Chadirji received the second Chairman's



Honorable mention: Shushtar New Town, Iran.



Honorable mention: Said Naum Mosque, Jakarta, Indonesia.

Award for "a lifetime dedicated to the search for a meaningful architecture that combines contemporaneity with cultural authenticity.'

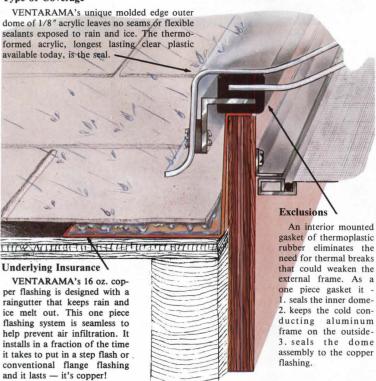
Recognizing the inevitable debate that would surround any search for an architecture in the spirit of Islam, the 1986 Steering Committee stated that "at no time has the Award tried to endorse a particular 'style,' nor has it taken a position on an ideological plane." The jury itself remained divided on precisely this point, with two jurors issuing dissenting opinions. Austrian architect Hans Hollein objected to the exclusion of Louis Kahn's Sher-E-Bangla Nagar Capital Complex in Dacca, Bangladesh (P/A, Dec. 1984, pp. 56-67) which he claimed was "voted out because of a constant bias of the majority of the jury." (The jury concluded that the Capitol Complex has not been fully tested socially and functionally, and urged that it be reassessed by the next jury, after forthcoming parliament elections.) A second dissenting juror, Mehmet Doruk Pamir, criticized a "romantic bias toward traditionalism, historicism, and the vernacular.'

Daralice D. Boles

Skylight Insurance

with no fine print just fine lines and fine design from Ventarama!!

Type of Coverage



On pitched roofs, on flat roofs, as a roof window or a skylight - VENTARAMA gives you the insurance you need.

VENTILATING

FIXED

MOTORIZED





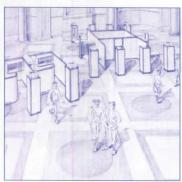




140 Cantiague Rock Road Hicksville, New York 11801 Dept. PA27 • 516-931-0202



Circle No. 373 on Reader Service Card



Carhuff's winning design for Pantheon.

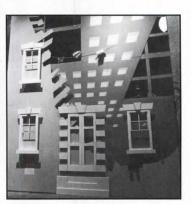
Offices in The Pantheon

Haworth Furniture System's 1986 Design Competition asked senior students, recent graduates, and professionals to place its contemporary furniture systems in a classical setting—the Pantheon.

The jury selected a classical cityscape theme, designed by Philip A. Carhuff of CRS/Sirrine and Cornell, for first place. The jury noted Carhuff's concise presentation as well as his clever arrangement of office furniture systems to form an ancient city with its own agora, a theater, and a temple.

Other finalists included MIT graduate Navroz Dabu, Syracuse University Student Allison Cross, and Sheila Danko, an Assistant Professor in the Design & Environmental Analysis Department of Cornell University.

Carhuff was awarded a total of \$10,000, including a \$5,000 scholarship for the design school of his choice. Jessica Elin



Boston 2076

On New Year's Eve, Boston architects shared their vision of the future with Boston residents in a unique outdoor installation. Each New Year's Eve, Boston hosts "First Night," a multimedia celebration with outdoor exhibits, theater, music, and dance. This year, the Boston Society of Architects and the Oasis Studio, a collective of artists and architects, joined the celebration with a piazza of fanciful, and sometimes serious architectural façades on Boston Common entitled "Boston 2076."

The one-night event, which culminated more than six months of preparation on the part of 16 architecture firms and other individuals, took on a festive, carnival character as more than 250,000 people flooded the piazza, exploring an architectural collage of post-nuclear holocaust, high-tech, low-tech, and no-tech façades of the future. Composer Caleb Sampson contributed a sound installation, Image Engineering a laser display, and Oasis Studio a 40-foot tower.

The event was organized by five architects and artists including Greg Beck, Prataap Patrose, Christine Carlyle, Elizabeth Mitchell, and Ursula Beck. Patrose described the purpose of Boston future architecture as "exploring ideas about highlighting architecture as a temporal experience."

Project director Greg Beck noted that "Boston 2076 represents an unusual collaboration between the construction and architectural communities." The project was supported by many individuals, contractors, labor unions, the MIT Council for the Arts, and the City of Boston. Enthusiastic architects in Boston are already wondering about plans for next year's First Night. Susan Stuebing

The author is an architect with Earl R. Flansburgh & Associates, Boston.



Boston 2076, piazza and façade (top) by Gillen, Kuhn, Riddle and Gray.

WE CALL IT

THE PERSONAL ARCHITECT. NOT THE PERSONAL DRAFTSMAN.

We named it on purpose.
This is a tool for the entire architectural practice, combining automated design and drafting capabilities on industry-standard IBM* PC ATs and compatibles.

Use the Personal Architect to design buildings. While other

systems work with lines and arcs, the Personal Architect lets you work with floors, walls, roofs, and rooms. In 3-D. In perspective. So you can create a true model of your building design.

> Use the Personal Architect to present designs.

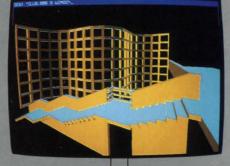
This system gives you the tools you need to make effective presentations. Like perspective views with hidden lines removed. Shaded pictures. And area takeoffs.

Use the Personal Architect to produce drawings. The system

has expert drafting capability to get your production work done. And can edit drawings quickly too.

On-screen icon menus get you up and running fast. And a graphic symbol library of over 1,000 architectural symbols gives you great flexibility.

The Personal Architect. It can help you get more business and do more business. And isn't that the name of the game?



Get more business done. On-screen menus (left screen) facilitate the production of contract documents. Drawing courtesy of Heard & Associates, Chicago, Illinois.

Get more business. Shaded pictures (right screen) like this help clients see your vision clearly from any perspective. An invaluable selling tool. Drawing courtesy of Stephen Douglass, Architect, Cambridge,

For more information on the Personal Architect write: Computervision Corporation, Personal Systems Business Unit, Building 16-2, 100 Crosby Drive, Bedford, MA 01730.

Circle No. 330



*IBM is a registered trademark of International Business Machines Corn

ORDER THESE TECHNICAL REPRINTS for your ENERGY MANAGEMENT REFERENCE FILES





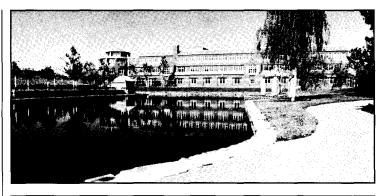


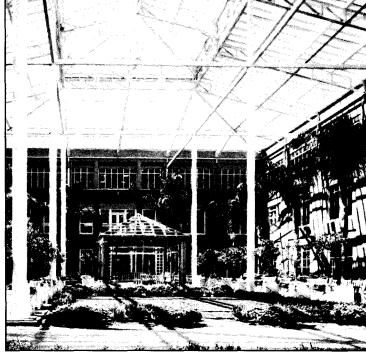


To order, complete the coupon below and mail to:

Penton Education Division 1100 Superior Avenue Cleveland, Ohio 44114

Please send the	e items indicated below:				
Item No.	Quantity	Quantity Discou	nts:		
R44		2 - 9	8%		
R46		10 - 24	16%		
B47	· · · · · · · · · · · · · · · · · · ·	25 - 49	25%		
H47		50 - 99	33%		
R48		100 or more	40%		
Bill my company, including shipping and handling charges. My purchase order is enclosed. Orders less than \$15.00 must include payment! Name					
Title					
Company					
Address (Not P.O	. Box)				
City	State	Zip			
Penton Education 1100 Superior A	on Division venue ● Cleveland, Ohio 4	14114			





Codex headquarters, exterior (top) and atrium.

Codex (continued from page 23) same legacy.

The conflict deserves mention now because attempts by designers and client to mollify environmentalists only contribute to a lack of integration in the final product. One approaches Codex along a manicured road past the former farmscape, now scrubbed so pure and pristine that it resembles the antiseptic museum villages of Sturbridge or Mystic Seaport. The headquarters building itself, flanked by two freshmade ponds and parking for 800, has this same sense of staginess or contrivance. While often assured and even elegant inside, Codex's exterior uses abundant, even frenetic detailing to less avail.

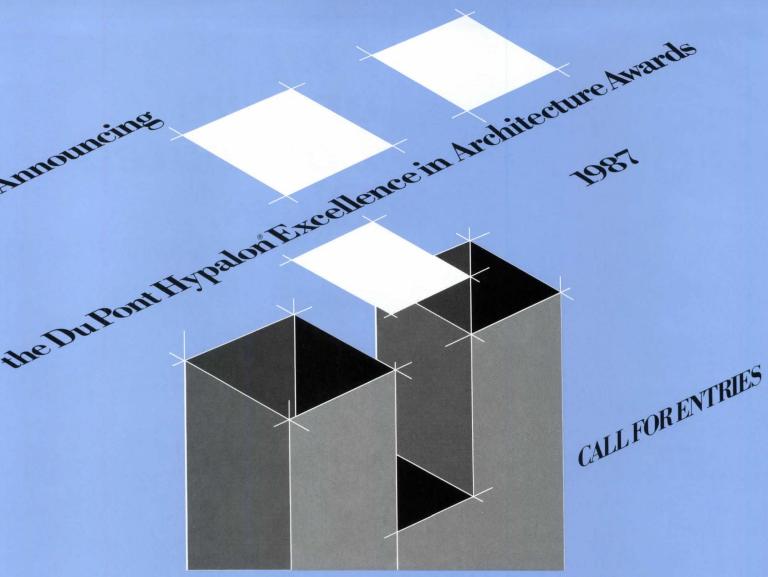
Though not offensive, the façade's varied window treatments—here recessed, there projecting, multimullioned or simple, large or small—make a rather cluttered or cute collection for so large a building. Similarly, landscape architect Laurie Olin's extensive berming, designed to hide the building, contributes to the stiffness of the surroundings. Lip service is paid

to the New England tradition of stone walls and ponds, which have the same stilted air.

Inside, in a private realm that needs no apologies, the architects create a suave and elegant ambience of a more congenial nature. God, not to mention Mammon, is in these details. Mahogany flooring alternates with gray rugs. Lustrous lighting, well-placed columns, and central lightwells break down the space. Amenities, from four austere "quiet rooms," to especially appealing dining rooms, to executive offices replete with parquet floors and outside patios, are lush and lovely.

Despite 200 palms and a gazebo, the 40' x 60' courtyard at the heart of the headquarters suffers from the same artificiality and overkill that mar the building's exterior. Beneath the trussed glass roof, the indooroutdoor space is too grandiose to allow for comfort, too pompous to permit more than an intellectual understanding of the wit of a house (the gazebo) within a house (the building).

Jane Holtz Kay



An award created to recognize

Entries will be judged based on over-all design.

Requirements

Entries may include any type of structure, and should be submitted in one of two categories-new construction or reconstruction/restoration. Projects must have been completed in the U.S. or Canada within five years of the date of judging (between May 1982 and May 1987). Entries must be submitted by a registered U.S. or Canadian architect. The project must incorporate a single-ply roofing membrane system based on Hypalon® synthetic rubber.

How to enter

Mail the entry form below to Du Pont by March 2, 1987. A submission binder will be sent to you. There is no charge to enter.

Submission requirements include a two-page description; a site plan and floor plans; photographs that clearly show the intent of the design; and a narrative that explains how and why Hypalon was used.

Specific photographic requirements include the following $8'' \times 10''$ black and white or color photographs: all exteriors; perimeter shots to show surroundings; and significant interior shots. Optional photos include an aerial shot and exposed angles of the building's roof. Entries in the restoration category must include exterior and interior prints of the structure indicating its before and after condition. In addition, five 35 mm slides will be required.

Project authorship will be concealed.

Submission binders are to be returned to Du Pont by May 1, 1987.

The 1987 jury

Laurence Booth, FAIA Chicago, Illinois Robert A.M. Stern, FAIA New York, New York Richard Guy Wilson, Hon. AIA University of Virginia, Charlottesville

The jury will select a project in each category that most clearly demonstrates excellence in architectural design. Consideration will be given to the success with which the project meets its individual requirements. The size and location of a project will not be a factor in judging. The judges will meet in May.

Circle No. 335 on Reader Service Card

Awards will be made at a special ceremony to be held in Orlando, Florida, the week of the 1987 American Institute of Architects Convention, June 19-22.

Du Pont reserves the right to reprint and duplicate all materials in promotions. Rights should be cleared for publication.

The decision of the judges will be final and made independent of Du Pont. When the architect submits an entry, he or she agrees to comply with the jury decision. Composition of the jury is subject to change without notice.

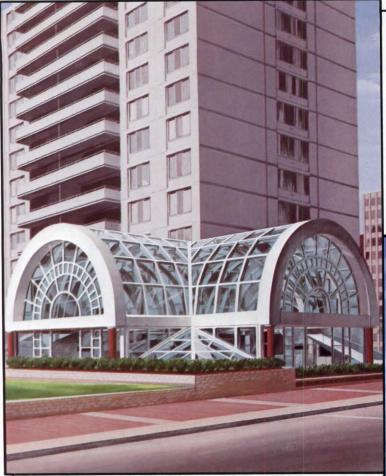
This program is not affiliated with or sponsored by the American Institute of Architects.

I will submit_ entries in the 1987 Du Pont Hypalon Excellence in Architecture Awards Program in the_____ New Construction_ _Reconstruction/ Restoration category.

NAME		
TITLE	(please print)	
FIRM NAME		
ADDRESS		
CITY	STATE	ZIP

Return to: The Du Pont Hypalon Excellence Awards Program Suite 300, 150 Monument Road Bala Cynwyd, PA 19004

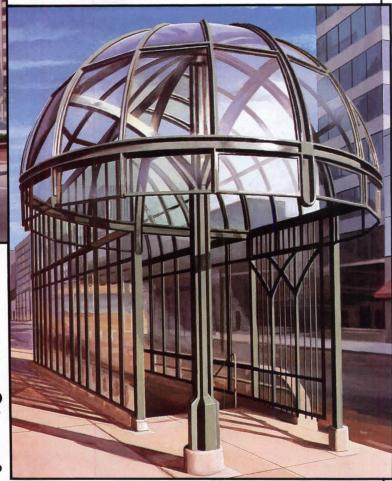




Crystal Plaza, Arlington, Va.

Your Choice Overhead.

Flat or Bent Laminated Glass.



11th Street Station, Philadelphia, Pa.

Choose Slopelite[™] flat laminated glass for its safety features, scratch-resistance, solar control, and easy maintenance. Or choose Bentlite[®] bent laminated architectural glass to enhance your building's glazing design. Both are available in single or

insulated units made with a clear, bronze or gray polyvinyl butyral (PVB) interlayer. And both are code approved for use in overhead locations. For safety and versatility in overhead glazing, choose flat or bent laminated glass.



Daylighting (continued from page 23)

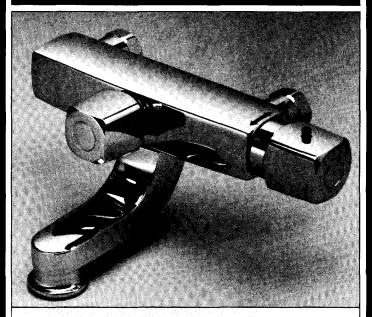
The first day also marked the beginning of a debate that lasted throughout the conference. As Harrison Fraker of the University of Minnesota asked, "Why are some architects able to design, without much knowledge of the technical aspects of daylighting or much use of daylighting tools, some very good daylighted buildings?" Fraker placed the onus on researchers to organize their data in a more useful fashion, according to types of buildings and daylighting strategies, and to present it in a more visual, readily understood manner. Eliyahu Ne'eman of the Technion in Israel responded, at a later panel discussion, that architects, in turn, must be willing to communicate with and use the findings of researchers.

The conference itself lacked neither communication nor useful research. The communication came in part from the sheer variety of disciplines represented, including physics, psychology, and physiology as well as architecture, design, and urban planning. The research reflected that mix. Highlights included work being done at Columbia on light therapies to reverse the depressive effects of daylight deprivation in winter months; at MIT, UCLA, and Lawrence Berkeley Labs, on microcomputer software to determine daylight levels in buildings or city streets; at RPI, on light shafts to illuminate and ventilate building cores; and at Lawrence Berkeley Labs, on new forms of shading devices.

Daylighting, as Donald Prowler of the University of Pennsylvania showed, has a long philosophical tradition, and as Raymond Cole of the University of British Columbia showed, a varied popularity since the 19th Century. Current interest in the subject seems to have several motives: the reduction of energy consumption in buildings, the reduction of utilities' peak power requirements, the improvement of people's health and wellbeing, even the recent shift away from Post-Modern symbolism toward a more site-specific, spatially oriented architecture. Whatever the motives, though, daylighting seems secure as a major component of building design. "No space, architecturally, is a space," as Louis Kahn once said, "unless it has natural light." Thomas Fisher

Conference proceedings are available for \$34.95 plus \$1.19 handling from John Cable and Associates, 1508 Emerson Ave., McLean, Va. 22101 (703) 847-1404.

M O R A



CONTROL · TEMP.

Temperature control independent of volume control.

Anti-scald safety in an exposed mounted valve.

Clean Swedish design in chrome, bronze or white finish.

The Mora Bath/Shower Fitting.



4309 NORTH BELTWOOD PARKWAY DALLAS, TEXAS 75244-3294 (214) 661-0222

Circle No. 356

WHAT THIS PERMA-SHIELD WON'T DO IS AS IMPRESSIV

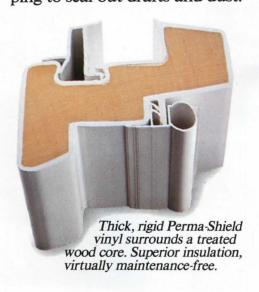
The Perma-Shield vinyl won't chip, flake, peel, leak, warp, rust, pit, blister, or corrode.

It would take a window just short of miraculous to make a claim like that without flinching. But because of its unique Perma-Shield system, our casement window can do just that.

By sheathing the wood core with a nearly indestructible vinvl. an Andersen® Perma-Shield® casement window has the ultimate protection against weathering and wear. In fact, the exterior never needs painting. Ever.

But this window does more than just stay good-looking—it stands up to just about anything that comes its way.

It'll take the heat and cold: An Andersen casement window far exceeds the industry standards for weathertightness. We use a wood core because it's one of nature's best insulators, doublepane insulating glass, and specially designed weatherstripping to seal out drafts and dust.





WINDOW FROM ANDERSEN AS WHAT IT WILL DO.



For even more energy efficiency, it's available with High-Performance and new High-Performance Sun insulating glass.

It'll take the wind and rain: An Andersen casement window's welded corners add strength and further protect the wood core against weathering.

Best of all, what this window will do is provide you with an energy efficient, low-maintenance window that lasts, and lasts. Beautifully.

The Andersen Perma-Shield casement window. Miraculous? Almost. When it installs itself, we'll call it a miracle.

For more information call your Andersen distributor or see Sweet's File 8.16 An. Or write Andersen Corp., Box 12, Bayport, MN 55003.

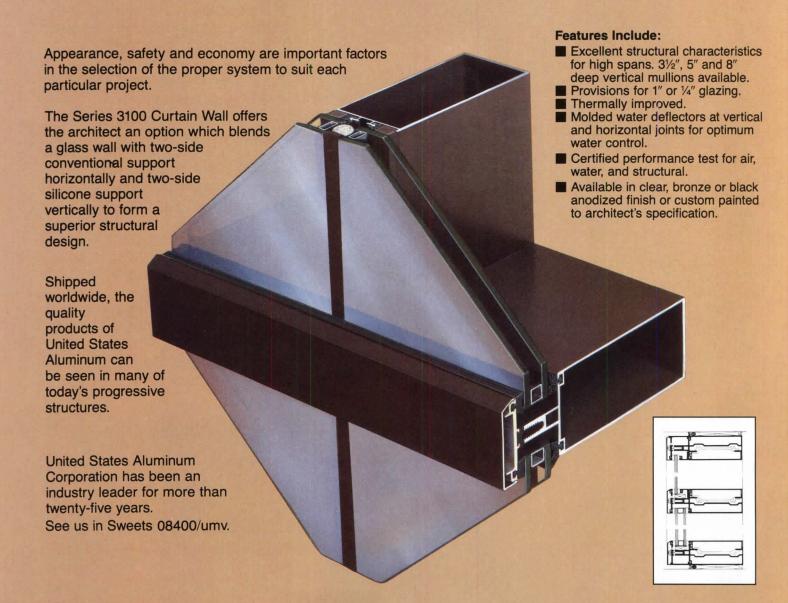


86134 © 1986 Andersen Corp.



Circle No. 323 on Reader Service Card

New opportunities with the Series 3100 Curtain Wall from United States Aluminum Corporation

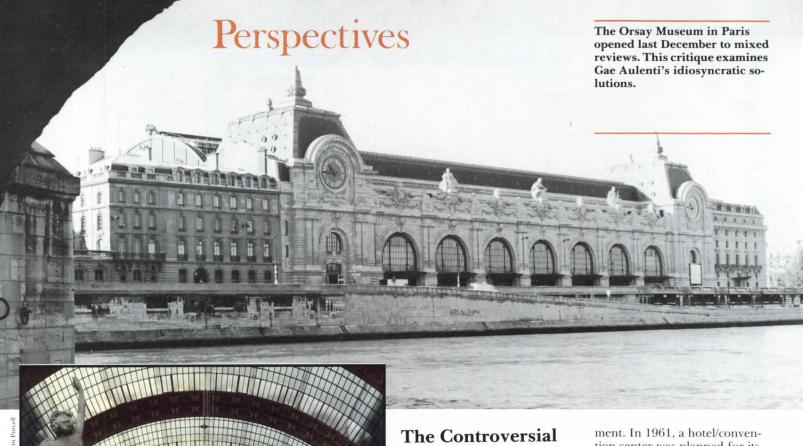


For complete information, call 1 (800) 527-6440, in Texas call 1 (800) 442-3247 or write:

United States Aluminum Corporation

Manufacturing Facilities

3663 Bandini Blvd. Vernon, California 90023 Telephone (213) 268-4230 200 Singleton Drive Waxahachie, Texas 75165 Telephone (214) 937-9651 or (214) 299-5397 metro 6969 West 73rd Street Chicago, Illinois 60638 Telephone (312) 458-9070 720 Cel-River Road Rock Hill, South Carolina 29730 Telephone (803) 366-8326



Restored Musée d'Orsay façade on the Seine (top) and interior.

Sculpture court, stair towers on tracks.

Musée d'Orsay

In December 1986, the Musée d'Orsay in Paris opened its doors. Housed in a Beaux-Arts railroad station, its collections scan Western culture from 1848 to 1914, highlighted by the Impressionist collection formerly housed in the Jeu de Paume. The tremendous scale of the project—13 years and nearly 11/2 billion francs (\$250 million) to completion—has generated enormous public attention, spiced by controversy over Gae Aulenti's interior architecture.

The original station, built in 1898 at the end of the era of grand train travel, was itself something of an anachronism. As designed by Victor Laloux, Grand Prix de Rome architect, the composition comprised three elements: the station proper, a great semicylindrical hall of metal and glass; a hotel abutting the hall to west and south; and a grand stone façade, ornamented in the best Beaux-Arts tradition, facing the Seine. (The museum now occupies all these spaces.) The era's contradictions were embedded in the building. The historicist bulk of the principal facade served only to conceal the modern station from the Tuileries; the hall, exactly the size of the nave at Notre Dame, was itself superfluous, for newly electrified trains produced no steam or soot.

By 1939, trains grew too long for the station's platforms. The hotel remained open until 1973, but the great hall suffered divers indignities, then abandontion center was planned for its site. A boxy modern design was chosen; demolition was scheduled in 1971. But outcry over the destruction of Les Halles focused attention on 19th-Century architecture; protest saved the station and a proposal to preserve it as a museum bridging between the collections of the Louvre and the Centre Pompidou (then under construction) was tentatively approved in 1973.

In 1979, ACT Architecture (Renaud Bardon, Pierre Colboc, Jean-Paul Philippon) won the competition to design the new Musée d'Orsay. Their project shifted the principal entrance from the long quai-side to the more sheltered rue Bellechasse. The station was, in effect, turned sideways. Inside, the hall became a street, with galleries built within the rhythm of the station's iron bays. Calm and transparent, this "reinterpretation" of the structure would permit "a dialectic between the station and the art.

In 1980, however, "program revisions" led to the appointment of Milanese architect Gae Aulenti to design interior architecture, lighting, and museum furnishings for the Musée d'Orsay. Aulenti accepted ACT's basic parti, but rejected its deference. "For me," she said, "Orsay was a free space calling for new and strong initiatives." Her choices include stone facings for gallery walls and floors, an assertive color scheme, and most important, insistent templelike galleries that have prompted comparisons to ancient Egypt

and Mussolini's Rome. With what Philippon calls "a violence not at all in our original plans," Aulenti has turned ACT's "dialectic" into a trio. The 19th Century is present, but only under sufferance from the 20th.

The great hall itself remains a revelation. Torrents of light open the room as if to the sky. Below, wedged like a village in a valley, Aulenti's temples oppose mass to volume. A long processional route links the entire museum in chronological sequence. On the ground floor, Romanticism and its Academic successors on one side face Realism to Manet on the other. But architecture overwhelms these distinctions. Squat columns and coy cutout lintels provide pomp, while incessant changes in level and view add busy circumstance, in distracting self-assertion. The paintings themselves, pegged to stone walls, are butterflies, dried and mounted.

The eastern end of the building is given to the period's architecture and urbanism, installed by theatrical designer Richard Pedruzzi. His model of Charles Garnier's Opera is a bravura performance, reproducing every subtlety of machinery and decor; underfoot, below thick glass, the entire Hausmannien Opera quartier lives in 1/100 scale. In the eastern Seine pavilion, a freestanding elevator cage is mounted with a "lexicon" of the 19th-Century styles and materials, in artifacts and models. A display of architectural documents offers work by Eiffel, Labrouste, Viollet-le-Duc, and others; space is granted to Vienna, Glasgow, and Chicago. The eclectic presentation is a faithful portrait of a heterogeneous age.

The procession climbs from the track-bed to attic, either through twin 48-foot-high towers—claustrophobic staircases crammed with Art Nouveau objects—or on a narrow escalator.

Neither route is graceful, but the view is splendid. This summit leads directly to the Impressionist galleries along the Seine. Though remote, they will surely be crowded; the Jeu de Paume, their former home, drew up to 8000 visitors a day. (Orsay can handle 10,000 daily, 5600 at a given moment.)

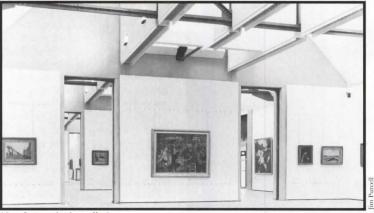
The Impressionist rooms are intimate and conventional: top-lighted with white walls, the paintings orderly at eye level. The installation allows the art to speak for itself, an admirable modesty that intensifies their effect. A comfortable café, with



Aulenti's new interior set against the old.



Restored hotel rooms.



New Impressionist galleries.



Galleries enfilade with special hanging system for art.

a terrace overlooking the Tuileries, separates the "classics" from their heirs. These are hung in the astonishing Bellechasse Gallery, carved from upper-floor rooms in the hotel.

The descent to the final, median level flows through the Passage de Presse, where timelines and news excerpts place the art in historical context. Orsay is meant to be a "democratic" museum, presenting the culture in its totality and rehabilitating of art long dismissed as insignificant. The same didactic spirit inspired restoration of the original hotel decor in three rooms, once again resplendent in their painted ceilings, mirrors, and gilt.

Orsay aims for impact. The building is larger than Beaubourg; the collection boasts 2300 paintings, 1500 sculptures, 1100 objets d'art, and 13,000 photographs. Exhibition space covers 120,00 square feet; total usable area is nearly 354,000 square feet. If the Louvre (before Pei) enjoys twice the display space, consider that its collections covers millenia, Orsay's scarcely a century. Orsay's geography is even more concentrated: 60 percent of its painters and 85 percent of its sculptors are French.

Aulenti's interior architecture serves both functional and ideological programs. On a technical level, the museum is exemplary. Lighting (designed with Aulenti's longtime collaborator, Piero Castiglione) and circulation are generally cogent responses to complex problems. Visitors facilities are efficiently organized, though in the towers handicapped access seems problematic. Advanced computer and video installations serve pedagogic functions in a dozen audiovisual "dossiers" scattered throughout the building. Signage is modest and clear. The museum has gone to great lengths to become accessible to the "average" visitor.

From aesthetic and philosophical perspectives, however, the results are more troubling. The 19th Century, in all its diversity and contradiction, is not merely presented—the relatively transparent ACT project would have sufficed for that. Instead Aulenti orchestrates the polyphony into a single, disciplined chorus, in effect sacrificing the integrity of the station in order to eulogize the art. In the end, the critical distance essential to judgment is overwhelmed by architecture. Thomas Matthews

The author, who writes occasionally for P/A, is presently based in Bordeaux.

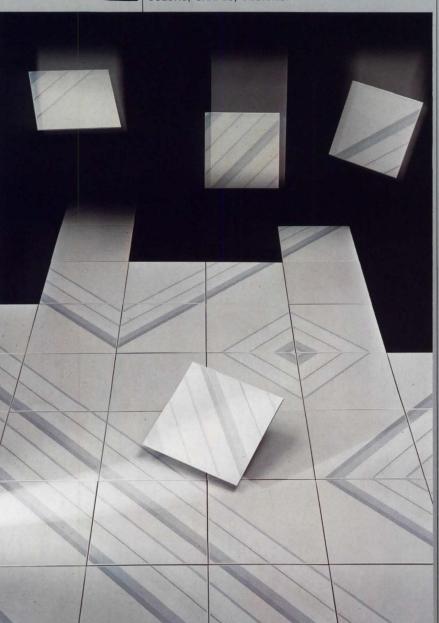
COOPERATIVA CERAMICA D'IMOLA is the largest supplier of ceramic tiles from Italy in the U.S.



since 1874

COOPERATIVA CERAMICA D'IMOLA

IS LEADER IN DESIGNING & MANUFACTURING CERAMIC TILES AND CAN OFFER AN INCOMPARABLE SELECTION OF PRODUCTS. SHOULD YOUR DESIGNS CALL FOR SPECIAL SOLUTIONS, OUR NATIONWIDE NETWORK OF DEALERS IS AVAILABLE TO YOU WITH HUNDREDS OF COLORS, SHAPES, DESIGNS.





CATALOGS AND SAMPLES:

M.F.G. Manufacturers Rep. Inc. 3811 N.E. 2nd Ave. Miami, Fla. 33137 Phone 305.573-4506 Telex 6811211

W.S. ENTERPRISE INC. 1741 Coral Way Miami, Fla. 33145 Phone 305.858-4744 Telex 803089

COOPERATIVA CERAMICA D'IMOLA Via Vittorio Veneto, 13 40026 Imola (80) - Italy Phone 0542-31500 Telex 510362 Telex 222194

Circle No. 331





CONVENTION OF TILE INDUSTRY CULTURE & ART



SOFT-EDGED SOPHISTICATION.

You can see the difference.
The future in high-style framing is here today. New Kawneer Soffront.®
On storefronts, office buildings, even interiors, Soffront takes the edge off.
Gracefully. Without sacrificing performance. We rounded the lines. We didn't cut the corpore. the corners.

But Soffront is more than a component. Soffront is a system. Fully engineered for erection flexibility. Fully integrated for design consistency. Each framing member, door frame, even the stops are rounded for a soft impression that's on design's cutting edge.

Soffront is color, too. Choose from traditional bronzes and black, or explore Kawneer's palette of stylish Fluropon® architectural coatings.

Look around the corner to see the future in framing. Then, take a good look at your next design. And new Kawneer Soffront.



For a look at more

information, write:

The Kawneer Company, Inc., Dept., C., Technology Park-Atlanta, 555 Guthridge Court, Norcross, GA 30092.

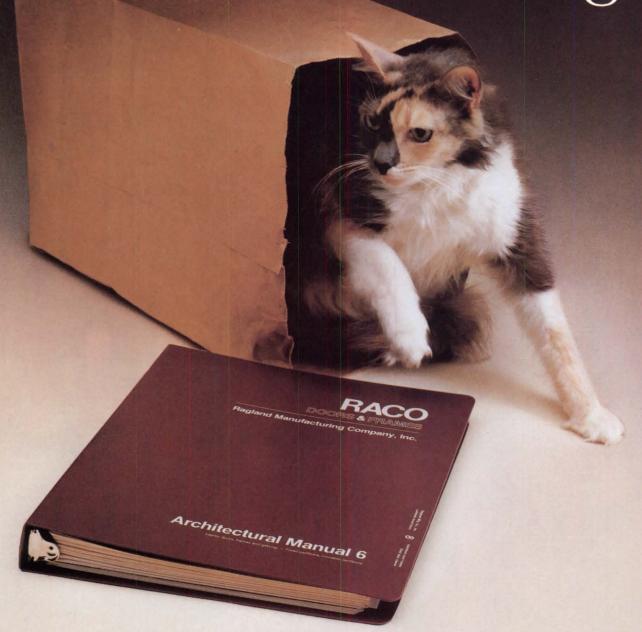


The Designer's Element.

Circle No. 347



the catalog's out of the bag!



Commercial Tenant Improvement

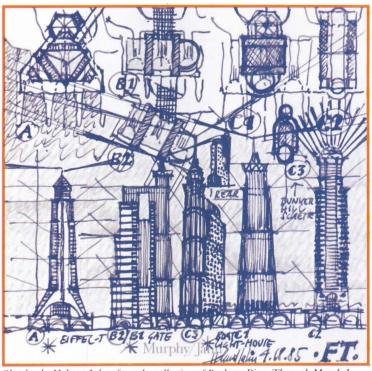
Raco's aluminum door frames and glazing systems are the most widely used in the United States. For your new Raco catalog call or write or circle No. 306 on the Reader Service Card.

Ragland Manufacturing Company

2000 Silber Road • Houston, Texas 77055 Telephone 1-800-272-RACO

Subsidiary of International Aluminum Corporation

P/A Calendar



Sketches by Helmut Jahn, from the collection of Barbara Pine. Through March 1.

Exhibits

Through March 1

Perspective: The Illusion of Space. Cooper-Hewitt Museum, New York.

Through March 1

Architects' Drawings from the Collection of Barbara Pine (works by Frank Lloyd Wright, Louis Sullivan, Josef Hoffman, Frank Gehry, Helmut Jahn, and others). Mary and Leigh Block Gallery, Northwestern University, Evanston, Ill.

Through March 2

Twentieth Century Design. The Brooklyn Museum, Brooklyn, N.Y.

Through March 22

The Architecture of Frank Gehry. Contemporary Arts Museum, Houston, Texas (P/A, Oct. 1986, pp. 69-101).

Through April 5

Modern Jewellry-the Cleto Munari Collection (works by Ettore Sottsass, Hans Hollein, Peter Shire, Cesar Pelli, Robert Venturi, and others). Musée des Arts Decoratifs de Montreal, Montreal.

Through April 19

American Furniture from the Kaufman Collection. National Gallery of Art, Washington, D.C.

Through April 26

Crystal Palaces. Cooper-Hewitt Museum, New York.

Through May 24

The Golden Age of Ottoman Architecture: Sinan, Sultan Suleyman's Court Architect. The Octagon Museum, Washington, D.C.

Through June 9

Gaudí in Context: Building in Barcelona, 1873-1926. Cooper-Hewitt Museum, New York.

Through July 19

American Decorative Window Glass, 1860–1890: The Home as Heaven Below. National Building Museum, Washington, D.C.

Through July 31

New and Different: Home Interiors in 18th Century America. Museum of American History, Smithsonian Institution, Washington, D.C.

February 23-April 26

Ornamental Architecture Reborn: A New Terra Cotta Vocabulary. Purdue University, West Lafavette, Ind.

February 28-April 26

Frank Lloyd Wright and the Johnson Wax Buildings: Creating a Corporate Cathedral. Grand Rapids Art Museum, Grand Rapids, Mich.

March 12-May 3

Tokyo: Form and Spirit. San Francisco Museum of Modern Art, San Francisco (See P/A, June 1986, p. 24)

March 14-April 19

Changing Light: Sixth Arango International Design Exposition. Center for the Fine Arts, Miami, Fla.

April 4-June 28

The Machine Age in America 1918–1921. Museum of Art, Carnegie Institute, Pittsburgh, Pa. (See P/A, Nov. 1986, p. 110).

April 21-May 23

Room in the City; proposal for tenement housing in New York. The City Gallery, New York,

May 28-June 26

The Art of Tall Building. Gallery at the Old Post Office, Dayton, Ohio.

Competitions

February 20

Deadline, 29th Annual S.M. Hexter Awards Program for the Interiors of the Year. Contact S.M. Hexter Co., 979 Third Ave., New York, N.Y. 10022 (212) 355-5587.

February 20

Deadline, Louis Sullivan Award for Architecture. Contact American Institute of Architects, 1735 New York Ave., N.W., Washington, D.C. 20006 (202) 626-7300.

February 28

Deadline, Sixth Annual Young Architects Forum. Contact Anne Rieselbach, Architecture League of New York, 457 Madison Ave., New York, N.Y. 10022 (212) 753-1722.

February 28

Deadline, Snug Harbor Music Hall/Theatre Design Competition. Contact Mark Hewitt, Professional Advisor, Music Hall/ Theatre Design Competition, Snug Harbor Cultural Center, 1000 Richmond Terrace, Staten Island, N.Y. 10301.

March 1

Deadline, International Competition and Exhibition. Contact Competition Chairperson, Stained Glass Association of America, 7976 E. 41st St., Tulsa, Okla. 74145 (918) 664-8604.

March 6

Deadline, New American Talent 1987. Contact Texas Fine Arts Association, P.O. Box 5023, Austin, Texas 78763 (512) 453-5312.

March 10

Deadline, Design Advancement Project Grants for Individuals. Contact National Endowment for the Arts, Washington, D.C. 20506.

March 30

Postmark Deadline. Burroughs Design Competition. Contact **Burroughs Design Competition** P.O. Box 5580, Plymouth, Mich. 48170 (313) 451-4000.

March 31

Deadline, AIA Architectural Photography Competition. Contact St. Louis Chapter AIA, 911 Washington Ave., #225, St. Louis, Mo. 63101-1203 (314) 621-3484.

April 1

Deadline, "Playhouse in Amsterdam" International Idea Competition. Contact Knudson Benson Assoc., Theatre and Lighting Consultants, 3002 89th Pl., S.E., Mercer Island, Wash. 98040 (206) 232-2273.

April 1

Deadline, Ninth Annual Innovations in Housing Design Competition. Contact Innovations in Housing, P.O. Box 11700, Tacoma, Wash. 98411 (206) 565-6600.

April 1

Deadline, "Give Them Shelter, It's not for Everyone," Bomb Shelter design competition. Contact Competition Coordinator, ADPSR, Northern California Chapter, 120 Howard St., Suite B-726, San Francisco, Calif. 94105 (415) 775-2422.

April 10

Deadline, Design Advancement Project Grants for Organizations. Contact National Endowment for the Arts, Washington, D.C.

Conferences

February 23-24

Modular Housing Symposium, Boston, Mass. Contact Manufactured Housing Newsletter, Box 1307, Barrington, Ill. 60011 (312) 381-4312.

March 7-15

Marble: Italian Culture, Technology and Design, New York, N.Y. Contact Italian Trade Commission, 499 Park Ave., New York, N.Y. 10022.

March 9-11

Fire Detection and Suppression Symposium, Maritime Institute, Linthicum, Md. Contact Society of Fire Protection Engineers, 60 Batterymarch St., Boston, Mass., 02110 (617) 482-0686.

March 22-26

Computer Graphics '87. Philadelphia Civic Center, Philadelphia. Contact Nancy Flower or Marjorie Foos, National Computer Graphics Association, 2722 Merrillee Dr., Suite 200, Fairfax, Va. 22031.

March 22-27

American Concrete Institute Annual Convention, San Antonio Texas. Contact Convention Dept. ACI, P.O. Box 19150, Detroit, Mich. 48219 (313) 532-2600.

March 25-27

WESTWEEK '87, Pacific Design Center, West Hollywood, Calif. Contact James Goodwin, Director Marketing Communications, Pacific Design Center, 8687 Melrose Blvd., West Hollywood, Calif. 90069 (213) 657-0800.

March 31-April 2

American Institute for Design and Drafting 27th Annual Convention. Sheraton St. Louis Hotel, St. Louis. Contact AIDD, 966 Hungerford Dr., Suite 10B, Rockville, Md. 20850 (301) 294-8712.

April 6-10

1987 European Conference on Architecture, Munich. Contact Conference Organizer, H.S. Stephens & Associates, Agriculture House, 55 Goldington Rd., Bedford MK40 3LS England.

April 8-10

The International Design Market, The Merchandise Mart, Chicago. Contact The Merchandise Mart, Communications Department (312) 527-7553.

April 9-12

The Wright People (Speakers: Vincent Scully, Edgar Kaufman Jr., and others). College of Architecture and Urban Planning, University of Michigan, Ann Arbor, Mich. Contact University of Michigan Conference Department, 200 Hill St., Ann Arbor, Mich. 48104.

April 16-17

8th Conference on Roofing Technology, Gaithersburg, Md. Contact National Roofing Contractors Association, One O'Hare Center, 6250 River Road, Rosemont, Ill. 60018 (312) 318-6722.

April 25-29

American Planning Association Conference, Sheraton Centre Hotel, St. Louis. Contact Sheri Lynn Singer, 1776 Massachusetts Ave., N.W., Washington, D.C (202) 872-0611.

May 10-14

Interior Design International, Olympia, London. Contact British Information Services, 845 Third Ave., New York, N.Y. 10022 (212) 752-8400.

May 11-13

Lighting World International, Jacob K. Javits Center, New York. Contact National Expositions, 49 W. 38th St., New York, N.Y. 10018 (212) 391-9111.

London Walks® take the roof garden to new heights.



GTE/Stamford, Connecticut • Architect: Hellmouth, Obata & Kassabaum.

To lend a country air to its suburban office complex, GTE created an expansive rooftop garden and plaza. The terrace was paved in a checkerboard design, with stepping stones leading through the garden. The paver chosen: Hastings London Walks.

London Walks can bring high style to your design, too, whether it's a roof deck, pedestrian walk, plaza or mall. Choose from an extraordinary variety of

extraordinary variety colors, finishes and sizes. Create distinctive designs by mixing these colors and textures—with each other or with Hastings Asphalt Block® or Brick Pavers. Hastings also offers you our experience–100 years' worth–to assist in design, material selection and installation.

So for a top quality paver that's the height of versatility, specify London Walks. Call a Hastings sales engineer, or write us for our Sweets brochure. Contact Hastings Pavement Co., Inc.,

30 Commercial Street, Freeport, NY 11520; 516-379-3500.

HASTINGS

Circle No. 341 on Reader Service Card

A Stanley door makes any house better.

Energy efficiency. Security. High style without high cost. These are the features your clients demand from a door system. And from you.

It is exactly this combination of quality and value that has made Stanley steel door systems the choice of contractors, architects and homeowners alike.

Stanley door systems are engineered to the highest standards and crafted for long-lasting beauty. And once they're installed, they won't warp, crack, split, or rot, with energy efficiency

far superior to wood doors.

Give your clients the royal treatment. Call Stanley, the Total Door Company. The name known and trusted for quality for over 140 years.





Hartco Pattern-Plus.

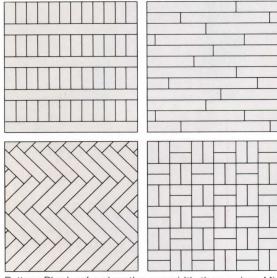


The hardwood floor you design yourself.









Pattern-Plus has four lengths, one width, three colors. Mix or match to create thousands of designs.

Phoenix Ballroom, The Orangery Restaurant, Knoxville, TN

Hartco Pattern-Plus offers architects and designers unparalleled freedom in flooring design.

With the Pattern-Plus system of factory-finished hardwood flooring units you can create almost any pattern your mind can conceive. Four modular lengths (9", 18", 27", 36"), one width (41/2"). three colors – to mix, match. combine in a dazzling variety of designs. Everything from simple strip or plank effects to parquets, herringbones, even one-of-a-kind patterns to fit a specific space.

And Pattern-Plus is made tough enough to take iteven in high-traffic commercial installations. In a stateof-the-art process, acrylic and stain are forced under pressure all the way through the oak to make it harder than hardwood. It resists stains, spills, scarring. Color won't wear away.

Pattern-Plus has tongues and grooves engineered and precisely machined to lock together, give you a smooth, even floor every time.

And all this at a price comparable to top quality vinyl or carpet.

Pattern-Plus hardwood flooring. Designed for designing. Custom floors without premium prices.

For samples of Pattern-Plus and a catalog that shows applications of all Hartco flooring products call your Hartco distributor. Or contact Hartco, Inc., P.O. Box 1001, Oneida, TN 37841-1001. (615) 569-8526.



Circle No. 342

Maxi

Introducing the only reader printer you may ever need.

The multitalented NP 780 may be the only universal dry plain paper reader/printer you'll ever need. Superb optics, highly automated microcomputer controls, and plain paper convenience make the advanced NP 780 a model of efficiency-for low- or highvolume production.

It even knows black from white.

The innovative NP 780 can automatically remove unnecessary borders from prints by using its intelligence to find the edge of an image. Using the automatic border erasure function, now you can produce easy-to-read prints, that are close to original size, without all that black border. And you'll save on toner consumption.





Define your own borders.



A knack for back-to-back.





With the revolutionary NP 780, you can have pushbutton control over printing formats. Print side-by-side images displayed on the screen on two separate sheets. Also available is a special book format function to print images back-to-back on one sheet.

Positively simple.

The versatile NP 780 gives you bi-modal capability by fingertip control. Simply select the mode and the NP 780 can

print positive images from either positive or negative film. A great help when you're handling different type of films.

Versatile worker.

It produces crisp, clear plain paper copies as fast as 20 prints a minute—the fastest on record. And dual 250-sheet paper cassettes plus an optional 1,000 sheet paper deck let you select paper sizes from statement size to 11" x 17". Add to that the NP 780's wide array of film carriers; and you've got a versatile machine that lets you print from just about any format, fast.



Image maker.

The NP 780 also lets you keep a sharp image. The superb array of lenses, from 7X to 53X, plus three zooms, and automatic exposure control help you get high image quality.

The Canon NP 780: Maximum output with minimum fuss.

For more information, check the Yellow Pages for your nearest authorized Canon dealer. Or call toll-free 1-800-453-9000, and ask for Canon Micrographics.



Canon U.S.A., Inc., Micrographics Division PO. Box 619656, D/FW Airport, TX 7526 Please send me more information on the NP 780 Please send me information of the full line of Canon micrographics equipment.	
NAME	
TITLE	
COMPANY	
ADDRESS	
CITY	
STATE	ZIP

The unique NP 780 also lets you control the image printing area by simple digital entry on its control keyboard. You can eliminate unwanted borders. And mask out unneeded information from your prints with just a few simple commands.



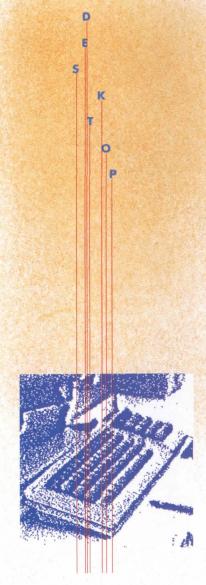




Canon U.S.A., Inc., New York Office/Headquarters: One Canon Plaza, Lake Success, NY 11042 Atlanta Office: 5625 Oakbrook Parkway, Norcross, GA 30093 Chicago Office: 100 Park Blvd., Itasca, IL 60143
Dallas Office: 3200 Regent Blvd., Irving, TX 75063 Los Angeles Office: 123 Paularino Avenue East, Costa Mesa, CA 92626 Canon Government Marketing Center: 5701 General Washington Drive, Alexandria, VA 22312
Canon Canada, Inc., Headquarters: 6390 Dixie Road, Mississauga, Ontario L5T 177 Calgary Office: 2828 16th Street, N.E., Calgary, Alberta T2E 7K7

P/A Practice

Computers: Allan Ackerman discusses software that combines words with visual presentations. Specifications: Walter Rosenfeld explains how experience can help the specifier to adapt general specifications to a particular project.



Computers: **Desktop Publishing**

What CAD has done for drafting, desktop publishing can do for the remainder of an architecture firm's hard copy communications. Word processing has reduced the cost of producing text, but has nearly always confined professionals to the use of words. With desktop publishing, architects finally can bring to bear the visualization skills that are the profession's strength, both in the combination of images and text, and in the design of the text itself.

Desktop publishing uses laser printers that allow the in-house production of near-typeset quality text in fonts other than the standard typewriter faces, and software that allows the layout and combination of words and images created by drawing programs and by videoscanners. Architect Craig Nolte of Creighton Nolte Associates, for instance, uses a desktop publishing program with his MacIntosh to send letters to his clients that look typeset and include high contrast black-and-white pictures of their buildings, or models of their buildings.

Other applications of desktop publishing that suggest themselves and that are currently in use in architectural offices include the integration of text with tables and graphs produced by spreadsheet and database programs and marketing-related activities such as proposals, newsletters, and invitations. Production-related applications are also coming along, although more slowly, probably because the visual pizazz of desktop publishing is a lot easier to justify on the marketing side, and presumably easier to integrate with the firm's existing ways of doing things.

Available Products

If you are considering a purchase in desktop publishing, there are two major decisions: one is hardware, and the other is software-related. Apple was the first company in this market by a year or two, and this single appli-

cation is credited with Apple's selling more microcomputers than IBM in at least one 30-day period last year. The MacIntosh/ Apple LaserWriter Plus combination has been the desktop publishing configuration, using Aldus's "Pagemaker," Manhattan Graphics' "ReadySetGo," and Letraset/Boston Software Publisher's "MacPublisher" soft-

As of October 1986, however, with the introduction of the Xerox "Ventura Publisher," desktop publishing is available for the IBM PC and PC-compatible machines. Aldus has released "PageMaker" for the PC environment, and the other leaders will follow if they expect to retain their status. The question then becomes: Should you work in the IBM or Apple World? I see some clear pros and cons.

Hardware

Doing desktop publishing with IBM will be more expensive than with Apple because you will need more processing speed than the basic IBM PC or compatible can provide. To get PageMaker to work at tolerable speeds, you have to own an AT or compatible. While the makers of Ventura claim an XT will suffice, an AT will certainly improve Ventura's performance. To get screen resolution comparable to Apple's, you also will need a medium resolution monochrome monitor and card. In terms of printers, if you make the IBM choice, you will be starting at a list price of \$2995 for Hewlett-Packard's most basic model of laserprinter. Since it is really only appropriate for correspondence work, anything you do that contains much graphics—and that is what desktop publishing is about-will require a top-of-the-line HP printer, at \$4995 list.

If you decide in favor of Apple, then you will consider either the \$4995 LaserWriter or the \$5799 LaserWriter Plus (list prices). The latter machine is acknowledged, because of its substantial (1 megabyte) internal (continued on page 48)

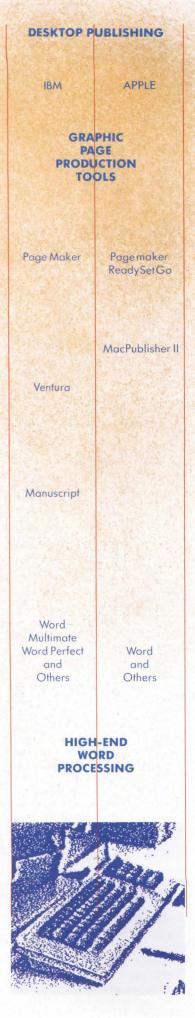
Specifications:

Back to the Future

It has long been a military axiom that in any new conflict, the participants start out using the weapons and strategies developed in the last war they fought (whether successfully or not). As the new war progresses, however, adaptation and learning take place, and tactics are modified to suit the new conditions and weapons to be dealt with. Specifying follows the same pattern. Among its many purposes, each new project manual, tailored to the job at hand, is trying to head off problems previously encountered.

In this process, it is the specifier's responsibility to anticipate what might go wrong this time; but, aside from a well-developed imagination, all there is to go by is what in fact did go wrong once (or twice) before. In a typical specification section, for example, the specifier instructs the contractor in how the work is to be done: "Set brick in full mortar beds." But much attention must also be devoted to describing what is not to be done: "Don't lay brick overhand from scaffolding that is too low." This collection of caveats, derived from what has been done wrong on one's own or others' projects, is at the same time a history of past disasters and a presentation of the office "wisdom" concerning the subject matter of the trade or section.

The best guide or master specifications, from which a project manual's particular sections can be developed, are therefore, among other things, the repository of such wisdom from many sources over many years, learned, sometimes painfully, from that best of all teachers (albeit one of the more expensive ones). In recognition of this function, nationally distributed master specifications often have extensive background and information sheets attached to each section, an extremely useful feature for the architect and specifier. These master specifica-(continued on page 52)



Computers (continued from page 47) memory, to be considerably faster at printing pages with heavy graphic content than the top-of-the-line HP. In my experience, even a LaserWriter Plus can take 5 to 15 minutes to produce a single page with a reasonably complex drawing, such as a section of a doublehung window at 1/2-inch scale, so the HP times should be longer.

According to Alex Ginsburg of MBI Business Centers, the graphic processing superiority of the Apple printer appears to have been recognized by Aldus, whose IBM-compatible version of "PageMaker" will support the Apple LaserWriter as well as the HP line. That means that, for at least this software product, your hardware decision will come down to the computer and its screen, since printers from either camp will be available. Therefore, you will be paying a \$2000 to \$4000 premium for an IBM AT or compatible computer, per station. Of course, this is if you are purchasing an entire system. If you already have an AT or compatible, but with a low-resolution display, then you will pay an additional \$1500 for the medium-resolution card and monitor.

Software While this article concentrates on desktop publishing, high-end word processors also allow the combination, in one field, of text and graphics. You may have overlooked the current capabilities of the program you bought three years ago. Ashton-Tate's "Multimate" for the IBM can now insert graphics produced by "Symphony" in the middle of documents, and Microsoft's "Word" for the MacIntosh can do the same with MacDraw drawings, although the MacIntosh is generally smoother for this kind of operation. For correspondence and simple reports and proposals, this is a lot more than could be accomplished one or two years ago, and is worth considering. Any word-processing program in the market today will drive laser printers, so that, with basic word processing programs, you can get the output quality this technology offers in standard type fonts. An important distinction in bringing graphics and text together is whether the graphics are captured as screen images, or as entire files. High-end word processors such as Multimate typically capture screen images, not files. If the image you want in the document is bigger than the screen, that's too bad.

A product that is primarily a technical word processor is Lotus **Development Corporation's** "Manuscript," currently only in pre-release test form. It contains an outline processor, and every feature you would want in the production and maintenance of very long (100 pages and over) proposals and specifications, including the ability to automatically generate tables of contents, symbol capability, and automatic footnote generation, indexing, and cross-referencing. Particularly valuable for use as a specifications tool is its ability to compare two versions of the same document and create a third document showing the differences between the two. Most valuable, it will import files from many different graphics packages, including, naturally enough, "1-2-3" and "Symphony" spreadsheet, graphic, and database images, and unexpectedly, AutoCAD files. This means that any proposal, report, or specification can include AutoCAD files, which opens a major area of integration for specifications that incorporate drawings.

The capabilities and approach of Xerox Corporation's Ventura Publisher place it midway between the heavily graphic artsoriented software tools and the high-end word processors. The most impressive feature claimed by Xerox is Ventura's ability to use files created by several of the leading word processors, and send changes automatically back to the original files. This means that you could have three different people writing specifications, each using his own word-processing software; you could use Ventura to combine the different files into one document, making editing changes at the same time, and have the changes made automatically in the original files. This is a substantial difference between Ventura and a leading graphic arts-oriented package such as ReadySetGo. Working in the latter, you are free to change a text file once you have brought it in, but if you are to preserve the change throughout your system, you must make it manually in the original file.

Ventura also uses the "style sheet" approach to the way you use it to produce documents, as does MacPublisher. This means that, like a graphic artist, you set up a style sheet (20 are provided with Ventura) for your document indicating page format and typefaces. The software automatically formats the text files in the proper number of pages, in the typefaces you have ordered. You then place your illustrations from drawing files from a package such as Gem-Draw, or organizational charts from Multimate, and the text is automatically reformatted around the illustrations. Ventura's maker, like Manuscript's, indicates that its product is appropriate for long reports, proposals, and specifications, and that Ventura's practical limit for a document with a reasonable amount of illustrations is 1200 to 1500 pages. Lotus claims its product will handle "up to" 800 pages. Ventura and Manuscript also can maintain page numbers, paragraphs, footnotes, and pagination in documents of these magnitudes.

At the graphic arts/page layout end of the spectrum, the software products that have created the field of desktop publishing are "PageMaker," "Ready-SetGo," and "MacPublisher II," all for the MacIntosh. To date, PageMaker has been the clear sales winner, since in its earliest version, it has been more capable than the other two products. You "drag" blocks of text and drawings around the board, storing them in plain sight to one side if they are not needed at the moment. Drawings can be cropped, and their size and proportion changed in real time. Any change in the text will cause the software to reposition the rest of the text anywhere it appears in the document.

PageMaker and ReadySetGo are currently the frontrunners in this category, although a new release of MacPublisher is promised. ReadySetGo3 (RSG3) is currently more capable than PageMaker's version, although PageMaker is scheduled to release enhanced versions for IBM and compatibles and for the MacIntosh early this year. Improvement in these packages is occurring in the following areas:

- Positioning of type in detailboth PageMaker and RSG3 either now have or promise "leading" (the ability to control space between lines of type) and "kerning" (the ability to control space between individual letters).
- Size of document—these packages originally could only handle documents up to 16 pages, which meant that you had to split up your document and could not perform anything except copying operations between sections. Now the number of pages that ReadySetGo3 can handle is said by its manufacturer to be unlimited. What this means in practical terms is that you are limited by the pages that fit your disk.

(continued on page 50)

An Unforgettable Sighting.

ECLIPSE® reflective glass from LOF.





ECLIPSE® reflective glass is different. Strikingly different. • Its tones are sharp, dramatic. Unambiguous. Without the milky, yellowish cast of some pyrolytically coated architectural glass. • Whether used in low, mid or high rise structures, as first or second surface, ECLIPSE reflective can lend substance—and impact to the right design. . Yes, there are other, more practical reasons to choose ECLIPSE glass. Reasons like solar control. Post-temperability. A remarkably low absorption characteristic. And availability that verges on the immediate. • But the best reason to call on ECLIPSE glass is still the simplest: It looks so beautiful on a building.





A member of the Pilkington Group

Philadelphia (800) 523-0133 Out-of-State (800) 331-1910 In-State (800) 262-4787 Out-of-State (800) 327-7008 In-State (800) 438-2330 Out-of-State (404) 242-8860

Out-of-State (404) 242-8860 In-State San Francisco (800) 843-8552

Out-of-State (800) 247-7764 In-State

Circle No. 353

Computers (continued from page 48)

■ Word processing capabilitiesthese software tools have assumed that only small final changes are made in the page layout software, and large changes are made back in the original word processor. But desktop publishing software is now starting to contain features comparable to or better than high-end word processors. For example, hyphenation is a problem in desktop publishing. The makers of RSG3 claim they have solved this by introducing the ability to hyphenate as fast as you can type, although according to Richard Mitchell, a test user of RSG3, this hyphenation algorithm has trouble with some

uncommon words, such as "pusillanimous." He adds that you can always add pusillanimous to the hyphenation dictionary that comes with the product.

To Scan or Not to Scan

Video scanning allows the possibility of including any existing hard copy image, as well as any video image such as a picture of a building as part of a computergenerated document. Those with experience scanning hard copy drawings into newly acquired CAD systems know that this cannot be done yet at a reasonable cost.

In brief, video scanners that will produce acceptable visual quality for most applications are

too expensive, both in first cost and in the amount of memory that they absorb. For instance, the popular "Thunderscan" attachment for Apple's Imagewriter (price approximately \$225) takes several minutes to scan an 81/2" x 11" piece of paper, and stores it as a MacPaint image. MacPaint images can be used in the MacIntosh environment by all the leading page layout packages, but their resolution is only 72 dots per inch. This is adequate for an impressionistic picture of a building or a simple line drawing, but not for anything more serious. By contrast, there are faster, more expensive scanners in the \$2000 to \$3000 range that will store an image at

300 dots per inch—a perfect match for the resolution of the leading laser printers—but the stored image absorbs close to 1 megabyte of storage. Therefore, video images or videoscans still face stiff competition from more traditional photographic methods of placing drawings or photographs in publications, although as mentioned earlier, at least one high-end word processor can directly incorporate drawing files from AutoCAD.

Bringing Desktop Publishing into your Practice

Cost-justifying any of these page layout tools is a matter of looking at the dollars your office spends on typesetting and photostats. You can count on eliminating all the typesetting and much of the photostatting. While products range in price from \$295 for ReadySetGo to \$895 for Ventura Publisher, software costs will pale next to what it will cost you to include it in the way your office gets things done. Like all software, incorporating it into your practice must be done carefully.

One of the effects software tools seem destined to have on the way we do things is to dissolve the envelopes around professional specialties and job descriptions in general. From a management point of view, this is not always a benefit, because architects may find themselves spending a lot of partner and principal time doing graphic design tasks that formerly went out to pasteup shops. This is especially costly when the firm has invested in people to develop their management skills, not necessarily their graphic design skills. Avoiding the trap of "doing it all yourself" will be particularly difficult about a month after you bring any of this software into your office, which is about the time that it takes to see all that it can do. It is best to identify, at the outset, a person in the office responsible for the desktop publishing rather than to take the time of a principal whose marketing role is crucial.

Conclusion

In broad terms, desktop publishing is an excellent communication tool for architectural practice. However, there is no question that, as with CAD, the ante has been raised and that today's competitive edge will be tomorrow's status quo. The challenge, therefore, is to go beyond the basic guides that come with many of the software products and develop a layout and graphic (continued on page 52)



KACURVE™ The most highly insulating light transmitting *curved* material for skyroofs and curtainwall systems.

See Sweet's 8.14/Kal, 7.8/Kal, 13.11a/Ka, 13.2c/Stu.

Kalwall Since 1955

CORPORATION P.O. Box 237, Manchester, NH 03105

Phone 800-258-9777 Kalwall: a High-Tech Building Systems Company.

Cox Cable Richard Fleischman, Architect

U.S. Patent Number 4,557,090

Koppers Rx® Insulation RETAINS ITS "R" VALUE INTO THE 21ST CENTURY

For the first time ever, a foam plastic insulation is <u>guaranteed</u> to retain its "R" value for 20 years. Our 8.3 "aged" "R" value per inch is the best in the industry.

Koppers Rx Insulation will not lose "R" value over time. Koppers Rx is a rigid, thermally efficient closed cell phenolic foam board insulation, providing superior long-lasting energy efficiency.

Rx Insulation is the best value in roofing, wall and ceiling insulation today...tomorrow...and into the 21st century. Koppers guarantees it!

The Koppers Guarantee

If the "R" value of Koppers Rx phenolic Insulation fails to meet our published specifications—anytime within <u>20 years</u> of installation—Koppers will pay the resulting difference in heating and cooling costs! See warranty for conditions and details.

Are you getting the long-term "R" value you specified?

The standards of the Roof Insulation Committee of the Thermal Insulation Manufacturers Association (RIC/TIMA) require an evaluation period of 6-months for determination of "aged" "R" values of foam plastic insulations. The Midwest Roofing Contractors Association has sponsored recent studies which conclude that "the RIC/TIMA 6-month room temperature 'aged' 'R' values claims ... are not realistic to use as the basis for the design

of 10 to 20-year roof life." (See RSI Magazine article, July 1986, p. 38).

Koppers Rx goes much further than the standard 6-month "aged" "R" value rating, guaranteeing its high in-service "R" value into the 21st century.

Other Rx Advantages

Specifying Koppers Rx phenolic foam will provide you with much more than superior, long-lasting energy efficiency. For instance:

- Rx Insulation is the only plastic foam insulation product on the market which passed one, oneand-a-half, and two-hour UL fire resistive tests when the insulation was directly applied over a protected metal deck. Also, Rx has low smokedeveloped and flame-spread ratings.
- Rx Insulation is non-corrosive.
- Rx Insulation is dimensionally stable and exceeds the industry standards.

To learn more about Koppers unprecedented 20-year guarantee, call 800-558-2706 or write:

Koppers Company, Inc. Dept. #63H-8 Pittsburgh, PA 15219





The 21st Century Insulation

Circle No. 349 on Reader Service Card

WE GUARANTEE IT!

Computers (continued from page 50) strategy that uniquely identifies your firm. Like other software products, these are just tools, and it is up to you to use them successfully. Allan Ackerman

The author has an architecture degree from Harvard and has worked as a manager, marketing consultant, and teacher in the area of software applications for architecture and engineering professionals for the past six years. He currently practices in Cambridge, Mass.

Software Products Reviewed "PageMaker" from Aldus Corporation, 411 First Ave., S., Suite 200, Seattle, WA 98104 (206) 622-5500 or (617) 876-5570. ReadySetGo3 from Manhattan Graphics, 401 Columbus Ave., Valhalla, NY 10595 (914) 769-2800.

Lotus Manuscript from Lotus Development Corp., 55 Cambridge Pkwy., Cambridge, MA 012142 (617) 787-8500. Ventura Publisher Edition from Xerox Corporation, 475 Oakmead Pkwy., 3-F 503, Sunnyvale, CA 94086 (800) 822-8221. MacPublisher II from Letraset/ Boston Software Publishers, Inc., 1260 Boylston St., Boston, MA 02215 (201) 845-6100.

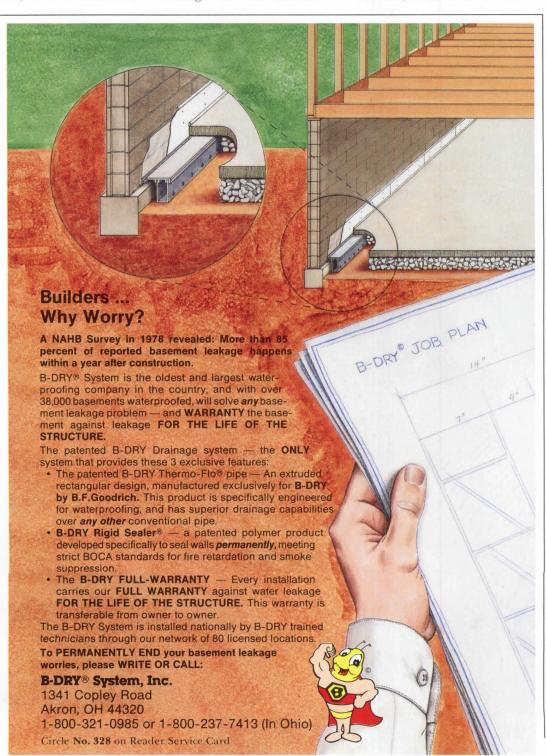
A specialized newsletter that is an excellent source of information on desktop publishing, and which was used as a source for this article, is "Desktop Publishing[®] Bove and Rhodes' Inside Report." Single copies in your area of interest can be purchased by contacting: Desktop Publishing, 501 Second St., Suite 600, San Francisco, CA 94107 (415) 546-7722.

Specifications (cont. from page 47) tions also serve their users as check lists of what needs to be included, helping to prevent omission by oversight of items that may not have been required on a previous project.

But while the office master specification, developed in response to problems encountered as well as good practice recommended by experienced authorities, is able to contain the technical knowledge of the office as well as its policies on materials and methods of construction, the national commercial master specifications now in wide use cannot be expected to hold all of the same information. In using a national master section directly. the particular architect's hardwon experience can easily be lost because such master specifications are written for the least common denominator: a large variety of users, geographical locations, and building types. This is why, experienced specifiers are quick to point out, it's not a good idea to use national master sections "cold" without editing for local as well as job conditions. One of the specifier's tasks in such cases is to add such local knowledge as who is likely to do what things wrong and in what way, in the context (contract conditions, climate, trade practices, codes, and building traditions) of the project's location and participants.

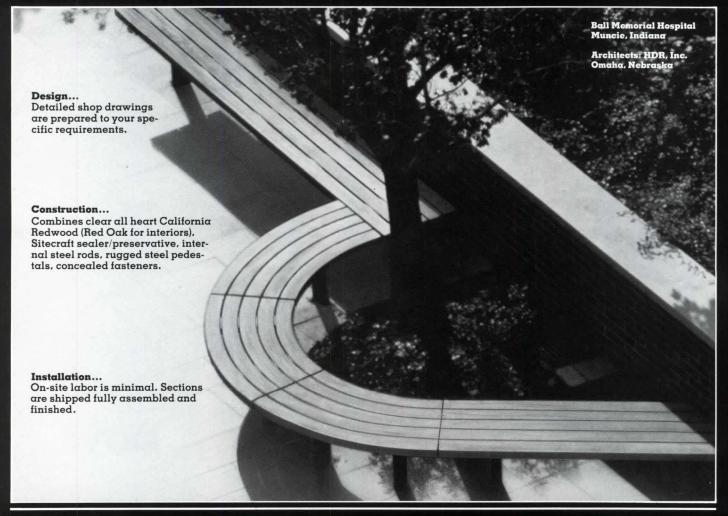
Yet, even though the perceived conditions of a current project are taken into account in the new project manual, problems can still develop because each project has its own special difficulties. Beyond conditions of the site or region, there are the peculiarities of the owner and the program, the unusual details and design imperatives of the architect, the style and methods of the contractor, and the unforeseen developments of law, labor, and politics as well as nature and commerce. Many of these cannot be easily anticipated when the project manual is being prepared and will first become apparent only after the work is bid or under construction.

Knowing all this, many offices that started with national master specifications as a base have, over time, adapted them to local and office requirements and conditions. These modified documents are then used as office masters, thereby getting, as far as possible, the best of both worlds. This makes good sense and provides useful and productive work for specifiers in connection with the work of each office. But master sections, from whatever source or history, still need periodic updating on both the national level (for example, when ASI becomes USASI and then ANSI) and the local level (for example, when thresholds in a state or city from now on must be less than 3/4 inch in height to accommodate the handicapped) to take into account changed circumstances and requirements. In that way, (continued on page 54)



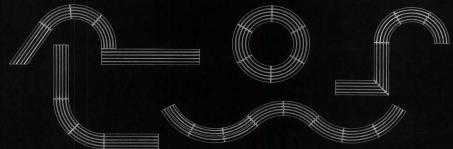
sitecraft custom seating

When you go off on a tangent-or any other geometric configuration.



SITECRAFT CUSTOM-BUILDS CURVED BENCHES TO YOUR DESIGNS.

Sitecraft craftsmen have been creating fine wood products for over four generations. We've worked closely with architects, landscape architects and designers, satisfying the concepts of their individual creativity with custom site furnishings. You will find it invaluable to allow us to work with you from the beginning. At your disposal are all the necessary design, engineering and wood crafting skills.



Typical Custom Seating Arrangements

In addition to custom site furnishings, we offer a complete line of standard benches, planters, planter benches, receptacles and site accents including stools, tables and decking.

For a complete color catalog that includes product descriptions, specifications, prices and ordering information, call or write: Sitecraft, Dept. CS, 40-25 Crescent Street, Long Island City, New York 11101, (718) 729-4900.

For your convenience outside NY State, call toll-free (800) 221-1448.

Circle No. 363





Circle No. 002 on Reader Service Card



ARCHITECTURAL PRESS

is now being distributed in the United States and Canada By



VAN NOSTRAND REINHOLD



FREE CATALOG AVAILABLE **UPON REQUEST**



Architectural Press/Van Nostrand Reinhold Company 115 Fifth Avenue New York, N.Y. 10003

Circle No. 372 on Reader Service Card

Specifications (cont. from page 52) battlefield conditions and lessons of the latest "war" are fed back into the system to prevent future problems. Specifiers are needed to do this updating and to incorporate such changes and experience into the master sections if the architect wants written contract documents responsive to the conditions under which they are likely to be used.

This is one reason why setting up expert systems for construction specifications, the next step in automation of the process, is such a difficult and challenging task. To provide fully automated specification production-in which, by answering a series of detailed questions about the project, the architect enables a computer to produce the completed specification-will take a major effort from highly knowledgeable specifiers to set it up, make it work, and keep it current. And it also gives an indication of why many believe that there will still be work for the office specifier to do for some time to come, even after such systems (now barely out of the planning stage) are in place and operating.

Walter Rosenfeld, AIA, CSI

The author is an architect and specifications consultant in Newton, Mass.

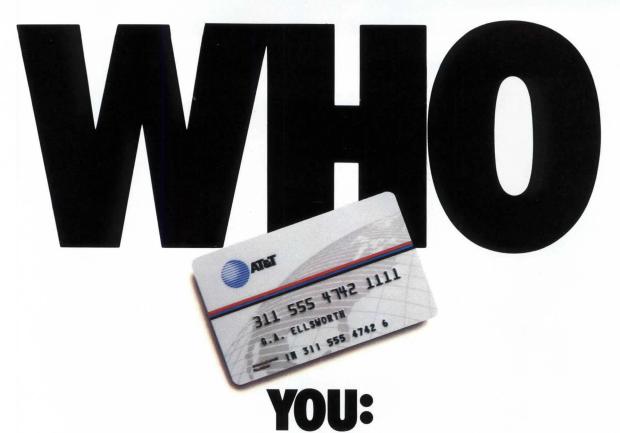
MOVING?

Let us know 6-8 weeks in advance so vou won't miss any copies of P/A.

Affix Label Here

> Mail to: Subscription Services Progressive Architecture P.O. Box 95759 Cleveland. OH 44101

New address:	
Name	
Fitle	
Company	
Address	
City/State/Zip	
Type of firm	



Accountant, Banker, Baker, Traveling Salesman. Go-getter, Fast-tracker. They can all use the AT&T Card.

In fact, anybody who travels a lot can benefit from it. Because calling with the AT&T Card keeps

you close to the people you need to talk to.

The AT&T Card will free you from coins and delays, give you an itemized record and AT&T's lowest rates for state-to-state calling, next to direct dialing. It costs less than calling collect, or making coin calls out-of-state. And you can use it to call almost anywhere in the world and to call home

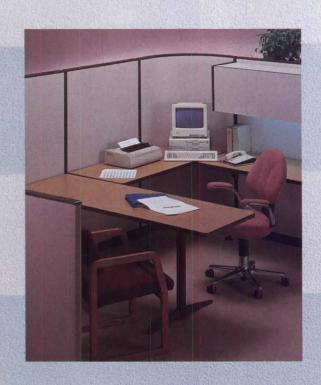
from many foreign locations.
So, if you travel a lot, get the AT&T Card and plug into the AT&T Long Distance Network.

It's as simple as dialing

1800 CALL ATT, Ext. 229.



Borden Decorative Finishes and Wallcoverings Enhance Your Office System's Output



How you finish your partition or load bearing walls matters as much as the ideas you started them with. The same goes for your metal and wood furniture elements. Fortunately, with Borden's input, you can coordinate those new ideas with the widest selection of compatible colors, textures and patterns in metal and wood vinyl laminates and wallcoverings—for an office system that really puts out, whatever the substrate!

This synergy between your systems and our finishes has been largely responsible for creating today's simple, unified, more productive office interior. Together, that's quite an output. It's also made Borden your number one source for decorative finishes. For further input contact: COLUMBUS COATED FABRICS, Division of Borden Chemical, Inc., Columbus, Ohio 43216. Phone (614) 297-6060.

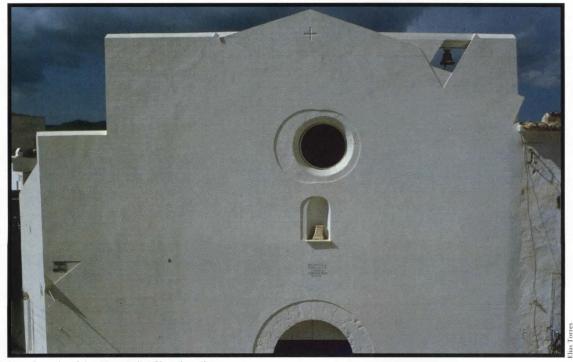


GUARD® DECORATIVE FINISHES

Circle No. 327

PA Profile Lapeña Torres

This profile of Barcelona architects Jose **Antonio Martinez Lapeña and Elias Torres** Tur includes the conversion of an 18th-Century church into a concert hall, exhibition space, and chapel, and an apartment remodeling on the island of Ibiza, as well as an urban park in Barcelona.



New façade of the Hospitalet Church in Ibiza.





BARCELONA architects Jose Antonio Martinez Lapeña and Elias Torres Tur have received considerable international attention of late. Their work has appeared in several European and Japanese journals, and in major international exhibitions of contemporary Spanish architecture. Although an earlier work the Icart perfume factory—was published in P/A (Oct. 1978, pp. 60-63), the architects are not well known in the United States.

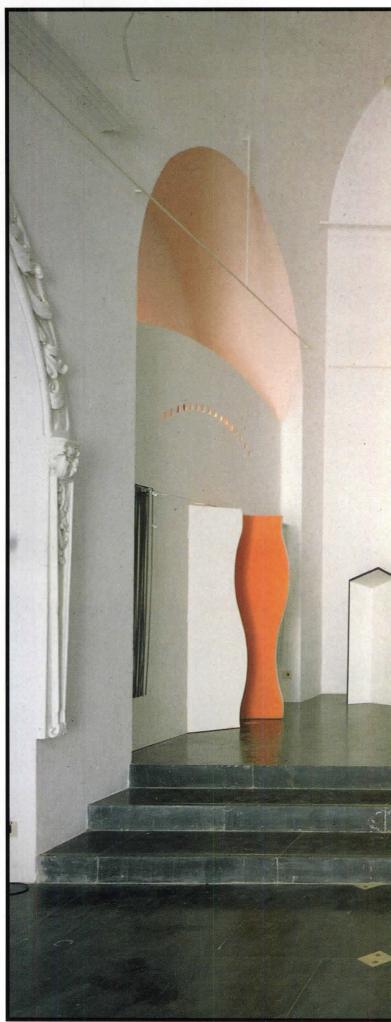
The body of their work over the past 17 years reflects an architecture that does not begin with a conclusion, a manifesto, or an a priori position, but rather evolves in direct response to each new set of conditions established by place, program, and client. Lapeña and Torres consider their work a continuation of the "Modern movement," still very much alive in their native Catalonia. Yet they have also been profoundly influenced by the example of Jose Maria Jupol, a disciple of Antonio Gaudi who participated in the "modernismo" movement of the early 1900s. Jujol's unique, personal style is distinct from, but nevertheless representative of a period when Catalan architects reacted against the eclecticism and historicism prevalent at the turn of the century and were inspired by the new and experimental. Similarly, the work of Lapeña Torres clearly honors the purist rigor of the Modern movement, yet is also idiosyncratic and experimental in spirit.

The architects have been honored on several occasions with national design awards. As early as 1976, Rafael Moneo, quest editor of Quaderns de Architectura, devoted a full issue to their work. Both have been professors of architecture at the University of Barcelona since 1969. Torres, who also teaches landscape architecture, has on several occasions (1979, 1981, and 1984) taught as a visiting professor at UCLA.

The projects shown on these pages represent a portion of the architects' most recent work on the Spanish island of Ibiza and in Barcelona, dating from 1982 to the present. In all three projects, the smallest detail is consistently observed. As Rafael Moneo wrote, "their obsessive insistence on the minimum" is most notably expressed.

In addition, the architects' use of color, light, and movement through space relates these projects to parallel developments in contemporary neo-constructivist and post-minimal art. They rely on the manipulation of essential architectural elements—a door, a light fixture, a hand rail, or a hinge—to shape a highly plastic resolution of the program. Victoria Casasco

The author is an architect practicing in Barcelona and New York and is currently Town Architect at Seaside, Fla.







Commissioned by the Spanish Ministry of Culture to restore and adapt an 18th-Century church on the island of Ibiza, Lapeña Torres had to accommodate three very different functions—those of a church, an exhibition gallery, and a chamber music hall—none of which took precedence over the others. Given an extremely limited budget, the architects chose to treat functional requirements as the changing scenery of a stage set. Religious elements including an 18th-Century painting, once part of the original altar; a new, illuminated baldachin; and the triangular sacrarium—are supported by hinges on the presbytery wall, so that they can appear for use during religious ceremonies (left) and disappear during secular concerts or exhibitions (above). This system makes possible a multitude of compositions in changing color, form, and light, poetically transforming the altar into a secular stage. Natural lighting within the church has also been modified by the introduction of skylights above the side aisles and above the altar. There, cone-shaped cavities recessed at the intersection of vaulted ceiling and wall admit daylight or are backlighted by night (detail, facing page, right, and seen through choir balcony balusters, facing page, left). The original vaulted nave has been faithfully restored. New slate flooring is patterned with square white marble inlays that support exhibition panels and allow eight different exhibition arrangements (foreground, left). The various lighting sources, colored side panels, and hinged religious symbols are each treated minimally, yet the orchestration of parts creates a visual composition suggesting a neo-constructivist vision of heaven.

Hospitalet Church, Ibiza



Subsidiary rooms in the Hospitalet have all been treated as transitional spaces. The main entry (seen at far left in photo above), the stairwell leading to the choir balcony (right), and the old sacristy, which is now used as an optional entrance (seen through the door to the right of the stairway, facing page, top right), are enveloped in a vibrant orange or blue, which contrasts the whitewashed nave. Episodes of fragmentation and movement are skillfully controlled within the church and on its exterior. A sliding shutter covers the oculus (facing page, left), whose shifting outline is echoed on the new façade (page 57). The façade itself is taut and planar, its stuccoed surface carved in a subtle relief, recalling a Jujolian use of calligraphy. The original pediment appears and disappears, as if erased, while the corner street sign is a cubist composition of geometric recesses and reliefs.

Project: Hospitalet Church, Cuidad Antigua, Ibiza, Balearic Islands, Spain.

Architects: Lapeña Torres, Barcelona.

Client: Spanish Ministry of Culture. Program: renovation of a 717-sq-ft 18th-Century church for religious ceremonies, secular chamber music concerts, and cultural exhibitions.

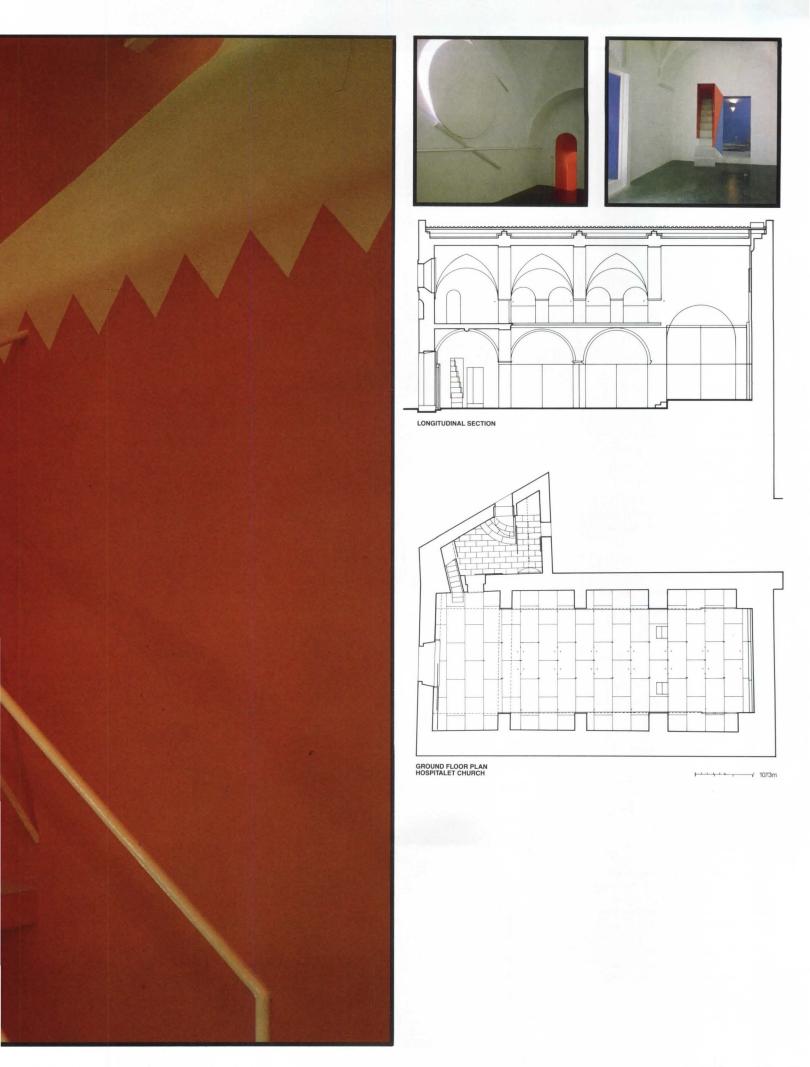
Structural system: exterior and interior masonry walls reinforced and resurfaced; new skylights and new tension rods introduced to support interior vaults.

Major materials: plaster, steel, wood, slate, marble.

Technical consultant: Victor Mari. Cost: \$135,000.

Photos: Lourdes Jansana, except as noted.







The major intervention in this renovation of the third, fourth, and fifth floors of a 1910 townhouse is a new, trilevel skylighted atrium that brings natural light to a new stairwell and to adjoining rooms at the rear of the townhouse (see section, right). The street façade was not changed and the front rooms therefore conform to preexisting ceiling heights. At the third-floor entry level, a set of three sliding doors separates the entry stair from the master suite, which is furnished with a rug designed by Eileen Gray and chair by Marco Zanuso (top right and bottom left). This movable array of colors and spaces changes depending upon which sliding doors are open (top left) or closed (bottom left). Numerous options of circulation and enclosed space, privacy and openness are provided in this ingenious resolution of an otherwise banal architectural juncture. The skylighted atrium, part of the master bathroom at this level (facing page), is visually shielded from upper floors by a glass ceiling plane supported on wooden beams (above). The smallest details in this apartment—the handrail, the lighting within a suspended ceiling over the dining area (bottom right), and the doors—are made significant.

Project: Apartment renovation, Ibiza.

Architects: Lapeña Torres, Bar-

celona. Client: M. Riera.

Program: renovation of third, fourth, and fifth floors of a 1910 townhouse to include a master bedroom suite on the entry level; kitchen, dining rooms, and living room at mid-level; studio with guest quarters and roof-top terrace totaling 492 sq

Structural system: existing sandstone bearing walls.

Major materials: steel, wood, plas-

ter, glass, carpet. Cost: \$92,850.

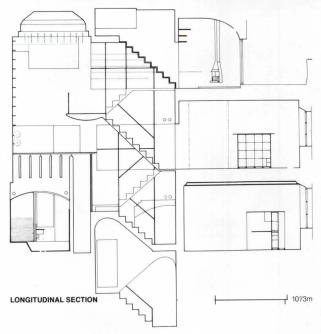
Photos: Lourdes Jansana.

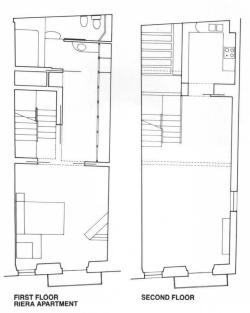


















Santa Amelia Park, Barcelona



Situated in a section of Barcelona in which high-density apartment buildings are taking the place of 19th-Century villas, Santa Amelia Park extends the gardens of one such villa, which is to be converted to a cultural center. The architects use formal hedges to complement the villa's formal pattern, yet the spaces formed by these elements are of an altogether different kind. The hedges alternatively act to define contained spaces, or are themselves treated as freestanding sculptural objects. One is never given a full view of the new gardens but moves through them on a circuitous path of shifting axes (facing page and above). Jagged cuts in the surrounding sidewalk where indigenous plants may grow force the realization that the sidewalk is only a shallow plane on which one walks. Throughout the park are elements that owe much to the "Modernismo" architect Jujol—the faceted steel entry gates (photos and drawings, right), the spiraling luminaires, which won a national design award (foreground, facing page), and the polychromatic playground paving (above).

Project: Santa Amelia Park, Barcelona.

Architects: Lapeña Torres, Barcelona.

Client: City of Barcelona.

Program: new 63,000-sq-ft urban park and playground incorporating the existing gardens of the Villa Cecilia in an established residential district.

Major materials: granite, gravel, marble, cast iron railing (designed by Rafael Moneo); galvanized steel lamps; teak benches; welded steel gates. Vegetation: native palm, pine, linden, cypress, plentanos.

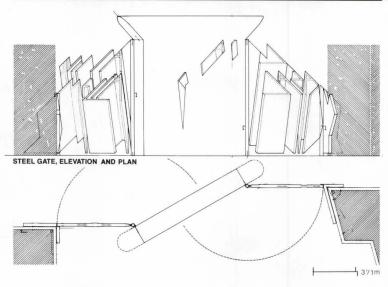
Consultants: Paco Lopez, sculpture.

Cost: \$857,142.

Photos: Luis Casals, except as noted.

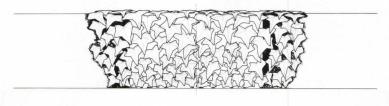


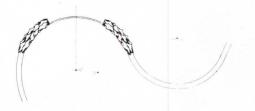






STEEL GATE, OPEN, CLOSED, AND IN PLAN









No Easy Symbolism

The central skylighted hall (facing page), though not large in volume, provides a second light source and outlook for surrounding rooms. View here is from third-floor offices, passing through Great Hall to treetops beyond. Mahogany paneling is meticulously book-matched and laid out on modules that account for the discreet introduction of return grilles, serving this space's major air-circulation function.

IN virtually every respect, the Wick Alumni Center is a response to its context and its very particular function on the University of Nebraska campus. Yet it incorporates no borrowed details or traditional symbols to represent its special role.

Gwathmey and Siegel draw a historical parallel, however, when they state that the center is "conceived of as a transformation of the Renaissance Palace model." They then make clear that this refers not to style, but strictly to underlying form—a block roughly palazzo shape, with its interior organized around a central space and a layering of functions from bottom to top.

Here, the interior is centered on a small skylighted hall, and the central open space of the palazzo has been shifted by site constraints to the garden at one side. The major interior space here is a three-story-high "Great Hall" stretching fullheight across the back. The front layer of the building is made up of office functions, stacked in two levels above the entrance lobby, and the building's face reflects the modular repetition and the variations that they need.

How Wick Came to Be

Lincoln, Nebraska, has one preeminent architectural landmark, the state capitol (1922-1932) designed by Bertram Goodhue as a result of an invited competition. When the Wick family, major donors to this center, wanted to sponsor a fine work of architecture, it is no mere coincidence that a similar competition was set up. With the university's Dean of Architecture, W. Cecil Steward, as professional advisor, proposals were accepted from five prominent out-of-state architects and five selected local ones. The jury included architects Helmut Jahn, James Ingo Freed, Charles Lawrence, sculptor Robert Wick (grandson of the donor), Robert Rosenlof and Ron Wright of the university Board of Regents, and Jim Murphy, a P/A editor and Nebraska alumnus. They chose as first-round finalists this scheme and one by William Turnbull of San Francisco, both of which showed similar massing on the awkward L-shaped site, with a squarish building at the deeper west portion and a garden reaching east (P/A, Oct. 1981).

The Gwathmey Siegel scheme impressed the jury not only for its effective disposition of functional parts on the site, but for the way it served Based on a design that won an invited competition, then earned a P/A Awards citation, this campus building shows how **Gwathmey Siegel & Associates** apply their design principles in a demanding situation.

the varied uses called for in the program. The firstphase submission showed a front with a limestone cladding; this would have linked Wick to the limestone-clad Historical Society building to the west. In the final design, the architects shifted to brick and replaced bands of glazing with punctured openings, making the building more congenial with the Georgian style of most campus structures.

Judging the Outcome

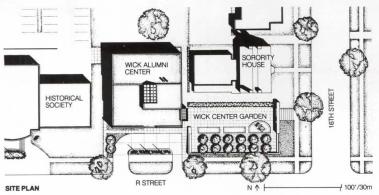
During construction, the original contractor had to be replaced, with a resulting delay of more than a year. Fortunately, the problem did not cause any discernible flaws in the building. Now that the center is opened, it is proving to be a popular location not just for alumni events, but for receptions, lunches, etc., held by all kinds of campus groups. The elegance of this interior compared to alternative university settings, such as the Student Union, is both an attraction and a source of concern that the alumni may have lavished too much money on their own headquarters. That problem was foreseen, and a good balance struck between prudent economy and clublike comfort and permanence.

The interior of Wick is undoubtedly its most successful aspect. It provides for a wide variety of functions, from individual or committee visits to events for hundreds; even the Great Hall can accommodate a small gathering comfortably, and it can be expanded into several adjoining spaces, if needed, without losing its sense of place. It is on the interior that the modular order and precise detail are most effective, perhaps because of the rich variety in form, space, lighting, and furnishings-all controlled by the architects.

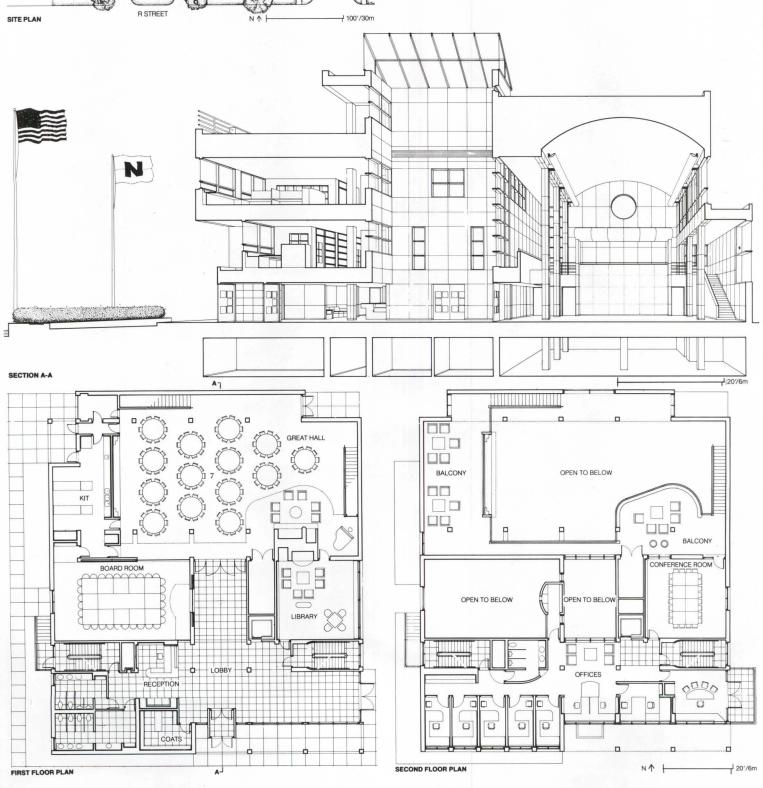
On the outside, the building presents a very stern, almost utilitarian front to the street. Juror Jim Murphy feels, as he did when the scheme was chosen, that the east wall, overlooking the garden, is the most effective, and the architects agree. The most problematic part of the street façade is the colonnaded recess at the entrance; the brick columns here appear too spindly, and the entry vestibule projects too far forward. These problems in an otherwise elegant design represent an obstinate application of Gwathmey Siegel & Associates' design principles: They would not violate the logic and consistency of this design just to give the building a more attractive face. John Morris Dixon



P/A Awards Update Wick Alumni Center



The Alumni Center stands on the deep western portion of the Lshaped site, with a low-walled garden extending east into an area of student residential buildings. The section along the entry axis shows the front-to-back layers, with two floors of offices above the lobby in front, the pivotal skylighted hall in the center, and the three-story Great Hall as the destination for major events.







The east gate to the center's garden (above) carries the building's identity to the far edge of site. The green slate of the paving and the gate is continued in the lobby floor and clads the lower building walls where they are either recessed into or projecting from the basic brickclad volume. The dark red, hardburned Roman brick of these walls is handsome but unlike the red brick of nearby campus buildings. Trees at right in the photo will form a story-high hedge. The east face of the building, the architects' favorite, shows the stairwell window and the balcony off the executive director's office, over broad doors that open the lobby to the garden for fair-weather events. View from the south (left) shows the colonnaded cutout that extends toward the garden from the main entrance.







The three-storied Great Hall (facing page) gains formal unity from its segmental ceiling vault with circular windows at both ends. Below the spring line of the vault, asymmetrical elements move in and out of this basic envelope. The meandering balcony, with stairs at both ends, suggests a terrace overlooking an open plaza. The auditorium furnishings shown here represent only one of many uses (see plan, page 68); the fireplace under the balcony can provide a focus with club-room character for some occasions. Night lighting of the Great Hall (bottom left) is very effective, with cornicelike custom fixtures providing both vault illumination and finescaled visible sources. Adjoining this hall, and forming an extension to it when a large sliding door is open, is the board room (below right); a curved projection booth offers an almost whimsical version of the Great Hall's formal elements; pendant lamps-twelve in all-are further examples of fine custom lighting; the large board-room table can be divided into dining tables of many configurations. Handsome mahogany details are continued in the executive director's corner office (top left) and throughout office areas. The green slate of the exterior and lobby paving reappears in the fireplace walls, as in the library (middle left).

Project: Wick Alumni Center, University of Nebraska, Lincoln.

Architects: Gwathmey Siegel & Associates, New York (Bruce Nagel, Thomas Phifer, associates; Barry McCormick, project architect; David Steinman, Joseph Merriman, Santi Nieto, David Fukui, project team). Client: Nebraska Alumni Assn. Site: flat corner site of 27,590 sq ft at south (city) edge of university campus, with State Historical Society building to west, fraternity/sorority houses to east and south.

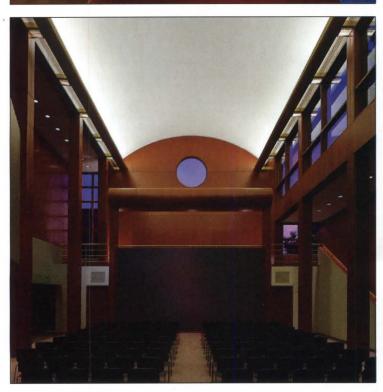
Program: offices and function spaces for receptions, banquets, meetings, etc.; board room, library, serving kitchen; garden for outdoor functions. Gross building area: 29,400

Structural system: steel frame on reinforced concrete foundation. Major materials: brick and slate exterior over block cavity wall; teak window frames; mahogany paneling and gypsum board interior walls; slate floors and outdoor paving; carpet (see Building Materials, p. 145)

Mechanical system: variable volume air conditioning; low-temperature/low-pressure perimeter radiation; university-supplied chilled and steam.

Consultants: Severud Perrone Szegezdy & Sturm, structural; Raymond G. Alvine Associates, mechanical; CHA Designs, lighting. Interiors by architects.

Cost: approx. \$100 per sq ft. Photos: Sadin-Schnair.





In all of their work, as in Wick Alumni Center, Gwathmey Siegel apply a consistent set of design principles—responsive to context but not at all eclectic.







Top: de Menil house, East Hampton, N.Y., completed 1983. Middle and bottom: Library and Science Building, Westover School, Middlebury, Conn., completed 1984.

In the 1984 book on the firm's work (Charles Gwathmey and Robert Siegel: Buildings and Projects 1964–1984), the description of almost every project begins with the phrase "The problem was . . . Seeing their task as the solution of problems, these architects are unswerving Modernists, but they give context a key place in their definition of problems. Although their attitude in this regard is much like that of their one-time employer, Edward Larrabee Barnes, the partners more consistently avoid historical forms-at one extreme-and sleek minimalism at the other. They may slope a roof as a gesture to older neighbors, but neither the intention nor the effect is to reflect the vernacular; they may apply flush-detailed glazing to an office building, but other details prevent the overall effect from being high-tech.

As they develop a design out of the specifics of the problem, Gwathmey and Siegel make formal references to surrounding structures, but these involve such things as volumes, textures, scale, and circulation paths, not adoptable imagery. When Gwathmey speaks of the elements of the Wick Alumni Center that he considers "figural," they are not additive ones such as pediments or cupolas, but more conceptual aspects such as the building's ground-hugging mass—like those of neighboring buildings—or the use of slate on its lower story to tie that to the walls of the adjoining garden. What these architects see as representational, other architects might classify as abstract. Of course, those other architects might then fail to make connections such as these, hence fail in their contextual efforts and never know why.

Favored forms

Formal devices do recur in different Gwathmey-Siegel works, as in those of any architects—not always with apparent shared roots in the problem at hand. The formal elements of Wick Center, for instance, relate to those of the de Menil house on Long Island (top photo and P/A, Dec. 1983, pp. 47–57), which was designed at about the same time. There, too, the end wall (shown) reveals much about the building section, indicating that some interior volumes penetrate the clearly expressed floor levels. In this case, too, a skylight is the sole occasion for a pitched-roof form, which in the house exposes one of its sloping flanks to the front

(right in photo), whereas at Wick it is visible only at a distance as an indicator of the building's center and entry axis.

The firm's 1985 addition to the Westover School (lower two photos) is another instance in which they had to acknowledge existing campus buildings of Georgian style, the predominant one at Nebraska. The most visible side of this structure, which is seen along with the original buildings fronting on an athletic green (middle photo) has been given a sloping roof over a serenely grand arcade that can be read as either historical or Modern. An end view of this wing (bottom photo) reveals, however, how limited are the architects' formal concessions: Here the roof of the arcade is seen to be a single-pitched wedge, backed up by a flat-roofed block with openings that modulate from punctured, close to the older buildings, to horizontal strips facing the natural landscape.

In the housing at Columbus, Indiana, shown on the following pages, roof pitches appear similarly, smoothing the contextual place of the architects' buildings, but revealing from key viewpoints that they have the single pitches that were admitted to the canon of Modernism back in the 1950s for buildings of domestic scale, and not really the double-pitched gables that would constitute a full capitulation to the pre-Modern vernacular.

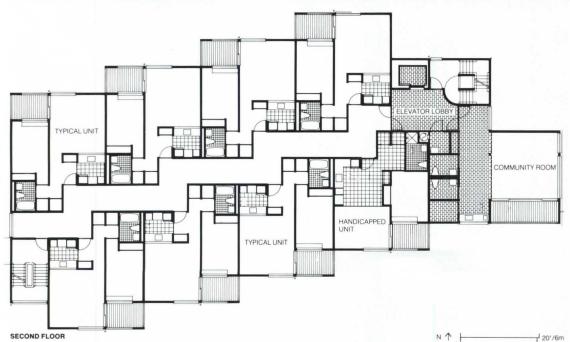
Internal Organization

In this housing, as well as in their more generously budgeted private houses and campus buildings, these architects show exceptional skill at organizing interior spaces. In the Wick Center, as in the de Menil house, these spaces interpenetrate in fascinating ways, with shifting axes, eroding volumes, and ambivalences that make for rich experiences. In the public housing, most of the effort is necessarily channeled into refining the plans of individual units, which is elegantly done, but even here, the architects are able to generate some volumetric play, as in the porches for flats for the elderly (facing page, middle right) and some exciting vertical relationships in common rooms of both projects and in the stairwells of the units at Pence Place (pages 74-75). This is what they do best, and neither budgets nor regulations discourage them from giving occupants such experiences with space and light. John Morris Dixon









Sycamore Place Elderly Housing Columbus, Indiana

Gwathmey Siegel & Associates have completed two housing complexes in Columbus, under the foundation-sponsored program that brings nationally known design firms to this small Indiana city.

The single compact building here is articulated by setbacks between units to suggest a series of housesized blocks (top photo). On the outside, the setbacks allow for private porches, which give the bedroom windows a privacy baffle and conceal the uniformity of all of the apartment windows. On the inside (plan), the setbacks yield a staggered central corridor, with extra space at unit entrances.

At the street-corner end (middle left photo), the staggered apartment blocks are attached to a kind of headhouse, with an entry portecochère at ground level and a double-height community room above. At the third floor a laundry room overlooks the community room, so that every floor of the building has some desirable amenity.

The typical units are laid out with foyers that provide remarkable privacy between rooms, and the porches are like outdoor rooms (middle right photo). HUD normally bans balconies for public housing, but here their cost could be balanced against a saving in design fees, which were covered by the Cummins Foundation.

Project: Sycamore Place Elderly Housing, Columbus, Ind. Architects: Gwathmey Siegel & Associates, New York (Jacob Alspector, senior associate; Lynn Bensel, Glen Fries, William Garbus, Dean Marchetto, Joseph Ruocco, project team).

Client: Columbus Housing Author-

Site: corner site, 39,200 sq ft, with slight slope to south.

Program: 24 one-bedroom apartments, including 3 for handicapped; community room; laundry; beauty shop; office; 14 parking spaces. Gross area: 24,654 sq ft (counting one half for covered outdoor spaces). Structural system: wood frame, one-hour fire protected; concrete block foundation.

Major materials: cedar siding, asphalt shingles; painted aluminum windows; gypsum board interior walls; carpet; slate flooring (see Building Materials, p. 150).

Mechanical system: electric heat pump, air source, one per unit. Consultants: Geiger Berger Associates, structural; Thomas A. Polise, mechanical; Glen Fries Associates, landscape.

General contractor: Deluxe Homes. Cost: \$690,000; \$28 per sq ft. Photos: Sadin-Schnair.

Pence Place Family Housing Columbus, Indiana

Gwathmey Siegel & Associates' second public housing complex in Columbus is composed of 43 apartments, all three-bedroom units for families. Located in a city of singlefamily houses, between an edge-oftown residential area and a railroad track, the project had to give residents a sense of individual territory within HUD regulations and budget.

For economy, the architects worked out a standard unit resembling a townhouse, but joined to other units on three sides (drawings, facing page). To help compensate for the single exposure, they introduced a generous, operable clerestory window at the top of the stairwell, which provides light to both floors and induces natural ventila-

Access to units is by walks from parking areas at the railroad end of the site. From the shared walks, each unit is entered through a covered gateway into a walled private yard, onto which all principal rooms face (bottom photo).

Where residents enter these walks from the parking areas are children's play areas, differing in size and type; a play area for older children is at the east side of the site, located where it breaks up an extra long stretch of building and fences. At the end of the site away from the parking is a more ceremonial pedestrian gateway (top photo) which is used as the project's school bus pick-up point.

As at the earlier Sycamore Place Elderly Housing (preceding page) the architects chose natural finished cedar siding and asphalt shingled roofs. In both cases, the architects claim no interest in a vernacular image. The siding, they report, was simply economical, and the state HUD office was opposed to flat roofs for these projects because of their maintenance demands. In both projects, building forms have been assembled to make it clear that the basic units have single-slope roofs, and that gablelike profiles occur only by coincidence.

Though they may not have been designed to look like home, stylistically, the units in both projects provide the spatial and lighting effects, not to mention details, that would be admirable in open-market single-family houses.







A two-story community room (left), with a small balcony, is the major space in the Pence Place community building (bottom right in aerial photo). Available to residents for varied events, the room is favored with well-considered details and colors, and it opens to a paved terrace on the south. Also in this building are a housing management office, restrooms, a maintenance garage, and a small maintenance shop.

Project: Pence Place Family Housing, Columbus, Ind.

Architects: Gwathmey Siegel & Associates, New York (Jacob Alspector, senior associate; Margaret Fitzpatrick, project architect; Lynn Bensel, Jose Coriano, William Garbus, Dirk Kramer, Dean Marchetto, Joseph Ruocco, Irene Torroella, project team).

Client: Columbus Housing Authority.

Site: three-acre triangular plot, at edge of residential district, along railroad line.

Program: 40 three-bedroom units, including 2 for handicapped; community building with common room, office, maintenance, garage; 80 parking spaces. Gross area: 50,873 sq ft including community building. Structural system: wood frame, with one-hour fire protection; concrete block foundation.

Major materials: cedar siding, asphalt shingles; painted aluminum windows; gypsum board interior walls; slate flooring; carpet (see Building Materials, p. 150).

Mechanical system: electric heat pumps, three per unit.

Consultants: Geiger Berger Associates, structural and mechanical; Glen Fries, landscape.

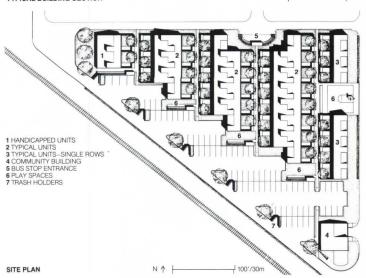
General contractor: Power Development Co.

Cost: \$1,750,000; \$34.40 per sq ft, including site work.

Photos: Sadin-Schnair.











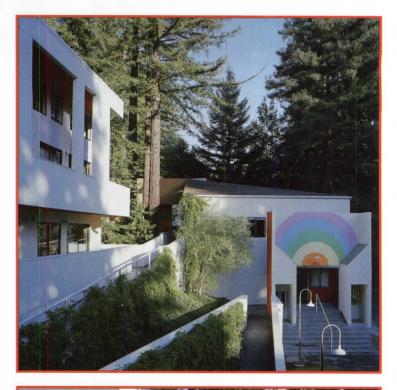
P/A POE Kresge College

Kresge College, by Charles Moore and William Turnbull, epitomized the architectural and educational experimentation of the early 1970s. This post-occupancy evaluation of the 1970 P/A Design Award citation looks at how the college has fared in the last 15 years.

THE University of California's Santa Cruz campus is located 75 miles south of San Francisco on a 2000-acre natural preserve overlooking Monterey Bay. From UCSC's inception, construction was carefully planned so that the site's rolling meadowland and quiet groves of towering redwood trees would be left intact wherever possible. In keeping with that goal, the university was to consist of a cluster of small semiautonomous colleges. Each would be closely fitted to the landscape and set apart from the others with its own facilities and staff, an interdisciplinary faculty, and a target population of 600–800 students. This concept of a collegiate university, inspired by the organization of such elite British institutions as Oxford and Cambridge, called for the colleges to provide substantial academic programs with students using only laboratories and libraries on a campuswide basis.

To further assure the individuality and integrity of the colleges, a policy of separate architectural contracts would provide distinctively different designs for each of the schools. The San Francisco firms of MLTW/Turnbull Associates and Charles Moore Associates were awarded the commission to design UCSC's sixth college, which was to be built along the spine of a moderately forested ridge on the west side of the campus. Encircled by sheltering redwoods, Kresge College would be a self-contained and self-sustaining community that combined academic, residential, and recreational facilities. Since the original curriculum of the college emphasized the relationship between community development and protection of the natural environment, an effort also was made to provide students with extensive opportunities for participating in the design and maintenance of their own living environments.¹

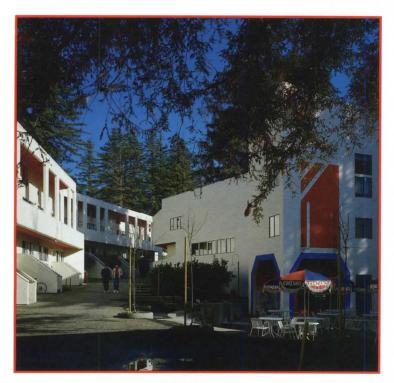
In addition, Kresge's founders were committed to the concept of participatory democracy as a means of developing college policy and wanted a setting that would encourage a strong sense of community. With this in mind, Charles Moore and William Turnbull designed





Now 15 years old, the buildings at Kresge College have weathered well. Plant life (top) has grown, making the college-originally intended for students involved in environmental studies-seem even more wedded to the forest in which it sits. And the buildings and their decoration, such as the supergraphic arch that announces the entrance to a classroom and that connects two telephone booths, appear to be in good condition and well maintained. Some elements of the original design, however, have proven too difficult for the university to keep up. The waterway, for instance, that flowed along the pedestrian street and that culminated in the entrance arena has been partly discontinued, although the

arena's fountain (above) is kept in working order. The arena is surrounded by a variety of functions, including the post office, a student activities room, classrooms, offices, and apartments. The result is a space that looks and functions as well as any good urban square.





While Kresge's pedestrian street (top) has worked well as a place for socialization, the location of dormitory rooms facing each other across the relatively narrow space has created some noise and privacy problems. The integration of classrooms (at right) and living areas (at left) reflects the original collegiate organization of UC Santa Cruz, where each college represented a different academic specialization. Now that the university has largely abandoned that organization, the proximity of classrooms and dorms makes less sense. Also, some classrooms that were designed with specific types of courses in mind have proven less than ideal for their current uses. A few other alterations have not been entirely sympathetic

to the original design. A recessed fountain, for example, set within an octagonal courtyard (above) has been covered with wood planks and filled with outdoor furniture that are out of keeping with the character of the space. The dining and assembly rooms for the college surround the octagon.

the college in the style of a traditional Mediterranean village with a long, winding central street lined on either side by two-story buildings that were constructed at different angles and levels to avoid any suggestion of regimented uniformity. Galleried walkways ran along the upper levels of the buildings and a series of oversized cutouts resembling theatrical backdrops were placed at Kresge's entrances. The use of such dramatic design elements was expected to counterbalance the imposing majesty of the surrounding forest by heightening body awareness and increasing the individual's feeling of self-importance.

Similarly, design concepts borrowed from the shopping center, with its assumptions of easy gregariousness and diverse functions performed within a single unifying framework, were incorporated into the plan to reduce the likelihood that students would suffer from loneliness in so isolated a setting. By placing such crowd gatherers as the supermarket and the department store at either end of a mall and the smaller, more individualized concessions in between, the typical suburban shopping complex generates an intricate pattern of traffic flow that facilitates social interaction as well as commercial exchange. In the case of Kresge's design, it was meeting areas and service facilities that were strategically distributed along the length of the college's central street.²

When Kresge's physical plant opened in January of 1972, it offered the type of amenities that were more typically found in a private apartment complex. At the upper end of the street, a commercially operated delicatessen had been placed next to the dining hall as a convenient alternative to using the meal plan, and directly across from the food service area was a modern version of the traditional community town hall, which was expected to double as a lecture hall. A coin-operated laundromat was located on the middle street plaza, and at the lower end of the street, just beyond the faculty apartments, was a recreational facility with sauna, racquetball court, and game room that students could use free of charge. What's more, instead of isolated residence halls, there were three different types of living units built close to classrooms and faculty offices and within easy reach of the college's study library, photo lab, craft center, and dance studio.

Kresge was initially expected to house 320 undergraduates with half living in eight-person suites that consisted of four single rooms, two double rooms, and a small kitchenette lounge—all opening into a central gang bath. Most of the others would live in four-person flats that had ward-style sleeping areas, open-plan living areas, galley kitchens, and apartment-style baths. Only 10 percent of the college's students in residence would be housed in the octets, which were open-plan units for eight people with entry-level kitchens, and shower and toilet stalls in the basement. The suites were to serve as mini-dormitories geared to the needs of the more independent student, whereas the flats were expected to allow for family-style interaction, and the octets, for the kind of free-form environment that seemed appropriate for a communal group.

All of the living units had lightweight, modular furnishings that came in a choice of colors and could be arranged in a variety of ways. Residents would not only be able to paint and decorate their rooms, but could also construct lofts, staircases, and interior walls or otherwise alter the space in order to meet their needs for privacy and/or personal expression. Meal contracts were available, but students who didn't like the food service or wanted to save money by preparing their own meals could live in the flats or the octets, since both were equipped with full kitchens. Individuals who wanted more privacy could opt for a single room in a suite, while those who wanted more togetherness could share a sleeping area with as few as one or as many as seven other people.³

With such an array of alternatives, it was assumed that Kresge residents would have little cause for complaint, but, as it turned out, none of the options was entirely satisfactory. Students assigned to suites soon objected to using the campus food service when they saw residents in nearby flats and octets enjoying the benefits of full kitchen facilities. The small lounge area in each suite was therefore converted into a working kitchen by the addition of a refrigerator, stove, and suitable furniture for sitdown meals. However, once this

Mixed Metaphors

The Riverside Convention Center in Rochester, N.Y., is unusual of its type: It fits its great bulk gracefully into a center city location, and uses both modern and traditional idioms. Designed by James Stewart Polshek & Partners of New York, it was a P/A Citation winner in 1983.

The administrator's story

Joseph A. Floreano, executive director of the Riverside Convention Center in Rochester, is justifiably proud of the building he runs. Not only do landscape equipment suppliers and automobile collectors book space, but couples hold wedding receptions there as well. For Riverside is an anomaly among convention centers, having a central location, an urban character, and an inviting interior.

Other convention center administrators might balk at the painted sheetrock walls, in all the interior spaces but the main hall, but Floreano does not. "I keep two employees on the payroll to do nothing but repaint," he says, "but painting is simple." And along with the dark terrazzo floors of the entrance Galleria, which require constant buffing, the softly colored finishes give the Center "class," and attract a wide range of events.

The architects' story

To create a public-spirited street edge, the entrances and reception Galleria were located along Main Street and the Genesee River, thus pushing back and buffering the bulky exhibition hall. To express the dual aspects of the building—modernity and civic dignity—the architects used two cladding systems. The exhibition hall is clad in aluminum panels, a "stretched," taut surface—the architects cite as inspiration Mies van der Rohe's 1953 Convention Hall project for Chicago—while the public spaces on the two main façades are faced in "deeply carved" granite following the influences, say the architects, of Romanesque church architecture, Italian palazzi, and 20th-Century buildings in Rochester.

Inside, both metaphors are continued, with exposed trusses and ducts in the main hall and sheetrock detailed with reveals for a "deep" look in the reception areas. In the Galleria, the metaphors are juxtaposed. The heavy base is roofed by a lightweight metal structure, inspired, say the architects, by the former Les Halles Centrales in Paris of 1853.

The two vocabularies are tied together by horizontal banding: high- and low-luster coatings on the aluminum, rose and gray-colored granites.

The critic's story

The Convention Center exemplifies the pitfalls and benefits of Post-Modernism, of which it is a prime example, even though it avoids obvious literal references. There is a restless search for justification through historical precedents, and an uncomfortably restless main façade. The awkwardly resolved "erosion" of the granite façades to reveal the aluminum mass, and the horizontal banding, were considered "stylish" elements at the time of the design, but seem dated now.

The Post-Modern approach, however, dictated concern for street line and character. The approach allowed high- and low-tech building systems to be used where appropriate. And the citizens do feel they have a symbol of both traditional dignity and progress. *Susan Doubilet*



The convention center's parti is simple and appropriate to its central urban location. The main exhibition hall, clad in horizontally banded aluminum to reduce its bulk, is pushed away from the site's important urban edges and is buffered by lower public spaces. The latter, hugging the street and river edges, are enclosed by thick, granite-clad walls to create a sense of civic dignity in keeping with Rochester's older downtown buildings. The wall along the river (above) is, in fact, a five-foot-thick independent structure with a double row of columns (see also axonometric, over-

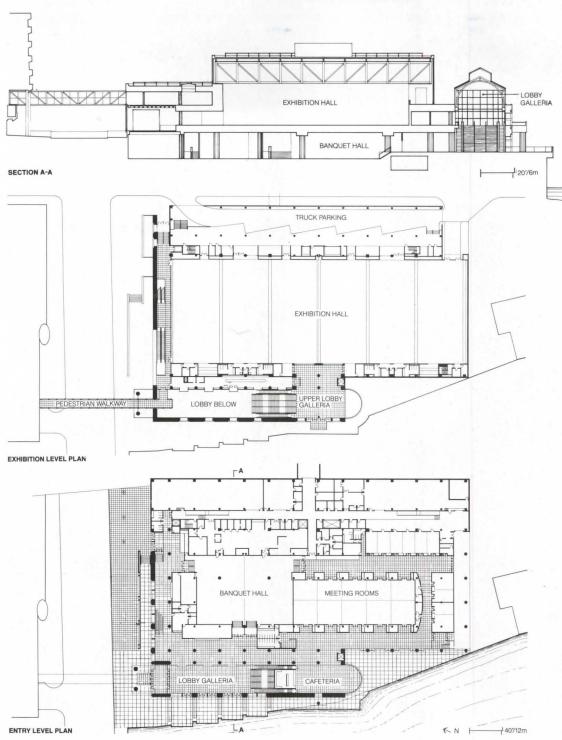


leaf). This wall encloses the tall reception Galleria, with large windows and adjoining terraces giving outstanding views of the river, its bridges (one, not shown, being part of the old Erie Canal system), and the old section of downtown, including a flour mill recycled as a publishing house (left above).

The architects' commission included bridging over to the hotel across Main Street (right) and to the parking garage at the rear of the building. The Main Street bridge occurs above the main entrance to the building, directly on axis with the Galleria. At this point, the mod-

ern metaphor of the glazed bridge breaks through the traditional masonry wall of the lower public spaces.



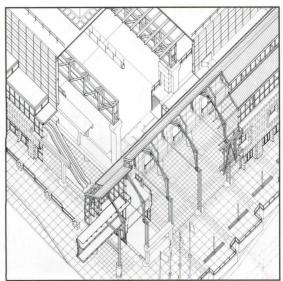


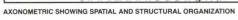
The granite-clad public spaces do not continue around the rear of the building (below), where the aluminum-faced main block emerges.

This, said 1983 P/A juror James Stirling, "is appropriate in a city where there are important streets and important back streets."

The south end of the Galleria (facing page) is a tall, bright, elegantly glazed space, semicircular in plan. In this space stand two tall marble Ionic columns, salvaged from an attractive Neo-Classical bank building that had stood on the site, and was originally to be retained as the entrance to the convention center. Despite local preservationists' protests, the bank was finally demolished, allowing the new building to be designed more efficiently.

The axonometric drawing (below left) shows how the building was put together. Note the double row of columns in the thick exterior wall at the right, and the ducting over the exhibition hall, which turns down through the thick wall between the main hall and Galleria. Heat exchange is also allowed to occur directly between the Galleria and the main hall. At the left of the axonometric, along Main Street, are banks of escalators leading to the upper level exhibition hall and to the administration offices above, to the building's rear.













Traditional and modern systems (facing page) meet in the Galleria. The thickness of the base is articulated and emphasized with punched windows, interior balconies, and banded sheetrock with horizontal reveals. Above, the light steel structure is inspired, say the architects, by the old Les Halles building in Paris by Victor Baltard. Despite the historical rationale, the juxtaposition is not entirely successful.

With its walls of groundface cement blocks, its trusses, and its ducts, all painted in the building's theme colors, the main exhibition hall (above) is elegantly high tech. Its west wall, with thick cementblock-clad mezzanine-level columns incorporating structure and ducting, has a sturdy, Rossi-esque appearance. The 50,000-square-foot space can be subdivided into two halls, and the 35,000 square feet of banquet hall and meeting rooms on the level below (not shown) can be used as supplemental exhibition space, with retractable partitions and electrical power in their floors.

Project: Rochester Riverside Convention Center, Rochester, N.Y. Architects: James Stewart Polshek & Partners, New York (James Stewart Polshek, partner in charge of design; Joseph L. Fleischer, partner in charge; James Garrison, design associate; James R. Gainfort, Sara Elizabeth Caples, associates). Associate architects: Skoler & Lee, Architects, Syracuse, N.Y.; The De-Wolff Partnership, Fairport, N.Y.; Sear Brown & Associates, Rochester, N.Y.

Client: New York State Urban Development Corporation; The City of Rochester.

Site: the center of Downtown Rochester, with the Genesee River along its west. Across the river is a group of restored 19th-Century mill buildings, to the north a hotel, and to the east a parking garage and a hotel under construction. Potential for further development to the south. Program: a 50,000-sq-ft exhibition hall with ancillary spaces, including a public galleria, banquet halls, management office suite, meeting rooms, and service and truck delivery areas. Total area is 210,000 sq ft. The facility was required to be connected to a garage, a hotel, an underground service tunnel, and a riverfront pedestrian plaza.

Structural system: reinforced concrete and steel frame.

thermal finish granite; groundfaced

Major materials: gray and rose

concrete masonry; insulating tinted glass; painted aluminum panels (see Building Materials, p. 150). Mechanical system: three-zone system: For the galleria, forced air from central mechanical room; for the exhibition hall, forced air from six rooftop package units; for the remaining spaces, local fan cap and cabinet heater receiving hot and cold water from central mechanical room. Heat transfer from galleria to exhibition hall. Extensive services throughout for flexibility of functions. Consultants: Kotz & Schneider.

landscape; Tor, Shapiro Associates, the Geiger Group, structural; Salmon Associates, structural associates; Kallen & Lemelson, mechanical; Wallace Johnston Associates, mechanical associates; Peter George Associates, Inc., acoustics; Howard Brandston Lighting Design, lighting; Kaeser & Wilson Designs, Inc., graphics; J.P. Stopen Engineering Partners, bridge engineers; Raamot Associates, soils.

Construction manager: Wilmorite Corp., Inc.

Costs: \$40 million.

Photos: Patricia Layman Bazelon.

P/A Inquiry Affordable Housing

Fewer and fewer Americans of low or moderate income can afford to own even the most modest of homes. **Escalating land** costs, high interest rates, demanding regulation, and outdated construction methods are to blame, Architecture alone cannot solve the pressing problem of affordability, but good design and land use planning can help bring the dream within reach.

"IT'S like winning the lottery," says a resident of Andrew Square, whose family was one of the lucky eighteen to draw a place in the South Boston housing development (p. 89). "If we didn't buy here we'd never have owned our own home." "Not enough people realize how many people make less than \$30,000 a year," says union official Tom McIntyre, whose Bricklayers and Laborers sponsored Andrew Square to prove "that unions can be a force for good in the community" and that their product is still competitive with factory-built housing.

Americans tend to think of housing as a right, not a privilege, but for most lower income families, and more and more of moderate income, affordable housing is, like the winning ticket, a retreating mirage. Measuring the extent of America's housing crisis depends upon your point of view. The good news, according to the Joint Center for Housing Studies at Harvard and MIT, is that, despite exceptions (most notably in the Northeast), housing prices nationwide have stabilized, mortgage rates are falling, new mortgage instruments are available, unemployment has fallen to 7.1 percent in late 1986, and both real family income and per capita income have reached new highs.

The Center's even-handed analysts, however, pepper this optimistic list of advances with crippling qualifications. The overall cost of homeownership, adjusted for appreciation in house values, is now three times the average of the 1970s and rising. In 1955 the average 30-year-old spent 14 percent of his income on a mortgage. The same 30-year-old now spends 44 percent. Down payments now consume half of the buyer's annual income, as compared with one third in 1978. That problem alone threatens to squeeze first-time buyers—upon whom the future of the housing industry depends—out of the market altogether. Variable mortgages offer accessibility of funds at the expense of security, placing buyers at the mercy of inflation. The lowest income groups, those most likely to rent, are spending the highest portion of their income since World War II on rent, while an increasing number of available rentals are substandard. And, at the very bottom of the scale, the number of homeless individuals in *America* is estimated as high as two million.

Nationwide statistics, duly compiled, do not necessarily reflect local realities. Housing markets are segmented by income, family size, and race. Supply changes in one segment have no impact on supply in another: an increase in Houston does not ease the crisis in New York. Moreover, costs in New York are 30 percent greater than in Alabama, and costs in Manhattan are 30 percent greater than in the four "outer" New York boroughs. Affordability is above all a relative concern.

The Root of the Problem

At the risk of simplifying very complex arguments, there are essentially two schools of thought on affordable housing. The more radical of the two holds that the American dream of owning one's home, aided and abetted by an income tax system that subsidizes home ownership, is in fact the root of the problem. "The burden of housing costs is staggering," write the editors of the provocative Critical Perspectives on Housing (Temple University Press, 1986), "while the benefits are often illusory." Change the psychology of housing, the argument goes, and you open the door to alternatives such as communal and cooperative housing, or combined live/work arrangements (see Ted Smith's GoHomes, p. 88). The advocates of such structural change draw heavily on the experience of other, predominantly Socialist nations.

The second approach accepts the owner-occupied, single-family detached house, for better or worse, as the standard by which all housing options are judged. This market-driven model defines the affordability problem as a gap between income and cost—between what would-be homeowners want and what they can afford. That gap can be bridged

in one of two ways-increased income or reduced costs.

Cutting Costs: Downsizing

The smaller, smarter house, like the compact car, seems at first glance the answer to the affordability problem. Cheaper to build, to heat, and to maintain, the compact house is also better suited to today's smaller households. There are, according to the HUD pamphlet "Designing Affordable Housing," written by architects Steven Winter Associates of New York, three ways to shrink the standard single-family detached house: decrease the number of rooms; reduce the dimensions of rooms; or change their relationships. Winter's own project for infill housing in Asbury Park, N.J. (p. 90), puts all three principles into practice, producing a miniaturized bungalow that can be either sitebuilt or factory-produced.

Consumer expectations, however, set rigid limits to downsizing. "We can build a 400-square-foot unit acceptable to 90 percent of the world," says Winter, "but not to Americans." A second New York architect, Theodore Liebman, whose office is now at work on two affordable housing projects, agrees: "You can't reduce standards beyond a certain point."

Cutting Costs: Manufactured Housing

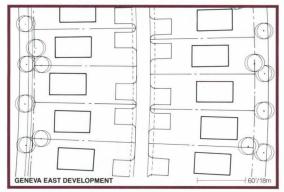
Any of the factory-built housing options—from panelized construction to modular homes—can theoretically improve upon site-built construction in terms of speed of erection, quality and consistency, and cost, most significantly in the reduction of labor. Indeed, today's building industry relies heavily on prefabricated parts, from factory-made windows and doors to prefabricated roof trusses and wall panels to package kitchens and bathrooms. Why then has industrialized housing, long heralded as the answer to America's housing problem, failed to provide the panacea?

Advocates of industrialized housing—the catchall term for all forms of factory-built housingblame a fragmented and capricious housing market. Their arguments have at last reached the ears of Congress, whose chief concern, however, is not affordability but foreign competition in the construction industry.

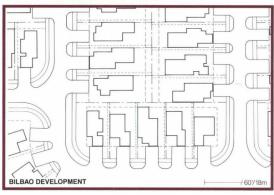
A report issued last fall by the Office of Technology Assessment paints a grim picture of an industry in disarray, threatened by competition from the Japanese and Scandinavians and shunned by skeptical consumers who consider manufactured housing the shelter of last resort. "Consumers tend to believe that American factories produce dreary, shoddy homes," the report claims, while in Sweden, where 90 percent of all single-family houses are factory-built, manufactured housing is a sign of higher quality and status.

OTA proposes four main areas of reform, urging 1) that a uniform national building code replace the present fragmented system of regional and local codes; 2) that new fiscal interventions, such as interest reductions for housing loans to lower-income buyers or tax-exempt mortgage

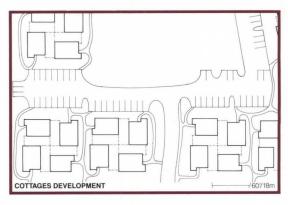












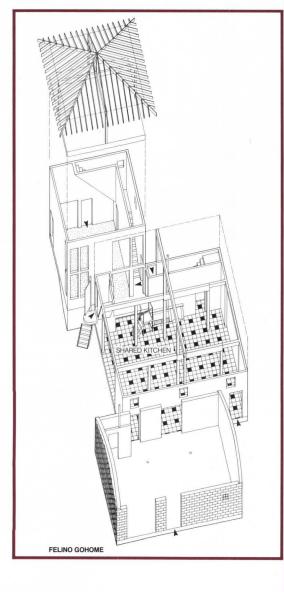
Some of the most important innovations in affordable housing have come in site planning. "Open space costs money," says Welford Sanders of the American Planning Association. As one of four authors of Affordable Single-Family Housing: A Review of **Development Standards**, sponsored by the Joint Venture for Affordable Housing, Sanders studied strategies for bringing costs down through design, while "maintaining some of the reasons why people buy single-family homes." The three options shown here, all taken from the Joint Venture study, show some of the mechanisms used to compensate for smaller lots and higher densities. Variable setbacks, alley-accessed parking, and mixed house models were used at the Geneva East Development (top) in Geneva, III., to avoid the monotonous streetscape characteristic of high density developments. Lots at Geneva East, averaging 6000 square feet, are considerably smaller than the conventional 10,000 square feet, with 13 percent of the site provided as common open space. This solution is fairly typical of small-lot site plans organized under planned unit development (PUD) provisions. When the lot size drops below 4000 square feet, however, more drastic measures are required. By far the most significant model for very small lots is zero lot-line development, represented here by the standard block Bilbao Development in Dade County, Fla. (middle), and the pinwheel **Cottages Development of** Olympia, Wash. (bottom). Most ZLL legislation forbids windows on the lot-line wall (Dade County is considering an amendment that would permit windows above 6 feet), mandates the integration of indoor and outdoor space to compensate for a small interior, and encourages the inclusion of common open space in the site plan to offset lot reductions. The Bilbao Development, a 25-acre site, is occupied by 198 ZLL lots averaging 4400 square feet. (The average Bilbao unit of 1720 square feet sold for \$92,000.) At The Cottages, lots averaging 2226 square feet are clustered, as is parking. Thirty-two percent of that site is given over to common open space.

"Our project proposed a minimal shelter with the capability of improvement," says architect Ted Smith of Armistead Smith and Others, describing his GoHome. "The savings come from not financing nonessential items, which we compute to be approximately half the construction cost of the typical suburban tract house." The GoHome is a 20' x 12' x 20' "residential warehouse" adaptable either as a residence or a workspace. The first GoHome, built in Del Mar, Calif., in 1981 (right), was constructed of four loft spaces, each with its own bath, and one kitchen shared by all residents. With land costs at \$40,000 and construction at \$10,000, the GoHome sold for less than half the price of an equivalent condominium in the same neighborhood. Residents also, says Smith, save the costs of a separate office or workspace, including rents and utilities, security, and even commuting





Arguing that "inefficient land usages resulting from segregated and specialized building types in the modern city account for a larger factor in the cost of available land than we perhaps realize," Smith envisions a mixed-use city free of restrictive zoning that artificially inflates the cost of land. Five years after the first GoHome, Smith is at work on refining his model, designing a 3000-square-foot complex in suburban San Diego (right) that can function alternatively as six shares, three double spaces, two triples, or even a single residence. Party walls are removable, and each 500square-foot unit has direct access to the shared kitchen.



bonds, be introduced to stabilize the demand for housing; 3) that a national quality-control and labeling system be instituted so that consumers can distinguish more readily between the good and the bad; and 4) that the Federal government promote and fund more building research.

These sweeping proposals, by securing the position of America's housing industry, might well bring the cost of housing down, but they cannot alone solve the affordability problem. "The product itself has little to do with affordability," admits Steven Winter. Only 15 percent of the cost of housing is taken up by the unit. Land costs, financing, infrastructure development, and taxes are the true villains of the housing crisis.

Cutting Costs: The Compact Site Plan

Although rethinking the unit won't cut more than a fraction from total housing costs, innovative site planning can make a difference. As the cost of land rises, pressures on local planning boards to relax site planning restrictions have increased. Some communities have responded by reducing the minimum lot size; others have preferred to designate small-lot districts; still others have encouraged special planned unit developments (PUDs) exempt from standard regulations but subject to special review.

Reduced lot sizes, setbacks, and frontages can add up to considerable savings in terms of overall site improvements. One HUD demonstration project in Phoenix was set up to prove the savings available when "unnecessary" site improvement requirements were removed. Some access streets were narrowed (following an established hierarchy of use); sidewalks were limited to one side of the street; 6-inch sewage pipes were used in place of the required 8-inch pipe, and the water main was reduced from 6 inches to 4 (based on calculations for demand).

These details may seem petty, but they may make the difference between a successful small lot development and one that is merely overcrowded and underserviced. "There is less room for error on a 4000-square-foot lot," says Welford Sanders of the American Planning Association, one of four authors of the recent study Affordable Single-Family Housing: A Review of Development Standards.

The cumulative experience of many communities establishes a predictable pattern of tradeoffs. When lot sizes drop below 4000 square feet, the need for shared open space increases. When the required street frontage drops below 50 feet, and setbacks are reduced below 20 or 25 feet, parking becomes a problem, and the garage threatens to overwhelm the residence.

Zero Lot Line Development

To Gary Greenan, author of the zero-lot-line ordinance for unincorporated Dade County, the phenomenal success of "ZLL" in that section of Florida proves that consumers prefer a downsized house on a smaller lot to an attached unit. Zero-lot-line development maximizes the usable space on a small lot by setting the house itself on a side

lot line and combining the two side yards into one. Over 120,000 units have been approved since the ordinance took effect in 1980, and the ZLL unit has virtually replaced the townhouse as the residence of choice in South Florida. The standard small lot size has dropped from an average of 7500 square feet before the law's passage to the present 4000 square feet.

Several provisions written into the law are designed to compensate for reduced lot size and increased density. Windowless walls and fences on the lot-line façade are mandated to ensure the neighbor's privacy. (Amendments now under consideration would permit windows above 6 feet on the lot-line façade.) In addition, interior and exterior space must be well integrated, with a complex formula determining what precise percentage of a unit's perimeter wall area must contain sliding glass doors or other penetrable openings giving access to usable private outdoor space. The ordinance also urges-but regrettably does not require-common open space.

In at least one respect, ZLL works against itself. Savings in ZLL developments, although estimated at approximately \$10,000 per unit, are diminished by higher land costs resulting from the higher density. The ordinance itself isn't perfect. "The accomplishment," Greenan admits, "has been to provide affordable housing, not great architecture." In addition to the absence of common green space, Greenan is troubled by the spread of "ZLL ghettos," one consequence of the strong resistance to ZLL developments in established communities. Another major problem is the placement of cars, a chronic problem for all small lot developments. One viable solution—that of rear alley access—has not found favor with South Florida developers.

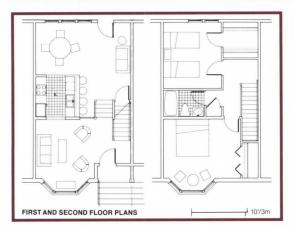
Cutting Costs: Reduced Regulations

Bolstered by the 1982 President's Commission on Housing, which attributed 25 percent of the sales price of the average home to regulatory requirements, the National Association of Home Builders blames government for "unnecessary regulatory burdens that boost housing costs." Overregulation, claims the NAHB, is responsible for restricting the supply of land available for housing through largelot or low-density zoning, for raising the cost of infrastructure and construction through (presumably unnecessary) standards and fees, for impeding the "natural" markets for labor and materials, and for increasing the holding costs for construction through slow and redundant permit processing. "Stringent land-use regulations raise per unit land costs and bias housing construction toward production for higher income groups," claim the authors of an NAHB study on affordable housing. "Highly restrictive amendments, interpretation, and enforcement of building codes by local governments have precluded the use of cost-reducing materials and procedures and have forced lower income housing to conform to middle-class standards."

NAHB is not alone in its call for reduced regulation. Community groups involved in the rehabilitation of abandoned buildings for affordable hous-







While William Rawn is perhaps best known as the hero of Tracy Kidder's best-seller House, the Boston architect is now engaged in a series of housing projects at the opposite end of the economic scale from the custom dreamhouse of that book. Andrew Square in South Boston (left), the first of several union-sponsored affordable housing developments to be completed, proved an unqualified success for all parties. The 18 firsttime buyers, who won by lottery the right to purchase an 1100-square-foot unit in Andrew Square for \$69,900, got an attractive, well-planned rowhouse with bay windows and a high-ceilinged kitchen/ family space—rare amenities in affordable housing—for roughly 50 percent below market value. The sponsoring **Bricklayers and Laborers Non-Profit Housing Company** got the chance to do good for their community and in the process prove the union product competitive against a flood of manufactured housing in the Boston area. The city, having supplied the land for \$1.00, got the affordable housing it wanted without the hassle of adminstration. Not surprisingly, then, all parties propose to continue this public/private partnership on new sites, one in Roxbury and another at Charlestown Navy Yard.



A second, exurban development designed by William Rawn Associates for Lincoln, Mass., is the first of four affordable housing projects proposed for the site over the last 15 years to win town approval. Rawn attributes that success to the project's appearance; units are grouped together to form larger farmhouses. This development mixes income groups, with 30 percent targeted for lowmoderate income (\$85,000), 30 percent moderate (\$105,000) and 40 percent market rate (\$200,000). While the four-unit farmhouse works well by itself (see axonometric, left), the effect of 25 identical farmhouses close packed on a 200-acre site could be disconcerting.

Singled out by HUD as a model project for the International Year of Shelter for the Homeless, this proposal for infill affordable housing in Asbury Park, N.J. (right), was designed by Steven Winter Associates of New York for the nonprofit Asbury Park Second Century Corporation, working with the City and the **New Jersey Department of** Community Affairs. Scheduled for under \$50,000 a unit, the three prototypes—a 900square-foot, two-bedroom house; a 1160-square-foot, three-bedroom; and a 1180square-foot, corner threebedroom (not shown)—were proposed for infill sites in a low-to-middle-income minority neighborhood. Although they resemble existing bungalows in the neighborhood dating from the 1930s, these houses could be built using modular or panelized construction as well as conventional site-built practices, depending on cost. Legal bid documents, including working drawings and specifications, were deliberately not prepared, so that builders could base their bids on preferred materials and details, cutting construction costs in the process. Winter has used these strategies with considerable success for large-scale middle- and upper-income housing developments in **Westchester County, New** York. In Asbury Park, however, other factors come into play. The city is finding that infill construction carries hidden costs: the small number of units to be built-ten in the first phase—and the difficulty of building on many different infill sites combined to push the bids \$5000 over the \$50,000 limit. The problem, according to Peter Keyes, an associate at Steven Winter Associates, is the gap between resident income and the actual cost of housing construction. The \$50,000 figure is based on what the targeted population can afford to pay; but the housing itself cannot be built for that price without subsidies—or recourse to offthe-shelf products, which the city is now considering. Although cheaper, the manufactured housing lacks what the city was looking for in the first place—sensitive, compatible design tailored to an established neighborhood.









ing argue that preservation standards should be relaxed when older buildings are converted to affordable housing.

Some communities have already begun to make the necessary changes, consolidating permit departments and streamlining the approvals process.

The Role of Government

Virtually all parties agree that there is no sufficient private-sector substitute for federally sponsored research. The National Institute of Building Standards, for example, although eviscerated by repeated budget cuts during the Reagan Administration, remains one of the few bodies equipped to supply information on new, cost-cutting products and materials.

Paradoxically, the same players who advocate reduced regulations urge an ever-larger financial commitment to the construction and financing of affordable housing on the part of government. "Any substantial effort to provide new or rehabilitated housing to low- and moderate-income households requires extensive federal assistance," claims the NAHB. Among the new ideas bandied about are a tax-exempt savings program for housing purchases modeled on existing retirement plans. (An alternative plan proposed that those retirement plans be modified to allow withdrawals for home purchases without penalty.) A government-assisted down payment plan would, says the NAHB, compensate for inequities inherent in the homeowner tax-deduction programs, which disproportionately benefit higher income groups. The SHARP program of interest-rate subsidies in Massachusetts pioneers another form of subsidy.

Many city governments look upon linkage programs as a quick fix for affordable housing. San Francisco requires office developers to build one unit of low-income housing for every 1125 square feet of downtown office space, or to contribute to a Citywide Affordable Housing Program Fund. Similar programs are in place or under study in Boston, Los Angeles, and Chicago. In New York, profits from the successful Battery Park City may be used to finance affordable housing. Not everyone is convinced of the virtues of linkage financing, however. "Linkage is just another tax," says Peter Keyes, an associate in Steven Winter's office. "The mechanism is a smokescreen."

The New Robin Hoods

These initiatives aside, the prognosis for at least the immediate future is one of a reduced government presence, and private-sector groups have moved to fill the gap. One leader, developer James W. Rouse, was dissuaded from naming his non-profit housing program after Robin Hood, but his model remains the man who robbed the rich to give to the poor. He founded the Enterprise Foundation in 1982 as a nonprofit organization providing funding and technical support to local nonprofit housing corporations engaged in rehabilitating housing for families whose top annual income is \$10,000. Funding for these endeavors is to come from the profits of a for-profit Enterprise

Corporation engaged in real estate development.

Enterprise is not alone in its endeavor to house the very poor. The Local Initiatives Support Corporation (LISC) was founded in 1979 as a means for channeling national contributions to local communities, assisting in the construction or rehabilitation of 1000 to 1200 units for low- and moderateincome families each year. The community action group Acorn set up a separate housing corporation several years ago to act as a bridge between banks and city governments on the one hand and local tenant groups on the other.

These programs and others like Habitat for Humanity, the group Jimmy Carter made famous, have in common a belief that cutting construction costs can make a difference. Most rely heavily on sweat equity and salvaged materials. They also consider deregulation crucial to cutting costs. Arguing that present-day building codes reflect a middleclass standard of living, they seek permission to use less expensive products and ask that preservation regulations be waived for the poor.

Most of the nonprofits have concentrated their efforts in older cities, where the stock of abandoned buildings is greatest. As their networks expand, however, Enterprise and Acorn in particular find themselves dealing with cities like Los Angeles that have only a limited inventory of older buildings ripe for rehabilitation but skyrocketing problems of overcrowding, low vacancies, high rents, and rising housing costs.

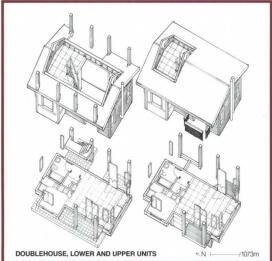
Redefining the Minimum Standard

In their desire to cut costs, most nonprofit housing corporations have cut architects out of the picture altogether. "We don't use architects," says Bruce Dorpalen, Director of the Acorn Housing Corporation in Philadelphia. "We don't move any walls." When Enterprise built a model project of all-new homes in Columbia, Md., the Foundation turned to Ryland Homes, whose modular suburban tract housing is relentlessly conventional.

Can architects contribute to solving the affordability problem or has it gone beyond them? "Architects can have an effect in liberalizing the housing product itself or redefining the minimum standard," affirms California architect Ted Smith, whose GoHomes pioneer a new type of communal live/ work space. Like Rouse, Smith sees housing as part of a bigger picture. Where Rouse sees social problems, however, Smith sees physical ones. Rouse argues that giving a family shelter won't solve the social and economic problems that caused their housing crisis in the first place. Smith states the case in architectural terms, arguing that the standard suburban house doesn't suit contemporary lifestyles—or pocketbooks, (page 88).

Philanthropist and architect alike argue that the solution to the housing crisis starts with a restatement of the problem itself. The search for alternatives has to extend beyond the cul-de-sac of suburban housing. "We need," says Rouse, "to build a new system for housing the poor-to take the problem apart, to deal with its pieces, and put it back together with new answers." Daralice D. Boles





The Doublehouse in Seattle. Wash., designed by A2Z of Los Angeles, is in many ways the classic custom commission, yet its strategy—and budget-make it affordable. The client wanted to spend \$50,000 for two units, one of which he planned to rent out to pay for the other. He actually spent \$63,000 for two "urban cabins," each a 700square-foot studio with a loft sleeping area. "We got to it by a process of elimination," says A2Z architect Norman Millar of the piggyback scheme. He and partners Ries Niemi and Sheila Klein set out to prove that a small space can achieve "economy with grace" and a "sense of richness through the use of materials and connection to the outdoors." Although designed as one of a kind, the Doublehouse has broader potential: "We see them as infill," says Millar, "in urban or suburban settings." Intended for a single person or couple, the Doublehouse is no generic solution, but it illustrates that affordable housing need not be bland and predictable.



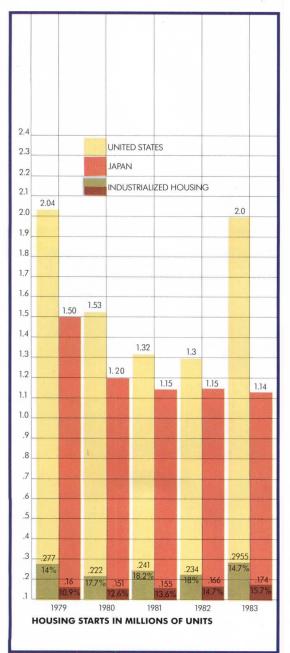


race in south San Francisco, Calif., illustrates some of the complexities of infill affordable housing. Residents who had opposed a Section 8 apartment complex planned for the site initially regarded this proposal for 42 townhouses with suspicion, even though its sponsors included a local housing conservation group and the nonprofit Bay **Area Residential Investment** and Development Group (BRIDGE). While supporting affordable housing in principle, they feared that the lower income, higher density project would hurt their property values. David Baker & Associates of San Francisco doubled the neighborhood density of 16 units per acre but preserved the streetscape of paired houses with individual entrances and garages. Twoand three-bedroom units averaging 1200 square feet and priced at \$88,500 to \$98,500 are organized around four interior courts.

The history of Holloway Ter-

P/A Technics Industrialized Housing

Will the Japanese do to our housing industry what they did to the **automobile** industry? The following article discusses how industrialized housing in our two countries is the product of conditions unique to each and is generally not transferable.



The view from the platform four stories above the ground in the automated vertical warehouse at the Sekisui House plant in Shiga is an encapsulation of the rapidly evolving Japanese house building industry. The warehouse is bereft of sound and light except for the occasional din of the motors of robots that roam back and forth along the aisles and up and down the shelves seeking a computerprogrammed set of building parts. In an adjacent building, a young technician is reading a punch list of building components and feeding the information into a computer. The computer orchestrates the operation of the robots that deposit the premanufactured components on a conveyor belt beneath your feet. The pieces will be bundled with a tag indicating the name and address of the customer and shipped by truck to the site, perhaps the same day. Within four to six weeks, the new buyers will move in.

A few hours after the work day ends at Sekisui House, the welding torches are lighted at Roxbury Homes, a medium-size housing component manufacturer in upstate New York. Most of the steelstud-based panels are placed in inventory for use in future projects. A few are fabricated for specific projects and are manufactured according to a unique set of shop drawings.

Neither the Japanese nor the U.S. house building industries can be typified through a single comparison of two manufacturers. However, Sekisui House and Roxbury Homes produce housing in a manner that may be indicative of important trends in their respective markets. And, in a limited sense, a discussion of the similarities and differences between these companies can provide insight into the technical, social, and philosophical underpinnings of the two largest house-building industries in the world.

The Japanese Housing Industry

The Japanese house-building industry can be characterized as high-volume, with a substantial capital investment in high technology. The five biggest housing companies in Japan produced about 124,000 units in 1983, with the largest-Sekisui—accounting for over 40,000 houses. In comparison with the U.S. industry, the numbers are staggering. Sekisui, a company founded in 1960, has five manufacturing facilities employing

nearly 9000 people. The plant in Shiga, the largest, has a capacity of about 2000 houses per month although production is typically closer to 1300.

There are a number of reasons why the industrialized housing industry is one of the most vibrant in Japan. First, the geography is right. About the area of California, Japan has about half the population of the U.S. (about 120 million people) concentrated in small pockets of buildable land. The megalopolis that extends from Tokyo to Osaka (a few hundred miles) contains about 45 percent of the population. A centrally located manufacturing facility can ship a high volume of houses over a comparatively small distance, a critical consideration in designing plant capacity. Second, the industrialized housing industry grew from a solid foundation of manufacturing, an evolution that many Japanese have come to equate with quality and value. Third, the government gave specific impetus to manufactured housing by sponsoring major competitions designed to promote innovative factory-based construction techniques, and by providing financial assistance for research and development. An industry that did not exist 25 years ago continues to grow despite a generally shrinking housing market.

The U.S. Housing Industry

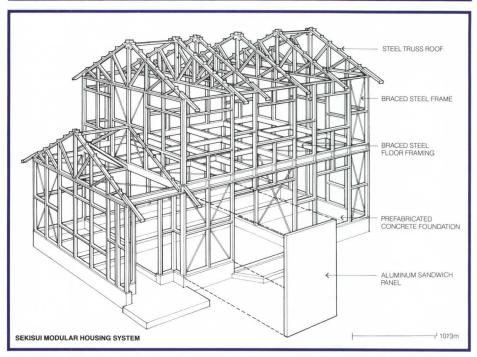
The housing industry in the U.S. is considerably more disparate. The 200,000 or so general building contractors on the average construct less than ten units per year. The radical fluctuations in sales from year to year tend to move small contractors in and out of the market. Many of the large builders have continued to grow and diversify, enabling them to cushion the blow of recession.

Few houses are built without some degree of factory-based technology. Most are built with some preengineered, premanufactured components such as the trusses, panels and/or structural frames produced by Roxbury Homes. On the opposite end of the industrialized housing spectrum is the manufactured housing industry. This industry contains about 169 companies producing between ten and twenty percent of the total U.S. housing production. Manufactured housing in the U.S. is far less capital-intensive and automated than their Japanese counterparts.

Our government did attempt to assist the industrialization of the U.S. housing industry, hoping to create ventures capable of providing high-volume, high-quality, low-cost housing. The herculean effort was familiarly known as "Operation Breakthough." By most accounts, "Breakthrough" was a failure due, in part, to poor collaboration between industry and government. The technology was illsuited to the then existing housing delivery system and to the ideal of home. One of the lasting impressions from this program was the large number of Japanese delegations that came to the U.S. as observers.

The Design/Build Process

The design profession in Japan often argues that industrialized housing is not architecture, but rather a "consumer product." Sekisui, like most other manufacturers, periodically releases new models that serve as templates for its huge captive sales network. Sitting at a CRT with the "designer," the potential buyers can design their own house adding a few square meters to one room, or changing the decor in the bath. Or, perhaps, a second tatami room is added, one of the traditional features that survives in an increasingly western style house. The possible options are, of course, confined by the basic model design, the construction technology, the buyer's budget, and the size of

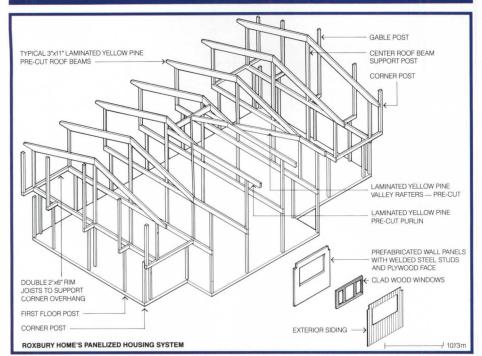








The Japanese Sekisui House system (left) uses a braced structural steel frame and aluminum sandwich panels for cladding. The factory in which the system is made is highly automated, with the housing modules themselves placed on a moving assembly line and workers responsible for installing the same elements in each. Robots are used in the fabrication and movement of components through the plant. Japan's industrialized housing is not only made like automobiles, but is tested and marketed like them. Most of the housing companies maintain research and development facilities and conduct thorough tests of products before they are sold. The various housing models are then available for viewing in housing parks located throughout the country. In those parks, companies sell not only houses, but furniture, financing, and insurance. Prospective owners can customize a given model, varying its exterior or interior finish or adding a room. But they must work within the limitations of the various models and modular units made by Sekisui. The centralized, capital intensive housing industry in Japan is a product of that country's small size, supportive government, and relatively few home builders.



Roxbury Homes (right), located in New York, typifies efforts in this country to wed industrialization and sitebuilt construction. The Roxbury system consists of a post-and-beam structure and metal frame infill panels. The company keeps many structural and panel components in stock, although it will produce custom elements to suit the needs of a particular builder or developer. The panels and structural members arrive at a site on a flatbed truck and, for a typical house, are erected by a threeperson crew in a few days. The foundations for the houses are site-built (unlike many of those in Japan) and the interior partition layouts and finishes are installed by the builder according to the needs of prospective owners. Compared with the Japanese housing systems, products such as that provided by Roxbury Homes allow much more flexibility of design, something demanded by the U.S. market. Panelized systems also are much easier to ship over the relatively longer distances found in this country, and their structures are usually much simpler than those found in Japan because of the relatively less hazard posed by earthquakes.







Sekisui's module.

The analogy to the automobile industry is evident. The house can be specifically tailored to the financial needs of the buyer with a level of individual service the Japanese consumer has come to expect. The product is designed to last, and companies like Sekisui provide a long-term warranty on structural components—an important consideration in an earthquake prone country.

Once the sale is made, the computer-generated set of design specifications is sent on to the factory where all of the materials are ordered and shop drawings are created for the prefabricated components. As we have seen, many of the components are simply off-the-shelf items, but a few must be specially fabricated. On the average it takes four to six weeks to assemble all of the component pieces for a house.

Sekisui House is based upon an open structuralsteel-braced frame construction system with aluminum sandwich panels for cladding. The frame and panels are bolted together on site. Most models are two-story and typically cost \$45 per square foot (1984 U.S. dollars).

The Japanese buyer is frequently in a hurry to erect the new house. With undeveloped land scarce and land prices exorbitant, purchasing property is often not feasible. The cost of land may be as much as 70 percent of the total cost of the house. As a result, a new house purchase may imply demolishing an existing structure and erecting the new one in its place. Dependable delivery and speed of erection are of paramount importance. The well-oiled Sekisui design-fabrication-erection process is perfectly suited to this environment.

Industrialized Site-built Housing

The Roxbury line sports about ten models with a contemporary styling that comfortably fits the housing market in the Northeast. Few, if any, of these models are sold. Buyers are builders or developers who come armed with a sketch or program that dictates a unique design solution.

Roxbury is selling a look—open planning, exposed wood-laminated beams, cathedral ceilings with wood decking—and the technology is subservient to that. Factory fabrication captures cost and quality advantages but is not a prime driver in the design process. Although the post-and-beam module imposes constraints, the system is inherently flexible, allowing the product to be accommodated to an eclectic array of design demands. Providing a product to an array of builders necessitates designing in this flexibility.

Working drawings from a design sketch are generated by a CAD system. At the same time, a punch list of components is generated and sent down to the plant for fabrication. While the use of welded metal infill panels is somewhat unusual, the layout of the plant and level of automation are comparable to most U.S. panelization operations.

The company has opted to provide only part of the finished housing product, constructing the structural frame and envelope for a cost of around \$15 to \$18 per square foot. The open wall panels span between the load-bearing wood posts. The builder will assemble the carefully numbered, factory fabricated pieces over a site-built foundation and finish the interior in a conventional manner. On the day construction is to start, the Roxbury house arrives by truck. Within one week it is enclosed and the finish work begins, sheltered from the elements.

For many small conventional site builders, this arrangement is compelling, striking a balance between the design flexibility of the site-built process and the speed and quality of erection associated

with factory fabrication. Roxbury supplies those materials that provide the builder with a competitive advantage. Other items such as interior studs, finish materials, and appliances are generally less expensive when purchased locally than as part of the factory-assembled package.

Marketing the Product

Not far from Disneyland in Tokyo stands "ABC Land," a sort of amusement park for house buyers. ABC land is one of a number of housing parks where some of Japan's leading housing producers have erected model houses. About one third of them are manufactured, often indistinguishable from their site-built neighbors.

A few years ago the majority of house sales in Japan were made through housing parks. While their importance is diminishing, the more than 200 housing parks, scattered throughout the country, remain an integral part of the marketing program for many major housing companies. The trend in styling is obviously Western, reflecting the Japanese desire to be modern.

The stylistic gimmickry is partly a response to the intensive competition coupled with the desire to create an image of individuality despite industrialization. For many of the optional features, such as the elaborate electronic control systems and the heated toilet seats, the line between utility and market image is thinly drawn. Reinforcing the consumer product image, "name" architects are often retained to produce designer models.

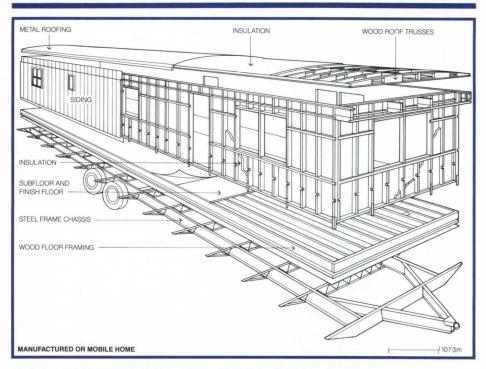
The size and resources of companies like Sekisui allow the Japanese to excel in marketing. The apparent quality of communication between the sales and design departments is impressive. Like the automotive industry, new models are released every few years and minor changes are made to existing models each year. Most large companies have a range of models from the compact space-efficient model to the fully equipped deluxe house, a showcase of fine materials and furnishings and the latest in consumer electronics.

Satisfying the Market

One builder constructing a Roxbury house in Maryland when asked about the style responded, "I can build anything in this market as long as it's center-hall colonial." This pervasive attitude frustrates architects and house manufacturers alike, given the unexplored design potential of housing systems like Roxbury. The deep-rooted traditions of style in the U.S. and the relatively decentralized building industry also have a profound impact on the rate of technological innovation. The small leaps being pioneered by Roxbury and other progressive companies are useful examples of well-integrated changes.

This is in stark contrast to the capital-intensive industrialized building process in Japan. Given the economics of shipping and the political climate regarding imports, we are not likely to see "made in Japan" housing in the U.S. in the near future, although what large multinational housing company can long resist the largest, most affluent market in the world? Here, we might learn the lesson of Detroit: Progress can be best achieved through cooperation. Emanual Levy

The author is president of The Levy Partnership, a consulting architectural and engineering firm in New York City. They are working with New York State and the Department of Energy on the transfer of foreign housing technology. The firm also consults in energy conservation and code analysis.

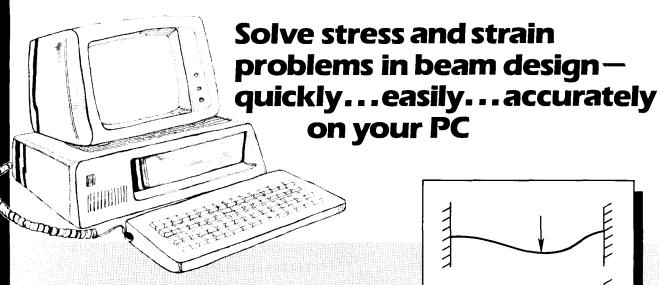








The closest the U.S. housing industry comes to a completely factory-built house is the mobile home (left). Like many of the Japanese systems, mobile homes consist of modules that are built. finished, and outfitted in the plant and then shipped to the site for rapid installation. Except for connecting utilities and completing some exterior finishes, little on-site labor is required. Where the most dramatic difference exists between our modular housing and that made in Japan is in the methods of its fabrication. The U.S. mobile home industry is much less automated. While many labor-saving tools are used in their construction, mobile homes are still largely hand-built within the factory. Such housing is aimed at the lower end of the housing market, a niche that it has filled very successfully. Analysts, however, do not anticipate its market share to increase (or for that matter decrease) dramatically.

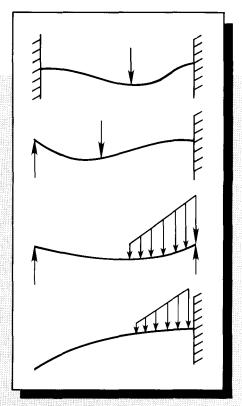


MICROCOMPUTER SOLUTIONS to Roark & Young's FORMULAS FOR STRESS AND STRAIN. 5th Edition — Module I: BEAM DESIGN

Every knowledgeable mechanical and civil engineer is familiar with Roark & Young's classic book Formulas for Stress & Strain. Now, with this new software — the first part of a comprehensive three-part series — Roark's formulas are made easy for you.

This microcomputer implementation of beam design, Tables 1, 3, 4, 7, 8, 10 and 11 of the latest (5th) edition of the book, automates the design and stress analysis process ends lengthy computations - speeds up your work and makes it simpler and easier than ever before.

- It's easy as A, B, C. . . A Determine which table in the book governs and which case applies.
- Call the table and case from the program menu,
- Input your independent variables, and the program solves for all unknowns.



Module I package includes: two 51/4" floppy disks, 100-page User's Manual with Reference, Tutorial, and Examples sections and an installation diskette for producing a "hard disk" copy

SATISFACTION GUARANTEED: Use the program unlimited times (floppy disk use only). If you're not satisfied, return it within 30 days with the hard disk Installation Diskette seal unbroken for full credit or refund.

SYSTEM REQUIREMENTS

IBM PC/XT/AT PC DOS 2.0 or higher 256K minimum memory 8087 and 80287 coprocessor version available

Chargecard users order toll-free 800-321-7003 (in Ohio 216/696-7000)

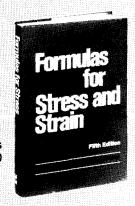
> Penton Education Division 1100 Superior Avenue Cleveland, Ohio 44114

If you don't have a copy of Roark & Young's book, order:

Item #2103

Formulas for Stress

& Strain 624 pages hardbound \$62.50



STRUCTURES

STYLE & SUBSTANCE

Mario Achille Mario Achille Michael McCarty Stanle Folderinan John Lauto Achille Color Sierakowski Barbara Lazaroff Raudolph H. Gerner Randolph H.

Richard Sapper

Philippe Starck

Andrée Putman

Tony Buzan

Emilio Ambasz

Norman Foster

Robert Ornstein

Malcolm S. Forbes Jr.

Christo



Pacific Design Center March 25 26 27

Serif Collection by Baker Furniture.

The simple elegance of this executive office furniture, designed by William Sklaroff, is a departure in transitional design. It is both contemporary and traditional. The collection is available in multiple configurations appropriate for the executive office. For more information on corporate design and custom projects and all the Baker Executive Office Collections, write or visit our national Contract showroom, Suite 917. The Merchandise Mart, Chicago, Illinois 60654. Phone (312) 329-9410. Or contact any of our showrooms listed below.





Pacific Design Center Contract Showroom Directory

377Allsteel Inc. 134 American Seating* (213) 652-6531 241 Arc-Com Fabrics* (213) 659-0376 266 Artemide* (213) 659-1708 235 Atelier International* (213) 659-9402 525 Baker, Knapp & Tubbs (213) 652-7252 256 Beelner & Thomas* (213) 657-1046 Benedetti (See Harbor-Benedetti) 146 Beylerian (213) 652-7090 625 Louis W. Bowen (213) 659-9033 600 Boyd Lighting (213) 855-1313 M-16 Brayton (213) 655-8421 260 Brickel Associates (213) 659-1667 **436** Brintons Carpets (213) 652-4020 272 D.S. Brown (213) 652-1239 653 Brunschwig & Fils (213) 659-9800 116 Campaniello Imports/Saporiti Italia (213) 854-0990 146 Carnegie Fabrics (213) 652-7090 605 China Seas (213) 854-1030 146 Conde House (213) 652-7090 Condi (See Pacific Condi) 110 Corry and Hiebert* (213) 657-6051 213 DesignTex Fabrics* (213) 659-9900 M16/M28 Domore (213) 655-8421 263 Executive Office Concepts* (213) 659-6566 267 Fixtures Furniture (213) 659-8302 245 Forms & Surfaces (213) 659-9566 200 GF Furniture Systems (213) 655-0001

600 Glant Fabrics

543 Greeff Fabrics (213) 657-6616

257 Haller Systems*

(213) 855-1313

210 Gunlocke*

(213) 657-8922

(213) 854-1109

255 Harbor/Benedetti* (213) 659-2930 647 S. Harris & Co. (213) 538-4900 261 Harter* (213) 657-5780 460 Hastings Tile & Il Bagno (213) 659-8521 193 Haworth* (213) 652-2210 357 Hayes* (213) 855-0139 532 S.M. Hexter Co. (213) 659-9340 300 Howe Furniture Corp. (213) 657-4463 239 ICF, Unika-Vaev USA* (213) 659-1387 253 iil International* (213) 659-7411 146 Images of America (213) 652-7090 141 International Tile (213) 652-2647 547 Italdesign Center (213) 659-6764 146 JANUS et Cie (213) 652-7090 270 Kasparians* (213) 659-2968 625 Katzenbach & Warren (213) 659-9033 404 Kenro Light (213) 659-6510 230 Kimball/Artec* (213) 659-1543 119 Kirk-Brummel Associates (213) 652-6078 600 Kneedler-Fauchere (213) 855-1313 203 Knoll International* (213) 658-8686 639 Koch & Lowy (213) 659-5660 530 Boris Kroll Fabrics (213) 652-9067 226 Krueger* (213) 659-2133 146 Kusch U.S.A. (213) 652-7090 **406** La Cuisine 2000 (213) 652-3472 601 Jack Lenor Larsen (213) 659-7770 **678** Lee/Jofa (213) 659-7777 **370** Maharam* (213) 659-9575 542 McGuire (213) 659-2970 146 Charles McMurray Designs (213) 652-7090

362 Metropolitan Furniture (213) 276-2005 229 Herman Miller* (213) 659-7600 208 Modern Mode (213) 659-8893 M-9 Monel Contract Furniture (213) 652-4060 275 Monteverdi-Young (213) 659-7220 219 Pacific Condi* (213) 658-5500 M-9 Paston/Rawleigh (213) 652-4060 328 Patterson, Flynn & Martin (213) 657-2930 406 Poggenpohl (213) 652-3472 310 Randolph & Hein (213) 855-1222 268 Ron Rezek Lighting* (213) 659-1784 211 Ben Rose (213) 655-8790 222 Scandiline* (213) 659-4226 368 Shaw-Walker (213) 659-2299 274 Shelby Williams (213) 657-8687 609 Sinclair Wallcoverings & Fabrics (213) 655-7633 384 Paul Singer Floor Coverings (213) 657-8101 629 Stark Carpet (213) 657-8275 305 Steelcase* (213) 659-5005 201 Stendig* (213) 659-7955 380 Stow & Davis* (213) 659-5005 526 Stroheim & Romann (213) 659-7700 206/207 SunarHauserman* (213) 657-2030 656 Tradewinds (213) 659-1115 345 Tropitone (213) 659-0116 625 Albert Van Luit & Co. (213) 659-9033 250, 662 Westinghouse Furniture Systems* (213) 659-4280 **637** Winfield Design Associates (213) 659-7075 600 Zumsteg (213) 855-1313

Friday, March 27

9:00 A.M.

Showrooms open

9:00 A.M.-11:30 A.M.

West Hollywood Auditorium "Structuring Creativity: Use Both Sides of your Brain." Tony Buzan, author. Introduction: Carol King, Editor-in-Chief, Designers West. Sponsor: ASID, E.I. du Pont de Nemours & Co., and Antron Fibers Carpet Division.

11:45 A.M.-12:45 P.M.

PDC Conference Center "Italian Style and Substance." Achille Castiglioni, Architect/Designer. Introduction: Giovanna Paulis Zamboni, Cultural Events Coordinator, Italian Heritage Culture Foundation. Sponsor: PDC 2

1:00 P.M.-2:30 P.M.

West Hollywood Auditorium "Structures for Light." Moderator: Beverly Russell, Editor-in-Chief, Interiors. Panel: Achille Castiglioni, Architect/Designer; Ernesto Gismondi, Artemide; Ron Rezek, Ron Rezek Lighting; Richard Sapper, Designer; Piotr Sierakowsky, Koch & Lowy; Philippe Starck, Atelier International.

Sponsors: PDC 2; Artemide; Atelier International; Koch & Lowy.

2:45 P.M.-3:45 P.M.

PDC Conference Center "Structures in Transit." Evaristo Nicolao, Partner, Transit Design. Introduction: Stanley Abercrombie, Editor, Interior Design.

4:00 P.M.-5:00 P.M.

PDC Conference Center "Structuring Perception." Christo, Artist. Introduction: Richard Koshalek, Director, Museum of Contemporary Art, Los Angeles.

7:00 P.M.-10:30 P.M.

Times Mirror Central Court, Robert O. Anderson Building, Los Angeles County Museum of Art, 5905 Wilshire Boulevard. The Party!

Tickets: \$27.50 per person (includes drinks and a \$10.00 tax deductible donation to LACMA).



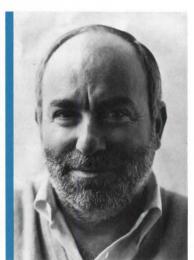
Tony Buzan



Achille Castiglioni



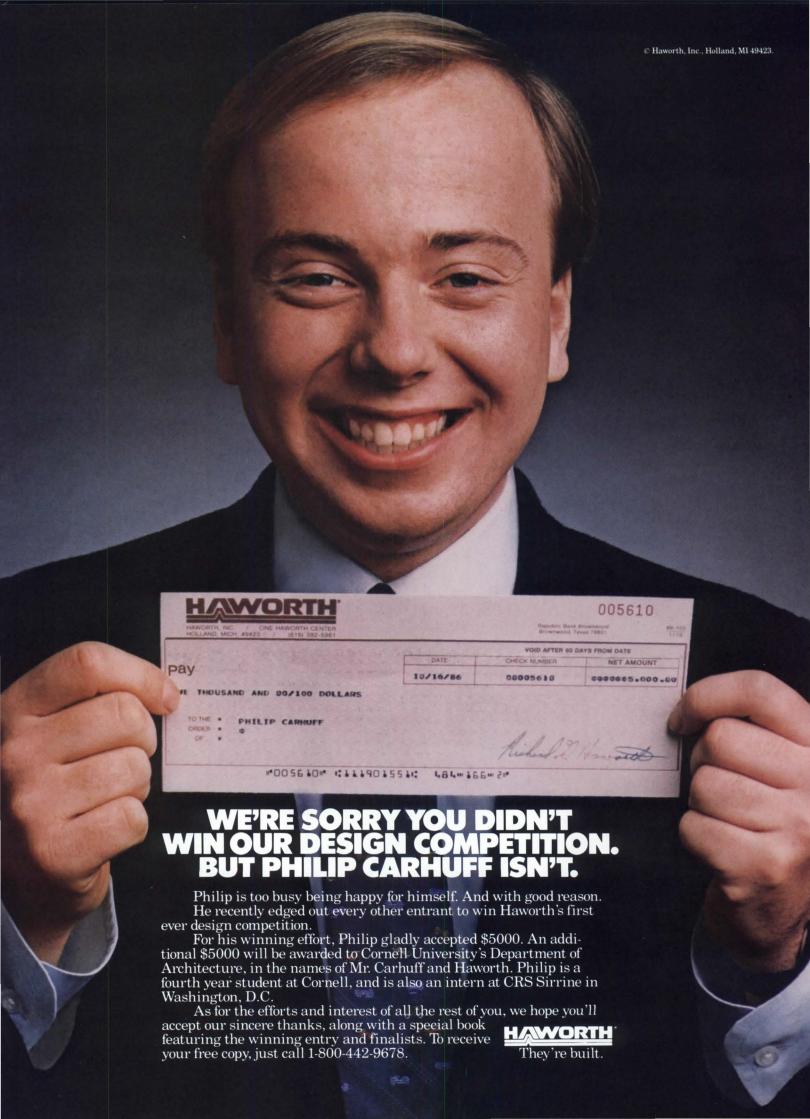
Philippe Starck



Evaristo Nicolao



Christo





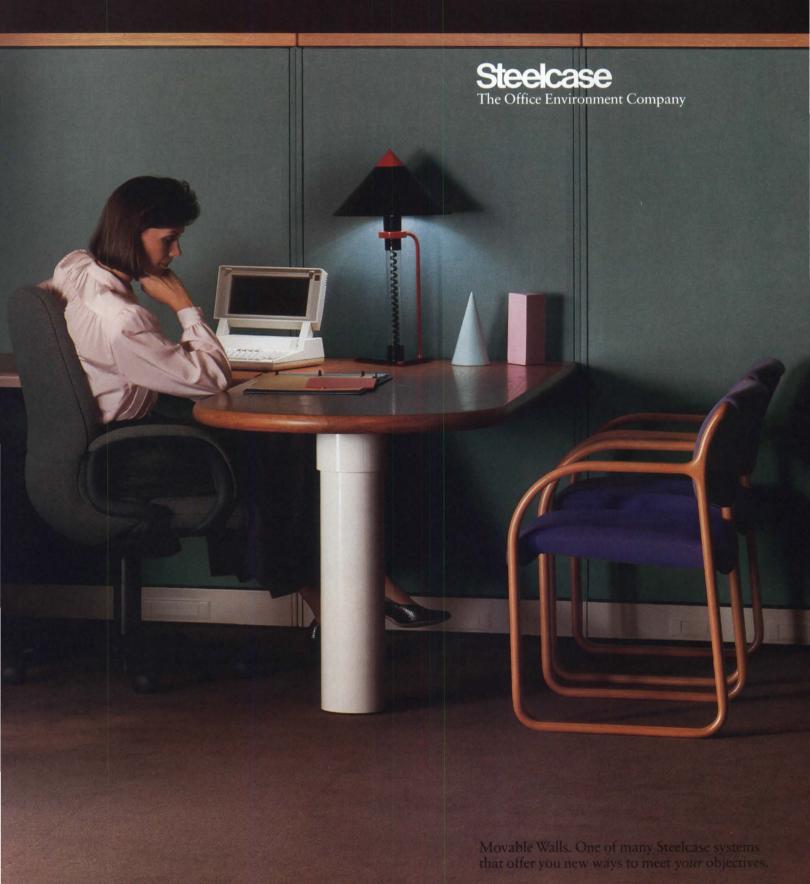
Steelcase systems furniture helps you stay on the leading edge of both appearance and function, without sacrificing the reliability of the world's most often specified furniture.

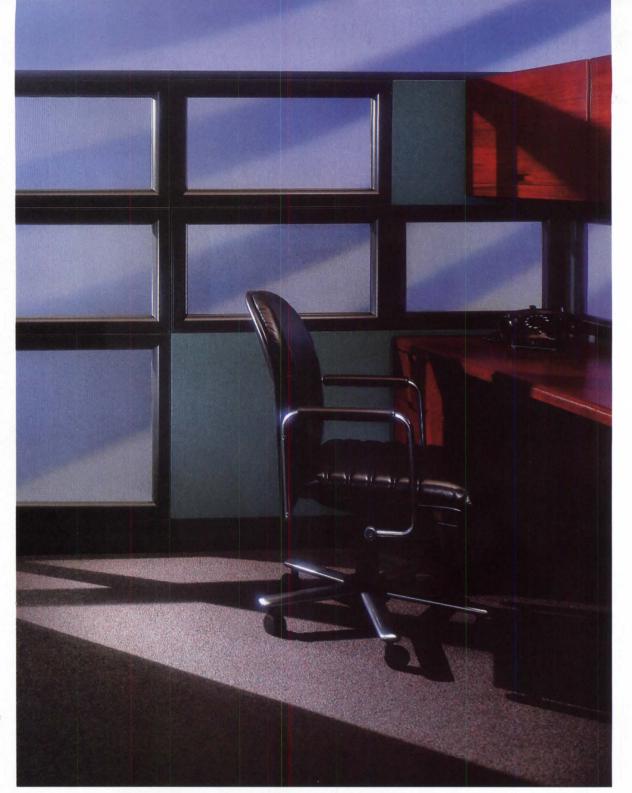
You'll find new opportunities in all Steelcase systems. Fresh faces on some familiar products; new hi-tech options that help you conquer the complexities of the computer-driven office; unexpected *combinations* of products that let you create unique environments.

Take a fresh look at Steelcase systems. We think they offer exciting new ways to push your abilities *and* your results to new limits.

For more information, contact your Steelcase representative or Steelcase regional office. Or dial toll-free 1-800-447-4700. Steelcase Inc., Grand Rapids, MI 49501.

Circle No. 364 on Reader Service Card

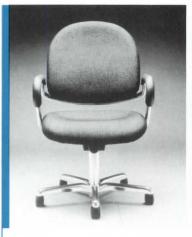




Harter Task Systems

The whole concept behind the original design for the systems product was to create very basic elements which would remain in a state of evolution — a gradual process of product enhancements which can retrofit into existing installations. Nicola Balderi, Designer

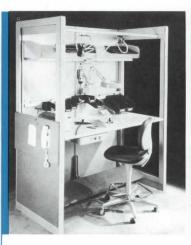
PDC Showrooms



Allsteel Inc.

Bühk 100 Seating, designed by Peter Bühk, provides fingertip controls for tilt-tension, tilt-lock and seat height adjustment. The seating, constructed of aluminum, is available in six metallic finishes.

Circle 102 on reader service card



American Seating

System R single-panel frames offer antistatic functions and can be adapted for the laboratory, office, and factory assembly work environments. The panels are available in a variety of sizes and finish treatments.

Circle 103 on reader service card



Arc-Com

Neoclassic Wool is a jacquard drapery collection made of 100 percent wool and is 48 inches wide. It is available in 9 different patterns and 4 colorways.

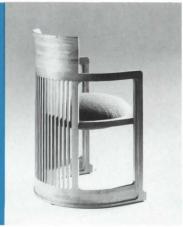
Circle 104 on reader service card



Artemide

Ettore, designed by Ernesto Gismondi, is a halogen floor lamp with two separate, adjustable diffusors. Body, base, and upper diffusor are black epoxy-painted metal, lower diffusor is red thermoplastic.

Circle 105 on reader service card



Atelier International

Frank Lloyd Wright's Barrel Chair is constructed of solid cherry wood and finished in natural cherry or cherry stained walnut. The cushioned upholstered seat can be ordered in a variety of fabrics or Al leathers.

Circle 106 on reader service card



Baker, Knapp & Tubbs

The Traditions-1200 Series, new to Baker, is finished in rich mahogany and specifically designed to accommodate electronic office equipment.

Circle 107 on reader service card

WFSTWFFK 198



Beelner & Thomas

A new design by Fran Hernandez, the Moderne Chair, works for pullup or conference use and stacks easily. The chair is available in several oak finishes.

Circle 108 on reader service card



Benedetti

Basics III, a new design, is produced in American Black Walnut, Appalachian White Oak, and Honduran Mahogany. Cherry and other veneers are also available.

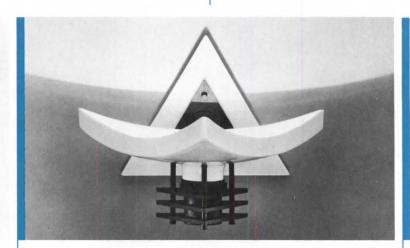
Circle 109 on reader service card



Beylerian

Part of the Lune D'Argent Series, this chair was designed by Pascal Mourgue. The frame is composed of welded steel rod with a polyester "Hammered Pewter" finish.

Circle 110 on reader service card



Boyd Lighting Company

Boyd introduces Trigon Chandelier, a modular chandelier with basic units that can be created in a variety of shapes. The light operates with either incandescent or halogen bulbs and comes in bone, charcoal, red, and other porcelain finishes.

Circle 111 on reader service card



Brickel Associates

Ward Bennett's Open-Arm Chair is the latest addition to the Yoke series. Several styles are available in a wide selection of textiles and leathers.

Circle 112 on reader service card



D.S. Brown

Forum chairs offer many functional details including optional fittings for auditorium armrests and a pivoting backrest. The frame is laminated beech, natural finish or painted gray, black, or white.

Circle 113 on reader service card



Brunschwig & Fils

Matley Glazed Chintz, taken from an engraved 19th-Century floral toile, is part of the Furniture Collection of upholstery fabrics. The pattern, printed on 100 percent cotton, is 51 inches wide.

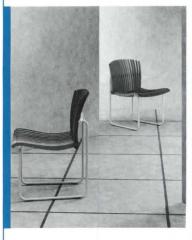
Circle 114 on reader service card



Carnegie

Concorde, designed for draperies and wallcoverings, is flame retardant and available in 50 lustrous colors.

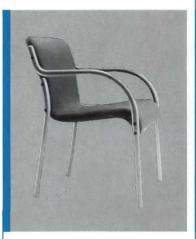
Circle 115 on reader service card



Conde House

Designed by Richard Schultz, the Ricardo Chair is constructed of steel tubing with a solid maple seat and back. A limited selection of finishes is offered.

Circle 116 on reader service card



Condi

The Henley Chair combines elegant design with function and is offered in several finishes.

Circle 117 on reader service card

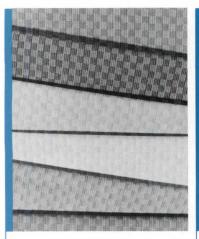


Corry and Hiebert

Symphonics, created by Kristl H. Reinhardt, is a new colors/materials/ finishes program consisting of upholstery/panel weaves and color/ finish selections with light-reflective qualities.

Circle 118 on reader service card

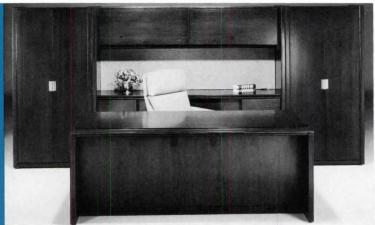
WESTWEEK 198



DesignTex

Dartmouth is a multicolored smallscale geometric pattern offered in a choice of 12 different colorways. The fabric is 54 inches wide and made of 100 percent worsted wool.

Circle 119 on reader service card



Executive Office Concepts

EOC unveils Axiom, a traditionally styled collection of desks, credenzas, storage and wardrobe units, and other office furnishings. The line features several new wood finish and trim options.

Circle 120 on reader service card



Fixtures Furniture

Rondo is a new stacking chair from L /O designs, available in wood or perforated steel, with a wide selection of upholstery fabrics and accessories.

Circle 121 on reader service card



Forms & Surfaces

Grate benches are new to the F+S Site Furniture series. Made of embossed, perforated steel with acidwashed concrete end supports, the Grate bench is available in a range of colors and galvanized steel.

Circle 122 on reader service card



GF Furniture Systems

The Stratum Desk, designed by Charles Schreiner and Travis Randolph, offers combinations of bridges, shelves, and other components of various colors, finishes, and sizes for design flexibility.

Circle 123 on reader service card



Herman Miller has just introduced another reference point for the

office furniture industry. And you can't see it in any of our showrooms.

You can't specify it either, but you don't have to.

It comes with your Herman Miller purchase.

The Herman Miller Promise[™]

- Five-year product warranties*
- Quality audits after project installation*
- Trade-in allowances on systems product: 20% value on Action
 Office® product, 100% value on Ethospace® wall frames*
- Guaranteed move-in dates*

1986 The Herman Miller PromiseSM

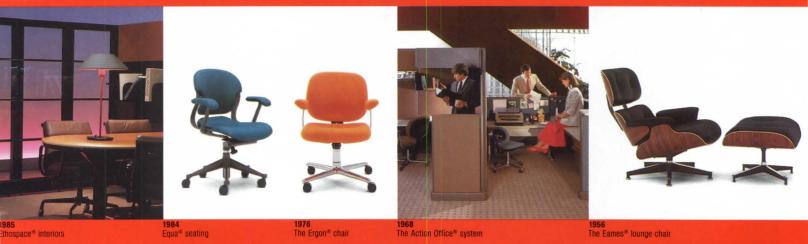
*Is there a catch?

No. but there are fair and reasonable conditions.

We are so confident that you will be satisfied with the terms that we have set our fine print in large, readable type.

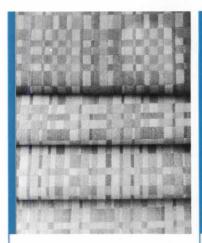
For product (and Promise) information, call 800 851 1196. Within Michigan, call 800 642 7944.

Or write Herman Miller, Inc., Zeeland, Michigan 49464.



herman miller

WESTWEEK 198



Glant Fabrics

Interweave is 100 percent worsted wool, 54 inches wide, and is available in four colorways.

Circle 124 on reader service card



Greeff

Millenium, a new upholstery fabric, is a 75 percent modacrylic and 25 percent nylon jacquard woven damask. It is acrylic-backed and available in 10 colorways.

Circle 125 on reader service card



Gunlocke

The GEVA Collection features desks that offer modularity and adaptibility for a range of layout variations. Specifiers can choose wood veneer finishes on desk and credenza tops as well as mix or match the pedestals and base detailing.

Circle 126 on reader service card



Harter

The Harter Task Furniture System offers a new segmented panel including window or pass-through panel segments. Panels can be ordered as assembled units or individually in a range of sizes, with wood veneer finishes for worksurfaces and solid wood fronts for drawers and overhead cabinets.

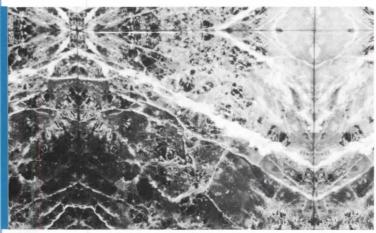
Circle 127 on reader service card



S. Harris & Co.

Charlemagne's floral pattern is constructed of 59 percent rayon and 41 percent cotton. This 54-inch Italian tapestry is offered in only one color combination.

Circle 128 on reader service card



Hastings Tile & Il Bagno Collection

Sodalite is the result of a unique new process that duplicates the natural graining of semiprecious stones on white tile. Malachite, rhodonite, jasper, and agate patterns are also available.

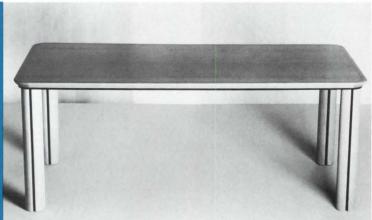
Circle 129 on reader service card



Haworth

Silk Tweed, a new silk-polyesterblend panel fabric, features a linear geometry with integrated color flecks. Silk Tweed is available in 10 colors.

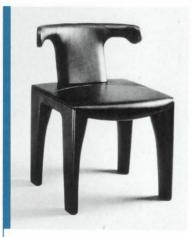
Circle 130 on reader service card



Howe

The Donahue Table, designed by Tim Donahue, incorporates classic decorative elements. The table is available in a selection of sizes, heights, and shapes, in either fourlegged or pedestal versions.

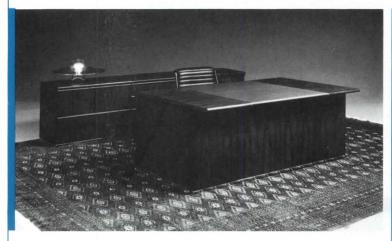
Circle 131 on reader service card



ICF

Designed by Afra and Tobia Scarpa, the Veronica collection takes its form from the Spanish bullfight. The frame is made of integral steel in molded polyurethane bodies.

Circle 132 on reader service card



iil International

The Mobila Series, designed by Manfred Petri, includes a doublepedestal desk, with optional trolleys; a table desk; and matching credenzas. Specifiers can select from a range of sizes.

Circle 133 on reader service card

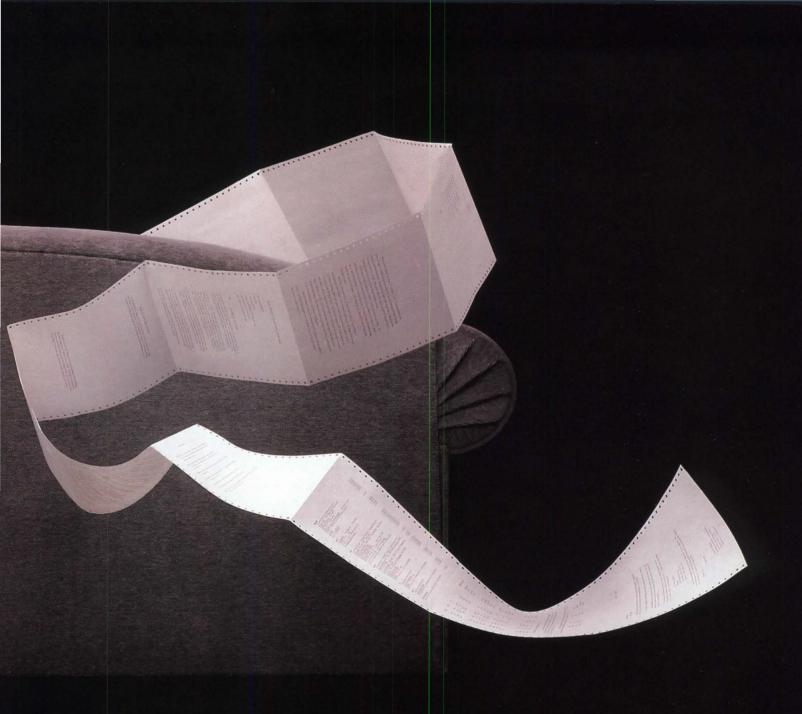


Images of America

Vienna is a light, comfortable piece of contemporary design. Two different frame finishes are available along with a wide range of fabrics and leathers for the cushion.

Circle 134 on reader service card





toured waterfall front. A closer look reveals a generous lumbar, padded arm rests, even a back rest extension. But what you can't see are easy fingertip controls which allow you to free float through an infinite number of positions, and lock in to the one that's best suited for you. Some models include independent seat tilt and back tilt, while others provide back height adjustments for an unending range of comfort options.



See the complete Soma Seating collection at any of the Westinghouse showrooms around the country, or call Westinghouse at 1-800-445-5045. Because now there's a chair that satisfies your need for design and your client's need for comfort.

Circle No. 374



Westinghouse Furniture Systems

You can be sure . . . if it's Westinghouse

WEE



Lee Jofa

Seurat is the latest addition to the COM Collection of upholstery fabrics. The handwoven fabric, offered in five colorways, is made of 97 percent merino wool and three percent nylon for durability.

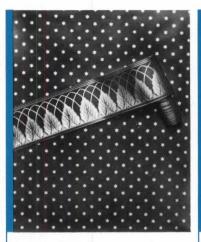
Circle 135 on reader service card



Kasparians, Inc.

The Dayton Chair Group includes high- and low-back rotary chairs, and open or closed panel pull-up chairs. The collection was designed by Emil De Piero.

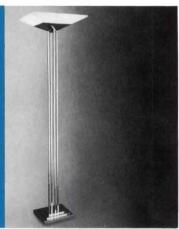
Circle 136 on reader service card



Katzenbach & Warren

Six-pointed stars on a clean background form the design of Regence, a wallcovering from the Golden Age of Williamsburg Collection. Also shown is Randolph Border with its stylized leaf design.

Circle 137 on reader service card



Kenro Light

Pyramide BL, designed by J.T. Kalmar of Vienna, is Kenro's newest brass design. The lamp is just over 70 inches tall and 20 inches square.

Circle 138 on reader service card



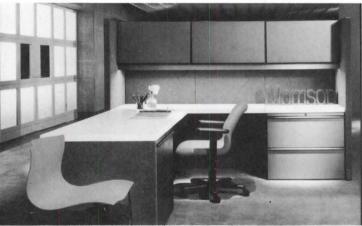
Kimball

Avenue presents a range of design options for the contract, residential, and institutional markets. Avenue is lightweight for easy stacking and available in a broad range of finishes for design creativity. Circle 139 on reader service card



requirements of the full-function office. Each component is available in a range of finishes including 17 families of textiles, 3 plastic laminates, and 7 Techgrain veneers.

Circle 140 on reader service card



The Morrison System, designed by Andrew Morrison, adapts to all the



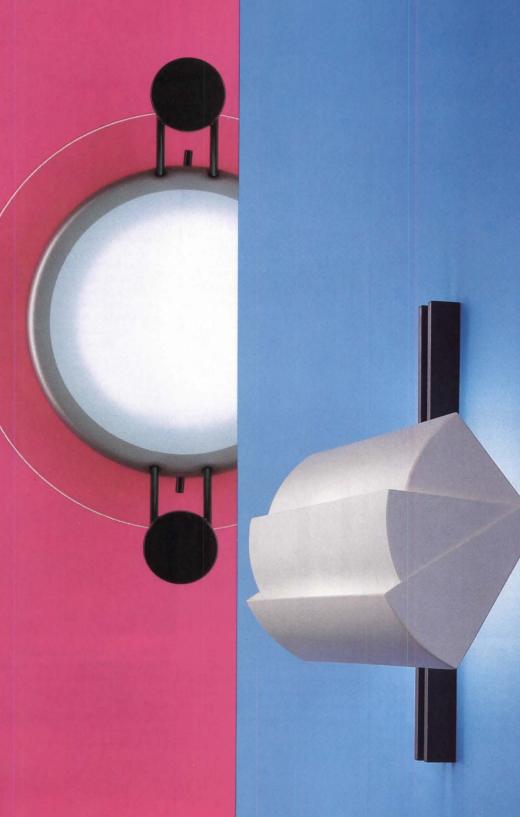
Koch & Lowy

Architect Kanji Ueki designed Torii. The metal options are a flat black or Metallic gray finish—the shade is laminated rice paper. A full-range sliding dimmer is located on the cord.

Circle 141 on reader service card



Artemide





Whether incandescent, nalogen, or fluorescent. Whether decorative, technical, residential, or commercial. Whatever the application, Artemide has the wall fixture to fit your lighting



National Headquarters International Design Center 528 Center One 30-30 Thomson Avenue L.I.C., NY 11101 Tel: 718/786-8200

New York

National Sales & Customer Service Center 1980 New Highway Farmingdale, NY 11735 Tel: 516/694-9292 TWX: 510/221-1851 FAX: 516/694-9275

Regional Showrooms & Sales Offices:

Chicago Tel: 312/644-0510

Dallas

Tel: 214/747-6060

Houston

Tel: 713/623-2284

Los Angeles

Tel: 213/659-1708 FAX: 213/659-0765

Miami



Artemide is also the exclusive distributor of Ron Rezek and Luce Plan product lines.



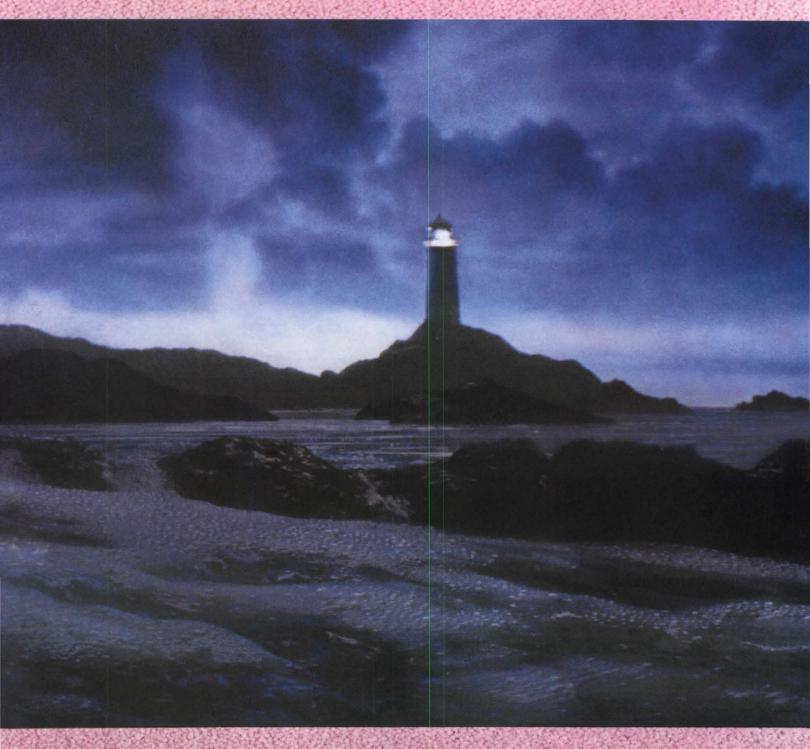






D U P O N T





EXPLORE AN ENDLESS SEA OF DESIGN POSSIBILITIES WITH DUPONT ANTRON:

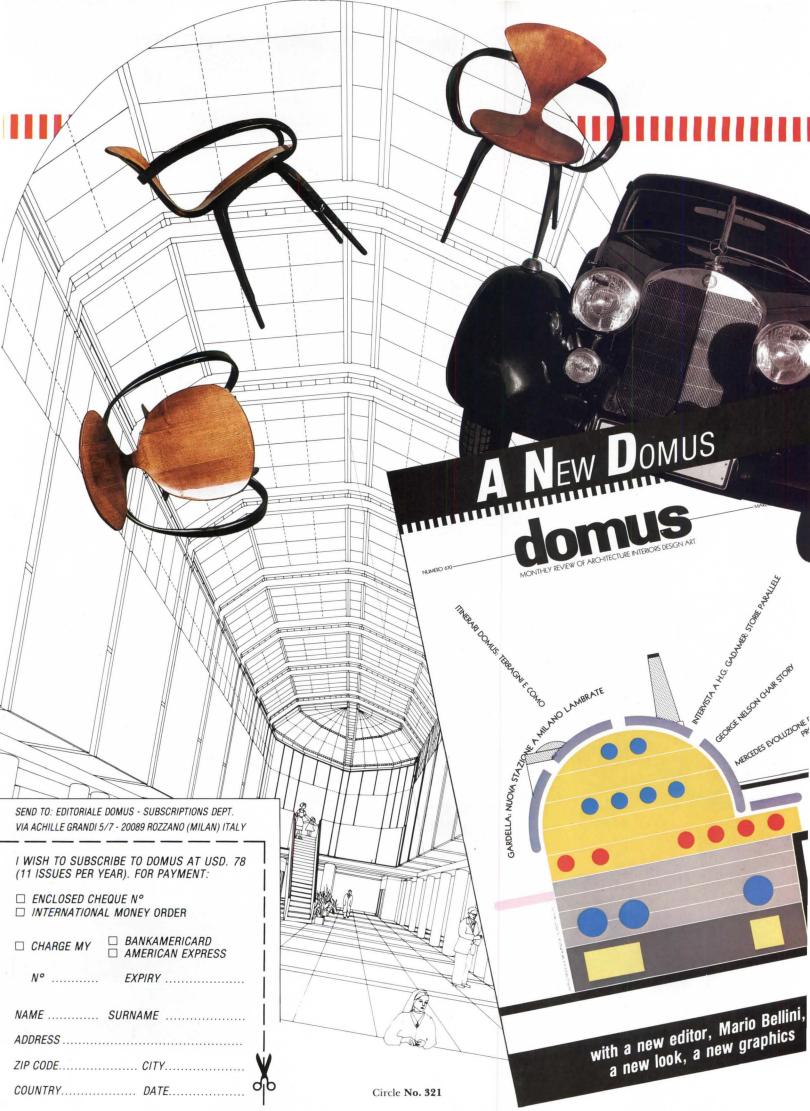
With Du Pont Antron, you're always riding the crest of the very latest wave of exciting new designs. Because carpets of Antron nylon come in all the colors, styles and textures you need to create the very latest interior designs.

And with Antron, you get something else the assurance that you've selected the very best. That's because Antron is specially designed to resist crushing and matting. And it handles soil and stains like no other carpet fiber can. Maybe that's why so many architects and designers specify Antron. And why Antron has become the number one carpet fiber in America.

Find out more about the Du Pont Antron family of fibers in the Du Pont Antron Specifiers Guide. For your free copy call 1-800-448-9835.

THE ANSWERS COME EASY WITH ANTRON®







Multiple styles, finishes and fabrics enable the creative mind to accomplish infinitely

exciting works of art with Avenue Seating by Kimball...The Intelligent Progression.

Seating by Kimball Office Furniture Co. A Division of Kimball International 1600 Royal Street Jasper, IN 47546 Telephone 812.482.1600

Circle No. 348 on Reader Service Card



125 new tables

from Fixtures!



bravo™ folding & stacking tables



designer® stack tables



rio® tables, perforated steel & laminate



luna tables with oak bullnose edge



reveal™ work, conference & occasional tables



signa™ computer tables

1642 Crystal, P.O. Box 6346, Kansas City, MO 64126-2825 • Telephone: 800/821-3500 • 816/241-4500 Telex: 434218 Fixtures KSC, Telefax: 816/241-4027 Showrooms: Atlanta, Chicago, Dallas, Houston, Kansas City, Los Angeles, New York, Philadelphia, St. Louis



A project with this many circles and ellipsoids can send even the best draftsman back to the drawing board. Draw. Erase. Draw. Erase. The only thing that wears thinner than your patience is your paper.

Unless it's Clearprint.

With Clearprint 1000H vellum, you can erase the same line 12 times or more—without impairing reproducibility. No wonder it's the one paper draftsmen prefer.

Clearprint 1000H vellum is manufactured of 100 percent new cotton fiber by a proprietary process we perfected more than 50 years ago.

Clearprint paper doesn't crack. Or discolor with age. It has a consistent drafting surface and unexcelled transparency.

All of these qualities are guaranteed 100 percent. Our process includes 38 individual quality control checks. And our paper is tested for both manual and CAD/CAE applications.

Test it yourself. Return the coupon below for a free kit containing the tools you need

CLEARPRINT Making paper work

to prove that Clearprint always gives you a second chance to make a first impression.



AFTER MAKING ROOF WINDOWS THAT OPEN, CLOSE AND TILT,



Three years ago Andersen introduced a line of venting roof windows that were fully operating—with awning, pivoting and cleaning positions that locked securely. So weathertight they are virtually weatherproof. So advanced there are over 200 patents on the operating hardware.

Now Andersen introduces a line of stationary roof windows. Most folks say the first part was the hard part.

MATCHING PERFORMANCE AND SIZES.

The new line of stationary windows matches the six sizes of venting units. The rough opening, frame dimensions and step flashing system are identical.

You can readily see the Andersen "family" resemblance. The same pleasing design lines and basic materials. The same Terratone-color

finish, and beautiful wood interior.

Now stationary and venting units used together will ensure continuity of architectural design.

INSULATING GLASS THAT TOPS EVERYTHING.

Standard on all Andersen® roof windows is our super-efficient High-Performance insulating glass.

THIS NEW ONE MAY SEEM A TRIFLE BORING.



A microscopically thin coating

permanently bonded to the glass surface between panes makes it even more energy efficient than triple-pane

glazing and filters out
71% of the ultraviolet rays.

Optional High-Performance Sun is the ultimate for hot-climate efficiency.

SOME EASY CHOICES.

An electric window opener includes rain sensor which automatically closes window

cally closes window when first drops hit. Or choose a telescoping operating pole for high-up windows.

To find out more about our complete line of roof

windows, consult Sweet's File 8.16/An. Or call your nearby Andersen window distributor. Or write Andersen Corp. Box 12, Bayport, MN 55003.

86107 © 1986 Andersen Corp.





Now You Can Keep Guys Like These





For years, even the best designers have been stymied by fire codes. Anyone who wanted to use indoor and outdoor fabrics

for awnings, canopies, or other treatments in commercial settings had to take more than a little heat.

Because even if you could satisfy codes, chances were you couldn't find fire-retardant fabrics worth the trouble. So many an imaginative idea got snuffed.

Sunbrella Firesist® To The Rescue.

Happily, all that's in the past. Because now there's a beautiful, durable fabric that measures up to the toughest standards—yours and the fire department's. Sunbrella Firesist.

This new canvas fabric meets the requirements of

the National Fire Protection Association as well as the stringent California Fire Marshal's test. But that's only the beginning. The fact is, Sunbrella Firesist is unlike any other material you can buy.

No Other Interior/Exterior Fabric Is Woven From Pigmented, Flame-Retardant Modacrylic Fibers. Or Comes With Our 5-Year Limited Warranty. Sunbrella Firesist isn't just another fabric sprayed or coated with flame-retardant chemicals. Instead, it's woven from fibers which are inherently flame retardant. This means Sunbrella Firesist will never lose flame retardancy since that retardancy can't be washed out or dry-cleaned away.

In addition to making decorative fabric treatments safer, these fibers make them better than those made



From Throwing Water On Your Ideas.

of conventional fabrics. Like traditional Sunbrella[®] fabrics, Sunbrella Firesist won't crack, peel, harden, or be affected by rot. Furthermore, it's highly soil resistant. Finally, its solution-dyed, locked-in colors won't fade. We're so sure Sunbrella Firesist will live up to these promises, it comes with a 5-year limited warranty.

Compared with coated or laminated vinyl, Sunbrella Firesist looks even better. That's because Sunbrella Firesist is highly breathable, so that moisture doesn't get trapped underneath, allowing mil-

dew to form.

Now You Can Execute Your Hottest Designs.
With Sunbrella Firesist, you can specify fabrics for treatments from decorative panels to privacy screens

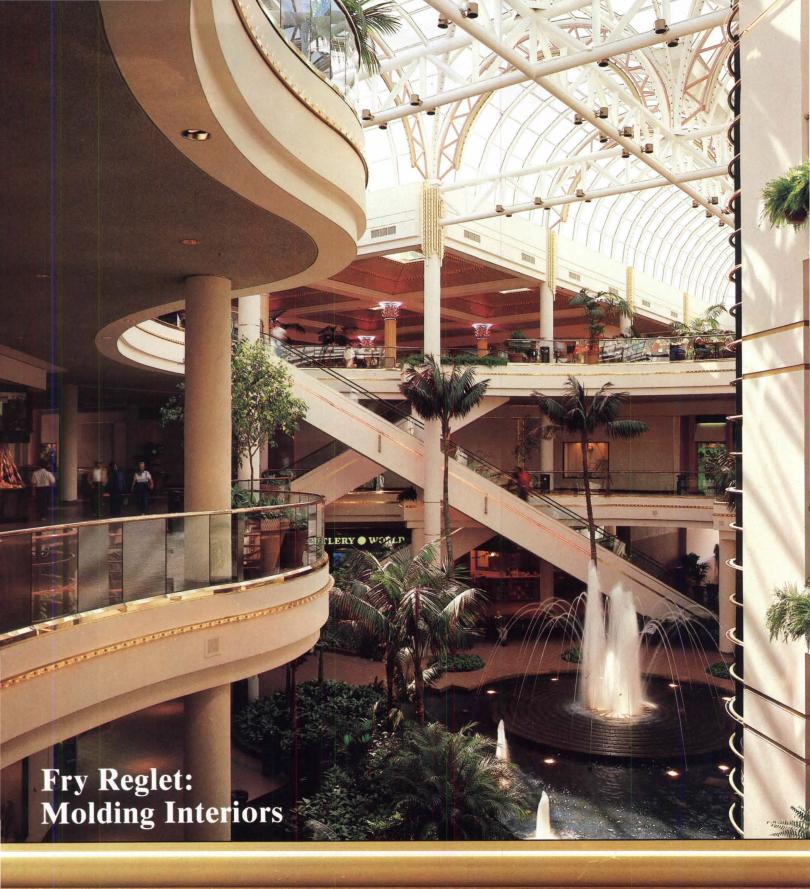
to cabanas, knowing you'll get the results you want. We offer an excellent choice of richly colored solids, and many additional solids, stripes, and fancy patterns will be available soon. Unlike many fabrics, ours is the same color on both sides. So it looks great from any angle.

Find out more about Sunbrella Firesist by contacting Glen Raven Mills, Inc., Glen Raven, North Carolina 27215, 919/227-6211. So the next time someone says you can't meet a fire code, they'll just

be blowing smoke.

Sunbrella Firesist

*Sunbrella, Sunbrella Firesist are registered trademarks of Glen Raven Mills, Inc.
--SEF-PLUS is a registered trademark of Monsanto Chemical Company.



Fry's Aluminum Moldings. The finishing touch.

Fry Reglet Aluminum Moldings all dressed up with plenty of places to go. We'll curve them.

We'll radius them.

We'll make them shine.

When a designer, rich in imagination,

needs a wealth of options - Specify Fry, and bring added life to your ideas.

Project: South Bay Galleria

Redondo Beach, CA

Architect: RTKL Associates, Inc.

Dallas, TX

Plaster and Drywall contractor: PFC, Inc.

El Monte, CA

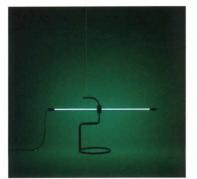
625 S. Palm Avenue Alhambra, California 91803 (818) 289-4744 2777 Peterson Place

Norcross, Georgia 30071 (404) 441-2337

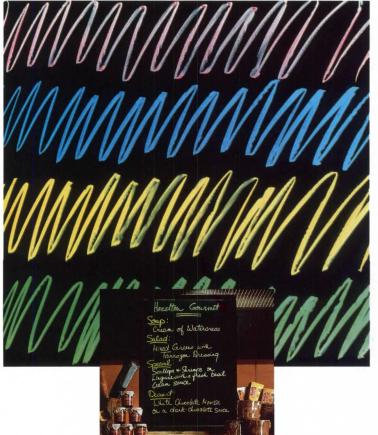
Circle No. 339 **FRY REGLET**

New Products and Literature









Neon Sculpture

Neon Modular Systems has just introduced the Laser Light Sculpture designed by Pacifico Palumbo. Palumbo's intention with the system was to treat "light as sculpture and sculpture as light." Laser Light Sculpture has a four-foot-long neon lamp encased within high-impact tinted acrylic tube. The tube is attached with a grooved, black rubber grommet, to a metal frame. The grommet can be moved along the frame and the acrylic tube can be moved through the grommet—all to vary the position of the neon lamp. The two-foothigh metal frame is available in a chrome or matte-black finish and the neon/acrylic combination is available in five colors: Dark Icy Blue, Purple, Krypton, Uranium, and Ruby Red with a Purple Aura.

Circle 100 on reader service card

Neon Blackboard

Designed by Canadian lighting designer Charles Shepherd, and winner of three product competitions in both the United States and Canada, Brite-Write is a modular blackboard system that makes writing on its surface glow. The system consists of an acrylic sheet backed by a matteblack panel and edge-lighted by a concealed, 13-watt fluorescent lamp. When water soluble crayons (provided by the company in 40 different colors) are used to write on the acrylic sheet, the fluorescent light is defracted by the crayon pigments, making them glow. When the fluorescent lamp is turned off, the board appears black. The acrylic sheet has a scratch-resistant coating so that the crayon can be wiped off with a damp cloth without damaging the surface. Applications of Brite-Write include lecture rooms where writing must be seen in the dark, in retail and health care facilities where information must be conveyed amidst visual clutter, and in corporate offices where a blackboard might be used in low light levels.

Circle 101 on reader service card



Ravure Moderne fabric is a broken stripe that is ideal for furniture of the Art Deco period. The chair shown, circa 1928–1929, was designed by Donald Deskey, who was also the architect for the interior of Radio City Music Hall. The fabric of rayon and silk jacquard is technically an adaptation of the original fabric, but it is in the mood of the period. The Deskey chair, upholstered in Rayure Moderne, is exhibited in the Design and Architecture Gallery, Lila Acheson Wallace Wing, Metropolitan Museum, New York. Brunschwig & Fils.

Circle 201 on reader service card

Priority Package of wallcoverings contains an assortment of 40 to 60 samples that fan out for color or texture matching. Each paper-supported swatch contains identification, contents, and flamespread details. The collection includes sculptured vinyl wallcoverings called Texpressions, Priority Package 3, which presents 55 different texture and color combinations. It is 36 inches wide and Class A flamespread rated. Gilford, Inc. Circle 202 on reader service card

Swelltite 1000 waterproofing membrane waterproofs concrete in split-slab construction. The membrane is a polyethylene film adhered to a compound of butyl rubber and bentonite. Water penetrating the film layer activates the bentonite, which swells upon contact with water, forming an impervious gel. The membrane flexibility makes it capable of bridging cracks up to oneeighth inch. American Colloid Company.

Circle 203 on reader service card

Product and Systems catalog provides information for specifying Carrier's complete line of heating and cooling equipment. Data in this 32-page catalog make it possible to lay out a heating and air-conditioning system. There is a colorcoded cover index to the charts with heating/cooling capacity and equipment sizes. Each product is presented with a photo, a list of key features and benefits, appropriate applications, and data charts. Carrier North American Operations.

Circle 204 on reader service card

Solid Vision software for the IBM PC/AT, PC/XT, and compatibles allows architects and engineers to design in three dimensions and then revise the design as often as necessary. It shows a design in plan, elevation, section, or perspective and then produces drawings, model design, and presentation images, all from one model. Calcomp. Circle 205 on reader service card



The Euroka chair, a modern rocker designed by Mark Singer, is light and portable, with simple lines. It rocks without a traditional rocker, adjusts to fit body contours, and shifts position to support and cushion every movement. Two steel cables work with the frame to create an interplay of tension and compression, providing maximum strength with minimum structure. Melamede International. Circle 206 on reader service card

Blueprint/Large Document racks for vertical filing have extruded plastic binders that hold plans without turn-screws. Racks accommodate 15 binders each; swivel units hold up to 30 binders each. Each binder clamps 1 to 80 sheets. Blue Files, Inc. Circle 207 on reader service card

The Post and Ball series of conference, work, and reception tables, designed by Stanley J. Friedman, has been increased with a new four-legged model. It has 3½-inch-diameter steel posts, with equal-size steel balls rising slightly above the support posts. A series of stretchers connects posts, and adjustable floor glides are concealed within each post. Balls and stretchers are painted flat black; posts are flat olive green. Standard Brueton colors, custom-matched colors, polished or satin stainless steel, and "Brutone Bronze" finishes are available. Brueton Industries. Inc.

Circle 208 on reader service card

Mettle Mica metallic laminates are offered in a wide range of polished and brushed anodized aluminum finishes in clear, brass, bronze, and copper. The laminates can be worked using ordinary woodworking tools and applied with conventional adhesives or fasteners. They come in a variety of standard sizes and are also available in custom sizes. Mettle Mica can be used for furniture, display cases, wall and ceiling panels, and fascias. The October Company.

Circle 209 on reader service card

Corrugated Crossgate acoustical ceilings have a ribbed surface pattern that creates an interplay of light and shadow. It is available as a 2' x 2' panel, tegularized on all four sides or semiconcealed on two sides for an uninterrupted linear effect. Both styles are available in adobe, parchment, platinum, and haze. They have an NRC of .55. Armstrong World Industries, Inc.

Circle 210 on reader service card

Palisade fence consists of parallel poles fabricated of coldrolled, 12-gauge steel, bolted or riveted to two horizontal carrier rails at the top and bottom. The distance between pales is designed to prevent an intruder from gaining a foothold on the fence. The top is either a patented Triad, or Rounded Ornamental Head. The fencing is galvanized and Colorgalved in over 250 colors. Cost is approximately 50 percent that of a conventional wrought iron fence. Duncan Fence Co. Circle 211 on reader service card

Central vacuum systems catalog describes four new models for large or small homes. A specifications chart explains CFM rating, water lift, and dimensions of the four units, each of which uses a stationary power unit, with motor, wall inlets, PVC tubing, and a lightweight 30-foot hose. Central vacuum systems can be installed in new or existing homes. Broan Mfg. Co., Inc. Circle 212 on reader service card

AutoSHADE® full-color shaded rendering package turns AutoCAD drawings into solid images showing color, perspective, and surface shapes and features. Realistic images can be computed in a matter of minutes. With the Fast Shade function, users can quickly see a realistic rendering of a drawing, then fine-tune the image as desired before using the Render function to receive a highly accurate final image. Autodesk, Inc. Circle 213 on reader service card

Ceramic Tile: The Installation Handbook details methods for installing exterior and interior floors and walls, ceilings, soffits, stairs, swimming pools, and steam and refrigerator rooms. The 36-page handbook also covers waterproof membranes and expansion joint materials. A section is included on products used to set ceramic tile. Tile Council of America, Inc. Circle 214 on reader service card

Fullspace mobile storage system FS 2000 provides for efficient storage and retrieval of office records, legal files, and reference materials. Three operation options are manual, mechanical assist, and electrical. The system has a new carriage design with increased strength-to-weight ratio. The electric drive model offers options for increased failsafe operation, including safety sweep, waist-high safety bar, and safety cord. Lundia.

Circle 215 on reader service card

Pantone Coatings Color Papers feature 250 of the most used colors from the Pantone Professional Color Guide. Fully opaque colors are representative of those in manufactured products such as paints, plastics, wallcoverings, and fabrics. They offer a wide range of applications for the interior and architectural design industries. Pantone, Inc. Circle 216 on reader service card (continued on page 144)





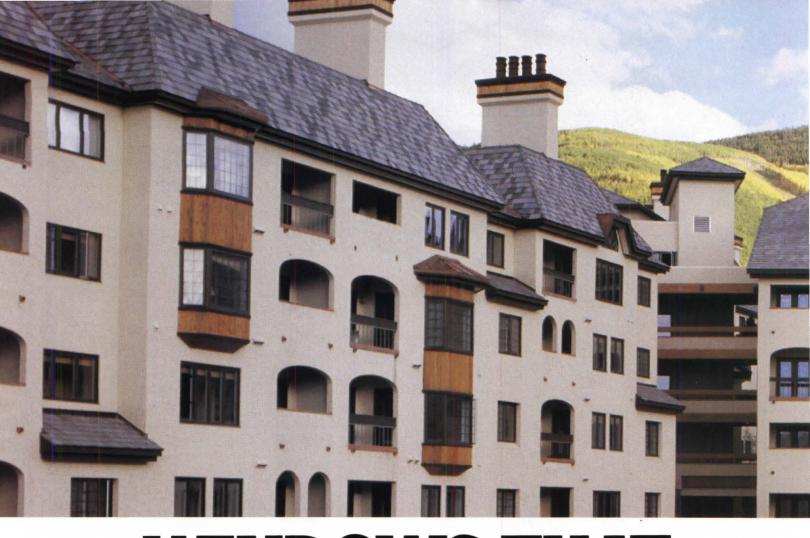
An age-old art of bamboo umbrella making provides inspiration. And Nippon Steel the design opportunities. Imagine.

> A total overhead cover, uncluttered, columnless. Ridding the feeling of confinement. The product: NS SPACE TRUSS SYSTEM. Made by a firm that works wonders with steel.

> > NIPPON STEEL

Building Construction & Engineering Division





WINDOWS THAT DEMONSTRATE YOUR SENSE OF DESIGN. WHAT'S A

If you're tired of trying to fit windows that are rectangular into spaces that aren't, you should know about Marvin Windows.

MARVIN OFFERS SOME NEW ANGLES ON ARCHITECTURAL DESIGN.

Many of them can be seen in The Charter at Beaver Creek, Colorado.

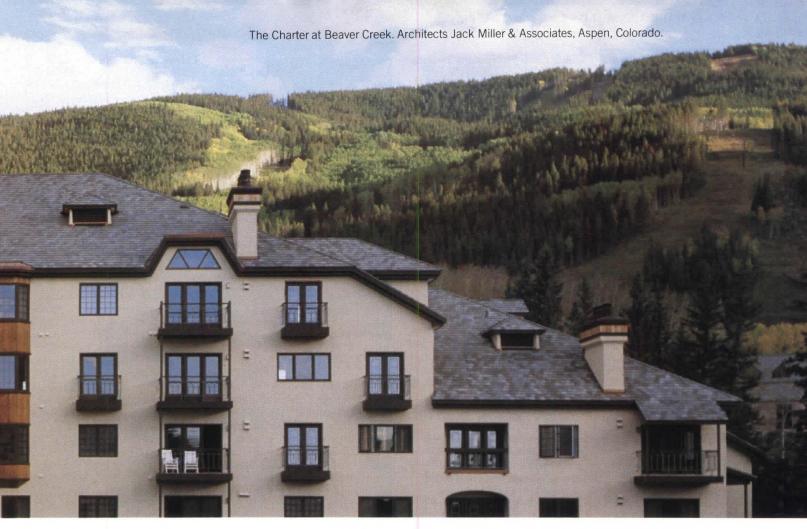
In addition to casements and double hungs, Marvin offers triangles, trapezoids, octagons, arched tops and more. In fact, no other brand of quality wood windows makes so many shapes and sizes.

Marvin Windows are even available with true divided lites. So you can order windows in exactly the style you need to maintain the integrity of your design.

Yet Marvin Windows cost no more than any of the other major brands of wood windows.

BEAUTIFUL WINDOWS. BEAUTIFULLY PUT TOGETHER.

The sash, casings and jambs of all Marvin Windows are made of fine-grained Ponderosa pine.



This wood was chosen for its insulating properties and the way in which it accepts a stain and varnish or paint finish.

A Marvin Window not only begins with a high quality wood, there's more of it in a Marvin than in most other wood windows. (For example, our casement has 20 percent more wood in the sash and 22 percent more in the frame than our leading competitor's.) And all exterior wood is deep-treated to protect against rot and decay.

OUR WINDOWS OFFER ATTRACTIVE ENERGY SAVINGS, TOO.

We began offering triple glazing over 20 years ago. And double glazing long before that. Either one offers significant energy savings in summer, as well as winter.

What's more, Marvin Windows are carefully weatherstripped to eliminate drafts and further reduce heating and cooling costs.

MARV-A-GARD ELIMINATES WINDOW PAINS.

Marv-A-Gard is our exclusive maintenance-free exterior available on many styles of Marvin Windows.

It's a precision-fit clad exterior that has a specially cured polyester finish that resists rain, hail and blazing sun.

So you can offer your clients a window that's maintenance-free outside and beautiful wood inside.

MARVIN WINDOWS ARE ALWAYS THERE WHEN YOU NEED THEM.

Even though our windows are made to order, we can deliver most shapes and sizes within 10 days from the time we receive your order.

For more information, consult Sweet's General Bldg. File No. 8.16 MAR. Or for a free catalog, write Marvin Windows, Warroad, MN 56763 or call 1-800-346-5128 toll-free. In Minnesota, call 1-800-552-1167.





Circle No. 358 on Reader Service Card

BOOKSTORE

















Order Information

To receive books, circle appropriate numbers on the Reader Service Card in the back of this issue. Payment must accompany orders being shipped to P.O. Box numbers. Please allow 6-8 weeks delivery. Prices subject to change.

Send the card in an envelope to:

Marie DeFelice Progressive Architecture P.O. Box 1361 Stamford, CT 06901

P/A Back Issues

A limited supply of the following issues are available at \$7.00 a copy. Check MUST accompany order!

January

34th Annual P/A Awards December, \$12.00 Special Issue: Information Sources November Isozaki's MOCA/Preservation/ Fire Safety October Special Issue: Gehry/Enclosed

Stadiums September

Interior Design/Audio-visual Rooms

August Barcelona Pavilion/Stern Residential/Office Lighting

1 Contemporary Japanese Architecture

by Botond Bognar, 363pp., illus. (\$39.95)

This is a unique comprehensive study of Japan's architectural evolution, from its beginnings to the present. See the influences of Buddhism, Shintoism and traditional Japanese concepts of space and time on modern Japanese architectural trends. Circle B601 under Books

2 The Small House, an Artful Guide to Affordable **Residential Design**

by Duo Dickinson, 196pp., illus. (\$34.95)

This handsome work features houses representing all regions of the U.S. and includes examples of primary and vacation or second homes. The designs prove small houses can be built to accommodate a variety of sites, budgets, family size and aesthetic sensibilities.

Circle B602 under Books

3 Marketing for the Small **Design Firm**

by Jim Morgan, 159pp., illus. (\$27.50)

Geared specifically for firms with ten or fewer employees, this is detailed, proven advice for getting more business with the budget you have to work with. Sample charts, forms, checklists, letters, tips for better promotion and more.

Circle B603 under Books

4 The Metropolis of **Tomorrow**

by Hugh Ferris, 200pp., illus. (\$35.00)

Ferris draws and discusses the skyscraper and presents his romantic vision for a humanistic city of the future. Divided into three parts: built skyscrapers of the 1920s, projected trends and his visionary metropolis. Includes an essay by architectural historian Carol Willis.

Circle B604 under Books

5 Three Centuries of **Architectural Craftsmanship**

by Colin Amery, 240pp., illus.

A carefully chosen series of drawings demonstrate the skills of the craftsmen and the skills of the architect.

Buildings included from the 17th, 18th and 19th centuries and examples taken from domestic and public building worlds.

Circle B605 under Books

6 Affordable Houses **Designed by Architects**

by Jeremy Robinson, 168pp., illus. (\$44.50)

This volume shatters the myth that architect-designed houses are more costly than developer-built houses. With photos, floor plans, drawings and details of interiors and exteriors presents ideas on how to construct beautiful and unique houses within limited budgets.

Circle B606 under Books

7 Restoring Old Buildings for **Contemporary Uses**

by Wm. C. Shopsin, AIA, 208pp., illus. (\$29.95)

Case studies of five very different kinds of preservation projects are the book's centerpiece. Each study analyzes projects that are representative of the type of work available to the general architect today. Includes a directory of preservation organizations and agencies.

Circle B607 under Books

8 Architectural Sketching and Rendering

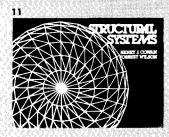
by Stephen Kliment, 192pp., illus. (\$27.50)

Whether you are a designer, an architect, an artist or a student interested in architecture, this volume, filled with a broad range of sketching and rendering techniques and styles, offers the complete intermediate level of instruction you need.

Circle B608 under Books



SPECIFIER NUAL OF CONSTRUCTION INTATION FOR A RCHITECT White Resentated AIA CS

















9 Designing Buildings **That Work**

by Fred A. Stitt, 244pp., illus. (\$37.50)

Designers, architects and others can improve upon the building plan process by using "high speed design" rather than the hit-or-miss intuitive planning methods. Proven techniques for predesign, planning rules of thumb and systematic problem solving.

Circle B609 under Books

10 The Practical Specifier, A **Manual of Construction Documentation For Architects**

by Walter Rosenfeld, AIA, CSI, 181 pp., (\$29.95)

This book is full of tips and techniques that make specifying easier and that head off extra costs and potentially damaging litigation. Discusses the consequences of various decisions and points out mistakes to avoid. Up to date and deals with specific problems not discussed elsewhere.

Circle B610 under Books

11 Structural Systems

by H.J. Cowan & F. Wilson, 256pp., illus. (\$18.95)

This comprehensive guide to preliminary structural design uses a minimum of mathematics and numerous illustrations to describe structural forms and their mathematics. A strong emphasis on graphic presentation and an instant-access reference to structural design. Full consideration of the internal and external forces that a building must withstand, and the interaction of structural and environmental design.

Circle B611 under Books

12 Adding On, An Artful Guide to Affordable Residential **Additions**

by Duo Dickinson, 177pp., illus. (\$35.00)

This book offers a multitude of ideas to help both architect and homeowner. Rejecting the inevitability of standardized design solutions, the author proves that the thought and care of good design can create unique, effective and beautiful improvements that meet today's needs.

Circle B612 under Books

13 Italian Gardens of the Renaissance

by J.C. Shepherd & G.A. Jellicoe, 144pp., illus. (\$45.00) Originally written in 1925, this book still stands today as the classic work. It traces the evolution and development of Italian garden design from the early Renaissance work of Michellozzi, Bramante and Rossellino. Twenty-six of the finest and most important Italian villas are featured, each with plans and principal elevations.

Circle B613 under Books

14 Frank Lloyd Wright to 1910

by Grant Carpenter Manson, 238pp., illus. (\$19.95) A guide to Frank Lloyd Wright's life up to 1910 - the decisive turning point in his career. Depicts his childhood and family influences, his scanty formal training, and the beginnings of his architectural work under Lyman Silsbee and Louis Sullivan. Photographs, drawings and plans included.

Circle B614 under Books

15 The New Atrium

by Michael J. Bednar, AIA, 238pp., illus. (\$37.50)

This book covers the new atrium thoroughly and in detail.—from its historic and contemporary evolution to its role in urban planning, architectural design, and historic preservation. An authoritative reference guide and an invaluable source of inspiration, it provides timely information to help to conceptualize, design and execute a successful atrium building.

Circle B615 under Books

16 Perspective For Interior **Designers**

by John Pile, 160pp., illus. (\$24.95) Learn to draw interior perspectives through the use of a basic formula. The author offers an easily accessible and quickly learned method that will serve every designer's drawing needs. Step-by-step demonstrations, analyses of constructed layouts, and illustrations of completed works make this book a complete and accurate guide.

Circle B616 under Books

17 Architectural Rendering **Techniques: A Color Reference**

by Mike W. Lin, AIA, 253pp., illus.

All major types of architectural drawings fill this comprehensive guide to rendering media, styles and execution times. Examples displayed can be traced or studied to improve technique and generate new ideas. Architects and designers at all levels of expertise can improve their graphic and architectural rendering by following the presented methods.

Circle B617 under Books

18 Home Planners' Guide to **Residential Design**

by C. Talcott, D. Hepler & P. Wallach, 218pp., illus. (\$19.95) This guide demonstrates ways to ensure that the design of one's home is functional, technically feasible and aesthetically pleasing. Filled with helpful tips and realistic guidelines, it explains the basic principles of residential design and provides step-by-step procedures.

Circle B618 under Books

Richards Wilcox. Sound and public address system (components): Dukane, ECCO, Yamaha, Switchcraft, Electro Voice, Atlas, Westpenn, Soundelier, Channelmaster. Fire detection and security: Gamewell. Lockers: Lyon Metal Products. Projection screen: Draper Screen Co. Elevator (hydraulic): Montgomery Elevator Co. Lighting: Architectural Art Mfg., Lightolier, Gotham, Columbia, McPhilbin, NL Corp. Lighting panels: Gould. Dimming system: Prescolite, Lavatories: Elkay, American-Standard. Water closets: American-Standard. Plumbing fittings: Speakman, Sloan. Toilet stalls: Sanymetal Products Co. Bathroom accessories: American Dispenser, Charles Parker, Smokadal. Water cooler: Halsey Taylor. Perimeter radiation: Runtal Radiator Corp., North American Energy Systems. Air-conditioning equipment: McQuay, Acme, Barry Blonder, Titus, Metalaire, Honeywell. Hot water (electric): Smith. Open office partitions, desks, cabinets (custom): Midhattan Woodworking. Files: Storwal. Plan files: Mayline. Tables: Zographos, Knoll. Chairs: Steelcase, Stendig, Brickel, Knoll. Upholstery: DesignTex, Herman Miller. Emergency generator: McGraw-Edison.

Sycamore Place Elderly Housing, Columbus, Ind. (p. 73). Architects: Gwathmey Siegel & Associates, New York. Hollow metal doors: Fenestra. Hollow-core wood doors: Davison Industries. Elevator (hydraulic): Amco. Heat pump units (apartments): American Air Filter. Drop-in floor heater, baseboard heating, and recessed wall heaters (public spaces): Emerson. Carpet: Stratton. Ceramic tile: U.S. Ceramic Tile. Vinyl flooring (kitchens): Armstrong. Exterior lighting: McPhilbin, Stonco. Interior lighting: Prescolite, Lightolier, Keene, Lightron. Roofing (fiberglass shingles): Georgia Pacific. Plumbing: Kohler. Bathroom accessories: Accessory Specialties. Intercom: Auth. Kitchen appliances: GE, Thermador, Davis. Smoke detectors: Simplex. Windows (sliding alumninum): Capitol. Storefront glazing: Alumiline. Door closers: Norton. Hinges: Stanley, Hager. Locksets: Schlage. Stain (siding): Cabot. Paint, trim and interiors:

Pence Place Family Housing, Columbus, Ind. (p. 74). Architects: Gwathmey Siegel & Associates, New York. Interior walls and ceilings, gypsum board: Gold Bond. Wood entry doors: Jeld-Wen. Wood interior doors: Mohawk.

Sherwin Williams.

Hollow metal doors (community bldg.): Fenestra. Heat pumps (apts.): American Air Filter. Wall heaters: Emerson. Split system, fan coil: Bryant. Slate floor (community bldg.): Structural Slate Co. Ceramic tile: Dal-Tile. Carpet: Gulistan. Concrete paving (ext.): Burnside. Exterior lighting: Stonco, Hubbell, Halo. Interior lighting: Lightolier, Work-O-Lite, McPhilbin. Emergency lighting: Sure-Lites. Sealants: Tremco. Fiberglass shingles: Manville. Plumbing, fittings: Kohler, Symmons, Flush valves: Sloan. Toilet stalls: Sanymetal. Bathroom accessories: Bradley. Toilet, handicapped unit: American-Standard. Emergency alarm/call system, handicapped units: Edwards, Faraday. Kitchen equipment (apts.): GE, Thermador, Tappan, Davis, Broan, In-Sink-Erator. Aluminum sliding windows: Capitol. Double-hung windows: Traco. Storefront: Alumiline. Door closers: LCN. Hinges: Hager. Locksets: Schlage. Panic exits: Von Duprin. Door pushes/pulls: Brookline. Exterior stain (siding): Cabot. Paint (ext. and int.): Sherwin Williams.

Rochester Riverside Convention Center, Rochester, N.Y. (pp. 80–85). Architects: James Stewart Polshek & Partners, New

York. Foundations: concrete. B.R. Dewitt. Structure: steel reinforcing, Lancaster Steel; formwork, Ceco; steel, Roger Steel. Granite: Frontenal Granite; installation, Decorative Precast. Groundface block: Plasticrete. Aluminum panels: Alucobond, fabricated by IDA Industries. Windows: PPG and Wausau Metals. Exterior doors: Kawneer. Interior doors: Builtrite. Overhead doors: Industrial Acoustics. Terrazzo paving: E.C. Sackett. Quarry tile: Summitville. Metal pan ceiling: Simplex by Armstrong. Roofing: Firestone. Insulation: Dow Chemical. Drains: Josam. Retractable partitions: I.A.C. Paint: Bruning. Hardware: McKinney; Corbin; LCN Closers; Monarch; Von Duprin. Kitchen equipment: Hample Equipment. Sound system: Teac System. Security/fire: Johnson Controls. Electronic signage: Empire Sign Co. CATV: Ronco. Elevators and escalators: Westinghouse. Handrails: Young's Wrought Iron. Dimmers: Electro Control. Fixtures: Edison Price; Neoray; Lightolier; McPhilben; Columbia; Sterner. Plumbing fixtures and fittings: American-Standard; Postler & Jacle; Sany Metal; American Dispenser. Floor boxes: Maxicom. Carpets: Bigelow.





ARCHITECTURE

Located in the heart of the nation's largest urban historic landmark district, The Savannah College of Art and Design is an independent, nonprofit, accredited college offering degrees in Architecture, Historic Preservation, Interior Design, Graphic Design, Illustration, Painting, Photography, Fiber Arts, and Video. Trips abroad, student apartments, financial aid, and job placement are available.

THE SAVANNAH COLLEGE OF ART AND DESIGN

342 Bull Street • Savannah, GA 31401 • 912/238-2484

B.F.A. B.ARCH. M.F.A.

For more information, clip and mail to: Admissions Dept./SCAD/342 Bull St./Savannah, GA 31401

Name				
Address				
City	State	Zip	Phone ()
Graduation Date		Scho		

Accredited by Commission on Colleges, Southern Association of Colleges and Schools.



International World of Lighting... Combining

THEORY AND PRACTICE, PRODUCT

AND APPLICATION, DESIGN AND IMPLEMENTATION.

> May 11, 12, & 13, 1987 Jacob K. Javits Convention Center New York City

EXHIBITS: FIXTURES • CONTROLS SOURCES • SWITCHING/DIMMING FLOODLIGHTING • SECURITY • FIBER OPTICS RETROFIT/CONVERSION • THEATRICAL TRACK • TASK • LANDSCAPE • DECORATIVE

SEMINARS: PHOTOMETRICS • COLOR & PERCEPTION • OFFICE & RETAIL DESIGN FIXTURE DESIGN • CONTROLS • FIBER OPTICS HEALTH & PSYCHOLOGY • LANDSCAPES FACADES • MUSEUMS • INDUSTRIAL • HOW TO/WHAT NOT TO • MARKETING

LIGHTING WORLD

The Largest Architectural Lighting Exhibition and Conference in the US



SPONSORS

International Association of Lighting Designers
Illuminating Engineering Society of North America
New York Section of the Illuminating Engineering Society

For further information contact —
National Expositions Co., Inc.
49 W. 38 Street, New York, NY 10018
(212) 391-9111 Telex 135401 dimcomm Fax (212) 819-07

Circle No. 352 on Reader Service Card

P/A in March



Apartment building in West Berlin by Eisenman Robertson, New York.

Peter Eisenman and his Firm

An apartment block located next to Checkpoint Charlie in West Berlin will be the focus of a portfolio on work by Peter Eisenman, with his firm, Eisenman Robertson, New York. The concrete structure is clad partly in plastic-coated rigid insulation, partly in a sandwich of glass over insulation. The P/A Portfolio will also include other buildings by the firm and a number of designed artifacts such as a door handle and some jewelry.

> P/A Inquiry **Airports**

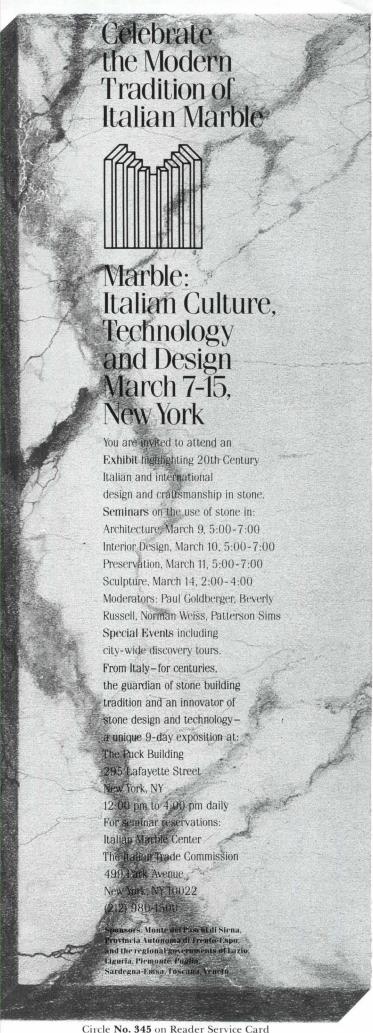
Security measures and deregulation have affected the way numerous airports and extensions are now being designed. An analytical article will be accompanied by some examples of this always challenging type.

P/A Technics **Precast Concrete**

The design range of exposed precast has broadened to include Doric pilasters as well as the familiar rugged surfaces. This article will examine accomplished examples with a variety of design character.

Future Issues

April will bring feature articles on three completed houses and a downtown office building—all originally P/A Awards winners plus an innovative Technics article on computers. June will be a special issue on Young Architects.



Circle No. 345 on Reader Service Card

P/A Job Mart

Situations Open

FACULTY POSITIONS. Interior Design (One Assistant Professor, tenure track, and One Professor, tenured): Teach undergraduate courses (including one or more studios) in at least two of the following areas: residential design, contract design, professional practice, computer aided design, environmental design research, design history, theory of design, barrier-free design. Possibility of teaching graduate courses in future. Qualifications: M.F.A., M.Arch., Ph.D., or equivalent. Demonstrated ability in, and continued commitment to teaching, professional practice, creative and/ or scholarly activities. Design (rather than fine arts) emphasis and a diversity of professional experience are sought. Computer experience is desirable. For the full professor position, the candidate should be a senior person and have demonstrated excellence in teaching and scholarship/creative work through a distinguished record of accom-plishments. For the assistant professor position, the candidate should show promise of achieving such excellence in the future. Women and minority candidates are strongly encouraged to apply. Submit vitae, 20 slides of personal work, and 20 slides of students' work to: Guido Francescato, Chair, Department of Housing and Design, 1401 Marie Mount Hall, University of Maryland, College Park, MD 20742. (Include SASE for return of slides.) Deadline: March 15, 1987 or unitl suitable candidate is found.

NOTICE OF POSITION

The Graduate School of Architecture and Urban Planning at UCLA invites applications for a full-time, tenure-track position in the Architecture/Urban design Program, beginning academic year 1987-88. The successful applicant will be expected to teach design studios and to make a contribution to at least one other area of the teaching program, and to actively pursue practice and/or re-search and scholarly activities. It is anticipated that the position will be filled at a junior level. UCLA is an Equal Opportunity/ Affirmative Action Employer and the Architecture/Urban Design Program especially encourages applications from women and members of minority groups. Applicants are asked to submit letters of inquiry, including curriculum vitae and the names and addresses of at least three referees by March 10, 1987 to Professor Lionel March, Head, Architec-ture/Urban Design Program, Graduate School of Architecture and Urban Planning, UCLA, Los Angeles, CA 90024.

ASSISTANT DIRECTOR-ARCHITECTURE **CITY OF PITTSBURGH DEPT: ENGINEERING AND** CONSTRUCTION

ANNUAL SALARY: \$41,002 Plans, manages, coordinates, organizes, and directs all phases of architectural design work of the City's Capital Budget program. Bachelor's degree in Architecture AND eight years professional architectural experience including two years managing and supervising architectural personnel OR equiv comb ed/exp required. Must be RA and obtain PA registration after appointment. PA driver's license prior to appointment. Disability waivers considered. Must be or become City resident prior to appointment. Resume required. Applications available until filing deadline 2/27/87 at: THE DEPARTMENT OF PERSONNEL AND

CIVIL SERVICE COMMISSION Fourth Floor, City-County Building Pittsburgh, PA 15219 (412) 255-2710

FERRIS STATE COLLEGE, ARCHITEC-TURAL TECHNOLOGY Open March, 1987. Responsibility for courses in basic drafting, architectural presentation, working drawings and related subjects in established associate degree program. Assist in development of baccalaureate programming in Facility Management. Professional degree in Architecture with architectural office experience essential. Familiarity with systems drafting, and an interest in computer graphics desirable. Information and application instructions may be obtained from James B. Shane, AIA-Head, Construction Department, Ferris State College, Big Rapids, MI 49307, (616) 796-0461, ext. 3763. Affirmative Action/Equal Opportunity Employer. FSC is a major Michigan State College and is located in the heart of a year round recreational and scenic area, an hours drive north of the state's second largest city

ARCHITECT

Prep. arch. designs & construction docs. for residential & commercial properties. Write specs., select materials. Perf. on-site rv. Develop plans for remodeling bldgs. Consult w/clients & engineers. Prep. models. Job site & int. - Santa Monica. \$440/wk. Masters/Arch. + 6 mos. exp. or Bach/Arch. +2 yrs. exp. Knowl. of design methodology & urban planning mandatory. Send this ad & your resume to Job #MA 11481, P.O. Box 9560, Sacramento, CA 95823-0560, not later than 3/2/87.

Season-all Industries, Inc. is looking for a few good salesmen! Expanding both residential and commercial sales forces. Season-all is the world's largest manufacturer of replacement windows, storm windows and storm doors. Send resume to W. Gorell, Season-all Industries, Inc., 1480 Wayne Ave. Indiana, PA 15701.

DIRECTOR OF LAND PLANNING

For property development. planning, engineering company. Oversee land use and project planning for large-scale industrial, housing and com-mercial projects. Feasibility studies and reports re: site prep.; terrain, soils, services, utilities analysis; project impact studies. Provide design layout and use recommendations: prepare proposals; supervise contracts. Req. Bachelor's Architecture, Urban Planning or construction mgmt., + 4 similar construction/design position. Must have exper. project planning for developing largescale housing, industrial and commerical projects; exper. feasibility studies and report prep.; exper. site preparation and bldg on diverse terrains; exper. environmental impact studies for large-scale devel. Must have design, modification exper. in low-cost housing, tract home construction; industrial commercial projects; ex-per. underground utilities design, prep. and admin. construction contracts; exper. landscape architectural design for large-scale projects. Job Site: Escondido, California. Salary: \$35,000/yr. Applicants send this ad and your resume to: Job #FC 11368, P.O. Box 9560, Sacramento, CA 95823-0560, not later than 3/6/87.

FACULTY POSITION

The School of Architecture, University of Texas at Austin, is seeking outstanding applicants for a nine-month tenured or tenure-track faculty position to begin in Fall 1987. Salary and rank will be commensurate with qualifications and experience.

Candidates must have a professional degree in Landscape Architecture and an advanced degree in either Landscape Architecture or Architecture. Teaching experience is desirable

Primary Responsibilities

Qualifications

The candidate selected will be expected to teach one undergraduate or graduate design studio and one lecture or seminar course in site design each semester

Deadline for Application

Nominations or applications will be accepted unitl an appointment is made; however, screening of credentials will begin in January 1987. The application should include a resume with complete professional experience, education, list of publications, and names/ad-dresses of three or more references. Submit to:

Dean Hal Box, FAIA Faculty Search Committee School of Architecture University of Texas at Austin Austin, TX 78712

EOE/AAE

INTERIOR DESIGNERS/ARCHITECTS: Key positions are available nationwide. Specialists in senior-level managerial & technical design industry placement For confidential consideration, contact: Phil Collins, Dept. "J", CLAREMONT-BRANAN, INC., 2295 Parklake Dr., Suite 520, Atlanta, GA 30345. (404) 491-1292

Faculty Position In: ARCHITECTURE

Full-time beginning September 1, 1987. Responsibilities include teaching design studios and courses in the history and theory of architecture, at both basic and advanced levels, committee assignments and student advising. Qualifications: First professional degree and Master's Degree in Architecture. Successful college-level teaching and professional achievement preferred. Rank: Assistant Professor. Salary: Negotiable. Submit application letter resume, three letters of reference and slides of personal and student work to: Professor Judith Wolin, Head, Department of Architecture, Code PA, Rhode Island School of Design, 2 College St., Providence, RI 02903. Applications must be postmarked by March 1, 1987. RISD is an equal opportunity employer

RHODE ISLAND SCHOOL OF DESIGN

ARCHITECTURAL

Exciting, new projects for an established and growing architectural design firm creates unlimited opportunity. Our varied projects require well-qualified project managers and experienced individuals in checking, and coordinating construction documents to head quality control program. Must have a desire to excel and advance quickly. Send resume to:

Nadler, Philopena and Associates 103 South Bedford Road Mount Kisco, NY 10549

ASSISTANT PROFESSOR, Department of Architecture, North Dakota State University. Two positions, nine-month basis beginning September 1, 1987 (one position tenure-track). Teaching architectural design and lectures/seminars in area of interest. Masters in architecture required. For full consideration, application should be made by April 1. Send application, resume and references to: Search Committee, Department of Architecture, North Dakota State University, Fargo, ND 58105-5285. NDSU is an Equal Opportunity/Affirmative Action employer

Roger Williams College, Architecture Division, seeks applications for a teaching position in its Bachelor of Architecture program starting August, 1987. The college campus is located on Mount Hope Bay in Bristol, fifteen miles from Providence, Rhode Island. The new Architecture building (design selected through a national design competition) is under construction and expected to be ready for occupancy in April, 1987.

Position description:

Undergraduate professional instruction with primary responsibilities for teaching an architecural design studio and one other course eg. History/Theory/Urban design, Technology. Masters in Architecture or equivalent required. Prefer person with teaching and practice experience. Salary negotiable based on qualifications.

Send letter of application, including curriculum vitae, selected examples of design work and/or research/publications, names and addresses and telephone numbers of three references to:

Raj Saksena, AIA, Director **Architecture Division** Roger Williams College Bristol, RI 02809

Closing date is March 15, 1987. Affirmative Action/Equal Opportunity Employer.

Temple University Division of Architecture

The Division of Architecture at Temple University solicits applications for appointments commencing Fall 1987. Some positions are contingent upon funding.

SENIOR FACULTY POSITION

Teaching and research emphasis in theory or history. Strong record or potential for publication and research. Prefer candidates who are also qualified to offer design studio instruction

ASSISTANT/ASSOCIATE PRO-**FESSOR**

Teaching and research emphasis in introductory design and drawing courses. Will also conduct advising and coordinate core level courses.

VISITING PROFESSORS

To replace faculty on leave. Qualified to teach history, technology and/or design studio.

ADJUNCT PROFESSORS/STU-**DIO CRITICS**

To teach individual studio and lecture courses. One senior position teaching advanced studios Please respond by March 18,1987

with a letter of interest stating position sought, a curriculum vitae and the names of three references to:

George L. Claflen, Jr. Chairman Division of Architecture (084-53) Temple University Philadelphia, PA 19122
Temple University is an equal opportunity/affirmative action employer. MIAMI UNIVERSITY seeks a highly motivated architectural educator to fill a tenure-track appointment beginning Fall 1987. Miami's Department of Architecure is a design-oriented program with a four-year pre-professional undergraduate degree and both a 2- and 3 1/2- year professional Master's program. We seek an architect with extraordinary design skills to teach design and design-oriented courses in the graduate program. All candidates should hold the terminal degree in their discipline. Send resume and names of three references to Robert Zwirn, Chair, Department of Architecture, Miami University, Oxford, OH45056. Deadline for application is March 1, 1987. The Department particularly encourages applications from women and minority candidates, as we are actively seeking to broaden our core faculty and achieve the heterogeneity which our students will encounter as they enter architecture and related professions.

SYRACUSE UNIVERSITY SCHOOL OF ARCHITECTURE

Has junior fulltime faculty positions open in the architectural design sequence, beginning in Fall 1987. These are tenure track appointments with twoyear initial contracts, salary and rank negotiable. Requirements include first professional architecture degree and teaching experience. Advanced degrees, secondary interests, professional experience and/or registration desirable. Please send resume, by April 15, 1987, to:

Professor Raymond DiPasquale Faculty Search Committee School of Architecture Syracuse University 103 Slocum Hall Syracuse, NY 13244-1250

Syracuse University is an Equal Opportunity/Affirmative Action employer

Faculty Position In: **FRESHMAN FOUNDATIONS**

Full-time beginning September 1, 1987. Prepare undergraduate students for professional study in the areas of architecture, design, and fine arts. Responsibilities include studio instruction in 3-Dimensional design and student counseling. Qualifications: MFA or combined teaching and professional equivalent. Professional achievement or college teaching related to architecture or industrial design preferred. Rank: Assistant or Associate Professor. Salary: Negotiable. Submit application letter, resume, slides of professional and/or students' work and 3 letters of reference by February 28, 1987 to: Bill Newkirk, Chair or the Search Committee, Code PA, Rhode Island School of Design, 2 College St., Providence, RI 02903. RISD is an equal opportunity employer.

RHODE ISLAND SCHOOL OF DESIGN

Computer Software



Now, a complete software system for professionals with no time to lose . . .

Time & Billing Costing Payroll and more . . .

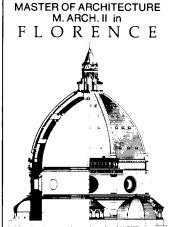
Professional Practice ManagementTM

from TCS Software allows architects and engineers to track time and expenses in order to analyze firm profitability and employee use of time as well as to generate invoices. Invoicing, costing, and payroll use the same time and expense transactions, resulting in an efficient system which requires a minimum of data entry.

PPM is available now already installed on a Maynard OnBoard 10 hard disk card-plenty of space for programs and data.

> TCS Software, Inc. 6100 Hillcroft Houston, TX 77081 800-231-6454 In Texas, 800-392-6342

Educational Opportunities



A TWO SEMESTER PROGRAM

in design, including courses in history and theory, is open to qualified students with a first progessional degree in architecture. Program begins with three weeks in Syracuse, New York followed by two semesters in Florence, Italy.

Faculty: Syracuse University faculty and distinguished critics and historians. For information contact:

SYRACUSE UNIVERSITY School of Architecture 103 Slocum Hall Syracuse, NY 13244

COMPUTER DESIGN STUDIO

COURSES HANDS-ON TRANNE, TUTORIAL 212-580**380**4 MARINHA MASCHERONI 20 w 84th at, MY, MY, 10024

Services

ARCHITECTS - \$25,000-75,000 GROUP ONE SEARCH

Executive Architectural Recruiters, Superb positions Nationwide at all levels with Regional and National firms. Confidential. NEVER A FEE. P.O. Box 1639, Land O'Lakes, FL 33539.

(813) 961-1392

RitaSue Siegel Agency™

A recruiting service to find architects, interior, graphic and industrial designers, marketing and sales support people for consultants and business. Confidential, Nationwide, international,

60 W 55 St. New York, NY 10019 212/586-4750



Notice

Please address all correspondence to box numbered advertisements as follows:

Progressive Architecture Job Mart—(Assigned Number) P.O. Box 1361 600 Summer Street Stamford, Connecticut 06904

Advertising Rates

Display style \$160 per column inch, per your layout. Maximum 6 inches. Commissionable to recognized advertising agencies. Approximately 35 words per inch. Column width approximately 13/4". No charge for use of box number. Situations wanted advertisements: \$65 per column inch. Noncommissionable.

Check or money order should accompany the advertisement and be mailed to Mary Miller, P/A Classified, 1100 Superior Ave., Cleveland, OH 44114 (Telephone 216/696-7000, Ext. 2584).

Display style advertisements are also available in fractional page units starting at 1/4 page and running to full page.

Insertions will be accepted no later than the 1st of the month preceding month of publication. Copy to be set due seven days earlier.

MANUACITY THUCK

Advertising Sales Offices	Circle No.	Advertiser	Page No.	Circle No.	Advertiser	Page No.
Stamford, Connecticut 06904:	322	Alumax/Magnolia Div	C3	351	Laminated Glass Corp	30
600 Summer Street P.O. Box 1361 203-348-7531	325 323, 324	American Olean Tile Co		352 353	Lighting World 5 LOF/Glass	
Robert J. Osborn Publisher	379	ArtemideAT&T Communications	24, 25WW	355	M.B.C.I.—Metal Building	
Francis X. Roberts, James J. O'Brien,	328	B-Dry Systems	50	357	Components, Inc McNichols Co	
Donald J. Roberts, District Managers	326	Baker Furniture		354, 358	Marvin Windows	
Atlanta, Georgia 30326: 3400 Peachtree Road, NE-Suite 811	327	Borden Films		378 356	Herman Miller, Inc Mora Armatur USA	14, 15WW
Lennox Tower 404-237-5528	333	Canon Micrographics	46	375	Mueller Furniture Corp.	
Harmon L. Proctor, Regional Vice President Ronald L. Miller, District Manager	376	Carey McFall/Bali Blinds	14	0,0	Mucher Furniture Corp.	
	320	Certainteed Corp			National Golf Center	145
Boston, Massachusetts:	331	Cooperativa Ceramica D'Im	ola 37	002	National Partitions & Inte	eriors, Inc 54
600 Summer Street, P.O. Box 1361 Stamford, CT 06904 203-348-7531	329	Clearprint Paper Co	133	359	Nippon Steel Corp	141
Donald J. Roberts, District Manager	330	Computervision Corp	27			
	332	Cupples Products, Div. of H.	H.	•	Progressive Architecture I	Bookstore 146, 149
Chicago, Illinois 60601: 2 Illinois Center Bldg Suite 1300 312-861-0880	334	Robertson Co		306	Raco/Ragland Manufactur	ring Co 40
Mark Nugent, Patrick J. Carroll,			2011111	361	Savannah College of Art a	and Design 150
District Managers	321	Domus		362	Scalamandré	O .
Gail Lisac, Sales Service	319	DuPont Co.—Antron		363	Sitecraft	
Cleveland, Ohio 44114:	335	DuPont Co.—Hypalon	29	366	Stanley Door Systems	
1100 Superior Ave. 216-696-7000	338	Fiandre Ceramic Granite	CA	364	Steelcase, Inc	
John F. Kelly, Western Sales Manager	336	Fixtures Furniture		360	J.P. Stevens & Co	Account and the second of the
Richard A. Strachan, District Manager	380–384	Forms + Surfaces		365	Stow & Davis	
Houston, Texas 77401: 5555 West Loop South, Suite 505	339	Fry Reglet		370	Tischler und Sohn	22
713-664-5981 Calvin Clausel, District Manager	340	Glen Raven Mills	136, 137	371	United States Aluminum	Corp 34
Los Angeles, CA 91436:	343	Harter Corp	8WW		V - N 1 D : 1 116	
16255 Ventura Blvd, Suite 300	342	Hartco, Inc	44, 45	372	Van Nostrand Reinhold (
818-990-9000	341	Hastings Pavement	42	373	Ventarama Skylight Corp	26
Philip Muller, Ed Sexton, District Managers		Haworth, Inc	5WW	374	Westinghouse Furniture S	Systems 18 19WW
Philadelphia, Pennsylvania:	001	Holiday Inns	13	0, 1	Westinghouse Furmeure	7,510115 10, 15 11 11
600 Summer Street, P.O. Box 1361 Stamford, CT 06904 203-348-7531	344	Homasote Co				
Francis X. Roberts, District Manager	345	Italian Marble Center	153			
New York, New York 10168:	346	KDI Paragon, Inc	144			
Chanin Building, Suite 900	350	Kalwall Corp				
122 East 42nd Street 212-867-9191	347	Kawneer Co., Inc			Note: R or W after page	numbers
James J. O'Brien, District Manager	348	Kimball Office Furniture .	131		denotes material that appe	
St. Louis, Missouri: 1100 Superior Avenue Cleveland, OH 44114 216-696-7000 Richard A. Strachan, District Manager	349	Koppers Co., Inc			regional editions only.	
United Kingdom: Reading, RG10 OQE, England Wood Cottage, Shurlock Row 0734-343302 Telex 848800 Techno G						

156 Progressive Architecture 2:87

Malcolm M. Thiele Managing Director, U.K. **Tokyo, Japan 101:**Bancho Media Service
Dai-Ichi Nisawa Bldg, 5th Fl. 3-1 Kanda Tacho 2-chome

Genzo Uchida, President Paris, France:

Continental Europe 37 rue de Miromesnil 75008 742 66 78 Yvonne Melcher, Manager

Chiyoda-Ku 03-252-2721

It's attractive. It's aluminum. It's 90-minute fire rated.

The PHOENIX*

On July 10, 1985, the independent laboratories of Warnock Hersey International conducted a 90-minute fire endurance and hose stream test on a prospective product by Alumax/Magnolia Division. The result was PHOENIX, the first aluminum door frame to receive a 90-minute fire rating.

PHOENIX combines the fire resistance of steel with the aesthetics of aluminum. Few materials are so fire resistant as steel. Steel alone, however, does not have the design flexibilities or aesthetic appeal of aluminum. To achieve the advantages of both metals, therefore, a bimetal frame system was devised which consists of unexposed 16-gauge steel sub-frame and 6063-T5 alloy outer aluminum frame.

PHOENIX permits design consistency — with no job site finishing. New PHOENIX matches Alumax's 20minute Royal and *Imperial* frame lines in both color and configuration. Available are factory finishes of clear, bronze and black anodized. plus a variety of electrostatically applied, baked on paint finishes. The steel subframe, too, is bonderized, dip process painted and oven dried.

PHOENIX is a free-standing system which can accommodate multiple sizes of doors. PHOENIX units utilize single doors up to 4 feet by 8 feet, 10½ inches; double doors up to 6 feet by 8 feet, 10½ inches. Throat sizes range upward from 3½ inches, and corner tabs are included for convenient field installation.

*Patent Pending

PHOENIX is produced by Alumax, an integrated company. Each aspect of production, from smelting to extrusion, machining to fabrication, is Alumax owned and operated. As a result, it is able to offer not only an exceptional level of quality, but a custom capability which is second to none.

Ask us about the PHOENIX "Total Opening" package. Included are PHOENIX, Imperial and Royal interior door frames ... wood veneer and plastic laminate doors ... all hardware. For more on Alumax door systems, consult Sweet's Catalog, section 08100/ALU. Or contact us direct: Interior Products Group, Alumax/Magnolia Division, P.O. Box 40, Magnolia, AR 71753; 800-643-1514 (In Arkansas, 501-234-4260).



Circle No. 322

ONLY FIANDRE





CERAMIC GRANITE

Perhaps only Fiandre could capture the timeless elegance of natural stone in a porcelain tile of such distinctive visual appeal and exceptional durability.

Available in the high-fashion colors that today's designers demand, Ceramic Granite™ matte finish tile maintains its original beauty even under the toughest weather and wear conditions.

Superb value. Uncompromised quality. Only Fiandre.

In the U.S.A. and Canada: TRANS CERAMICA LTD., P.O. Box 795, Elk Grove Village, IL 60009 312/350-1555

Circle No. 338 on Reader Service Card