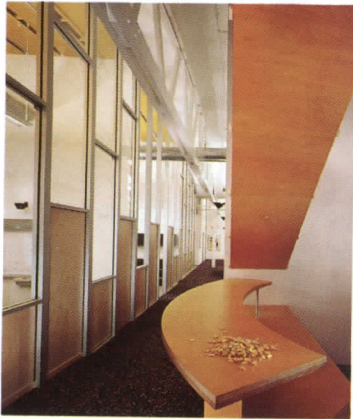


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Barbara Karant, Karant + Associates photo

Valerio Associates devised a fast-track low-budget solution for U. S. Robotics. Page 84.

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*Cover: Jil Sander Paris
Paris, France
Gabellini Associates, Architect
©Paul Warchol photo*

Next month:
**Building Types Study 710
Environmental Re-use**

Invited by RECORD, four archi-
tects have developed imaginative
solutions for a new lease on
life for the Alameda Naval Air
Station near Oakland, one of
over 100 military bases slated for
closing. The opportunities for
architects inherent in the pending
closings are further covered in an
in-depth introductory feature.

Also in October:

**Art Center at Nimes, France,
by Norman Foster.**

**Davis Museum, Wellesley
College, by Rafael Moneo.**

**Community Church,
Washington, D. C.,
by Susan Reatig.**

Technology: Wall Detailing.

Pity the poor pedestal. . .

... so deserving, yet relegated to play the supporting role of faithful hero and selfless sidekick to monuments and mementi mori beyond count. It hardly seems fair.

Even by those who ought to know better, pedestals are often taken for granite (sorry). Mere footstools for the fabulous, ottomans for emperors, permanent soap boxes for once-windy orators, they are simply there. Like the best butlers in English novels, pedestals do their essential work without attracting attention to themselves, and thus their virtue is often measured by their invisibility.

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Notes from Behind the Scenes

Early this spring, a mind-stretching experience began unfolding at ARCHITECTURAL RECORD. It has been a summer of intense strategic planning which will ultimately involve the entire staff of our magazine, its readers, and its advertisers. The experience can best be compared to a remark made by the distinguished television producer Fred W. Friendly. He said . . .

"Our purpose is not to make up anyone's mind, but to open minds, and to make the agony of decision-making so intense that you can escape only by thinking."

Starting in early May and proceeding through August, a series of meetings was held for the purpose of writing a definitive plan for the future of this magazine involving every aspect of what we produce. We're looking at how the magazine can be improved, expanded in its usefulness, even transformed into other useful products—print or electronic, all based on the needs expressed by our "customers"—you, our readers, and you, our advertisers. Above all, it was agreed that it must be a plan that management and staff can *unanimously* endorse and execute.

Attending our meetings were people from editorial, marketing, circulation, advertising sales, production, and accounting. Twelve in all . . . but our titles were left outside the meeting-room door. One person, one vote. Total agreement was our goal. The first order of business was to draft a precise and clear Mission Statement. To start the process, each attendee was asked to submit his or her thoughts on the matter in writing. We all assumed it would then be an easy task to combine our ideas and reconcile the differences. And, with that out of the way, go on to the planning stages.

We were mistaken. It wasn't that easy.

However, weeks later—with the 4th of July looming on the horizon and having more than once recalled a group that also met through a long hot summer (in Philadelphia)—it was agreed by all concerned to adopt the following Statement. Every word having been weighed, every thought examined, and every resource considered . . . over and over again, I want to share it with you:

The mission of ARCHITECTURAL RECORD is to provide original, reliable, and useful information to the architectural marketplace worldwide, in timely and easy-to-use formats which:

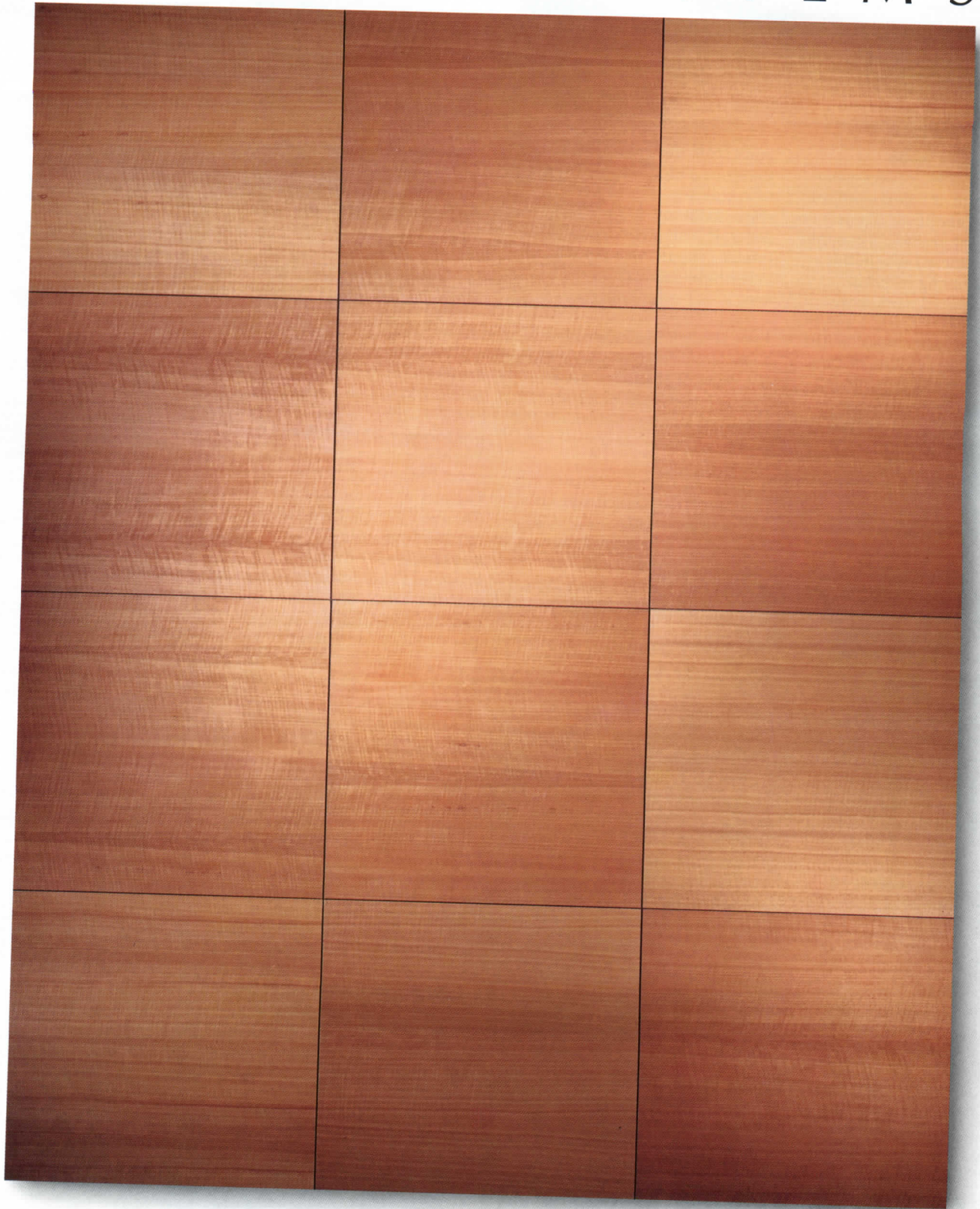
- *Create an industry-wide forum.*
- *Set the standards for excellence in architectural design.*
- *Present insights and practical solutions for current challenges in design, building construction, and business practice.*
- *Build success for our readers, our advertisers, our associates and investors, and ourselves.*
- *Establish the authoritative record of architecture.*

With this commitment in hand, we are in the process of rethinking every part of what we do. Over this fall and winter, I will use this space to tell you how we plan to meet these goals and fulfill the promise. We hope you will approve.

Roscoe C. Smith III.



S U R F A C E S Y S T E M S



I N T E R I O R W A L L S

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Infrastructure Issue

You did a nice job of wrapping up a package of diverse projects [RECORD, June 1993]. There's no question that architects can take a more significant role in the regional planning of infrastructure-related work if we stand up and ask for it. Since the demise of "city planning" in the '70s, there's apparently no one else around to fill the void. It looks as if some architects are beginning to figure that out. *David A. Fey, Architect Director of Communications Ellerbe Becket*

The disorganization of the built environment is perpetuated, in part, by the fragmentation of the building process into the separate disciplines of architecture, civil/structural engineering, landscape architecture, and biology. Architecture is just one part of the technological system that has intercepted natural systems to create a condition where it is no longer possible to separate the built from the natural. *Gary Strang Architect/Landscape Architect San Francisco, California*

Pruitt-Igoe Remembered

I am appalled by the Edison Terrace project featured in RECORD [July 1993, page 91]. Did you even look at the photographs you showed? It seems to me that Arquitectonica and your editors have learned absolutely nothing from the failures of social housing of the past. Edison Terrace appears to have more in common with Pruitt-Igoe than with housing appropriate for low-income families.

"Pilotis" and "unique design" are two of the most inappropriate characteristics for family housing for low-income residents. Pilotis remove dwelling

units from the ground contact that is essential to family life with children; unique design stigmatizes low-income residents. Housing for low-income families should blend into and be indistinguishable from the balance of the community.

Even though Pruitt-Igoe has been demolished, St. Louis still has relics of the failed social-planning concepts which we inherited from Le Corbusier and his disciples. You might be surprised at the names of the architectural luminaries associated with these failed ventures. *William H. Gantz Architect McCormack Baron & Associates, Inc. St. Louis, Missouri*

In poor urban areas, ground-floor apartments are the least secure and the least desirable, so it makes more sense to put cars on the ground floor rather than people. As for the building's unique design stigmatizing low-income families, from all accounts the residents have taken great pride in the building. Perhaps the best proof of that is that it is fully rented and now has a waiting list. C. A. P.

Corrections

The Federal Medical Center in Butner, North Carolina [RECORD, May 1993, page 94] should have been credited as follows—Executive Architect: Middleton/McMillan Architects, Charlotte, North Carolina; Design Architect: Odell Associates Inc., Charlotte, North Carolina.

Lighting Services Inc. should have been credited with providing lighting fixtures for the Holocaust Memorial Museum [RECORD, July 1993, page 109]. ■

September 14-October 29

National Institute for Architectural Education exhibition of student designs from NIAE competitions. Call 212/924-7000.

September 18-19

Exhibition and sale of signed original drawings and sketches and limited-edition prints by over 100 architects, including Gehry, Ando, Meier, and Predock, at Southern California Institute of Architecture, Los Angeles. Call 310/574-1123.

September 27-October 10

World Congress 1993 in Helsinki, Finland, on "Cities for Tomorrow—Directions for Change." Phone 358-0-1488-8412; fax 358-0-148-6672.

September 29-October 3

National Preservation Conference, St. Louis, on "The Challenge of Livable Communities: Revitalizing Urban Environments through Historic Preservation." Phone 800/944-6847 for details.

October 9-11

Congress for the New Urbanism, "The Neighborhood, the District, and the Corridor," Alexandria, Va. Andres Duany/Elizabeth Plater-Zyberk, coordinators. Call 301/948-6223 for details.

Competitions

- Boston Society of Architects Design Honor Awards Program, for architects who have designed a project in Massachusetts. Submission deadline: September 27. Call 617-951-1433 ext. 221.
- American Wood Council design competition for residential and nonresidential projects, new and remodeled, completed since January 1990. Submissions deadline: October 8. Call 202/463-2760 or fax 202/463-2791.
- Name a Ceiling Tile and win \$25,000. USG Interiors Inc. wants to rename its X2000 ceiling panel. Deadline for entries: October 31. Call 800/950-3839. ■



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New Delhi Armageddon

A frightening story appeared this summer in *The New York Times*. A report from New Delhi by Edward Gargan gave a catastrophic profile of a city of over 9-million souls that had essentially ground to a halt. It was a city whose infrastructure had failed, where trash collection had so broken down as to leave garbage rotting in 100-plus-degree temperature. There was no electricity, no water for a large part of the population, phones were not operating, housing and shopping was being erected with little or no regard for safety codes and standards, and streets were so overcrowded and traffic so chaotic that over 2,000 had been killed or injured in road accidents in the first six months of 1993. It is a glaring and tragic picture of growth run amok, a caricature of the view that cities are a society's highest form of civilization.

Mexico City, Cairo, and, closer to home, sections of such cities as Los Angeles, Philadelphia, and New York all have symptoms that if not addressed by politicians, industry, and the design professions, may provoke the same end.

Trojan Horse

Retail construction has been picking up, according to projections by F. W. Dodge, and while any signs of building activity are cause for rejoicing, the direction taken by this particular phenomenon bears a closer look. I refer to the supermarkets and megamarkets—the Stop & Shops, Pathmarks, Wal-Marts and Kmart—whose newest policy is to expand back into the nation's older cities which they had so blithely abandoned for the suburbs nearly two generations ago. The concept seems commercially sound, and the opportunity to revive the inner city is terrific. High-density populations, the reasoning goes, is where the concentrated revenue is, and what better way to increase volume on a notoriously low-markup business than to move back into the cities, with infrastructure in place and with access to low-priced real estate left on the market by the current downturn, often in choice locations in historic districts. But there the good news ends. A sensitively recycled old warehouse brings new life to the community. Unfortunately, several of the supermarket and discount chains have resolved to erect great sprawling megastructures, out of scale with their neighborhoods. Yet on the principle that an 800-pound gorilla can sit where it wants, few city fathers have had the courage to speak out and call for land-use and design controls. Indeed, they often have offered chains free land as an incentive. There are other hazards: low prices drive mom-and-pop stores out of business, destroying the commercial texture of the street (the argument that lower prices give families more discretionary income on which to patronize surviving local merchants has yet to be proven); out-of-town traffic demands parking, always an urban-design and ecological challenge. The invasion has spawned anti-superstore movements to protect dwindling historic districts in the nation's smaller towns, especially of New England.

There is a sense that the chains' window of opportunity is small, that as soon as prices begin to climb back, the returns on the investment will not be worth the venture, and the superstores will again leave town.

I therefore continue to invite our readers, however devoted to the daily task of getting the work out, not to lose sight of critic Robert Campbell's dictum that the "environmental crisis of the '90s is a crisis of the loss of community."

Stephen A. Kliment

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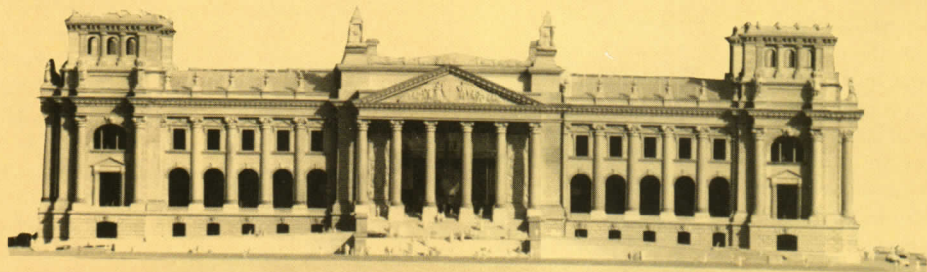
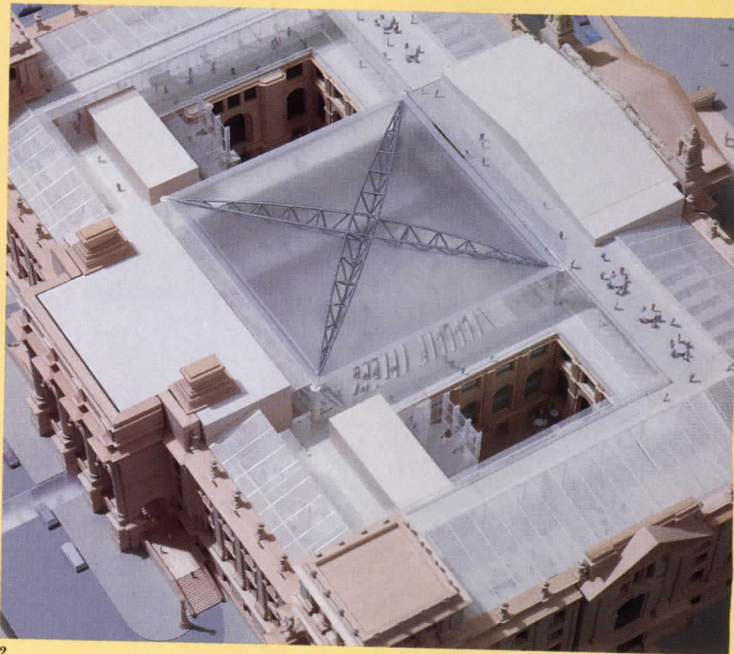
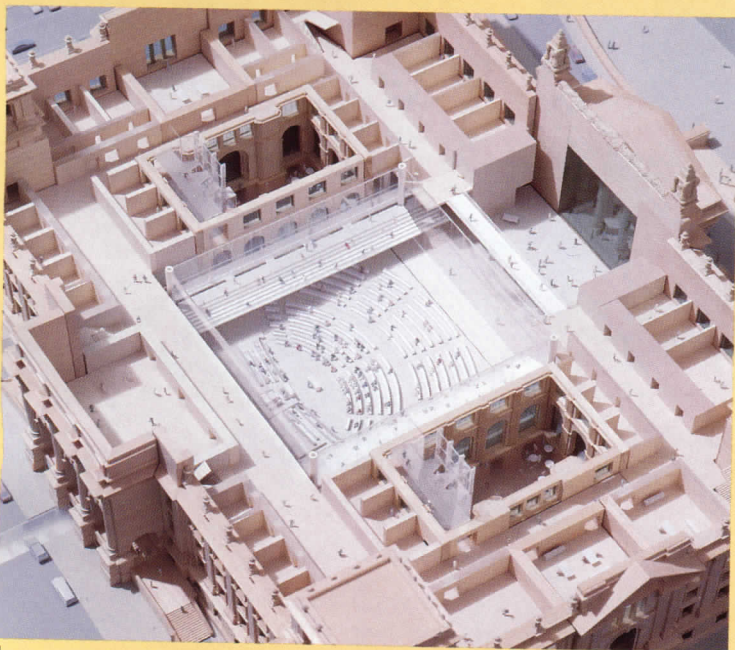
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Berlin

Foster Wins Reichstag Finals With Entirely New Program



Richard Davies photos

Sir Norman Foster and Partners has won the second and final phase of the competition to redesign the old Reichstag interior to house the new parliament of the united Germany. The finalists' designs were based on a new program that relied more on the potential of the old building than on the space needs of government, as the earlier one had done. The core of the Foster design restores the *piano nobile* to the prominence it had when the classical structure was built for Germany's first parliament shortly after the country was unified in 1871, but with an

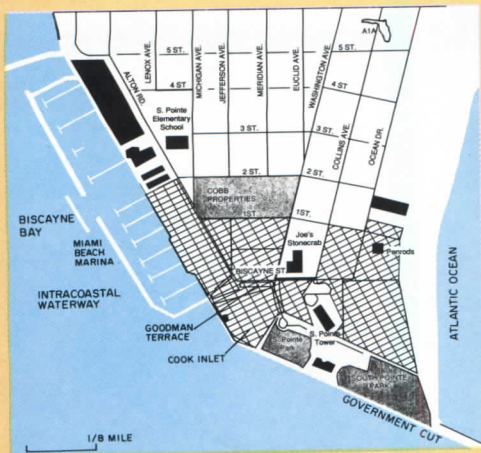
additional emphasis on democracy: this will be the level of entry for everyone from MPs to official visitors to general public (3).

The lobbies will be reopened and the soaring inner courtyards recreated. The assembly, entered from this level but sinking in tiers to ground level and rising to the roof, will be glassed in to connote an open and accessible parliament (1). (Soviet bombing damaged the building in 1945 and, after the government left for Bonn in 1949, interiors were stripped of ornament and stuffed with new floors and

labyrinths of offices. Circulation became indecipherable.)

In addition, the original Reichstag dome will be replaced with a more modest pillow-shaped translucent roof surrounded by terraces, creating one of the few panoramic viewing posts in the city (2). The second-floor perimeters will house the offices of the parliamentary president, with the party factions on the skylit third. The Foster design is scheduled for 1998 completion, when the government plans to move back to Berlin. ■

Eleven Architects Sketch Visions For an "Empty Tableau"

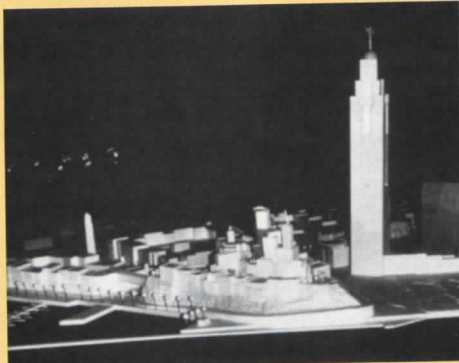


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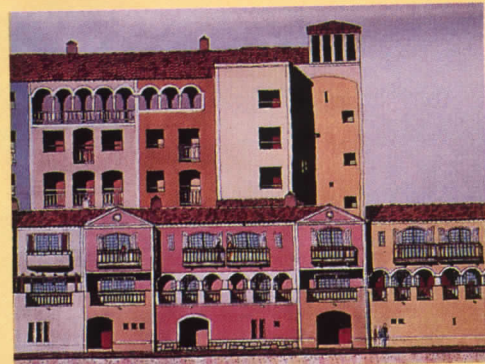
1. South Pointe site (gridded area)
2. Bermello Adjamil & Partners
3. Sandy & Babcock, Inc.
4. Arquitectonica and STA Architects
5. Duany & Plater-Zyberk
6. Robert A. M. Stern, Architects
- 7., 7a. Michael Graves, Architect
8. Abdel Wahed El-Wakil
9. Sieger Architectural Partnership
- 10., 10a. Zscovich, Inc.

South Pointe—the southernmost tip of Miami Beach—is 70 acres between beach and bay, much of it scrubby and overgrown with weeds, and little more than an empty tableau. Yet Thomas Kramer, the German financier who owns just about half of the land, knows that it is prime property, “some of the finest real estate anywhere.” Most of the land faces water—either the Atlantic Ocean or the Government Cut ship channel of Biscayne Bay. It is just south of the Art Deco National Historic District.

Earlier this summer, Kramer hosted a charrette for South Pointe, organized by Miami architects and town planners Andres Duany and Elizabeth Plater-Zyberk. DPZ, as the firm is called, has elevated the charrette to a fine art over the past decade, creating more than 50 town plans using the intensive design-session approach. For this charrette, DPZ drew in eight other architectural firms from Miami as well as Abdel Wahed El-Wakil, London; Robert A. M. Stern, New York City; and Michael Graves, Princeton, N. J., and assembled them under one roof, the closed-for-the-season Joe’s



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3



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Stone Crab. For six days and six nights, more than 100 architects and designers worked on plans for Kramer’s 35 acres, as well as the city-owned property around it.

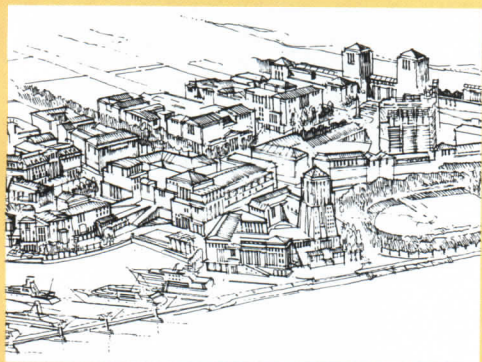
At the outset, Kramer, who has cut a lively and sometimes controversial swath through Miami, exhorted the architects to be as creative as possible as they designed a neighborhood with hotels, housing, offices, shops, and a marina—and to design memorably. Thus, the proposals ranged from hard-edged to romantic, from audacious to subtle. And when all was done, Plater-Zyberk (she ran the charrette while her partner and husband Duany worked on a proposal that involved developing urban-design guidelines) said the results ranged “from the practical and familiar to the visionary and expansive.”

Because it was, in some unformed way, a competitive charrette, many of the drawings were intended to dazzle—Kramer or the general public—with images so seductive as to be instantly saleable. And yet, such images are empty gestures unless they illustrate actual ideas. The challenge of South

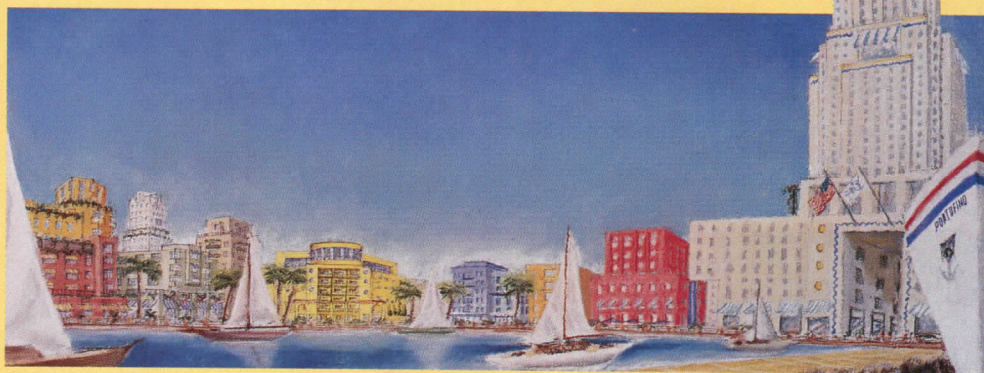
Pointe is to turn it into a real place, not just another ersatz development with fabulous marketing brochures and no architecture or substance at all; into a real neighborhood—whether it is separate and distinct from the Art Deco District or a seamless continuation, if in differing architectural styles. That is not necessarily an easy decision. And in the face of so many mesmerizing drawings, there is always a powerful temptation to succumb to ersatz glamor or architectural gimmickry, to build a boulevard where a simple street would suffice or a mountain when all that is needed is a molehill.

Plans wrought in previous years pointed in that direction. In 1973, the city of Miami Beach approved a bulldozer-era redevelopment proposal that would have criss-crossed the island with canals; a decade later came South Pointe Towers, the first—and only—building in a scheme to fill the tip of the beach with walled-off high-rises. In 1990, Marriott Corp. proposed a huge hotel that would have subsumed much of the southeastern corner of the beach, bringing Ocean

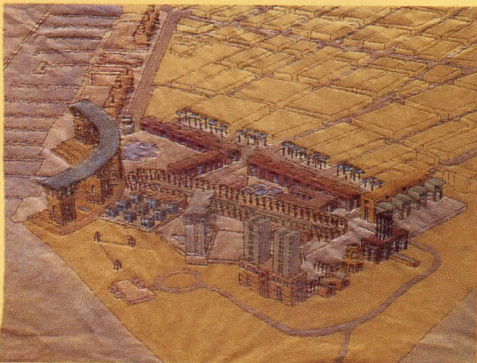
A week-long charrette inspires designs from hard-edged to romantic, audacious to subtle, for 70 acres of Miami Beach real estate.



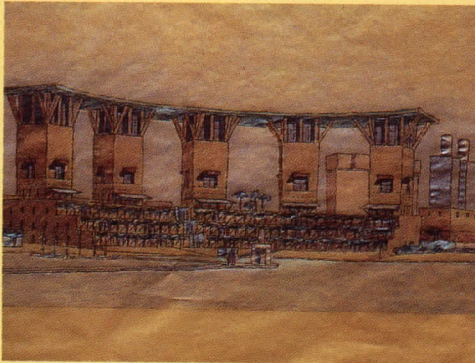
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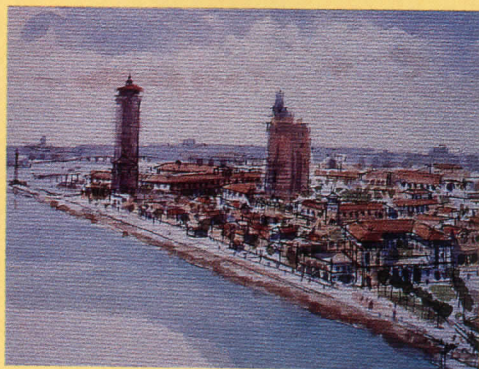
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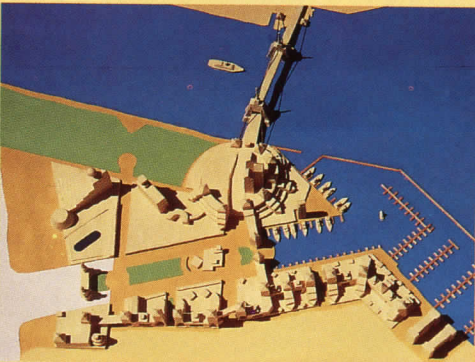


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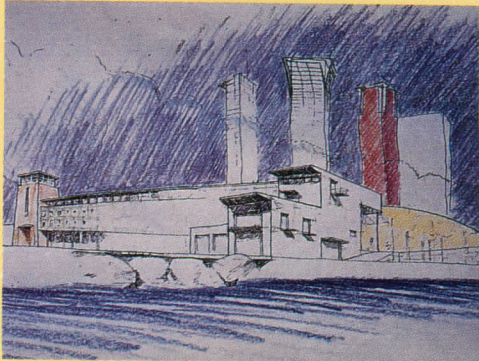
Drive to a sudden stop at a parking garage topped by tennis courts.

“Right now, Miami Beach is the talk of the world,” said Robert Stern, “but is it like this year’s restaurant or is it an enduring place? I believe that the future of Miami Beach does lie in this incredible piece of land known as South Pointe.”

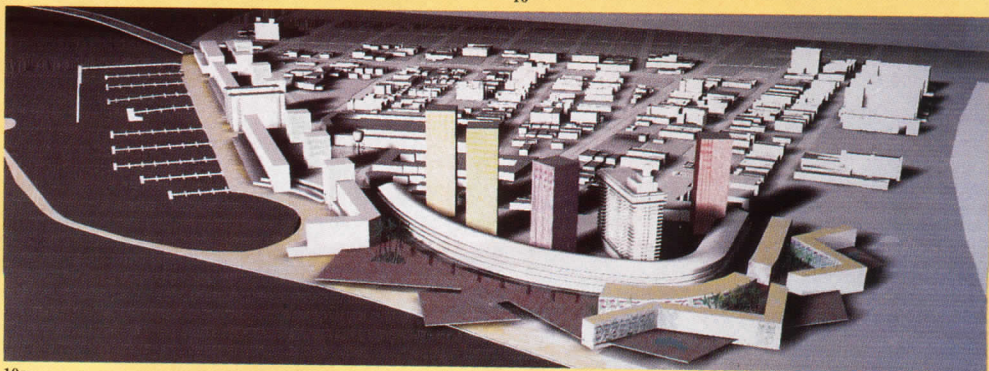
Talk indeed: so many people crammed into Joe’s Stone Crab for the final presentation that the fire marshals were called in, and at least a hundred persons had to stand outside and simply listen to the nine proposals. Eventually, though, Kramer intends to incorporate all this into a single site plan—either by drawing on favorite elements from a number of proposals or hosting a second charrette with fewer firms at work. The work will be exhibited for an additional public view. The challenge presented by South Pointe is to turn it into a place where real people live, work, and play, a neighborhood with substance and meaning, lyrical enough to cast a spell on us and rational enough that we can understand it. *Beth Dunlop*



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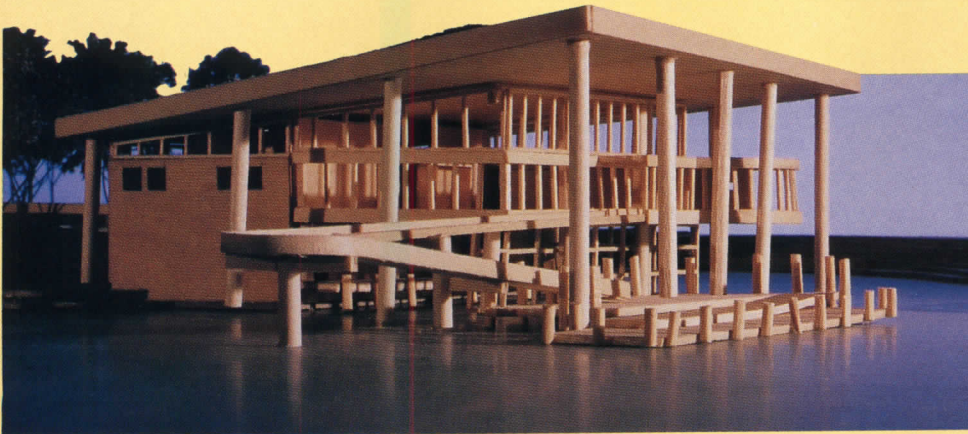
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New York City

The Earth Moves in Brooklyn



Bret Morgan photo

At the end of a tree-lined boardwalk, the earth will lift up into a sod-covered roof to invite visitors into Lee Skolnick's 8,000-sq-ft environmental-education center in Brooklyn's Marine Park. The boardwalk, due for completion in 1995, will continue along two sides of the building as a display-lined bridge leading to a floating dock in Jamaica Bay. Skolnick calls the project "a focusing station—a viewfinder to the natural environment, poised at the juncture of land, water, and sky, on the boundary of built and unbuilt." A project of the City of New York Department of Parks

and Recreation, the building will house exhibits and classrooms for educational purposes, administrative offices, boat storage and a sheltered boat slip, and a caretaker's apartment. Environmental-conservation principles embodied in the building include the sod roof, solar-gain glazing, rainwater and gray-water recovery systems for irrigation, and an environmentally conscious mechanical system. Mark K. Morrison & Associates is landscape architect for the project, J. H. Crow is environmental consultant, and Wesler-Cohen is consulting engineer. ■

Buenos Aires

After a Century of Bad Breaks, A Sleeping Beauty Awakes

A cavernous vaulted entry with Milan-style murals introduces the new Galerías Pacifico, an eye-opening commercial and cultural center, recycled by Juan Carlos Lopez and Associates from the remnants of a century-old building along the Florida promenade. Lopez, head of a Buenos Aires studio employing over 100 architects, hopes the project will help "our urban memory" in a country which he admits is "very adept at forgetting." Until recently, the structure was a ramshackle monument to Argentina's century-long boom-or-bust economy, an eyesore in search of someone with an idea. The almost full-square-block now contains 150 stores, a library, ample space for local artists and craftspeople, and a large theater under construction. JCLA is also among the three finalists in the bid for Moscow's GUM mall renovation. *Joe Goldman*



Favio Ballestreri photo

Paris

Clear Span to Link Louvre and D'Orsay



EPGL photos

Paris architect/engineer Marc Mimram has won the international competition to design the Solferino footbridge, which will connect the Louvre with the left bank and the Musée d'Orsay. Unlike most of the seven other entries, Mimram's shallow steel 350-ft arch will connect the banks of the Seine without any intermediate piers; pedestrians may cross on the top deck, at the level of the museums, or between the trusses that constitute the arch, reaching the riverbanks at the waterfront. The seven other competitors were Patrick Berger, Santiago Calatrava, Philippe Chaix and J. P. Morel, François Deslaugiers, Massimiliano Fuksas, Valode & Pistre, and Charles Vandenhove and Prudent de Wispelaere. The \$13-million bridge is part of the "Projects of the Louvre," and is scheduled to be constructed by 1995. *Spiro N. Pollalis*

Briefs

Winners

- Kenzo Tange has won the architectural part of Japan Art Association's Praemium Imperiale for lifetime achievement.
- Steven Holl won the competition to design Helsinki's Museum of Contemporary Art.
- Two architecture-student teams—Ron Baerg and Daniel Stettler of the University of Oregon and Cornelius Deckert and Ludwig Fontalio-Abello of the University of Miami—shared first place in the Taylor Yard competition to unify several neighborhoods divided by the Los Angeles River, sponsored by the Sheet Metal Workers, the Sheet Metal and Air Conditioning Contractors, the National Energy Management Institute, and AIAS. Kurt A. Micheels of the University of Southern Florida and Paul J. Geldbach of UCLA shared first place in the National Science Foundation/AIAS competition for a self-sustained Antarctic outpost.

Moves

- Robert A. Fielden has become president of the National Council of Architectural Registration Boards (NCARB).
- Netherlands Architecture Institute (Rotterdam) opens a study center October 1.

Greatly exaggerated

When UCLA proposed to join its Architecture/Urban Design program with the School of the Arts to form a new School of Architecture and the Arts, and to link the Urban Planning program to a new School of Public Policy, the announcement used words like "disestablish" and "restructure." But, says dean Richard Weinstein, the proposals are administrative only, and don't refer to "the academic programs, faculty, and students" at the school, nor affect its degree programs. Indeed, Craig Hodgetts and Mark Mack will join the faculty and Thom Mayne will become an adjunct professor.

Greening the White House

Recommendations are due in October on the government energy/environmental audit of the White House and the Old Executive Office Building. The AIA is coordinating private experts on the project, whose long-range goal is to provide environmental and energy-saving strategies for governments (and government workers' homes) throughout the country.

Remembered

Samuel Kurtz, FAIA, past president of the New York Chapter AIA, died on July 15. ■

The Architecture of Innocence-And Guilt



Phillip Caruso photos

In *The Age of Innocence*, film director Martin Scorsese targets the upper-crust mean streets of the Belle Epoque. The film is based on the novel of the same name by Edith Wharton—whose 1897 non-fiction "The Decoration of Houses" helped end the overstuffed decor seen on screen. Production designer Dante Ferretti aimed to evoke the era's architecture with a Proustian precision that required 16 months of research but didn't preclude sacrificing veracity for psychological drama: to suggest the stultifying social order overwhelming the film's ill-fated lovers, a scene at New York's old Metropolitan Museum replaced the original modest skylights with soaring glass vaults inspired by McKim Mead and White's Pennsylvania Station. Ferretti also designed a dozen residences for the film, including the Fifth Avenue palace of the nouveau-riche Julius Beaufort, the Ivan Boesky of the era, with a ballroom built for no purpose beyond the occasional party, and the neo-Romanesque castle (interiors seen here) of Mrs. Manson Mingott, who, Wharton wrote, shocked Society, "by building. . . in an inaccessible wilderness near the Central Park." *Donald Albrecht*

Germany

Historic Hamburg Port Builds Trade Center



To add needed central-city office space and provide a counterpoint to adjacent historical warehouses, six firms are designing the Hanseatic Trade Center, which includes a warehouse conversion by Dieter Heusch and four separate phases by the Kohn Pedersen

Fox London office (middle blocks, to open by year end); Nägele Hoffmann Tiedemann (central tower); Kleffel Köhnholdt Gundermann (far right); and von Gerkan Marg, (left). Schweger und Partner designed the unifying bridges and walkways. ■

Thinking Green

Sustainable Housing Goes International



The AIA-sponsored "Call for Sustainable Community Solutions" attracted 406 entries from 50 countries. Nine \$3,000 prizes went to professional teams from Thailand, Oregon (two), China, Canada, California, London, Saudi Arabia, and Yugoslavia. Eight awards went to students. Jury chairman Allan Rodger said he liked the "integrative" solutions of the nine, adding that they were "simple without being simplistic." Discussing some of the losers, Rodger said he was troubled by their "undue orientation to physical objects" (as distinct from social, economic, and cultural sustainability issues), and by their occasional inability to "grasp the complexity" of planning sustainable communities. The documentation, typically done on large illustration board, was light on drawings and other images and heavy on text. This fact was noted by the conscientious jury, but taxed the concentration of observers, whose interest was eroded by the physical effort of so much reading. Other jurors were UIA president Olefumi Majekedunmi, economist Hazel Henderson, landscape architect John Lyle, and architects Joseph Esherick, Wolf Tochtermann, and Wilhelm Kucker. S. A. K.

Williamsburg

Housing Leaders Mull Prospects

Last June's conference of 105 invited leaders in the housing industry underscored the key role of housing construction in the economy. With McGraw-Hill, Inc., Harvard's Joint Center for Housing Studies, and the National Housing Endowment as major sponsors, the Williamsburg, Virginia, conference heard participants point out that short-term prospects for government support of single-family-housing construction were severely restricted by deficit-reduction pressures. In the private sector, despite pent up demand for housing, construction was seen as limited by prospective customers' lack of funds for downpayment and by the reportedly widespread fear by many first-time homebuyers to commit to buying a home. Other developments affecting the housing field include high costs caused by a network of accumulated zoning, environmental and wage regulations, and a wild card in the shape of the huge flow of new immigrants of home buying age. Finally, government officials championed a concern for the social components of housing, such as day care, health care, family and job counseling and community facilities. S. A. K.

Salaries

Big Salaries for Staff Architects

A recent AIA survey has confirmed RECORD's findings last year when it polled architects working outside private practice [see *Architects at Large*, November 1992, pages 26-28]: They *do* make more money. Responses from over 3,000 architects working in a variety of endeavors found the highest salaries in development, despite that field's battering in the past few years. Persons with the title of "president" have mean salaries of \$154,625, or two to three times more than the last AIA survey showed for firm principals in private architectural practice. ■

Practice

Briefs

GSA: Full-throttle turnaround. The engineers' and architects' new thrust to raise the six-percent limit on building-design fees through the united-professions group, The Council on Federal Procurement of Architect and Engineer Services (COFPAES) [RECORD, February 1993, page 31] couldn't have come at a better time now that James Stewart, director of the Office of Design and Construction at GSA/PBS has announced GSA's biggest-ever construction campaign: nearly \$6.5 billion for design, and bricks and mortar. This means a new direction for the GSA, which had been increasingly relying on outside developers. Now Stewart calls design-build "a difficult process to implement." The agency is also experimenting with time-saving procurement proposals.

Congress: Crossing Brooks? Recommendations by the Department of Defense on its future operations include ending the six percent limit on design fees. They *do not* include ending architect and engineer procurement based on professional ability instead of cost. But Congress may give with one hand and take away with the other if the drafters of its legislation to put DOD's recommendations into effect have their way. They would eliminate from DOD guidelines the Brooks Act, which was enacted to end architect and engineer selection on the basis of fees. This means that, while DOD would be willing to pay more than six percent, it is not likely to do so considering architects' and engineers' currently stiff competition.

New York State: Putting architects up there with export manufacturers. For the first time this year, New York's Department of Economic Development has looked at contributions to local economic activity by industries that export services. (Previously, it had only considered export of products.) On September 22, the Governor's Award for Achievement in Export will go to, among other service providers, an architectural firm, Swanke Hayden Connell Architects, for its development of work in Turkey, Venezuela, England, and Germany. ■

This Month

Client Downsizing Boosts Business for Architects. Page 37.

Architects are finding bright spots in the corporate gloom by helping clients downsize their operations. Two firms with experience share it with RECORD.

Dodge/Sweet's Second 1993 Construction-Volume Update. Page 39.

There's little to cheer about in the current lackluster situation, but this may improve now that some uncertainty has been removed with last month's passage of the new-tax package.

Specifications Series: Entrances and Storefronts. Page 42.

Storefronts, a word derived from their original use on stores, has come to refer to the broad spectrum of commercial entrance-level glazing. RECORD takes a look at a variety of types and gives an outline specification for those in aluminum frames.

ADD Inc. Opts for No Computer Operators. Page 46.

CAD operators have gone the way of elevator operators at this firm, where everyone gets in the act.

Client Downsizing Boosts Business for Architects

You see it more and more these days. Corporate clients who found they could get along with ever smaller staffs and resources during the recession are staying lean and mean as business picks up. Where are the savings? "A typical corporation spends 93 percent of its operating budget on personnel and only 7 percent on the space to house them," reports Joseph Connell, design manager for The Environmetrics Group in Chicago. Still, his architectural firm has helped boost its business by offering consulting services on the design of shrinking corporate offices. "If you can help save a client one percent on physical plant, you've done a lot," he concludes. But some clients are looking for much more.

How widespread is downsizing? "Almost every corporation is going through it," says principal Lawrence Lander of PDR, an architectural firm in Houston specializing in interiors. Because the downturn hit Houston early, he has had longer to observe the difference in attitudes between the '80s and the '90s. "Projections on growth used to be very grandiose, with charts showing ever-growing facilities," he recalls, "but now companies don't want to think very far ahead at all." He quotes the typical '90s directive: "Build tight and keep the options open," interpreted as: use as little space as possible, but allow for expansion—or further contraction.

Interviewing clients

"Companies generally just ask how to cut costs—not how to get more space utilization and productivity," observes Connell. "One of the first things to find out is the lengths to which a client is willing to go in achieving its goals." Will that client share enough information to help the architect make a useful contribution? For instance, his firm wants to analyze revenue per employee and review alternate solutions for reducing space. He lists among them "hoteling, free addressing, and skunk works" (see overleaf).

"Ask questions—even the most obvious ones," recommends Lander, who sees reorganizations as opportunities to encourage clients to rethink their habits. For instance, does the company need a comptroller for ev-

ery division, when a shared central office might produce more equitably shared duties? "Listen to the answers," he cautions. If the client sounds reticent, the answer may involve more factors than the architect should probe. Indeed, discretion is important before and after getting the job. A client will probably not want the public to know it is downsizing—nor, as we shall see, may it want its employees to know the extent.

"What clients ask most is what the competition is doing," says Lander, noting that the answers require judgment on whether this is information the competition wants to share. The most frequently asked question: "How much rent do the X, Y, and Z companies pay per employee?" Others include the ratio of support staff to operations, amount and types of work such as printing farmed out to independent producers, and space allotted for each employee.

Lander calls all of these comparisons "benchmarking." He advises not getting bogged down in details too early. "Our main competition comes from real-estate consultants who hand the client a 200-page report when the client just wants to get on with downsizing as fast as possible. Other competition comes from management consultants, who leave the client without any concept of the physical implications of their recommendations."

Is there a difference between the needs of a client that owns its own building and one that rents space? What if the latter can't rent the emptied space? "Any downsizing company will consolidate its facilities unless it's at death's door," says Lander.

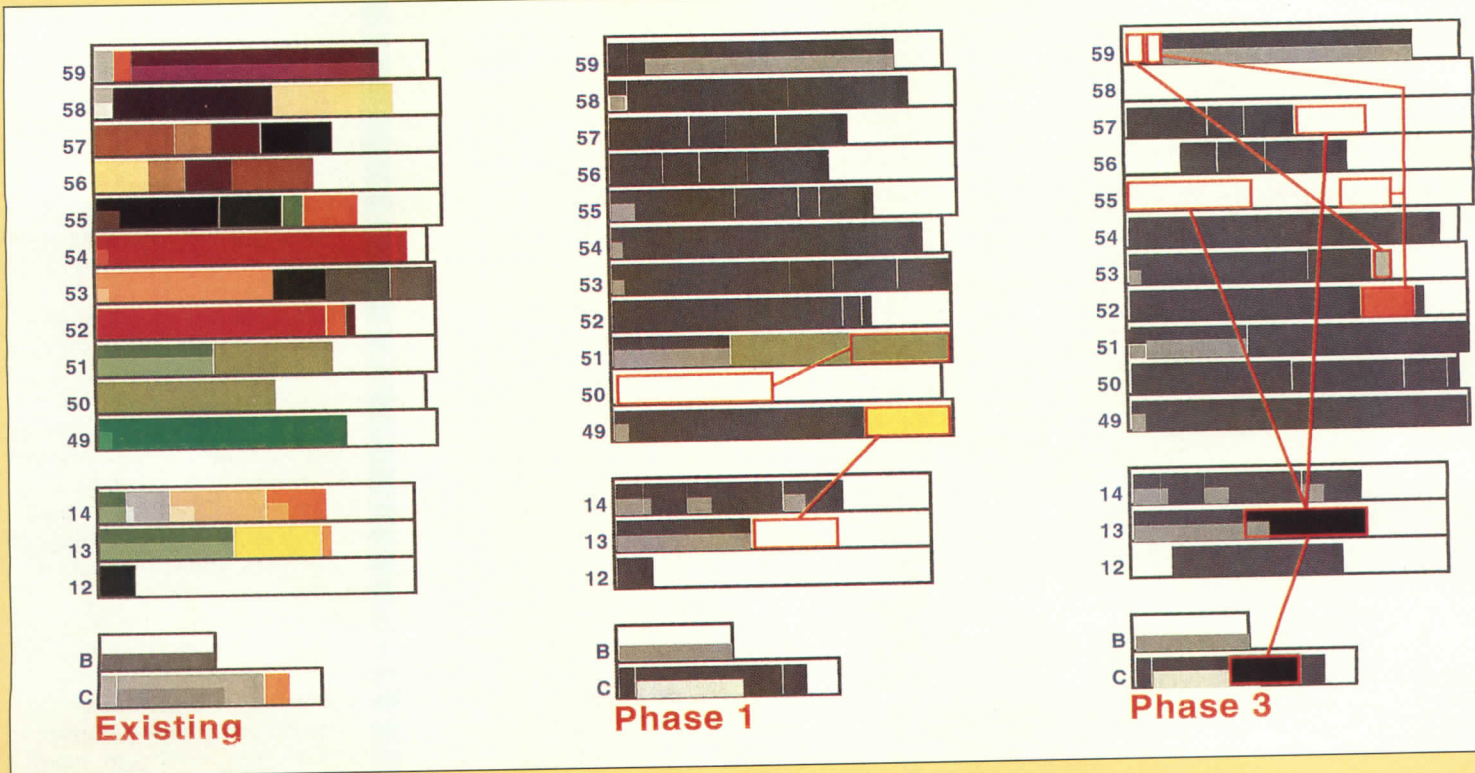
Among the techniques PDR recommends for renting unused space is finding a symbiotic business such as a consultant in the owner's field. Still, for the owner company going through contraction, the problem is much more difficult."

Office basics

"Standard office sizes and arrangements vary by industry," notes Lander. Functions performed vary, and prestige, as measured by competitive companies' offices for similar positions, can be an impetus as well. "It is

"Build tight and keep the options open," is the directive in the buttoned-down 1990s for space-conscious clients.

In the building sections below, architects PDR consolidated a client's departments, defined by color coding, to free up the top floors for other users and to make the downsized operations more efficient.



very rare to find companies with all levels of employees in the same-size offices." Lawyers and accountants expect 150 square feet for associates, 250 square feet for partners, and even more for senior partners. In the petroleum industry, geologists expect offices with 150 square feet where they can be isolated in their work, and an additional common area where they can meet and compare notes.

The Environmetrics group's Connell calls this concept, "caves and commons," taking the name from one of several systems-furniture tests being carried out by major manufacturers. But Lander disputes the notion that privacy is an option with open systems. "Offices with sheetrock walls are cheaper, more efficient, and don't take up as much space for circulation." Systems cubicles are usual for industries in which the employees are expected to communicate with one another frequently, such as insurance-claims groups and architects' offices. Then the standard is between 42 and 60 square feet per person. There goes privacy.

Chunking basics

"There are ways to reduce space even with the same number of employees," states Connell, who tends to take the more revolutionary approach:

- **Hoteling.** A rotating cast of employees shares standard-size workstations. "Auditors are ideal candidates," he notes, "because they do much of their work in clients' offices." But other types of businesses may benefit as well. "Office workers are generally absent for 30 percent of the working year—on sick leave, vacation, or out-of-town trips." He cites one accounting firm where, by reservation, a "conierge" rolls in a cart containing an individual's files, photos, and other paraphernalia. "Visitors think it is the employee's office."
- **Free-addressing.** Electronics replacing space is a concept probably best suited to people in sales, computer users with no fixed office. Connell notes that such inventions as the laptop, which can hold files and reference materials such as addresses, reduce the amount of space that office workers may need. Shared conference and records rooms

must then compensate. Indeed, he notes downsides to both of the above arrangements. Mentoring and comradeship are lost. So is the prestige factor of offices reflecting the occupants' importance, which Lander points to as being very important. Companies must question whether the space gains make up for lost morale, says Connell.

- **Skunk works.** A group of employees arrange a given amount of space to best suit how they work together. "This is best for people in creative pursuits—such as designers in the aircraft industry."

Chunking offices

"Work is easiest at home," says Connell. This is best for people who produce a quantifiable product, such as salespeople. It also raises the question of the employer's liability. To counter possible complaints of fatigue-related injuries such as Carpal Tunnel Syndrome, a nerve and muscle disorder caused by repetitive actions, furniture manufacturers are working overtime to come up with new ergonomic lines that the employer can wheel into the worker's home. One prod-

F. W. Dodge's 1993 Construction Update

By Robert Murray

The first half of 1993 has done little to dispel the notion of an on-again, off-again recovery for the construction industry. At the end of last year, a fourth quarter rebound of activity raised hopes following 1992's midyear doldrums. But 1993's first quarter was unable to sustain the upward momentum, as both the harsh winter weather and the loss of confidence by consumers and business took their toll. Contracting for new construction slipped back one percent, once again putting the recovery of the construction industry on hold.

Just how much of the sluggishness was due to weather and how much was due to more fundamental weakness was uncertain at first. A troubling sign came with the second-quarter data, which showed contracting making no appreciable upturn. In addition, construction put in place, which tends to lag the contracting series by a quarter, also flattened out. More and more the delayed recovery was starting to look like an indefinite postponement. But fortunately the data contained at least one positive element—a strong month of June offered an indication that the construction recovery might get back on track in the third quarter. And passage of the Clinton economic program in early August should ease to some extent the uncertainty that accompanied the program's legislative journey.

The progress of the Clinton Administration's economic plan through Congress has been a key element in this year's forecast. Its initial presentation back in February caused a strong reaction on the part of the bond market, as long-term rates fell to the lowest level in two decades. In part this was due to the Clinton plan being recognized as a credible attempt to deal with the deficit, in part it reflected the dampening effect higher taxes would have on the economy.

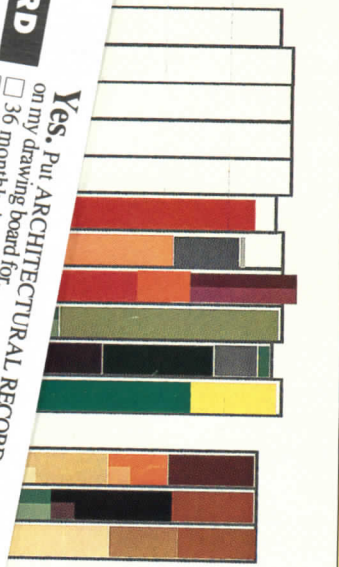
In May and June, the economic program made its way through the House and Senate, with the conference committee then resolving the differences in July. The program included higher taxes on personal income, a 4.3 cent gasoline tax, deeper cuts in defense spending among other programs, all leading to a reduction in the deficit of almost \$500

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that employers may wind up paying for "sops" in addition to the costs of moving employees around. Among the physical incentives are new daycare and physical-fitness facilities. Other incentives may be bonuses, flexible hours, and the right of employees to bring their dogs to work.

Another problem architects encounter in downsizing is the logistics of moves. "Owners of buildings often object to having their lobbies littered with furniture in transit and their freight elevators occupied non-stop," says Lander. Hence, moves may have to be broken down into manageable chunks, such as they were on the project above. Lander notes that one former client has since been bought and his firm is now involved in another round of its replanning. "Don't get stuck on any one solution," he advises. Other problems? "We still haven't figured out how to cut a computer room in half," he responds. Instead, PDR advises moving other support facilities into unused computer-room space. "It beats the costs of recabling and starting from scratch," he says. *Charles K. Hoyt*

uct, contained in a refrigerator-size box, offers everything the worker needs, including an ergonomic chair.

Another trend that Connell notes is flexible work schedules. "International relations mean more odd hours. The person dealing with traders in Jakarta must work different hours than the person regularly contacting London." The solution might be any one of those space strategies above.

Planning moves

Both architects talk about the need for companies to keep employees they want to keep, to save the cost of retraining, even while eliminating others. As a result, architects interviewing staff may need to be very tactful. PDR will spend several weeks in such interviews before making recommendations on a large move. Whether those interviewed are part of a division meant for radical downsizing or simply a new location, the architects must find out what they do and how that relates to the work done in other divisions. The consequence, notes Connell, is

Practice

No surprises in a second look at 1993's lackluster Construction-Volume Outlook.

billion during the 1994-97 period. Depending on one's point of view, the ratio of spending cuts to new taxes was one-to-one, or less than one-to-one if reductions in interest costs are not placed in the spending-cut column.

With enactment of the Administration's plan, there will be some negative impact on economic growth due to higher taxes. Nevertheless, the easing of business uncertainty should aid the recovery, in combination with the diffused benefits of lower interest rates. From the weak economic growth posted in the first two quarters, at 0.7 and 1.6 percent, the rate of expansion is expected to pick up in 1993's second half. Growth for the year as a whole is projected in the range of 2 to 2.5 percent.

For the construction industry, the early events of 1993 (including the progress of the industry's main sectors) have called for some fine-tuning of the outlook.

Housing

During 1993's first half, single family housing was unable to offer much response to the current low level of mortgage rates. Although there has been some movement in new- and existing-home sales, single-family starts fell 2 percent in the first quarter to a rate of 984,000, and a disappointing second quarter pulled homebuilding even further away from the million-unit level. Whereas the poor weather could serve as a ready excuse for the first quarter slippage, the tepid second-quarter performance is more troubling.

The weak jobs picture, with the unemployment rate stuck at 7 percent as firms hold off on new hiring, has naturally had an adverse impact on consumer-confidence levels. In addition, the defeat of the stimulus package, in combination with Congressional debate over the fate of the Clinton economic program itself, has undermined some of the earlier sense that the Administration was correctly addressing the nation's problems.

Defense cutbacks have weakened the huge housing market in California, forcing it to sit on the sidelines during the early stages of this recovery. And the sense of urgency for homebuyers is not what it once was—with

1993 National Estimates Dodge Construction Potentials Second Update July, 1993

	1992 Actual	1993 Forecast	Percent Change 1993/92
Nonresidential Buildings			
Floor Area (millions of sq. ft.)			
Office Buildings	85	78	- 8
Stores and Other Commercial	185	195	+ 5
Other Commercial	191	177	- 7
Manufacturing Buildings	95	90	- 5
Total Commercial and Mfg.	556	540	- 3
Educational	146	152	+ 4
Hospital and Health	77	72	- 6
Other Nonresidential Buildings	157	151	- 4
Total Institutional and Other	380	375	- 1
TOTAL NONRESIDENTIAL BUILDINGS	936	915	- 2
Contract Value (millions of \$)			
Office Buildings	\$ 11,497	\$ 11,775	+ 2
Stores and Other Commercial	11,764	12,800	+ 9
Other Commercial	9,421	9,200	- 2
Manufacturing Buildings	8,671	8,375	- 3
Total Commercial and Mfg.	\$ 41,353	\$ 42,150	+ 2
Educational	\$ 16,432	\$ 17,775	+ 8
Hospital and Health	10,829	10,425	- 4
Other Nonresidential Buildings	18,134	17,450	- 4
Total Institutional and Other	\$ 45,395	\$ 45,650	+ 1
TOTAL NONRESIDENTIAL BUILDINGS	\$ 86,748	\$ 87,800	+ 1
Residential Buildings			
Dwelling Units (thous. of units)			
Singlefamily Houses	962	1,030	+ 7
Multifamily Housing	161	170	+ 6
Total Housekeeping Residential	1,123	1,200	+ 7
Floor Area (millions of sq. ft.)			
Singlefamily Houses	1,693	1,853	+ 9
Multifamily Housing	171	180	+ 5
Total Residential Buildings	1,864	2,033	+ 9
Contract Value (millions of \$)			
Singlefamily Houses	\$100,617	\$110,400	+ 10
Multifamily Housing	10,018	10,575	+ 6
Total Residential Buildings	\$110,635	\$120,975	+ 9
Nonbuilding Construction			
Contract Value (millions of \$)			
Transportation Construction	\$ 31,403	\$ 34,750	+ 11
Environmental Construction	15,754	16,100	+ 2
Total Public Works	\$ 47,157	\$ 50,850	+ 8
Utilities	\$ 6,303	\$ 6,100	- 3
TOTAL NONBUILDING CONSTRUCTION	\$ 53,460	\$ 56,950	+ 7
All Construction			
Contract Value (millions of \$)			
Total Construction	\$250,843	\$265,725	+ 6
Dodge Index (1987=100)	97	103	

1993 Regional Estimates

Dodge Construction Potentials

Second Update July, 1993

Construction Contract Value (millions of dollars)	1992 Actual	1993 Forecast	Percent Change 1993/92	1992 Actual	1993 Forecast	Percent Change 1993/92
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Northeast

CT, ME, MA, NH, NJ, NY, PA, RI, VT

Nonresidential Building

Commercial and Manufacturing	\$ 7,038	\$ 7,100	+ 1
Institutional and Other	9,372	8,925	- 5
Total	\$16,410	\$16,025	- 2

Nonbuilding Construction	\$11,193	\$12,125	+ 8
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Residential Building

Singlefamily Houses	\$12,047	\$12,725	+ 6
Multifamily Houses	2,041	2,075	+ 2
Total	\$14,088	\$14,800	+ 5

TOTAL CONSTRUCTION	\$41,691	\$42,950	+ 3
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North Central

IL, IN, IA, KS, MI, MN, MO, NE, ND, OH, SD, WI

Nonresidential Building

Commercial and Manufacturing	\$ 9,422	\$ 9,950	+ 6
Institutional and Other	10,755	10,350	- 4
Total	\$20,177	\$20,300	+ 1

Nonbuilding Construction	\$11,514	\$12,000	+ 4
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Residential Building

Singlefamily Houses	\$22,963	\$24,250	+ 6
Multifamily Housing	2,637	2,675	+ 1
Total	\$25,600	\$26,925	+ 5

TOTAL CONSTRUCTION	\$57,291	\$59,225	+ 3
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South Atlantic

DE, DC, FL, GA, MD, NC, SC, VA, WV

Nonresidential Building

Commercial and Manufacturing	\$ 7,402	\$ 7,475	+ 1
Institutional and Other	8,251	8,900	+ 8
Total	\$15,653	\$16,375	+ 5

Nonbuilding Construction	\$ 9,492	\$10,525	+ 11
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Residential Building

Singlefamily Houses	\$24,424	\$28,000	+ 15
Multifamily Housing	1,948	2,425	+ 24
Total	\$26,372	\$30,425	+ 15

TOTAL CONSTRUCTION	\$51,517	\$57,325	+ 11
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South Central

AL, AR, KY, LA, MS, OK, TN, TX

Nonresidential Building

Commercial and Manufacturing	\$ 6,416	\$ 7,275	+ 13
Institutional and Other	6,446	7,250	+ 12
Total	\$12,862	\$14,525	+ 13

Nonbuilding Construction	\$ 8,260	\$ 9,050	+ 10
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Residential Building

Singlefamily Houses	\$16,190	\$19,175	+ 18
Multifamily Housing	798	1,025	+ 28
Total	\$16,988	\$20,200	+ 19

TOTAL CONSTRUCTION	\$38,110	\$43,775	+ 15
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West

AK, AZ, CA, CO, HI, ID, MT, NV, NM, OR, UT, WA, WY

Nonresidential Building

Commercial and Manufacturing	\$11,075	\$10,350	- 7
Institutional and Other	10,571	10,225	- 3
Total	\$21,646	\$20,575	- 5

Nonbuilding Construction	\$13,001	\$13,250	+ 2
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Residential Building

Singlefamily Houses	\$24,993	\$26,250	+ 5
Multifamily Housing	2,594	2,375	- 8
Total	\$27,587	\$28,625	+ 4

TOTAL CONSTRUCTION	\$62,234	\$62,450	-
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persistent low inflation, there is less of a rush to purchase a home before prices rise.

Still strong demographic support is present for this market, with the 35- to 54-year-old group growing substantially through the decade. The current impediments to the housing recovery are viewed as temporary, with a rebound expected during the second half of 1993. For the year as a whole, single-family housing is projected to total 1,030,000 units, a gain of 7 percent.

Public Works

For public-works construction, the defeat of the stimulus package meant a limitation of this sector's near-term potential. Although there was talk of bringing back the highway portion, it didn't get far with a Congress trying to assume a deficit-reduction posture.

The highway legislation passed at the end of 1991 raised transportation funding 20 percent from earlier levels, but Congress appropriated less than the full amount possible due to the limits of the 1990 budget agreement. In arriving at a budget for the upcoming fiscal year, Congress once again set aside less than the legislation authorized. The House appropriations bill for the Department of Transportation shows highway funding climbing 7 percent to \$19.3 billion, a welcome gain but still short of the \$20.5 billion authorized by the highway bill. With this benefit coming in the fourth quarter, public works will be able to grow from the moderate pace already shown in 1993, registering an 8 percent gain for the year as a whole.

Institutions

Institutional building was expected to show another setback in 1993, due to fiscal stress at the state and local level. Surprisingly, educational building has strengthened so far this year, making at least a partial rebound from its 1992 downturn. Even though state budgets increased only 2 percent for fiscal 1993, there apparently has been little effect on school construction. Contracting for social and recreational building has also been strong in 1993, benefiting from the start of several large convention-center projects. Offsetting the turnaround for the educational and recreational categories has been a

Continued on page 133

Prepared by the Economics Department, Construction Information Group, McGraw-Hill Information Services Company, Robert Murray, vice president, economic affairs.

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Specifications Series: Entrances and Storefronts

By Susan Greenwald

Products classified as storefronts today, deriving their name from their original use on stores, are now used in a wide range of building types. Options have multiplied in recent years. They include glass framed with aluminum and self-supporting glass with applied fittings. Wood, bronze, hollow metal, and other framing materials are also used sometimes. Finishes for aluminum include high-performance baked-on coatings and anodizing, now available in a wide range of colors. Glass is available in a vast array of colors, coatings, patterned frits, and special effects created with colored interlayers when the glass is laminated.

Entrance-door assemblies in storefronts must be accessible to wheelchair users, stand up to high traffic, and open and close against the force of wind and stack effect, which is created by air rushing in and up through buildings. Power-assisted and power-operated doors are increasingly used in these situations. Sliding doors are relatively unaffected by wind forces. Swinging entrance doors should be recessed from the path of cross-traffic, and should be designed to open approximately 105 degrees.

Where manual operation is practical, suitable hardware can be provided by the entrance manufacturer or by the building's hardware supplier. Hardware may be specified in either the entrance-assembly section or in the hardware section. Offset pivots or butts are usual; the advantage of pivots is that they transfer door weight to the floor rather than the jamb; butts provide greater free-opening width. Full-length hinges are used for schools and other doors subject to abuse. Panic-exit devices are often required. Balanced-door assemblies are yet another option. They require wider openings, but can be operated with less force than conventional doors, and can comply with accessibility requirements if properly planned. Revolving doors are required where stack effect is severe and frequency of use is high. (To prevent air rushing during peak traffic periods, it is impractical to keep either

Ms. Greenwald is principal of ArchiText, a specifications-consulting and technical-information firm.

an inner vestibule door or an outer door closed while the other is open.)

Physical-performance criteria are usually somewhat less stringent for storefront than for glazed curtain wall, but many of the considerations are similar, and performance criteria are usually included in specifications. Storefront systems are differentiated from curtain wall in that they do not normally span more than a single story. They must, nevertheless, still resist wind load, thermal movement, air infiltration, water leakage, and condensation. They may also be vulnerable to vandalism, and use of laminated glass or security glazing may be advisable. Storefronts at grade level in northern climates are also likely to be exposed to snow, requiring extra structural strength and/or waterproofing, and to de-icing salts, requiring extra finish protection.

For more information

Publications available from American Architectural Manufacturers Association. 708/202-1350:

Aluminum Store Front and Entrance Manual (SFM-1, 1987).

Windloads on Components and Cladding for Buildings Less than 90 Feet Tall (TIR-A-10, 1992).

Voluntary Test Method for Thermal Transmittance and Condensation Resistance of Windows, Doors and Glazed Wall Sections (AAMA 1503.1-88).

Field Check of Metal Curtain Walls for Water Leakage (AAMA 501.2-B3).

Publication available from the American Institute of Architects. 202/626-7300: MASTERSPEC Section 08410 *Aluminum Entrances and Storefronts*, including related evaluation sheets, and drawing- and specification-coordination sheets.

Publication available from the Construction Specifications Institute. 703/684-0300: SPECTEXT Section 08410 *Aluminum Entrances and Storefronts*.

Publication available from the Sweet's Group, McGraw-Hill, Inc. 800/442-2258: *1993 Catalog File, General Building and Renovation—Selection Data* "Entrances: assemblies," pages 96-97. ■

Aluminum Entrance and Storefront Guide Specification

PART 1. GENERAL

A. System description

1. Structural requirements: system shall meet or exceed the following as demonstrated by calculations and testing:
 - a. Wind loads: engineer systems to withstand design wind loads of (value as required by code; 20 to 30 psf is typical for lower-floor locations) psf positive and negative pressure.
 - b. Factors of safety: systems shall be designed to sustain without damage a proof load of 1.5 (or other) times design-wind loads when tested in accordance with ASTM E330.
 - c. Deflection limits at design loads: For metal members supporting glass: Perpendicular to plane of wall: (values of L/175 and L/240 are typical). In plane of wall: (value typically limiting deflection so that glass bite is not reduced by more than 25 percent and edge clearance between the framing member and the glass is not less than 1/8 in. The minimum clearance between the member and an operable door or window may also be specified.) Insert other limits, such as that of glass.
 - d. Thermal movement: provide for expansion and contraction of component materials caused by an exterior ambient temperature ranging from (high number) to (low number).
2. Air infiltration: not more than 0.06 cfm per square foot, when tested at (value, typically 6.24) in accordance with ASTM E283, exclusive of operating leaves of doors.
3. Water leakage: no leakage when tested at (value; many systems can meet 10-12 psf), in accordance with ASTM E331, exclusive of operating leaves of doors. (Include separate criteria for leaves of doors if required; information is available from storefront manufacturers.)
4. Condensation resistance: provide systems tested for thermal performance in accordance with AAMA 1503 showing condensation resistance factor (CRF) of not less than (values up to 55 are readily available; check with manufacturers).

B. Submittals

1. Product Data: (For standard systems, and for manufactured components of custom systems).

This look at storefronts includes general considerations for all types and an outline specification for installations in aluminum frames.

2. Shop drawings and calculations; submit shop drawings, signed and sealed by a structural engineer licensed in (state). Submit calculations verifying conformance with specified structural requirements.
3. Test reports: performed by an independent laboratory, indicating compliance with specified performance requirements.
4. Samples: (glass, aluminum finishes, hardware)

C. Quality assurance

1. Laboratory testing: (Insert requirements for standard or custom systems as required.)
2. Installer qualifications: (Insert experience requirements.)
3. Pre-installation conference: (Specify if needed for coordination and to reinforce project requirements.)
4. Mock-up: (Specify if needed for project.)

D. Warranty

1. Submit a written warranty, executed by the manufacturer, agreeing to repair or replace units that fail in materials or workmanship within the specified warranty period. (Add more detailed requirements, such as warranty of insulating-glass seal, metal finish.)

PART 2. PRODUCTS

A. Acceptable manufacturers

1. Design criteria: the drawings are based on the following products. (List products, manufacturers.)
2. Manufacturer: Subject to compliance with requirements, provide the above products or equivalent products from one of the following manufacturers, which will be accepted provided deviations in dimensions, profiles, and other qualities are minor and do not change the design concept as judged by the architect. (Insert additional manufacturers.)

B. Materials

1. Aluminum members: alloy and temper recommended by manufacturer for strength, corrosion resistance, and application of required finish.
 - a. Extrusions: ASTM B221.
 - b. Sheets and plates: ASTM B209.
2. Glass: 1-in.-thick sealed insulating glass consisting of two panes of 1/4-in. clear tempered glass with 1/2-in. air space and manufacturer's standard two-stage edge

seal, complying with ASTM C1048 for Type FT and with ASTM E774 requirements for Class CBA. (Amplify and revise glass requirements as required for project.)

3. Glazing system: manufacturer's standard gasket glazing system complying with performance requirements and FGMA "Glazing Manual."

4. Anchors and fasteners: concealed corrosion-resistant metals compatible with aluminum.

C. Fabrication

1. Framing systems: provide storefront- and entrance-framing systems fabricated from extruded aluminum members of sizes and profiles indicated, as complete systems with all accessories required for compliance with specified performance requirements. Provide storefront-frame sections without exposed seams.

2. Door frames: provide extruded tubular and channel door-frame assemblies, as indicated, reinforced to support required loads. (Revise above if stops will be applied directly to storefront.)

3. Stile-and-rail entrance doors: provide doors with tubular frame members, of thickness, size, and style shown on drawings.

4. Glazing: fabricate systems to facilitate replacement of glass. Provide snap-on extruded aluminum glazing stops, with exterior stops anchored so they can not be removed.

5. Finish hardware: (Specify hardware here if desired.)

D. Finishes

1. Clear anodized finish: AA-M12C22A41.

2. Color anodized finish: AA-M12C22A42/A44 complying with AAMA 606.1 or AAMA 608.1.

- a. Color: (name).

3. Baked enamel finish: AA-C12C42R1x complying with AAMA 603.8 except with minimum dry-film thickness of 1.5 mils, medium gloss. (Not recommended for doors or other surfaces subject to abrasion.)

- a. Color: (name).

4. High-performance organic coating: AA-C12C42R1x complying with AAMA 605.2.

- a. Color: (name).

PART 3. EXECUTION

A. Installation

1. Install entrances and storefronts according to manufacturer's instructions and final shop drawings, and to comply with performance requirements.

2. Set units plumb, level, and true to line, without warp or rack of framing members or doors.

3. Construction tolerances: install aluminum entrance and storefront to comply with the following tolerances. (Insert appropriate tolerances for project.)

4. Separation: separate aluminum from sources of corrosion or electrolytic action.

5. Drill and tap frames and doors and apply surface-mounted hardware items, complying with hardware manufacturers' instructions and template requirements. Use concealed fasteners wherever possible.

B. Field testing

1. After completion of storefront installation and related glazing, and prior to installation of interior finishes, test in accordance with AAMA 501.2 "Field Check of Metal Curtain Walls for Water Leakage," except that architect may designate all storefront or any portion for testing. (The above is a simple hose test; add pressure-chamber test for air and water infiltration if required.)

C. Adjustment and Cleaning

1. Adjust entrance doors for proper operation.

2. Clean glass after installation, and again within one week prior to substantial completion. ■

For more information on entrances, see Product Literature section this issue.

Start-Up

Contemporary pieces from a young American designer mix urbane shapes with country colors.



1



2



3



4



300. Idiosyncratic

Ohio-born craftsman Marquis (Marc) Ewing is very much the master of his own style, working in a business-like manner similar to British designer/maker John Makepeace. Nevertheless, he started learning about furniture—how to design it and how to make it—in the most traditional way: from his father.

Then, following a move from the Midwest to northeastern New Jersey in 1981, Ewing apprenticed with European-trained master furniture makers, learning craft and hand-finishing techniques certainly more representative of the 18th century than those found in the nearby IKEA superstore.

With his first collection, called Zoom, Ewing blends elements of the pieces he learned on. Woods (ash predominates) have a distinct grain like some Deco furniture, and the curves of his sideboards seem Frenchified, but Ewing's results are fresh, urbane designs all his own.

The limited-production line, about a half-dozen pieces, includes sideboards and storage, shelving, a large mirror, and a low table. Made of book-matched hardwood and veneers, the furniture is distinguished by vibrant colors: a choice of 20 different aniline stains, protected by a hand-rubbed clear finish. Legs (more like feet) are highly polished aircraft-grade aluminum. The backs of all pieces are finished, so furniture does not have to be pushed against a wall. Zoom (1) is a bookcase/room divider with five shelves that vary in depth from 12- to 5 1/2-in. The 74-in.-high armoire (2) can be ordered with a customized interior fit-out. The Zona cabinet (3), shown open and shut, has four doors and two adjustable shelves, and, at 48 in., is high enough to work as a room divider. The Zamitria sideboard (4) incorporates several Ewing touches: doors are topped with a subtle curve (the top surface itself is flat); hinges are both concealed and adjustable, and its metal legs are eye-catching.

Retail prices for the made-in-New Jersey furniture start at \$1,200. ZAP Industries, Belleville, N. J. ■

James Davis photos

Health and Hospitality: To the (Price) Point

*Innovations in fiber and weaving technology
revitalize heavy-duty textiles.*



301

Moderate price was the rallying cry at NEOCON for marketers of commercial textiles into contract and healthcare applications. (Moderate, in this usage, means materials made to sell for \$20 to \$40 per 54-in.-wide yard.) But if the price was competitive, design and textile innovation were the winners: the very decorative fabrics shown here are said to meet the most severe flame-spread and wear standards. *J. F. B.*

301. Schumacher commissioned five talented designers and architects to come up with three totally new patterns each—and then fabric maven Kristie Strasen made sure the colorways worked one with another across the program. F. S. Contract, New York City.

302. Three lush cotton tapestries designed by Susan Lyons combine Indian and Provençal floral motifs. Here, “moderate” stretches a bit, at \$44 per sq yd. DesignTex, Woodside, N. Y.

303. Woven of fire-retardant Trevira FR polyester, Garden Party is bold and festive. Pollack & Associates, New York City.

304. Developed in Zeftron 200 nylon specifically for the ultra-cleanability needed in healthcare, Sina Pearson’s impressionistic upholsteries complement the colorways of stain-resistant carpets from three major mills. The solution-dyeing technique used insures that both carpets and fabric are technically identical in hue, and remain in harmony under different light sources. Sina Pearson Textiles, New York City.

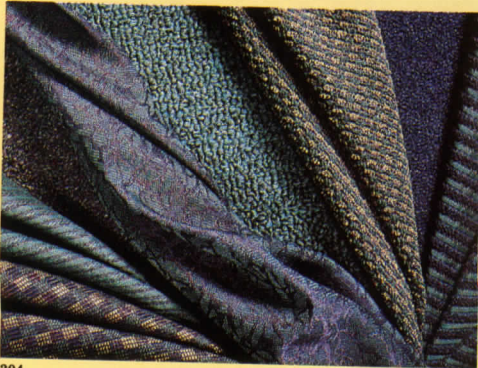
305. Also aimed at the price-sensitive healthcare market, a tone-on-tone bamboo motif of solution-dyed nylon is particularly abrasion-resistant. Deepa Textiles, New York City. ■



302



303



304



305

ADD Inc. Opts for No CAD Operators

By John Hughes

CAD operators have gone the way of elevator operators at ADD Inc., a 50-person architecture and interior-design firm in Cambridge, Massachusetts. After 12 years of CAD experience, the firm recently shifted from its original CAD setup to less complex systems and software that allow networked stand-alone computers to automate the firm at every level. Now, everyone from principals to support staff use the computer (and have fun doing it).

While ADD Inc. chose a Macintosh system, "you could certainly create the same setup with a DOS-based system," notes firm associate and MIS director Matthew Meyer. "The point is that we are getting much more sophisticated products with much simpler means. I think the trend toward high-end systems is way off base. They are more appropriate for aerospace engineers than architects."

Since purchasing its initial workstation, ADD Inc. has continuously revised its computer capabilities, which started with mini-computers run by dedicated operators. It then bought two PCs to run an AutoCAD package and turned the old system into a PC-based setup, still run by a small core of trained operators. The firm bought the current networked stand-alone system for administration, but soon moved it into design and marketing. "It became clear to me that new simpler products could handle all of our work, whether it was 3-D modeling, 2-D drafting, digital imaging, desktop publishing, spreadsheet development, or database management," explains Meyer, who saw the opportunity to get firm designers to use the system.

"I think a traditional CAD solution perpetuates segregation of users and non-users," says Meyer. "This limits the decision-making capabilities of upper managers. Working directly with a system enables our primary decision makers to know exactly what can be done and how long it takes to do it." Potential benefits were yet to be proven prior to the transition. As a result, Meyer's task of

John Hughes is a free-lance writer in Fort Collins, Colorado.



For 184 High Street in Boston, a cibachrome of a 35mm photograph, scanned into a computer and enhanced using photograph-manipulation software, results in a photorealistic simulation of proposed renovations.

selling his vision to the firm's executive committee was not easy. "We had an enormous investment in the existing systems," explains firm principal Wayne Koch.

But the work coming out of ADD Inc.'s new system made Meyer's point. Most programs have consistent features: pop-down menus, icons, windows, a mouse-controlled pointer, dialog boxes and buttons, scroll bars, cut-and-paste, etc. Thus, the firm discovered that a range of software programs not traditionally associated with the architectural field was useful for design. Rather than taking the weeks required to get up to speed on their previous system, the firm's designers could attend training sessions in the morning and have quality presentation drawings the same day. "We do a lot of programming, as well as design," notes Koch. That is the reason the new system was particularly appropriate. The move also made economic sense.

Although some argue that ADD Inc.'s solution is expensive compared to PCs, Meyer says these costs are negated by savings in training and computer-administration time. For example, the system makes it easier to perform backups and develop layering conventions.

Enhanced capability

Because the new technology prompts greater integration of office functions and computer use by everyone in the firm, it reduces turnaround time for the firm's drawings, specifications, change orders, etc., and increases profits. The graphic quality of presentation, marketing, and production materials has improved, and there is a greater range of presentation options available. Moreover, filing and keeping records is done by the system, meaning that the professional staff is more sophisticated in manipulating and presenting data to clients.

Since the beginning of 1993, ADD Inc. has gone from eight Macintosh systems to 30, ranging from the lowest-level model, the Classic, to a higher-level model, the Quadra 700. Most of the firm's computer stations are Mac IIci's. ADD Inc.'s networking capabilities revolve around AppleShare 3.0, while existing PCs run on their own XENIX network. Each PC also has an AppleShare card that allows it to see ADD Inc.'s file servers. With this setup, 80 percent of the firm's work—from marketing and administration to design, presentation, and production—is computer-based.

Sales/marketing

Using its current system, ADD Inc. can present clients with quickly grasped perspectives and diagrams of design ideas. Using simple software, the firm can take straightforward drawings and turn them into extraordinary marketing presentations without adding to expense. For example, a recent project was a quick design study of how a client might renovate the entry to 184 High Street, a tower in Boston's financial district (photo left). Rather than produce a set of architectural drawings, the firm used a snapshot of the building and PhotoShop, a photograph-manipulation program developed by Adobe Systems, Inc. After

Now, principals, project managers, designers, and technical and support staff themselves work the new technology.

cleaning up the photograph by enhancing the sky and removing cars, street signs, and pedestrians, the architects offered the client several photographic images of options for signage and lighting. All of the work came to less than eight hours of computer time.

"That would have been impossible using our previous systems," says firm principal Mark Glasser. "Without running up significant costs, we could have developed only a hand-drawn perspective that would give the client a more limited number of less realistic views."

Of greater sales and marketing importance, however, is ADD Inc.'s design and production of project storyboards. By combining several images from a variety of software products onto one presentation board, the firm offers a client a graphically comprehensive representation of the project.

For example, a building-owner client trying to lease office space in a competitive market can present a prospective tenant with a board showing a space plan, stacking diagram, location map, and exterior and interior photographic images of the building's amenities. Furthermore, these boards can be easily customized to that tenant by selecting and integrating images that respond to the tenant's particular concerns.

Design

ADD Inc. assigns one team to a project through all design phases. Design concepts are generated both by computer and by hand. Illustrations of multiple concepts often are done on computer, allowing the design to be developed in a dual process with hand sketches and computer planning. Data, such as site characteristics, are gathered by both hand and computer. The presentation materials can be generated by the computer and perspectives finished by hand. Design-development work is directly converted to construction documents on CAD.

Appropriately, the first project that went through all phases on ADD Inc.'s Macintosh machines was an Apple sales office at One Federal Street in Boston. The marketing proposal, many of the design and presentation materials, and the construction

documents were produced on the computer. ADD Inc. also is creating designs for the renovation of the 38-story building. The storyboard (below), illustrating the approved space plan for Apple's sales offices, also helps the building owners market the upper floors. The storyboard shows potential tenants their space as seen from inside and outside the building, as well as their views.

Technical

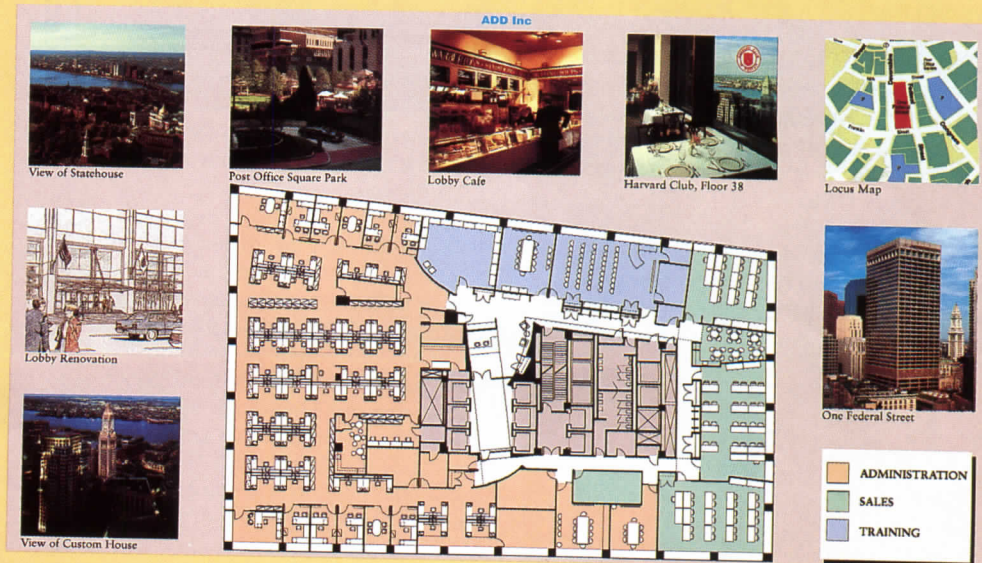
ADD Inc.'s move to the new equipment solves the firm's previous problem of deciding which projects to put on CAD. This decision typically hinged on whether the project was large enough, if there were enough repeatable items, etc. The new ease of use makes CAD practical for all of the firm's projects.

In addition to improving drawing clarity, ADD Inc.'s systems have been developed to improve gathering, manipulating, and presenting related project information. For example, for the 1.1-million-square-foot Silver City Galleria in Taunton, Massachusetts, the firm responded to one

client's need by developing a tracking program for tenant design and construction, which significantly reduced the owner's need for a tenant-coordination staff. ADD Inc.'s staff also uses its system to produce programming studies that can be easily manipulated as the client's needs emerge, and to store files of typical architectural details, graphic presentation formats, and shop-drawing logs.

Despite the Macintosh mania that pervades ADD Inc.'s office, the firm does not have an affiliation with Apple. Merely, ADD Inc. is promoting a theme: use a simpler, more effective form of technology. ADD Inc. discovered that giving design-oriented people the equivalent of a turbo-charged parallel rule allowed them such benefits.

When Renaissance artists developed the perspective, it propelled architecture onto a higher plane of communicating space and form. Perhaps history will show us that architecture truly entered the computer age when clever people were given simple computer tools to solve complex tasks. ■



For One Federal Street, this storyboard was created using images produced on CAD and digital-imaging systems within a desktop-publishing program, resulting in a varied yet integrated series of images.

Inexpensive Windows CAD

By Steven S. Ross

Inexpensive but highly capable 2-D CAD software is beginning to appear for Windows. Even though Windows offers a standard interface, however, vendors don't have to use all of it to take advantage of Windows utilities such as printer and plotter drivers, and the clipboard for data exchange. Thus, their different approaches have created some confusion in the marketplace. The three packages discussed here are at about the outer limits of diversity in this category—with quite different strengths and weaknesses. All are available on the street for well under \$400.

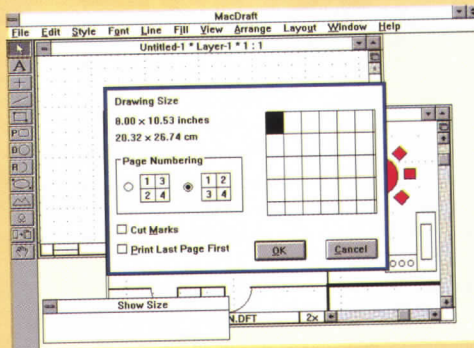
About the closest Windows product to these in price versus performance is Drafix from Foresight [reviewed in RECORD, February 1993, page 39]. At \$695 list, it is more expensive, but street prices are lower.

MacDraft for Windows has an interface and command conventions almost indistinguishable from the Macintosh software from which it was derived. The file structures of the drawings produced by the two versions are different, but a good translator is free.

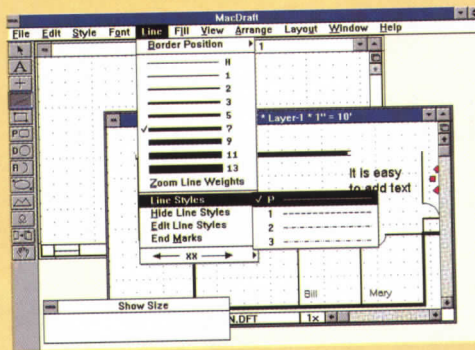
AutoSketch for Windows comes from the AutoCAD folks. It has an impressive suite of drawing tools (and a clever way of deciphering which tool is which), but can open only one window at a time and can exchange files only via DXF.

TurboCAD Professional from IMSI is far more capable than the firm's older DOS version, and has better file exchange capabilities, including DXF and IGES. ■

MacDraft for Windows



MacDraft for Windows—setting up drawing size; you normally save drawing settings as “stationery” that can be recalled to apply the style to a new drawing.



Line styles can be edited in MacDraft, but you can't get a hollow double line.

This 2-D drafting program, as advertised, has the look and feel of the Macintosh version—the most widely used Macintosh 2-D drafting package. You can keep up to four drawings or symbol libraries open at one time, and cascade or tile them on screen. Those who use Macintosh System 7's Apple File Exchange utility can translate drawing files back-and-forth inside the Mac. For those who need to translate inside the PC, a free converter comes when you register MacDraft by mail.

The multiple-document feature, combined with the ability to load a specific layer from one document into another, allows you to move scanned TIFF (Tagged Image File Format) images (for backgrounds and the like) into your drawings.

MacDraft for Windows Summary

Equipment required: Any DOS computer capable of running Windows. Mouse (rather than digitizer) recommended, VGA screen (color recommended). The program files take about 2 MB on disk. It will run on systems as crude as 80286 with 1 MB of RAM and EGA screen, but an 80386SX is more comfortable. The more memory you have, the more layers are available; 4 MB is comfortable.

Vendor: Innovative Data Design, 1820 Arnold Industrial Way, Suite L, Concord, Calif. 94520, 510/680-6818; fax 510/680-1165. \$399; unlimited technical support by phone.

Manual: A single spiral-bound book—well written and well illustrated—contains refer-

As in many Macintosh programs, you save styles for different types of drawings by saving “stationery” files containing specific images, default settings, text, and so forth. Loading stationery files overrides whatever default settings you may have when you open the program.

The palette of tools is permanently placed on the left of the screen; you can hide it, to increase drawing area, but you can't move it around the screen. You change styles by using the pull-down menus. Thus, to draw a thick line (to represent a wall, for instance) you go to the pull-down “line” menu, choose a line style, then go to one of the line tools in the palette—a line constrained to horizontal or vertical, for instance, or the polygon or rectangle tool. There is limited editing of line styles, but no way to get a double parallel line (favored by many drafters for representing walls). You can also edit colors and fill patterns.

Whatever fonts are loaded in your system (Windows TrueType fonts, for instance) are usable automatically inside MacDraft.

You can group objects by placing them on a specific layer, enclosing them in a fence, or clicking on them.

Freehand drawing options include the standard bezier and splines.

AutoSketch for Windows

ence material and tutorials.

Ease-of-use: Smooth and fast. File sizes are quite small, even when many areas are filled—each fill pattern is only stored once; the fill lines are not considered separate elements by the drawing. It is easy to save sections of your drawing inside symbol libraries. In general, you export or import data through the Windows clipboard.

Error-trapping: There's an undo command (to undo the last action), a redo (to put it back), and a "revert," which opens the last version you've saved to disk. When you move from window to window among the four documents that can be open at once, the undo and redo commands refer to each separate window. Aside from that, you can only undo the last command in each window. ■

MacDraft is a compact, fast program. Each layer can contain as many as 15,000 objects, which certainly would slow things down if you approached the limit. But most uses involve just a few hundred objects per layer, at the most.

MacDraft invites "sketching" with its various curve tools; if you don't quite like a shape or a line, you can edit, smooth, or erase sections of it. Polygons or polylines can be smoothed only once, however; to edit them, you erase a section, draw a replacement, and then smooth the resulting image again. Even the dimensioning (areas and lengths) is dynamic.

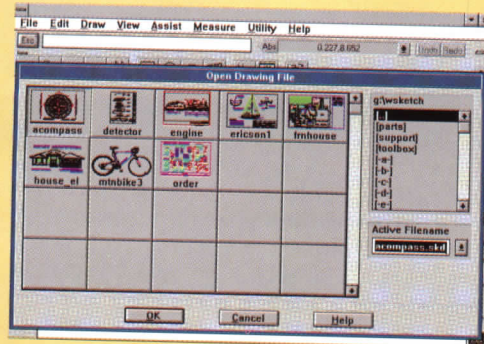
Offices that use MacDraft on the Macintosh should find MacDraft for Windows particularly attractive. So should those for whom cost is a big consideration; less than \$1,000 worth of hardware runs this package comfortably (compared to close to \$2,000 worth of Mac equipment). But it is more difficult to use MacDraft with other packages because translation capabilities are limited. And the Mac version seems faster on low-end Macs than the Windows version does on low-end PCs. **Circle number 306**

AutoSketch from Autodesk requires the most disk space and machine resources to use comfortably. AutoSketch contains all of the drawing tools of MacDraft except rectangle with rounded corners. It does do automatic fillets and chamfers (although you have to draw both lines to make a wall, the intersections clean up quickly). There's also a simple macro language.

AutoSketch makes it easy to import or export drawings—whole or layer-by-layer—as DXF files. AutoSketch also uses the clipboard, and is a fully functional OLE (object linking and embedding) server. That is, you can link an AutoSketch drawing with any document that accepts object embedding—Excel and Word for Windows are examples. Although you can copy a drawing or a section of a drawing out through the clipboard as a bitmap for OLE, you cannot bring a bitmap in—unlike MacDraft.

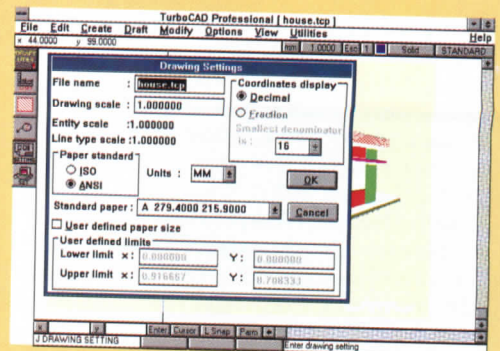
Its "file open" facility is strictly non-Windows, but extremely practical; it displays thumbnail images of the files themselves. The symbol libraries work the same way—handy, because the package comes with 2,000 symbols (about a third of them architectural). You can only keep one window open at a time, however.

Another example of how AutoSketch exists in Windows but not quite as part of it: It *Continued on page 120*



All right, it's not the standard Windows interface. But you can't deny that picking the file you want from thumbnail illustrations is convenient in AutoSketch for Windows.

TurboCAD Professional



Settings sheet in TurboCAD Professional is straightforward.

An entirely different product from the inexpensive TurboCAD DOS version that IMSI has been selling for years, TurboCAD Pro uses different hot-key commands, a different file structure (it can import files from the DOS version), and a surprisingly advanced macro language (it looks a lot like BASIC; IMSI calls it DPL for Drafting Package Language).

Out of the box, this is the only one of the three packages that can actually draw parallel lines quickly for representing walls in a plan (you draw a single line or curve and then specify an offset with the "parallel" drawings tools).

The package comes with import and export programs for DXF, IGES, and INT (drawings produced by the DOS version of TurboCAD). These converters actually run under DOS, but are accessible from icons in Windows. We had some trouble with INT conversions; a better module is promised by the time you read this.

Dimensioning is associative. There's a wide range of dimensioning tools (ISO and ANSI), import of straight ASCII text from word-processing files (or Windows Write or the Notepad). There's a good symbol library facility but no symbols are actually included with the package.

Using all three mouse buttons takes some getting used to, but it allows you to change some settings on the fly. The use of the *Continued on page 121*

The Monograph as Monument

Emilio Ambasz Inventions: The Reality of the Ideal, New York: Rizzoli, 1992, 360 pages, \$65 (cloth), \$40 (paper).

Leon Krier: Architecture and Urban Design 1967-1992, edited by Richard Economakis. London: Academy Editions, 1992, 299 pages, \$80.

Scogin Elam and Bray: Critical Architecture/Architectural Criticism, edited by Mark Linder. New York: Rizzoli, 1992, 224 pages, \$60 (cloth), \$35 (paper).

Reviewed by Nancy Levinson

In recent years, the monograph has achieved an odd status in the architectural world—popular with both readers and subjects, but so predictable in its format that it has become almost a cliché. For architects whose work exists mainly as drawings and models, the monograph has become the monument.

Both *Emilio Ambasz Inventions: The Reality of the Ideal* and *Leon Krier: Architecture and Urban Design 1967-1992* follow closely what has become typical monograph style. Each provides a largely chronological record of projects, explained bountifully in images and more or less scantily in text. Each is an impressive, well-produced object.

The Krier book is the more ambitious, more fully conceived and satisfying of the two. Using an oversized format, Academy Editions has devoted 300 pages to documenting all of Krier's projects and many of his major writings. The editors and designers have artfully packed the pages with Krier's provocative diagrams and sketches, and with his impassioned polemics against Modernist planning; they've also included lucid essays by Demetri Porphyrios and David Watkin.

Given the book's scope and achievements, it is disappointing to discover that the editors have neglected to include some pertinent information. Many of Krier's projects were losing entries to invited competitions. The project descriptions, however, do not tell us who won the competitions or how the sites were subsequently developed. And, surprisingly, the book contains neither a bibliography of publications by and about Krier nor a biography of its subject.

Rizzoli's book on Emilio Ambasz does include a full bibliography and a biography of the Argentine-born architect. The bulk of the book concerns Ambasz's urban, architectural, and industrial-design projects from 1988 to 1991. Like the publisher's 1988 monograph on Ambasz, *The Poetics of the Pragmatic*, it transports us to the designer's striking and idiosyncratic world of buildings fused with landscape. Eighteen architectural works are presented here.

Whatever one thinks of Ambasz, the monograph has succumbed to one of the limitations of the genre: too little heed paid to text. An overview of Ambasz's career by Peter Buchanan has insight, and Ambasz's own writings, eight of which are reprinted here, are always absorbing and often inspiring. But the essays by Tadao Ando and Fumihiko Maki—both of whom are also the subjects of recent Rizzoli monographs—are little more than appreciative comments, more suited to an awards dinner than a major publication. And the foreword by composer Ryuichi Sakamoto, who scored the television show *Wild Palms*, consists mainly of New Age platitudes, such as, "If I were the chairman of the committee for the Return of the Entire Humankind to Earth, I would first go to Mr. Ambasz and ask him to be our architect."

Even less satisfying are the brief descriptions that accompany the architectural projects. Written (it's not clear by whom) in the partisan but bloodless style of the marketing brochure, they give only the most literal information about design and site.

In contrast to the Ambasz monograph, *Scogin Elam and Bray: Critical Architecture/Architectural Criticism*, also from Rizzoli, has been conceived as an equal pairing of image and words. Based on a 1990 symposium held in the architects' hometown of Atlanta, the book includes excerpts of discussions and critical essays by participants Mark Linder, Ann Bergren, Jeffrey Kipnis, Alan Plattus, Anthony Vidler, and Jennifer Wicke. Interspersed throughout the writings—in some senses illustrating them—are 13 projects by SEB, as well as a sampling of Mack Scogin's extraordinary sketches. Beautifully presented in color and

black-and-white photographs and drawings, the projects include such well-known works as Chmar house and the Clayton Country and Buckhead libraries.

How one responds to the essays, whether they seem enlightening or exasperating, will likely depend on one's predilection to what a contributor calls "the contemporary theoretical moment." As those familiar with this "moment" know, the heart of the matter, the real obsession of much current criticism, is less architecture itself than the literature of architecture and the application of various literary, linguistic, philosophical, and esthetic theories to architecture. And so it is in these critical journeys for which the work of SEB and other architects serves mainly as a point of departure.

The various contributors occasionally lament that architectural criticism seems to interest few in the profession. As Linder admits, "the theoretical enterprise has yet to earn the respect of the common practitioner." Their concern is to the point. At the risk of emphasizing form over content, one wants to suggest that criticism might attract more followers if its practitioners wrote clear English prose. All six critics are members of what Linder calls, with disarming matter-of-factness, "the present theory club." Considered from this perspective, their use of words like "reify" and "privilege" as a transitive verb, of cumbersome neologisms like "dedisciplinize," "problematize" and "intertextuality" amounts to the linguistic equivalent of a secret handshake.

While all these books are handsome to look at, they aren't as carefully produced as they should be. We find faulty punctuation, misspellings, words run together, and instances where one word is used where another was surely intended. This kind of carelessness is all too common today—an outcome of dramatic cutting of editorial staff budgets by those who manage publishing houses. The high quality of the architecture and urban design showcased in these monographs results from what Krier at one point calls "precision, minute attention to detail and fanaticism." These designers deserve as much from their publishers. ■

Landmark American Bridges, by Eric DeLony. New York: American Society of Civil Engineers, 1993, 152 pages, \$40.

This is a splendid book. Centered around photographs and drawings rather than elaborate descriptions and structural analyses, this work by the chief of the Historic American Engineering Record (HAER), an arm of the National Park Service, provides a stimulating insight into those crucial engineering components that glued together the nation's road and rail network across the rivers and canyons that had for centuries broken up the continent into isolated communities.

The book comprises five eras or typologies—pre-Civil War canal and railroad bridges, Civil War-era metal-truss bridges, the American Standard Bridge and its kin, great river bridges, and modern works. Each bridge typically receives two pages with concise data and a “box score” with credits and dates. Most appealing to the architect's eye are the varying scales, the interplay of heavy load-bearing and light tensile members, the play of light and shadow, and the landscape contexts of this most technically elegant of mankind's artifacts.

My only quibble with the text is an excess of what I call the baseball stats game—“this is the second widest, earliest, third longest suspension bridge,” and so on. Such games, though, don't detract from the joy of owning or studying this important book. S. A. K.



Ouaquaga Bridge, 1888, Ouaquaga, N. Y.

Redefining Designing, by C. Thomas Mitchell. New York: Van Nostrand Reinhold, 1992, 162 pages, \$35 (paper).

From Idea to Building: Issues in Architecture, by Michael Brawne. Oxford: Butterworth, 1992, 240 pages, \$53 (paper).

Reviewed by Naomi Pollock

Both *Redefining Designing* and *From Idea to Building* are concerned with the design process. In the former, C. Thomas Mitchell criticizes architecture that emphasizes the visual aspects of building over function and explores several user-sensitive approaches to design. In the latter, Michael Brawne doesn't aim to reform but rather to analyze the design process along the lines of a scientific model first developed in the 1920s.

Mitchell, a professor of design and director of the Center for Design Process at Indiana University, argues that design approaches to date have failed because they have not fulfilled user needs. According to Mitchell, the form of Modern architecture did not follow function but instead was driven by technology, resulting in buildings that stressed universal solutions, not individual client needs.

The pluralist attitude of Postmodernism, says Mitchell, was an improvement, but fell short for it continued to focus on the artistic value of architecture. And Deconstruction seems to have washed its hands completely of any obligation to functional requirements.

As an alternative, Mitchell exhorts designers to learn from user-responsive theories, such as the design methods movement founded by John Chris Jones and Christopher Alexander in England in the 1960s. Though this movement failed to have a significant impact on the design process, it did spawn Alexander's “pattern language” that emphasized the critical link between patterns of activity within a space and the layout of that space. It also provided users with a means to shape their environment.

The key to the work of Jones and Alexander is its emphasis on people's experience as opposed to the design of beautiful objects. One of the most convincing applications cited by

Mitchell is an office created using the “collaborative environmental design” method in which architect and client work side-by-side through the medium of models. The goal was not a formal object, but rather a building that addressed the users' experience of the space.

On the other hand, Brawne, an architect who taught at the University of Bath in England for many years, accepts function as but one aspect of architecture responsible for user satisfaction. In his view, people comprehend buildings through an intricate web of memory, and visual and kinetic stimuli that often defy verbal description and are not responsive just to practical user needs.

Instead, Brawne favors a broader basis for design that is analogous to philosopher Karl Popper's evolutionary, scientific model, formulated in Vienna in 1920. The model begins with the statement of a hypothesis which is criticized and revised, resulting in a solution that, in turn, presents a new hypothesis, triggering the process all over again. In architecture the hypothesis is the initial response to a given design problem and takes the form of some existing model. This model is then altered to fit the project's particular constraints, which leads to the creation of a new design. Brawne uses as an example Le Corbusier's La Tourette monastery, which he says was modeled after a Greek monastery the architect saw as a teenager.

To further illustrate his point, Brawne devotes a chapter to a detailed description of the design process he undertook while working on the National Archeological Museum in Amman, Jordan. Here readers can see the Popper model at work in all phases of design—from the parti (inspired by the Uffizi Gallery in Florence), down to window details (evocative of traditional Islamic window grilles that control light and view).

Both books raise important points about how architects think about and design buildings. While neither book tells the whole story, they both describe valid approaches to design and call attention to the fact that there is no single best way to approach this thing called architecture. ■

Briefly Noted

Hospital Interior Architecture: Creating Healing Environments for Special Patient Populations, by Jain Malkin. New York: Van Nostrand Reinhold, 1992, 488 pages, \$150.

Thoroughly researched and carefully organized for ease of use, this thick volume is an excellent resource for any designer working on healthcare facilities. Malkin, an interior designer specializing in healthcare, devotes the first few chapters to general issues of creating a healing environment, then focuses the rest of the book on particular types of facilities, including children's hospitals, cancer centers, diagnostic imaging centers, congregate-care centers, and psychiatric facilities. The book is well illustrated with color and black-and-white photographs, floor plans, and drawings, and has indexes organized by both subject and project. Almost all of the selected projects are in North America and the general quality of their architecture is quite high.

Primary Health Care Centres, by Martin S. Valins. New York: John Wiley & Sons, 1993, 206 pages, \$60.

Written by a British architect, this book looks at community-based healthcare facilities in six different countries: the U. S., the United Kingdom, Finland, Japan, Denmark, and Sweden. The author provides sketchy introductions to each country's healthcare system, then follows with case studies of individual projects—most of which are innovative examples of healthcare design.

Hospital Design for Healthcare and Senior Communities, by Albert Bush-Brown and Dianne Davis. New York: Van Nostrand Reinhold, 1992, 288 pages, \$50.

A collection of essays by 60 different contributors, this book looks and reads as if it were designed by committee. Disorganized and filled with mostly grainy black-and-white photographs, the book offers texts that range from useful to trite.

Hospital Space Programming: Guidelines for Departmental Space Requirements, by Kenneth N. Dickerman. Jacksonville: Health Facility Publishers, 1992, 288 pages, \$295.

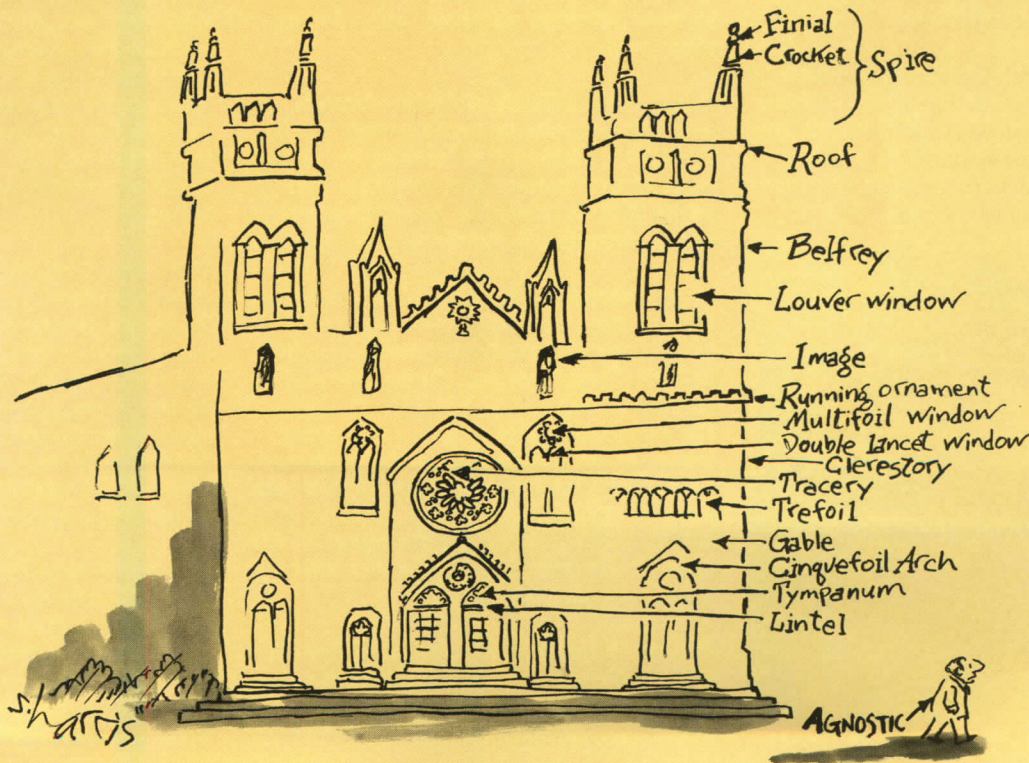
This loose-leaf-binder publication is a workbook for architects and hospital administrators involved in space planning. Areas covered include inpatient nursing services, medical ancillary services, and administrative services.

Changing Places: Remaking Institutional Buildings, edited by Lynda H.

Schneekloth, Marcia F. Feuerstein, and Barbara A. Campagna. Fredonia, N.Y.: White Pine Press, 1992, 430 pages, \$30 (paper).

A collection of essays on adaptive reuse, this book focuses mostly on renovating and recycling old hospitals. Several of the essays look at H. H. Richardson's Buffalo State Hospital for the Insane. ■

Drawn for ARCHITECTURAL RECORD by Sidney Harris

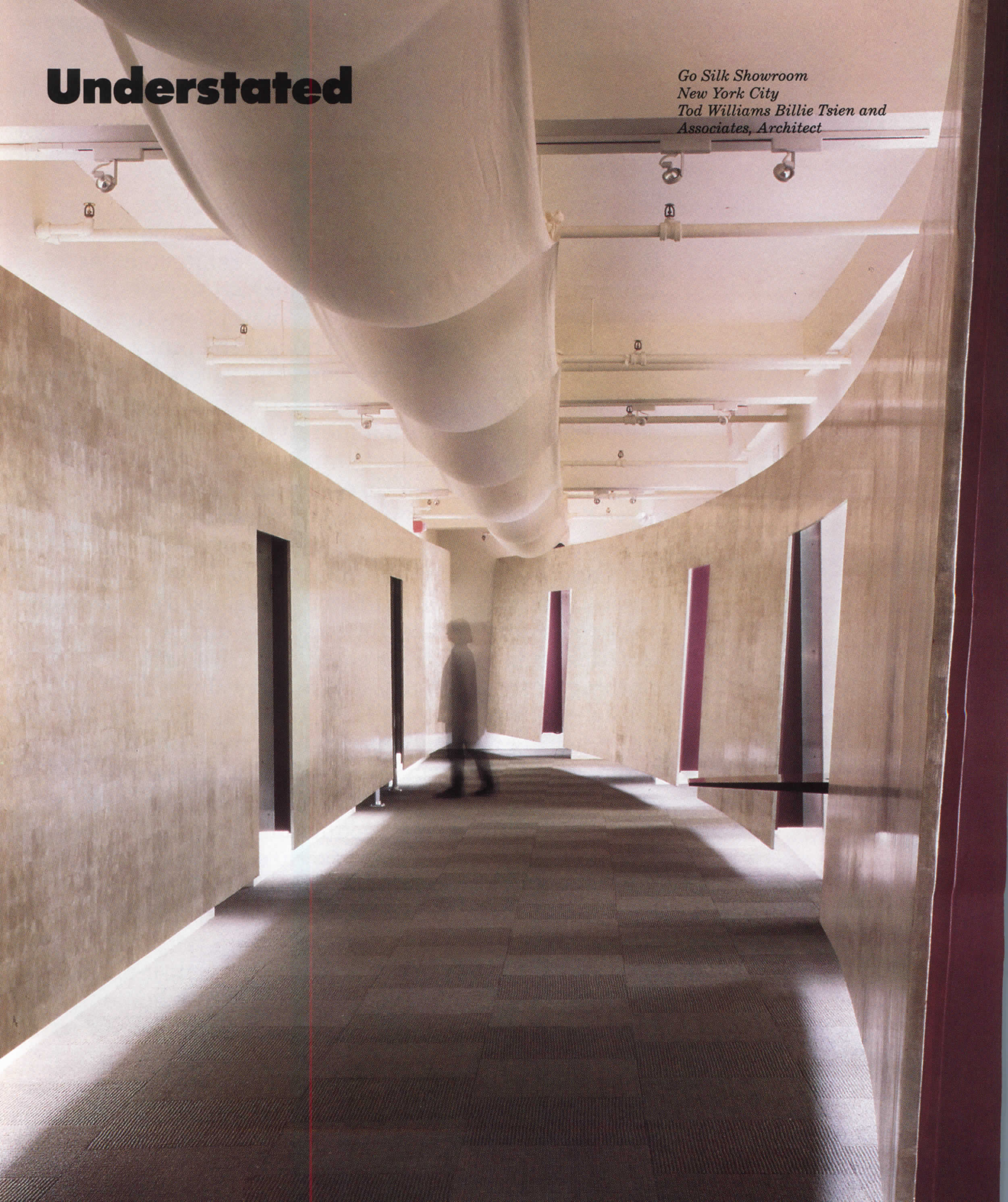


Inspiration is that elusive quality that drives design; when it's fully realized, it has the power to move the intellect or emotions. Architect-artist Laretta Vinciarelli describes her watercolors of imagined spaces (page 106) as "metaphors for [different] states of mind." Though the other designers whose work received the 24th annual RECORD INTERIORS award created actual places, none was satisfied with a merely functional response. Many architects made architectural analogies that illustrate in three dimensions some aspect of who the clients are or what they do—at the same time resolving a complex array of technical and financial requirements. The flowing and serene spaces of Tod Williams and Billie Tsien's showroom for Go Silk, for example, display characteristics similar to their client's fabrics and clothing designs (page 78). Similarly, Jane Sachs's low-budget remodel for B. B. Dakota, a clothing-design and import company, stitches together old and new with ingenuity (page 102). The frenetic energy of a computer chip is captured in Valerio Associates' offices and production space for a computer-equipment manufacturer (page 84). And the clean elegance of Jil Sander's Paris boutique, by Gabellini Associates, is the architectural equivalent of the fashion designer's clothing (page 90). Some clients' desires are as vague as Smith-Miller + Hawkinson's commission for a "happy home" for a New York City family (page 110), or as specific as Yabu Pushelberg's charge to shoehorn 2,000 Broadway-style theater seats into a tight Toronto site (page 96). As Vinciarelli notes: "Our aspirations have spatial counterparts." *K. D. S.*

*Manufacturers' Sources
listed on page 139*

Understated

*Go Silk Showroom
New York City
Tod Williams Billie Tsien and
Associates, Architect*



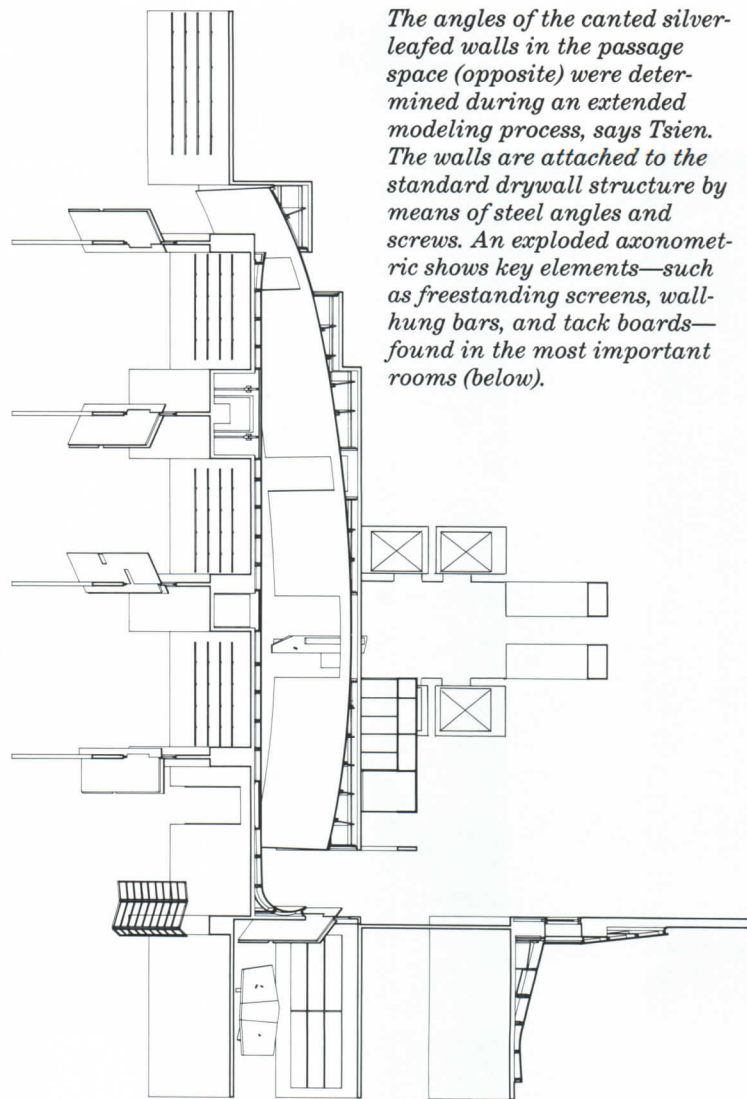
In the razzle-dazzle, go-go world of fashion, sometimes the best way to get people's attention is to whisper. This approach has infused the simple, flowing designs of Go Silk's clothes, and can now be seen in its New York City showroom and office. Designed by Tod Williams Billie Tsien and Associates, the new showroom speaks softly with a subdued palette of colors and a relaxed use of space. The effect on tightly wound buyers is remarkable. As they dash in from chaotic Seventh Avenue or from other showrooms in the same building, you can almost see them sigh with relief.

"We call it 'the decompression chamber,'" says Jerry Hirsch, the president of Go Silk, in reference to the gently curving central space that is the heart and soul of the 7,500-square-foot facility. In a Zen-like use of space, Williams and Tsien kept this room empty to emphasize its importance and its special role. "The space is all about being quiet," explains Tsien. Defined by sloping wood walls projecting out from standard drywall, the room acts as a passage between the small reception area and a row of individual showrooms. The angled walls have hand-applied silver leaf on the front side and a deep maroon stain on the back, giving the room an ethereal quality one step removed from the hustle-bustle of Manhattan. Reinforcing this sense of emotional retreat are floor tiles made with coir (which comes from coconut husks) and a ribbon of silk that is draped from the ceiling and stretches the length of the room. Light from fluorescent fixtures recessed behind the tops and bottoms of the projecting walls adds a final touch, creating the illusion that the walls are floating in space.

The five showrooms entered from the passage space are modest rooms where simple elements such as brushed-aluminum bars, multi-paneled wooden screens, and aluminum-tube furniture designed by Jonas Milder don't upstage the clothes on display. Layered-plywood doors, stained the same maroon, seem to be taken from an exotic wooden puzzle and serve as the strongest visual elements in the rooms. With the doors closed, the rooms function separately; with the doors open, they work as an extended showplace with a runway down the middle. The spare style of the showrooms is continued in the conference room and the president's office, which occupy the western portion of the floor and take advantage of excellent views of the city and the Hudson River. Back-office space wraps around the south and east sides and is built simply, with painted drywall.

Here, as in many of their other projects, Williams and Tsien experimented with novel ways of using humble materials. Both the reception desk and a conference table are made of laminated and sawn flakeboard and particle board, also stained a rich maroon. To reveal the striations in these layered surfaces, diagonal holes were bored through them. The random placement of the holes adds a touch of interest to the designs. In the conference room, tack boards are a type of fiber board made of recycled newsprint that Williams and Tsien have used in various projects over the years. Floor tiles in the showrooms are made of recycled tires and are more commonly found in high-traffic applications than in high-style settings. Although Tsien says she didn't make a special point of specifying recycled materials in this project, environmental sensitivity has become a given in her firm's work.

Williams and Tsien's relationship with Hirsch dates back 12 years now, and includes the interiors of his Greenwich Village apartment as well as designs for a store and a previous showroom for Go Silk. "This is a great work environment," says Hirsch of the firm's latest project for his company. "It's soothing." *Clifford A. Pearson*



The angles of the canted silver-leafed walls in the passage space (opposite) were determined during an extended modeling process, says Tsien. The walls are attached to the standard drywall structure by means of steel angles and screws. An exploded axonometric shows key elements—such as freestanding screens, wall-hung bars, and tack boards—found in the most important rooms (below).



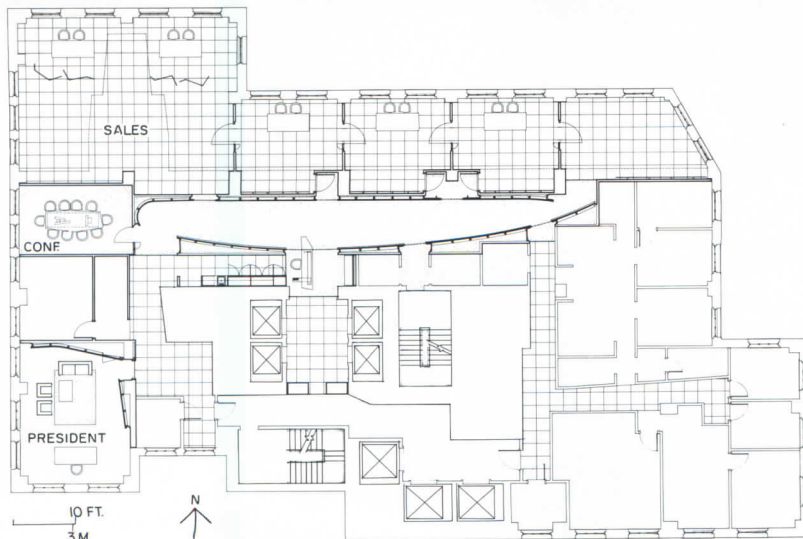




Up Close

A relationship evolves. Tod Williams and Billie Tsien have done work for client Jerry Hirsch for almost as long as Go Silk has been in business. Just a few years after the clothing company got started (and not long after Williams and Tsien established their firm), the architects designed a 3,000-square-foot showroom and a small apartment for Hirsch, both in New York City. Then they designed a Go Silk store in San Francisco. The earlier showroom featured black shoji-like screens and a more open plan. For the latest showroom, the architects wanted to simplify the design and use as few elements as possible, says Tsien. The needs of the client were also changing. "We wanted to work with some private spaces this time," says Hirsch. As a result, the sales space is divided into five different rooms that can be closed off to each other. Another difference is the size: the gross square footage of the new facility is almost three times that of the earlier one. Hirsch is very happy with the larger, simpler showroom. "The flow is great and everyone likes working here." Given \$750,000 to work with, Williams and Tsien's project came in on budget and on time. "They're always good with the bottom line," says Hirsch.

The illusion of walls floating in space is enhanced by light from concealed fluorescent sources and a reception desk that slides into the curving passage area (previous pages). Salesrooms and a conference room (photos this page and opposite) were kept simple and are furnished with aluminum-tube tables designed by Jonas Milder and wood folding screens used for hanging clothes.



Credits

Go Silk Showroom

New York City

Owner: L'Zinger International

Architect: Tod Williams Billie Tsien and Associates—Billie Tsien, Tod Williams, partners-in-charge; Martin Finio, project architect

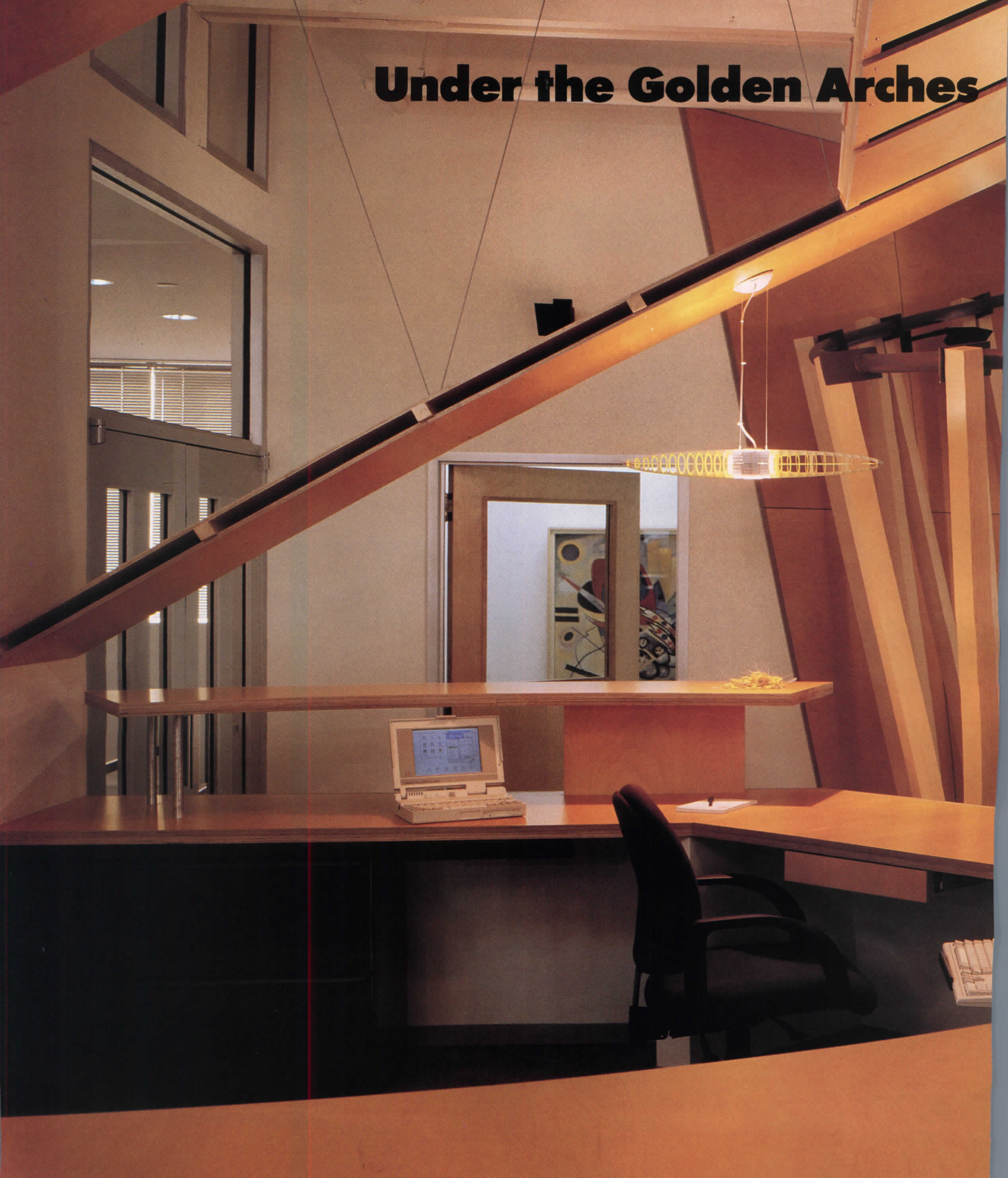
Engineer: Ambrosino Depinto and Schneider (hvac)

Consultants: William Somerville (cabinetry); :USE, Jonas Milder (furniture)

General Contractor: Selby Construction



Under the Golden Arches



Valerio Associates' interior renovation links a building's structuralist past with a view to the future.

Building U2
U. S. Robotics
Skokie, Illinois
Valerio Associates,
Architect



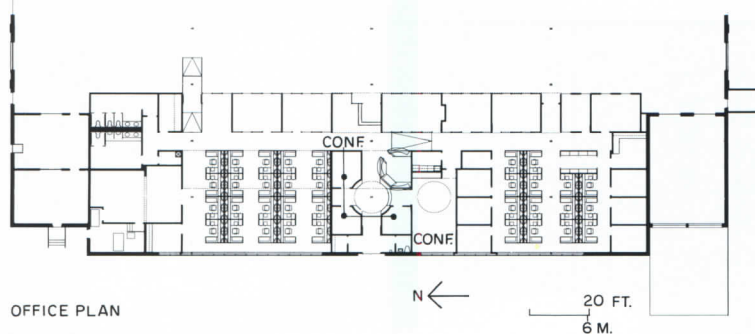
Late 1940s strip-window Modernism is the prevailing esthetic in Skokie's industrial sector, and the facade of U. S. Robotics' Building U2 is no exception. But the banal brick shell masks a fully renovated interior, designed by Joe Valerio, that melds high-tech needs and low-tech materials with a built-in homage to early 20th-century structuralism.

"We retained what was usable from the original structure, namely the 'Modern' facade, the bowstring truss system, and the floor slab," explains Valerio, who gutted the 83,000-square-foot expanse that now houses offices, conference rooms, and production space for a computer-equipment manufacturer. Also spared the wrecking ball were the supporting columns, despite their awkward placement on the main entry axis. "Aligning those supports with the front door was part of the building's inherent ambiguity that we opted to embrace," he says.

Now, employees and visitors pass through several "layers" of Valerio's design, beginning with the outer shell and its strip of windows that provide most of the structure's daylight. Entering a gyroscopic reception area, a steel ring perched atop birch posts orbits the first of several columns that interrupt ambulatory progress towards the second "layer." Here, two window walls stretch 240 feet along the cross-axis, rhythmically alternating panels of clear glass and opaque birch with brushed aluminum casings. Managerial offices are sandwiched between these vaguely-1950s partitions, and look onto the third and last stratum, the production area, which includes a climate-controlled assembly room. "Transparency was a priority, but it was a delicate balance," Valerio admits. "The managers wanted both to see the manufacturing facility and maintain accessibility to the support staff, but they needed some sense of privacy too, which is accomplished by the alternating wood and glass."

Above, bowstring trusses support four ceiling vaults, two of which are punctuated by golden arches of glossy yellow plywood. Spanning 60 feet and crossing at the central axis, the arches skewer walls and dip into work areas, "focusing attention on the roof structure while bringing the vaults down to earth," according to Valerio. Further homage to the structural system is paid in the main conference room, where Valerio "captured" a truss segment, anchoring it within a cylinder carved from the dropped ceiling. "It was a simple, inexpensive way to add decoration," he says.

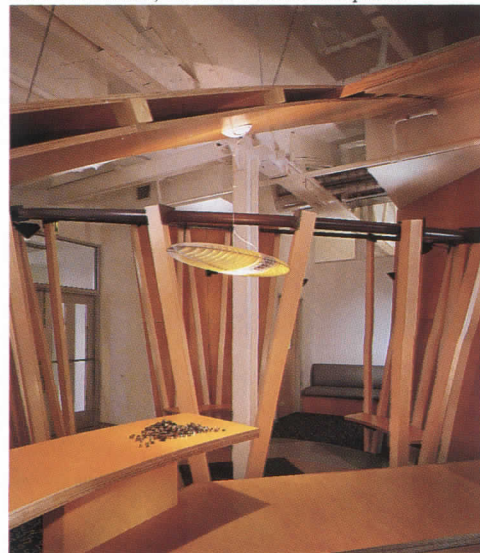
One of the most important aspects of the project was its schedule: seven months from kick-off to completion, thanks to regular weekly meetings with the client and contractor that resulted in an integrated, fluid team able to process decisions quickly. It continues to do so for dozens of other projects the "team" is now engaged in. "The meetings are essential," admits Valerio. "They keep everything moving along." *Victoria Lautman*



Up Close

The reception area. The lobby at U. S. Robotics leaves no doubt that visitors have entered a dynamic world beyond the mundane facade. Valerio immediately established the project's commitment to the truss system by "twisting one into a circle and anchoring it to the ground," creating a constructivist reception area with a column at its hub. Built of cost-effective birch glu-lams bolted to a steel pipe that "tips like a hat" towards the reception desk, the space is bounded by three canted walls behind which small meeting rooms are tucked. Walls, benches, and reception desk are of coated plywood, another economical material favored by Valerio and used in the vault "skins" that arch through the workspaces suspended by steel cables. "The ply's golden color brightened up a potentially gloomy interior," adds Valerio, who used linear fluorescent fixtures to provide up- and down-lighting, with standard factory lighting in the plant.

Barbara Karant, Karant + Associates photos



The spumoni-like layers of Valerio's design were partially dictated by the original building's axial plan (left), which was preserved despite its quirkiness. Little else was spared, including the entire electrical system, which was unexpectedly replaced, seriously straining the overall budget.





Valerio's axonometric drawing below shows the bowstring trusses and ceiling vaults, accentuated by his plywood "skins." The glass and birch partitions are sectioned into managerial offices and access work stations on one side (left) with views into the production facility on the other (above). Below left, a section of the plywood arch "comes to earth" and is anchored in a wall, while a segment of the truss becomes the conference room's primary focus at right, along with a plywood desk of Valerio's design.

Credits

Building U2

Skokie, Illinois

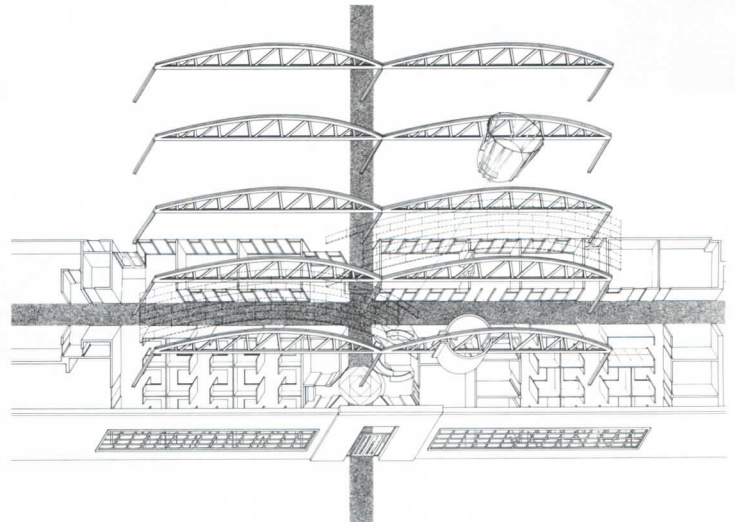
Owner: U. S. Robotics

Architect: Valerio Associates—Joseph Valerio, principal-in-charge; David Jennerjahn, project architect; Michael Cygan and Randall Mattheis, project team

Engineers: WMA Consulting Engineers (mechanical/ electrical); Stearn/Joglekar, Ltd. (structural)

Consultants: Nancy Willert (interiors); Desks Inc. (furniture)

General Contractor: Turner Construction-SPD





Fashion Statement

*Jil Sander Paris
Paris, France
Gabellini Associates, Architect*





Gabellini restored the crumbling limestone facade of the 1890 Paris landmark (above), bringing limestone inside as cladding for 30-foot-high load-bearing walls (opposite). New windows of clear water-white insulating glass maximize daylight admission into the north-facing street-side of the building, while preventing winter heat loss. Four incandescent flood lights add a theatrical touch to the double-height ground-floor display area.

In the fashion world, designer Jil Sander is known for her striking silhouettes and refined fabrics. The current success of Sander's \$200-million-a-year Hamburg-based clothing, perfume, and accessories empire is due as much to the timeliness as the timelessness of her vision, which she describes as "elegant," "classic," "subtle," and, above all, "strong." For Michael Gabellini, devising the architectural expression of this language for the company's first freestanding boutique outside Sander's native Germany was an opportunity to further his reputation for designing minimalist spaces enriched by sumptuous materials.

For her Paris debut, Sander chose an 1890 *hôtel particulier* (or private house) on the ultra-chic Avenue Montaigne. During the 1920s, it was converted into the couture house of Madelaine Vionnet, a fashion maverick credited with inventing the bias cut. Since then, the Beaux Arts structure has undergone a lackluster interior renovation and in 1990 the building was landmarked so it could be saved from impending demolition. Unable to alter the imposing limestone facade, Gabellini chose to pay it respect by repeating the material on the interior as cladding for 30-foot-high bearing walls, linking old and new. He removed portions of an existing second floor, creating a 1,800-square-foot double-height space facing the street, which features selections from the latest Jil Sander collection, and a more intimate 1,100-square-foot balcony for accessories. The 2,000-square-foot third floor is intended for evening wear and a 4,800-square-foot underground level is a showroom for informal modeling.

Gabellini organized clothing displays, cash/wrap counters, and seating areas around three vertical forms that dominate the otherwise open space: the grand public staircase that stitches together first, second, and third floors; an elevator; and the L-shaped planes that screen a back entrance on the ground floor and contain dressing rooms above and a cashier station below (axonometric page 92). Lining both sides of the space, these three elements create a forced perspective along the entry axis. Explains Gabellini: "The design appears simple, but there is an inherent complexity."

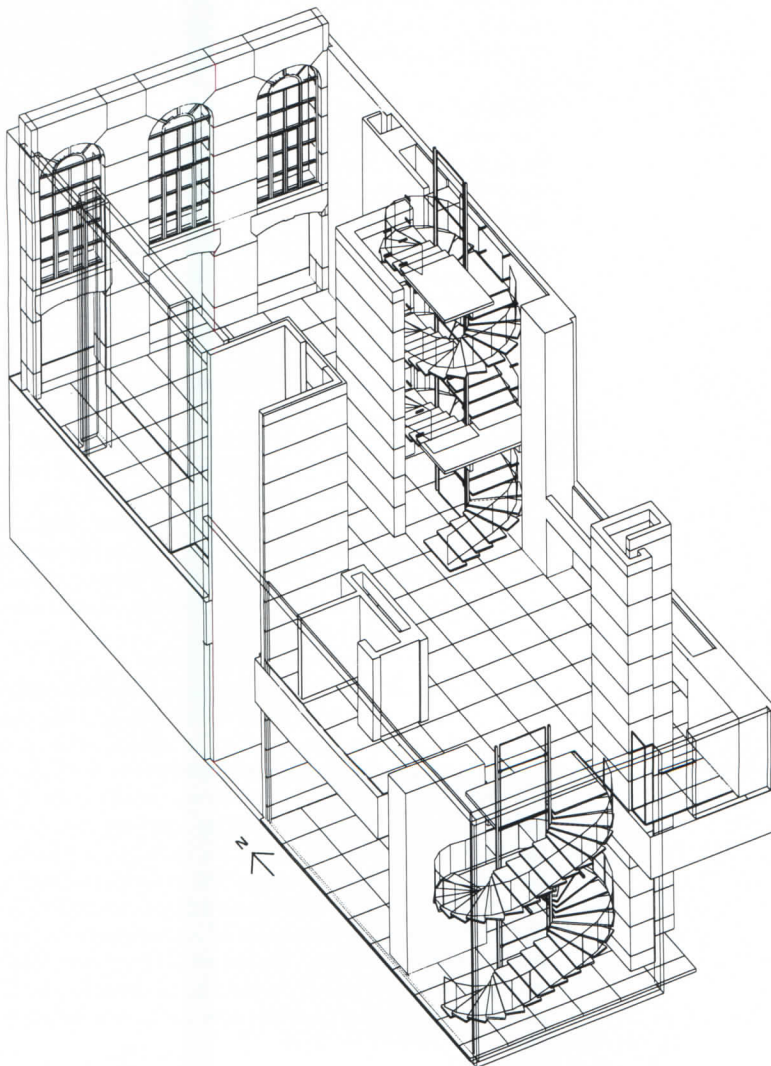
Gabellini's spatial play is the three-dimensional counterpart to Sander's tailoring, which she describes as "artistic cutting that looks like nothing when it's flat, but when it's worn it floats like an angel on the body." Similarly, the architect's deliberate contrast of rough and smooth materials—limestone shelves and floors, white marble "columns," black granite and concrete benches, black Macassar ebony wood display tables, nickel-silver clothing racks—also echoes Sander's unexpected pairing of fabrics. "I chose refined materials and detailed them in such a way that each material maintains its own identity," says the architect.

To intensify the drama of the space, Gabellini and consultant Johnson Schwinghammer devised theatrical lighting that also reveals the architect's interest in set-design. Clothing is hung in niches mysteriously illuminated by downlights recessed in coves, creating interior vitrines veiled in haze. A sensor mounted on the front facade monitors daylight and adjusts interior lighting according to five different preset levels, maintaining higher levels in the back of the shop to accentuate its 100-foot depth. The computer-controlled hvac system records temperature shifts and adjusts accordingly. Lighting can be varied according to the needs of a particular collection, echoing the plan's overall flexibility. Gabellini likens the look of the shop to a Roman aqueduct—"monumental and practical"—but Sander's assessment is, as expected, more fashion-minded: "It's a super classic." *Karen D. Stein*



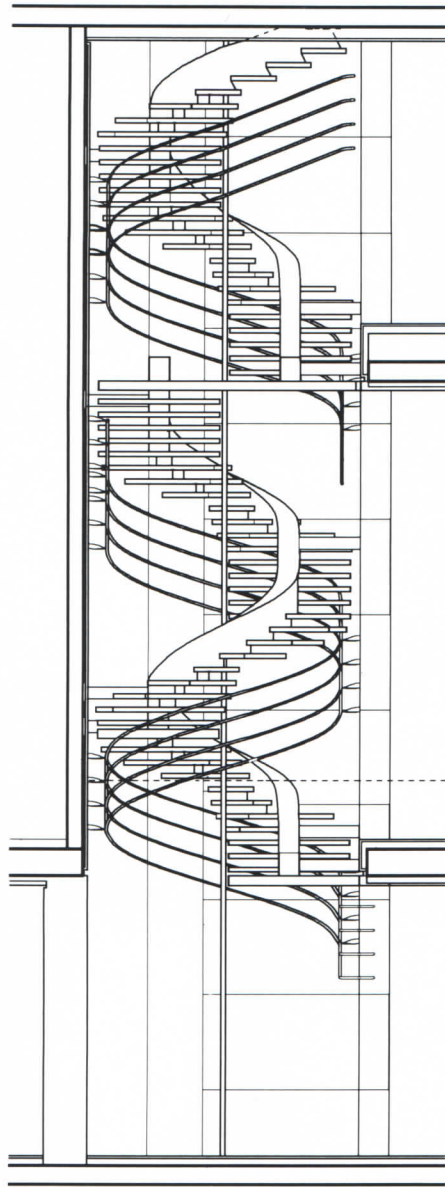
"Clean elegance" is how Michael Gabellini describes Jil Sander's clothing. The same can be said of Gabellini's architecture. After gutting the interior of the 19th-century structure, Gabellini organized display and selling areas around three white marble-clad vertical forms positioned on alternate sides of the 100-foot-long space (axonometric below left).

Gabellini removed 40 percent of the existing second floor to create a dramatic interior courtyard facing the street. An acid-etched concrete balcony overlooks the black Macassar ebony wood display tables of the ground-floor collection area (near left).



Ebony display trays (far left) and clothing niches (opposite) are lit from above by a mix of fluorescent and halogen fixtures concealed by soffits. Flush-mounted incandescent ceiling fixtures with dichroic filters provide additional ambient light. All electric light is controlled by a dimming system that monitors the light on the front facade and adjusts interior lighting accordingly. "The back of the boutique is lit at higher levels than the front to enhance the sense of drama as you move through the space," explains Gabellini.





Up Close

Staircase. The 40-foot-high main staircase is a structural tour de force partially screened and reflected by a wall of Venetian optical water-white glass framed in nickel silver (photos left). To support seemingly floating treads of limestone, which span an 8-foot 3-inch by 13-foot opening, Michael Gabellini designed a curved central stringer of forged steel that is finished with a high-gloss white lacquer. Although the stringer is supported by the stair landings, additional bracing is provided by steel beams connected to the wall (section left). The sinuous curve of the staircase is repeated in the four bands of a nickel-silver railing.

Credits

Jil Sander Paris
Paris, France

Owner: Jil Sander AG

Architect: Gabellini Associates—Michael Gabellini, principal-in-charge; Andrew Pollock, project architect; Oliver Wong, project coordinator; Justin Russli, Mimi Kueh, Dale Turner, Kuttu Narayan, Vrinda Khana, Wendy Ward, project team

Engineers: Betiba (mechanical/electrical); Fred Storkson (structural)

Consultants: Johnson Schwinghammer (lighting); Swenson Stone Consultants (stone)

General Contractor: Heper Coordination Engineer



Royal Treatment

© Evan Dion photos this page and opposite



The theater occupies a small site just 155 feet wide and 185 feet deep.

When Ed and David Mirvish started planning the Princess of Wales Theatre, the elder half of the father-son team of producers thought of the gold-and-red colors, the plush velvet seats, and the proscenium arch of landmarks like the nearby Royal Alexandra Theatre, which they also own. While respecting the wishes of his father, David Mirvish hired the up-and-coming firm of Yabu Pushelberg to design the interiors and encouraged its partners to go beyond the normal conventions of theater design. Along with Lett/Smith Architects, who did the building's architecture, and artist Frank Stella, who created a series of murals and plaster reliefs, the interior designers breathed new life into a tradition-laden building type.

A 2,000-seat theater shoehorned onto a 155-by-185-foot site with parking for 226 cars below grade, the Princess of Wales Theatre is intended to house big musical productions such as its current resident, *Miss Saigon*. One of the challenges in designing a big theater for a tight site was creating a dynamic procession of spaces from main lobby to auditorium. In the old days, one large lobby usually fed directly into the rear of the seating areas. But with limited

For The Princess of Wales Theatre in Toronto, Yabu Pushelberg gave old show-business conventions some new twists.

*The Princess of Wales Theatre
Toronto, Canada
Lett/Smith Architects
Yabu Pushelberg,
Interior Designer*



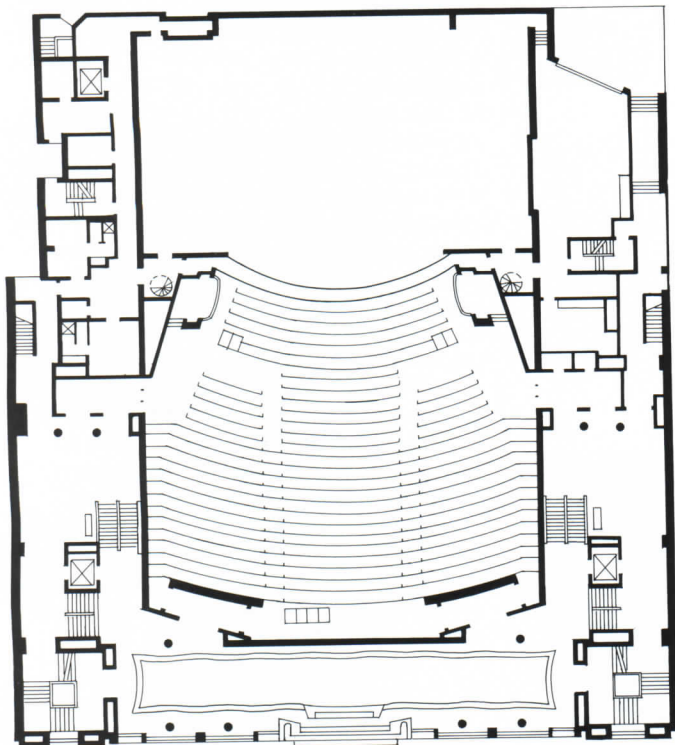
space available here, the architects and designers had to tuck a series of lobbies, intermission foyers, and a lounge around and below the auditorium.

Ultimately, the designers choreographed an intriguing dance that leads theater patrons from the long narrow lobbies on each floor to smaller areas on either side of the auditorium and finally to their seats. "We wanted to create a sense of anticipation and delight," says George Yabu, the partner-in-charge. "We wanted the spaces to unravel as people move to their seats." To achieve that effect, Yabu Pushelberg used color, light, and texture to enhance the illusion of space. The overall plan was to lead patrons from bright areas to darker ones, from rooms with reflective surfaces to ones with light-absorbent materials. Starting with the main lobby on the ground floor where light from the marquee outside supplements indoor sources, visitors move to the individual floor lobbies where polished woods and metallic particles embedded in plastered walls make the spaces sparkle. In the side anterooms leading into the auditorium and inside the auditorium itself, darker colors and matte surfaces predominate. Another part of the designers' lighting

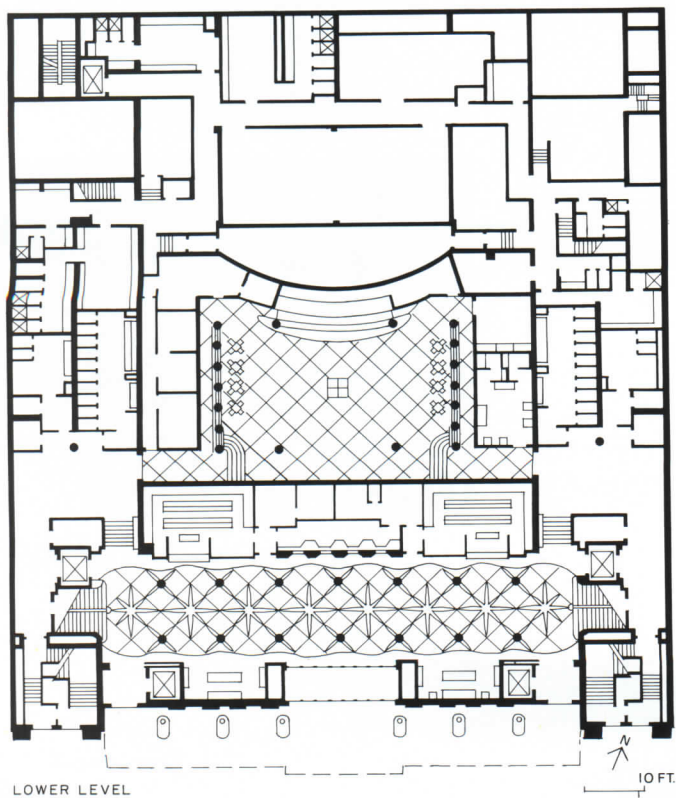
strategy was "to make people look good," explains Yabu. Since light from one direction leaves shadows on faces, the designers used sources in a variety of locations to soften both the architectural surfaces and the people inside the architecture. Halogen lamps at the crossings of the vaults and incandescent downlights in flat ceilings are supplemented by uplights in the floors, wall sconces, and a variety of custom-designed fixtures for the bar area.

Like the main lobby, the individual lobbies on each floor reinterpret the gold and red palette of old theaters. But here the gold is found on wavy vaulted ceilings and columns fattened beyond their structural requirements, while red carpets prepare visitors for the explosion of red seats and curtains in the auditorium. "It's a night-time venue, so we got gutsy with our color scheme," says Yabu. Divided into an orchestra level and two horseshoe-shaped balconies, the auditorium keeps all seats within 92 feet of the stage. Knowing when to yield the stage, Yabu let Frank Stella's murals around the proscenium arch and the ring of the dome be the star performer in the theater itself. *Clifford A. Pearson*





UPPER LEVEL



LOWER LEVEL



© Evan Dion

Because the theater occupies such a small site, architect Lett/Smith and interior designer Yabu Pushelberg had to break public space into a variety of small lobbies, foyers, and rooms. A lounge (top) is tucked underneath the orchestra level of the theater and includes one of the building's many Frank Stella murals. The vaulted ceilings and mosaic floors of the main lobby on the ground floor (previous pages) "create a strong linear quality" that helps direct people to staircases at the east and west ends. Instead of trying to minimize the impact of structural columns on the main lobby, Yabu says

he decided to "give them their own identity" and use bulging profiles to make them less serious and more "friendly." To create a sense of procession throughout the theater, the designers played with proportion, making columns more slender, varying the lines of vaulting, and lowering ceiling heights as visitors climb floors. Yabu Pushelberg designed special light fixtures for newel posts on the stairs leading from the ground floor to the second-floor lobby (opposite), which features Honduran mahogany millwork, lighted bar shelves, and light fixtures by Yabu Pushelberg.



Built specifically for the show Miss Saigon, the Princess of Wales Theatre was designed for high-tech theater productions that require sophisticated facilities. The theater has one of the largest stages in North America, with a proscenium height of 36 feet, proscenium opening of 49 feet, and stage depth of 60 feet. The theater's fly tower is 120 feet high and has a Stella mural on its exterior wall facing Pearl Street. The horseshoe-shaped balconies (right) help keep all 2,000 seats within 92 feet of the stage. While box suites have disappeared in many modern theaters, the architects here made them an important part of the auditorium design—using them as a transition between regular seating areas and the stage (opposite). Stella's ring mural is a star performer (above).

Credits

*The Princess of Wales Theatre
Toronto, Canada*

Owners: Edward and David Mirvish

Architect: Lett/Smith Architects

Interior Designer: Yabu Pushelberg—George Yabu, Glenn Pushelberg, partners-in-charge

Engineers: Peter Sheffield & Associates (structural); C. Rossey Engineering (mechanical/electrical)

Consultants: Aerocoustics Engineer Limited

Construction Manager: Ellis-Don Contracting

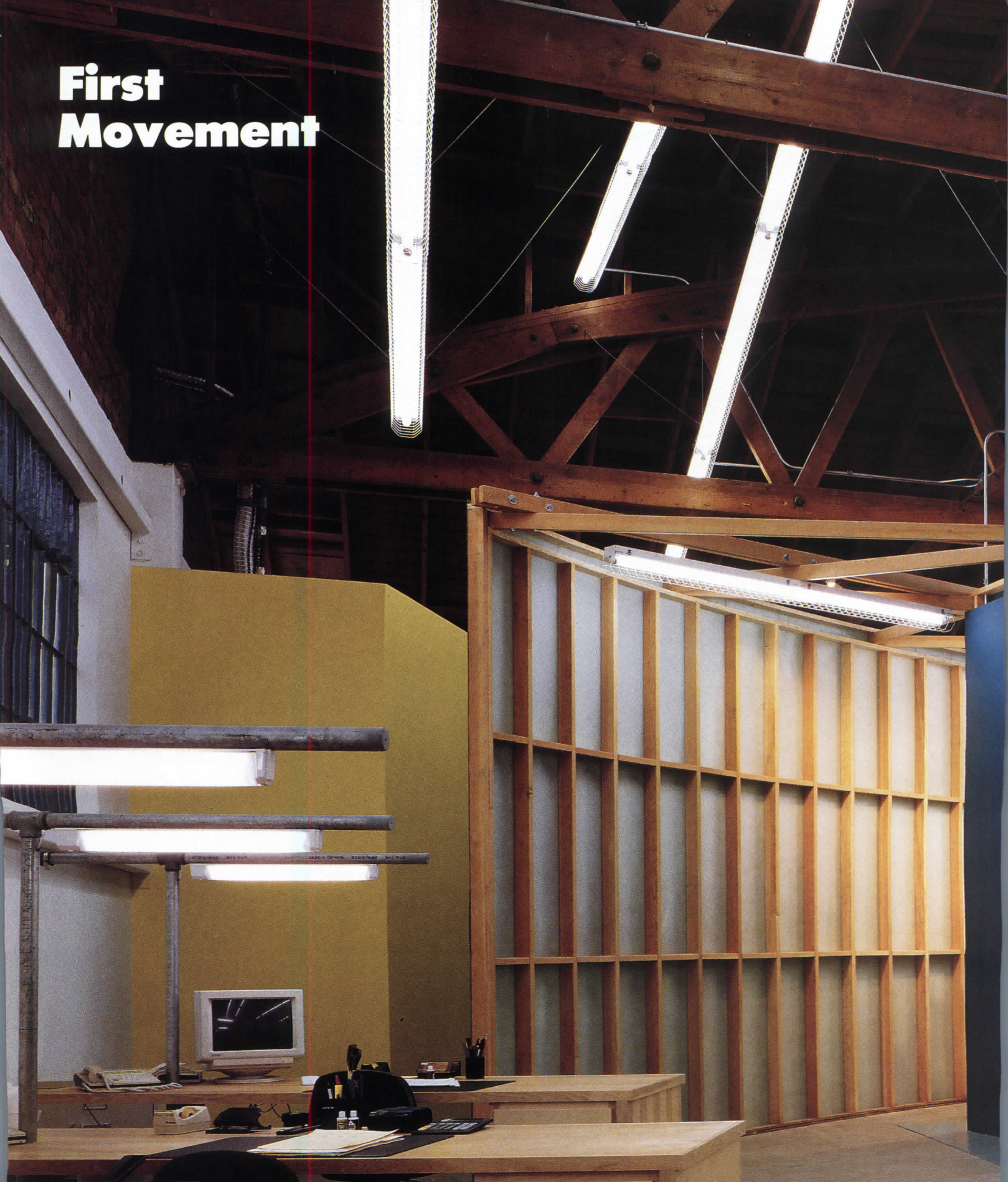
Up Close

Artistic collaboration. While some owners commission a famous artist to do a mural or sculpture merely to grace the lobby of one of their buildings, David Mirvish saw art as an intrinsic part of his Princess of Wales Theatre. So when he hired Lett/Smith Architects to design the building, he also brought Frank Stella into the project. Having owned an art gallery for many years, Mirvish was good friends with Stella and knew the artist was interested in creating entire environments and not just individual pieces. As the project developed, architect, interior designer, and artist worked closely together. In the end, Stella created 10,000 square feet of original artwork, including murals for floor lobbies, the lounge, the proscenium arch, and the ring around the theater's dome. In addition, he made sculpted plaster reliefs that run along the two balcony fronts and cast-iron reliefs at the ends of each row of seats in the auditorium. "We could have taken an art-gallery approach to Frank's work and just made a neutral background for it," says interior designer George Yabu. "But Frank told us to let loose and do our own design." Since Stella's work has never lacked for assertiveness, the artist wasn't afraid of being upstaged. Looking back at the collaboration, Yabu says, "I think we softened Frank's work a little bit—in terms of color and texture." Conversely, Stella's swirling "smoke-ring" and "whale" forms inspired Yabu's fat columns in the ground-floor lobby.



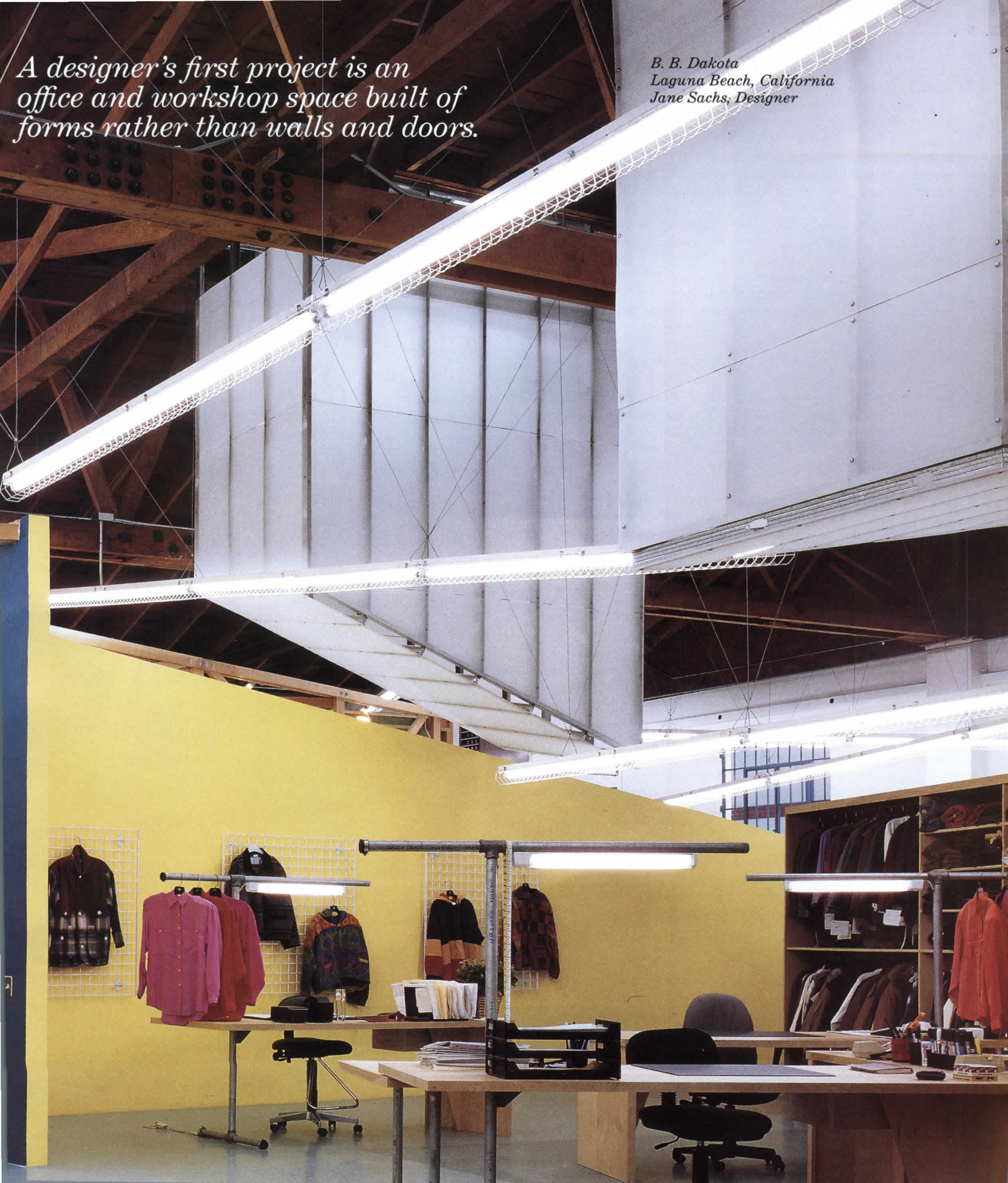


First Movement



*A designer's first project is an
office and workshop space built of
forms rather than walls and doors.*

*B. B. Dakota
Laguna Beach, California
Jane Sachs, Designer*



Nothing compares to the energy and devotion to detail designers bring to their first project after architecture school. Jane Sachs's office and workshop space for B. B. Dakota, a clothing design and import company, is bound to be a memorable one for her. The project had an ultra-low budget: \$150,000 including a \$40,000 seismic upgrade, labor, materials, artwork, furniture, and fees. Construction was completed on a whirlwind schedule just three months after Sachs and her collaborator Belen Moneo started the design.

The interior occupies a single-story masonry building that once housed the Laguna Beach post office. Inside, Sachs floated a number of freestanding structures which divide the space while acting as a conference room, storage walls, and a giant cube-shaped phone booth for a pacing salesperson, and leaves open space for work stations. The only interior doors in the building lead to the restrooms.

"What has influenced my work is the idea of developing forms to pull people through a space, rather than using doors and walls to separate them," says Sachs, attributing her design approach to previous work as an artist and potter. "The spaces in between the forms create a sense of movement. I constantly try to put myself inside the space, which is why I design from models. I avoid looking at architecture as strictly a plan view alone."

One of the major forms defining the space is the conference room, situated just inside the building's main entry (photos right). Sachs seized upon the major component of the building's structural system—the bowstring truss—to define the shape of the room, including diagonal "web" members spanning the tops of the walls. Sachs commissioned artist Joshua Simons to create scrafftto drawings of objects related to the garment manufacturing industry to cover one wall (top photo, right). The drawings are scratched into translucent green acrylic paint applied to the inside of one set of 1/8-inch-thick plastic panels, and protected by a second layer of panels upon installation. The panels were produced in New York and shipped to the site, where they were attached to the curving wooden wall using exposed drywall screws, in keeping with the utilitarian vocabulary of exposed hardware found throughout the project.

Other objects designed by Sachs that dominate the space include skylight-boxes, work stations where prototype clothing is produced, and a storage wall (opposite). The skylight-boxes hang from the ceiling, enclosing existing skylights with metal studs faced with sanded acrylic sheet. These turn hot, glaring sunshine into soft, diffused light. The storage wall, constructed of birch plywood, winds its way through the space, and is broken at intervals to permit circulation. Electric light is provided by fluorescent strip fixtures, each suspended from the ceiling structure at a slightly different angle to the floor, creating an effect that Sachs intends to be analogous to stitching in fabric.

Color selection was also crucial. "Color is often not dealt with in architecture, and I wanted to deal with it. My client's first reaction [to choosing colors] was, 'gray is neutral and I can live with it forever.' I told her colors were the easiest things to change and promised I would re-spec them if she didn't like them." Existing exterior walls were painted white, while forms in the space were painted yellow-green and a muted dark blue. Neutral-colored floor tile is interrupted by blocks of dark red tile. Sachs avoided having every object in the space painted a different color "to keep the space from looking like a kids' room." *Charles D. Linn*

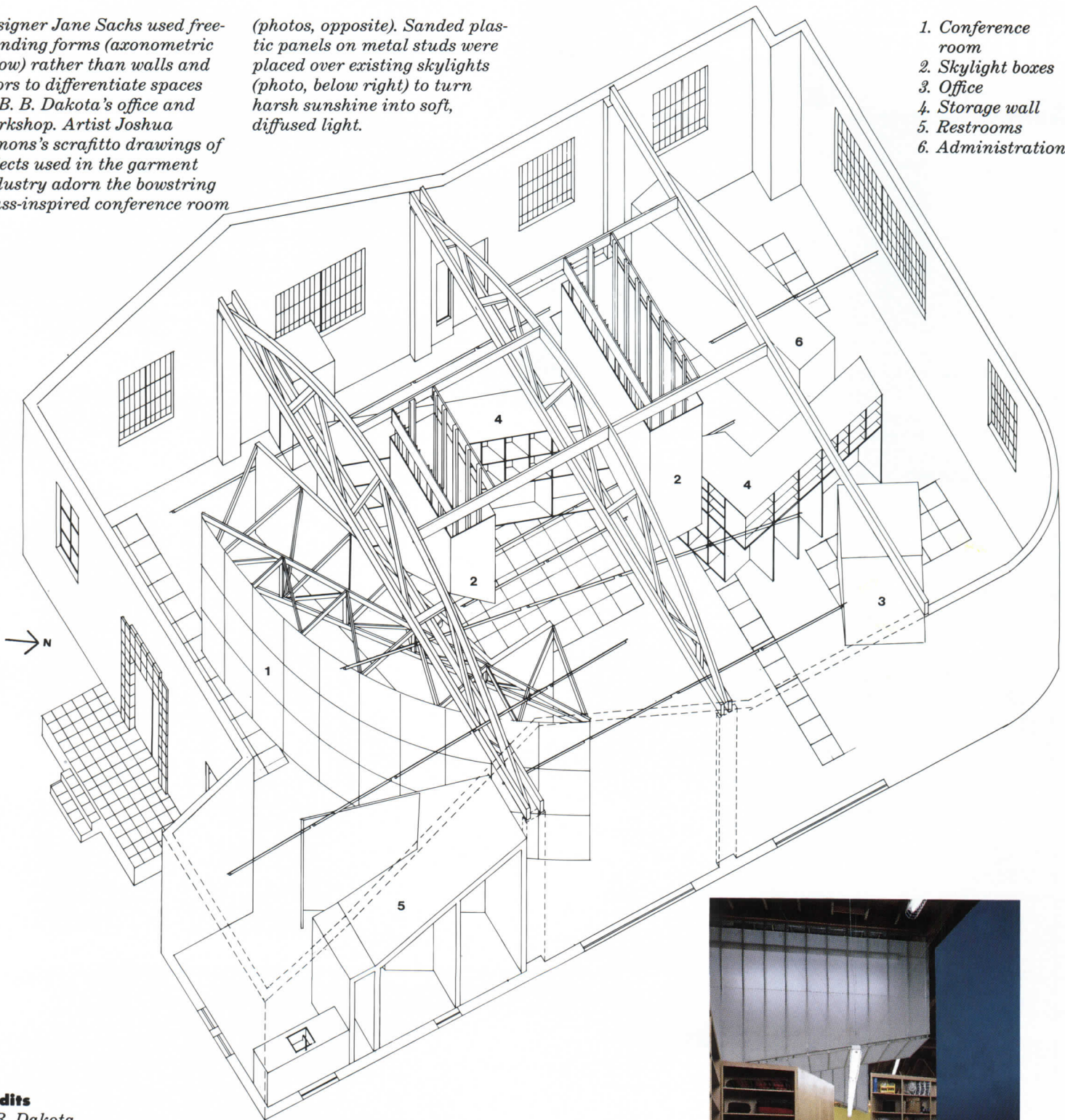
© Tom Bonner photos



Designer Jane Sachs used free-standing forms (axonometric below) rather than walls and doors to differentiate spaces in B. B. Dakota's office and workshop. Artist Joshua Simons's scrafitto drawings of objects used in the garment industry adorn the bowstring truss-inspired conference room

(photos, opposite). Sanded plastic panels on metal studs were placed over existing skylights (photo, below right) to turn harsh sunshine into soft, diffused light.

1. Conference room
2. Skylight boxes
3. Office
4. Storage wall
5. Restrooms
6. Administration



Credits

B. B. Dakota
Laguna Beach, California
Owner: Gloria Brandes
Designer: Jane Sachs; Belen Moneo, associate designer
Architect: Jihyon Kim
Engineers: Robert Lawson

Artist: Joshua Simons
Consultants: Scott Devere, Paul Rybezyaski
General Contractor: First Team Contractors, Dan Chasteen

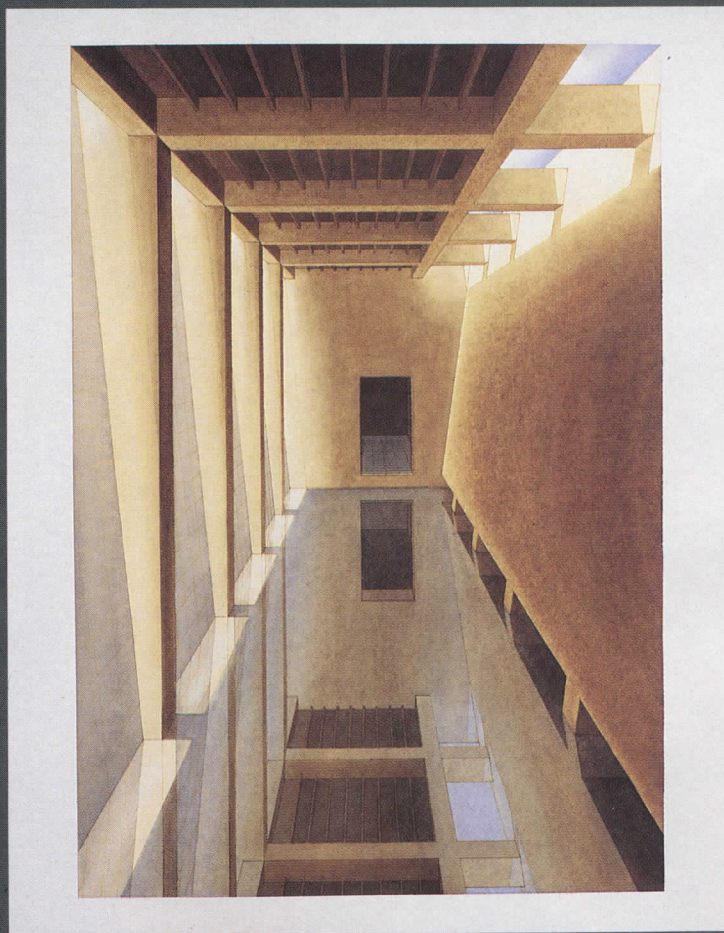


Imagined Spaces

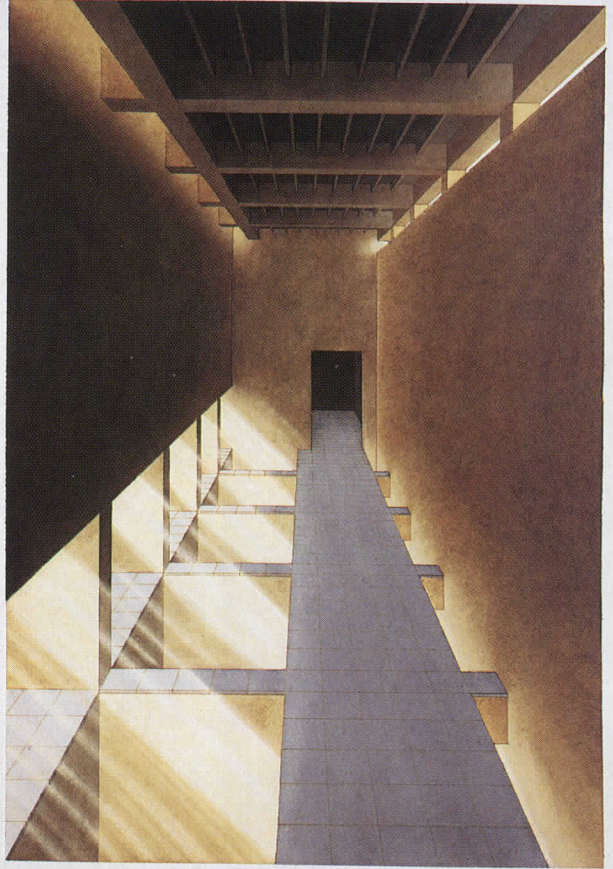
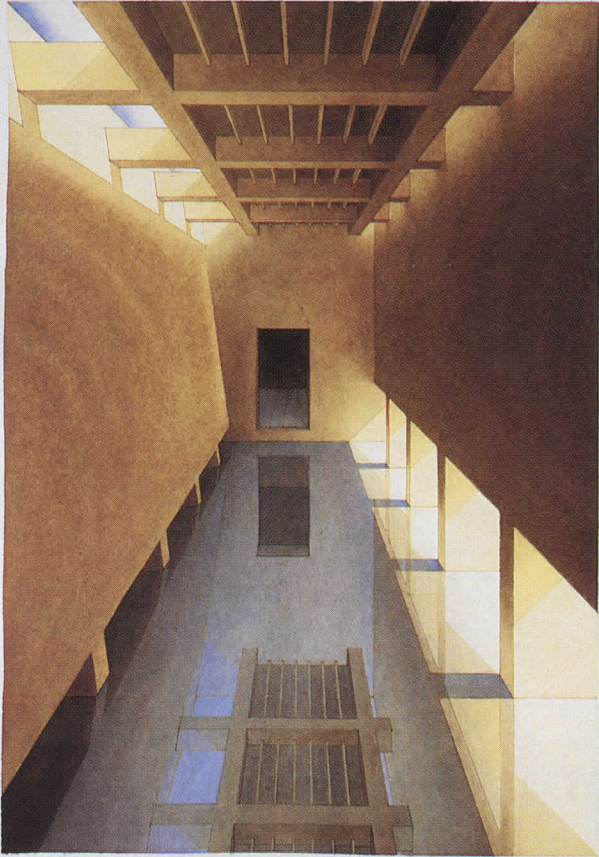
The day-to-day design of buildings requires solving a series of specific problems defined by a program. There's often not enough time to study the essence of architecture: enclosure, surface, light. Laretta Vinciarelli has made this search her career. Her medium is watercolor paintings. Her fluid brushstrokes convey a dreamy quality, but it is her skilled drafting with ink pens that gives each image its intensity and photographic realism. Though Vinciarelli is an architect, the peculiar distinction between artist and architect is far less accepted in her native Italy, explaining, perhaps, her ability to successfully straddle the two fields in her adopted home of New York City. Since 1978, Vinciarelli has been an adjunct professor at Columbia University's Graduate School of Architecture, where she teaches design.

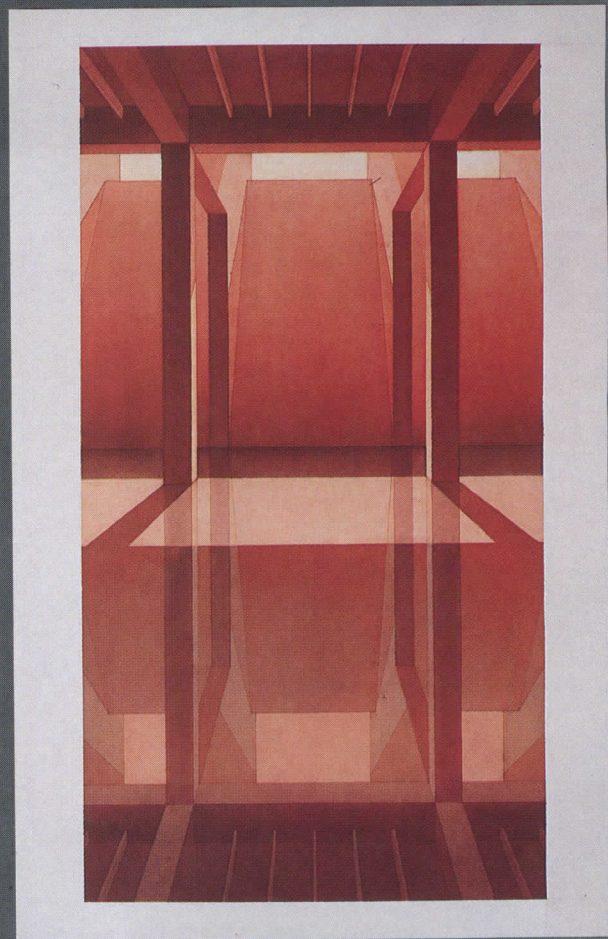
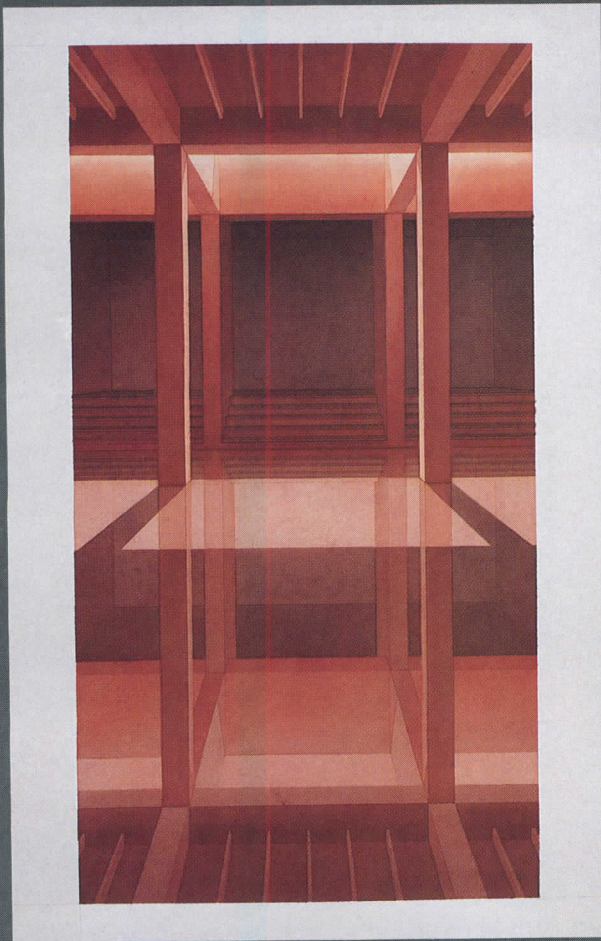
Vinciarelli does not represent real places. "My work has its origin in spaces I have abandoned—the mood of Rome [where she grew up] or the landscape of Texas [where she has traveled], which has an un-European vastness and freedom . . . The paintings are of spaces I know that look nothing like what I paint," she explains. Unlike an architect, Vinciarelli's vision is not designed to be built. "My subject matter is architecture, but my paintings are not supported by a [functional] program." Instead, she views her work as philosophical meditations—"an autobiography."

Personal vision aside, representational techniques and a sensitivity to space, light, and surface are what distinguish Vinciarelli's work. Perspective provides, in her words, "a system of rules" and "the ability to create a narrative" series of two paintings or more. Walls, windows, and doors, the seeming subject matter, are lit by invisible light sources and reflected in limpid pools of water, which animate stage-setlike compositions and convey a mysterious sense of space beyond the borders of 22-inch by 30-inch paper. Such transcendence is what Vinciarelli seeks in her work, maintaining, "Our feelings and aspirations have a spatial counterpart." *Karen D. Stein*



Vinciarelli's 1992 series of three watercolors (above and opposite) is entitled Black Room.

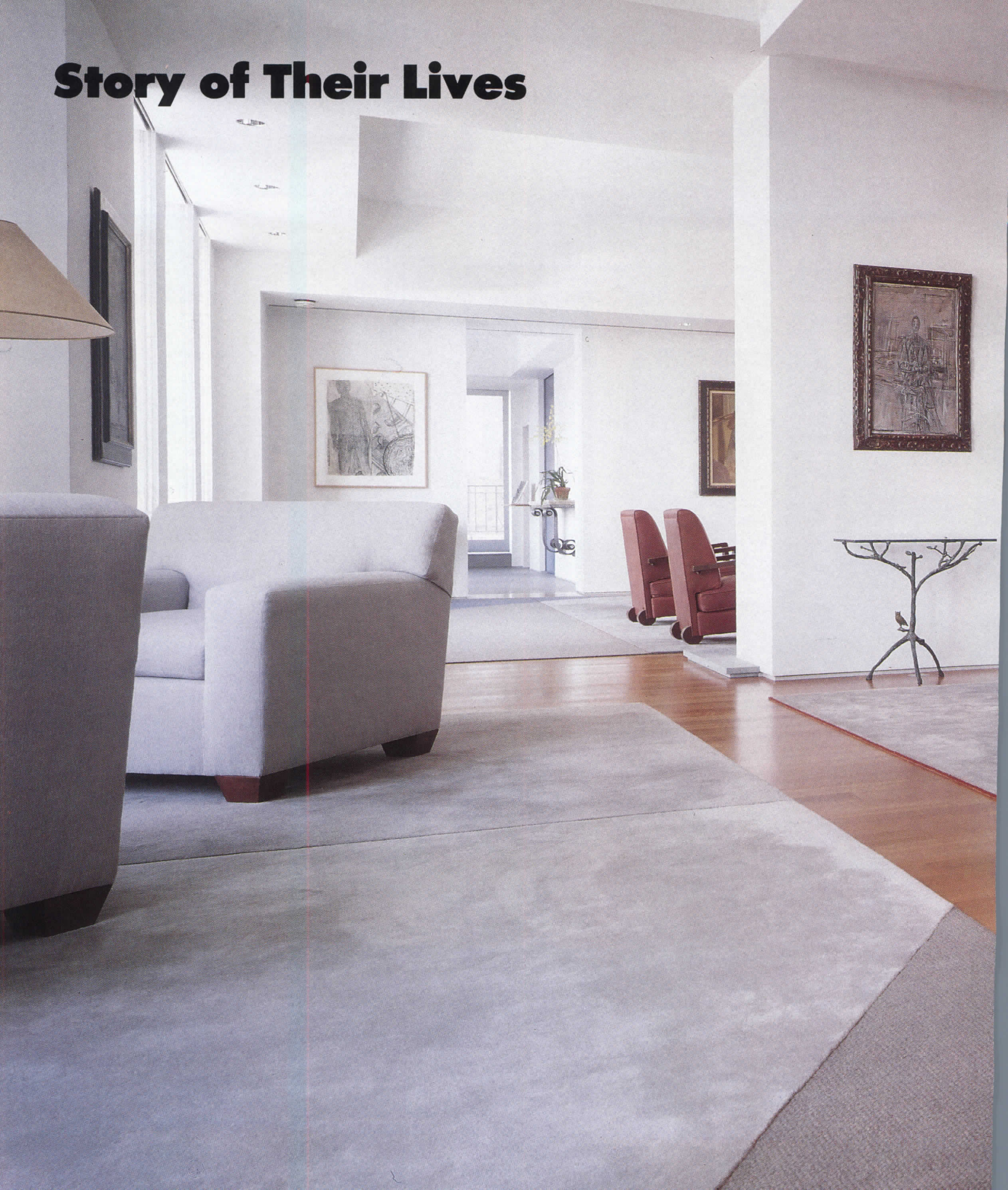




Two watercolors called Red Water (above) are from 1992, while Window (opposite) was painted in 1988.



Story of Their Lives



Function is not sacrificed for art's sake in an apartment design that the architects call "a script for living."

*Penthouse Apartment
New York City
Smith-Miller + Hawkinson
Architects*





The previous occupant of this apartment on the top floor of a 1930s building on New York City's East End Avenue cut out a doorway to join what was once two units, leaving a railroad-flat-like arrangement of smallish rooms. The current owners found this inappropriate to an 18th-floor "penthouse" that boasts wrap-around terraces with sweeping Manhattan views. "The space cried out to be uncluttered and open; to have high windows and lots of natural light," one of the owners recalls. Eager to shed some of the "traditional baggage" of a more formal apartment downstairs, this family of modern-art lovers turned to Henry Smith-Miller and Laurie Hawkinson for nothing more specific, or less elusive, than "a happy home for ourselves and our pictures."

Accordingly, Smith-Miller and Hawkinson's deceptively simple plan removed virtually all interior partitions and made a seemingly negligible five-foot-wide north terrace into interior space. The result is a 4,000-square-foot box that is 125 feet long and bulges from 30 feet to 56 feet in the newly enlarged wing, where the architects carved two bedrooms out of a former maid's quarters and hall.

Spots and floods recessed in a series of soffits that drop 3 feet 6 inches below 11-foot-high ceilings repeat the daytime effect of daylight as a halo around the apartment, while subtly lighting works by Fernand Léger, Balthus, Jasper Johns, Alberto Giacometti, Richard Diebenkorn, and Sean Scully among others. The soffits also outline the foyer, living room, dining room, and library without interrupting the single continuous space (axonometric page 116). "The ceiling's surface is the idealized plan of the project," explains Hawkinson of the overall effect of discrete yet interconnected rooms.

The patterns and intricate construction of three rugs designed by the architects echo the double theme of repose and flow: a lush cut-pile wool defines seating areas, and tightly tufted loop wool indicates circulation routes in between (previous pages). Indented flat lines of burgundy-colored wool—the architects call them "spirit breaks" in reference to Navajo rug-making traditions—visually connect the three rugs, extending the eye and sense of space from living room to dining room and beyond.

Smith-Miller attributes his and Hawkinson's interest in interconnecting spaces in part to their study of French architect and furniture designer Pierre Chareau. Built-ins are in fact Chareau-like, reinforcing the spatial play between densely layered and elongated surfaces: a pearwood bookcase in the library is at once furniture and thickened wall, and a pivoting plane is both moving wall and giant cabinet door (page 116). As Hawkinson explains of their approach: "Architecture is both functional and artful and it comes to life as it is used. This is a script for living." *Karen D. Stein*



The architects located the main entrance (bottom) at the west end to exploit the dramatic 125-foot-long sequence of spaces along the south wall that leads to the library (top).



The architects gutted the interior, retaining an existing flue and two public and two service elevators, reminders that the apartment was once two units. They created a series of interconnected soffits organized around the existing fireplace (below and opposite) and a new kitchen (far left). Both organizing elements were treated as giant pieces of furniture: a green onyx mantle extends as cabinet countertop between living room and dining room, and delicately grained pearwood—an artful backdrop to a Balthus drawing—wraps the kitchen like “a giant Chinese box” according to Smith-Miller.



Cherry floors contrast with three custom-designed rugs, which combine some 20 wool and silk colors. Changes in texture and construction echo different uses: a tightly tufted weave along the apartment’s perimeter defines circulation and lush cut-piles mark seating areas.





Throughout the apartment, soffits hide PVC-coated fiberglass sunshades and opaque blackout shades, while painted metal hvac grilles are a baseline beneath 23 windows and 12 doors, all with new UV-laminated double-pane glass to control heat gain and protect art work from the sun.

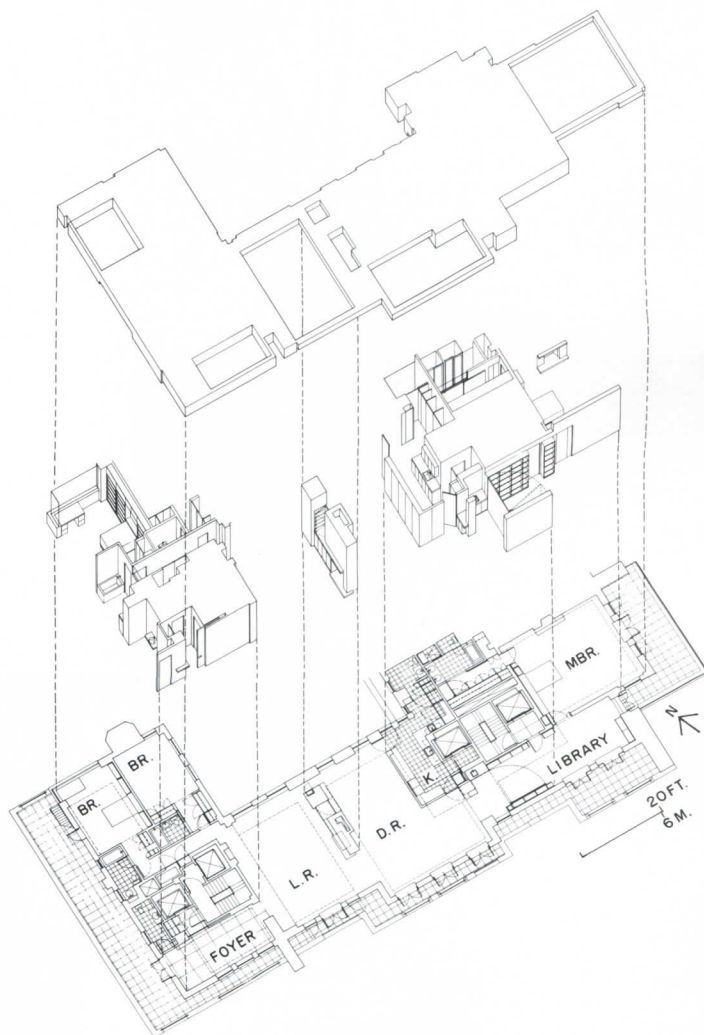
Credits

Penthouse Apartment
New York, New York
Architect: Smith-Miller+
Hawkinson Architects—Henry
Smith-Miller, Laurie
Hawkinson, principals-in-
charge; Jennifer Stearns,
project architect; Randy Goya,

Elizabeth Alford, Anne Chen,
John Conaty, Yolande Daniels,
James Gettinger, Belen Moneo,
Charles Renfro, project team
Engineers: Severud Associates
(structural)—Ed Messina,
project engineer; Carstel
Corporation (mechanical/
electrical/plumbing)
Consultants: Jean Sundin,
John Wood, and Claude Engle
(lighting); Solveig Hill
(interiors, fabrics); Associated
Consultants—Paul Buccelatto
(waterproofing); Mary Bright
(curtains)
General Contractor: Clark
Construction—Malcolm Nagle
and Jon Adir, project
managers

Up Close

Materials. "It's like dental surgery," says Laurie Hawkinson of the intricate demands of renovating a Manhattan apartment, particularly one with as much meticulous built-in furniture as this one (axonometric below). Hawkinson and partner Henry Smith-Miller clad the kitchen volume in pearwood, chosen for its color and delicate grain, giving it the appearance of a giant box set between the more public living and dining rooms and the master bedroom suite. When open, the kitchen door becomes part of a pearwood bookcase that emerges from the library (top left). Similarly, a pivoting door can be positioned to hide books (bottom left). Designer Solveig Hill assisted the architects in selecting some 20 paint colors to subtly intensify the play of daylight on walls and soffits. Crisply delineated planes of pearwood reappear in the master bedroom as shelves and an adjustable bedboard (opposite).

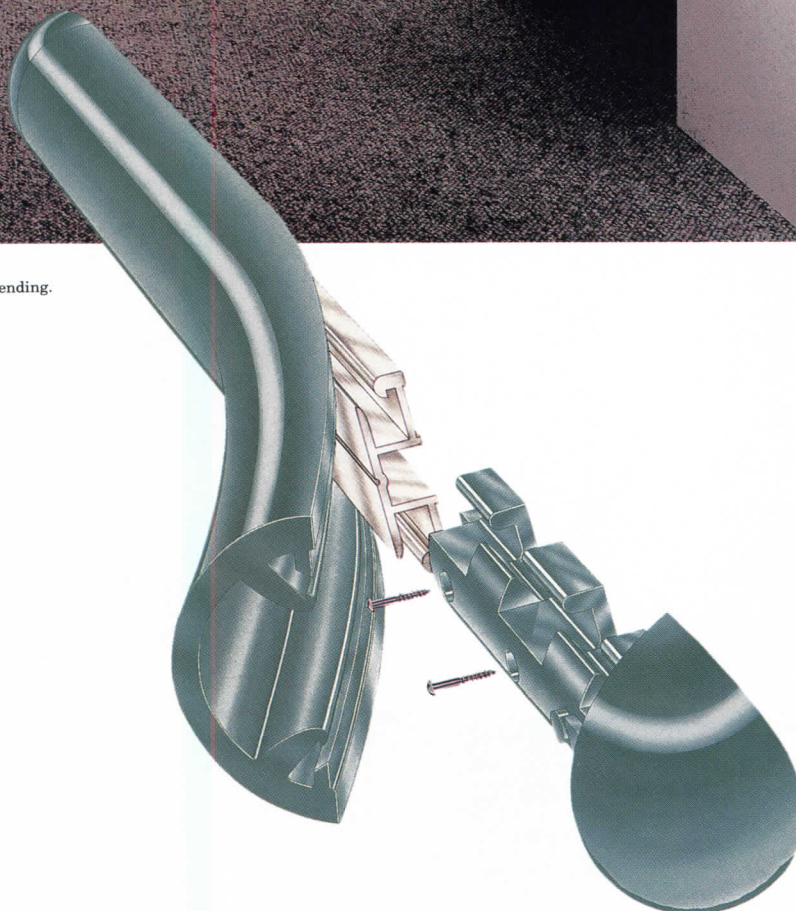






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 Marlite

AutoSketch

Computers/AutoSketch

Continued from page 49

comes with 19 fonts but doesn't pick up fonts from your Windows system—it uses standard AutoCAD fonts instead.

The DXF translator is extremely stable, which figures, because DXF is an Autodesk standard. It is easily good enough for AutoSketch to be used by part-time drafters in offices that mainly work with AutoCAD (for 2-D-only work, of course). The interface is simple enough for inexperienced drafters to pick up quickly. Translation from AutoCAD back to AutoSketch is not as sure, because AutoCAD includes many items that AutoSketch does not—more line types, for instance. *Circle number 307*

AutoSketch for Windows Summary

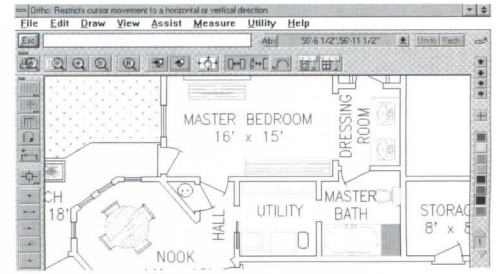
Equipment required: DOS computer capable of running Windows in enhanced mode (80386SX or higher CPU). 4 MB of disk space, minimum, and 2 MB of RAM (4 MB strongly recommended). Math coprocessor strongly recommended (it is built in to the 486 CPU). VGA or better monitor, mouse.

Vendor: Autodesk Retail Products, 11911 North Creek Parkway South, Bothell, Wash. 98011, 800/228-3601, fax 206/483-6969. \$299.

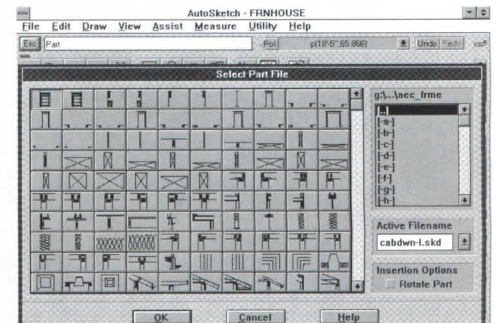
Manuals: A simple 38-page quick-start, a 20-pager displaying some of the symbols, a 382-page reference, and 202-page tutorial—all paperbacks and all first-rate. About half the tutorial lessons are directly related to architecture.

Ease-of-use: Comfortable on a fast machine. The cursor system is awesome; the use of each icon representing a tool is displayed under the cursor itself, and in a reference line at the top of the screen. When you zoom in on a section of the drawing, you can activate an "aerial" overall view. There are all sorts of other "training wheels" as well, to help you align to midpoints, snap to perpendiculars, and so forth.

Error-trapping: Commands since the last file save can be undone one at a time, or redone. By default, dimensioning is associative; dimensions change as you edit the underlying objects. But dimensions can also be fixed; it is not easy to see which are which in a normal drawing. ■



The AutoSketch cursor, not visible in the screen image due to limitations in our screen-capture software, explains what tool it is on. A more complete explanation is at the top of the screen.



AutoSketch symbol library for framing.

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TurboCAD

Continued from page 49

buttons changes with different commands, and is shown at the bottom of the screen.

You can keep any number of "profile" files on hand, each with default settings for a new drawing. The effect is much the same as "stationery" files in MacDraft and typical Macintosh software.

The cursor, similar to AutoSketch's "smart" cursor, displays the use of each icon as you cover it. There's no "long" explanation on screen as well, however.

Offices that handle lots of government work will find the IGES translation capability particularly appealing. But many users will be those who are upgrading from the DOS TurboCAD.

Circle number 308

TurboCAD Professional Summary

Equipment required: Any computer that can run Windows in enhanced mode; 2 MB of RAM minimum, 4 MB or more recommended. We also recommend a fast machine;

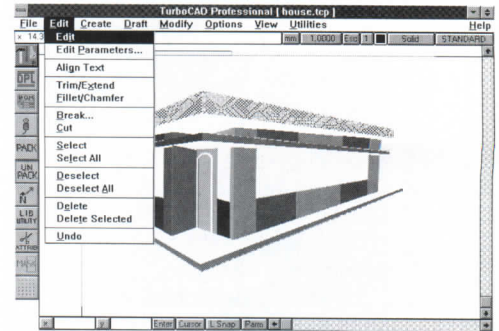
it is sluggish on a slow 16 MHz 80386, even with coprocessor. Program files take about 4 MB of disk space. Three-button mouse highly recommended; digitizer or 2-button mouse (or the keyboard alone) are usable. VGA monitor.

Vendor: IMSI, 1938 Fourth St., San Rafael, Calif. 94901; 415/454-1701. \$395.

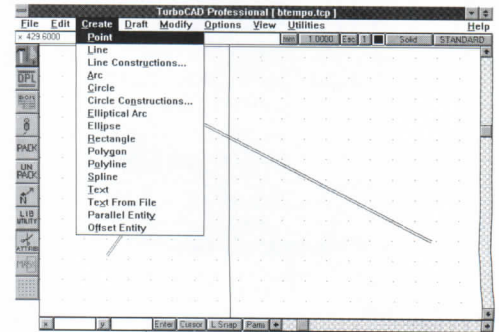
Manual: One 546-page reference guide and tutorial. Well done. The firm's BBS line is 415/454-2893.

Ease-of-use: A bit slow; many menu changes force a screen redraw, too. But many of the tools are just made for architects—parallel lines (straight or curved; after you draw one line, you can fit a parallel to it in two mouse clicks), chamfers, a bill-of-materials processor, the macro language, and so forth. And some tricks like turning off layers and saving defined views (up to 30 per drawing) help speed things up.

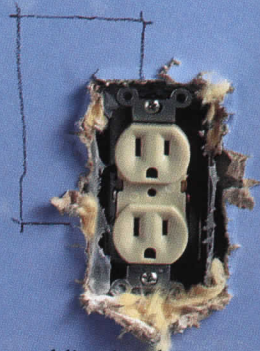
Error-trapping: There's good on-screen prompting, and an undo feature. There's also an automatic timed-save feature. You can pull a symbol in from a library and add it to the drawing directly. Or, you can refer to it in the library. If you refer to it, changing the library symbol affects all the drawings it is connected to. ■



TurboCAD's Edit Menu and tools.



Drawing tools in TurboCAD are pulled from menu or from a palette that changes (left) as different menus are pulled.



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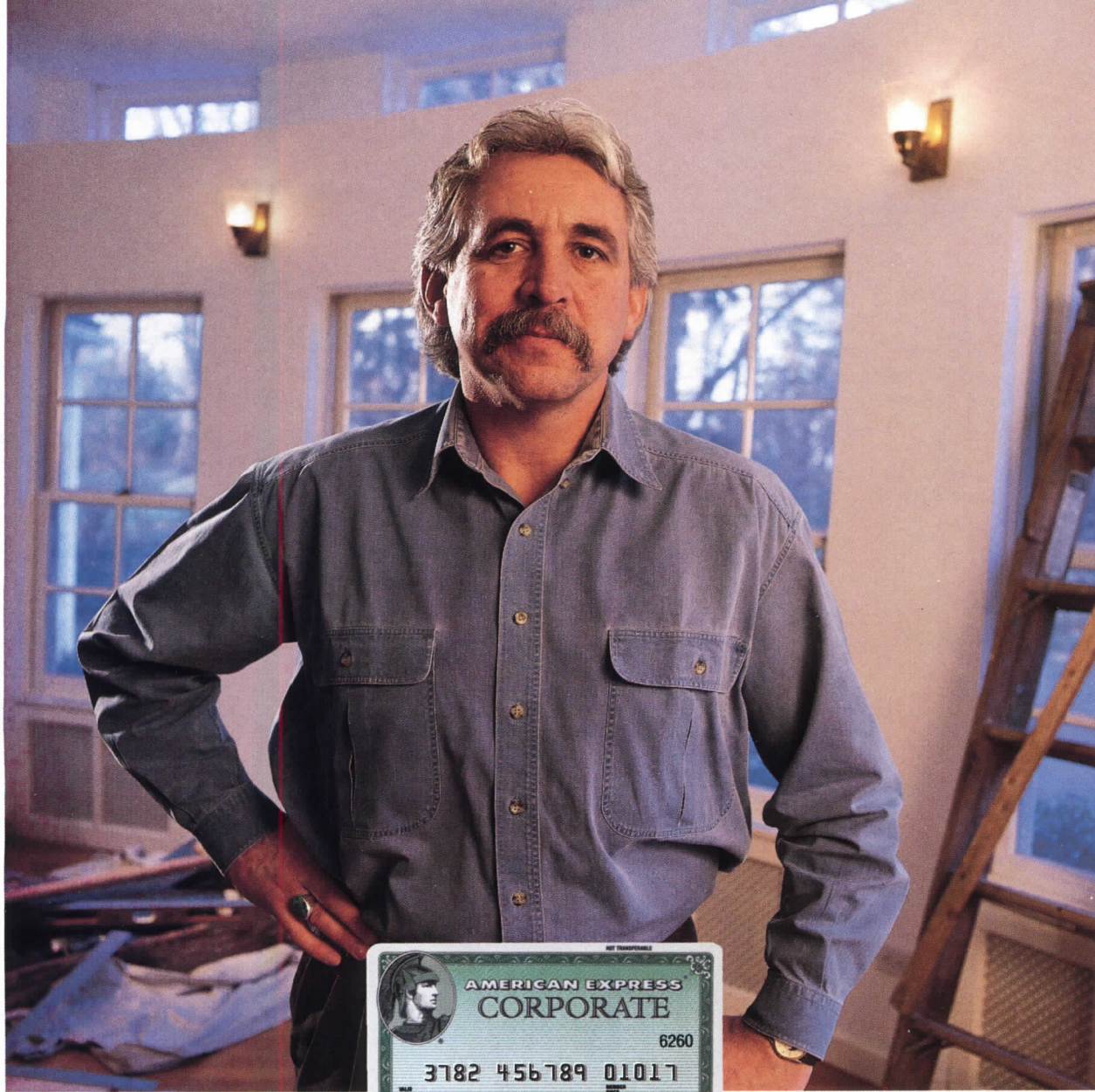
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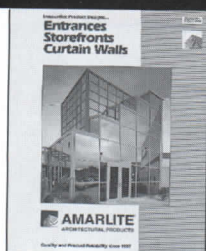
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Product Literature/Door Systems

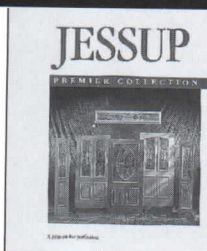


400. Architectural wood doors

A colorful 20-page brochure demonstrates design and construction features of carved-wood Moderne, MAX, and Sculpturewood residential entry doors. Photos and drawings illustrate frame details, stain colors, door pulls, and vision-light configurations. Forms+Surfaces, Santa Barbara, Calif.

401. Commercial entries

Aluminum and glass door systems are made with narrow-, medium- and wide-stile framing to suit the different traffic requirements of stores, offices, hotels, hospitals, and institutions. Hinged doors, sliders, and storefronts are illustrated in a 16-page catalog. Amarlite Architectural Products, Atlanta.

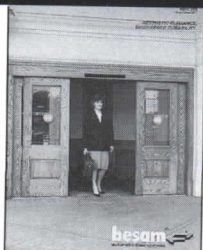


402. Anti-infiltration

A catalog insert explains how the new Delta commercial entrance incorporates an unusual, angled presentation with thermally efficient construction to make a system that uses wind pressure itself to resist air infiltration. Vistawall Architectural Products, Terrell, Texas.

403. Raised-panel doors

Premier doors, sidelights, and transoms are said not to warp, rack, or split, even when exposed to extremes of weather. The line now includes Northern red oak and mahogany entries in seven styles, as well as passage, French, and bifold interior doors. Custom designs can be specified for historic restorations. Jessup Door Co., Dowagiac, Mich.



404. Steel doors and frames

New brochures for both Commercial Doors and Frame Systems offer product and in-use illustrations, detail standard construction features, insulating values, and fire ratings, and demonstrate correct installation methods. Benchmark, Bridgeton, Mo.

405. Automatic door systems

An architectural catalog describes both doors and operators for standard and custom applications. Sliding doors can be specified in several types of aluminum, stainless steel, bronze, and "all glass," as well as wood and laminate finishes. Besam, East Windsor, N. J.

Continued on page 125

For more information, circle item numbers on Reader Service Cards.

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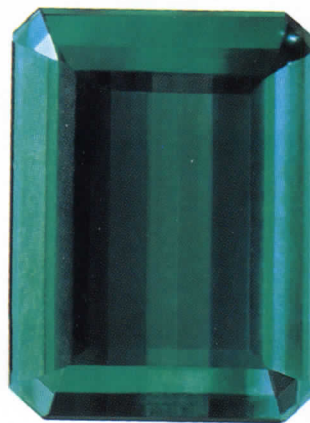


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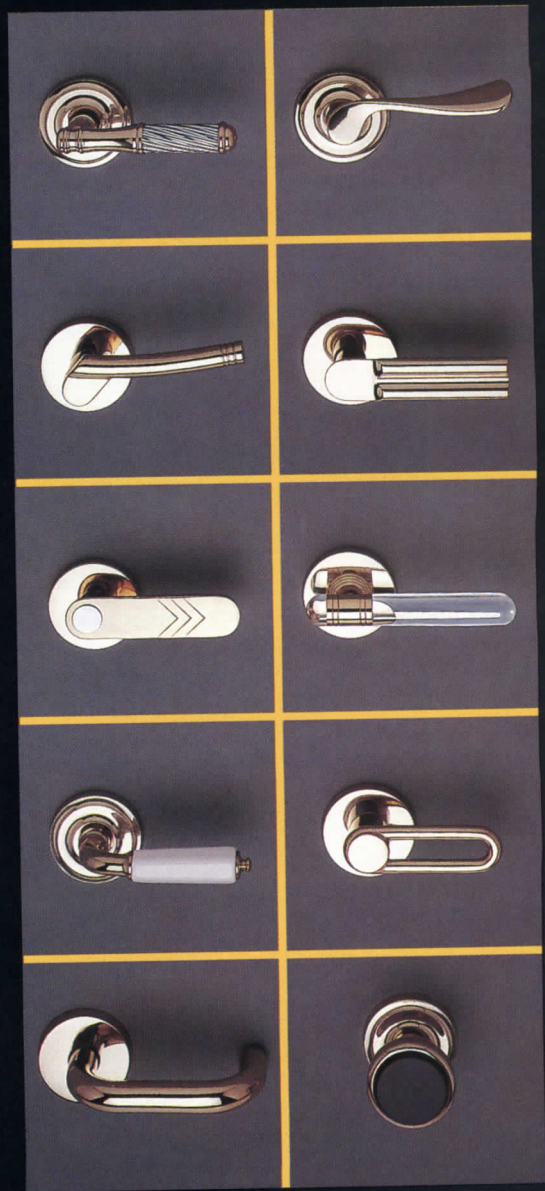
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This latest collection from Omnia is an artful blending of rich materials. Here, brass meets chrome with flawless integration; cool marble is mounted in beautifully contoured knobs and levers; and, clear acrylic flows from sleek, sculpted brass.

To enhance the elegance of the knobs and levers, all of the roses are designed with concealed mounting screws. This integrates the hardware with the door in a fashion fine design demands. Deluxe? Undeniably. But, when the hardware is as important as the interiors it introduces, the choice is clear.

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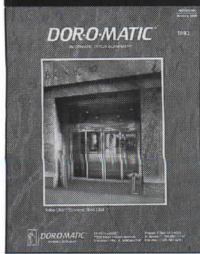


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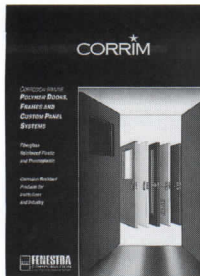
406. Safe and accessible

A brochure describes Look-See automatic sliding doors, with three sensing devices to insure user safety, as well as manual doors for hospital intensive-care units and automated swinging doors. Operators offer versatile surface, rail, and concealed mounting options; systems include doors, jambs, and headers. Dor-O-Matic, Harwood Heights, Ill.



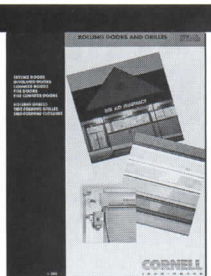
407. Storefront systems

Aluminum-framed entrances, storefronts, and low-rise curtain walls covered in a 16-page catalog, with product descriptions, quarter-size details, application data, and suggested specifications. Color photos of recent completed projects. Tubelite Indal Architectural Systems, Reed City, Mich.



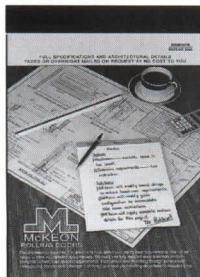
408. B-label FRP door

A new product, corrosion-resistant fiberglass-reinforced plastic Corrim doors meet ANSI/UL 10B 1 1/2-hr fire-label requirements, pass the hose-stream test, and self-seal against fumes and smoke as per proposed ASTM E152-modified. Ratings apply to single 4- by 8-ft doors and pairs for 8- by 8-ft openings. Fenestra Corp., Erie, Pa.



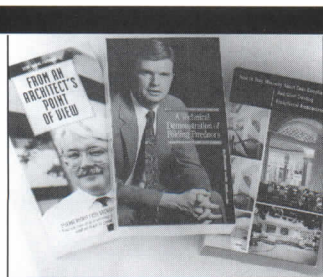
409. Rolling doors/grilles

A 24-page catalog details rolling doors of galvanized steel, stainless steel, and aluminum. Applications include service doors, fire doors, counter grilles, and enclosures; products feature easy test/reset devices for automatic fire doors, a UL four-hour fire door, and a choice of 186 powder-coat colors. Cornell Iron Works, Inc., Mountaintop, Pa.



410. Steel fire door

A bulletin describes a new type of fire door, which uses a constantly engaged hold-open brake for automatic closure control rather than a spring tensioning device. The door is said to be easy to install, maintain, test, and reset, and to perform more reliably in an emergency. McKeon Rolling Doors, Brooklyn, N. Y.

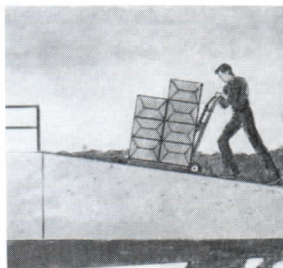


411. Folding-fire-door video

A fire-door manufacturer offers three video walk-throughs illustrating the open-space design solutions and code-compliance benefits of accordion-fold fire doors. Tapes cover built projects, technical details, and installation and operation. Won-Door Corp., Salt Lake City. ■

For more information, circle item numbers on Reader Service Cards.

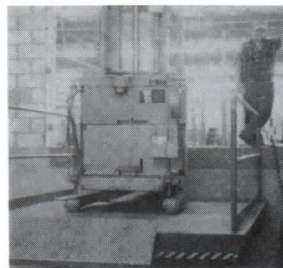
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New Products



310. Office à la carte

Designed by SOM alumni Lauren Rottet and Richard Riveire, the manager-level Attaché wood system integrates clean details and simple proportions in mix-and-match work

surfaces, pedestals, and cabinets based on an 18-in. module. Credenza shown consists of several storage and file units united under an etched-glass top. Halcon, Stewartville, Minn.



311. Almost-all-glass bath

A new product for this luxury bath-cabinet manufacturer, a glass-top sink module, with chrome faucetry and polished stainless-steel basin, can be set directly under mirrored cabinets, creating a free-floating appearance. Plumbing and support fittings are concealed by the mirrored housing. Sink units come in 27- and 43-in. widths. Robern, Inc., Bensalem, Pa.



312. Architectural woolly

A Princeton-based retailer specializing in woolens convinced Michael Graves that the architect's bold graphics would look wonderful interpreted in hand-loomed Irish-wool throws. He was right. To be sold directly and through museum stores, the fringe-trimmed squares (in three different patterns) are 54-in. on a side, priced at \$75 plus UPS (800/257-9445). Landau, Princeton, N. J.

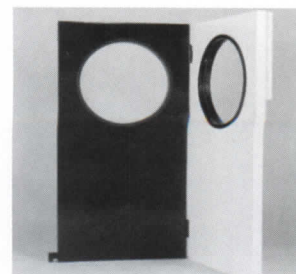
313. Lounge-as-statement

Designed by Guss Design in Germany but made in America, Futu doesn't look like an ordinary "modular lounge." Available with or without streamlined metal arms, the piece has a flared seat cantilevered over splayed legs. A selection of intermediate tables permits straight, round, and serpentine configurations for large-area seating. Brayton International, High Point, N. C.
Continued on page 133



For more information, circle item numbers on Reader Service Cards.

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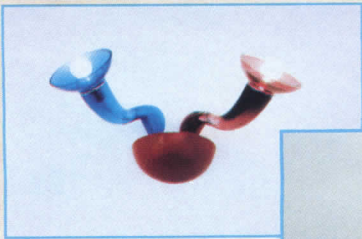
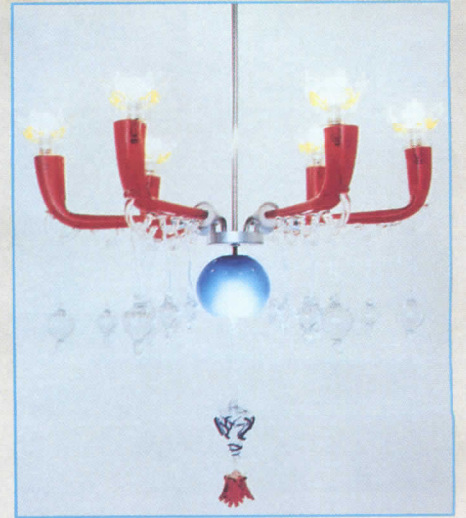
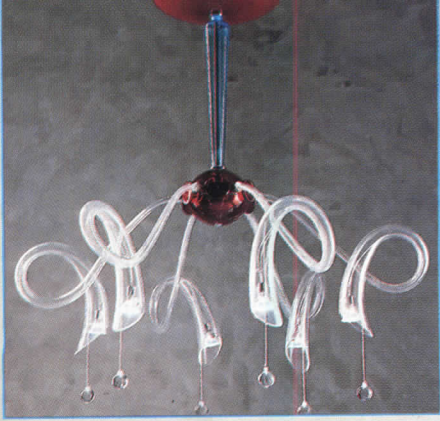
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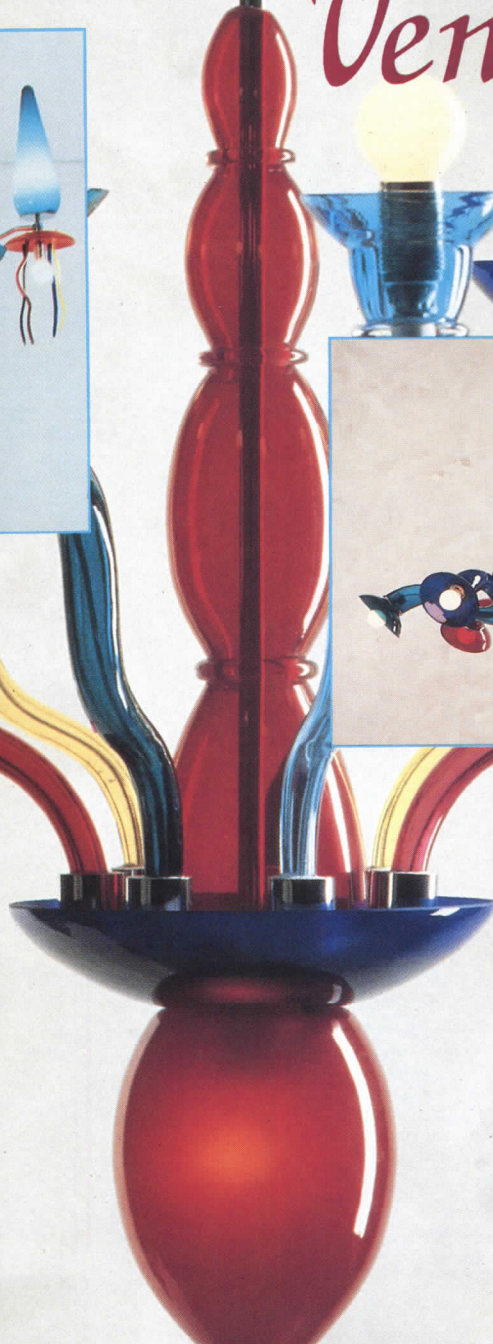
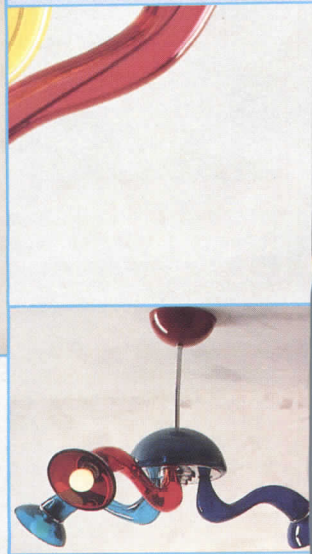
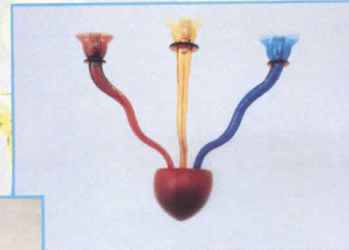
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Computers *Begins on page 48* Architectural Power Tools

This add-on for AutoCAD Release 12 provides many productivity tools for easier production drafting. It is not as comprehensive as packages available from ASG, KETIV, and Softdesk, but requires far less disk space. Indeed, the philosophy behind Architectural Power Tools and other packages in its class is *not* to provide extra access to databases and other advanced AutoCAD features (although it does offer a schedule database). These tools are aimed almost entirely at making drawing easier, more standard, and more precise.

There are separate modules for drawing doors, windows, walls, and fixtures, and for items like roofs and stairs that require some parametric calculations. There are nice symbols for trees, people, vehicles, and a hatch-pattern generator, text editor, and access to flexible layering. There's even an easy-to-use utility for making walk-through movies. You can edit in 2-D or 3-D.

You can access the tools through a pull-down menu the add-on automatically adds to your AutoCAD copy. Or, you can use a 12x12 digitizer. A 3.25x10-in. digitizer template is included in the package.

Circle number **309**

Architectural Power Tools Summary

Equipment required: Any computer capable of running AutoCAD 12 for DOS. Mouse or digitizer. The files take about 4 MB on your fixed disk.

Vendor: Eclipse Software, Inc., 301 West Holly, Bellingham, Wash. 98225, 206/676-6175. \$800; site licenses and educational discounts available. A 3-D face modeler is due this fall as an add-on or stand-alone.

Manual: A single 6x9-in. looseleaf manual contains good tutorials and a command reference. The manual is well-written.

Ease-of-use: Good. The command list is accessible from a single pull-down menu. The digitizer template, if you use it, takes the place of opening a menu choice; secondary commands are accessed on the screen. The wall drawing facility is excellent. Roofs and stairs are easy. You'll have to modify your AutoCAD startup file to include an environment variable telling AutoCAD in which directory the tools are located.

Error-trapping: As good as standard AutoCAD. ■

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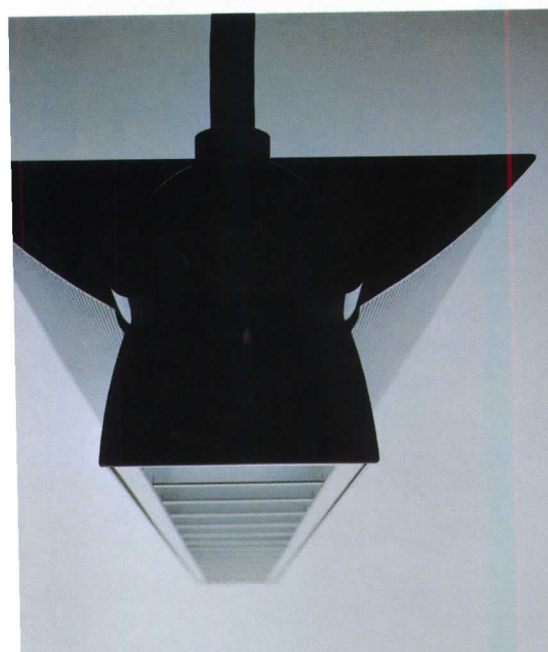
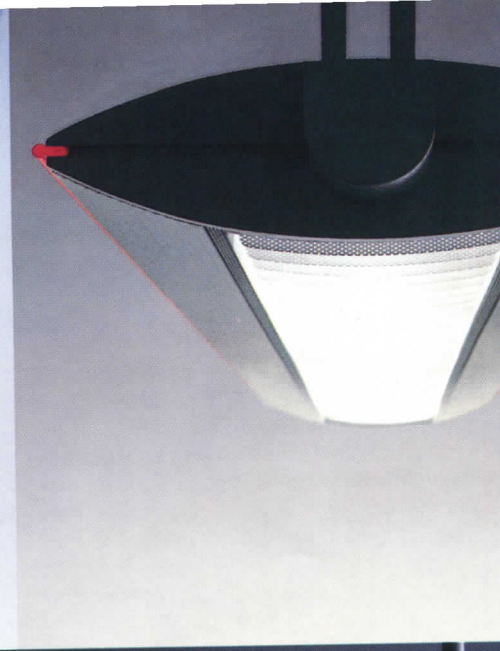
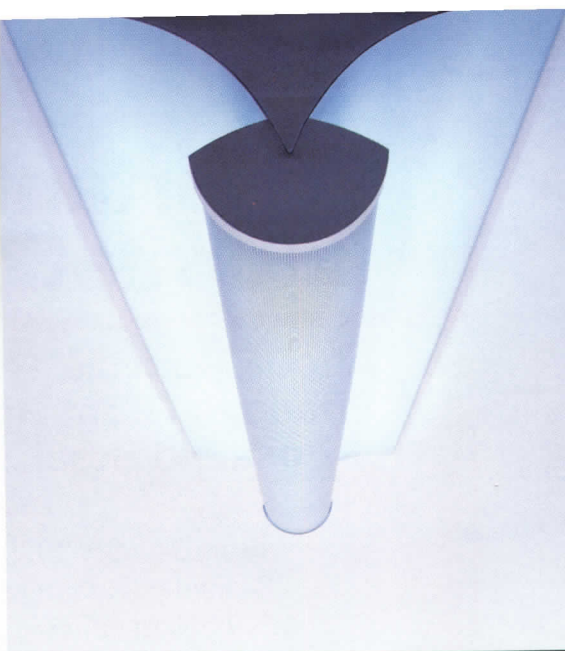
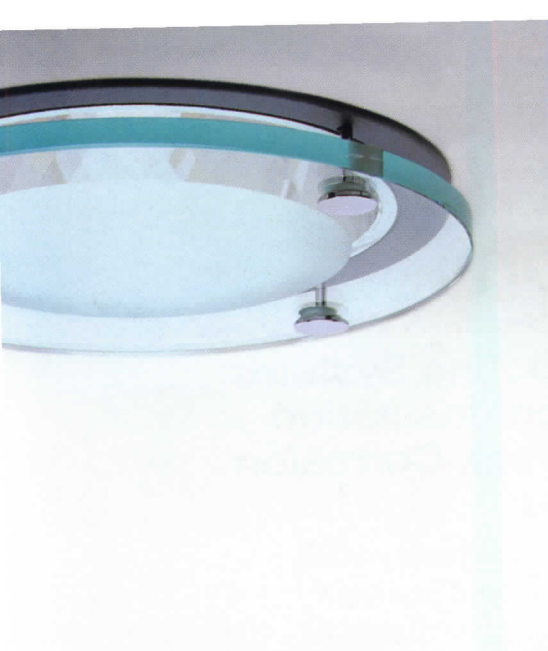
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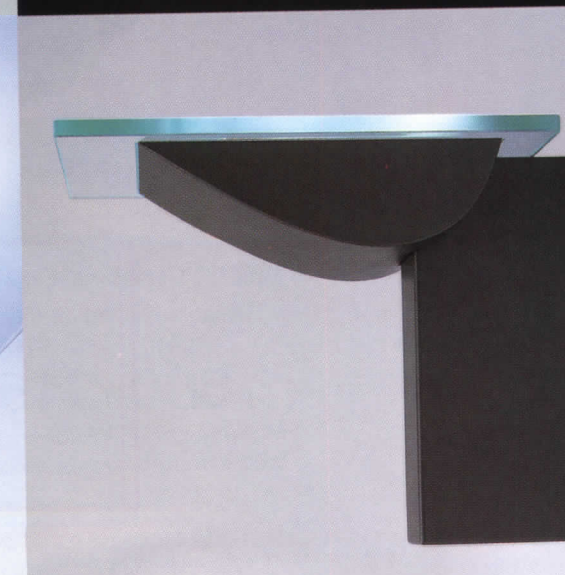
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further weakening for public buildings, specifically detention facilities, and various types of transportation structures. Meanwhile, health-facilities construction has held fairly close to last year's heightened level, but the cost-containment provisions certain to be in any healthcare-reform package do not bode well for large-scale expansion in the years ahead. Overall, institutional building is projected to slip an additional one percent in 1993, and then resume its gradual upward trend.

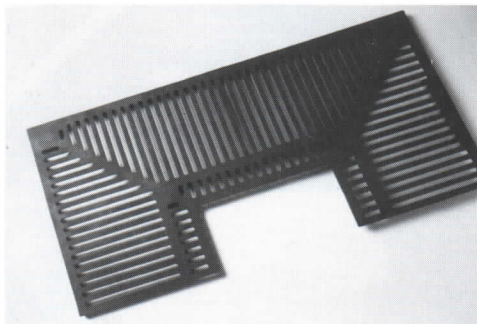
Investment Properties

The outlook for the income-properties group (commercial building and multifamily housing) is little changed from earlier forecasts, with the slight exception that office and warehouse construction actually fell some more in 1993's first quarter (establishing a new low for both structure types) before experiencing a modest turnaround in the April-June period. With the economy's poor growth in employment, there has been only a slight reduction in the excess supply of space, even with the record low levels of building. Given the degree of imbalance in many of these markets, the proposal by the administration to bring back the passive-loss provision for real-estate developers is not likely to have much impact.

Although store construction in the first quarter slipped back from its strong end-of-1992 rate, it still stands out as the maverick of the income-properties group. The growth of discount outlets and specialty stores has been the driving force behind this trend, and further expansion is likely in 1993. Still, the income-property group as a whole—beset by dismal contracting for offices, warehouses, and hotels—only will be able to show low-level stability for this year.

On balance, three of the four sectors above are staying close to earlier projections. The weakness for single-family housing has meant a reduction in the 1993 estimate for total housing starts from 1.250 million to 1.200 million. With the lower housing volume, the growth expected for total construction in 1993 has been downgraded from 8 percent to 6 percent. ■

*Prepared August 1993
Robert Murray, Vice President,
Economic Affairs
F. W. Dodge Construction Statistics
and Forecasts; McGraw-Hill Construction
Information Group*



314. ADA-compliant gratings

The Guidelines established by the Architectural and Transportation Barriers Compliance Board call for narrower-than-customary slots in tree or trench grates in order not to catch cane tips or wheelchair wheels. Grates are cast iron or cast aluminum, with optional Lexan-covered lightwells. Prime-coat, polyurethane, or powercoat finishes are available for 15 pedestrian-proof tree grates that meet ADA guidelines "without additional cost." Steel tree guards match grates. Ironsmith, Palm Desert, Calif.

Continued on page 135



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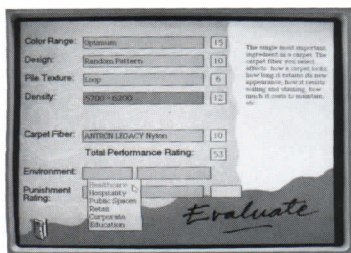


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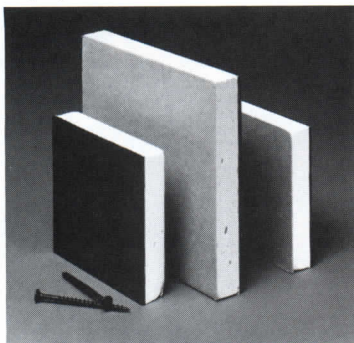
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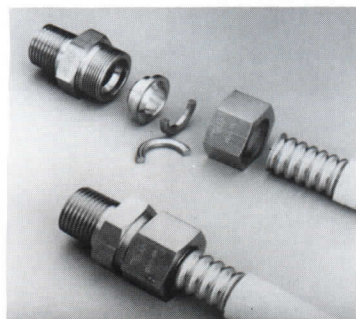
Circle 51 on inquiry card



315. Carpet-specification CAD
The Carpet Mentor, a PC program running under Windows, was formatted to help architects and designers develop specs for carpet construction, design, and fiber as well as specific conditions of intended use and environment. DuPont Co., Wilmington, Del.



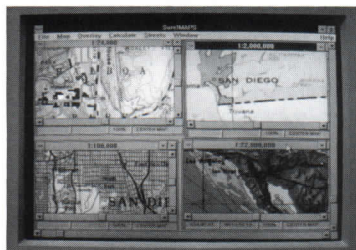
318. Impact-resistant wall
A prefabricated security panel for interior walls, CoreGuard is a composite of 5/8- or 3/4-in.-thick gypsum wallboard and an .081-in.-thick layer of Lexan polycarbonate sheet. The laminated wallboard is nailed or screwed to wood or metal studs and the room-facing wallboard surface is decorated. Walls offer at least 600 ft/lb of impact strength, have one- or two-hr. UL rating per ASTM E-119, and are suggested for psychiatric hospital rooms and low-level detention centers. CoreGuard, Inc., Bay City, Mich.



316. Piping for natural gas
A flexible gas routing system, new piping is corrugated, semi-rigid stainless-steel tubing covered with a tough protective plastic jacket. Tubing can be snaked through joists and around most obstructions; its flexibility provides safety against seismic and settling movement. Meets ANSI AGA LCI specs. Titeflex Industrial, Springfield, Mass.



319. Fiber-cement roofing
FireFree roofing materials are said to achieve a very realistic appearance of natural wood shakes, hand-split slate, or random-width cedar shingles in a Class A fire-rated fiber-cement material. Lightweight (under 400 lb per roofing sq) and walkable, the integrally colored roof resists hail and freeze/thaw cycling, and will not encourage growth of moss, fungus, or insects. Re-Con Building Products, Inc., Clarke Group, Sumas, Wash.
Continued on page 137



317. Raster-map program
Sure!MAPS 2.0, priced at \$199, is said to bring the pin-point precision and color details of raster mapping software into the PC market. Displays point-specific geographical data on several levels, from satellite shots to exact street locations, created in GIS-like imagery. Horizons Technology, Inc. San Diego, Calif.

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BUCHTAL 
C E R A M I C S

Richley Plaza, San Diego, CA
Architect: Golba Architecture, San Diego, CA

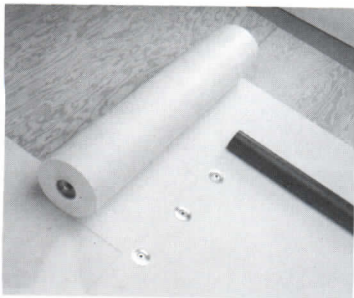
Tile Contractor: Klaser Tile, San Diego, CA
Product: 12×12 717 Brilliant Black



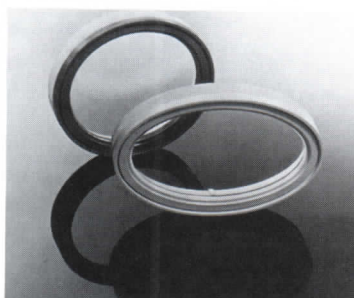
320. Anodized-finish shower
Available as a mostly-glass "kit" of door, filler, and side-panel components in a range of sizes, the Profile enclosure now offers two anodized-finish options—brass and silver tones—for its cylindrical metal posts and jambs. Kohler Co., Kohler, Wis.



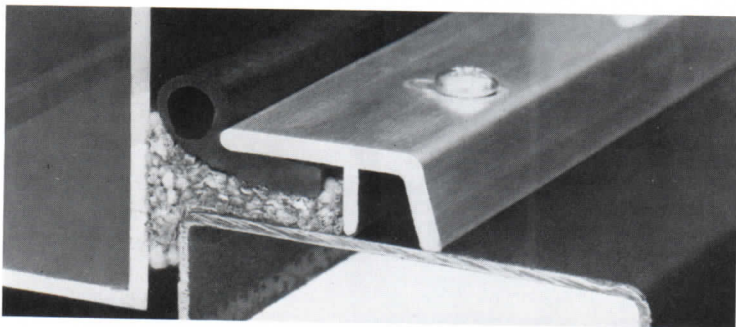
323. Pressed-tin trim
A newly reintroduced 6-in.-repeat antique-pattern ceiling is made of a more-rust-resistant tin-plated steel. The metal comes in 2- by 4-ft panels for nail-up or lay-in installation; coordinating cornice lengths are available. Chelsea Decorative Metal Co., Houston.



321. FR slipsheet
Manniglas 1208, for use between combustible deck and single-ply roofing where a UL Class A fire rating is needed, is described as a lighter, less-costly alternative to gypsum board. Lydall Manning, Troy, N. Y.



324. Specialty windows
Round- and oval-shaped wood windows incorporate low-maintenance vinyl cladding and energy-saving dual glazings into a turn-of-the-last-century style. Andersen Windows, Inc., Bayport, Minn.



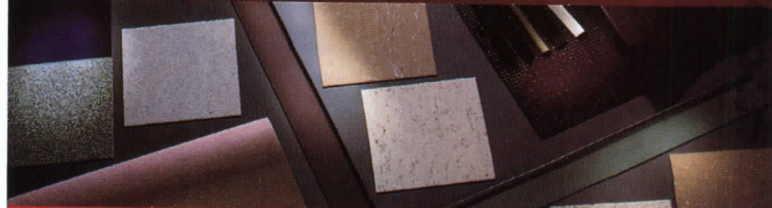
322. Intumescent door seal
The FS-3 door-seal system integrates "soft puff" intumescent material into the head, jamb, and door-bottom components themselves, enabling

the entire fire-door assembly to satisfy new positive-pressure fire, heat, and smoke tests. Zero International, Bronx, N. Y.

Continued on page 141

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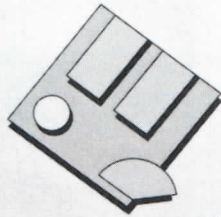
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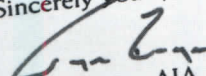
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President/CEO

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Manufacturer Sources

For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified.

Pages 78-83

Go Silk Showroom
New York City
Tod Williams Billie Tsien and Associates, Architect
Paints: Benjamin Moore. Sliding-door hardware: Grant Hardware. Pivot hinges: Dor-O-Matic. Conference table: Masonite Corp., fabricated by William Somerville. Pendant fixture in conference room: Neo-Ray. Low-voltage track lights: Halo. Interior furniture and walls: Custom design by architects. Rubber-tile flooring: Tuflex. Carpet: Jack Lenor Larsen.

Pages 84-89

Building U2
U.S. Robotics, Inc.
Skokie, Illinois
Valerio Associates, Inc., Architect
VCT flooring (lobby and laboratories): Kentile; Armstrong World Ind.; VPI. Paneling: Fin-Color-Ply Plywood Corp. Aluminum entrance doors: U. S. Aluminum. Metal doors: Coleman Fire-proof Door. Wood doors, furnishings, and benches: Oster Woodworking Co. Locksets: FSB. Hinges: McKinney. Closers: Dorma. Surface ceilings and grid: USG Interiors (Finline). Countertops: Wilsonart. Carpet: Mohawk. Office furniture: Kimball (Cetra). Furnishings and tables: Custom Cut. Chairs: Kimball (Arena VDT). Indoor lighting: Zumtobel, Artemide, Halo, Metalux. Banquette seating and main conference room chairs: Carnegie Fabrics.

Pages 90-95

Jil Sander Paris
Paris, France
Gabellini Associates, Architect
Staircase railing: DSBC. Glass: Guillaume Saalburg. Stone: Grant France Stone Installers. Stone (front facade limestone): George A. Williams & Sons Ltd. White marble panels: Serio, Spa Carrara, Stone Fabricators. Floor treatment, stairs: Indiana Limestone Co. Indoor lighting: Modular International. Fluorescent wall-washer Lighting: Elliptipar. Computer dimming system: Lutron International.

Pages 96-101

The Princess of Wales Theater
Toronto, Canada
Lett/Smith, Architect
Yabu Pushelberg, Interior Designer
All mosaics: Gem Campbell. Column covers and all finishes: Moss & Lam Special Surface Finishing Co. Steel door framing: Canadian Rogers. Metal light fixtures and sconces: Jeff Goodman (artisans); Lumalux Corp. (fabricator). Balcony fixtures: V.N. Custom Metalwork (fabricator). Paints

and stains: Para, Sherwin Williams. Face brick: Belden Brick. Masonry: Indiana Limestone. Aluminum curtain walls and windows: Kawneer. Sheet-metal roof: Vic West. Multiple-glazed glass: AFG. Entrance doors: Canadian Rogers. Metal doors: SW Fleming. Sliding doors: Dor-A-Matic. Rolling doors: Kinnear. Hardware: Sargent. Sprinkler system: National Fire Equipment. Suspension system ceiling: Donn. Tile: Gruppo Bisazza. Carpet. Elite Carpets. Theatre seating: Irwin Seating. Seating and tables: Custom by designers. Auditorium upholstery walls: Maharam. Lighting throughout theater: Eureka; Prescolite. Outdoor lighting: Norbert Belfer. Wall mounted, pendant & free standing light fixture: Custom design by Yabu Pushelberg. Elevators: Northern Elevator. Escalators: Dover Elevators.

Pages 102-105

B. B. Dakota
Laguna Beach, Florida
Jane Sachs, Designer
Industrial fluorescent strips: Sylvania. Sheet vinyl: Allstate. Task seating: Custom design by architect. Paints: Benjamin Moore. Casement windows: Custom design by architect.

Pages 110-117

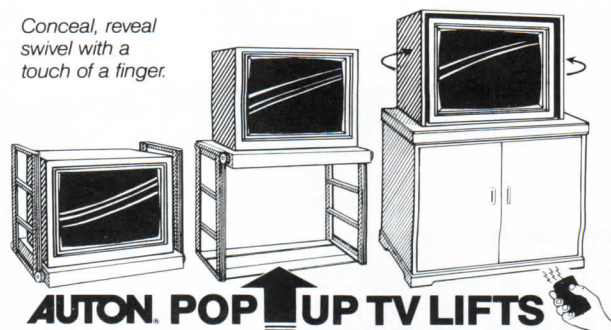
Penthouse Apartment
New York City
Smith-Miller + Hawkinson, Architect
Light switches: Lutron. Chairs: Knoll, Palazzetti. Bedside light: Artemide. Air diffuser: Titus. Window treatment (near library): Sol-R-Control Fabric. Wet plaster-installed by Oscar Williams: U.S. Gypsum. Steel windows and metal doors: Hope's Windows. Sliding doors: Custom by Ted Levine (Carpenter). Upswinging doors: Metal worker, Tom Hand. Industrial and hangar doors and cabinetwork, woodwork: John Van Wagner in association with Rohner Furniture. Mortise, lever locksets and flush pulls: Modric. Hinges: Stanley, Rixon. Cabinet hardware pulls: Tydix-Custom. Wet plaster: Oscar Williams-subcontractor. Paints and stains: Benjamin Moore-John Milkey, subcontractor. Paneling: Pearwood Veneer. Kitchen & master bath tile: Intertile. Dressing room, living and dining room carpet: V'Soske. Indoor lighting: Belfer, Edison Price. Outdoor lighting: McPhilben.

Corrections

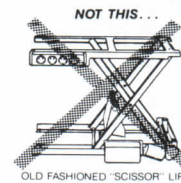
Credit for the Spiegel Corporate Headquarters Building [RECORD, July 1993, page 68] should have listed Grenald Associates as Lighting Designer, excluding office areas and the cafeteria, which were lighted by Horton Lees.

OWP&P was the firm that came in third in the *Chicago Tribune* redesign contest for the Cabrini Green housing project, not OWP&T [RECORD, July 1993, page 27].

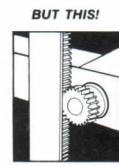
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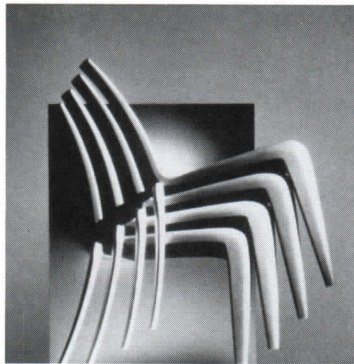
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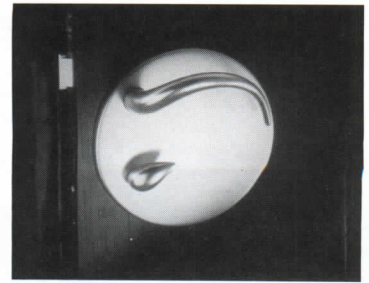




Phillipe Starck strikes thrice

326. Starck-design chairs by Italian and Swiss makers combine polypropylene and metal in similar ways. Kartell's Glob chairs (1) have rear legs and embracing backrest of steel tubing; seat and front legs are colorful molded plastic. Armchairs and stools also available; all stack. Vitra's more formal Louis 20 armchairs (2, 2a) have blow-molded unitary back/seat/front legs; Starck's signature horn shape appears as the aluminum rear legs. Modern Age, New York City.

327. Maestro Starck turned to the German hardware firm FSB to produce his first-ever set of door handles and cabinet knobs. The asymmetric designs subtly indicate function: a rams-horn-shaped latch (3) just asks to be pushed down; teardrop knobs (3a) say "pull." The U. S. distributor will furnish the natural-aluminum handlesets with the necessary locks and latches for specific commercial and residential applications. The Ironmonger, Inc., Chicago. ■



3a

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Indianapolis 317/398-4400

Developer: Leonard, Kinsey & Associates, Hilton Head SC • Architect: Geheber Lewis Associates, Atlanta GA
General Contractor: Graves Commercial Builders, Hilton Head SC
Roofing Contractor: Ronnie Smith Roofing, Hilton Head, SC • Metal Roofing System: MBCI's Craftsman SB-12 Polar White

Fire Retardants and Preservatives

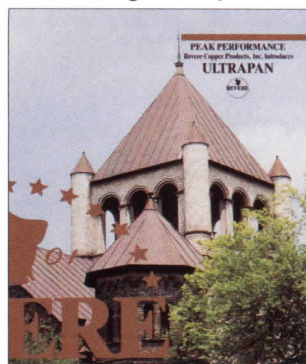


Hoover Treated Wood Products' new 12-page Sweet's catalog features Pyro-Guard third generation interior fire retardant lumber and plywood for roof sheathing and other structural uses; Exterior Fire-X FRT lumber and plywood for decks, balconies, siding and other outside uses; and CCA preservative treated lumber and plywood that's kiln dried after treatment.

Hoover Treated Wood

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Revere Copper Roofing - Ultrapan

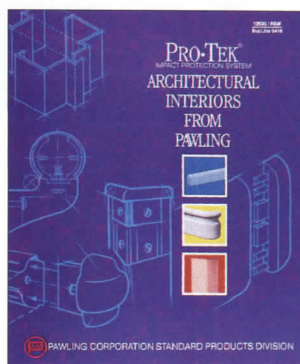


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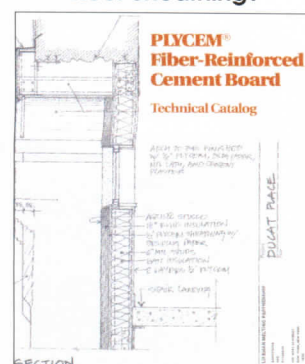


New Colorful 24-page catalog features full line of wall & corner guards, handrails, baseboard systems & door protection products to complement your most stringent design/color requirements & functionally reduce impact damage anywhere in heavy traffic environments: government buildings, office complexes, shopping malls, schools/colleges & healthcare facilities. Select from many styles in 40 NEW COLORS for contemporary design-coordinated projects.

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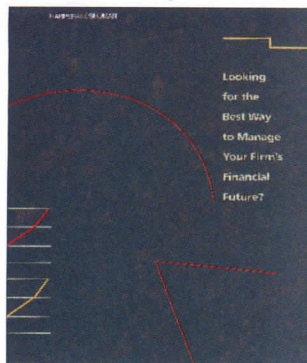


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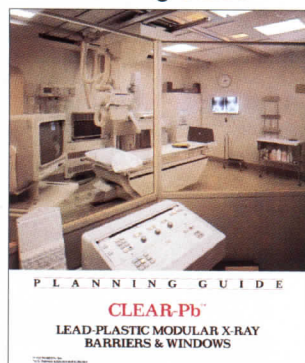
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Product Literature Showcase

The Discrete Access & Egress Solution

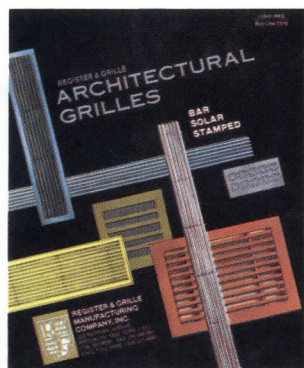


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Circle 73 on Inquiry card

Sand Etched Curved Glass Lighting



G-8 Collection of pendant and ceiling fixtures explores light through graceful bell shaped etched glass. Sizes to 36" diameters, with choice of stems. Finishes in brass, chrome and bronze. Equipped for incandescent or fluorescent lamping. Matching wall sconces and table lamps complete the group. Model shown: G-8036-H with 5 stems. Call or write, catalog available: TSAO+CLS, 31 Grove St., New Canaan, CT 06840. 203-966-9550 or FAX 203-966-2335.

TSAO+CLS

Circle 74 on Inquiry card

Fine Garden Furniture



Van Klassens Fine Garden Furniture is made of solid Honduras mahogany joined with West System® epoxy and finished with AWLGRIP® marine polyurethane paint, the most attractive and durable combination of materials for wood painted furniture for indoor or outdoor locations. Also available in genuine FEQ teak, clear mahogany and custom designs and colors.

Van Klassens, Inc.

Circle 75 on Inquiry card

CHADSWORTH COLUMNS™



Color brochures feature wood, fiberglass, E.P.S. stone and marble architectural columns. Variety of sizes and styles. Round, square or octagonal with plain or fluted shafts. Job site delivery. Largest selection anywhere. CHADSWORTH...The Column Source. For catalog (800) 394-5177. Sales (404) 876-5410. Free brochures.

Chadsworth Inc.

Circle 76 on Inquiry card

CEDAR IMPRESSIONS™

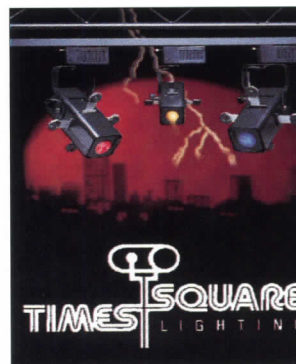


CertainTeed Corporation now offers Cedar Impressions™, a durable polypropylene siding panel manufactured in molds patterned from real cedar shingles. Offering the authentic look of cedar perfection shingles without the maintenance worries, this 48" x 14" panel installs like a traditional siding panel and has interlocking tabs for a virtually seamless look. Call 1-800-233-8990 for more information.

CertainTeed Corporation

Circle 77 on Inquiry card

TIMES SQUARE LIGHTING

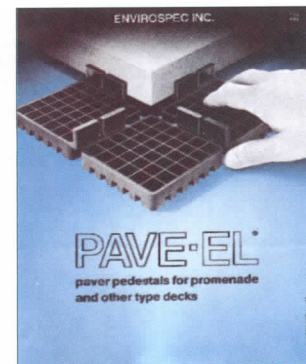


With over 60 years of experience, Times Square Lighting broadens the creative minds of the Architect with their complete line of display and track lighting fixtures. Low voltage energy saving fixtures, line voltage pars from 50 to 1000 watts, and pattern and framing projectors, can all be found in our 40 page catalog. Call (914) 947-3034 or fax (914) 947-3047 for further information.

Times Square Lighting

Circle 78 on Inquiry card

A Practical Solution to Roof Paver Stone Applications

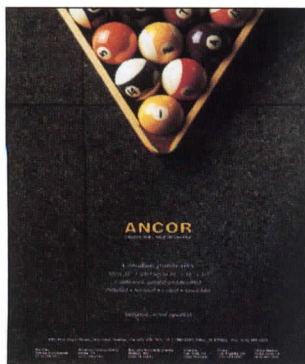


New bulletin shows a better way to transform a roof into a patio, terrace, balcony, walkway, plaza podium, promenade, or just plain roof deck, using the Pave-El Pedestal System. Designed to elevate, level, and space paver stones for drainage in any weather, Pave-El reliability protects roof, paver stone, membrane and insulation. Ellicott Station Box 119, Buffalo NY 14205. 416-2523-2090.

EnviroSpec

Circle 79 on Inquiry card

Ancor Granite Tile

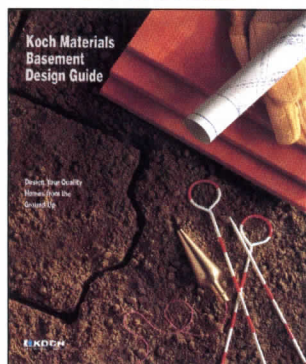


Ancor produces close to three dozen No. American and imported granites in a full range of colors and finishes for residential, commercial and institutional use. Standard format is 12 x 12 x 3/8"; other sizes up to 18 x 18 x 1/2" available. Ancor's honed finish tile is particularly suitable for high traffic commercial areas. 435 Port Royal West, Montreal, Quebec, H3L2C3, Canada. Ph# (514) 385-9366. Fax# (514) 382-3533.

Ancor Granite Tile

Circle 80 on Inquiry card

Discover The Value In Basements

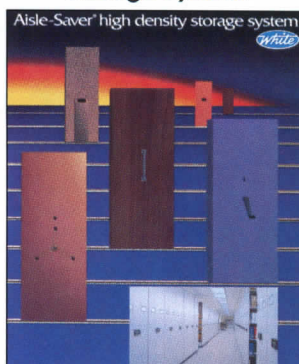


The Basement Design Guide from Koch Materials Company can help you discover new ideas in designing warm, dry, comfortable living spaces in below grade areas. This 20-page brochure highlights construction techniques and design considerations that help make the basement a value to you and your buyers. Includes information on a 10-year limited warranty against exterior foundation leaks.

Koch

Circle 81 on Inquiry card

Aisle-Saver High Density Storage System



Aisle-Saver® high density mobile shelving systems save space by eliminating unnecessary aisles. Opens an aisle where you want it, when you want it. Doubles the capacity of filerooms, defers expansions and moves, reduces overheads. Utilizes existing shelving or cabinets. Brochure discusses applications, system layouts and aesthetics.

Call: 908-272-8888 or
FAX: 908-272-7081

White Office Systems

Circle 82 on Inquiry card

Tough, Attractive Walls Suit School Needs



Spectra-Glaze® factory-glazed concrete masonry units get an A+ from educational building designers, for new and renovative interior and exterior walls. Tough, sanitary, easy cleaning, no refurbishing. Ideal in high traffic, high activity areas. Aesthetically pleasant custom colors. Sound absorbing modules; integrally engraved signage and murals. The economy of block, the permanence of glaze. 800/638-3188; 410/837-0720; FAX 410/837-9498.

The Burns & Russell Co.

Circle 83 on Inquiry card

Worthington Group

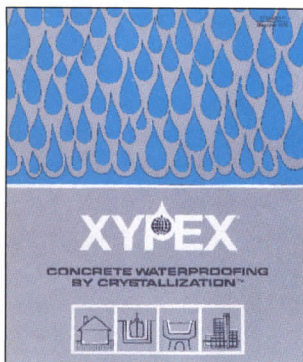


Introducing the Classical Tuscan Column, based on designs of Vitruvius and Vignolo; and crafted in pine. Our large volume allows us to offer these authentic replications of classical designs at a price far more reasonable than other companies. Worthington also offers fiberglass balustrading, plaster moulding and much more. Shipped factory direct. 44 page color catalog \$3.00. Call (800) 872-1608.

Worthington Group

Circle 84 on Inquiry card

Concrete Waterproofing by Crystallization



Applied as a slurry coating, Xypex is a chemical treatment that waterproofs by penetrating the concrete with a crystalline formation that 'plugs' the pores of the structure preventing water seepage. Xypex is ideal for use on the 'inside' of wet underground structures.

Xypex Chemical Co.

Circle 85 on Inquiry card

Open & Private Offices A Single Source



Transwall combines these two basic wall requirements for today's high tech office with its Sounddivider open plan system and the full height Corporate series. The two systems offer complete interchange-ability of wall mount components, as well as compatibility in design and appearance. Modular furniture blends with panel mounted work surfaces. Electrical and electronic support is system integrated.

Transwall Corp.

Circle 86 on Inquiry card

Rigid Vinyl Drywall Accessories



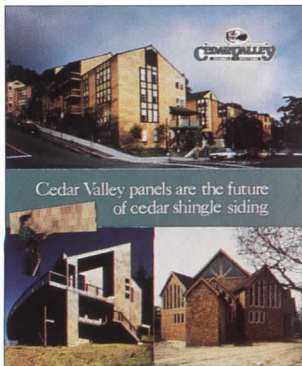
Trim-Tex, Inc. manufacturer and extruder of rigid vinyl drywall accessories for over 25 years, provides this full line of superior quality rigid vinyl drywall accessories to help you create "DRYWALL ART." With over 65 different designs in over 275 sizes and colors, Trim-Tex products can make your imagination a reality. Call 1-800-874-2333 to receive our 20 page 4-color catalog.

Trim-Tex, Inc.

Circle 87 on Inquiry card

Product Literature Showcase

The Future of Cedar Shingle Siding

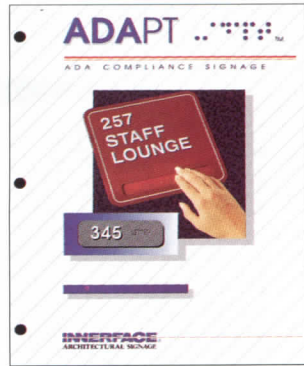


Cedar Valley's new 8-page color brochure details the panelized exterior siding system. Included are specifications, product descriptions & illustrations, finishing & application information and nearly four pages of color photos of significant projects by leading architects throughout the U.S. who used conventional & Decorator shingle panels. Cedar Valley. Call: 800-521-9523. Fax: 408-636-9035.

Cedar Valley Shingle Systems

Circle 88 on Inquiry card

ADA Compliance Signage



INNERFACE makes it easier for you to meet the new Americans With Disabilities Act (ADA) signage standards. INNERFACE offers (1) A variety of compliance signage, (2) National distribution, (3) Solid 21 year history and (4) Economical, attractive, & highly functional interior and exterior signage. INNERFACE also offers a complete line of interior and exterior signage. For free literature Please call: (800) 445-4796.

INNERFACE

Circle 89 on Inquiry card

Classic Series Flooring Fritztile

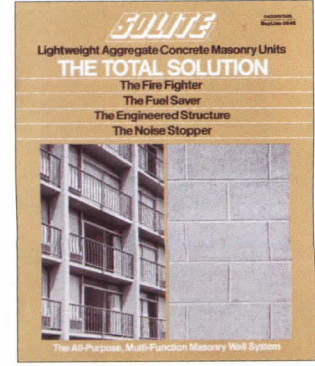


Fritztile introduces "A New Generation of Classics" with its Classic 200 & 600 Series flexible terrazzo floor tile. Accented with imported and domestic marble this dynamic flooring is available in a range of colors from pastels to earthtones. Exceptionally wear and stain resistant, Fritztile is perfect for commercial, institutional and residential applications - anywhere beauty and durability are important. 1-800-955-1323.

Fritztile

Circle 90 on Inquiry card

SOLITE® Masonry Units The Total Solution



SOLITE® lightweight aggregate concrete masonry units provide the total solution for your building needs. 8-page brochure features multi-function wall system of concrete masonry units composed of rotary kiln produced aggregate. Fire resistance - up to 4 hr. rating. High insulative values save fuel. High resistance to sound transmission provides maximum privacy. Brochure also explores the benefits of an engineered masonry structure. P.O. Box 27211, Richmond, VA 23261 Call:(804) 329-8135.

SOLITE Corp.

Circle 91 on Inquiry card

Total Opening Systems

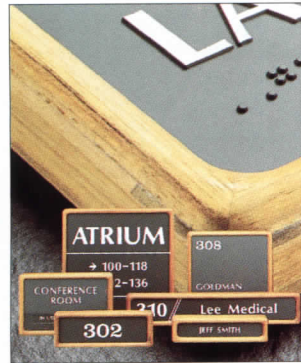


Absolutely everything you need to finish an opening securely in the widest variety of materials is explained in detail in this comprehensive catalog from ESSEX Industries. SARGENT architectural hardware, CURRIES hollow metal doors & frames, GRAHAM wooden doors, MCKINNEY hinges and MCKINNEY Parker washroom accessories come together in this comprehensive reference work from the quality single source of total opening systems. Call; 1-800-945-0536

ESSEX Industries, Inc.

Circle 92 on Inquiry card

KROY ADA SIGNAGE

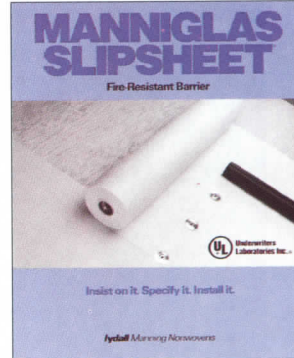


For more than a decade, Kroy Sign Systems has been working with architects and designers to specify professional, cost-effective signage. Let us worry about ADA signage compliance for your next project while you concentrate on the rest. Whether you're bringing a facility up to code, renovating, or designing for new construction, it's imperative to know how to comply - before you begin. Call 800-733-5769 or Fax 602-951-7033.

Kroy, Inc.

Circle 93 on Inquiry card

Manniglas Slipsheet® Fire Resistant Barrier



Roofing system brochure highlights company's new Manniglas 1208 Slipsheet and popular Manniglas 1200 Series Slipsheet for UL Class A & B single-ply roofing systems. A cost-effective alternative to gypsum board, Manniglas Slipsheet is a lightweight easy-to-apply flame barrier rolled out over both combustible and non-combustible roof decks to prevent penetration and spread of flame in both re-roofing and new construction applications. Call: 518-273-6320.

Lydall Manning Nonwovens

Circle 94 on Inquiry card

Custom Decorated Metal



SURFACE DESIGN + TECH. offers entirely new dimensions in sheet metal decoration. Restructuring the appearance of polished, mat or brushed surfaces, more than 30 material + finish options can be used in limitless design combinations. And what is better: you can specify your own design, pattern, logo, texture, etc., SURFACE DESIGN will produce it. Call: 1-800-537-1127, FAX: (305) 696-4064.

Surface Design + Tech.

Circle 95 on Inquiry card

Ascend In Style



The standard "Princeton" double helix spiral stair (no center pole) rotates 180 degrees, however custom degrees of rotation can be manufactured. Shown is a 315 degree white oak stair. Wide selection of rail and baluster styles, as well as wood species. Family owned, quality is an A.J. Stairs commitment. Call for FREE estimate and color brochure.

A.J. Stairs, Inc.

Circle 96 on Inquiry card

Ornamental Fiberglass Light Poles



Thomas & Betts announces the addition of a new series of decorative antique poles to its American Electric Lighting product line. These three new poles: the Washington, the Kaiser, and the Tudor are available individually or as a package with the American Electric Lighting decorative fixtures: the Bainbridge and the Athens.

American Electric Lighting

Circle 97 on Inquiry card

Integrated Architectural Ornaments

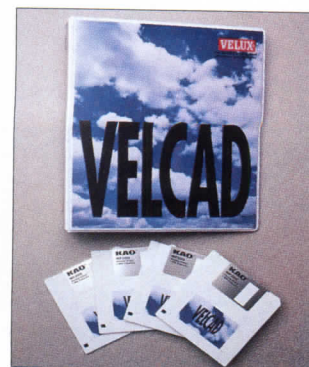


Pineapple Grove Designs' offers an extensive collection of original SculpStone™ architectural ornaments. Created in engineered stone, our detailed medallions, friezes & keystones range from classic & traditional to contemporary styles. Easily applied & exceptionally durable, these ornaments come in a variety of colors, sizes & shapes. All are precision made to our exacting standards & are of uniformly high quality. Call 800-771-4595.

Pineapple Grove Designs

Circle 98 on Inquiry card

NEW VELCAD SOFTWARE

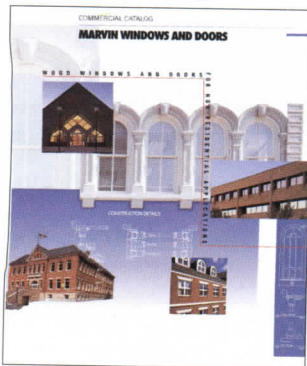


VELUX introduces the first design software created exclusively for roof windows & skylights. Designed in Microsoft Windows™ 3.0 & operable within or out of AutoCAD®, VELCAD accommodates two levels of user experience & can generate & receive .DXF files. VELCAD users can print detail drawings & specs &, interfacing with AutoCAD, can manipulate elevations, drawings and schedules. Contains a drawing viewer for printing & viewing head, jamb & sill designs. Available free-of-charge to design professionals.

Velux-America, Inc.

Circle 99 on Inquiry card

New Commercial Catalog



Marvin Windows' new commercial catalog describes the commercial capabilities of Marvin's entire line of wood and clad wood windows and doors. The catalog provides information on product styles, performance and design capabilities, as well as Marvin's Architectural Support Department and other non-residential services.

Marvin Windows

Circle 100 on Inquiry card

Bomanite Architectural Concrete Paving



Bomanite colored, imprinted and textured architectural concrete paving adds a distinctive touch to any municipal, commercial or residential project. Bomanite has the durability to stand up to the toughest traffic loads and environmental conditions. Available in more than 50 patterns in 25 standard colors. Custom colors also available. 209-673-2411

Bomanite Corporation

Circle 101 on Inquiry card

New Nylon Railing

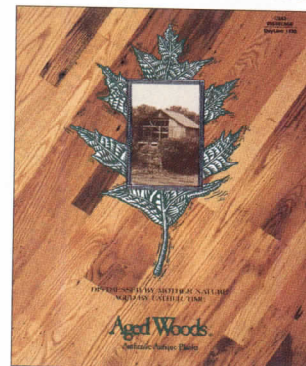


W&W is proud to announce its exclusive representation of NT Normbau Nylon Railing and Balustrade Systems throughout the US, Canada and Mexico. This new and improved nylon product has removed all cadmium and features a stabilizer that has been added to the nylon, significantly increasing its resistance to UV light. Several new and exciting colors have also been introduced.

W&W Sales Ltd.

Circle 102 on Inquiry card

Antique Plank Flooring from recycled barnwood



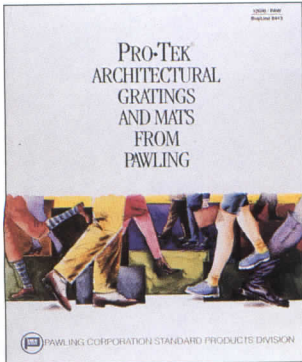
Our planks are naturally Distressed by Mother Nature, Aged by Father Time™ and can be used for flooring, panelling or mill-work. From old barnwood emerges a precision-milled plank that retains the patina and character imparted by decades of wind, rain and sun, and the signs of old-time craftsmen. Free brochure.

Aged Woods®

Circle 103 on Inquiry card

Product Literature Showcase

Pro-Tek® Entrance Mat & Grating Systems Catalog



The new PRO-TEK® Entrance Mat & Grating catalog describes the PAWLING "TWO-STEP" scape and dry system. Features products: patented ROL-DEK® recessed/surface mats & DRAIN-WELL® recessed grating systems. When installed in busy commercial entrances, these premier systems provide first defense protection of interior rugs, carpeting & flooring from heavy pedestrian traffic. They also provide easy, cost effective maintenance & complement contemporary interior design.

Pawling Corporation

Circle 104 on Inquiry card

Conwed Naturalines™ Decorative Wood Ceilings

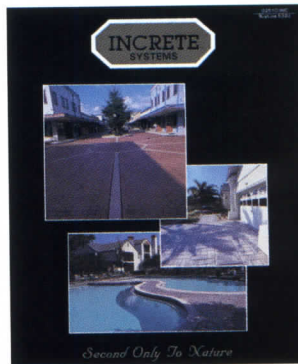


Naturalines wood ceilings are available from Conwed in numerous styles and finishes. Wood ceilings feature dynamic lines for such environments as hotels, banks, offices, reception areas, and schools. Styles include linear, louver, cellular, and coffer in woods such as oak, hemlock, maple, or custom wood. Naturalines wood ceilings are available in fruitwood, walnut, mahogany, and custom stains or choose from finishes such as lacquer or class A.

Conwved Designscape

Circle 105 on Inquiry card

Increte Systems Decorative Concrete Stamped in-Place

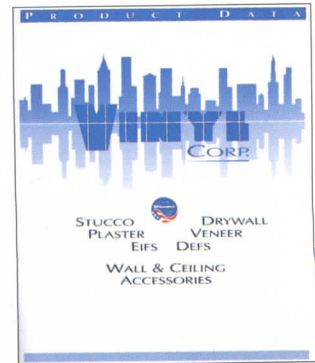


The most complete & versatile Decorative Stamped Concrete system in the world. "Second Only to Nature". Over 30 standard colors & 55 different natural patterns. Custom colors & patterns created to meet the design requirements of any commercial, residential, indoor or outdoor applications. Increte Systems can color & texture to resemble natural stone, slate or bricks. Increases surface strength to 8,000 PSI. Mildew & stain-resistant surface is ideal for roads, drive-ways, patios, pool decks, medians, bridges, park paths, & entrances. Free 12 page brochure call 800-752-4626.

Increte Systems

Circle 106 on Inquiry card

New Product Catalog

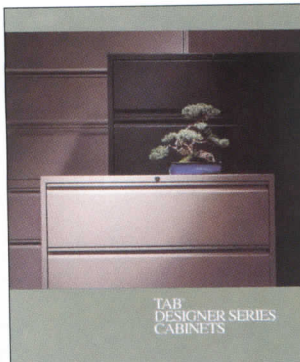


Vinyl Corp. manufactures the most extensive line of over 450 quality wall and ceiling accessories for stucco, plaster, EIFS, DEFS veneer and drywall. All accessories are exclusively manufactured with BF Goodrich Geon® Vinyl compounds. For more information call (800) 648-4695 and ask for Vinyl Corp's. new product catalog. VINYL CORP. 8255 NW 70th Street, Miami, FL 33166.

Vinyl Corporation

Circle 107 on Inquiry card

TAB-PD 15 Cabinets from TAB®



TAB Designer Series™ Cabinets allow you to plan according to specific storage needs. Available pre-configured or as shells, accepting a wide variety of interchangeable components to create the ideal mixed-media storage system. With 12 heights, 3 widths, 2 depths, a full range of designer colors and optional woodtrim, these beautifully finished cabinets harmonize with any office decor. Call 1-800-676-3109, Ext. 4432 or Fax 415-852-2687.

TAB PRODUCTS

Circle 108 on Inquiry card

SENERGY CAD-NET SOFTWARE



Architects can cut hours to minutes when designing exterior walls with Senergy's CAD-NET, a new AutoCAD-compatible (V.11 and higher) specification & detail drawing program for Exterior Insulation & Finish Systems (EIFS). The CAD-NET program provides specifications & details for Senergy's Senerflex, Senerthik & QRsystem. CAD-NET is available on either 3-1/2" or 5-1/4" diskettes. **For more information: Senergy 1-800-221-WALL. Leaders in EIFS.**

Senergy

Circle 109 on Inquiry card

Architecture In Glass

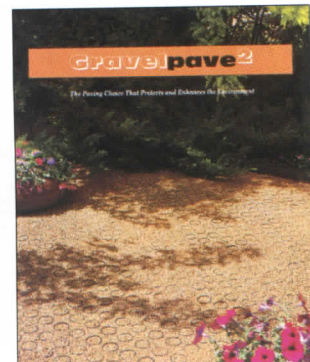


Amdega - Machin Conservatories' new architectural handbook is now available. The handbook sets out the general design principles of the two conservatory systems produced by Amdega. The Amdega line has established a reputation for making the finest traditional style conservatories since 1874. The Machin line is reminiscent of the graceful & romantic structures of previous centuries.

Amdega-Machin Conservatories

Circle 110 on Inquiry card

Gravelpave2 Porous Pavement System

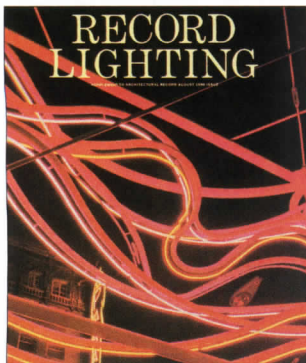


Gravelpave2 is a sister product to Grasspave2 and offers stabilization and confinement of gravel for a high traffic pavement surface - which still needs all benefits of porous pavement. Available in Brown, Gray, or Black as standard colors, or custom to match gravel. Free brochure: call 800-233-1510, or fax 800-233-1522.

Invisible Structures, Inc.

Circle 111 on Inquiry card

Back Issues of Record Lighting

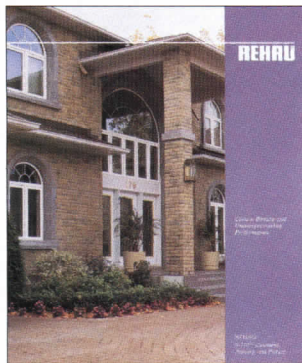


Add to your files by ordering back issues of RECORD LIGHTING, the exciting color supplement to Architectural Record. The price per issue is only \$3.50 each (includes postage and handling). Send check or money order to Architectural Record, 1221 Avenue of the Americas, New York, NY 10020. Attn: Back Issues.

Record Lighting

Circle 112 on Inquiry card

Vinyl Windows That Fit Your Style



Nothing has more impact on the look of a building than its windows. Our vinyl windows give you a clear line of sight from every angle. Elegant styling. Concealed hinges. Clean lines. These beautifully proportioned windows elevate the craftsmanship of window design to art. REHAU Inc., P.O. Box 1706, Leesburg, VA 22075. Call for more info: 1-800-247-9445.

Rehau Window Designs

Circle 113 on Inquiry card

Aluminum Ceiling Grid



Aluminum Ceiling Grid and Architectural Specialties Hundreds of extruded aluminum grid profiles for unique ceilings, or we can produce your design. Grid is linear, modular, rectangular, or triangular, with butt or mitered joints, textured or anodized, or painted any color. Specialties include interior skylight systems, clean room & environmental grid, beam grid systems, pockets & column collars. Fax toll-free 800-877-8746 for a free 70-page catalog

Gordon, Inc.

Circle 114 on Inquiry card

HEAT-N-GLO Fireplace Products

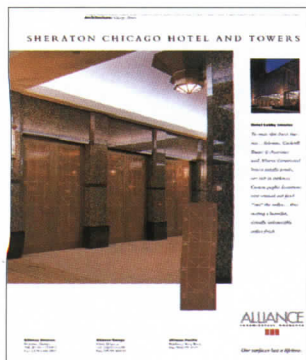


Looking for quality fireplaces that combine efficiency and aesthetics? Call for our brochure on energy-saving built-in gas or wood-burning fireplaces. Including see-thru, three and four sided glass fireplaces, inserts for pre-existing fireplaces or our direct-vent(no chimney) gas fireplace available with remote control. Call: 612-890-8367.

Heat-N-Glo

Circle 115 on Inquiry card

Alliance Ceramicsteel Interior Wall Panels



Durable Alliance Ceramicsteel Interior Wall Panels offer the strength of ceramicsteel in an easy to install systems. Choose from our 24 standard colors; 8pastels, 8 small speckles & 8 metallics. For a more distinctive look & infinite design possibilities, Alliance can create custom graphics & textures. Call for a free informational brochure: 800-631-4514. Alliance America, P.O. Box 920488, Norcross, GA 30092.

Alliance America

Circle 116 on Inquiry card

Porcelain on Aluminum Architectural Panels



Ideal for retrofit projects, including window walls and glazing and veneer applications, these porcelain-on-aluminum panels upgrade the appearance, security, and energy efficiency of older buildings. The insulated panels are field installed without special tools. Phone: 800-228-2391 or FAX: 402-466-2790.

Mapes Industries, Inc.

Circle 117 on Inquiry card

Commercial Window Treatments From Bali® and Graber®



Springs Window Fashions Division, Inc. manufactures a comprehensive selection of commercial window treatments under its brand names of Bali & Graber. Our 36 page brochure provides detailed product & test data for Horizontal & Vertical Blinds, Pleated & Cellular Shades & Drapery Hardware. This extensive offering is supported by an authorized network of Commercial Contractors & Springs Window Fashions Division, Inc., Field Sales Mgrs. Sweet's 12505/SPR.

Springs Window Fashions Division, Inc.

Circle 118 on Inquiry card

Lighting Controls



Hotels, museums, churches, conference centers - all have one thing in common: Colortran lighting control. From the most simple room to the largest facility, Colortran controls provide the designer and user with the tools for managing the interior visual environment. Call 1-800-576-6066 for the new Environmental Lighting Application Guide.

Colortran

Circle 119 on Inquiry card

How'd Dover do, Turner? "Outstanding!"

Two Prudential Plaza

When a tough customer like Turner Construction gives a subcontractor an award, you better believe it's well-earned. Of 300 Chicago firms Turner worked with during a one-year period, only five received their "Outstanding Performance" Award. Dover was one of those five. And proud of it.

The project that earned the award for Dover was Two Prudential Plaza, an elegantly powerful 64-floor building served by a total of 29 Dover elevators. Dover met every elevator date, including a client-requested expedite. It was, according to Turner's citation, an "outstanding accomplishment!"

That same Dover attitude and performance are at your service, whether you're building a shopping mall or a skyscraper. Call your local Dover office or write Dover Elevator Systems, Inc., P.O. Box 2177, Memphis, TN 38101.

*Two Prudential Plaza,
Chicago, Illinois*

*Owner: Prudential
Plaza Associates*

*Architect: Loeb, Schlossman and
Hackl, Inc.*

*Contractor: Turner Construction
Company*

*Dover Elevators sold and
installed by Dover Elevator
Company, Chicago*



DOVER
ELEVATORS

MAKING MORE ELEVATORS
MAKES DOVER NO. 1

Beauty that's virtually indestructible. Sto Decocoat X.

Given its exquisite appearance, you might assume Sto Decocoat X is used simply for its aesthetic appeal. Guess again. Put Decocoat X on your interior walls and you've got a tough, seamless surface whose proven durability withstands the heaviest abuse from constant traffic.



Does performance like this limit your design options? Not a chance. Sto Decocoat X is available in a striking collection of subtly textured and vibrant shades—colors which fulfill your most creative visions of design. Call your Sto representative to learn more about Decocoat X.



**Another Sto
Innovation
for Today's
Interiors
and Beyond**

**100% ACRYLIC
POLYMERS**

Circle 61 on inquiry card

sto[®]

Sto Industries

Atlanta, GA, Tel: 800-221-2397

A division of Sto Corp.
the Systems Technology Organization

Pigments of the imagination

Benjamin Moore paint
comes in thousands
of standard and custom colors.

More colors perhaps,
than one
might even imagine.

For a free copy of our new
Paint Specifications Guide,

call: 1-800-622-0550,

Ext.:355



A Stroke Of Brilliance.