

ARCHITECTURAL RECORD

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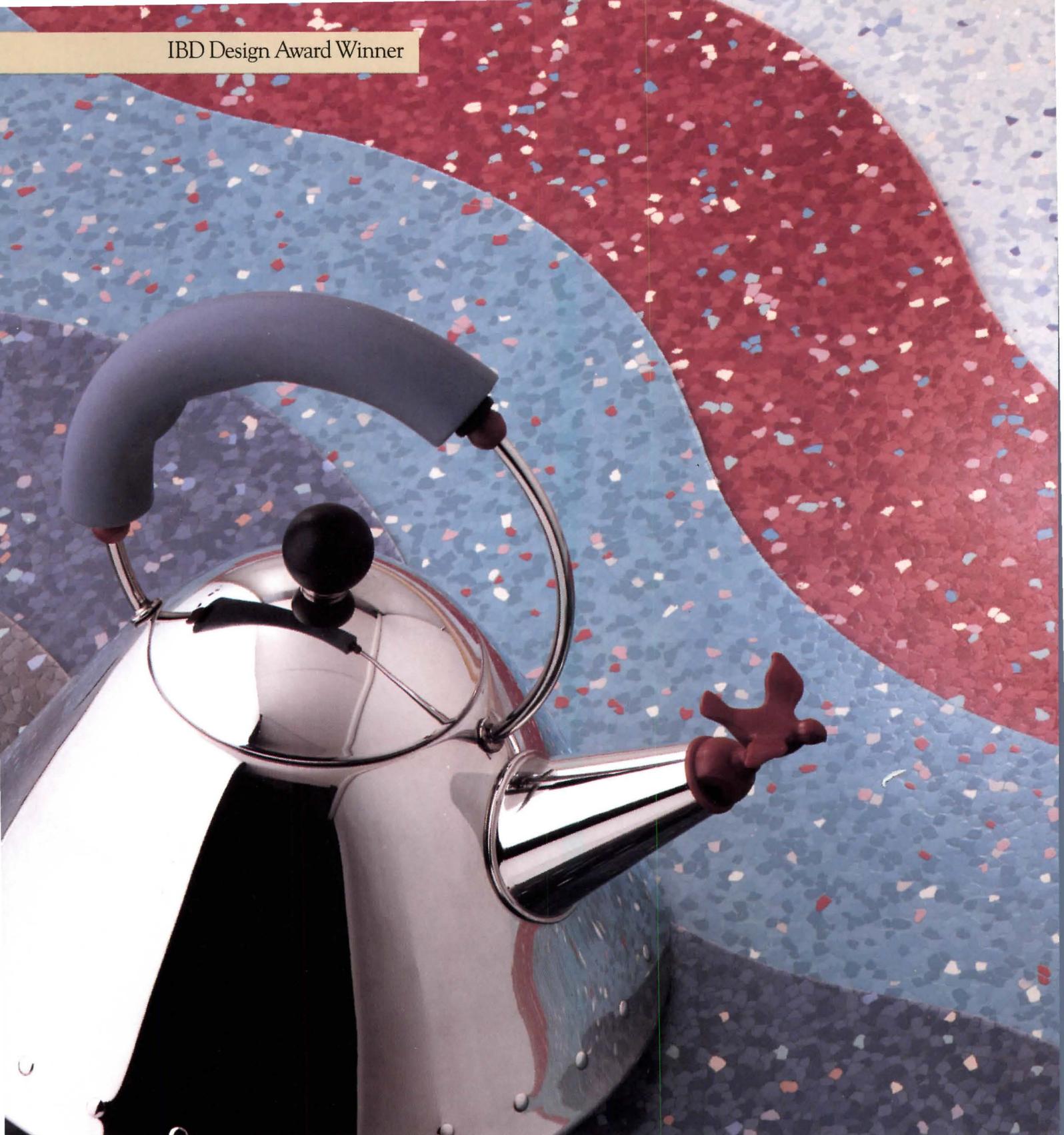
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The McDonald's facility management team (left to right): Bonnie Kos, Dorine Marshall, John Reinert.

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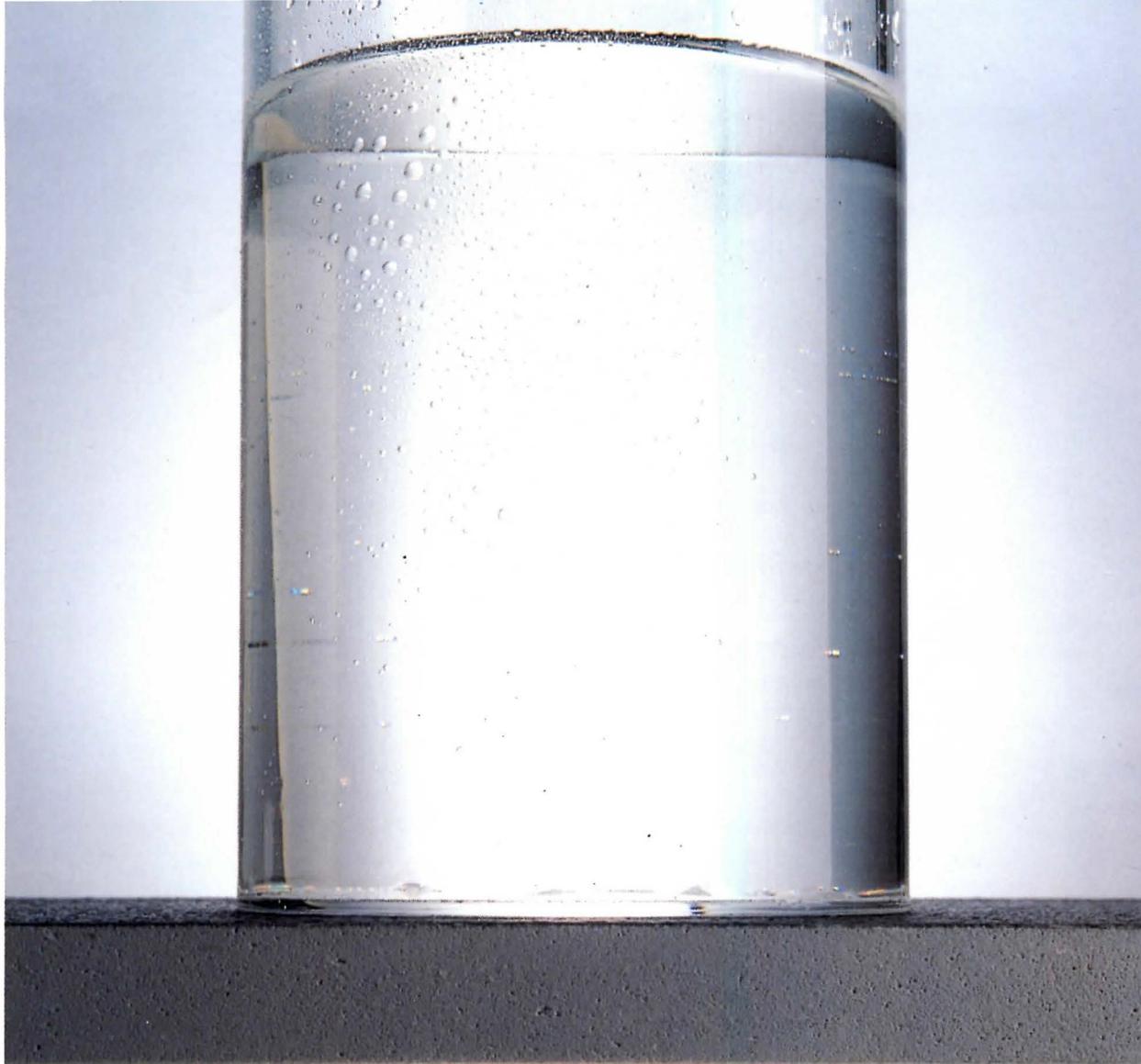
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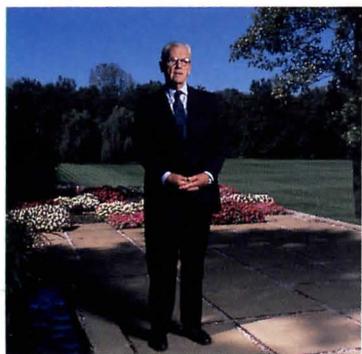
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Too Much Too Late?

The seismograph needles were almost still quivering in San Francisco when a California Congressional group, plus one Tennessean, introduced a House bill to require tremor-proofing of the nation's buildings.

"Perhaps the scariest thing about the Bay Area quake is that stronger quakes are going to hit less-prepared cities very soon," says bill sponsor Peter Stark. Other sponsors: Barbara Boxer, Ronald Dellums, Thomas Lantos, Nancy Pelosi, Edward Roybal, and Harold Ford from Tennessee—home to the almost equally threatening New Madrid fault line. Adds Stark: "It has been predicted that a magni-



An over-reaction could hobble our ability to build.

tude 7.6 Richter-scale earthquake in Memphis could cause 2,500 deaths, bring down 3,000 structures, cause \$25 billion in damages, and displace a quarter of a million people. The U.S.

Geological Survey predicts an 86-97 percent probability of a 6.3 quake before the year 2035."

The new bill would call for the creation of a 11-member commission made up of consumer, engineer, architect, contractor, and public-safety representatives, as well as members of the Council of Economic Advisors, and the Interior, Commerce, and Housing and Urban Development departments. The commission would determine by January 1992 recommendations for minimum standards of construction to minimize loss.

At the same time, the Interior Department would be required to draw up national earthquake-probability zones and estimate the chances and possible sever-

ity of earthquakes in each. The Council of Economic Advisors would have to issue a report by mid-1992 on the economic impact of these new standards. By 1996, the bill would deny the use of tax-exempt bonds, tax depreciation, and the deductibility of interest expense for new structures unless they are certified to meet the new standards by architects or others.

The cost impact on new buildings? Says Stark: "Buyers in quake-prone zones will 'probably have to pay slightly more.'" He cited unnamed experts to say that quake-proofing structures costs one-sixth the cost of likely damages without it.

PETER HOFFMAN
Washington, D. C.

Developers, Planners, and the Poor

When the members of the Urban Land Institute (a nonprofit group of planners and developers) get together each year, the talk turns increasingly to what to do about the ever more visible ranks of the poor. The meeting at the end of last year in New York City was no exception. Keynote speaker, HUD Secretary Jack Kemp, led off:

Low-income entrepreneurs

Picking on a favorite bootstrap theme, Kemp said HUD would emphasize not rent subsidies but home ownership through urban homesteading, sweat equity, and other such means. "HUD will rethink the idea that poverty is inevitable." Further: "The economy has been too long based on the concept of a finite production of resources." How did he think that the production could be spurred? Another favorite theme: "The tax code can be used to produce affordable housing." He would eliminate capital-gains taxes altogether, as they have been in Japan. If the ULI could produce programs that render \$1 of value for \$1 invested, would HUD

fund them? "As long as they're not golf courses," he quipped, wanting us to know he has eschewed the trickle-down theory guiding HUD's past.

Different cities and answers; similar problems

A panel of ULI officers, developers all, discussed their cities' problems and remedies. Joseph Canizaro of Canizaro Interests talked about New Orleans, hitting poor education: "Give us educated people and we will fill new office buildings." He talked of bringing minorities into local businesses through buy-as-you-work interests in them.

Speaking about Detroit, the chairman of Ford's Land Development Corporation, Wayne S. Doran, reiterated the need-for-

education theme. As far as new markets for his company's shopping centers, hotels, and dealerships: "The days of going where you want are over; go where you're wanted." In other words,



HUD Secretary Jack Kemp: "No more golf courses."

you can't fight resistant markets or communities.

Charles Shaw, of Chicago, described that city's education record as "appalling." More than

50 percent of those who enter high school never graduate. He described local programs to encourage corporate employees to run for school boards. And, said this builder of highrises: "I would tear down all high-rise housing for the poor." On public funding for housing: "The clear message of recent elections is that the public wants government out of its hair; only public-private partnerships will work."

Future vision

The priorities of the future are a little different as seen by James Todd, president of the Hazel/Peterson Companies in Washington, D. C.: environmental issues, especially the preservation of our natural surroundings and buildings; the use of the vote to get results; and a search for real neighborhoods (rather than rigidly planned communities) and quality artifacts, which include buildings. What will be built? "Communities and developers don't want to face the fact that three-story, stick-built housing in high densities is the most economical and practical. But they will when the high-end market in its oversupply has dried up."

CHARLES K. HOYT

Construction Volume Back on Keel

After a spurt in September last year, contracting for all new construction in October fell back to the level that has prevailed for the past two years, according to F. W. Dodge. Nonresidential construction fell 10 percent to an annual rate of \$94.2 billion

and housing held steady at \$121.5 billion. However, the Department of Commerce figures for October, which are based on number of units, showed a 12-percent rebound in housing for October. The winner? Apartments, up 28 percent.

HUD Reforms Itself

Almost overlooked in the rush to adjourn Congress in November was the passage of a bill designed to put a halt to the kind of abuses that had afflicted HUD before the arrival of the Bush administration.

The bill addresses three key areas: ethics, management, and the FHA. HUD general counsel Frank Keating, who came in with Secretary Jack Kemp and chaired the reform task force, explains: The ethics provisions require registration of consultants; public disclosure of their fees; both civil and criminal penalties for false information or lack of disclosure; and no advance disclosure of pending decisions. The management provisions will add a new chief financial officer in HUD in addition to FHA's comptroller. The selection process for the new officer is currently underway.

In the reform of FHA, HUD will abolish raw-land development, which experienced a huge default rate. In effect, the program "put us in competition with private lenders and developers," says Keating. "What's worse, it put us in a position of insuring questionable loans. If a bank wouldn't do it, the next easiest thing was for HUD to do it." Also abolished will be dealer-originated, home-improvement loans: "The problem was that a dealer was in a position to determine the credit worthiness of the loan." HUD had to insure it without seeing it.

HUD will also stop insuring investor homes, one of the "greatest examples of questionable lending practices," according to Keating. And it will not insure vacation homes.

Finally, HUD will also abolish the so-called Headquarters Reserve, a multimillion dollar discretionary slush fund under the direct control of the HUD Secretary, the existence of which came to light early in one of the rehab scandals, says Keating. The reform package gives the HUD secretary new authority to impose civil monetary penalties on mortgages and lenders that abuse the HUD program.

Says Keating, who has served under four cabinet secretaries: "This is the first time I saw a department reform itself." P. H.

Congress Faces Bush's Housing Bills

As Congress returns from its holiday recess this month, it still will have to deal with all but one of the slew of proposals in President Bush's new \$7-billion housing plan offered last November.

The one key proviso already passed is the low-income-housing tax credit. Slated to expire on December 31, it was extended for nine months. It encourages new rental housing, but states allocate the credits to their most important housing

needs, and residents and non-profit groups may buy the properties generated. The federal credits total about \$300 million a year. Says a spokesman for the Low Cost Housing Coalition "It's the perfect private enterprise-government partnership." A week before the bill came up, a number of mayors and governors, both Republicans and Democrats, swarmed over Capital Hill to impress Congress that it was important to extend the program, which seemed in danger of sinking under a host of related tax bills.

Still to be addressed by Congress upon its return are the

other components of Bush's overall housing bill. They include a \$2.1 billion matching-grant program to encourage resident ownership of low-income housing; a program to combine housing resources with other assistance programs for the long-term homeless; a proposal to permit the use of tax-deferred IRAs as down payment by first-time home buyers; the creation not only of "enterprise zones" but also of a new concept dubbed "housing-opportunity zones," which requires funding of an annual \$70 million of FHA insurance and rental-rehabilitation grants. P. H.

Building's Globalization; Longer, Lopped Cycles; and Slower Growth

While much of the substance of McGraw-Hill's annual Washington, D. C., Building Products Executives Conference addresses the concerns of material suppliers, much of it is of interest to architects as well. Of paramount interest to architects at the recent conference was the unveiling of the McGraw-Hill Information Services Company's annual outlook for construction health in 1990 [RECORD, November 1989, pages 37-47]. This presentation by vice president and chief economist George Christie was guardedly upbeat.

So too was a presentation by Christie and associate Robert Murray entitled "The Taming of the Building Cycle." Murray laid out the background: The cycle of highs and lows in overall building volume averages between six and seven years, and leads general economic cycles. But cycles for different building types are not alike. Residential construction is most dependent on private financing and shows the most exaggerated highs and lows while institutional building and public works march to their own drummer—to the extent that they have longer cycles and may even run counter to the nation's overall trend.

What will cycles do in the future? In housing, Christie pointed out that we are approaching household-formation growth of less than 1 percent per year and that, by 2038, we can expect a decline. Due to both shrinking demand and current credit dy-

namics, he saw a much flatter graph ahead. "Each peak will be 10 percent less than the last." During the next peak in the early '90s, he expected starts would be below 1.6 million. For industry, Christie said: "Better productivity will save it, not buildings." He saw construction's share of capital spending down.

"If you wanted to get rid of cycles, you are going to see it happen by lopping off peaks." And he expected them to be more stretched out as well.

Globalization, exhortation, and deflation

Ken Hale, director of the U. K.'s National Council of Building Material Producers, gave clues on architects' business prospects in the new European Common Market. First, he did not foresee homogeneous ways in which business might be procured and conducted nor local standards and codes, at least for the time being. "Each country will remain unique." When looking for clients, an architect might like to consider the percent of work handed out by the government. Surprisingly, this is not always the highest in socialist countries. Nor is it the highest in France, despite many highly visible Grands Projets under the socialists.

In a luncheon address, H. Ross Perot exhorted the 500 assembled executives on such subjects as the growing national debt: "We used to worry about our children; now, we're living

off them." He attacked poor education, as did the executives at the recent ULI conference [see *Developers, Planners, and the Poor* on page 14]: "We spend more money on education than any country in the world and have the lowest functional literacy rate." And he pointed to other nations' success in industry and our recent failures as being proportional to the amount



H. Ross Perot: No more conferences on potholes.

of hands-on management: "Here, if we have potholes, we call for a conference. There, they fix them."

A panel of *Business Week* editors gave predictions of the economy in 1990. James Cooper predicted slower growth: 2 percent vs. 3 this year. Richard Fly gave the Administration and Congress bad marks on beating the deficit. William Wolman said that, even so, it will represent a smaller percent of the GNP. He saw real-property deflation in those locations that had seen recent runups, such as the Northeast. While he saw new construction holding up fairly well there, despite downward pressure, he examined the investment point of view: "Get out of hard assets. Get out of your house." C. K. H.

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Build Boston's Growing Presence



Following the recent cue of many trade shows, Build Boston, originally the Boston Society of Architects' annual convention, has grown over the years by including other related groups (e.g., the American Consulting Engineers Council, the American Society of Interior Designers, and the Associated General Contractors). Attendance last November exceeded 9,000 people who together saw and talked about what is new in products and professional goings-on. Among the seminars:

Managing new design firms: dictators and democracies

Architect Rosemary Grimshaw, of Linea 5, argued for strong controls by a limited number of principals: "A group voting equally finds it impossible to make decisions." Iron out every detail of working relationships before you start, she urged. "A lot of people study management principles, but they never apply them. I started out thinking that running a firm should be fun." In two years the firm grew to 30 people. "It was a real nightmare." Typical of young firms'



BSA Women in Architecture award for miniature golf course by Frances Andrews.

mistakes: imprecise structure and communications; not controlling schedules; hiring new people who don't fit. "Dictatorships have been known to work well; know how much democracy to allow."

CSS Architects principal Al Spagnola argued for partners' clear, separate functions. Atypically, his are both sales and design.

Moderator Richard Korbis of Tsoi/Korbis & Associates found strict divisions of responsibility not so easy. He and two partners started out that way. "It lasted three minutes." Instead they divided the projects and each took total responsibility for their own. On employees: "If you don't treat people as if they have responsibility, you won't get it."

For financial control, Spagnola recommended reduced debt load by getting bills out and paid quickly. "Get an accountant." Also: "Know how well different kinds of jobs have paid and set fees accordingly."

"One of the biggest mistakes designers can make is to handle billing themselves," said Korbis. "They agonize over the psychology of bills' timing while a financial manager just gets them out." He didn't feel there were that many deadbeat clients. "Architects just won't chase them." Also: "Know when to ask for additional-services fees. We are not low-cost providers."

"Make a design mark early to compete with established firms," said Spagnola. "Make sure of an ongoing match of your people's goals with what they are doing," said Korbis.

How designers are selected—or forgotten

As reported by Lois Boemer of Boemer Associates, BSA's annual communications and marketing breakfast brought together seven clients from the private and public sectors with an architect panel moderated by Gary Graham. The clients' message:

Understand your strengths. Pay attention to what we want. Match the right design team with the right project. Circulate in client organizations. Get your name in print. Be a good problem solver, which will be remembered long after the problem.

On how *not* to get selected: Give nine reasons you cannot do a project on a tight site when you can give one on why you can do it. Expect to be hired because of your marketing people and/or principals involved. Don't keep your promises. Have bad references.

The differences between private and public clients: Private ones are not adverse to promotional phone calls and lunches; public ones are.

Contracts and liability: how to get tough

Attorney Robert Hilson laid it on the line for Massachusetts, in

your client is just a slow payer? "You can't tack on a penalty every month he's behind unless it's in the contract."

Hilson did not have too many kind things to say about arbitration. "You can't subpoena witnesses, place liens, nor know what the opposition's claims will be. There's limited enforcement powers and it can take a long time to be heard if it's a complicated case. Still, he did allow that arbitrators are more likely to know the field than a judge, the case can't be thrown out on technicalities, and there *can* be less financial risk when there are smaller claims.

Advertising: Madison Avenue and you

This roundtable moderated by architect William Hammer, of Hammer Kiefer and Todd, featured lawyer James Sokolove, who, with his 800 telephone number, has been known to advertise with some adandon. Joan Capelin, of Capelin Communications, revealed the results of a survey conducted by her firm and gave insight into what the biggest architectural firms are doing: Three-quarters advertise; almost all of the other quarter have no plans to do so. Spending was generally low—less than \$25,000 per year. How spent?



CAPELIN

SPAGNOLA

GRIMSHAW

SOKOLOVE

particular. He described how to file a lien on a client's property. Beware: "A bank foreclosure or his bankruptcy can wipe you out. Fortunately," he added brightly, "there aren't too many foreclosures these days because most properties in construction can't be sold for the mortgage."

"If you are not getting paid, it's probably not because you did a lousy job but because there's no owner's money in the the project. Find out before you file a lien, or you could spend more than you could possibly get." Lien waivers? They only hold if you have accepted payment for the contested work. If

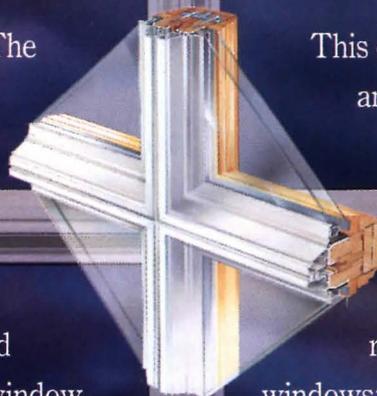
Very little on creating the ads, which were done in-house. Most ads were not in publications but direct-mail. Those in publications were in, first, business ones. Only half the advertisers felt ads are successful in developing recognition or getting clients; many *did not know*.

Would advertising tarnish the professional reputation of design firms? Most respondents said no. One said it would be positively unbusinesslike *not* to advertise. If you do it, concluded Capelin, it has to be effective: "Not only is it not sand-lot softball anymore, it's someone else's league." **C. K. H.**

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- 27 STADIUMS

Growth Curve for O'Hare



©JAMES STEINKAMP

The idea is to make air travel exciting again. Forget about the byzantine fare structures, the layovers and stopovers, the strikes, and the overworked air-traffic controllers. Check out those exposed steel trusses, that arched roof, all those terrazzo floors!

Turning the idea into a new international terminal for O'Hare International Airport in Chicago is the job of architects Perkins & Will, in association with Heard & Associates and Consoer, Townsend & Associates. Featured in the design are large arrival and departure halls that are, according to the architects, "contemporary equivalents of the grand waiting spaces of 19th-century rail terminals." An exposed steel truss system and extensive glazing will bring natural light into the departure hall, while skylights and a barrel vault will add drama to the arrival hall.

"The design is characterized by a dynamic architecture of movement that creates an uplifting environment for passengers," says Ralph Johnson, senior vice president of Perkins & Will and design principal for the project. "It will serve as a gate-

way, welcoming passengers to Chicago."

The terminal will include a station for the Airport Transit System (people-mover) scheduled to begin operations at O'Hare in 1991. Views outside will be maximized to help orient passengers as they go from one area to another.

The one-million-square-foot facility, which is scheduled to begin construction in October 1990 and be completed in February 1994, will cost approximately \$275 million. **C. A. P.**

Bank Job

For those who wondered how Arquitectonica could possibly top its spectacular Banco de Credito, which opened last year in Lima [RECORD, February 1989, pages 90-99], principal Bernardo Fort-Brescia provides us with a clue—in the form of a proposal for another private bank, this one to be built in Luxembourg.

On what is surely the choicest remaining parcel in the grand duchy's capital, the bank will occupy a hilltop site along the Boulevard Royale, Luxembourg's principal thoroughfare. Like its Peruvian counterpart, the Bank of Luxembourg will be designed entirely by Arquitectonica—from its six-story top to its seven-story subterranean bottom—including lavish interiors by Laurinda Spear.

The architects, required to accommodate some 200,000 square feet within strict height

Home-Grown Tower

Walsh Bishop Associates, a five-year-old architecture firm in Minneapolis, has designed a 34-story office tower in its home town that will compete for attention on the skyline with buildings by such outsiders as Philip Johnson (IDS Center) and Cesar Pelli (Norwest Center).

To be called AT&T Tower, for its major tenant, the 682,000-square-foot building will feature green reflective-glass curtainwalls that flare outward at different levels.

The building is the third phase of a downtown development called International Centre. The first two phases, completed in 1984 and 1986, are more horizontal compositions dressed mostly in aluminum and silver glass, with touches of black and Lake Placid blue granite. While Walsh Bishop adopted some of the existing exterior materials at the base of the new building,



©SHIN KOTAMA

The AT&T Tower will rise on Marquette Avenue in downtown Minneapolis.

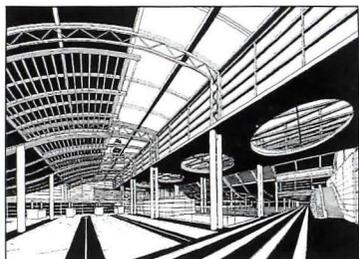
it decided to complete the complex with a contrasting structure, rather than a purely deferential one.

Construction began last year and is scheduled to be completed by mid-1991. Ryan Construction of Minnesota is developer and general contractor for the 462-foot-tall structure.

limitations and setback codes, chose to carve out the preexisting envelope into boldly articulated, interconnected volumes: a shiny black granite parallelogram, a cantilevered bar of matte yellow stone, and a sliced cone of glass and steel containing the board room, conference

rooms, and a double-height lobby that curves toward a public park.

Construction is expected to be completed in 1992 when, as part of the European Economic Community, the Bank will benefit from Luxembourg's status as a legal tax-haven. **K. D. S.**



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Briefs

Iammond Beeby and Babka, of Chicago, has received the Louis Sullivan Award for Architecture and an accompanying \$5,000 prize for four buildings in Illinois. The International Union of Bricklayers and Allied Craftsmen bestows the award upon an American or Canadian architect or firm for design achievements made over a span of time.

Ann McCallum, with Burr & McCallum, Williamstown, Mass., was one of three grand winners of the Premio Andrea Palladio for the Hoepfner House in Williamstown [RECORD, Mid-April, 1988, page 114]. She was the only finalist selected from the United States.

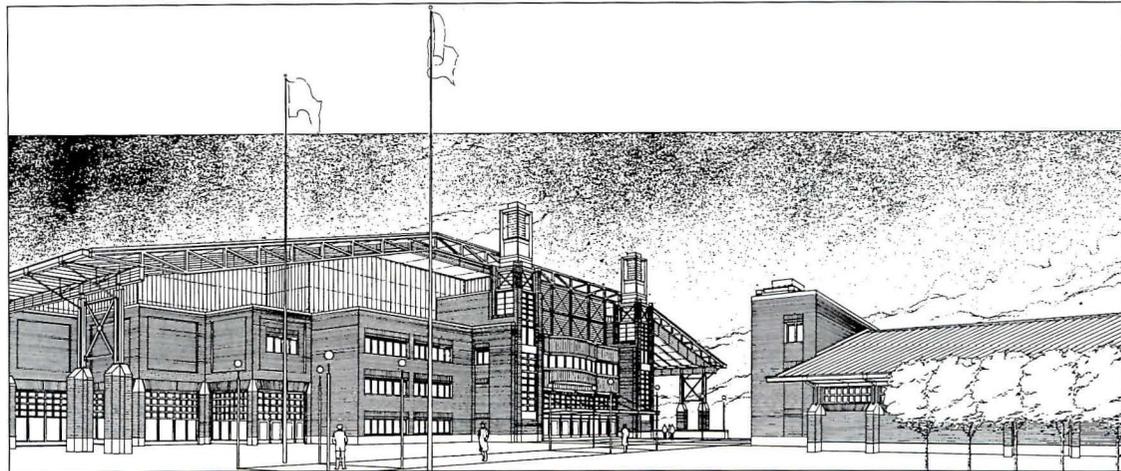
Waterfront project: Mitchell/Giurgola Architects, of New York, in association with Rancorn, Wildman, Krause & Brezinski, have been commissioned to design a new waterfront park and carousel enclosure adjacent to the new Virginia Air and Space Museum, also designed by the team for Hampton, Va.

New architecture college: The University of Minnesota has announced plans to expand and renovate its architecture building, which recently changed in status from a school to a college. Plans call for housing the previously separate architecture, landscape-architecture, and urban-design programs in the building, designed by Stephen Holl Architects, of New York, and Ellerbe/Becket, of Bloomington, Minn.

The College of Staten Island has announced plans to build a new campus at Willowbrook, sponsored by The City University of New York, making it the largest urban campus in the CUNY system. Two previously separate campuses will be joined on the new site. The master plan was developed by Edward Durell Stone Associates, a New York City firm.

Arthur Rosenblatt has been appointed vice president for capital projects of the Grand Central Partnership, a coalition of property owners, tenants, and city officials seeking to revitalize the streetscape of about 50-square blocks surrounding the Grand Central Terminal in New York City.

U Mass Complex: Cool on Ice



A new complex at the University of Massachusetts features a practice rink (right) and a multipurpose arena (left) fit for hockey, basketball, and theater performances.

With flexibility in mind, Cambridge Seven Associates designed the William D. Mullins Memorial Center for the University of Massachusetts at Amherst so it can be used for a number of different purposes. Called a "convocation" center, the 260,000-square-foot project is actually a sports facility that can also accommodate theater productions, banquets, trade shows, and campus gatherings.

The \$42-million center will comprise two separate buildings, one for a practice rink and

the other for a main arena, with a pedestrian plaza in between. The primary arena will seat between 8,000 and 10,000 fans for hockey and between 9,000 and 11,000 for basketball. It will also convert into a 3,500-seat theater with a 30- by 60-foot proscenium stage and fly space. A large function room, capable of seating 200 for banquets, will overlook the arena. Support areas will include locker rooms and an administration wing.

Dressed in red brick and topped with standing-seam slop-

ing metal roofs, the center brings sunlight into public concourses through large glass areas. "We moved restrooms and other support facilities away from the edge of the building so the main concourse could be on display," explains Charles Redmon, managing principal for Cambridge Seven. The architects also recessed the building into its site to reduce the impact of its height on the campus.

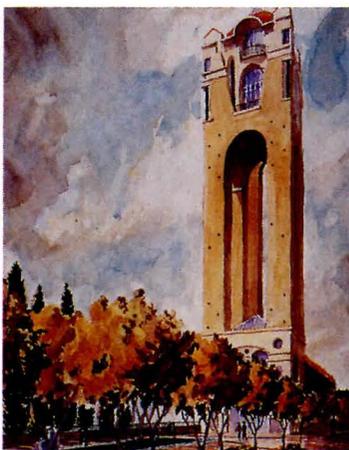
Construction will begin in January of 1991 and is scheduled to be completed two years later.

A Taste of Italian Architecture Outside of Denver

Although it looks like a structure typically found in Italy, the 23-story Il Campanile will be built in the Greenwood Plaza Office Park southeast of Denver. The concrete tower with a void in the center is designed as executive offices for the John Madden Company, developers of Greenwood Plaza and other projects. Brick facing, ornamental iron work, and a light steel crown are among features of Il Campanile. The site is defined by gardens and a series of fountains, which, coupled with the structure itself, are said to reflect the Madden family's interest in and appreciation of Northern Italian landscape, art, and architecture.

The Maddens have made a substantial contribution to the arts, commented Peter H. Dominick, Jr., principal of the Urban Design Group and the project

designer. In keeping with that tradition, the low-rise palazzo features the Museum of Outdoor Art, containing a northern Italian painting and sculpture collection. Il Campanile is scheduled to open February, 1991.



Il Campanile houses a museum and offices.

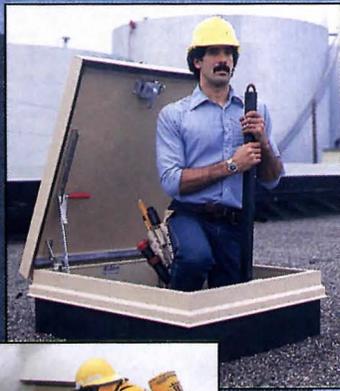
Competition Calendar

- Quaternario '90 is accepting entries for a building project costing at least \$5 million (without land and furnishings). For information: Simonetta d'Italia, c/o Istituto Italiano di Cultura, 686 Park Ave., New York, N.Y. 10021 (212/879-4242).

- Architects, Designers and Planners for Social Responsibility/NY is taking entries before February 22 to a postcard competition. The design must address a current social issue. For information: ADPSR/NY, 225 Lafayette St., New York, N.Y. 10012, (212/334-8104).

- International Design Annual Design Review is receiving entries (by March 2) for a product or project introduced or intended for the American market in 1990. For forms or information: Nick Backlund, ID Magazine, 330 West 42nd St., New York, N.Y. 10036 (212/695-4955).

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1989 Aga Khan Awards Announced in Cairo



Corniche Mosque, Jeddah



National Assembly Building, Dhaka



Gürel Residence, Canakkale



Arab Institute, Paris

Eleven projects have been chosen to share the 1989 Aga Khan Award for Architecture. Last October, the world's largest architectural prize, \$500,000 was distributed among those responsible for the winning projects, selected from 241 nominations. Decisions were made, according to the jury's report, "on the basis of each project's merits and in terms of the issues they reflect, the questions they pose, and the messages they send."

Among the winners are the Gürel Residence, Cannakale, Turkey, by the Istanbul architect Sedat Gürel; the Corniche Mosque, Jeddah, Saudi Arabia, by London architect Abdel Wahed El-Wakil; the Ministry of Foreign Affairs, Riyadh, Saudi Arabia, by architect Henning Larsen of Copenhagen; the National Assembly Building, Dhaka, Bangladesh, by the late Louis I. Kahn; and the Arab Institute by French architects Jean Nouvel, Gilbert Le-

zénés, and Pierre Soria with Architecture Studio, Paris.

The Award was established in 1977 to halt the damage done to the built environment in the Islamic world, and is made every three years. Particular attention is given to the innovative use of local resources and appropriate technology, and special emphasis is given to schemes likely to inspire similar efforts elsewhere. Critic Michael Sorkin will assess the current Awards in a forthcoming issue.

Sun and Surf Year-round

Turquoise gulf water, plenty of sunshine, and warm breezes are a few of the pleasures Caribe aims to afford its property owners. West Indies architect Martine Gaume designed this cottage in Caribe, a beach neighborhood on the Gulf of Mexico in Destin, Florida, with local architect Tom Christ as its master planner.

Various architects will design other cottages in Caribe, all of them fitting each property owner's wishes and Caribe architectural guidelines.

Each cottage's unique design must fit into the "West Indies architectural thread," said Chris Kent, broker for Caribe. The cottages in the neighborhood of 59 lots resemble local West Indies vernacular architecture, which was partly derived from the architecture of the American South, Kent explained. The cottages are decorated in an island

color scheme of earthy pastel shades. Steep-pitched roofs, screened porches, and shutters covering the doors and windows are featured. Keeping cool is one of the goals of the design, marked by dormers and vertically proportioned fenestration with ventilation shutters.

A mere 17 miles from Caribe

lies Seaside, the planned new town that influenced Caribe through its "sense of place," and strong neighborhood fabric, Kent said. Yet, Caribe strives to start its own tradition, he said.

Lots in Caribe, developed by Jim Adams, are at least one-half sold, mostly to young or middle-aged professionals and retirees who already own property in the area, Kent explained.



Conference Updates: The Call of Nature

Weather report: warm and wet

The seventh annual urban waterfronts conference, sponsored by the Washington, D.C.-based Waterfront Center, ended with a chilling talk by landscape guru Ian McHarg on the "greenhouse effect" and its impact on waterfronts worldwide.

According to predictions cited by McHarg, the level of the oceans may rise by nine feet by the year 2050. Such drastic change will force on us "an entirely new view of the oceans," explained the man who wrote *Design With Nature* and founded the Department of Landscape Architecture and Regional Planning at the University of Pennsylvania. Not only will coastal areas be reshaped, but the intrusion of salt water will endanger ground water in regions farther inland.

Rising oceans will change the nature and scale of future waterfront projects. "It won't be a matter of just bloody decorating harbors," warned McHarg in his Scottish burr. "It will be a matter of radical change in the landscape."

McHarg recently completed a one-year study on the greenhouse effect and what can be done to deal with changes it will bring. He found that "we actually have the knowledge and skills needed to deal with most of the problems we will face. But we must act quickly." Water conservation and land reclamation are two kinds of measures that could be undertaken using existing technologies. A "preoccupation with water could be the catalyst needed to refocus attention on the environment," speculated McHarg.

Suburban settings

"We must use the environmental crisis as the clarion call for change in the suburban landscape," said New York architect and planner Jonathan Barnett at a conference entitled "Rethinking the Suburbs," sponsored by the Maryland Institute College of Art and the Baltimore Chapter/AIA. Barnett's target for

Continued on page 27

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Continued from page 25
change is the typical strip development found throughout America, often on environmentally sensitive land near riverbeds, waterways, and valleys. In its place, Barnett recommends concentrated commercial nodes connected by landscaped highways.

At the same conference San Francisco planner Peter Calthorpe outlined his ideas for "pedestrian pockets," mixed-use developments of about 120 acres connected by light-rail lines and highways. In certain parts of the country, such as California, "air quality standards are now reorienting growth," said Calthorpe. Changes in demographics—especially the rise in single-parent and single-person households—and the decentralization of the workplace due to the advent of the computer necessitate new ideas for suburban development.

Many of the same concerns shaped designs shown by Florida architect Andres Duany for

two new communities in the Washington, D.C., suburbs. The projects, both being developed by Joseph Alfandre & Co., use Duany's and partner Elizabeth Plater-Zyberk's ideas on "traditional neighborhood districts" (first explored in the firm's plan for Seaside, Florida) as alternatives to the standard suburban subdivision. By employing principles used in 19th-century towns, Duany hopes to create pedestrian-oriented communities that reduce traffic and use land more efficiently.

A panel of designers, developers, and planning officials provided a healthy dose of skepticism about the ideas presented earlier in the day. Questions raised included: Will new suburban developments draw vitality from existing neighborhoods, some of which are deteriorating? Should the tax system be used to encourage new kinds of development? Is the current interest in traditional neighborhood design just a fad or does it reflect real needs? **C. A. P.**

The Control of Nature

With cleanup efforts taking first priority, assessments of damage and the efficacy of building technologies are just coming in for Hurricane Hugo, which struck on September 22, and the Bay Area earthquake which hit October 17. Some initial observations are recorded below; in February we shall present more details on what has been learned from these disasters so far.

J. S. R.

Hurricane Hugo

By the time it hit the Carolina coast, the storm, contrary to early reports, had been downgraded by some assessments to "a design-level event," meaning that winds were less than the maximum provided for under existing codes. The Virgin Islands, however, took the full force of the storm. On the mainland, the worst damage was caused by a 15- to 20-foot wave surge that caused serious flooding. Although structures built to recent codes fared well, code officials will likely propose tightened regulations for non-engineered buildings. The amount of coastal damage has also rekindled the debate over the appro-

priateness (and insurability) of building on exposed barrier islands. In Charleston, some 20 historic buildings sustained substantial injury; up to 80 percent of Virgin Island landmarks were devastated. (The National Trust for Historic Preservation is accepting donations: 1785 Massachusetts Avenue, N. W., Washington, D. C. 20036.)

Bay Area Earthquake

Historic buildings, especially those clad in unreinforced masonry, took the brunt of building damage in the October 17 California earthquake. But recent projects, constructed under increasingly strict standards, survived largely undamaged. Analysts are looking closely at "microzones," areas that apparently experienced much more powerful accelerations than elsewhere (this may have had a role in the collapse of the Interstate 880 ramps). Structures erected on soft subsoils (such as in the Marina district, where many older structures were damaged) have recently come under new rules. These were vindicated by performance in the quake.

The Ins and Outs of Stadiums



Batter up . . . but in what kind of baseball stadium? Some cities opt for an open-air ballpark, while others favor a stadium topped with a dome resembling a spaceship.

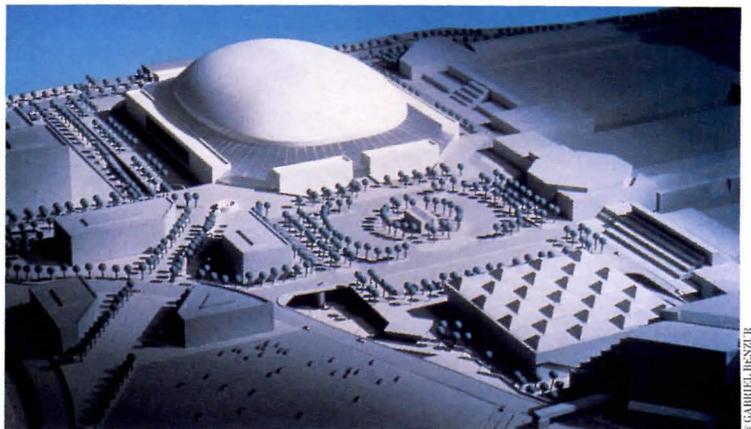
With construction slated to begin this month on Camden Yards ballpark (top), Baltimore has allayed the fears of fans who feared "old fashioned" baseball parks were doomed to extinction.

In keeping with a trend dating back about 25 years, Atlanta opted for the dome approach (below). The Atlanta Falcons football team will play at the Georgia Dome, which will feature conventions and entertainment during the off-season.

The architecture of the two stadiums differs, yet the underlying theme is similar—integrating the stadiums within the existing surroundings. The 72,000-seat Georgia Dome, capped with a Teflon-coated roof that allows some natural light to filter in, lies in the heart of Atlanta's downtown. "It is one of the few domes that has ever been built in a downtown," commented James Moynihan, president and CEO of Heery International, a member of the stadium's Atlanta-based design

team, Heery/RFI/TVS. Connected by walkways and landscaped courtyards to Atlanta's convention center, the stadium also is within walking distance of hotels, shops, entertainment, and the financial district.

Baltimore's ballpark was designed for the Orioles and sits on a downtown site near Inner Harbor, a redeveloped retail and commercial area. An industrial park formerly occupied the site, including a steam plant to be demolished and replaced with second base. "The design of the Baltimore facility was a response to the existing urban fabric in Baltimore," observed Steve Evans, project manager with the architects of record, Hellmuth, Obata & Kassabaum, of Kansas City. "The existing street grid pretty much dictated not only the building but the shape of the field itself," he added. The nearby B&O Warehouse and Camden Railroad Station will remain functional and mostly intact. Detailed brick arches and a transparent facade that allows passersby to know when a game is being played are intended to relate back to some of the "old time" ballparks like Detroit's Tiger Stadium and Chicago's Wrigley Field.





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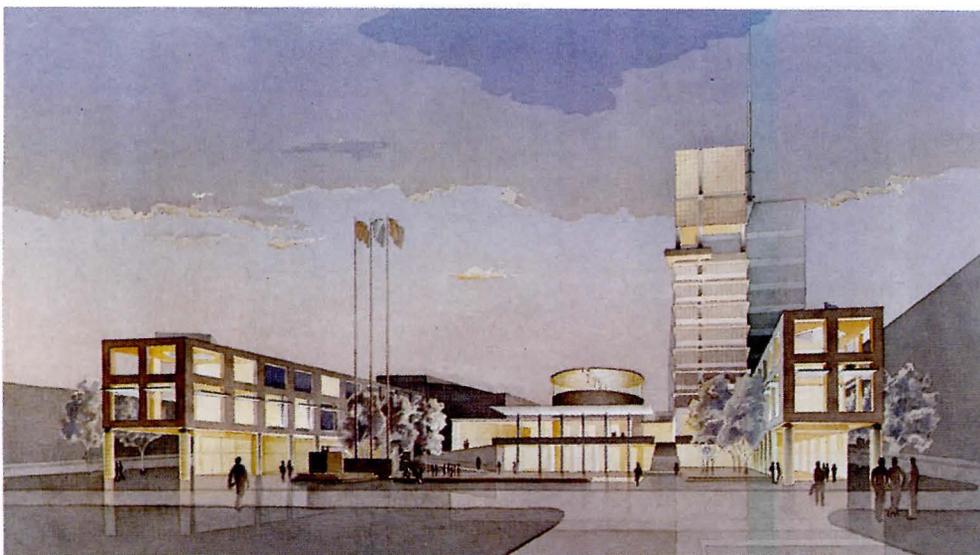
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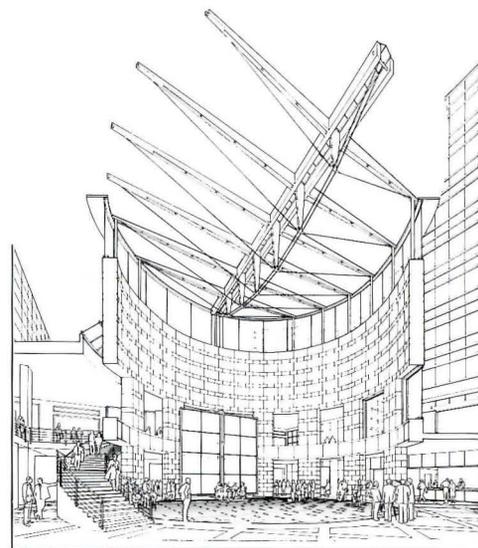
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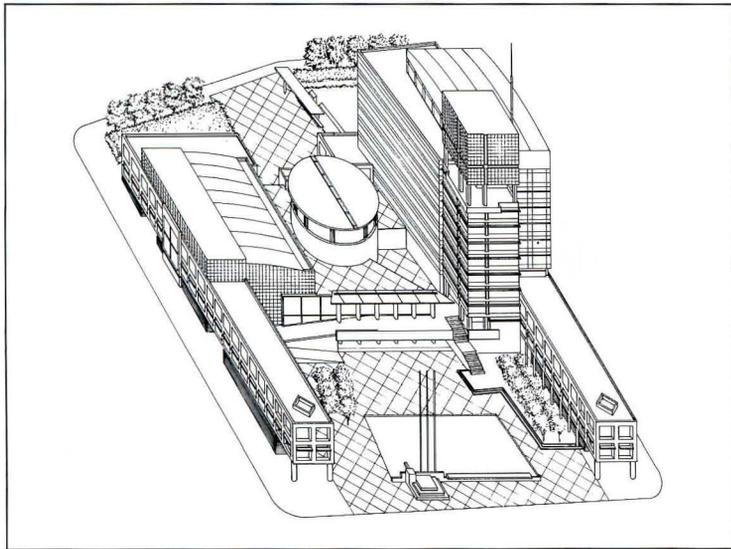
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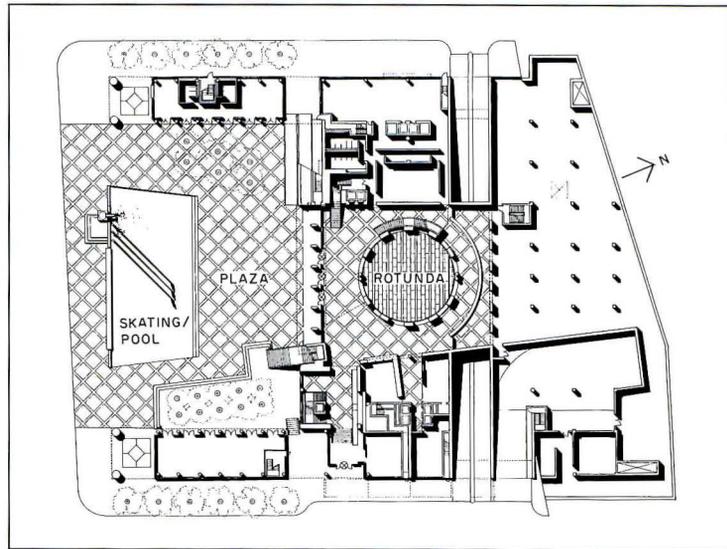
1 HOWARD SUTCLIFFE RENDERING



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When Kitchener, Ontario, recently announced the winner of a national competition to design a new \$30-million municipal center, the city of 140,000 near Toronto unveiled a scheme that features a spacious rotunda, council chambers, a civic square with a pool/skating rink, and a 10-story tower capped with a cube-shaped weather beacon designed to light up at night (photos 1-4).

The jury praised the winning proposal by Kuwabara Payne McKenna Blumberg for its public orientation and sensitive scale. Two- and three-story stone-clad "civic walls" containing offices define the

site's edges and are meant, according to the architects, "to signify the presence of a new civic center within the existing urban fabric." The winning design is the only one of the five finalists with a tower that makes a noticeable statement on Kitchener's skyline, observed Luigi LaRocca, associate with the winning firm. This prominent element, predicted the jury, "will become the city's landmark, presenting City Hall on the skyline."

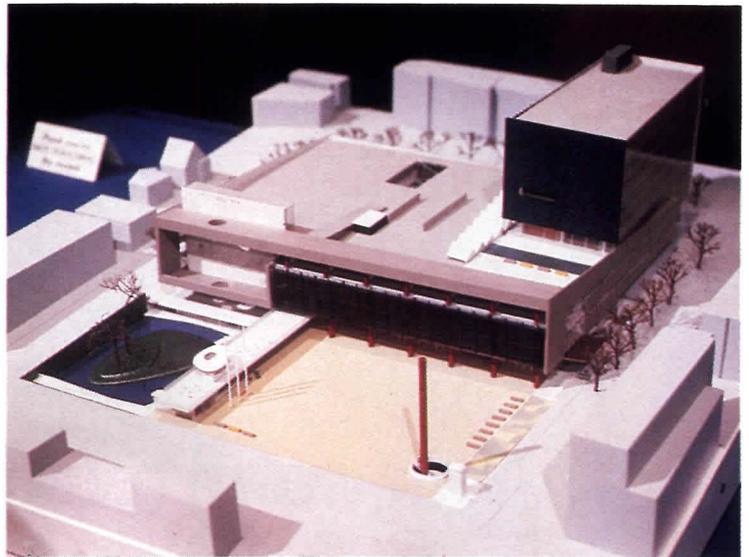
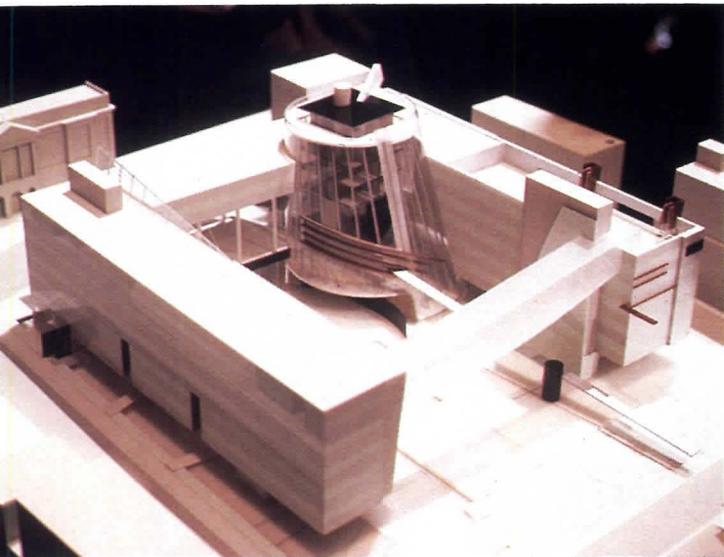
Besides the tower, a significant feature of the design is the use of materials and colors, including red sandstone, prefabricated metal, and glass. Patinated copper, a

highlight of the exterior of the tower and rotunda, also is used as a decorative element on the interior.

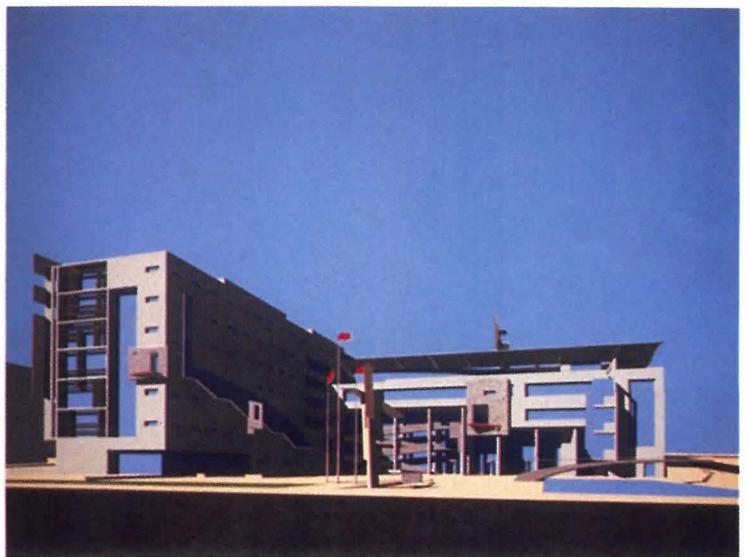
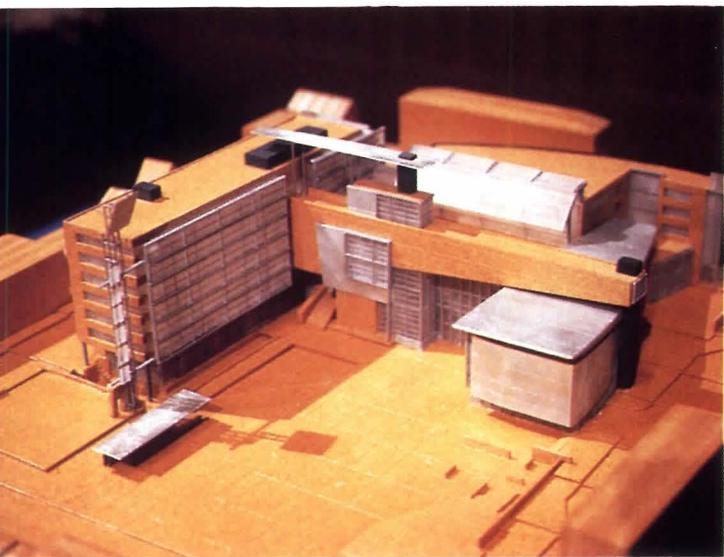
The four-story lobby rotunda, topped by a 65-foot-diameter drum, is centrally located within the design (3) and is intended as the setting for various civic and corporate activities. By designing the rotunda as the focus of the municipal center, the architects intentionally steered away from glorifying the council chambers. "The public should own city hall and control the middle," LaRocca said.

The rotunda is flanked by the council chambers and the tower. All of the struc-

Kuwabara Payne McKenna Blumberg Architects, of Toronto, has been named the winner of a yearlong national competition for a new City Hall in Kitchener, Ontario. We present the winning scheme, together with the proposals of four other Canadian firms designated finalists.



7



8

ures enjoy a view of the exterior plaza, which features a reflecting pool that can be converted into a skating rink during the city's typically harsh winter months.

The winning architects received the First Premium of \$140,000 (Canadian) and the commission. The firm's design was selected over 152 other entrants by a jury comprising three architects and two community members. The architects were Alan Colquhoun, of London, Ont.; Richard Henriquez, of Vancouver; and Peter Rose, of Montreal. The community members were Jan Ciuciura, a local merchant, and Beverley Hummitzsch, principal of a Kit-

chener interior-design firm.

Among the four other finalists, Dunlop Farrow, of Toronto, proposed a city hall elevated above the square to allow accessibility and views from all sides (5). The council chamber consists of glass with varying degrees of transparency, exposing a marble cube that houses offices.

Saucier & Perrotte, of Montreal, used stone, metal, and glass to create a deliberate interplay of solid and void (6). A mid-rise tower, envisioned as a backdrop for outdoor performances, is the scheme's most striking feature.

A small island with a garden, perfor-

mance space, and skating rink is an integral part of the civic square designed by M. Kohn Architect, of Toronto (7). The council chamber is enclosed in a stone-clad structure raised above the civic square.

The council chamber also figures prominently in the scheme submitted by Stephen Teeple, of Toronto (8). The other structures are designed to spiral around it, including the Secretariat, which is sheathed in thin concrete walls, and an executive wing contained within an open concrete frame that is intended as a symbol of an accessible government.

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HOW DO THEY GET THOSE COMMISSIONS?

A preeminent marketing pioneer, architect George Heery interviews his fellows to find out how they get work. The first of a series.

Architect George Heery early used his marketing talents to build one of the nation's largest firms, first Heery & Heery, then Heery International. Now, he and his daughter, architect Laura Heery, interview other architects, who have built (or are building) successful firms, to discover their techniques. What they find out is that, even for those who aspire to the highest plane of the art, hard work, not dumb luck, is what gets clients. Even the mightiest must, in fact, get out and sell. It may be the exception for architects to hope, as they once did, that clients will find them simply because they do their professional duties well. Whatever we may think of this, the selling techniques are revealed to be as varied as the firms. And, the interviewers argue in their prologue that selling, after all, is not such a bad thing.

C. K. H.

There do remain distinctions between architecture and other forms of business. One is the way of generating a livelihood. Like a doctor and unlike, say, manufacturers and retailers, an architect traditionally refrains from many methods of direct self-promotion or competing with his peers.

To engage in a bit of chiding, though, architects in large numbers still feign a holier-than-thou attitude toward selling their services. If architects (those here expected) could get past this pretense of their profession, we'd probably have a much easier time discussing and analyzing their need to sell.

Consider the word, sell. A huckster selling snake oil can hardly be equated with a school official selling a community on the need for higher standards in education. If the latter's selling job is done poorly, then the negative results can be quite far-reaching. Almost everyone is better off if a good architect is successful in being selected to design a building, if a better design is sold to the client, and if a better method of planning and managing the project is sold to those who must approve such things.

Further, if an architect is to build an ex-

pert staff for the benefit of future clients and projects, then a constant volume of work must be sold to support the continued development of talents and skills, and explorations of better design directions and solutions. Seen in this light, selling is a fundamental necessity of more than a successful practice in a business sense.

We use definitions that may not exactly correspond to those of others.

Marketing: Understanding the marketplace, determining what services will be offered, to whom, and how they will be deliv-



The Heerys, left and right, talk with Eisenman.

ered—as well as how the practice's opportunities will be promoted and how the practice and its capabilities will be made known to prospective clients and referrals. More important is acting on those findings.

Business Development: Pursuing a prospect and obtaining the commission.

How they go about these activities is what these architects tell here:

PETER EISENMAN

Eisenman Architects

Known more for his built and unbuilt forays into the realm of design theory than for hard-nosed approaches to dealing with clients, Eisenman nonetheless reveals himself here as struggling with many of the same problems most architects face in getting work—and being pretty down to earth about it as well.

Strength in weakness

Eisenman: There are two techniques to business development. The first is the buckshot approach and the other, a high-powered rifle. A lot of people go out and just spray the field and hope they hit something.

We use the rifle approach. We look at ourselves and say we can't service many clients. We want to find those who are right for us; in other words, pick our targets carefully, follow them, put that cartridge in the rifle, get the sight lined up, and boom! You get one shot and that is it.

George Heery: The decision between the rifle and buckshot approaches is a marketing decision. When you take your shot, it's business development.

Eisenman: Positioning yourself, the kinds of promotional material you get together, where you get yourself pictured in what magazines is marketing.

Heery: And deciding who your partner is going to be, how you'll be able to deliver the services, what they will be.

Eisenman: There certainly is a gap between promotion alone [without the rest of marketing]

and business development. PR and promotion aren't enough to get you in the door.

What I have found is that a lot of people can do promotion for me, but getting a client is a personal one-on-one thing. It is looking into his eye, getting his confidence, and saying: "Sir, we can do this job for you and we can do it on time. We are going to make it a world-class building. You are going to be excited and proud of it. We want you in on the process."

My problem is marketing. While I do as well as anyone in front of a corporate executive, I don't get there.

Heery: Marketing presents you with a lead.

Eisenman: It gets you on a list, it gets you sent a letter, it gets you an RFP or a phone call.

Heery: The best thing it can do for you is have the prospective client convinced he wants you before you ever show up.

But you have an impressive practice. You have exciting commissions and good work in the pipeline. You must have done something right.

Eisenman: I think we are great at promotion and business development. When we get an interview, we are killers. That's where Gene Kohn is such a good finisher; so is Cesar Pelli. Other guys, I know, I can beat one-on-one; it is just like a boxer going into a ring who knows he is going to win. Sometimes you are up against a tough guy. Most guys we can take.

[At what markets does he take careful aim?] I want to go into any market I can change, he says.

Surprisingly down on competitions

Eisenman has received much of his work through competitions, including the recently opened Wexner Center for the Visual Arts at Ohio State University and his current project for the Columbus convention center, but. . .

Eisenman: I don't want to do competitions. I want to do interviews. Competitions depend upon a jury that is not necessarily the owner, whom you can reach emotionally and psychologically. You very rarely get a chance to present a competition entry. Usually you just send it in. Even though we think we are good designers, a lot of times competitions are set up so that you can't win. Juries tend to be fairly conservative, whereas a president of a corporation may take risks.

Heery: In a competition, I doubt if architects give as much consideration to the client's real needs, the program, and the budget.

Eisenman: Which can lead to a very tough relationship, afterward.

Heery: I think the clients feel sort of stuck with you after a competition.

Eisenman: Similarly, I hate guys that go into job interviews with schemes. I would never select an architect who walked into the interview with a proposed design.

Heery: Do you avoid some competitions?

Eisenman: If there is not one friendly voice on a jury, we turn it down. The jury is the key. Architects always spend many times more on a competition than they get paid for. Still, getting work is forcing me into more and more competitions, because they are good as part of an overall marketing strategy. You use winning one convention center to get into a building type that you want to get into. Still, I'd rather lose to George Heery in an interview than lose to him in a competition.

Laura Heery: How much work has come from promotion and the press?

Eisenman: None; zero. Every job that I have has come about by other means and most has come from other architects.

George Heery: Now, let's stop there for a moment. The work that you got from

other architects—to what extent do they come to you for an association because you are publishable? My own opinion is that that's a very big factor.

Eisenman: I am going to be in *The Wall Street Journal*. I am going to be in the *United Airlines* magazine with a big picture, and I'm saying to myself: 'How do I turn that into a lunch with X, Y, or Z?'

Things that never change

Did you do all of your own business development at Heery & Heery, George?

Heery: When I started, I was the only one doing business development, except for my father [who founded the practice]

“Talking about sports is the greatest thing I have going for me in convincing varied people I fit in.”

with his personal contacts, but he never really liked to do it. His marketing would be a friend calling him. He didn't like to make presentations. In fact, he made terrible presentations, but he was very good one-on-one with a client.

But once you get 500 mouths to feed, you need a well-organized marketing program. We weren't always that good at it. We faltered at times. Fortunately we were versatile enough, or we were working different segments. If one was off, the other would help us.



Eisenman's recently opened Wexner Center in Ohio.

Laura Heery: On the subject of talking directly to the CEO, there was a time 15 years ago, if you went to the CEO and he liked you, he would then direct the facility manager to use you. Now if that happens, it can backfire because the facility manager is a stronger person and professional. So there is a whole different organizational structure for what could be a large part of your market.

Eisenman: You have to be very careful. For example, even though we have the CEO on our side you can never go around the facilities manager to the CEO.

Another thing that is very important in business development is that the nature of practice has changed. I'm from New York, I go out to Columbus, Cincinnati, Pittsburgh, or Madison, Indiana, and I have to be very careful. They are hostile. Right away, I have two strikes against me—being from the East Coast and New York City. They like and don't like me for the same reason.

I have to be careful not to be patronizing or seem it. They are desperately worried about somebody coming in and telling them what to do, and yet they want you, in a certain way, to tell them. It is a kind of Catch-22. I feel that one of the great successes I've had is being able to adjust to the different environments and have the people in those different environments feel like I'm one of them.

Talking about sports is the greatest thing I have going for me in this regard because I am truly interested in sports. The president of Ohio State can't believe that this "intellectual" goes to football games with him and talks football—Ohio State football. Sports are one of my major, major business-development tools.

George Heery: It is said that's the way HOK got the big commissions in the Middle East. George Hellmuth went out there and spent two years getting to know one of the princes. The main thing they spent their time on was falconry.

Eisenman: I knew we were going to get the Columbus Convention Center when we went into an interview and I said: "Last night I was listening to the Valley/Canal Winchester Heights game on the radio. . ." and this lady from Canal Winchester popped up and asked: "Who won?" I said: "Canal Winchester and told her the score."

On marketing materials

There aren't any. We prepare an RFP response document for each proposal which is background to our firm; how we would approach a project; how we would staff it; what our related experience is; what the expected results would be, etc. That is a thick document. In a sense, it is a kind of brochure and it includes whatever project material is relevant. We will send that along with magazines, books, etc. We do not have a company brochure. [Not to say

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that he would not like one but that it was a project for which he had more ambition than resources.]

Laura Heery: Some people don't believe in brochures. I. M. Pei didn't have brochures during my tenure there.

Eisenman: Neither does Johnson.

Laura Heery: Other than responding to an RFP or giving someone your card, what do you send a prospect or leave behind after a meeting?

Eisenman: We have a cover with pockets and we put in background of the firm, photographs, one-page biographies, a project list, and client references.

George Heery: I am surprised that you don't put in press reprints. That is one of the main reasons many architects have adopted that format.

Eisenman: I hate reprints. What we do is send the whole magazine. I think people like looking through magazines.

On surface impressions

Eisenman: I never let anybody near the writing I've done. We are talking about getting work, not impressing people. My writing is my own personal thing. What bugs me in my life is that people think I am an intellectual. They think it's scary.

George Heery: I hate to tell you, Peter, but you look like an intellectual.

Eisenman: Most people think I dress square. I wear detachable collars . . .

Heery: No, I am sorry Peter, that's hardly square. A corporate CEO would never wear a detachable collar.

Eisenman: I wear Brooks Brothers.

Laura Heery: You're both getting really arcane, reading codes.

Eisenman: I wish I could break down my intellectual image. Les Wexner [the backer of Wexner Center] said: "Peter, your problem is that you are like a drill. You are too certain, and you are much too formidable. You handle words too quickly, move around ideas too quickly. I don't think, as your client, I could handle you."

George Heery: I think when an owner says he is frightened of an architect, he means he's afraid the architect is not listening to what he is saying and will not be responsive. It's not an unusual trait to find in a strong designer, but it's a real problem. One technique to overcome that is to play back to a client what he has just said to you: My concerns are that this project will accomplish so and so and that it is to do this and not do that. I think it will help you get the job.

To be big or little?

Eisenman: I believe there is a certain size office beyond which it doesn't make any sense to grow. Also, I'm convinced that our optimum project size is between \$20- and \$60-million. When projects start to go below \$20 million, we are not able to make money using percentage fees. I also think that once they get over \$60 million, they are so complex, they just suck too much energy out of you [the antithesis of what many architects would say].

I see my firm ideally going to 50 people. After that I must start doubling and tripling the size to be able to do what I do now. Why would I want to do that? I am curious why you didn't stop it, George.

Heery: I wasn't interested in stopping it, I was always interested in growth. When I left, architecture was not even our biggest business. Some 50 percent of our volume came from construction management.

Eisenman: George, I am going to ask you a dumb question. Here you are 62 years of age, at the prime of your career. You have all that experience, have made lots of money, but what are you doing today?

Heery: I'm having a good time starting over. □

EUGENE KOHN

Kohn Pedersen Fox Associates

Kohn Pedersen Fox, with Kohn as its client-getting lead, has grown from a small firm with little work during a recession to a major firm with large, very visible projects all over the country in 16 short years. According to Laura Heery, no one in architecture has been more successful in rapidly building a big, significant practice than Kohn. How did he do it?

Selling what you are

Kohn: The first thing I did was to match myself with partners who brought skills I didn't have and strengths possibly greater than mine in areas that don't overlap. Working together made us a strong team—stronger than the sum of our individual strengths.

I think, too, we all try to be nice people. There are many fine, talented architects, but some tend to have the only answer to everything. They believe that this drinking glass sitting in this position is perfect and clients either like that or they don't drink. But, we felt we could combine talent, creativity, and client involvement in design. We had to be the leaders. The risk is losing control.

George Heery: These are things that so many architects don't think of as marketing. Yet, as I see it, they are the most essential ingredients of marketing.

Kohn: Exactly. It is not just making the cold call or the presentation. A lot of architects say when you ask them if they market: "Oh no, we don't market." That is

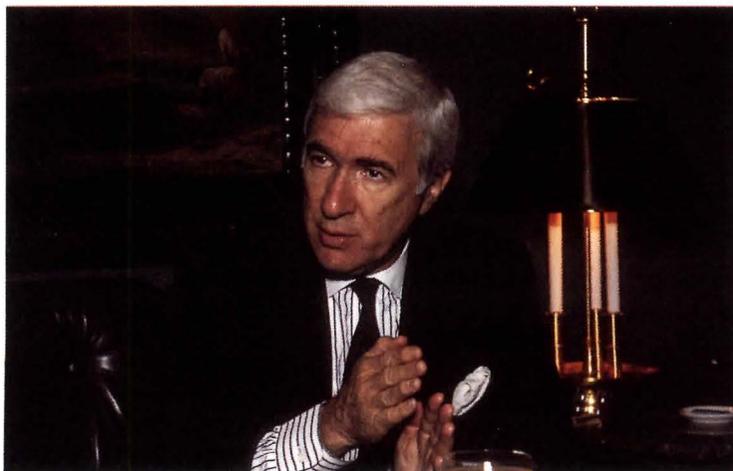
Kohn: That is his form of marketing. Everybody knows how involved he was in his speeches, lecturing, and being written about. That is part of marketing. If Philip said, don't write any articles about me; I don't want to make any speeches; I don't want anybody to mention my name, he probably wouldn't get called very often.

He is very good at marketing. In fact, he is quoted as saying, in effect, the three most important aspects of architecture are get the job, get the job, get the job.

George Heery: He is a superb marketer and salesman as well as an architect.

Kohn: All of the top firms are in their own way excellent at marketing although each with a different style. Some are willing to admit it is marketing and some are not. It is defensive when they say: "We don't market." It also means we are so good the work just comes to us. . . and that is true to some extent, for some projects.

If you are as well known as I. M. Pei, Cesar Pelli, Philip Johnson, and Kevin Roche, you don't need to make cold calls. The young firm without any reputation might have to—and send out letters, brochures, and answers to RFPs—a great deal of effort. The well-known can teach, give speeches, and be quoted and pub-



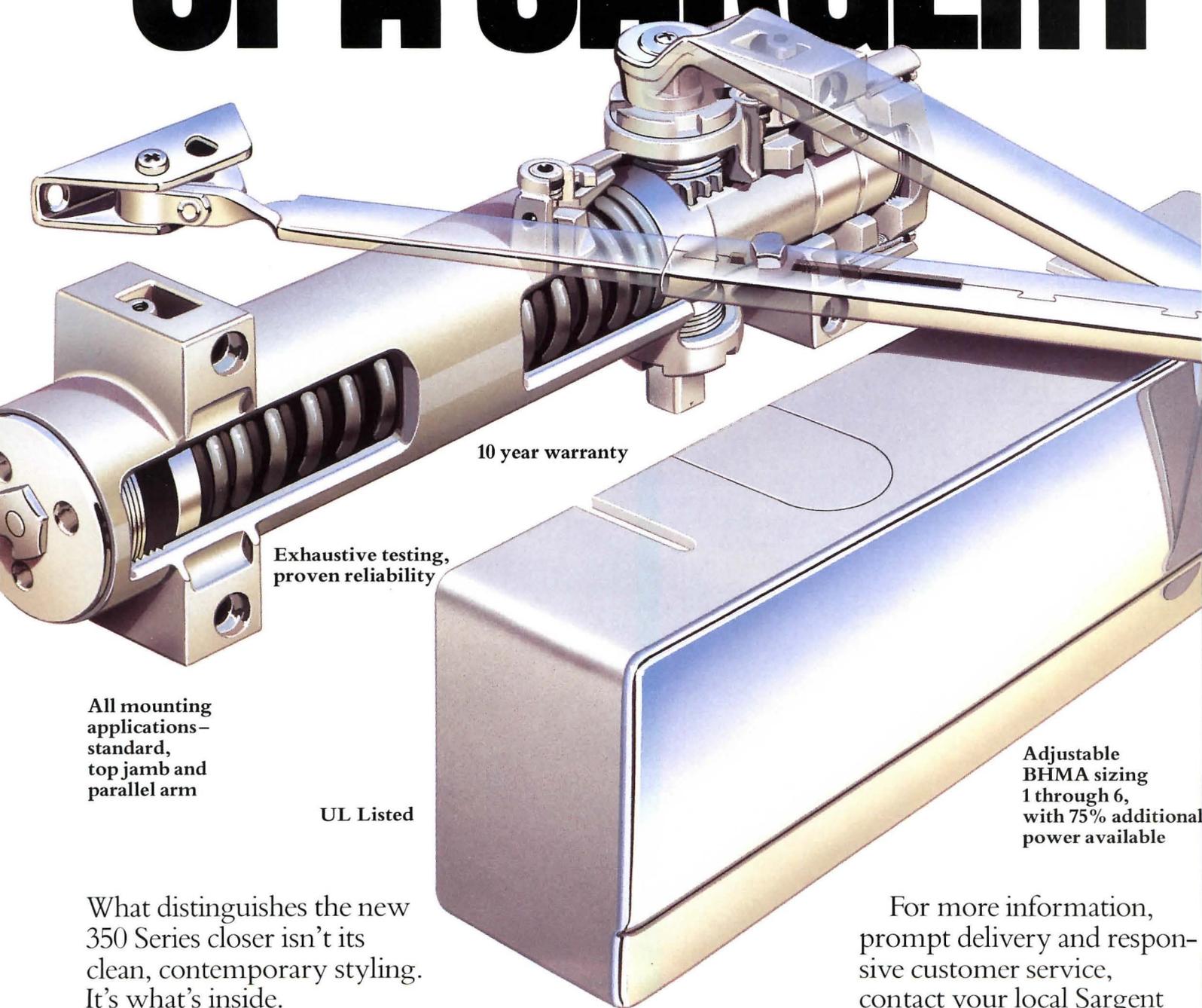
Kohn: "It's nonsense when they say they don't market."

nonsense. Of course they market. They market in their own special way. They each have their own techniques, but marketing is how you get the work.

Sales' many faces

Laura Heery: Philip Johnson says he sits and waits.

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lished in the press. Obviously, they would prefer terrific reviews, but doing buildings that are significant enough even to be controversial is a great form of marketing.

George Heery: Somebody else is publishing their brochures for them. If an architect is working in an area that is not as likely to attract design interest—if he wants to be a specialist in designing prisons—being published is not so important as other marketing activities, unless there is a prison magazine that prison clients read and talk about.

Kohn: Each firm's marketing has to vary depending on where it is at that moment in terms of size, age, expertise, experience, recognition, etc. There is no magic formula for everyone. As I look back on what we did as a new firm with no work, our strategy and approach were quite different from now for the most part. Today we are fortunate in our reputation and are able to be considered for projects that we might not have been aware of or would have never pursued. It cuts down [not eliminates] the need for us to pursue through cold calls and letters a lot of work that may prove fruitless. But we didn't get into that position on day one; nobody called us on day one.

All the right early moves

Starting out, we had a most positive and confident attitude. That is important. We were not completely new kids on the block. We had been practicing in major firms for some 20 years and had designed or managed major buildings and dealt with significant clients. We had no work, but we had access to people—facilities managers, developers, corporate presidents—we could call and get advice from, and that is what we did. I sought a lot of advice from people who had never worked with us, but later would give us the work. People like to see their advice come true.

We were afforded an opportunity in Iran where many large U.S. firms had gone, as well as elsewhere in the Middle East. But, in the end, we resisted doing work in the Middle East. The first thing a respected businessman told me was that the key to success would be through the work you turn down. It was an interesting statement to make to somebody without any work and about to start a firm in down times. It was bad. We had 60-percent unemployment among architects in New York. To tell somebody in '76 that you should turn down projects didn't seem like a logical statement but it stuck with me. I understood the advice—to get the wrong client, the wrong project, you can damage your reputation and lose money.

After turning down the Iranian job, we really focused our attention on the U.S. and began reading the papers carefully, calling up friends, letting people know what we were doing. There were a lot of

feasibility studies being done at the time. Developers and corporations wanted to evaluate land holdings and sites for when things would start up again. So we were able to do a number of small inexpensive studies.

The real key, though, was the American Broadcasting Company, which had just purchased an armory in New York. We read about it in *The New York Times*. The building was approximately 47,000 square feet. As it turned out, we were the only ar-

“Sales are like a pyramid. If the four corners building to good client perception come together at the apex, you have the job.”

chitects who wrote them and said we would be interested in talking about their plans.

Laura Heery: It's a good example of a polar extreme to the AT&T story in which a number of architects were solicited for proposals and the only firm that did not re-



Kohn Pedersen Fox's Mellon Bank Center, now rising in Philadelphia.

ply was Philip Johnson.

Kohn: To study the armory, one had to understand what ABC's overall plans were going to be for its neighborhood. ABC's facilities were overcrowded and not particularly well suited to their purposes. So we had the opportunity to really study their program and their needs and develop a 10-year master plan for eventual growth and new buildings. We have just completed project number 12 for American Broadcasting in 13 years.

Laura Heery: So, we are talking now about the pursuit of feasibility studies and master plans as marketing.

Kohn: Yes. Another interesting thing that resulted from our master planning was that we brought on a real-estate consultant, a construction manager, and other experts who worked under us. Normally, such consultants report directly to the owner and we are just one of the consultants. Usually, the real-estate or financial consultant is the team leader. We did it differently.

Critic Paul Goldberger wrote his first article about our firm in '76, an article on what architects were doing in a recession. This was a unique service, which helped us get our first public exposure.

ABC helped us to understand building users for developers, as well. The developer wants understanding of users so he can get tenants. I wrote developers and marketed them aggressively. We made cold calls, wrote letters, and used the media. As articles were written about KPF, we made sure that clients and potential clients received copies. [And the early talks Kohn had with developers while seeking their advice helped make him even more familiar to them.]

Getting a project is like a pyramid. One corner of the base is the firm and its capability and presentation to the client. A second is reputation; a third, clients you have worked for; and a fourth, endorsement by the press. If the four come together at the apex, you have the job.

The importance of being earnest

Sometimes we are out there marketing hard and being assertive, other times very low key. You've got to size up the client and the situation and remember that you can't be the same all the time. Too many architects think that they can use the same formula every time; you can't. You have to be very sensitive to the other person and I think the best marketers are people who can put themselves in their clients' shoes. A good bit is listening.

Laura Heery: Part of your success in selling is, once you got a project, you are very successful in selling good design.

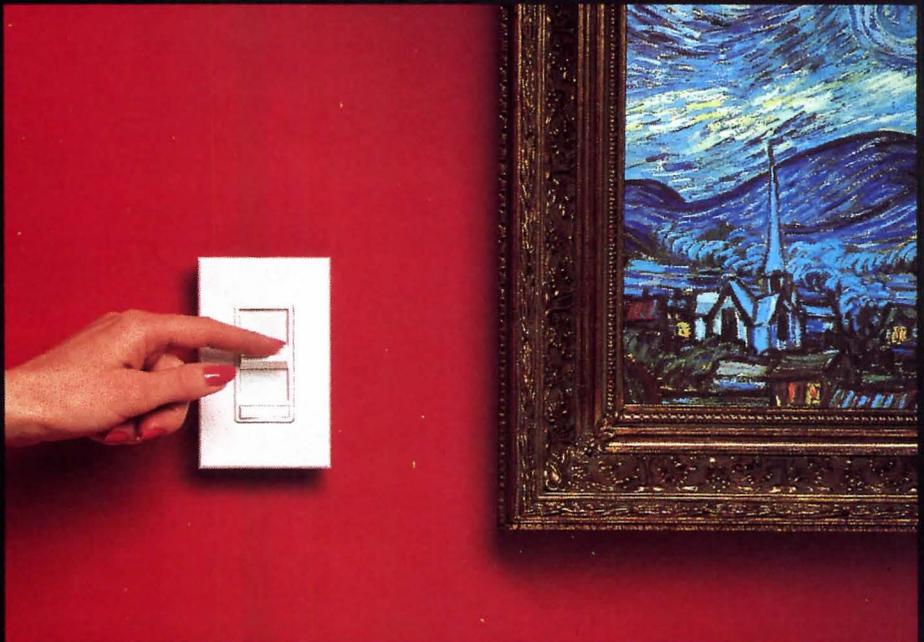
Kohn: All the partners and associate partners present quite well—some better than others—but they give very enthusiastic presentations. Most clients, unless

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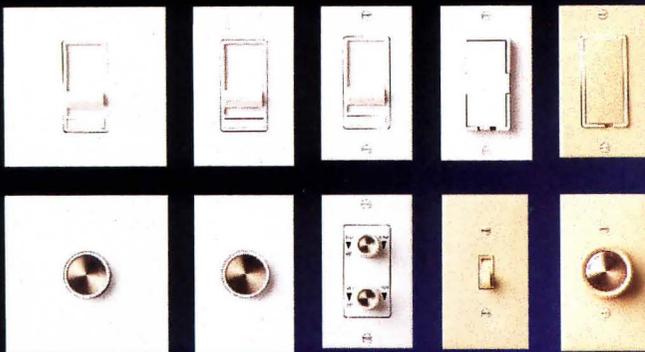


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they have built a lot of buildings, really can't read drawings easily, don't fully understand the models, and cannot always understand why you made certain decisions. But, by being made part of the process, they roll up their sleeves and get involved as we point out the reasons for what we do. We show them alternatives, and why some work better than others. If they are smart people, they are going to pick up on the finer points.

As you give reasons for what you are doing and what your considerations are, they should include the schedule, budget, and other client concerns. It's like a doctor. An architect has to build confidence.

Then there is emotion, there is logic; intuition and logic working together. You will make some serious mistakes if you de-

sign totally logically without emotional interaction. It's, in fact, the balance that the client usually wants, because he sees you as an artist as well as a technician.

The right presentation

If it is just an individual client, we may not use slides, but rather sit around the model and be very informal. If it is a larger group, slides allow everybody see what you want them to see. The key is to keep them focused. You should not have a lot of things scattered around the room where their eyes can drift. They end up looking at something else while you are talking about what you need them to see. We use slides of actual buildings to illustrate what we are showing them on a drawing. A drawing doesn't always explain the idea. Nor do

words. If you say atrium, they may have been in an atrium that was an unpleasant experience. Photographs of the kind of space you want to talk about, historic or modern, help put the client on the same wavelength as the architect—the kind of space and quality of light.

We believe all graphics are extremely important. We make brochures for different markets, usually handmade for special people. We think that you should look great from the letterhead to the business card, to reports, to the building.

We are just now reshaping our graphic image. One thing, I don't think that you can ever stay stagnant. If you have the right formula today, it may not always be so. Change is important, otherwise the competition will pass you by. □

ROSS ANDERSON AND FRED SCHWARTZ

Anderson/Schwartz Architects

Only six years old, the firm is described by the Heerys as "emerging." While its most visible products thus far have been exhibitions of designs in prestigious programs such as the 1985 Venice Biennale and glowing coverage in the press, its principals take the surprisingly establishment stance that repeat business is its main source of work, the press next. Can this be true?

A hard rhythm to find

Schwartz: We are reactive rather than pro-active in marketing. We take calls from anybody. We develop leads.

Anderson: We spend less time marketing than we should. It's a hard rhythm to find. I spend about 10 percent of my time on marketing.

Schwartz: I spend about 25 percent. Our marketing decisions? Most clients are in a hurry with a desperate schedule. We have established a reputation for working fast. That's why many clients come to us.

Anderson: Another marketing decision is our new office in San Francisco and the visibility that gives us.

How to find clients: another view

Anderson: Cold calls are tough; they are really hard to do.

Schwartz: We hear about projects that we think are right for us. Sometimes we clip articles in the paper, selectively. We write to express interest and send information about ourselves. It takes patience to

make a connection. It can take a very long time and a lot of letters.

Heery: What do you do for printed promotional material?

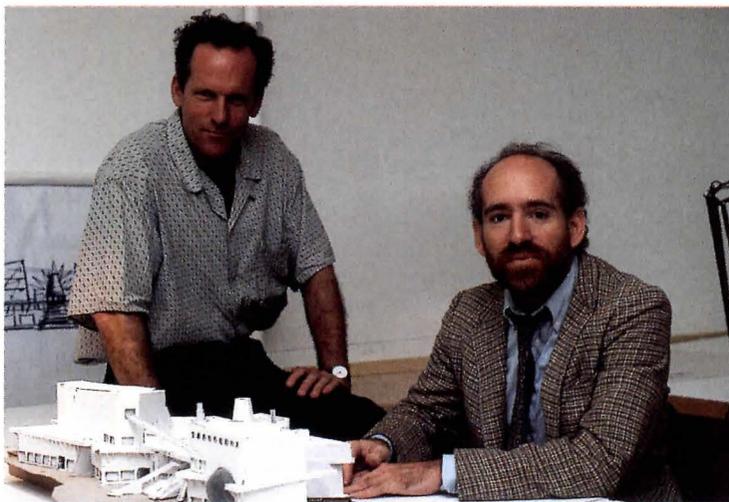
Schwartz: We don't. We'll leave a package of Xeroxed articles and resumés when we see prospects. Or we'll send them out to friends, clients, or people whom we

Anderson: We will turn down a project with a bad client. It takes a great client to make a great project.

Heery: Your practice has the distinction of having two principals who are recipients of the Rome Prize for architecture. Do you think the prestige of this will help bring work to the firm?

Schwartz: As good as it is to some people, it is the kiss of death to others.

Anderson: You don't get a job because of it, and it's not something that you market in itself. But you can get work from other architects because of it and from people that you come in contact with while you are at the academy. □



Anderson and Schwartz: one leg up by working fast.

know. We keep a bibliography of articles and have recently started to make high-quality Xerox booklets of articles.

Anderson: We don't believe in mass mailings. Most mass mailings that we get we put in the trash, so we think that is what would be done with ours.

Heery: What about design competitions?

Anderson: We do one or two a year. It really depends on what's going on in the office. If there is a lull between projects and it's the right kind of competition for us, we'll do it. It usually requires from four to five weeks of time. It's a financial drain, a lot of the time, and we never expect anything from it. We prefer the invited competitions.

Heery: Do you turn down projects?

In future issues: Interviews with Arthur Gensler, William Lacy, David Childs, Denise Scott Brown and Robert Venturi, and Dirk Lohan, among others.

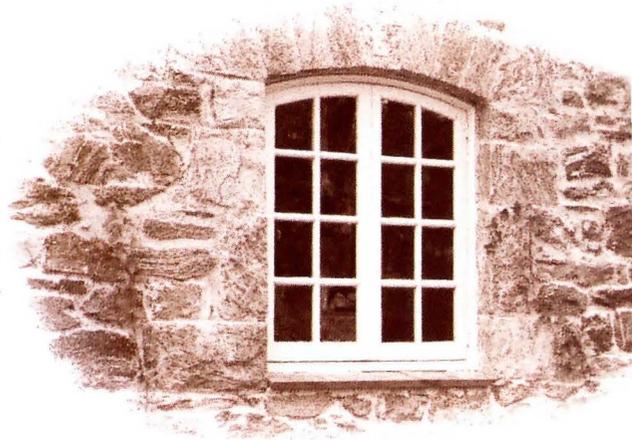
Mr. Heery is a pioneer in marketing and, among other

innovations in the profession, construction management. In 1986, Mr. Heery and his colleague shareholders sold Heery International to BICC. He is currently active in several enterprises with his children, including Ms. Heery. He is the author of Time, Cost, and Architecture (McGraw-Hill).

Ms. Heery is chairperson of the Brookwood Group, an architectural firm that uses the concept, developed by her father, of making the contractor responsible for design development while retaining control of design. She has traveled and studied widely and worked for some of the best-known names in the field.



Colonial window, 1822.



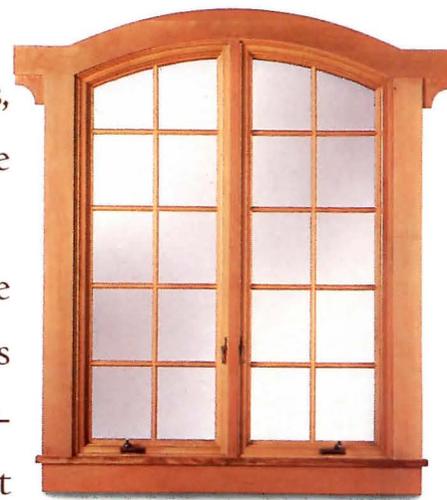
Mission window, 1793.

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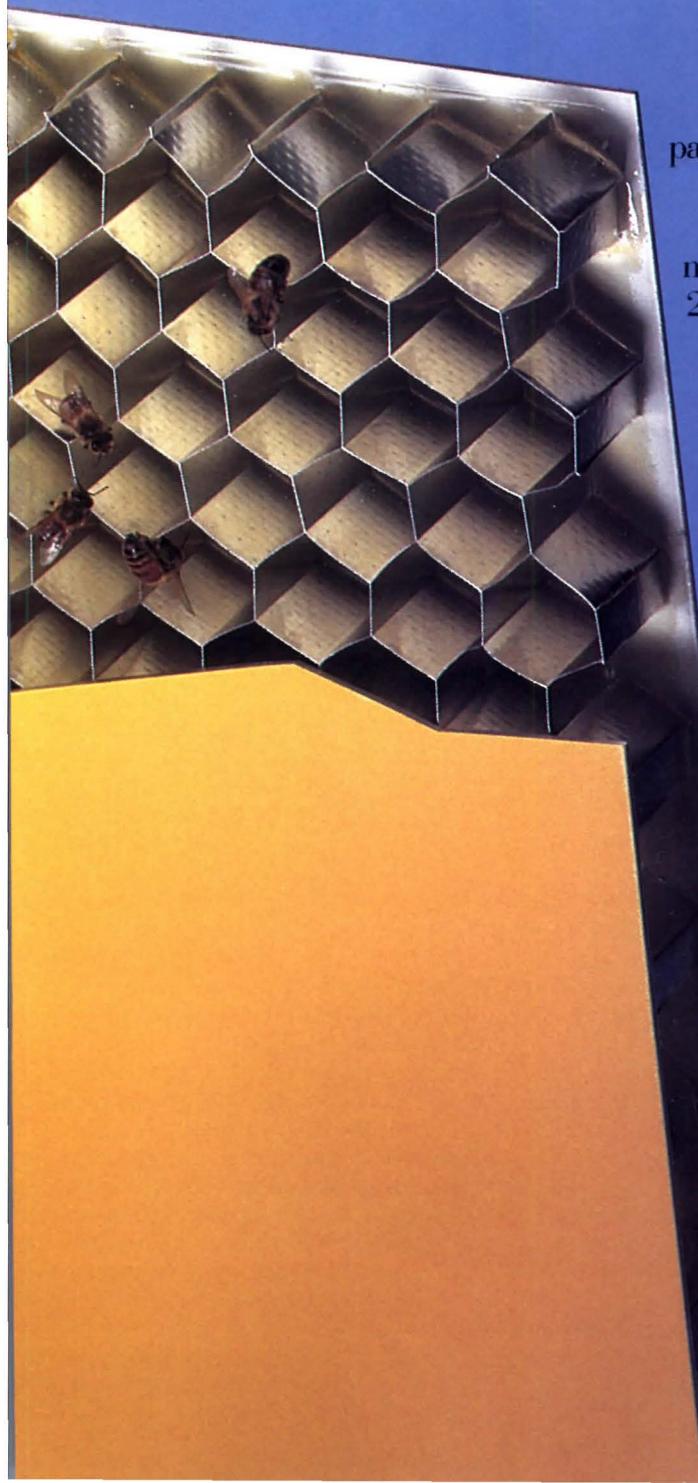


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A RESOURCEFUL PROFESSION MEETS THE FUTURE

An eminent analyst assesses architects' current status with an eye toward meeting coming demands.

The debate that goes on in all professions today about the proper scope of services and the future shape of practice is more conspicuous in architecture than in any other major profession. So far as one can tell from the history of architectural practice, the profession has always stood out in this respect. There is just more space in architecture for differing points of view on how to define it, ways to organize the work process, the kind of services architects should offer, and the methods the profession can use for getting work.

One can think of at least two reasons to account for the recurrent concern about the best way to practice architecture

First, the domain in which the architect must demonstrate knowledge and competence is really two domains, the art of architecture and the pragmatics of building. To deal with the two domains requires different talents and types of knowledge and skill. The two domains also are ruled by very different principles for evaluating projects. Judgments of the artistic qualities of buildings demand a sensitivity to form, shape, and color—having a good eye. The pragmatics of building function involve an interest in comfort, convenience of use, and building costs. There are continuing questions about which of the two aspects of buildings should be made the central emphasis of the service the architect provides.

The other reason why architectural practice can be so troublesome is that each of the two domains can be occupied by at least one other established profession and, in some periods in the history of practice, more than one. For over a century now, architects have struggled to get legislation passed in the various states that would restrict competition from other professions, but the movement has never been totally



Professor Gutman teaches at Princeton and Rutgers

successful. "Architect" is a protected title, but, in many states, other professionals are still allowed to design buildings; and if the building is simple enough and costs less than a stated sum, then even the owner can assume the role.

Because of the division in its domain, and also because whichever part the architect chooses to occupy as his principal field of expertise is in contention, the fundamental strategy of the profession now and through the ages has been to emphasize the architect's capacity to synthesize the world of art and building. The argument is made that only the architect, among all the professions, is prepared to consider the esthetic and pragmatic aspects of a building simultaneously and in unison.

Unfortunately, as a consequence of greater scale and complexity of buildings, the attitudes of clients, and the uses to which buildings are put, success at bridging the worlds of building and art is often an aspiration rather than a realization. A firm will try to produce buildings within budget, that are efficient, and also win design awards. Very often it fails. We all know recent buildings that have won awards but are chock full of engineering and program failures that horrify their users. And, conversely, we can compile a long list of buildings that function well, but that no serious student or critic ever would want to visit.

Given the inherent difficulty of producing first-class buildings, and therefore meeting all the various requirements of clients, it is impressive that the profession has maintained and expanded its market. Despite the gloomy forecasts of a crisis and the death of the discipline, and in the face of extended criticism by behavioral scientists, engineers, many clients, and real-estate experts, the profession goes right on growing in numbers. Architects are getting more jobs, attracting young recruits, and gathering increasing attention from the public and media.

There are several reasons why architecture has continued to hold its place and improve its position

The first reason, and the most obvious, is that architects occupy a special band in the spectrum of design professions. No other profession commands the knowledge that architects possess about the art of making buildings that are attractive, compelling, and endowed with cultural meaning, and which respond to the constraints imposed by the laws of physics and the principles of human behavior. They could often do a better job of it. Indeed, a challenge to architects in the coming decade is to improve

A challenge to architects in the coming decade is to improve their knowledge base for dealing with the planning and esthetic problems of large-scale and complex projects. Curiously, the continuing fear among practitioners that they may lose out to increasing competition from other professions may be the best guarantee that their performance will improve.

their knowledge in dealing with the planning and esthetic problems of large-scale and complex projects. Curiously, their fear that they may lose out to increasing competition may be the best guarantee that their performance will improve.

Other design professions have been determined to reduce the range of the architect's position in the market, indeed to wrench away all or part of one of the twin domains the profession commands. Civil engineers have been engaged in such a campaign for centuries, and many are still doing so today. In some respects the challenge is stronger than in previous eras because, as buildings become taller or use wider spans, structural design is a more significant component of total building performance. Also, the increase in the number of buildings that shelter high-tech activities leads to a more important role for mechanical engineers. However, architects have been tremendously resourceful in responding to the challenge. They do not question the engineer's competence in his special domain. Indeed, architects control a substantial part of the market for engineering services, by employing engineers as consultants or by adding them to their staffs.

It also should be noted that Postmodern architecture has forged a set of esthetic ideas that are remarkably accommodating to modern engineering technology, both in terms of structure and mechanical equipment. Indeed, it is this very success of architecture that many engineers with aspirations to acquire a more central place in the realm of building design find so irritating. They much preferred the ideology of international modernism, which seemed to espouse the "engineering esthetic," even though we know that this idea was proposed by Le Corbusier and others as much to impress their clients and fit the spirit of an age as out of a conviction that structural concepts should determine architectural form.

Not all architects, of course, are happy with the prevailing split between architectural and engineering approaches to building design. But I think this is often because the divorce of the architectural esthetic from structure is perceived as a sign of a more fundamental characteristic

of contemporary practice, namely the separation of the architect from the process of building construction. I find among many students and younger architects a deep yearning to acquire a more-active role in the building process and to achieve a closer connection to the building trades. The objective possibilities for making this connection in practice, however, seem more remote all the time, although I would guess that it is a theme that may find stylistic expression in the 1990s.

Architects, as we know, are encountering increasing competition from interior designers. This is more threatening than the competition from engineers because it engages the esthetic dimension. In view of the size of the interiors market already, and the fact that it is likely to remain one of the fastest growing, perhaps *the* fastest-growing market for architectural services, the profession has been forced to take aggressive action in arguing that it can handle the area better than interior-design firms. All the large architecture and architecture/engineering firms now have interiors departments, or are in the process of purchasing interiors firms. This trend is likely to continue because the market is based on the expected growth of the U. S. service economy. So far, the growth in the office-design and space-planning markets, however, has not led to more activity in creating industrial environments. Unfortunately for both architects and the factory workers, this building type is almost exclusively the province of process engineers. Perhaps the next decade will see a revival of interest in factory design. Architects might sponsor competitions for this building type and clarify the contribution that design can make to issues surrounding economic productivity.

Architecture continues to be important through remarkable ingenuity in developing new organizations for practice

Two organizational forms have been particularly impressive. The first of these is the large comprehensive practice, which includes a range of specialist skills under the same management roof, including programming, engineering, interiors, landscape, planning, and the different compo-

nent skills for architectural design, production and construction administration. The very largest and most successful of these firms have offices located in five to 10 cities in the U. S., Japan, Great Britain, and on the European continent.

There is a tradition in this country for practice on this scale that begins with Burnham and Co. and McKim, Mead and White, but firms such as HOK, RTKL, and SOM have perfected it far beyond Burnham's or McKim's dreams. They are really more than just comprehensive practices. These mega-practices are corporate firms, organized into specialist divisions, owned by stockholders, overseen by boards of directors, and managed by presidents and vice-presidents; in other words, with an organization that matches the large institutions, real-estate, and manufacturing companies for which they do projects.

Perhaps the most interesting fact about these gigantic practices is that they are set up to endure beyond the lives of their founding partners and/or principal designers, again just like their corporate clients. Burnham and Mead also had this ambition, but they never quite figured out how to do it. Because of changes in the laws on professional corporations and the much-expanded market for architectural services, the mega-firms are likely to succeed. Only they are able to tackle alone the extremely large projects that are becoming more frequent in England, Japan, and here.

Another organizational type is equally impressive and also a tribute to American ingenuity. This is the system of joint venturing that allows a Michael Graves or an Antoine Predock to play a critical role in the design of projects requiring documentation and administration far beyond the capacity of their relatively small office staffs. Architects known for their distinctive design ideas can do buildings in France, Japan, or Germany, or on the other side of the U. S. from where their offices are located because their specialized contribution to the building process is coordinated with larger organizations that are better prepared to handle design development and technical responsibilities. The associated firm is not always another architectural practice. In Japan and in France, for example, most of the job is the

responsibility of the large construction combines. In the U.S., too, the firms are able to operate because the production work is handled by construction managers and the client developer organizations.

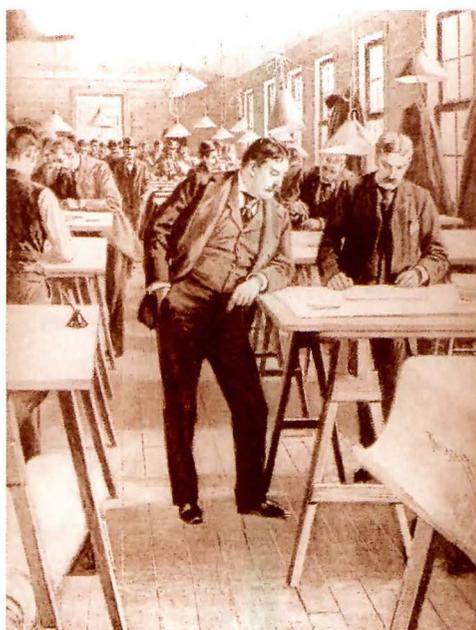
I foresee increasing competition in the coming decade between these two organizational forms. There is evidence of this trend already in the efforts made by comprehensive practices to acquire a reputation for design excellence to accompany their acknowledged superiority at servicing clients. Some of the mega-firms attempt management systems that will liberate their designers and give them greater say in projects. Others search for top designers for senior positions or to whom they can offer principal status. Also, the large comprehensive practices are increasingly concerned because they are not attracting the most talented graduates. The best student designers prefer to work with "signature" firms, even at lower wages than they would get at the big firms. Indeed, the smaller firms are more attractive than ever, now that they can collaborate in major building projects.

A third reason American architects are successful is that they have learned to run their practices as businesses

This means that they have become familiar with the special methods of identifying markets for their services, and have acquired skills needed to get work in them. They also have learned how to organize the project process so that very large and difficult building programs can be handled expeditiously.

Management and marketing effectiveness are considerable accomplishments in the architectural field. It is too bad that even when well-managed offices generate a good design, they are still derided by many architects, largely because the idea of having to sell a firm's talents and organize production runs counter to the idea of the architect as an artist. I suppose the attitude is understandable. To take the subject of management, for example, in the typical office project management has come to signify tailoring the design to a limited budget. On many jobs, in many offices, the project manager is usually pushed into the role of policeman who tells the design architects when a certain phase of design or design development must stop. Although physicians and lawyers complain about the extension of management principles into their professional realm, too, the indignation is more characteristic of architects because of the special emphasis on individual creativity in the design role, not to say the lack of objective criteria for evaluating when a design is finished or meets a proper standard of excellence. On the other hand, as I have said before, the esthetic side of practice represents only a portion of the domain archi-

Because resistance to marketing and management ideas has been overcome, the next decade can confront some still-unanswered questions.



Daniel Burnham was a pioneer in large, multidiscipline practices.

itects traditionally have tried to control. To the degree that the practice of architecture involves the reconciliation of artistic concepts with the building process, the managerial competence of an office is absolutely essential to its capacity to carry out contemporary projects.

Although the commitment to business principles is a necessary condition of architectural practice now, there are many problems that will have to be thought about and addressed in this area. Indeed, for the very reason that the major resistance to accepting marketing and management ideas has been overcome, the coming decade will be the period to confront some still unanswered questions. For example, there continues to be great confusion about the best way to organize the professional staff. Should firms be organized into separate studios led by one designer, with the staff made up of people representing all the professional and technical skills required to see a project through from beginning to end? Or is it better to organize a firm into departments representing the various stages and functions

within the design and building process, with project teams assembled from the staff of the departments? Can projects be run effectively if the project manager and the designer have equal authority? Does good design work depend upon making sure that at least one principal in the firm is actively responsible for every project? My impression is that there is no consensus on these matters among practitioners, which is probably appropriate. Any standard method would have to confront the fact that each firm has a unique history. Ultimately, the quality of the work turned out by an office probably depends upon the depth of talent in the firm more than on any other single factor.

Many architecture firms that are trying to apply the latest theories of management in fact are making a profit by exploiting the energy and skill of their professional staff. The profession is notorious for its poor pay levels, but in many firms, the disproportionately low incomes are concentrated among the bottom ranks of employees while the principals and partners earn very respectable salaries and bonuses. In some other modern nations, this situation led to unions of architect employees. While I do not see this movement taking hold here, it is evident that there will have to be a more equitable distribution of income within offices. This is another issue that will emerge with increasing prominence in the 1990s. The way already is being shown by the mega-practices.

The architecture business is a professional-service business, just like law, medicine, and accountancy. Such professional-service businesses have many characteristics that set them apart from manufacturing and other service enterprises. One fact that will require further thought by architects is that the client is not just the individual or institution that pays for the service. The lawyer's client is the public at large, which insists that justice be administered fairly; the physician's client is also the patient's family as well as the community which expects the public health to be protected. Although a developer or a corporation may pay the costs of the architect's services, the client for these services is also the user of the building, the neighbors affected by its presence, and the city residents who will look at it.

In the 1990s, architects increasingly will be asked to demonstrate their recognition that the architecture business includes a responsibility for this wider clientele. In this sense, of course, the business of architecture remains a professional concern. □

Mr. Gutman holds professorships at both Rutgers and Princeton Universities. He is author of Architectural Practice, a Critical View and advises firms on training and development issues.

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THAT CRUCIAL COST OF CREDIT WILL FALL IN 1990

Mortgage rates, which have slipped recently, will decline even more.

The economy enters 1990 losing momentum. To halt that trend and stabilize growth, interest rates will have to fall.

In the first half of 1989, gains in capital spending, manufacturing, and exports vigorously propelled the economic advance. In the second half, however, these activities lost some of their vitality.

The capacity-utilization rates peaked at mid-year and then inched downward. Inventories rose a bit, as final sales weakened. Exports flattened; industrial production slowed; and capital spending moderated.

Elsewhere, statistics point to the same type of uninspired performance. Consumer spending, except when substantial incentives were involved, has increased unspectacularly. Agriculture production, although rebounding from the drought year of 1988, has not fully recovered. And construction activity has been drifting lower for some months.

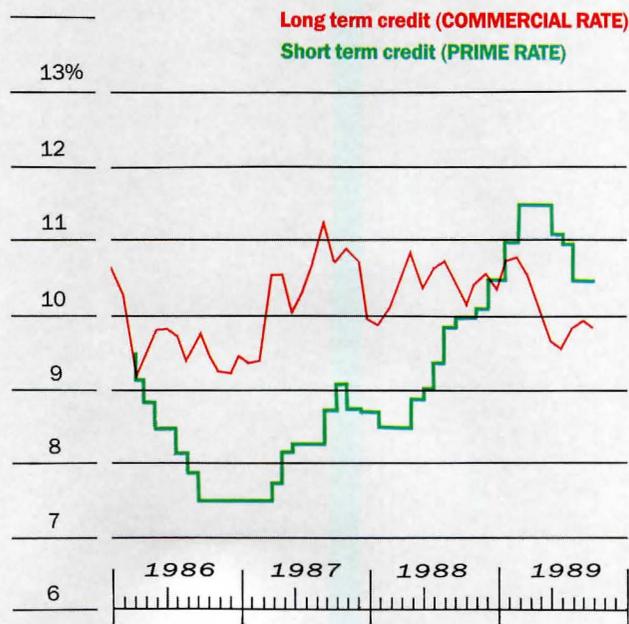
As the economy softened, layoffs multiplied and new hires failed to keep pace with the number of new entrants into the job market. Unemployment edged higher.

Because of the slackening in activity, the overall gain in real GNP is expected to slump from the brisk 3 percent of the first half of 1989 to less than 1.5 percent in the fourth quarter. With business in sector after sector continuing to abate, the major question for 1990 is how to end that slippage in growth and avoid a recession?

In coming months, fiscal policy will be of no use in fostering expansion. In fact, it will be mildly constrictive, as Congress and the Administration seek to trim the deficit from \$152 billion in fiscal 1989 toward \$135 billion in fiscal 1990.

As each new batch of statistics provided fresh evidence that the strength of the economic advance was ebbing, the same numbers indicated that the rise in inflation was halted. Nevertheless, core inflation remains stubbornly set in the 4.5- to 5.0-percent range.

COST OF CREDIT



Sources: Short Term Credit Information: Federal Reserve
Long Term Credit Information: Salomon Brothers Inc. Commercial Bullet Loan Survey

Next, many households are worried about jobs. The upturn in our unemployment plus the big spate of fourth-quarter announcements of future lay-offs in the financial and manufacturing industries have made quite a few families jittery.

Consumer uncertainty is being translated into very careful shopping patterns, hurting durable-goods producers in general and automobile manufacturers in particular. Indeed, the forecasts anticipate domestic automobile sales sinking to less than a 7-million pace for awhile, down from the 7.5 million to 8.2 million annual sales of the past six years. This drop in sales is expected to occur because of intense foreign competition and despite offers of exceptional incentives, including below-market financing.

The domestic automobile industry with its large requirements for manufactured parts and their assembly is still a

very significant part of our economy. A slump in car sales will add to unemployment and reduce gains in personal income, which will cut into our economic growth.

As further deceleration in real growth becomes evident this quarter, the Federal Reserve will become more aggressive in its easing. Mortgage rates, which have slipped from 10.5 to 11 percent this past fall to 9.75 to 10.25 percent in early winter, will decline some more. By the opening of the house-buying season in April, fixed-rate mortgages will be sliding toward 9 percent or less.

At the 9-percent level, working Americans, who have either postponed buying their first home or upgrading their existing home, will return to the housing market. Housing starts will perk up. Spending on furniture and fixtures to furnish the new homes will also rise.

As this new wave of spending enters the marketplace, real economic growth will revive moderately this summer. This will push any anticipated recession off into the future.

CHART BY CORBINE ABBAZIA HENKER

HAZZARD MILL HOUSE...

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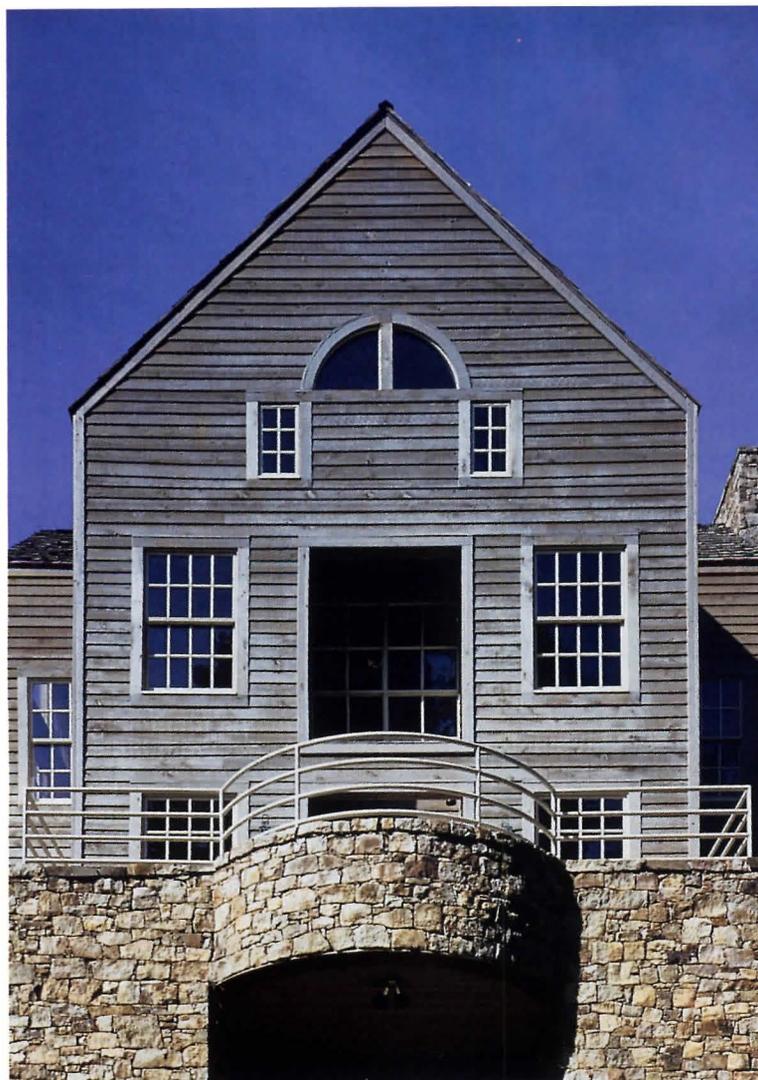
But this project is more than just re-creation of a piece of America's past history. This project presented some very unique opportunities and challenges.

Mark Kohler, AIA, of Karl E. Kohler Associates Architects, Vienna, VA, defined the needs of this special project by saying, "The Hazzard Mill House was designed to recall the image of the original Hazzard Mill House. Exterior materials such as stone, horizontal cedar siding, a shake roof and authentic looking real wood windows with the integral wood muntins were used to be consistent with the materials believed to have been used on the original mill."

Mark goes on to say, "We chose Weather Shield windows because they could provide us with oversized wood tilt, wood casement, wood awning and fixed wood quarter rounds in all sorts of custom sizes. But we didn't stop at just the windows. We also chose a set of 8 foot high custom sized French doors for a very special effect."

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Photographs:

James Ritchie

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BUILDING A LEGACY OF DESIGN EXCELLENCE

How J. Irwin Miller brought Modernism to small-town America.

No one ever accused J. Irwin Miller, the man who put Columbus, Indiana, on the architectural map, of being flamboyant or vain. Soft-spoken and modest to an extreme, he is clearly uncomfortable talking about himself and his role in turning a small Midwestern town (population 32,000) into a mecca for anyone interested in the development of Modern architecture.

Ask Miller about Eliel or Eero Saarinen, though, and he responds immediately with heartfelt comments on the father-and-son architects who set the tone for nearly a half-century's worth of building in Columbus. Once he opens up, Miller converses knowledgeably on the siting of French and English cathedrals, the change in scale of Roman buildings from the Republic to the Empire, and the evolution of James Stirling's work over the last three decades. It is sometimes hard to remember that this is a businessman talking, a man who took a struggling engine manufacturer with about 60 employees and transformed it into a multinational corporation with more than \$3 billion in annual sales. But then, how many other businessmen can read Greek and Latin and play a Stradivarius?

Born into a prominent Columbus family and educated at Yale and Oxford, Miller could have assumed the role of local arbiter of good taste and grand patron of the arts. But he had no interest in imposing his will on his hometown and putting his name on a host of buildings. He is by nature an educator, not a public figure or politician. "He probably would have been most comfortable as a college professor or concert musician," says Robert N. Stewart, mayor of Columbus and a long-time admirer.

Sitting on the prairie of southern Indiana, Columbus is an unlikely place to find over 40 buildings designed by some of the most important names in Modern architecture. In addition to the Saarinens, architects represented in town include Kevin



At 80, Miller still promotes good design in Columbus.

Roche, Harry Weese, Paul Kennon (of CRS Serrine), Charles Bassett (of Skidmore, Owings & Merrill), I. M. Pei, James Stewart Polshek, Robert Venturi, Romaldo Giurgola, Hugh Hardy, Richard Meier, Charles Gwathmey, and Gunnar Birkerts.

Miller himself describes his role in the development of Columbus as that of "a concerned citizen" who recognized in the early 1950s the need for many new buildings in town. To encourage good design, he established the Cummins Engine Foundation to pay architectural fees for any public building using an architect selected from an approved list. Prepared by a panel of design professionals, the list of approved architects featured a changing roster of promising young designers, many of whom became important figures in Modern architecture. This emphasis on less established architects was in part, admits Miller, a function of necessity. "I doubt we could have attracted the great names like Mies and Wright back then," he explains. "They weren't big commissions and we were a

small town." Of course, the situation is different today. Landing a job in Columbus is a great honor, no matter how small the project. And the concentration of so many fine buildings has challenged most architects to do their best here. Good architecture begets more of the same. "It's the same way in music," says Miller. "You often find many good composers working in the same area at the same time—for example, Mozart, Haydn, Beethoven, and then Schubert in Austria. It's no coincidence."

Since 1957 the foundation has paid commissions for 24 buildings, ranging from schools and fire stations to a new city hall designed by Skidmore, Owings & Merrill in 1981. While the foundation pays the architect's bill, it has no role in the actual selection of the architect or in the design process. Miller feels it is important that the client (whether the school board or the city government) deal directly with the designer without any foundation interference.

"This is a fiercely democratic community," says Miller, in explaining why he stays out of the selection and design processes. Miller acts merely as an architectural cupid, getting client and designer together without interfering in the romance (or the squabbling). And while many visitors lavish attention on individual buildings such as Eliel Saarinen's poetic composition of campanile and church for the First Christian Church (1942) or Harry Weese's modern interpretation of Romanesque forms for the First Baptist Church (1965), Miller's primary concern has never been "to build architectural masterpieces." It has been "to help create a good community." That a few masterpieces have been built in the process is, of course, acknowledged by Miller.

Although he rejects the title of patron, Miller embraces that of client. "Some architects have a vision of a beautiful building and then look for a client who will allow them to do it," he says. The best architects,

MARY ANN CARTER

A classical scholar by training and a businessman by profession, J. Irwin Miller has helped turn Columbus, Indiana, into a haven for the best in Modern architecture.

though, understand the importance of the designer-client relationship and respond to the particular needs of the site and the users. The Saarinens, for example, never brought drawings of previous projects to initial meetings with clients, says Miller, but instead concentrated on asking the client questions like "Who are you? What do you like? What are you trying to achieve with this building?"

Miller firmly believes that constructive tension and the give-and-take between architect and client make for better architecture. One example is the Cummins corporate headquarters, designed by the man who is clearly his favorite living architect, Kevin Roche. "We sent him back to the drawing board two or three times," recalls Miller—not because the designs weren't good, but because great changes were underway in corporate design in the mid-to-late-1970s. First came the energy crisis, which required a new approach to fenestration and energy consumption, and then the computer revolution, which necessitated special attention to the wiring of office buildings.

Miller "consciously rejected the Medici approach of imposing a plan or attitude on the town," explains photographer Balthazar Korab, who worked for the Saarinens and has chronicled building in Columbus for more than 30 years. "Collecting architecture has never been his intent, nor did he ever want the town to be an architectural Disneyland."

Proof that Miller's concern for quality has been contagious, says Korab, is the latest generation of projects being planned for Columbus right now. Spearheaded by the city itself, these projects aim to intensify activity downtown by making it more accessible and attractive from I-65 and to create a corridor of recreational facilities adjacent to the central business district. As in the past, Cummins will pick up the tab for architect Paul Kennon and landscape designer Michael van Valkenberg, but the city of-



Trailblazer: Eliel Saarinen's First Christian Church

officials are running the show.

Concern for architectural values has indeed trickled down from Miller to the citizens of Columbus. When the congregation of St. Peter's Lutheran Church, for example, decided to build a new church (completed in 1988), it hired Gunnar Birkerts (and paid his commission itself) because it was impressed by the elementary school he had designed across the street in 1967.

Some people have criticized Miller for being slow to recognize the need for historic preservation. When two blocks of Victorian structures were pulled down in the early 1970s to make way for the Commons shopping mall, one of Cesar Pelli's less distinguished glass boxes, preservationists lost a major battle but ended up winning the war. The tide turned and renovation of the 19th-century and Art Deco buildings in town became a top priority both for Miller and for the citizens of Columbus. Under the direction of Alexander Girard, the two- and three-story storefronts on Washington Street were restored so they could once

again help define a classic main street. Other historic buildings were converted to new uses: a private residence into a visitors center, and the old city hall into the Columbus Inn.

While Miller shuns "dogmatic" preservationists who "demand that we have to go back and restore it exactly as it was done in the past," he clearly understands the need to retain his town's architectural heritage. In fact, his own office is in the 1881 Irwin's Bank building, whose sleek metal entry pavilion and flamboyant Victorian pediment represent the kind of marriage of new and old elements that Miller admires.

Although Miller remains active in plans for downtown Columbus, a family enterprise, Miller & Co., is developing a suburban subdivision called Tipton Lakes. The project could have offered the Millers an excellent opportunity to experiment with some of the new suburban planning concepts used

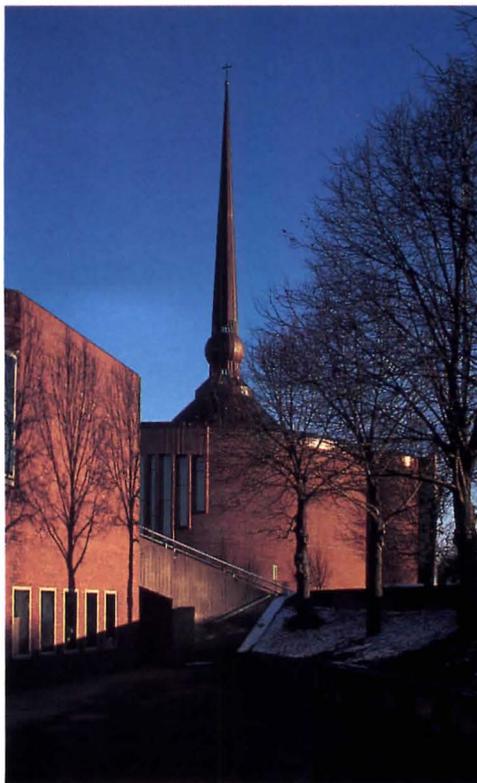
by architects Andres Duany and Elizabeth Plater-Zyberk at Seaside, Florida, or Peter Calthorpe in his pedestrian pocket developments in California. Alas, Tipton Lakes, with its curving streets, cul-de-sacs, and main feeder road, follows the familiar pattern of subdivisions around the country and breaks no new ground.

Columbus itself, however, only grows more significant with age. Modern architecture has often been criticized for creating sculptural buildings that demand to be seen in isolation, but Columbus lives as a wonderful example of how Modern buildings can work together as an ensemble, as urban design. Some of the credit for this cohesion lies in the landscaping of Dan Kiley. But much of the town's success stems from a dedicated client and educator named Miller, who, as Mayor Robert Stewart says, "saw the big picture over the long period of time." In an era when most businessmen can't see past next quarter's dividend, the example of J. Irwin Miller highlights the impact of vision. **CLIFFORD A. PEARSON**

The new City Hall (1), designed by S.O.M.'s Edward Charles Bassett, creates a memorable entry with two cantilevered planes that don't quite touch. Gunnar Birkerts' Lincoln Elementary School (2, foreground) and his St. Peter's Lutheran Church (2, background) are separated by two decades but just one street. A program to build architecturally distinctive schools, supported by the Cummins Foundation, included John M. Johansen's 1969 design for the L. Frances Smith Elementary School (3). Eero Saarinen worked with client J. Irwin Miller and landscape architect Dan Kiley in designing The Irwin Union Bank and Trust building (4).



©BALHAZAR KORAB PHOTOS



2



3



4

A Miller Sampler

On Eliel and Eero Saarinen:
 "It wasn't just their architecture that impressed me, but their character and their approach to their profession."

"Eliel was the last of the crafts school, who [during construction of the First Christian Church] mixed the mortar himself and laid the first course of bricks to

show the masons how he wanted it done. Eero was of a new technological era. He was captivated by all new materials and possibilities."

"I don't believe you can have a good building without a concerned and active client."

"I've always been apprehensive of professional church architects or professional bank architects or any architect who specializes in just one kind of building. The



5



6



7



8

Harry Weese, who has designed a dozen projects in Columbus (more than any other architect), used Romanesque forms as sources for his 1965 First Baptist Church (5). Fire Station No. 4 (6), built in 1967, offered Robert Venturi an early opportunity to translate his teachings into reality. The North Christian Church (7), the last project Eero Saarinen worked on before his death, features a hexagonal sanctuary infused with natural light from a high oculus and glass under the edge of the roof line. A two-story trellis wall (now thick with plantings) contrasts with the reflective glass skin designed by Paul Kennon of CRSS for the Indiana Bell Switching Center (8).

tendency is to pull out your last design and modify it a bit."

"I really feel democracy is a messy process. That's why it's alive and vigorous."

On Eero Saarinen's 1954 design for the Irwin Union Bank & Trust building:

"We wanted a bank that was transparent, that would let people see what we were doing with their money. We wanted to take the mystery out of banking."

"I don't have any bones to pick with any architectural style. Styles are just words invented by the people who write about architecture."

"I hope we recover respect for democratic government so we can again build government buildings with pride."

"You're always better off to build a little bigger and take more time in planning and use better materials."

BELLEVUE BAPTIST CHURCH WASN'T BUILT ON FAITH ALONE.

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AN AGENDA FOR THE NINETIES

At the beginning of this new decade, social and urbanistic concerns are stirring in architecture, Don Canty reports.

Decay, deterioration, disrepair. Realtors and inspectors often ascribe such building conditions to "deferred maintenance." It is a euphemism. The real causes are neglect, abuse, and indifference.

The same terms could be applied to the nation's treatment of its built environment. Much has been deferred in recent decades and the results are beginning to catch up with us as the 1990s begin.

It is hard to walk down the streets of major cities without encountering panhandlers, and beyond the homeless there are legions of the ill-housed. The search for affordable dwellings has pushed development to and beyond the outer boundaries of metropolises, gobbling land and straining transportation facilities.

The suburbs are laced with commercial strips of increasingly strident ugliness. Occasionally these strips coalesce into globs of commercial and residential development which some have called urban villages and others metropolitan subcenters. Whatever their proper name, they mock urbanity and breed a particularly faceless brand of architecture.

Meanwhile, the central cities proudly display new convention centers, a dazzling variety of hotels and office towers, and, of course, festival marketplaces. But their infrastructures are rotting and their less wealthy neighborhoods festering.

It is time to put our collective house in order, and architecture has a special role and responsibility in doing so. Just as the ultimate concern of medicine is health and that of the law, justice, that of architecture is the quality of the built environment.

The first item in an agenda for the '90s, then, must be a reawakening of the profession to this responsibility. With the rejection of Modernism in the '70s it became fashionable to scoff at the notion that architecture could "save the world," in effect rejecting any societal role for the profession. The proper concern of the architect



DANIEL ADEL

was thought to be the individual building as work of art and bearer of messages.

In the '80s architecture, like much of the rest of society, was privatized. The contraction of the public sector cut off most opportunities to build for the public good. Institutional work waned and commercial proliferated. Name architects became the handmaidens and ornaments of speculative developers and the designers of houses and apartments for the super-rich.

Still, as the decade ended there were heartening signs that social and urbanistic concerns were stirring in architecture. Dedicated bands of architects joined in coalitions to help the homeless and improve the supply and condition of low-income housing. Others were active in planning their neighborhoods and communities.

Consciousness of the consequences of unbridled growth is growing, and with it a new willingness to engage in planning. There is a special need for architects to take such planning to the third dimension and into issues of quality. The need is not just to address the matter of how much is to be built, but how and for whose benefit.

Like it or not, the primary battleground in the struggle for decent housing had shifted from the federal level to states and localities. Here the individual architect can have real impact. The private sector has joined the struggle and is helping fill the void left by federal withdrawal. The most promising device for building or rehabilitating lower-income housing in significant numbers in the '90s, in fact, is the public-private partnership, a new client for the architect of conscience.

Contextualism, historicism, and ornament

Beyond such things there are ways in which the architect can approach the day-to-day work of design that can contribute to the public good and the quality of the environment. Among the agenda items in this area are: Regarding individual works as building blocks of neighborhoods and communities, not as isolated objects. This involves, in the first place, attention to the public realm, the streets, and other outdoor spaces created by placement of buildings. These spaces do much to give a community readability and character.

It also involves being friendly to the neighbors and especially courteous to the elderly, in building terms. The catchword for this is contextualism, but as the '80s ended the term had lost some of its charm.

Some architects, of course, never had liked it much, believing that each of their buildings should be literally outstanding, and if the neighbors were overwhelmed, too bad. To others the term never was more than a slogan, honored more in the breach than the observance. And it must be admitted that some used it as an excuse for banal buildings.

Part of the challenge of the '90s is to rescue the concept of contextualism and make its application the rule rather than the exception. Architects of talent must prove that respect for a building's surroundings need not mean either bland imitation or design compromise. In doing so

they will demonstrate that existing buildings can be enhanced by the new and that the new can be enriched by the presence of the old.

Historicism, like contextualism a legacy of Postmodernism, is another concept needing refurbishment. Too often it has come to mean picking up motifs and mannerisms from past eras. What it must be made to mean is recapturing the spirit of the best of the past where appropriate. Now, that history has returned to architecture's lexicon, it must not be trivialized.

Something similar can be said of the return of ornament, another welcome gift of Postmodernism. However nice it is to have it back, it must be acknowledged that not many architects these days know how to use it well. The older ones often do so timidly, the young with wild abandon. So the agenda for the '90s should include more proficiency in ornamentation.

User-friendly design

It should also include a conscious effort to design buildings that are more friendly and accessible (emotionally as well as physically) to the public at large. This public has taken an encouraging new interest in architecture in the past decades. But this new interest has a critical edge.

Buildings that are overscaled or otherwise self-important, exotic and tortured forms, arcane allusions to imagined cultures—all of these things can seem put-downs to those outside the cognoscenti. There have been many such buildings lately and as a result there are entire segments of the public to whom anything old is to be treasured and anything new is threatening. This has turned the ever stronger preservation movement into a crusade against contemporary architecture. Imaginative contextualism and solid historicism of the kind advocated above can help to reverse this trend. So can gestures of welcome and some form of modulation between exteriors and interiors. Incorporating and interpreting elements of the culture in which the building is built also can make it a more welcome presence. This suggests a return to regionalism, responding to the particularities of a place—both on the macro scale of entire areas of the country and the micro scale of neighborhoods. A building should feel like it belongs where it is—not like an import or something portable that could be taken to another place.

Programming

Which leads to another agenda item, designing buildings that are more responsive to particularities than ideologies. Such particularities begin with response to site and climate. Involved here are respect for the natural landscape and economy in the use of energy. The latter concern should be revived in the '90s, and certainly will be if

oil prices again rise. But it needs to be more a matter of professional responsibility than a result of market fluctuations.

The program, of course, is a virtual bill of particularities. The late William Caudill called programming the diagnostic phase of architecture, in which a skilled practitioner can bring the client to a better understanding of his actual needs. To him it was the base and beginning of design.

Programming fell out of fashion in some quarters during the '70s, being regarded as part of the despised doctrine of functionalism. If architecture is just another visual art, then a detailed analysis of the client's wants and needs can only be irrelevant or an impediment to creativity.

It turned out that buildings designed in this kind of vacuum were themselves found to be irrelevant put to the test of use. The most publicized public building of the period had to have its public spaces redesigned less than a dozen years after occupancy.

Of course far from a majority of architects followed the fashion of denigrating function. But those who did left a void that had to be filled. A building cannot be designed without a program of some sort, even if only a quantitative fun listing of spaces. So others have been moving into this beginning phase of design: developers' staffs, facilities managers, other consultants. If this trend continues, architects may find themselves disinvolved with the content of buildings, left only to put wrappings on them.

Therefore another agenda item for the '90s must be a revival of interest and skill in programming. It does take particular skills and some architects have let them atrophy in recent years. Here again there is need for re-education.

The behavioral sciences can help

There may also be a need for outside assistance, especially on a particularly complex project or one that has a heavy impact on the quality of its users' lives. Fortunately there is a cadre of behavioral scientists specializing in the human environment.

Skill in analyzing and predicting behavior is especially important if the program deals, as it should, with the needs of the eventual users as well as the clients and managers. Their needs sometimes can be quite different, as was discovered when open-office landscaping came upon the scene. Managers universally liked it because of its perceived economy and flexibility. Users often hated it because of the lack of visual and aural privacy.

A behavioral tool that deserves a place on the agenda is post-occupancy evaluation. This is a valuable way of learning lessons from both mistakes and accomplishments that can be applied to future projects. The agenda might go beyond encouraging individual evaluations to estab-

lishment of a data bank of the results, perhaps by the AIA.

One very basic need of building users is a healthful interior environment. In recent years concern about air pollution has moved indoors. Complaints, research, and lawsuits have proliferated. The list of commonly used building projects and systems that have been proven toxic keeps growing. There is need for still more research and increased sophistication among architects about indoor pollution in the '90s.

Uses of the computer

The technological future, not surprisingly, is likely to focus on the computer. Here the principal agenda item is to make wider use of 3D modeling on PC's, with its wonderful potential for exploring design alternatives. This will require development of more software that is interactive with other design tools, something suppliers have been slow to do because of the relatively small size of the architectural market.

More concern needs to be focused on the durability of extremely thin stone facings and their connections. Problems already are appearing and a nightmare for the '90s could be another Hancock-like disaster, but this time with wall panels falling instead of glass. And if tall buildings continue to take on more elaborate and irregular forms, structural safety needs attention, especially in regard to seismic behavior.

A final agenda item is reassertion of the architect's role as master builder. This is not said to encourage the profession's tendency toward megalomania but in response to two unfortunate trends. The first is the growing distance between architecture and construction. There is very little hands-on architecture. And the distance has been increased by the litigation epidemic, so that architects have drawn back from supervision of what they design. Nor are buildings any longer expected to express the ways in which they are built.

The second is a loss of confidence by architects in architecture. A few architects, as we have seen, would be regarded as "pure" artists. To them architecture is an incidentally habitable amalgam of painting and sculpture.

More, partly in reaction to the first group, think that any taint of an image as artist is bad for business. There have been brochures from architects' offices describing them as "building service firms" and not mentioning the word architecture for three or four pages.

Architecture is a proud profession with high ideals. It is the most demanding of the arts and the one that most affects the quality of our lives. The degradation of the built environment occurs when architecture is absent, apologetic, or forgetful of its ideals.

DONALD J. CANTY

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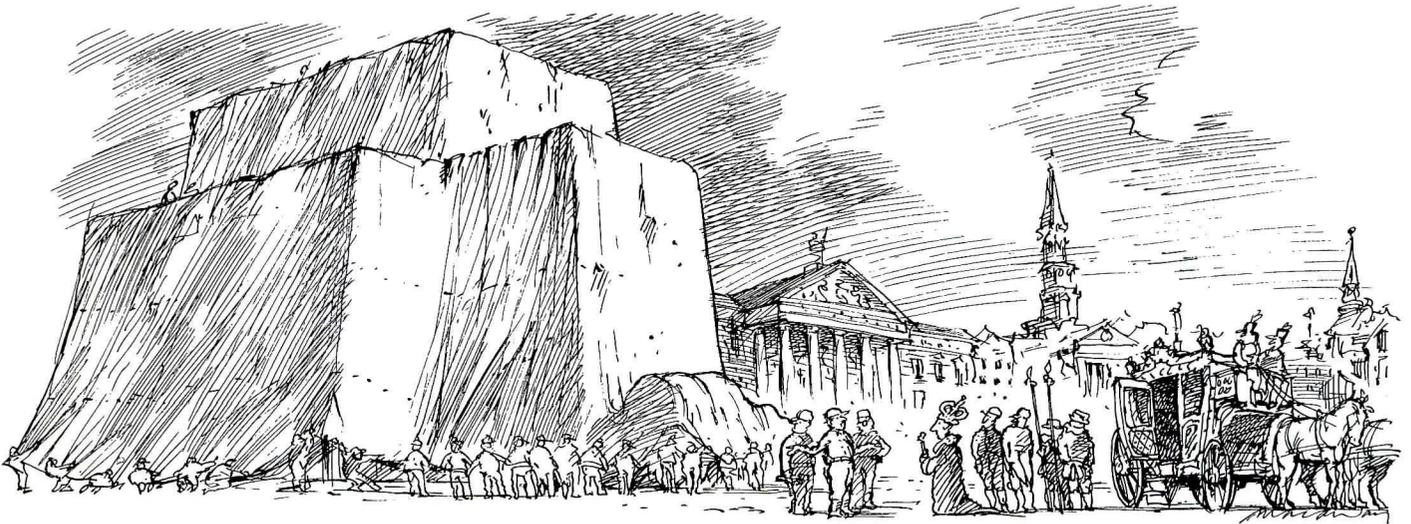
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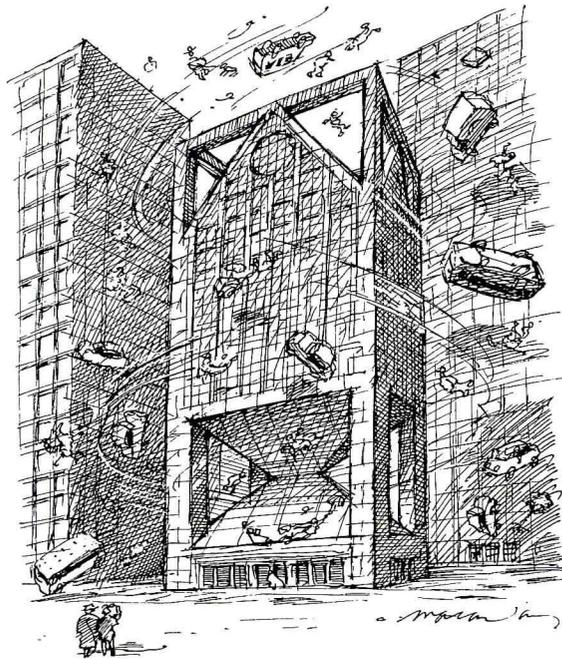
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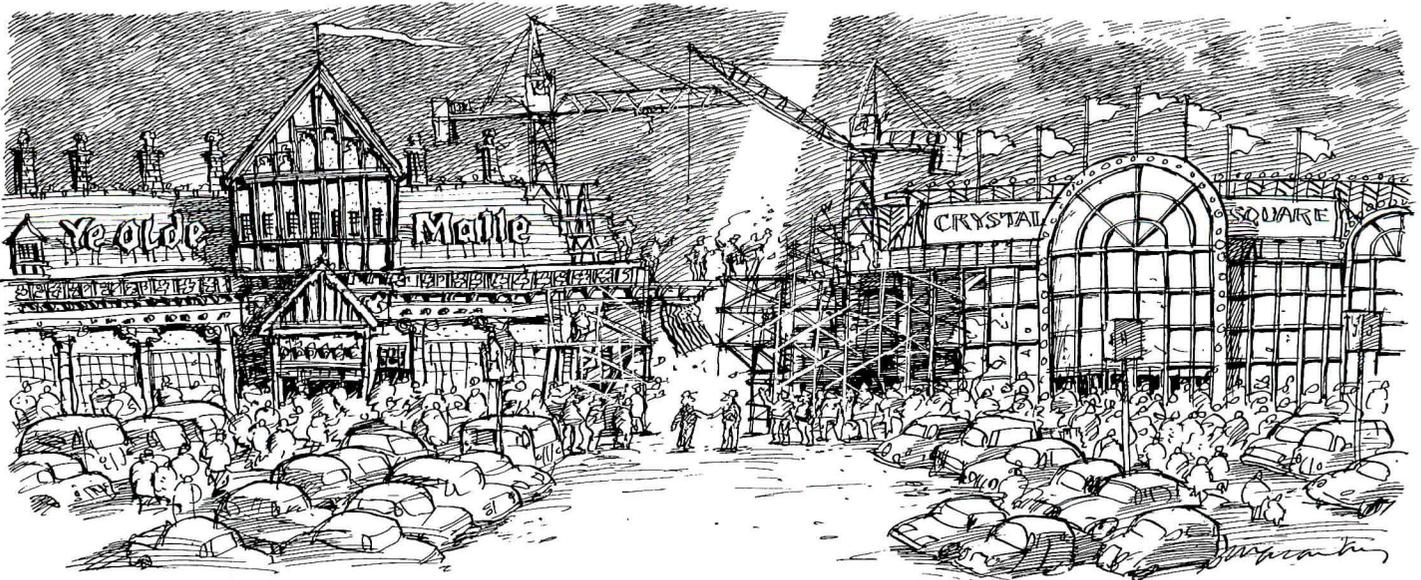
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"Come again, Prince. Building? What building? Do you see a building, Eddie?"



*"Maybe we should take another peek
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Manager
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A NEW DECADE, A NEW LOOK

As the architectural profession reconstructs and repositions itself for the '90s, so does ARCHITECTURAL RECORD.

We hope this issue, which begins ARCHITECTURAL RECORD's 99th year, and marks the start of this century's last decade, looks a bit different to you. But not too different. We have not attempted to utterly transform a publication that will soon celebrate its 100th birthday, but our new typography, nevertheless, supports and signals substantial changes in the way we are beginning to choose, position, and present editorial content for the '90s.

Because your profession is now more complex and difficult than ever, and in the next decade will become only more so, it is our ambition as editors to give you even more of what we traditionally do. Starting with this issue, our editorial mandate becomes "more is more." You will find more examples of good design as assessed by prevailing functional and esthetic criteria, more news of the latest developments in building technology, more advice on how best to market your skills against increasing competition, more guidance in the efficient management of your practices to maintain design quality, more on rapidly developing computer technologies, more on liability, more on everything of concern to you.

All of this projected "more" gave us the need and the opportunity to redesign. We chose typographer and graphic artist Nancy Butkus, an outstanding designer of consumer magazines, as our consultant. The overall concept is hers, its realization the creative and meticulous work of design director Alberto Bucchianeri, senior associate Anna Egger-Schlesinger, and art/production assistant Mary Ann Albanese. We conjecture that you will find our new graphics less elegant, perhaps, than before, but more friendly; less subtle, but more explicit; less consistent, but more varied and surprising.

Our new content is equally varied and surprising. We have added two new departments—"Profile," which examines outstanding and influential personalities in the world of architecture who do not actually practice, and "Outtakes," a monthly look at architecture's less predictable side. And David Macaulay, an artist whose work will be familiar to many of you, begins in this issue as our regular cartoonist. I am eager to hear what you think of all this. Please write and let me know.

MILDRED F. SCHMERTZ

STAR QUALITY

I. M. Pei & Partners' concisely elegant Creative Artists Agency in Beverly Hills sums up the architects' familiar strengths, while rising well above the firm's corporate routine.

Even in a long career crowded with prestigious commissions and high honors, 1989 was a landmark year in the life of I. M. Pei. He completed the first phase of his Grand Louvre in Paris, his Bank of China tower in Hong Kong, and his Morton H. Meyerson Symphony Center in Dallas; received the first Praemium Imperiale, a new, ambitiously conceived international arts award; and recently changed the name of his firm to Pei Cobb Freed & Partners. It has occurred to more than one critic lately that I. M. Pei is in the midst of a major comeback, except of course that he had never really gone anywhere. That perception stems in part from Pei himself, who at age 72 is concentrating on schemes of more than routine creative potential, as well as from his office's trademark consistency at a time of extreme diversity (some would say confusion) among its competitors. If Pei and his colleagues have tended toward conventionally tasteful syntheses of advanced ideas made less demanding and more palatable for a mainstream clientele, the firm has also maintained impressive standards of technique and execution.

Somewhat lost amidst the largest and more publicized highlights of I. M. Pei's championship season is one relatively small job that is nonetheless among the most beautifully resolved of them all. The new headquarters for Creative Artists Agency in Beverly Hills is one of the best works the Pei partnership has lately produced, even though its particular qualities reveal why so many other Pei designs remain unsatisfying despite the firm's obvious expertise. This three-story office building for Hollywood's leading talent-management concern combines the two great Pei strengths—logical, seemingly inevitable programmatic problem-solving and extraordinary finish—with a compact size that gives CAA much more focus than the expansive and diluted Pei corporate schemes, which often have large areas belying a lack of cogent architectural ideas.

CAA's controversial president, Michael Ovitz, clearly had a very strong image in mind when he commissioned Pei to design a setting befitting his powerful agency. Implicit in his selection of Pei—an art-establishment figure on a par with, say, Robert Motherwell in painting—was Ovitz's desire for an accepted esthetic with broad recognition, rather than the more adventurous, albeit chancier, approach of the younger L. A. architects who have made the city America's major spawning ground for avant-garde design.

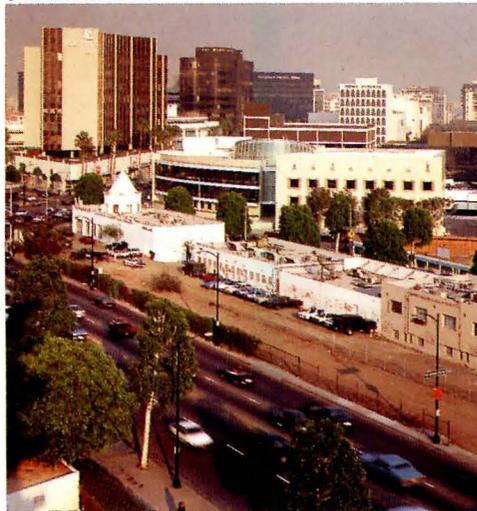
One of the CAA building's more problematic aspects is its exceptional formality in a region of casual, sometimes nonexis-

tent, urban values. I. M. Pei is no Frank Gehry, but the idiosyncratic assemblage of contrasting forms at CAA hints that Pei might have been looking at the work of L. A.'s maverick master, just as the massing, materials, and fenestration of CAA's south wing imply that he might also have been looking at the architecture of James Stirling. Not that one would confuse CAA as actually being by either of them. The characteristic Pei formula of travertine-clad, minimalist geometric volumes, interspersed with high-tech elements and organized around an atrium, remains clearly identifiable, though this time Pei far exceeds some reminiscent compositions in his prolific past. Still, CAA seems inappropriately overdressed, made for a city that L. A. neither is nor is ever likely to become.

Ovitz's choice of a highly visible site near the intersection of Wilshire and Santa Monica boulevards, at the prime crossroads of the Beverly Hills business district is of a piece with his selection of the high-profile Pei. The tripartite configuration of the CAA headquarters was determined by the irregular plot and responds to its varying surroundings to a greater extent than is usually the case in Pei designs, which can be aloof from, and oblivious to, their contexts. The first segment of CAA that one encounters approaching either from Santa Monica or Wilshire is the sleek, curving curtain-wall of the north wing, which houses the offices of Ovitz and other top agency executives. Its flawless surface of dark reflecting glass framed with perfectly detailed white aluminum spandrel bands recalls a customized luxury car gliding by on cruise control. At a cost conservatively given at \$15 million (working out to at least \$200 per square foot for the 75,000-square-foot structure), there was obviously enough for careful design and painstaking craftsmanship, reconfirmed by the equally handsome south wing, which relates to the residential neighborhood on that side of the building.

The formal entrance to the complex is through the spectacular 57-foot-high atrium lobby linking the glass-walled north wing with the travertine-encased south wing. Any reticence one might have expected after viewing the restrained exterior of the building is thoroughly forgotten as one enters the imposing reception hall topped by a conical, fan-shaped skylight and bathed in an ever-changing wash of dazzling light and textured shadow. One's attention is initially riveted by a 26-foot-high Roy Lichtenstein mural commissioned by Ovitz and painted *in situ* on canvas over a panel affixed directly to the wall. Based on Oskar Schlemmer's memorable 1932 picture *Bauhaus Stair-*

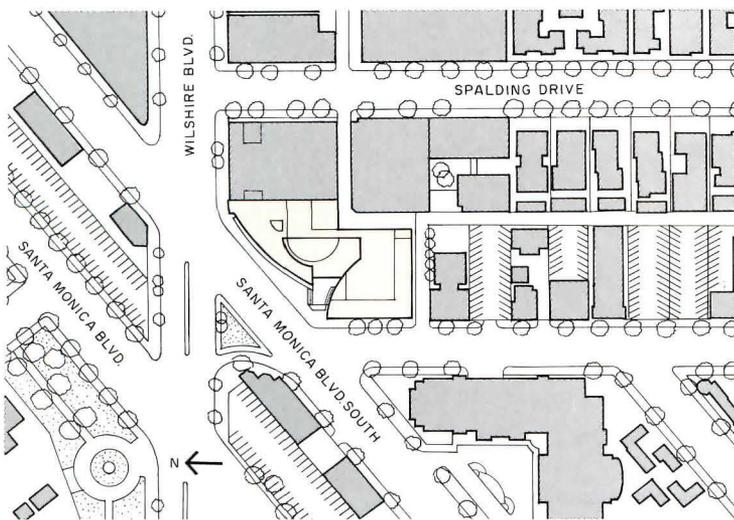
©PAUL WARCHOL PHOTOS



A jewel-like showpiece of prestige and power, CAA stands at the busy crossroads of downtown Beverly Hills.



The divergent handling of the two office wings responds to differing urban conditions at either end of the site. The sleek, curving glass facade of the north wing reflects the traffic of the boulevards, while the substantial masonry and regular fenestration of the south wing defer to a quiet residential enclave.



way (which Philip Johnson gave to New York's Museum of Modern Art), it is Lichtenstein's most effective large-scale public work in years. Less successful in the high volume of the atrium is a lifesize bronze sculpture of a stylized running man by Joel Shapiro. Both pieces of art give a thematic clue to Pei's organizational parti for CAA. In the talent firm's former duplex offices, the stairway connecting the two floors attained great importance, both functionally and symbolically, as the means for maintaining the hands-on management style fostered by Ovitz. He wanted to retain that physical accessibility in his new headquarters, and Pei's striking stairways serving each of the office wings do so with efficiency and drama.

Most visitors to CAA, however, do not use the ceremonial pedestrian entrance—which incorporates one of the handsomest wheelchair-access ramps in recent memory—but instead arrive in cars through the building's subterranean parking garage. The arrival sequence from garage to offices is carefully thought out, with valet parking and a concierge to greet and

Varying roof heights emphasize CAA's tripartite configuration. An atrium is crowned by a skylight tilted like an obliquely truncated cone. The high, slotted parapet of the south wing conceals a roof terrace.



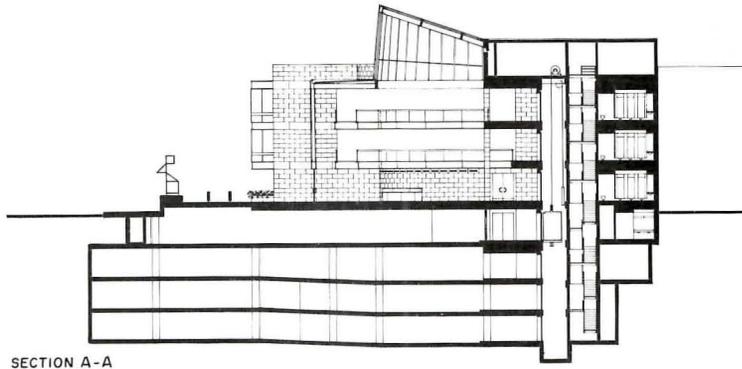
announce clients the moment they alight from their autos. Elevators take guests up to the lobby level where, after checking in at the travertine-and-marble reception console, one is escorted via another elevator bank up to the appropriate office.

During that lengthy journey there is ample opportunity to admire the customary care and finesse exerted by the Pei team on every specification and detail. Luxurious but neutral-toned materials, including still more travertine, exotic woods, and natural linen wallcoverings, provide an excellent foil for the extensive collection of prints hung throughout the corridors. The offices occupied by Ovitz and other high-ranking executives are not nearly as large as one might have expected if the atrium is taken as a basic scale of reference. On the other hand, neither do the offices feel small in contrast to the vast central court, as is the case with the exhibition spaces at the East Building of the National Gallery in Washington, the work that initially inspired Ovitz to retain Pei.

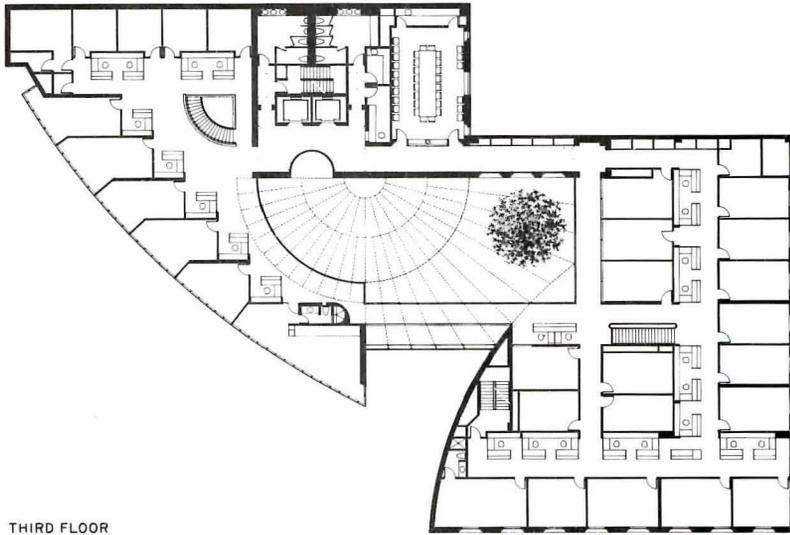
There is a stateliness to the CAA headquarters not unlike



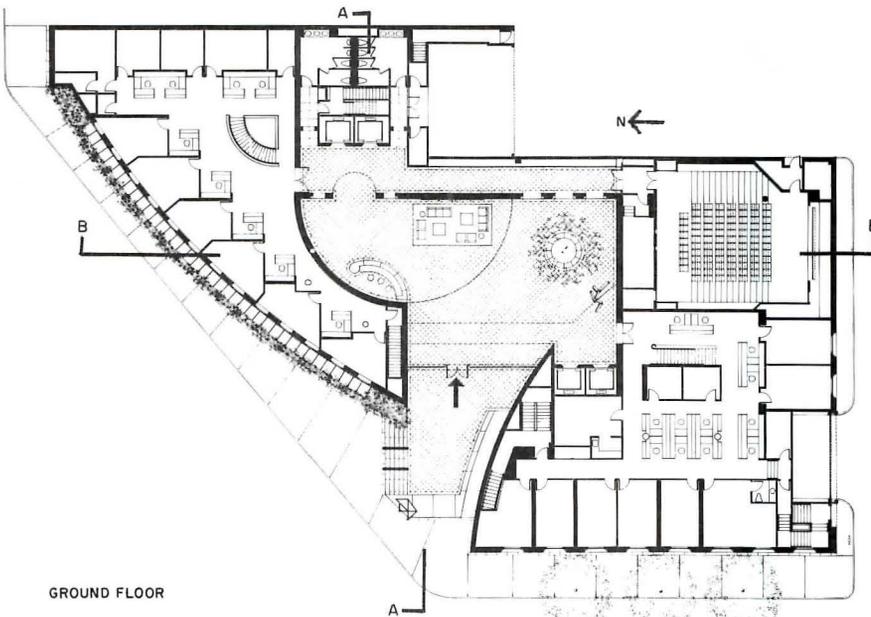
The square punched windows of the south wing, framed in flush travertine darker than that of the wall with lintels in the stylized form of a voided keystone (left), are a new Postmodern reference in Pei's work that recalls the German projects of James Stirling.



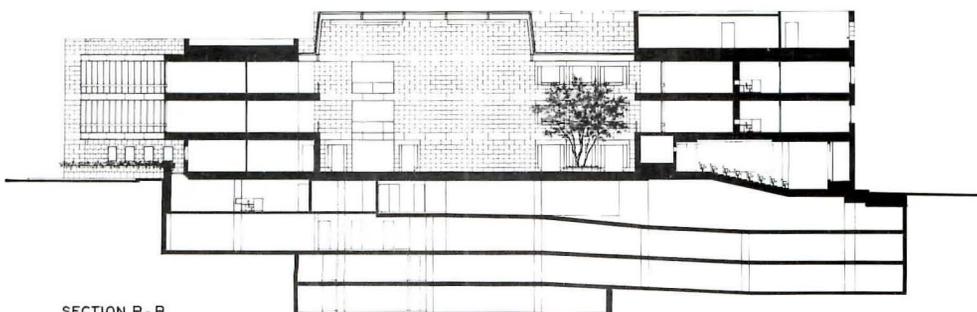
SECTION A-A



THIRD FLOOR



GROUND FLOOR



SECTION B-B

The semicircular cantilevered skylight surmounting the atrium (below and opposite) is screened by rows of one-inch aluminum tubing, a light-diffusing device previously used by Pei in his East Building of the National Gallery.



Focal point of the atrium lobby (opposite) is a 26-foot-high mural by Roy Lichtenstein commissioned for the 57-foot-high space. Based on Oskar Schlemmer's "Bauhaus Stairway," it alludes to a favored mode of interoffice contact at CAA. At the far end of the atrium (above), a bronze sculpture by Joel Shapiro is another CAA commission.





Balcony bridges spanning the entry facade link north and south wings (left), while a minimalist stairway with butt-joined-glass balustrade and chrome rail provides vertical circulation among the CAA's three floors (below).



Echoing the arc of the north wing's curving curtainwall, the interior corridors of executive offices (left) create a more dynamic approach than conventional long hallways. The north wing elevator bank (opposite) is revealed to the atrium through a three-story-high cutout in the travertine-clad wall.



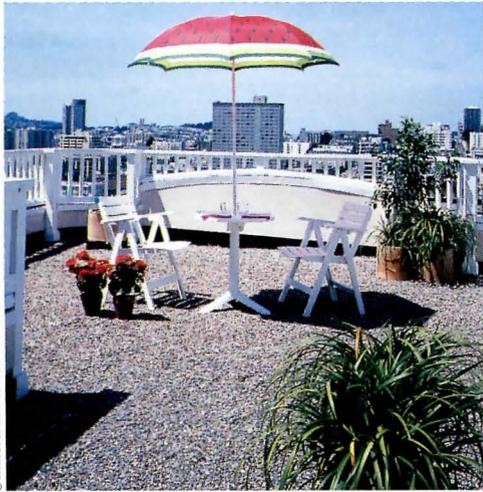
that of the National Gallery. The immense power that CAA now wields in the Hollywood film industry—the firm represents the lion's share of its big-name actors, directors, and screenwriters—makes that grandiose imagery perhaps unintentionally fitting. Unlike the Disney Corporation, which has been hiring such trendy architects as Michael Graves and Robert Stern and getting some questionable designs, CAA has gone to a much more predictable architect and nonetheless has received one of Pei's most coherent efforts. This is an architecture of control, and the way that quality transmits itself to visitors and users. CAA understands what control is about, as well as how to communicate it. That, after all, is Michael Ovitz's business, as much as it is I. M. Pei's. □

Martin Filler this month becomes a contributing editor of House & Garden (where he was an editor from 1979 to 1989), Condé Nast Traveler, and Vanity Fair. His profile on I. M. Pei appeared in the September 1989 issue of Vanity Fair.

*Creative Artists Agency
Beverly Hills, California
OWNER: Creative Artists Agency, Inc.
ARCHITECT: I. M. Pei & Partners—I. M. Pei, partner-in-charge; L. C. Pei, architect-in-charge/design; Michael Flynn, partner/curtainwall; Michael Vissichelli, architect-in-charge/production; Vincent Polsinelli, project manager/administration; Perry Chin, architect/curtainwall; Gerald Szeto, production/project supervision; Rossana Gutierrez, Kazuaki Iwamoto, architects
ASSOCIATE ARCHITECT: Langdon Wilson Architects Planners
ENGINEERS: Leslie E. Robertson Associates and John A. Martin Associates (structural); John Altieri and Hellman & Lober (mechanical)
CONSULTANTS: The McGregor Company (managing developer); Horton-Lees (lighting)
GENERAL CONTRACTOR: Peck/Jones Construction*



The Coastal Condition



©CHRISTOPHER IRION

The first of a new RECORD series of regional portfolios examines five multifamily projects that address issues of urban planning, suburban sprawl, and the high cost of housing in California.

When Horace Greeley exhorted young readers of the *New York Tribune* in 1855 to “turn your face to the great West, and there build up a home and fortune,” he never could have anticipated \$400,000 bungalows in Santa Barbara, \$500,000 tract houses in Tarzana, or \$1-million row houses on Russian Hill. With the median price of a single-family house in California now over \$200,000, migrants heeding Greeley’s advice today might be better off making their fortune *before* they head west. Even a natural disaster like last October’s earthquake in the Bay Area is expected only to slow, not reverse, the upward spiral of the state’s housing costs.

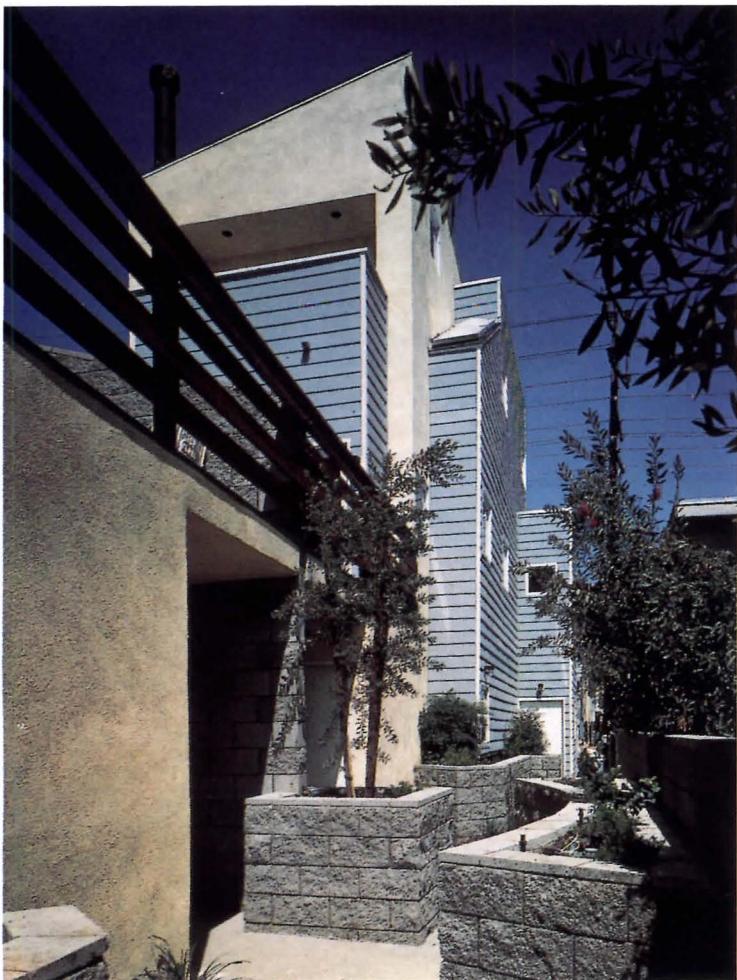
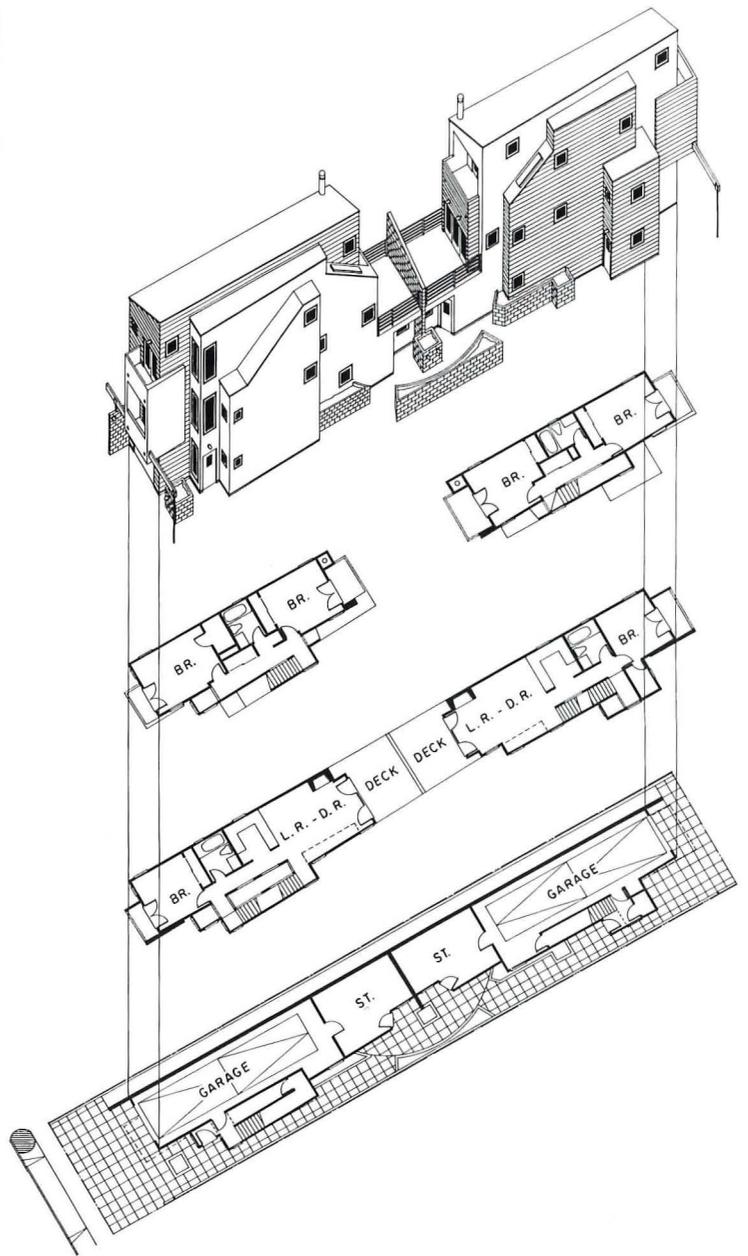
The causes underlying the high price of owning a house in California are both simple and varied. Because of the state’s benign climate and robust economy, “everyone wants to live here,” explains San Francisco architect David Baker, “and housing is correspondingly expensive.” After years of encouraging development, moreover, some localities fed up with traffic and pollution have initiated no-growth or slow-growth ordinances that have begun to limit the available housing stock in cities and suburbs. What is more, environmentalists concerned with the diminished quality of the state’s natural resources have stepped up lobbying for laws that would protect increasingly valuable farmland from residential development.

If the shrinking availability and escalating cost of housing has made California’s celebrated way of life an expensive proposition, especially in the heavily populated coastal cities, it has also forced developers and architects to come up with alternatives to the ubiquitous three-bedroom two-bath ranch, or the endless planned-unit development strung out like barracks across a man-made mesa. Five of those alternatives are featured on the following pages, including Rebecca Binder’s two-unit rental duplex on a site in West Los Angeles that many might have thought unbuildable; Hood Miller’s comely four-story townhouse on Nob Hill in San Francisco and the firm’s equally engaging 42-unit condominium complex on Russian Hill; David Baker Associates’ Meadow Court in San Mateo, an unusual affordable-housing project that combines apartments for the elderly and units for families with small children; and Kanner Associates’ four-family compound overlooking the Pacific in Malibu. Among other things, the locally based architects of these five projects have responded to the coastal condition with a set of highly original, site-specific designs, reminding us that the answers to California’s housing dilemma lie right in the state’s own backyard.

PAUL M. SACHNER

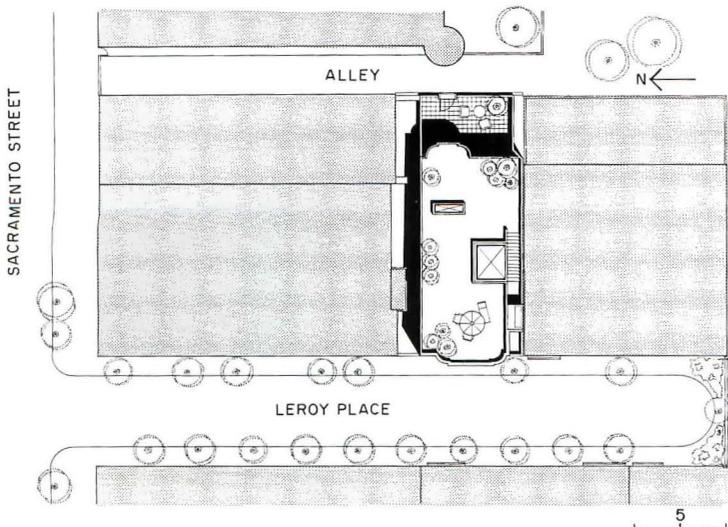


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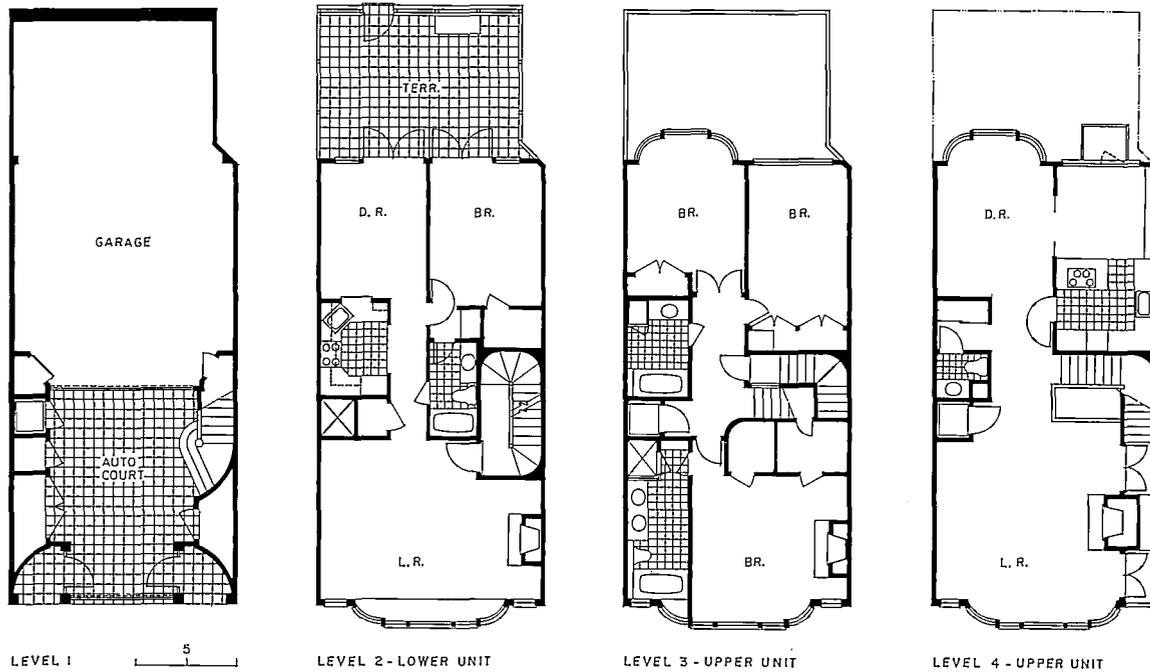
Armacost Duplex
 Los Angeles, California
 Rebecca L. Binder AIA, Architect

Just south of Wilshire Boulevard in West Los Angeles, Rebecca Binder has produced that rarest of residential commodities: architecturally distinctive rental housing. Binder's accomplishment is all the more remarkable given developer Frank Murphy's bare-bones \$43-a-square-foot budget and the building's difficult site—a 25-foot-wide by 140-foot-deep lot located on an unprepossessing block of Armacost Street lined with monochromatic postwar stucco boxes. Binder addressed the site problem by configuring the two-unit complex as a pair of 16-foot-wide, 1,600-square-foot houses separated by an elevated deck and raised on a concrete-block plinth that encloses a four-car garage. Each nearly identical house contains a three-bedroom, two-bath duplex, rented at market rates. The architect dealt with Murphy's cost restrictions by eschewing ornamental flourishes and by cladding the wood-frame building in an inexpensive combination of 3/4-inch stucco and fiberboard siding. To heighten the project's visual impact, she cleverly reversed the materials on each house, so that the fiberboard shed-roofed element along Armacost Street (top) becomes stucco on the house facing the block's service alley (bottom). **P. M. S.**

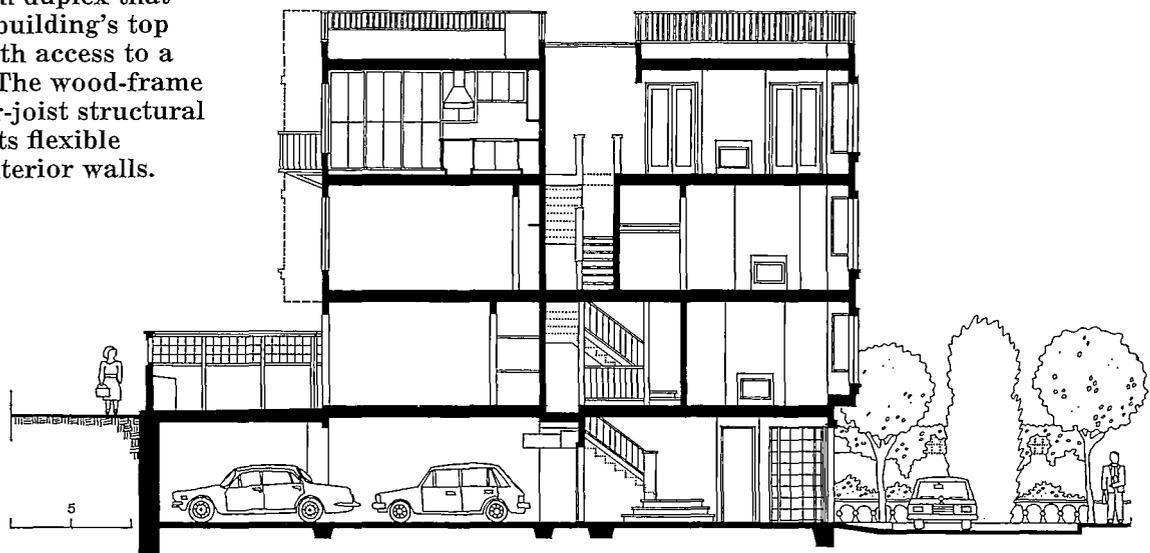


14-16 Leroy Place
 San Francisco, California
 Hood Miller Associates, Architects

Even by lofty San Francisco standards, the site of this four-story, two-unit row house seems almost too good to be true: a 20-foot-wide block-long mews, shaded by diminutive ficus trees and situated at the point where Sacramento Street begins its steep descent from the rarefied precincts of Nob Hill into the humbler valley known as the Polk Gulch. But if Hood Miller Associates faced an urban condition considerably more appealing than the one confronting Rebecca Binder in West Los Angeles (see previous page), the San Francisco firm had a similar design dilemma—how to pack two dwelling units (in this case, 900- and 1,800-square-foot condominiums) and enclosed parking for five cars onto a 22-foot-wide by 58-foot-deep site that is hemmed in on all sides by existing wood-frame houses (site plan left).



The two dwelling units at 14-16 Leroy Place include a 900-square-foot, one-bedroom flat that opens onto a rear patio, and an 1,800-square-foot, three-bedroom duplex that occupies the building's top two floors, with access to a roof garden. The wood-frame building's bar-joint structural system permits flexible location of interior walls.



Hood Miller's urbane solution neatly resolves any potential conflict between the city's late 20th-century need for automobile storage and the architects' stated wish to respect the traditions of Nob Hill's early 20th-century residential buildings. In order to avoid a code-mandated, 15-foot rear-yard setback that would have eliminated two parking spaces, the project was classified as a remodeling of the one-story garage that had occupied the site since the 1920s.

If 14-16 Leroy Place clearly stands out among adjacent structures with its gracious bow-fronted facade, tongue-and-groove redwood siding, and meticulously executed white-painted wood detail, the building is perhaps even more notable for its imaginative garage entrance and the way Hood Miller deftly handled the issue of car control. Along the mews, a hinged steel trellis infilled with acrylic panels echoes the multipaned bay windows of the building's upper three stories (top right opposite) and reveals glimpses of an inviting entry court (bottom left opposite) that subtly alludes to the curved driveways and portes

cochères of the hotels and apartment houses just up the hill. Behind the court, a more workaday solid garage door conceals tandem parking for four cars. To create a sense of privacy, the architects equipped each unit with a separate entrance from the shared court, the second-story flat by means of a curving stairway and the upper-level duplex via a private elevator. Both units receive natural illumination through the bay windows, while undivided curved-glass side lights allow residents intimate views up and down Leroy Place.

Even though the building rises no higher than an adjacent stucco apartment house, area residents fearful of overdevelopment initially objected to Hood Miller's design as a bit too grand, and the scheme was approved only after lengthy public hearings by the city's Planning Department and Board of Permit Appeals. To the satisfaction of everyone, according to principal-in-charge Bobbie Sue Hood: the neighbors now love the building, she happily reports, and they have repeatedly thanked her for persevering with the design.

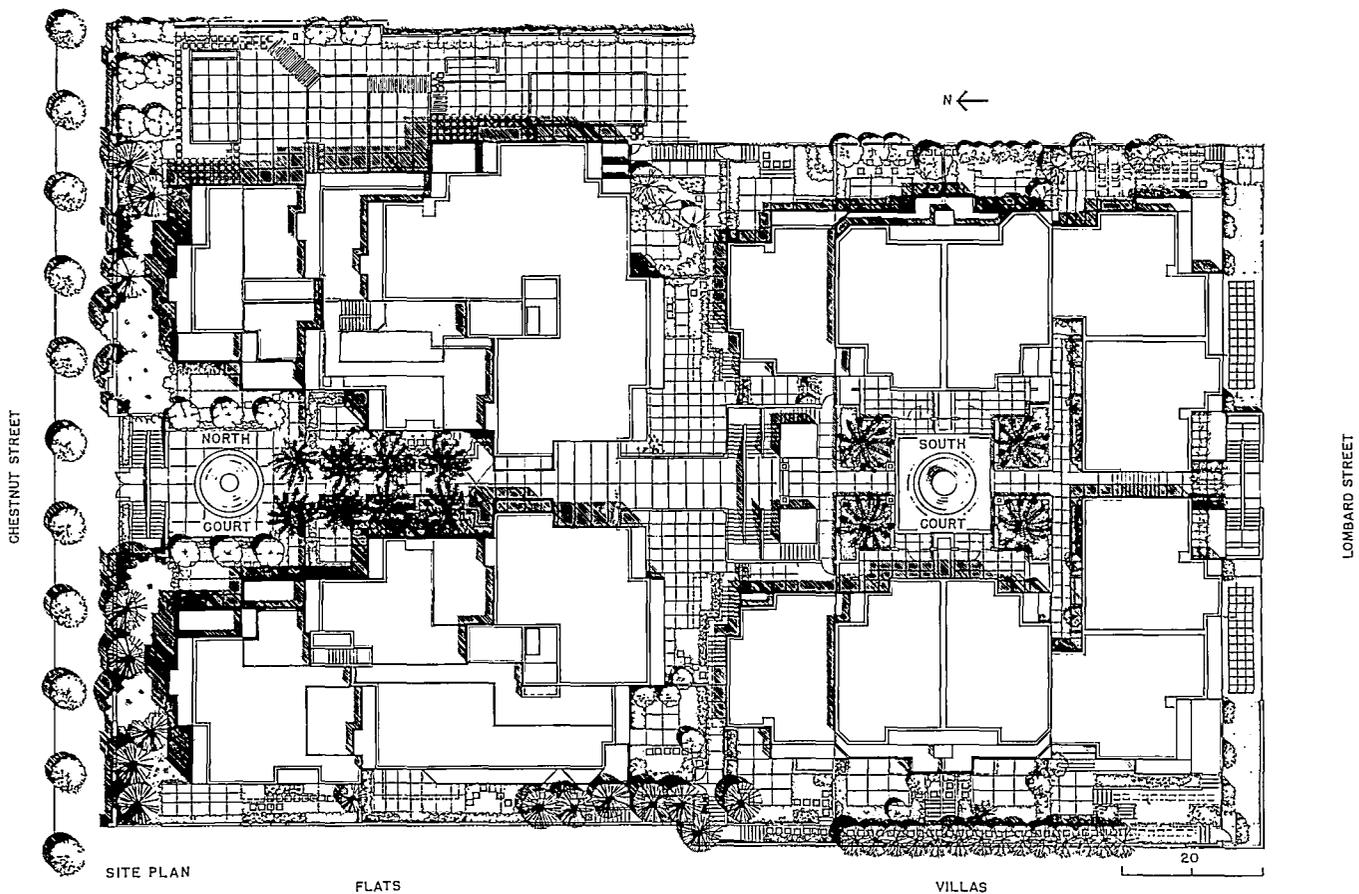
P. M. S.



Along Lombard Street (top), 10 townhouses are grouped around a landscaped garden patio (above right). The project's 32 apartment units cascade down Russian Hill and enjoy panoramic views of San Francisco Bay (above left). The units range in size from 1,500 to 4,400 square feet.

1150 Lombard Street (The Lombardia)
 San Francisco, California
 Hood Miller Associates, Design Architects
 Whisler-Patri, Project Architects

Although recent publicity regarding San Francisco's so-called "Manhattanization" over the past 30 years has focused on commercial development, high-rise construction during the 1950s and '60s was by no means limited to the city's downtown core. In response to an especially egregious pair of curved residential towers erected in the Marina district, city fathers in 1970 imposed strict height limits for new buildings in view-sensitive areas like Nob Hill, Pacific Heights, and Russian Hill. While the height restrictions clearly have helped preserve the comfortable scale and distinctive character of the city's older residential neighborhoods, they have also challenged architects of new infill housing to find innovative ways to pack as many as 70 dwelling units per acre within a 40-foot building ceiling.



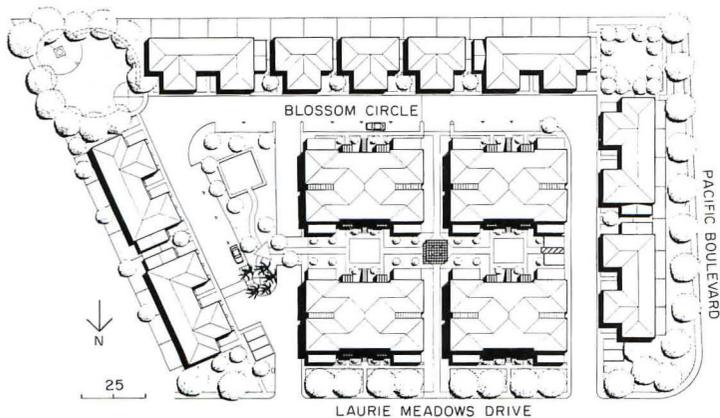
One of the most thoughtful examples of San Francisco's new breed of mid-rise multifamily housing is located atop Russian Hill, just west of the spot where tourists line up for their descent down the landscaped S-curves of Lombard Street. Called the Lombardia, the 79,000-square-foot project comprises 42 living units, including 10 two- and three-story townhouses arranged around a garden court on Lombard Street (top opposite), and 32 flats located in two six-level structures that step down the site toward Chestnut Street (bottom left opposite).

With unit prices ranging from \$350,000 to over \$1.5 million, the Lombardia is hardly the answer to San Francisco's affordable-housing needs. Even so, the project *does* successfully address matters of land use, density, and stylistic appropriateness—critical issues in a city seeking to reinstate the values that once determined its urban form. In order to provide underground parking for 88 cars and to enhance views, Hood Miller Associates placed the project over a *piano nobile* and opened up a narrow slot between the two apartment structures that

offers residents a tantalizing vista of San Francisco Bay. Prior to receiving the Lombardia commission, partner-in-charge Bobbie Sue Hood toured the Far East, where she was strongly influenced by the inward focus and processional organization of Chinese courtyard houses. Back in San Francisco she adapted the Chinese system by orienting the entrances to the Lombardia's townhouses and apartments along an interior north-south spine that consists of landscaped patios, walkways, and stairs. The package is sheathed in a stucco-and-red-tile cloak that Hood calls "Mediterranean à la San Francisco"—a deliberately conservative mode that blends in well with Russian Hill's late 19th- and early 20th-century domestic architecture.

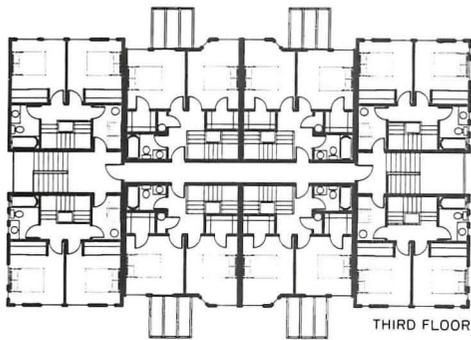
Hood credits the adaptability of wood-frame construction as a factor that enabled her to fill the Lombardia's 1.1-acre site with a variety of dwelling types. She also cites the appropriateness of flexible wood frame in an active seismic zone, and gratefully reports that the Lombardia came through last October's earthquake without a crack.

P. M. S.

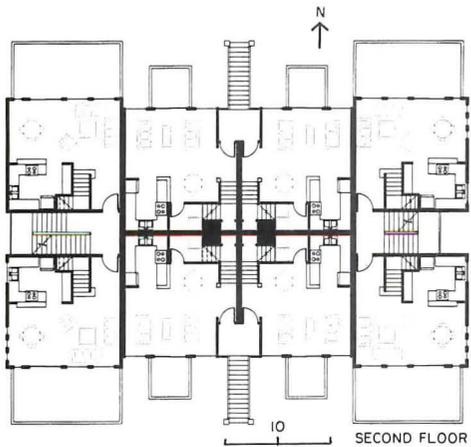


Meadow Court
 San Mateo, California
 David Baker Associates, Architects

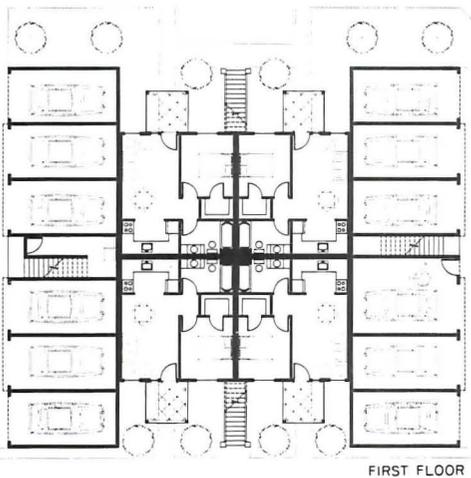
In a San Francisco suburb where a “perfect two-bedroom one-bath starter home” was recently advertised for \$349,000, the 78 limited-equity condominiums of Meadow Court represent a small but welcome drop in the Bay Area’s bucket of truly affordable housing. Located just east of the Southern Pacific Railroad tracks on a 2.5-acre parcel of surplus land owned by the city of San Mateo, Meadow Court is the result of a successful collaboration between the Mid-Peninsula Housing Coalition, one of several area nonprofit developers that took up the reins of subsidized housing after Section 8 federal funding ceased, and David Baker, a young architect whose small San Francisco practice combines high-end, high-style commercial projects in the Berkeley area with an increasing number of low- and moderate-income housing schemes.



TOWNHOUSES



TOWNHOUSES



GARAGES AND SENIOR APARTMENTS



What makes Meadow Court unusual among similar developments is its mix of housing for the elderly and families with small children. In order to integrate the project into a neighborhood of single-family homes, Baker placed two-story townhouses with private backyards along the site's perimeter (bottom right). They surround four three-story buildings—duplex townhouses over 16 ground-floor senior-citizens' apartments—which are grouped around a central garden embellished with citrus trees, a fountain, and vine-covered trellises. Baker characterizes Meadow Court's style as "California water tower," a reference to the skeletal redwood porches and decks that adorn the townhouse units (top right). A restrained palette of fiberboard and asphalt roof shingles is a factor of budget—\$47 a square foot—and of Baker's recognition that "it's ridiculous to play out your fantasies on people living in affordable housing. They don't like it." Residents do, however, seem to like the project's small greenhouse windows, which they have individually decorated with all manner of personal effects. P. M. S.

Meadow Court's units sell for less than half San Mateo's market rate, ranging in price from \$50,000 for a one-bedroom senior-citizen apartment to \$150,000 for a three-bedroom townhouse. In addition to the landscaped central court (opposite), common facilities include a barbecue area, a small play field, and a tot lot. Metal halide outdoor lighting was custom-designed by the architect.

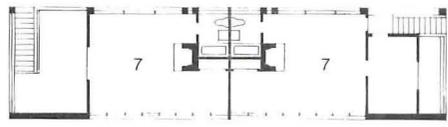
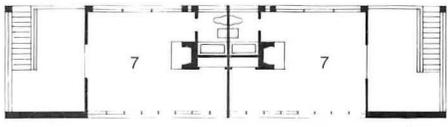
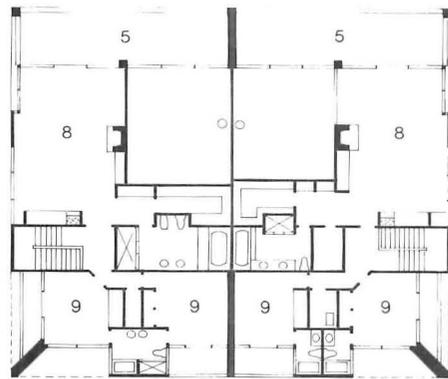
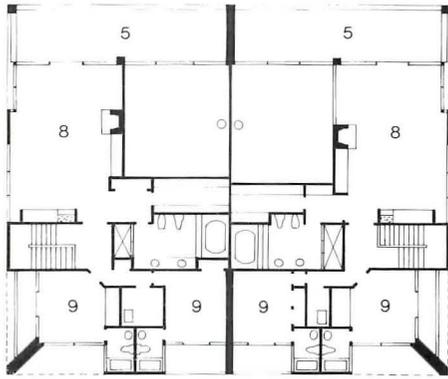


Each of Seacliff's four units boasts sun-filled terraces that fully exploit the site's southerly orientation. The most expansive terraces are located off double-height living rooms (right), while smaller decks adjoin second-story master bedrooms.



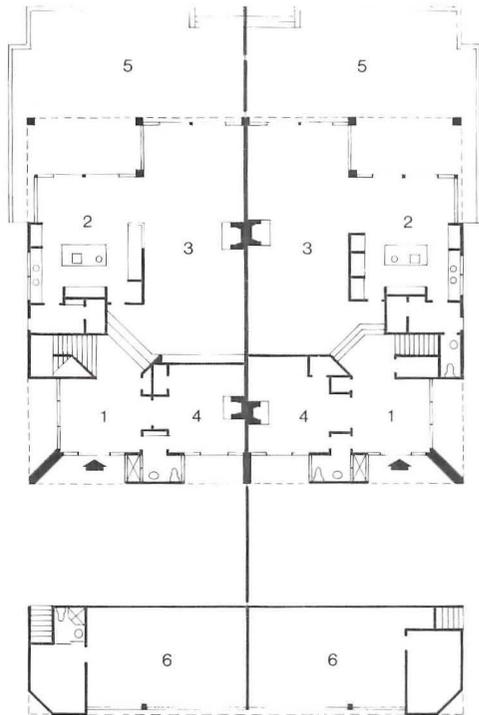
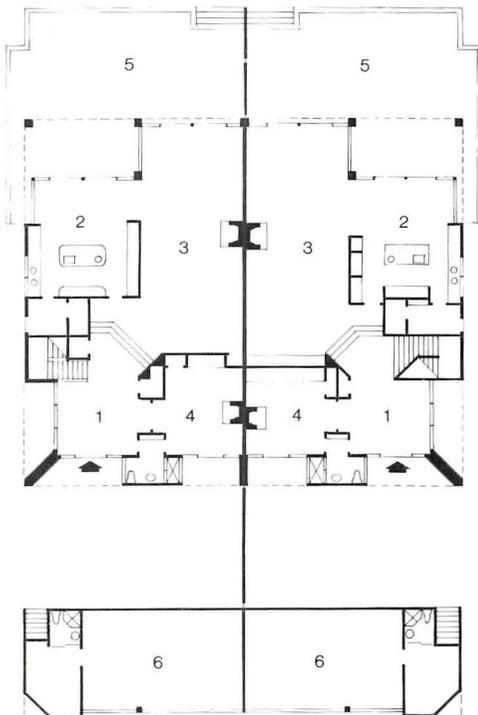
Seacliff
Malibu, California
Kanner Associates, Architects

A four-family house on the posh coastal bluff of Malibu may seem like an anomaly, but this 20,000-square-foot residential compound makes perfect sense given the prohibitively high cost of oceanfront property up and down the Southern California coast. In 1977, after the state's Coastal Commission turned down plans for a student dormitory that Pepperdine University had proposed for a 2.5-acre site overlooking the Pacific, two psychiatrists, a retired book publisher, and architect Charles Kanner pooled their resources and acquired the parcel. Kanner Associates' innovative scheme for two mirror-image double houses on the site essentially sat on the shelf for nearly a decade before the partnership worked out the intricacies of condominium incorporation and completed the project just two years ago.



UPPER LEVEL

UPPER LEVEL



LOWER LEVEL

LOWER LEVEL

- 1. Entry
- 2. Kitchen
- 3. Living room
- 4. Study
- 5. Terrace
- 6. Garage
- 7. Guest
- 8. Master bedroom
- 9. Bedroom

Seacliff, as the compound is called, comprises four three-bedroom, 5,000-square-foot dwelling units, and a pair of two-story outbuildings that shelter 12 cars and four guest apartments. A steel-framed freestanding stair tower joined to the bluff by a bridge provides access to a beach situated below the escarpment. In order to ensure visual privacy, Kanner separated the units of each building by high garden walls; for sound control, he offset all common walls of the compound's two-by-six stud frame, packed them with acoustical insulation, and sheathed the interiors with two layers of gypsum board.

In contrast to Seacliff's deliberately muted street facade (small photo right), the project's rear elevation (opposite) is an inviting expanse of glass window walls and terraces that take advantage of extraordinary Pacific panoramas. South-facing sloped roofs contain flat-plate solar collectors for hot water, while north-facing clerestories help illuminate stairwells and master baths. Libraries located off interior gardens offer a cool respite from the unrelenting California sun.

Seacliff's planar geometries, smoothly troweled cement-plaster finish, and crisp white-painted metal railings represent a refreshing stylistic alternative to the visual cacophony that characterizes so much of Malibu's postwar residential architecture. While Kanner acknowledges that the project would most likely be "a bit more playful and colorful" if he were designing it today, he admits to being pleased that the other three families residing in the complex have followed his esthetic lead by furnishing their units in a spare Modernist idiom. P. M. S.



PRIDE OF PLACE



In the northwestern corner of West Berlin, at the juncture of forest and the chain of lakes that form the city's western boundary, is the suburb of Tegel. Because it lies slightly beyond the range of the saturation bombings of World War II, much of its architectural fabric is intact.

The subway stop is located in the oldest part of the town and opens upon a small square with shops and restaurants. Here and there, among a range of 19th-century styles, are some fine Jugendstil houses. Cobbled, tree-lined streets lead to a beautiful esplanade bordering the Tegeler See.

A little to the north, the esplanade is interrupted by an old canal, a boundary of the town, now enlarged at its farthest landward edge to include a harbor basin surrounding a

man-made island and rimmed by a newly landscaped little park. The island is the site of a proposed collection of recreational buildings. The Humboldt Library, located at the park's highest elevation, was begun in 1986, and is the first completed part of a cultural complex that will eventually include a theater, art gallery, music school, and community building.

The canal forms the spine of a 350-unit housing development, now built. Virtually a new town within town, the entire development was planned by Moore Ruble Yudell [RECORD, July 1989, pages 82-91] under the auspices of the Internationale Bauausstellung Berlin program (IBA), part of the vast urban-renewal initiative in West Berlin (3,000 new housing units, an office complex, a water-treatment plant, and the renovation of 5,500 existing dwellings)

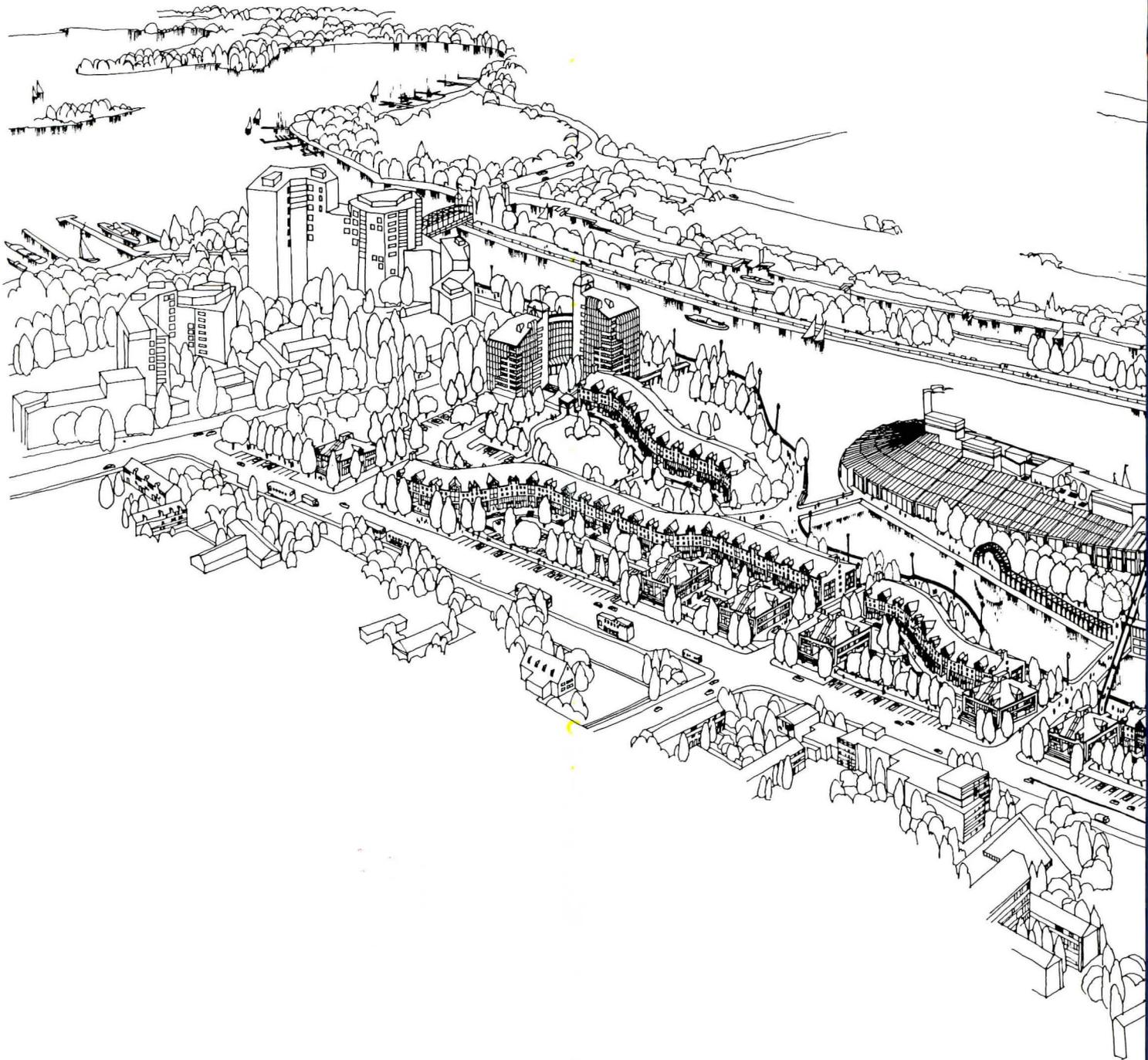
The Humboldt Library by Moore Ruble Yudell, master planners for West Berlin's Tegel Harbor development, strives for a monumental effect, befitting its civic importance.



©TIMOTHY HURSLEY PHOTOS



The library's factorylike appearance is somewhat relieved by the paired classical porticoes in precast concrete, and the curious roof silhouette on the west facade (above). The housing to the right of the canal (left) is by Moore Ruble Yudell.



Tegel Harbor is a new town in town, master-planned by Moore Ruble Yudell. The development includes the expanded canal basin bounded by a new park, the man-made island as site for recreational buildings, the serpentine and free-standing housing, and the cultural center of which the library is a key element.

sponsored by that agency. Designers of the Tegel housing include noted European architects as well as Americans MRYS, Robert Stern, Stanley Tigerman, and John Hejduk.

Elsewhere around Tegel are turn-of-the-century industrial lofts that suggested themselves to Charles Moore as prototypes for this library. Because of its importance as the key building in the cultural complex, Moore strove for a certain monumentality. He began by choosing a set of virtually timeless architectural forms whose degree of grandeur traditionally signifies a particular level of civic consequence, and went on to combine them in freshly invented relationships.

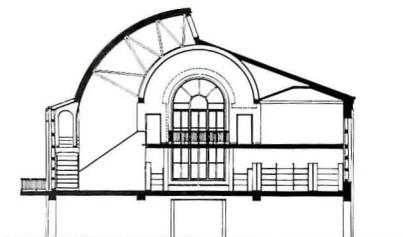
As seen from a vantage point along the canal (photo preceding pages), the library, with its industrial skylight and power-plant fenestration,

could almost be taken for a newly painted turn-of-the-century factory. Framed in steel and concrete, and veneered in stucco on a concrete-block backup, with metal sash and a standing-seam zinc roof, the library has a tough industrial look. The fact that it is actually an important new cultural facility is announced by the noble staircase and spacious entry forecourt facing the canal and park, and the paired classical porticoes (a homage to Tegel's foremost landmark, Karl Friedrich Schinkel's Schlosslein Tegel, the home of Wilhelm von Humboldt, after whom the library is named).

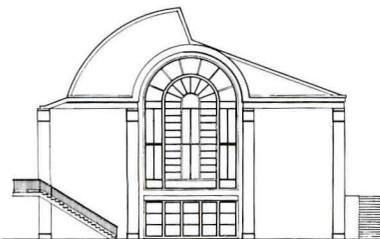
A further important signal, that Postmodernist architectural wit is there to be decoded, emanates from the west facade with its oddly juxtaposed skylight profile and arched win-



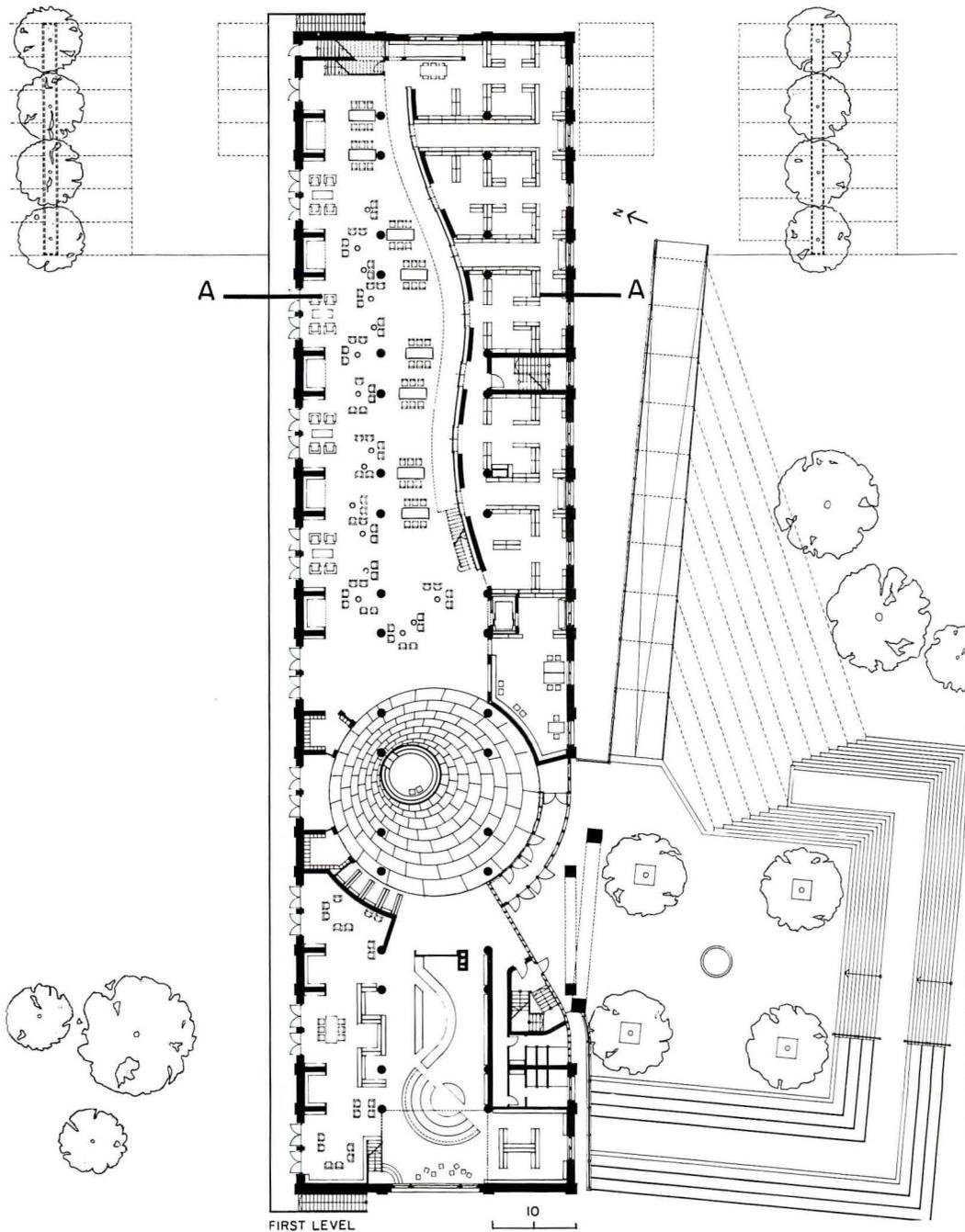
The north facade (top), overlooks employee parking. The building's double porticoes, according to Charles Moore, are a homage to Schinkel.



SECTION A-A



WEST ELEVATION



FIRST LEVEL

10

The library's steel and concrete frame is exposed on the interior. From the rotunda, a grand wall of books meanders along one side of the main reading room, and gives access to the open stacks and smaller reading alcoves beyond. The top tier of the double-layered ceiling is sheathed in perforated corrugated aluminum. Lit by clerestory windows, it bounces light through the wood-slatted lower layer.

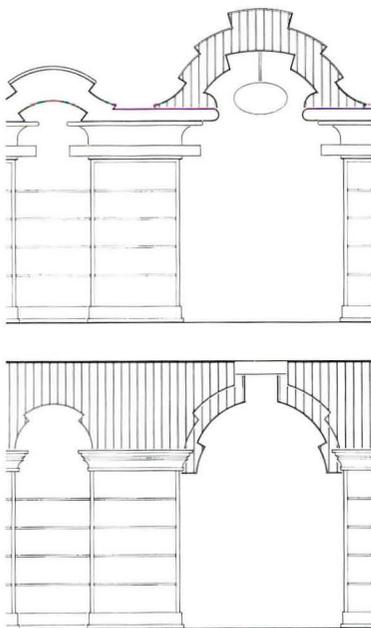
dow. The eye wants the roof profile on this facade to be a half circle framing the window arch. Moore gives us instead an irregular wedge with an arched cutout—functional, direct, not exactly ugly, but challenging in its unexpectedness.

The interior comprises a series of monumental gestures, their impact skillfully graded. Although a cursory look at the plan might make you think so, the dominant interior monumental ploy is not the entrance rotunda with its offset control desk. Lacking the obligatory cupola supported by a circle of columns, it is traversed instead by the rectangular grid of columns that carries the steel frame of the double-layered, barrel-vaulted ceiling. This foyer, encircled by an arcaded balcony on the second floor, possesses a vestigial classical

dignity, as Moore intended. It quietly takes its place within the grandly conceived and proportioned two-story reading room, among other scale-giving elements such as the serpentine wall of books, the children's library, and the fireplace wall.

Commonplace, off-the-shelf materials are invested with elegance in this carefully crafted room. The double-layered ceiling is sheathed in perforated corrugated aluminum on the top layer. Lit by the clerestory windows, the shiny surface bounces light through the wood-slatted lower layer. On the north side, the light is balanced by a series of bay windows and doors that alternate with niches for books. The corrugated aluminum and natural hardwood cutouts framing the bookshelves and reading alcoves recall the décor that surrounds the side





The corrugated aluminum and painted natural hardwood cutouts framing book shelves and reading alcoves recall German Baroque ornamentation.

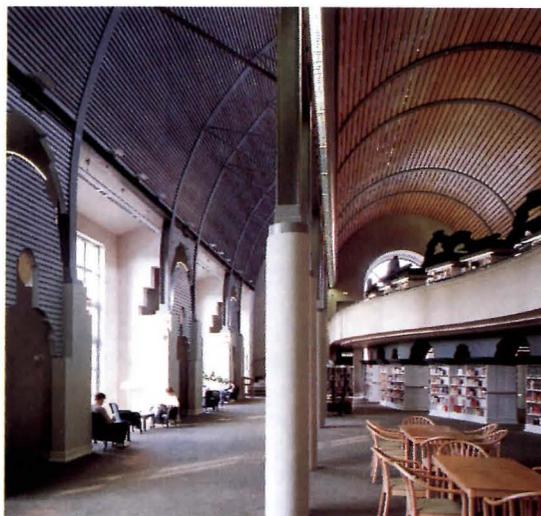
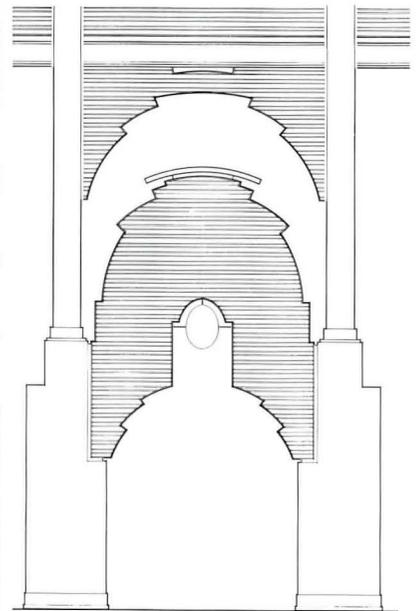
chapels in a typical 18th-century German Baroque church.

For all its modesty of finish, inside and out, the Humboldt Library embodies the qualities the architect sought. It is contemporary, engaging, rich in its variety of scales, and monumental. Charles Moore himself is pleased. "It is a building that we have especially enjoyed designing; it is meant to be monumental but intimate, scaled so that the individual reader feels at the center of his world, in a room filled with reflected light from the south, with a view through the tall windows into the woods to the north. The two-story-high book wall with its balcony makes a 19th-century insistence on the presence of books. This building is my own personal favorite. We are very proud of it."

MILDRED F. SCHMERTZ

*Humboldt Library
Tegel, West Berlin*

OWNER: *Bezirksamt Reinickendorf*
ARCHITECT: *Moore Ruble Yudell—
Charles W. Moore, John Ruble, Buzz Yudell,
design; John Ruble, partner-in-charge;
Thomas Nagel, project manager.*
ASSOCIATE ARCHITECT: *Abel Lubic Skoda*
CONSTRUCTION MANAGER: *Walter Hotzel*
CONSULTANTS: *M. Manleitner (structural);
Hochbauamt Reinickendorf (mechanical,
electrical, plumbing); Gartenbauamt
Reinickendorf (landscape); Richard C. Peters
(lighting); Tina Beebe (color/interiors)*
GENERAL CONTRACTOR: *Hochtief A. G.*



Tegel citizens like to read by the library fireplace in comfortable armchairs. Light blond wood furniture is domestic in scale and character.

City on a Hill



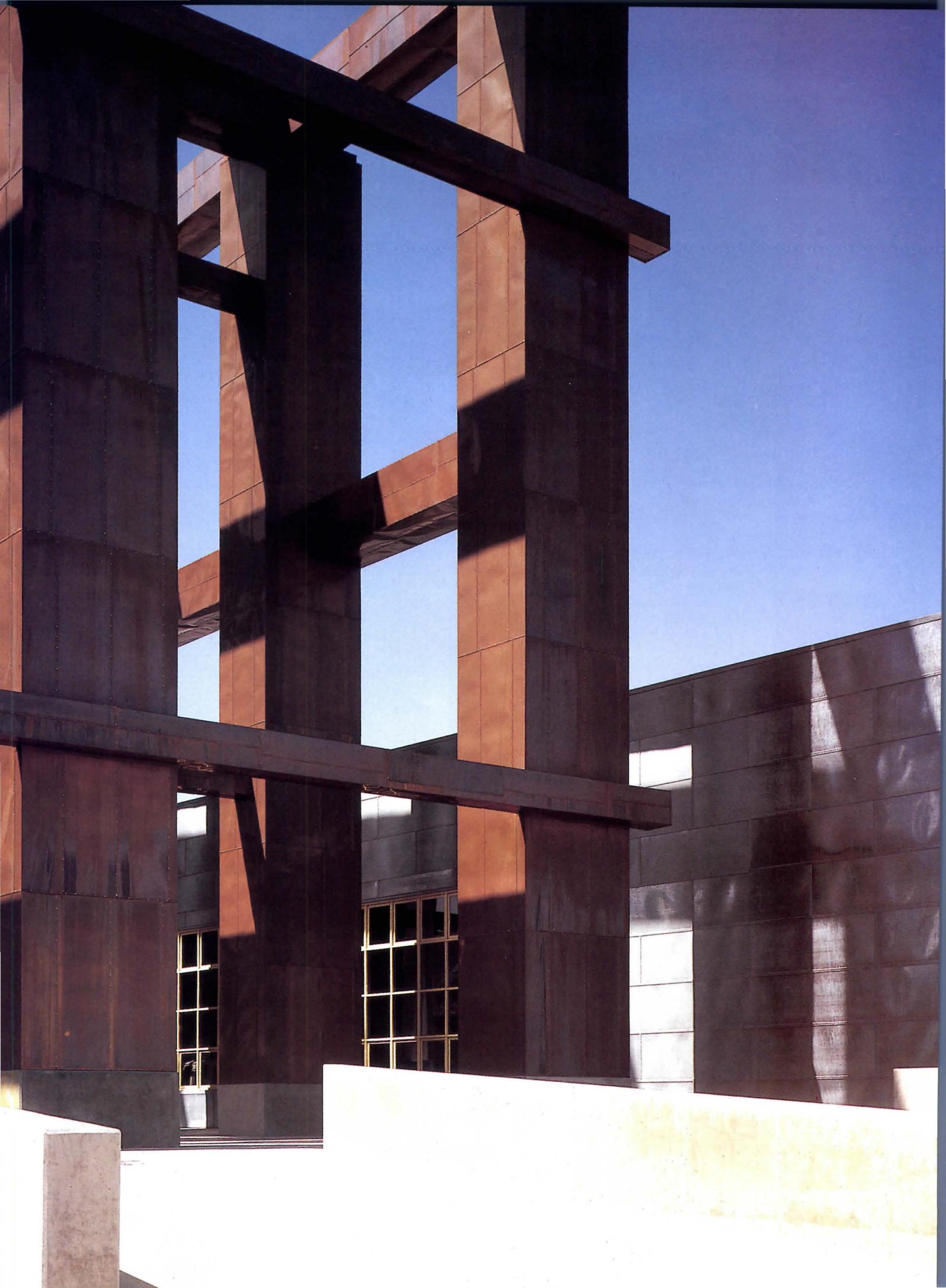
As principal designer of Herman Miller's new factory, Frank Gehry turned over a piece of the program to his friend Stanley Tigerman. Although such ad-hoc collaborations of big-name architects are now common among status-seeking developers, they raise the inevitable question of *who* will play the leading role. In Rocklin, California, however, the improbable pair achieved surprising harmony: aesthetic differences aside, Gehry and Tigerman are true kindred spirits.

Not long ago the ground shook beneath Herman Miller's Western Region Manufacturing and Distribution Facility in Rocklin, California. Happily, the recently completed complex, masterminded by Frank O. Gehry, escaped unscathed from the October earthquake that rocked the San Francisco Bay Area. But the facility's good fortune may not be immediately apparent to those still unfamiliar with Gehry's signature palette of unfinished building materials, according to Stanley Tigerman, the Chicago architect who, at Gehry's request, designed a small portion of the complex. Quips Tigerman of Gehry's distinctive method of architectural collage: "It's the perfect seismic design."

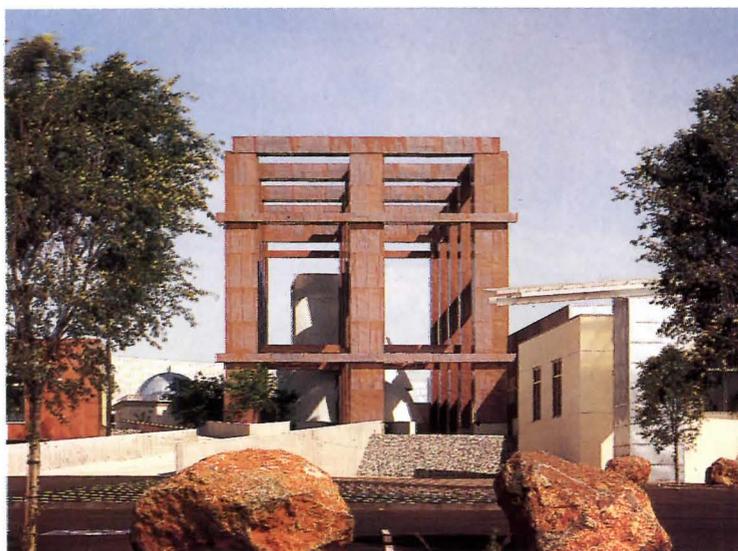
Tigerman's affectionate jibe at his good pal underscores the aesthetic differences between the two architects—a strong contrast of formal approaches that did not prevent the duo from working together on the Herman Miller project. Los Angeles-based Gehry invited the Chicagoan to build a conference pavilion amid his assemblage of manufacturing sheds, meeting

rooms, and offices as a gesture of thanks to Tigerman and his partner Margaret McCurry for recommending him to the furniture company's powers-that-be. In architectural terms Gehry and Tigerman are an oddly matched pair indeed. While Gehry seemingly strives for the exuberance of unfinished structures, Tigerman has a facility for better-dressed buildings, suavely suited up in elaborate referential guise. Luckily for both architects, Herman Miller's need for flexible factory space embraced both outlooks.

In laying out the 400,000-square-foot complex, Gehry devised a simple urbanistic strategy that clusters stripped-down, functionally "indeterminate" structures around a central courtyard—an approach that successfully focused Herman Miller's loosely defined program without surpassing a modest \$17-million budget (see plan page 111). Designed to eventually accommodate manufacturing, assembly, and distribution of the furniture company's increasingly diverse product line, the facility was not planned to be 100-percent operable upon completion.



Columns of an oversized brise soleil, a copper trellis, and rows of boulders lining the parking lot are vertical punctuation marks on a seemingly endless horizontal plain. Tigerman's Neoclassical amphitheater is nestled in Gehry's village.

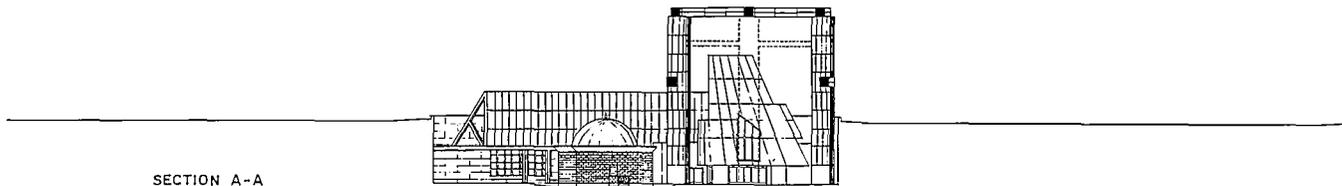
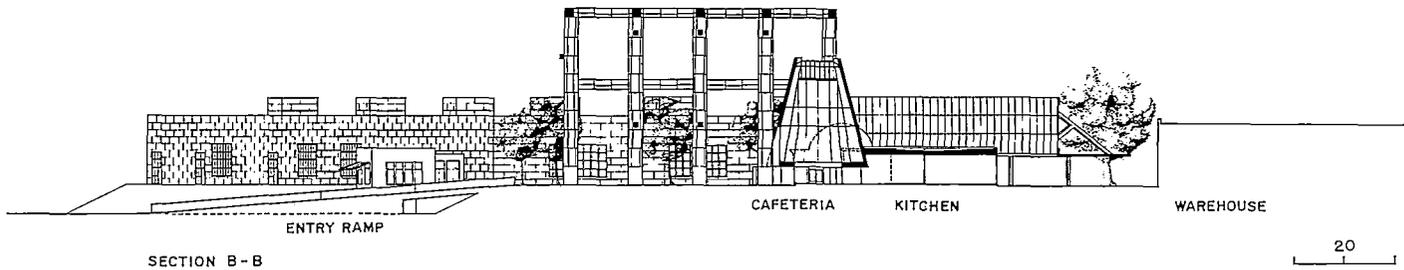
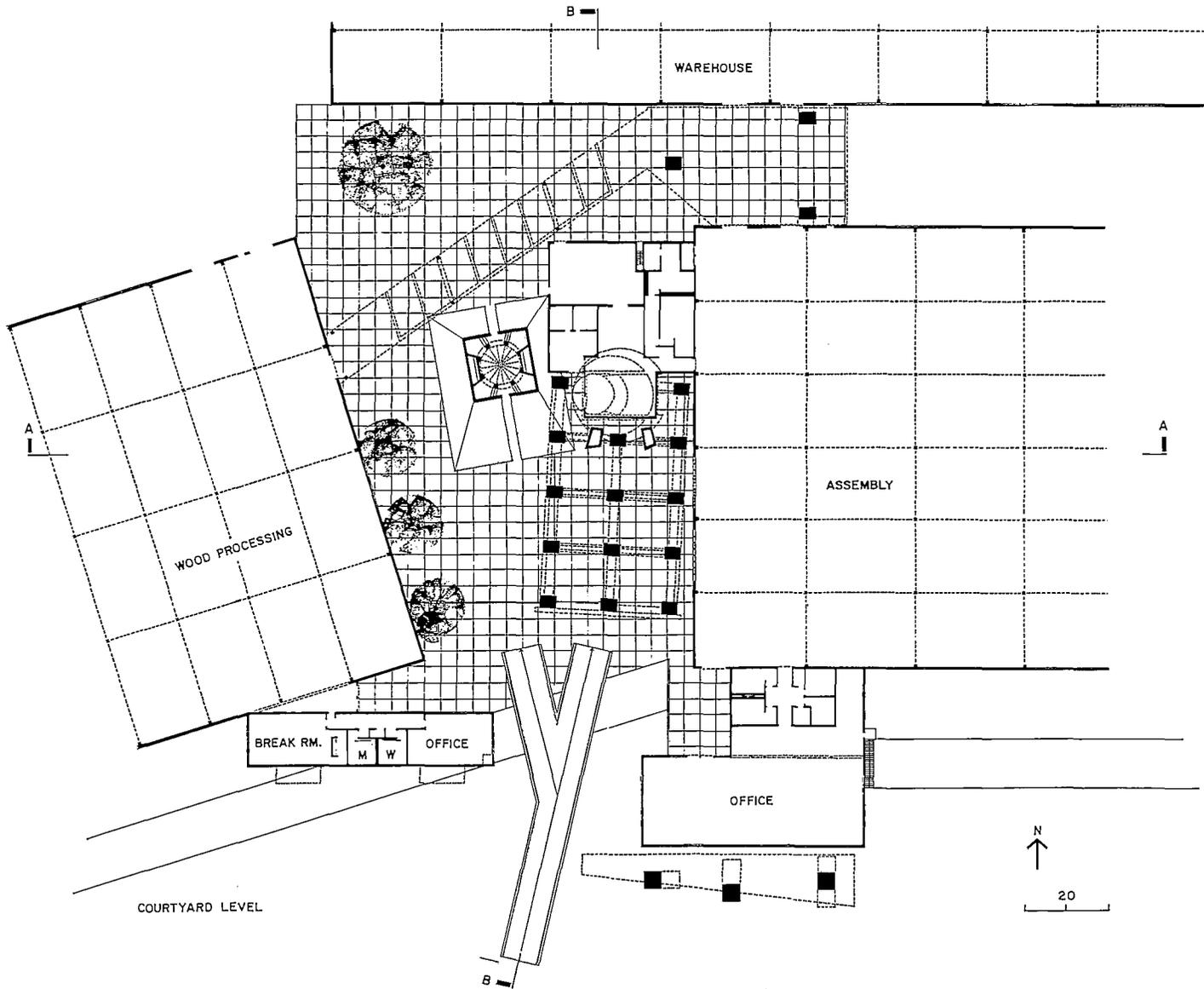
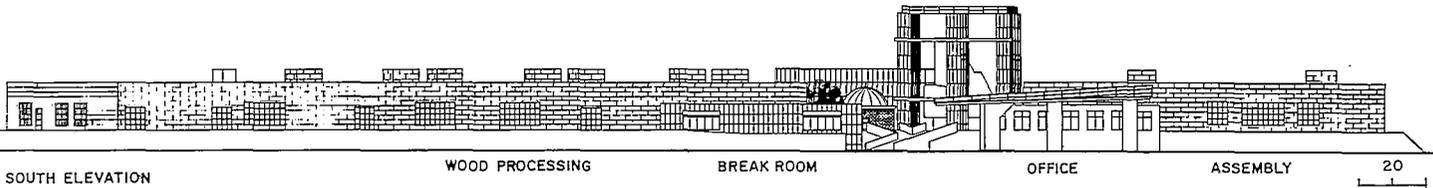


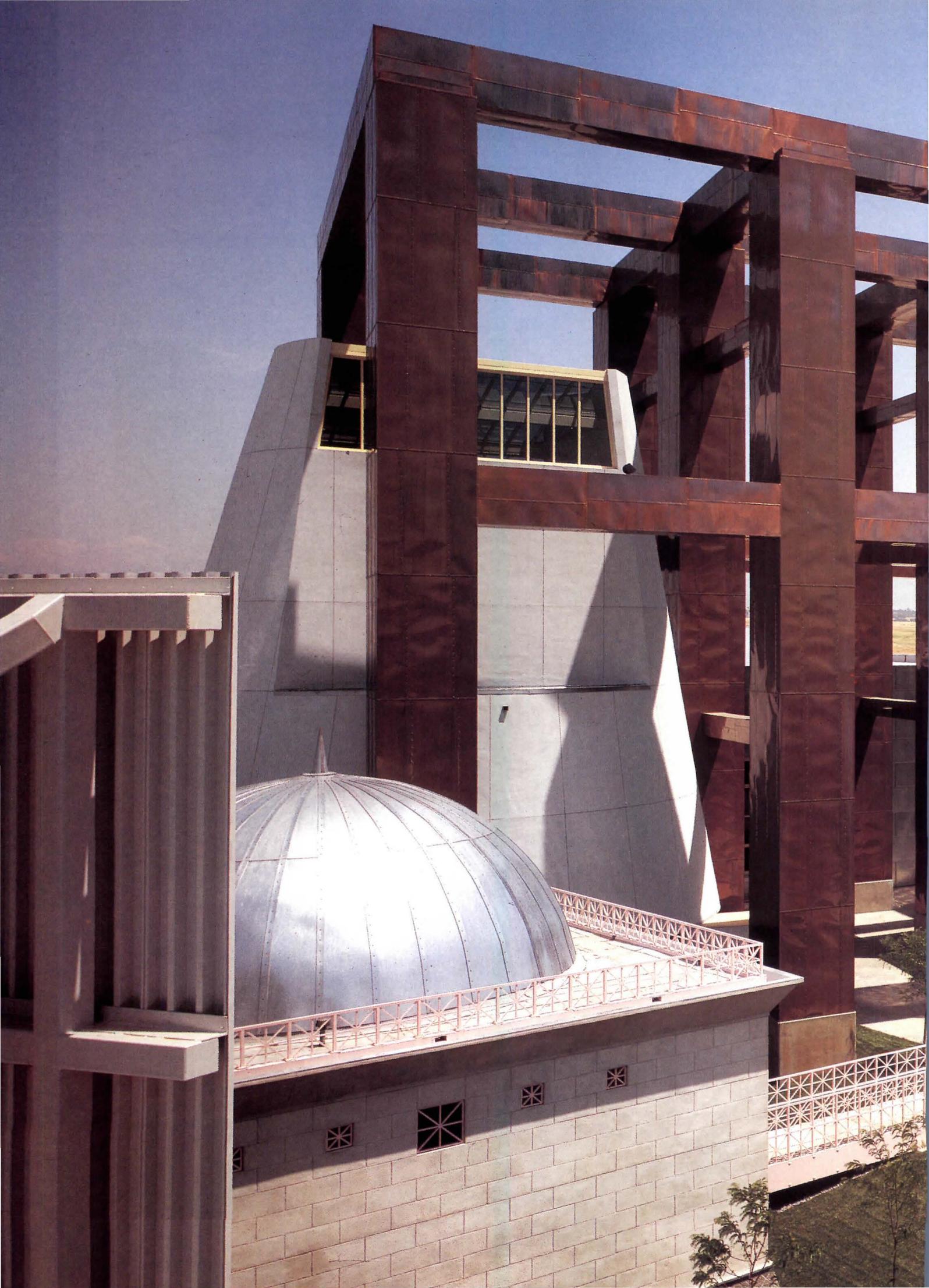
(At present only distribution is being done on the premises, conducted by some 40 employees of an eventual workforce of 300. That will change over the next two years as manufacturing is gradually phased in, ostensibly ensuring the plant's long-term economic viability.)

The villagelike public piazza evokes Herman Miller's chosen image of "people-places"—a theme that has taken various forms in the company's recent architectural commissions around the country [RECORD, June 1989, pages 98-107]. Gehry also understood that the symbolic task implicit in his assignment was to build Herman Miller a West Coast showpiece. Not an obvious location for a star turn, the facility's 156-acre site lies at the end of the highway. Dotted with scrub brush, this anonymous plain in the Sierra foothills has what are for Herman Miller some highly attractive features: beyond the complex's access road lies a nexus of freeways running north, south, and east to join lucrative markets up and down the West Coast with Herman Miller's home base of Zeeland, Michigan;

nearby is the active port of Sacramento, which services Japan by sea.

Focusing his energy on reconciling the implied contradiction between massive volumes and a human-scaled sense of place, Gehry arranged his metal-clad bars atop a rock-encrusted berm like pieces of a giant sculpture on a decorated base. It is the dramatic modulation of *space* in between the discrete forms that outline the piazza which distinguishes this project from the always pleasing, but by now somewhat predictable, volumetric assemblages of Gehry's previous work. Here, too, the use of such contrasting materials as concrete, steel, stucco, and copper relieves the potential monotony of seemingly endless facades. However, it is their special effects, be they carefully planned or fortuitous, intensified by dramatic shifts of light and shadow, that imbue the overall composition with a striking presence. Galvanized steel, for example, is affixed to the hangarlike manufacturing and assembly buildings (pages 109 and 114 left) in panels that bear curved traces of their original rolls.







Filtered natural light gently brightens offices (left), while shadows cast by a copper trellis pattern the courtyard (right). Skylights in the conical employee cafeteria reveal a trellis of almost heroic proportions (opposite).



As a result, the siding looks as if it has been quilted, and its billowy patches seem to breathe air into the oversized sheds. Dominating the complex is a 70-foot-high copper trellis stitched together with steel bolts. This open network encases a conical skylit employee cafeteria (above right and opposite page) and frames an alluring composite of construction details and landscape still-lives that shifts as visitors move across the concrete courtyard.

With the generosity perhaps reserved only for a trusted friend, Gehry provided Tigerman with a prominent position in his beloved town square (pages 112-113). Here, Tigerman placed a biaxial building containing an audiovisual conference room, which by its very centeredness is, in Tigerman's words, "as alien as possible" to Gehry's deceptively casual arrangement. The two architects indulged in a playful game of architectural one-upsmanship. Gehry decided to "offset" Tigerman's domed amphitheater by lowering it into a grass moat that, in programmatic terms, serves as a lunchtime picnic ground for

company employees. Afraid of being buried beneath Gehry's larger constructions, Tigerman countered by connecting his Neoclassical building to the plaza with "twice as many bridges as necessary," shamelessly painted the deliberately un-Gehry color of bubble-gum pink. After Gehry responded by posting a huge corrugated-metal billboard that recalls a state-of-the-art radiator behind Tigerman's building, the two architects decided to call a truce to their esthetic tug of war (page 110 top right).

Whereas the wide-span interiors of Gehry's manufacturing and assembly sheds are, by functional necessity, unremarkable save for generous natural light, the interior of Tigerman's building is highly polished. With characteristic insouciance, Tigerman carried his chosen metaphor of the introverted building to the inside. Glass-block windows reinforced with grids of wire mesh give the appearance of a fort-like security certainly not required of what is, in essence, an in-house meeting room. In order to add further drama to the space, the architect scooped out the 22-foot-diameter dome and painted it an icy blue. By

While Gehry strives for the exuberance of unfinished structures, Tigerman has a facility for better-dressed buildings, suavely suited up in elaborate referential guise. Luckily for both architects, Herman Miller's need for flexible factory space embraced both outlooks.



cupping its circumference with a recessed cove of fluorescent lights, Tigerman transformed the concave surface into a seamless galaxy of glaring white. Framed by slightly squat columns embellished with pink and green trim, the interior is another reminder of Tigerman's hybrid brand of Classicism—as personally derived and often inexplicable as Gehry's sculptural assemblages.

Within this deliberate collage of architecture and architects is a counterpoint of two decidedly different visions, each strengthened by its contrast with the other and together forming an intriguing microcosm of the stylistic layers of a mature city. The image of the Herman Miller facility as a small-scale urban environment appeals to Gehry, who has called himself “a frustrated city planner” as a way of explaining the volumetric clusters that characterize much of his work to date. And if this idyllic community in Northern California came at the cost of professional debate between Gehry and Tigerman, what's a little playful banter among good friends? **KAREN D. STEIN**

*Western Region Manufacturing and Distribution Facility
Rocklin, California*

OWNER: *Herman Miller, Inc.*

ARCHITECT: *Frank O. Gehry & Associates—Frank O. Gehry, principal-in-charge/design; Robert G. Hale, principal-in-charge/management; Sharon Williams and Carroll Stockard, project architects; Tom Buresh project designer; Patti Owen, Berthold Penkhues, Edwin Chan, Susan Narduli, and Adolph Ortega, project team*

ASSOCIATE ARCHITECT: *Dreyfuss and Blackford*

CONSULTING ARCHITECT: *Tigerman McCurry Architects—Stanley Tigerman, principal-in-charge; Melany Telleen Thompson, Fred Wilson, project team (audiovisual building)*

ENGINEERS: *Capitol Engineering Consultants (mechanical); Koch and Chun Engineers (electrical); Buehler & Buehler (structural)*

LANDSCAPE ARCHITECT: *Peter Walker/Martha Schwartz*

GENERAL CONTRACTOR: *N. V. E. Constructors*



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TO GATHER TOGETHER

Today's places of worship are both source and resource for communities of worshippers.

Although the best houses of worship are as individual as the best individual houses, like residences they are rooted too in collective human needs and aspirations that are at once primordial and immediate: how and where they are built perennially follows where and how people live. In the United States since World War II, the prevailing pattern of settlement has been one of growth and dispersal at a pace intensified, like many contemporary social phenomena, by the waxing of the "baby boom" generations, who at thirtysomething and beyond are now well into their peak years for establishing families, settling into communities—and participating in religious pursuits.

A steady rate of overall congregational growth and a degree of immunity to the vagaries of the larger economy have made religious buildings a comparatively stable construction market: in 1988 (the last full year for which statistics are available), F. W. Dodge reported 4,000 project starts categorized as houses of worship, with a combined cost of \$1.9 billion. Such changes as do arise, moreover, are a function less of absolute numerical variation than of demographic shifts and cultural trends. Reflecting a social mood that is conservative in the most liberal sense of the word, for example, a conspicuous theme threading through the ongoing evolution in planning for religious buildings is a striving for community that is manifested on several formal and functional levels.

The broadest is an assertion of the religious body as an entity within the larger community. The greatest volume of new construction continues to occur in new and still-developing suburbs where roots are shallow and neighborhood ties tenuous, and where congregations often perceive their mission as encompassing not only worship but education, fellowship, and various programs of outreach that may include, overtly or implicitly, a role *in loco* absent extended families. For the more established congregations, a frequent approach to accommodating growth is therefore to leapfrog rather than simply expand the existing plant. Building a new and larger sanctuary while continuing the use of the original for weddings, daily chapel, or other special purposes, for example, cre-



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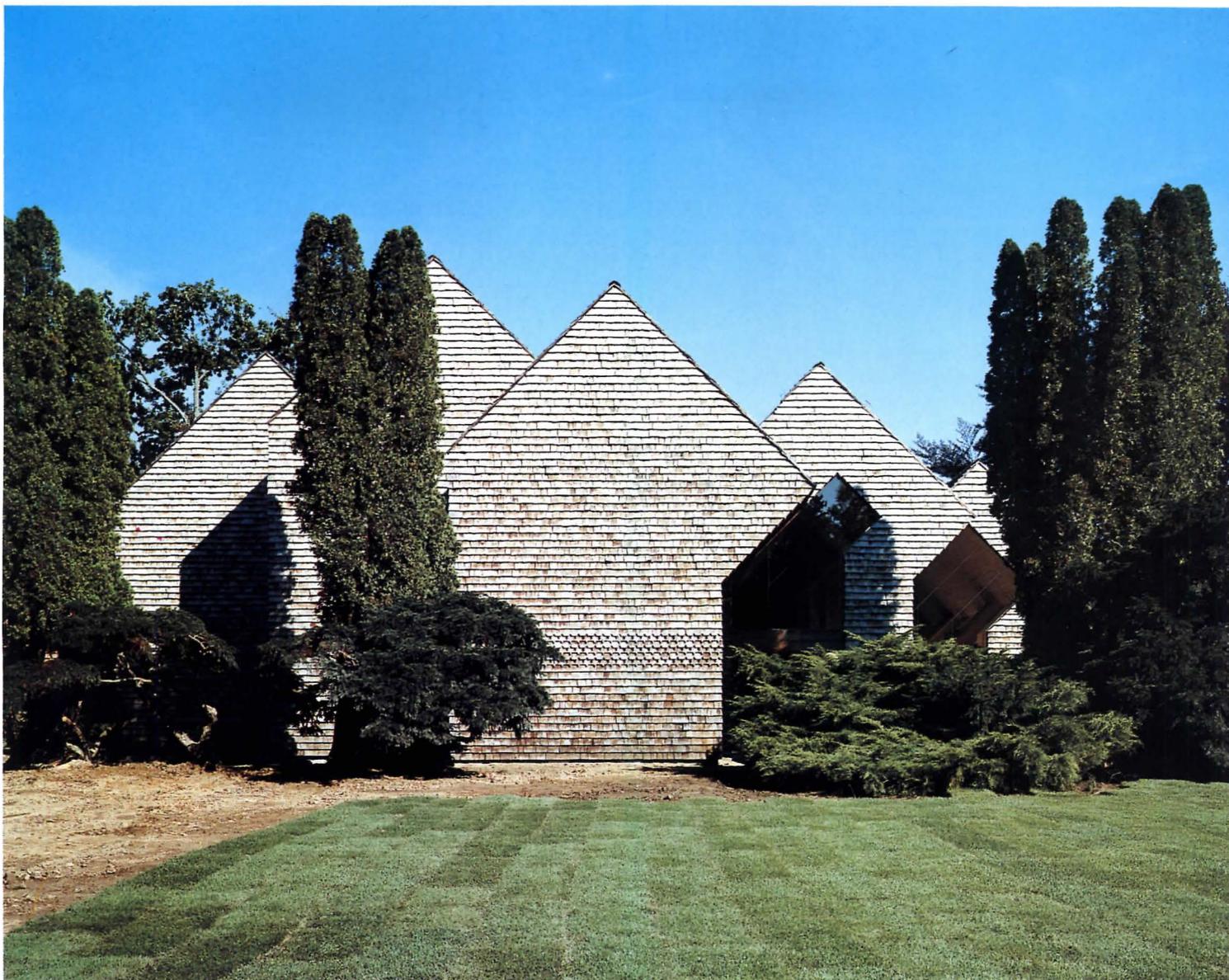
4 ©ROBERT C. LAUTMAN

1. Gates of the Grove Synagogue, East Hampton, New York. 2. Beach United Methodist Church, Jacksonville Beach, Florida. 3. Blackhawk Baptist Church, Fort Wayne, Indiana. 4. St. Peter's Catholic Church, Olney, Maryland

ates dual focuses for self-contained building assemblages that may also comprise Sunday schools, meeting halls, recreation spaces—a gamut of complementary facilities. Two of the churches shown here illustrate this approach. The Blackhawk Baptist Church in suburban Fort Wayne, Indiana, adds a 2,100-seat church on a next-door site to an open campus already housing a kindergarten through twelfth-grade school, a combined gymnasium and convocation center, and a modest chapel. For the Beach United Methodist Church in Jacksonville Beach, Florida, the new sanctuary represents the first phase of a master plan that will incorporate the new church, the original chapel, and auxiliary facilities in a block-square campus designed around a series of sheltered cloisters. The two remaining examples shown reflect a less sweeping expression of a similar impulse. The Gates of the Grove Synagogue contains educational and meeting spaces within its new building; St. Peter's Catholic Church anticipates inclusion of a fellowship hall and chapel in a later phase of construction.

Within the sanctuary itself, the urge toward community makes itself felt in the near-total rout of the traditional nave form in favor of seating arrangements that make worshippers participants in services rather than witnesses. By bringing congregants close to the center of ritual (even in the very large Blackhawk Church no seat is farther than 75 feet from the altar), the radial configuration lends immediacy and at the same time fosters an intimacy fortified by the congregants' ability to see their fellows face-to-face.

Finally, there is a subtle acknowledgment of community in designs that speak as clearly of present time and place as of churchly tradition. Inspired in part by budget constraints that encourage an esthetic of simplicity, materials tend toward the indigenous: shell-strewn stucco in Florida, weathered shingles on Long Island; red brick for Indiana, white brick for Maryland. Forms are straightforward but expressive, skirting the vernacular. Unaffected in their posture, at ease in their settings, the new churches convey without labored style or stilted symbols a sure invitation to worship. **MARGARET GASKIE**



JEFF WHEATLEY PHOTOS, EXCEPT AS NOTED

A GATEWAY TO PRAYER

A natural setting,
natural materials, and
natural light evoke a
spirit of devotion.

Gates of the Grove Synagogue
East Hampton, New York
Norman Jaffe Architects



©NORMAN McGRATH



The casual passerby on the principal street running through the small town of East Hampton has to look closely to glimpse the long low building beyond the spread of an immense 175-year-old copper beech—and closer yet to identify as a synagogue this retiring adjunct to a two-story quasi-Victorian house where the Reform congregation previously held its services. Wood-framed, gable-roofed, and sheathed in weathered shingles, the new structure blends with both its immediate neighbor and the prevailing domestic vernacular of Long Island's still-rural South Fork. But its roots go much deeper, reaching back through Jewish history to the similarly self-effacing wooden synagogues found in the towns and villages of pre-19th-century central and eastern Europe, from which many of the congregation are descended.

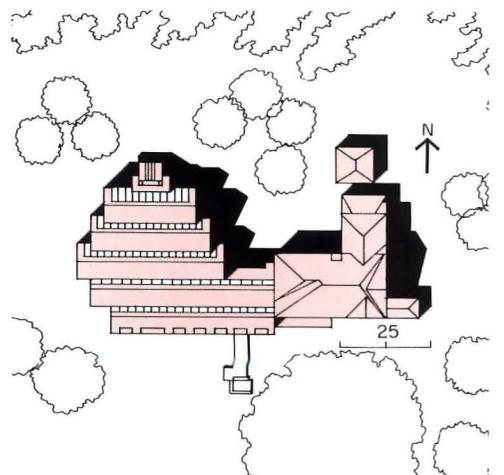
Appropriately for a temple so named, both footprint and orientation of Gates of the Grove were largely guided by the presence of existing trees—the ancient beech on the south, venerable arbor vitae on the west, and the varied species of the memori-

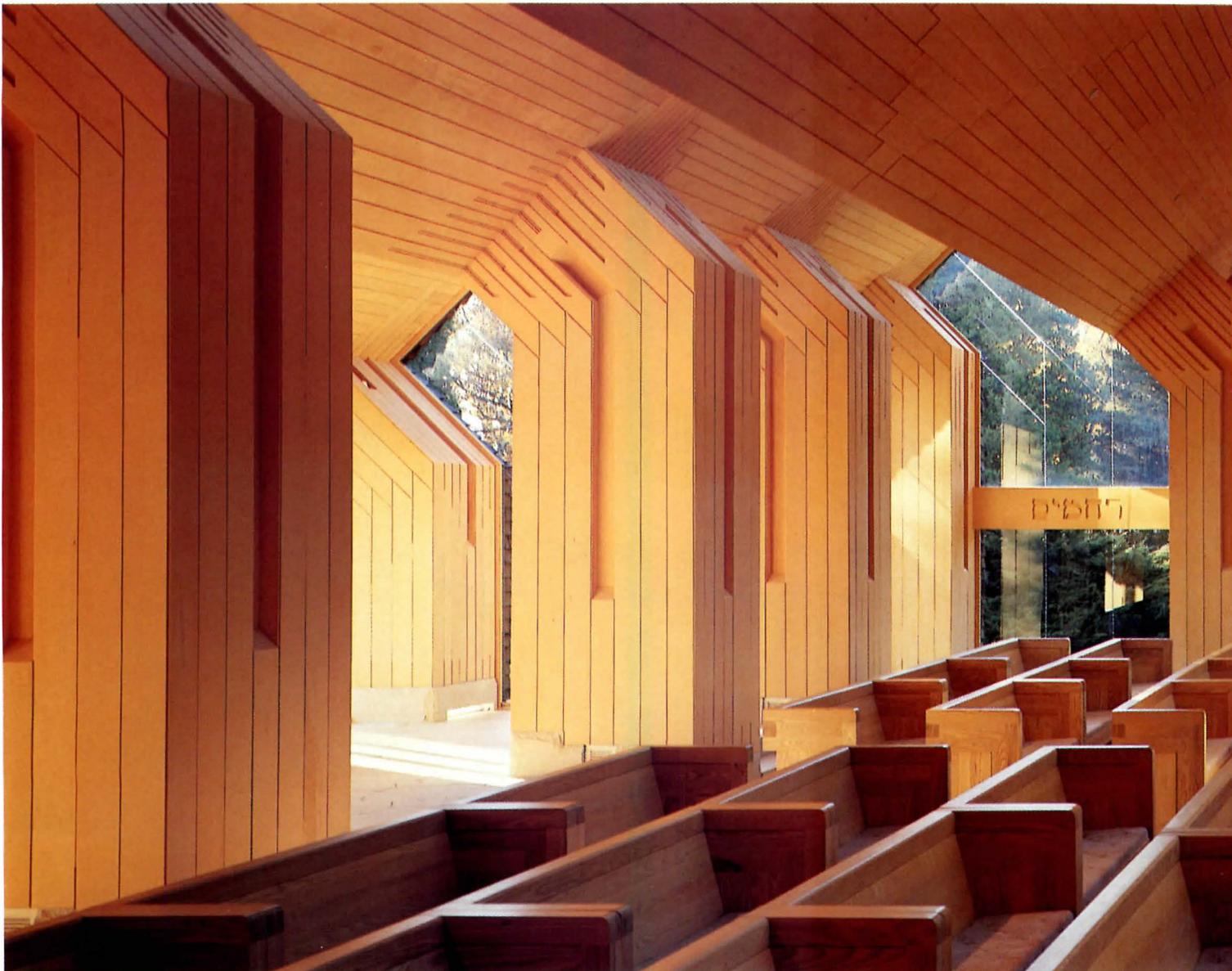
al grove to the north—which sketch the broad but shallow rectangle that defined the limits of the new structure.

At the juncture between the old and new buildings, an understated entrance opens to a modest foyer from which stairs lead to a basement assembly hall housing classrooms and reception and meeting areas. More important, the foyer introduces the enclosed colonnade that traverses the width of the building to form a low narrow anteroom where worshippers prepare for prayer. On one side stout square columns alternate with wall-height windows that communicate with the outdoors; on the opposite side larger columns mark the transition to the sanctuary.

From this loggia, the building expands to a luminous space framed by pillars that bend to carry stepped canopies separated by bands of sloping clerestories. Within the sanctuary the paired columns and similarly exaggerated “beams” resolve to a telescoping procession of porticos that ascend to a high point over the bimah or reading desk, the active focus of services,

A stepped roof and shingled exterior (opposite) relate the Gates of the Grove Synagogue to the next-door house (site plan below), the region's traditional architecture, and early East European shtetls. Within (above), the rough frame gives way to an explosion of light echoed in the warmth of finely crafted wood.





then decline to the building-within-a-building housing the ark. Set between the staggered pairs of columns at the perimeter of the structure, prayer alcoves constitute the walls of the sanctuary while augmenting the U-shaped seating around the bimah, which is thrust forward to heighten the tension of the “corridor of power” between bimah and ark.

The simple plan, simply executed, is rendered with sumptuous austerity in meticulously crafted golden-blond Alaskan cedar smoothed to a silken sheen but unfinished except for invisible varnish on vulnerable lower faces. In deference to this pervasive richness of surface, applied embellishment is limited to subtle patterns that seem to emerge naturally from the wood. The most prominent are carved Hebrew inscriptions: a blessing at the lintel of the ark and single words connoting holy virtues above the 10 prayer alcoves. More pervasive, however, are abstract references to the mythic Tree of Life (and the very real trees of the grove), which are expressed in the framing of the windows, incised designs within the

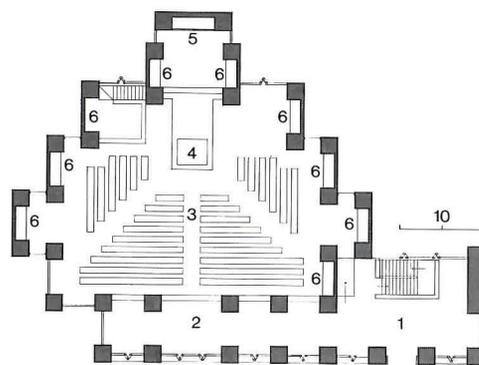
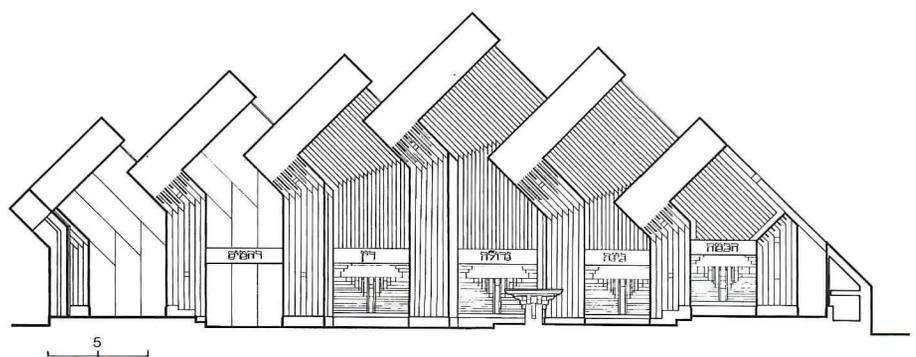


side niches, the branching pedestal of the bimah, and the angled column capitals. Plain ash pews and flagged floors of rosy gray limestone with eroded skirtings complete the restrained palette of materials.

For all its interest as sculpture, Gates of the Grove finds its fullest realization as a vessel for the capture and control of daylight. The north-facing clerestories in the staggered roof wash the sanctuary in colorless light that emphasizes the inherent warmth of the wooden enclosure and dramatizes by contrast the ever-changing play of sunlight as it filters through the windows of the south loggia and travels east to west across the otherwise unadorned face of the ark.

M. F. G.

Gates of the Grove Synagogue
 East Hampton, New York
OWNER: Jewish Center of the Hamptons
ARCHITECT: Norman Jaffe Architects—
 Norman Jaffe, principal-in-charge;
 Keith Boyce, Randall Rosenthal, Miles
 Jaffe, project associates
GENERAL CONTRACTOR: David Webb



The 5,000-square-foot synagogue's deceptively simple structure deploys oversized portals staggered both vertically and horizontally and interspersed with planes of glass.

- | | |
|--------------|------------------|
| 1. Foyer | 4. Bimah |
| 2. Colonnade | 5. Ark |
| 3. Sanctuary | 6. Prayer alcove |

IN STEPS OF LIGHT

Thrusting upward to a high cross-crowned prow, a sculpted sanctuary raises a beacon over its busy beachfront community.

Beach United Methodist Church
Jacksonville Beach, Florida
William Morgan Architects

Lifted above the passing scene by a gentle berm, the new Beach United Methodist Church is both cornerstone and keystone of a 10-year master plan that will merge new and existing buildings around cloistered courtyards within a block-square religious campus. Although the building plan, a square beveled to a modified octagon, respects the street grid, its functional orientation shifts 45 degrees to place the central aisle on axis with the original chapel diagonally opposite across the campus.

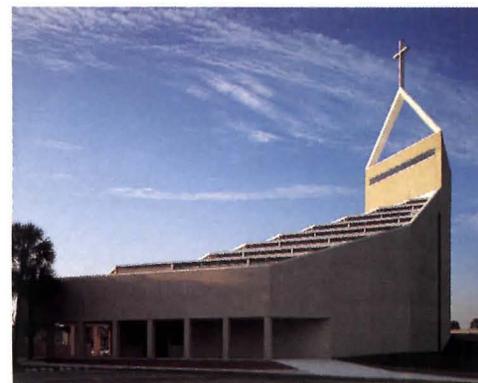
Narrow at the narthex, which is entered from the interior court, the building broadens at the nave, then narrows again at chancel and altar. The configuration encourages the use of radial seating to preserve the intimacy of the former church, while bringing the altar into a focus reinforced by the structure's simultaneous rise in a triangle culminating in a spire. The altar is further emphasized by the glow from a triptych of stained-glass windows, mingled with light from a clerestory atop the spire. The dominant theme of omnipresent daylight from multiple sources continues with a fan of narrow clerestories set in the stepped timber roof and light rods that penetrate the nave walls below the balcony and choir loft.

M. F. G.

Beach United Methodist Church
Jacksonville Beach, Florida
OWNER: Beach United Methodist Church
ARCHITECT: William Morgan Architects
ENGINEERS: H. W. Keister Associates, Inc. (structural); Kashmiry and Mahin, Inc. (mechanical/electrical)
CONSULTANTS: J. Piercy Studios Inc., (stained glass); Joel Bagnell (interiors); Hilton Meadows (landscape)
GENERAL CONTRACTOR: Lee & Griffin Construction Co.

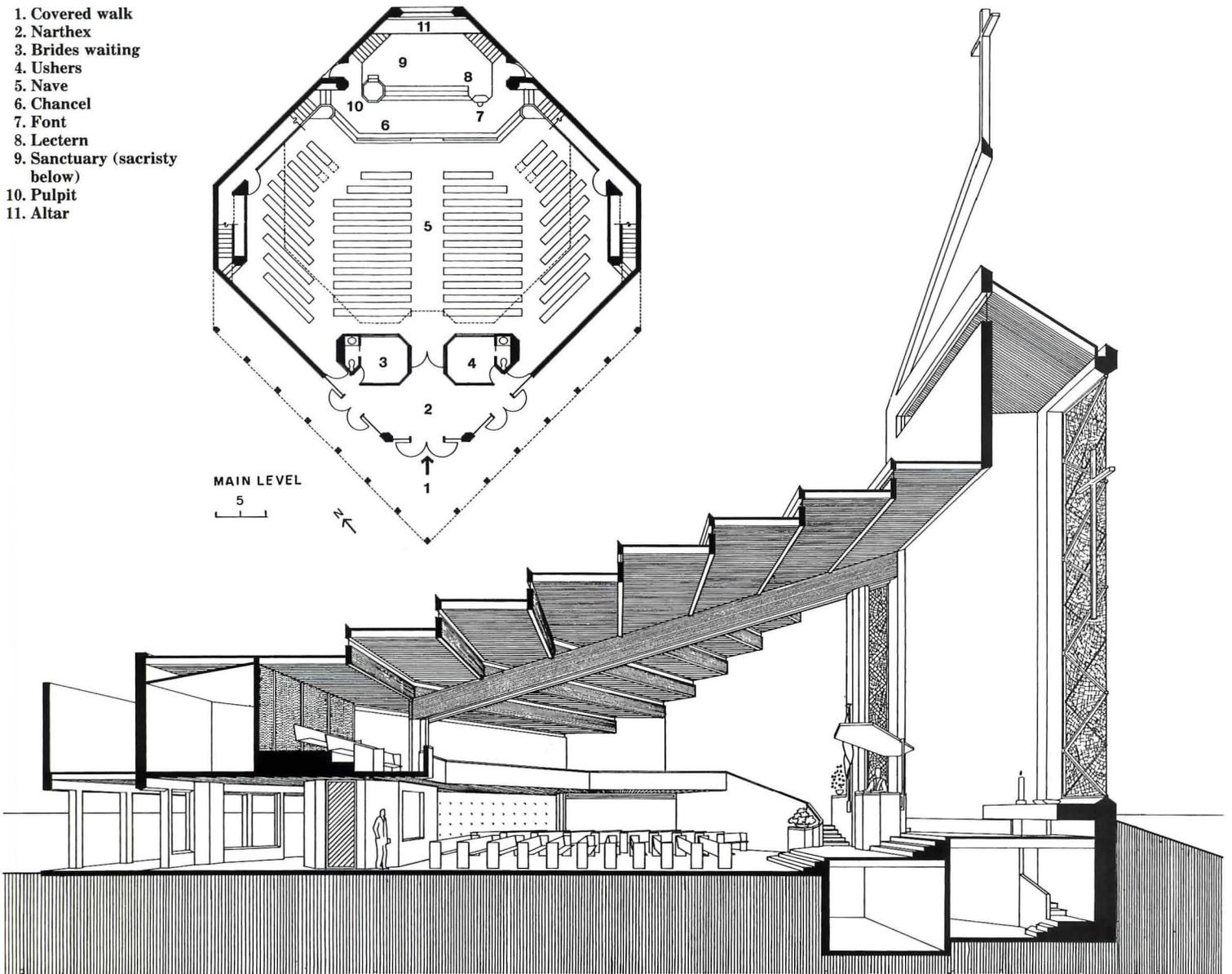
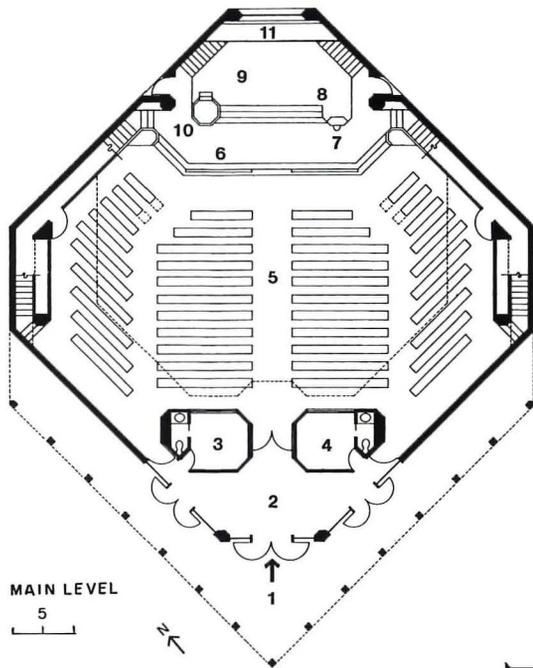


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A simple beveled diamond in plan, the church gains sculptural complexity from the combination of convergence and ascent that produces the spire and the alternating stepped planes of roof and clerestories.

1. Covered walk
2. Narthex
3. Brides waiting
4. Ushers
5. Nave
6. Chancel
7. Font
8. Lectern
9. Sanctuary (sacristy below)
10. Pulpit
11. Altar





TO CELEBRATE THE WORD

A large evangelical church unites theatrical with ecclesiastical antecedents to air its message.

Blackhawk Baptist Church
Fort Wayne, Indiana
Harding Associates, Architects

The Blackhawk Baptist Church, like many growing churches, sought to increase its size without losing a sense of community—and to do so on a budget so slim the client specified a pre-engineered structure.

Having outgrown its original quarters, the 19-year-old congregation chose a next-door block for its new 2,100-seat worship center. To link it with the existing facilities—chapel, assembly hall, and school—the architect placed the sanctuary on axis with the fronting street, which an allée carries visually to the new church entrance. The building itself is a simple two-story load-bearing masonry shell wrapped around the dominant volume of the obligatory metal structure. On the front facade, though, its plain-Jane exterior is articulated by a drop-off arcade, the tall windows of a large multipurpose foyer, and a recessed entry marked by an arched stained-glass window and surmounting cross.

In the sanctuary, theaterlike seating fans out 150 degrees to bring congregants within 75 feet of the pulpit and in eye contact with one another—a configuration

that also enhances telecasts of weekly services. At its focal point, a handsome 42-by-20-foot wooden screen backing the pulpit and choir area adds to the acoustic boost from crenellated panels overhead and behind the balcony, and joins with oak and burgundy fittings to give the space a warmth that belies both its size and a \$60-per-square-foot pricetag.

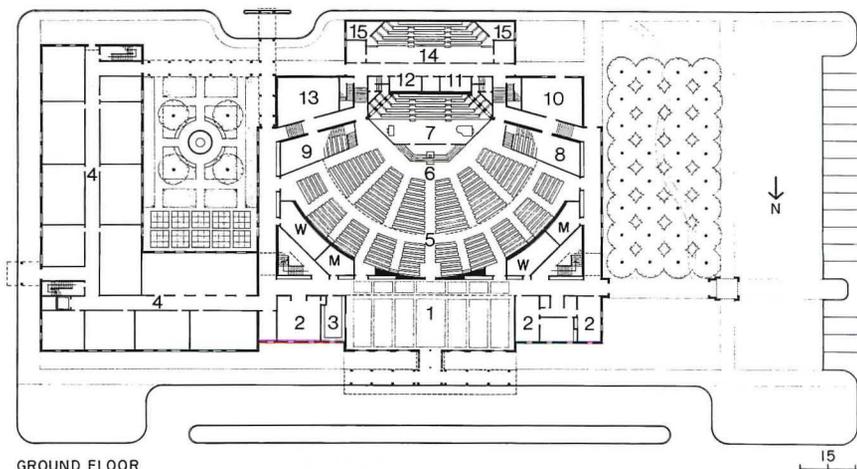
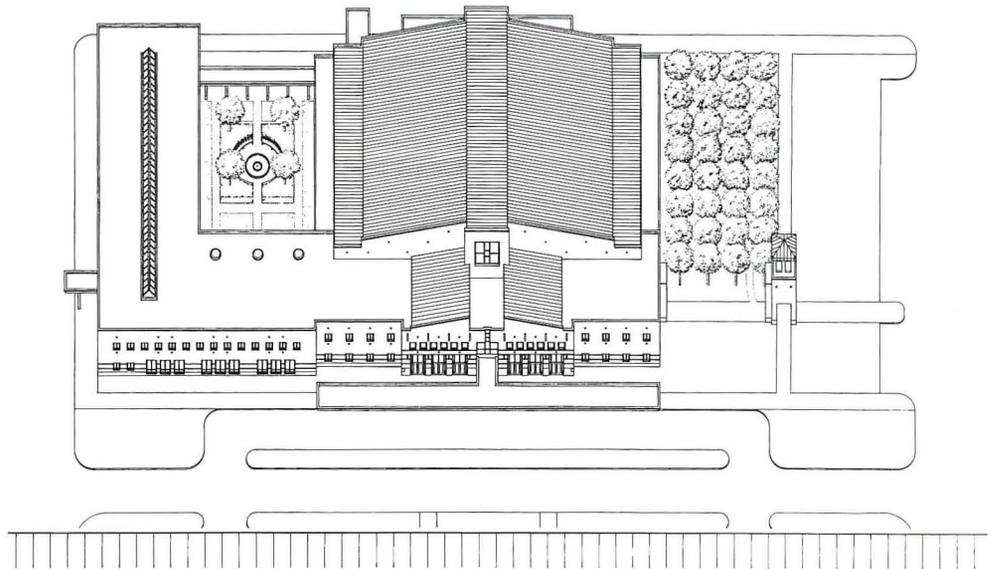
M. F. G.

Blackhawk Baptist Church
Fort Wayne, Indiana

OWNER: Blackhawk Baptist Church
ARCHITECT: Harding Associates—Paul A. Harding, design principal; James Gerstenberg, Robert Ruggles, Mohamad Hj-Abdullah, project team
ASSOCIATED ARCHITECT: WKM Associates
ENGINEERS: Master Design, Inc. (structural/civil); Master Group, Inc. (project development); Engineering Consultants, Inc. (mechanical/electrical)
CONSULTANTS: Yerges Acoustics; Jerit/Boys (theater); Blundall Associates (costs); Carolyn Mackel (interior)
CONTRACTOR: W. A. Sheets & Sons, Inc.



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GROUND FLOOR

- | | | |
|-------------------------|------------------|----------------|
| 1. Foyer/assembly | 6. Pulpit | 11. Rehearsal |
| 2. Nursery | 7. Choir | 12. Orchestra |
| 3. Kitchen | 8. Sunday school | 13. Studio |
| 4. Future Sunday school | 9. TV control | 14. Choir room |
| 5. Sanctuary | 10. Mechanical | 15. Office |





AN EXPANDABLE HOUSE FOR THE LORD

Hugh Newell Jacobsen's first built church exhibits the domestic character of the architect's celebrated residential work.

St. Peter's Catholic Church
Olney, Maryland
Hugh Newell Jacobsen, Architect

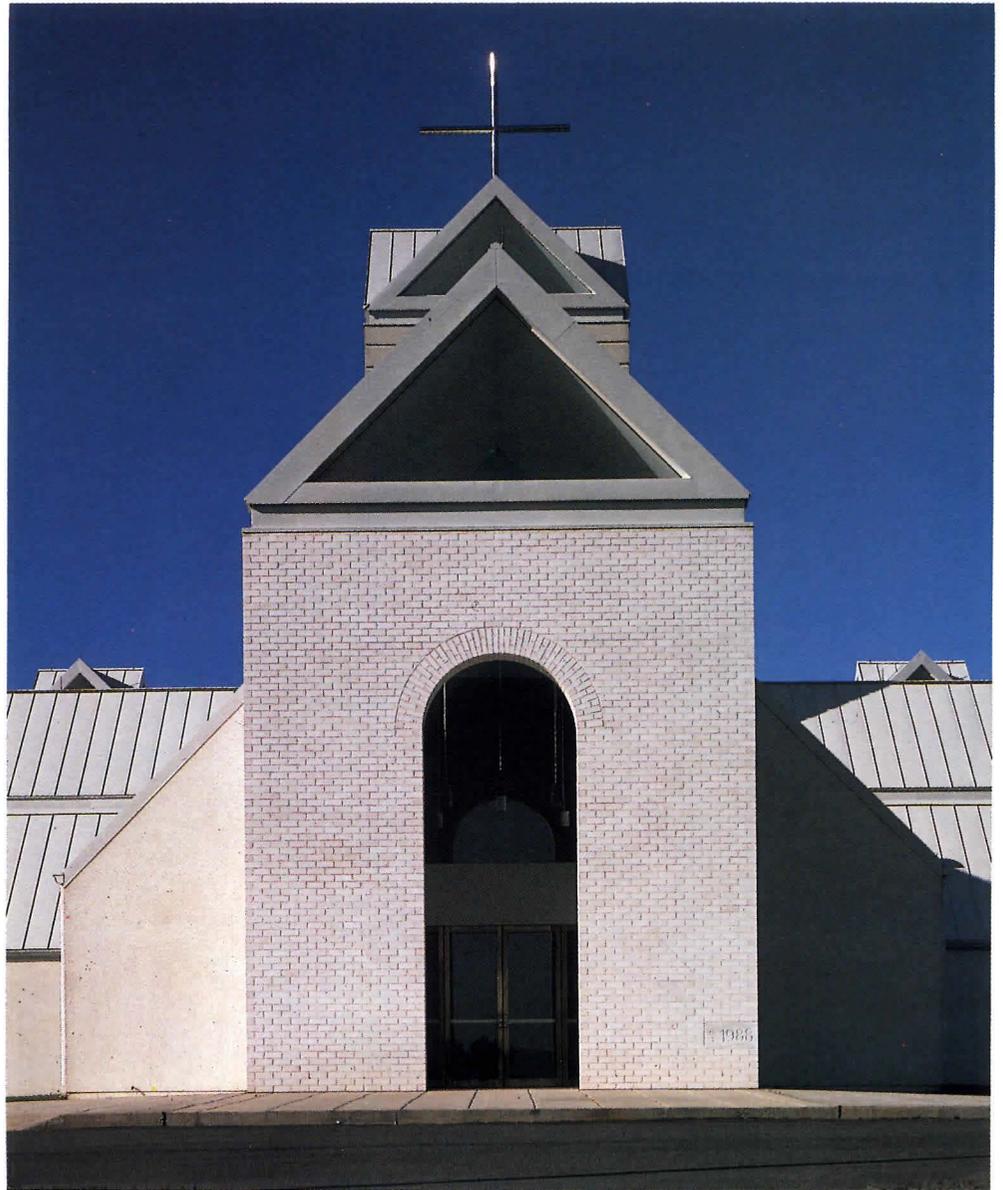
If a church is a house of worship, then it makes sense for a congregation to commission an architect experienced in residential design. And if the architect has an international reputation, all the better. So the choice of Hugh Newell Jacobsen to design the new St. Peter's Catholic Church in Olney, Maryland, seems only logical. What is more surprising is learning that this is Jacobsen's first church to get off the drawing board. (He designed a Unitarian church also in the Washington, D.C., area several years ago, but it was never built.)

Due to financial constraints, St. Peter's will be built over time. The first phase, which was completed early last year, comprises the main worship area and the "commons" (a long narthex where members of the church can gather before mass). On either side of the commons will be built a fellowship hall and a small chapel of reconciliation that will also be used for daily masses. When the expansion takes place, the shed roofs over the aisles of the commons will be replaced by metal hipped roofs like those over the existing

chapel. Temporary plywood walls along the commons also will come down in favor of the permanent masonry kind found elsewhere in the church.

As he does with much of his residential work, Jacobsen broke down the mass of the church into easily identifiable blocks each with its own roof. Moreover, the architect tied the various parts of the building together with a straightforward floor plan, in this case a Greek cross. To emphasize the importance of the intersection of the building's two axes, Jacobsen marked the crossing with a simple tower and brought light in through oculus windows and glazed cross gables. Natural illumination also enters St. Peter's through two skylights, one directly above the altar and the other above the baptismal font in the commons. The result is a procession of light and dark areas that pulls visitors through the church.

Changes in Catholic liturgy shaped several aspects of the church, especially in the main worship area. For example, with the priest now facing the congregation, seat-



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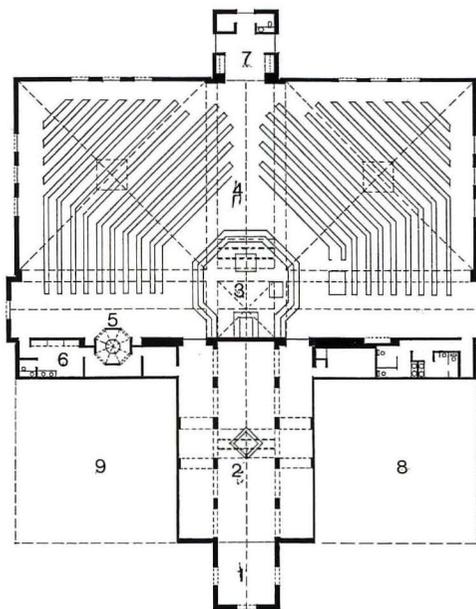




ing is arranged in a fan shape to establish more visual contact with his parishioners. Another change concerns the octagonal tabernacle holding the holy wafers (far right in opposite photo), which has been brought to a more visible position between the main chapel and the yet-to-be-built daily chapel.

Although the congregation had requested a brick building, some members were surprised with Jacobsen's choice of white brick over traditional red, according to project architect Paul Roddick. White, however, not only emphasizes the building's geometry, but also recalls 18th-century churches in the Northeast. Structurally, however, the church is a decidedly modern steel-frame building.

When Jacobsen received the commission, his first job was to select a location for the church on the site. Though some congregants wanted it near an existing building for convenience, Jacobsen knew immediately that the church belonged on top of a hill. Today that's where it sits, quietly commanding our attention. **C. A. P.**



1. Porch
2. Baptismal cloister
3. Sanctuary
4. Main worship area
5. Tabernacle
6. Sacristy
7. South porch (brides waiting)
8. Future fellowship hall
9. Future daily chapel

Sunlight, especially from above, is a key element in bringing St. Peter's alive. Skylights over the commons (above right) and the altar (opposite) add spirit to the church. Rusticated arches in the commons are cut out of gypsum board, while the altar is faced in travertine.

*St. Peter's Catholic Church
Olney, Maryland*

OWNER: Archdiocese of Washington
ARCHITECT: Hugh Newell Jacobsen,
Architect—Paul T. Roddick, project architect

ENGINEERS: MMR International (structural); EBL Engineers (mechanical/electrical)

CONSULTANTS: Robert A. Hansen & Associates (acoustical); Frank Kacmarcik (liturgical); Donald L. White (specifications)

CONTRACTOR: Edward M. Crough



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DESIGN OF GLAZING

Carefully comparing glass, framing, and sealants is essential to achieve trouble-free high-performance glazing.

The proliferation of glass, coatings, and related products is a boon to architects, giving them more design flexibility than ever before. But the days are gone when designers could count on the window manufacturer or installer to decide what glass to use and how to mount it into framing. Although the architect may be the least expert in the nuances of individual glazing components, *someone* on the building team must choose among glass types that can be annealed, heat-strengthened, tempered, or laminated; among coatings that are tinted and reflect light and/or heat; among insulating-glass units that can be single or double-sealed; and among systems for installing glass that are wet or dry, glazed in the shop or in the field, mounted from the inside or the outside of the building, or even adhered to the structure by the sealing material itself. Yet in the quest to control design and quality, the architect must tread carefully; some of these decisions can blur the line between the architect's duties to fully document his design and the contractor's responsibilities for "construction means, methods, sequences, and procedures" (AIA document A201). It is easy to say—as everyone does—that the architect should involve other entities in the design of glazing as early in the process as possible, but definitive decisions often cannot be made when a client's requirement for an open specification prevents the use of a single manufacturer's criteria or product. Once job circumstances preclude a standardized solution, however, the role and the responsibility of the architect increase dramatically. The following are areas that manufacturers and consultants have identified as choices to make and pitfalls to avoid.

Glazing systems and glass types

If the architect wants to introduce non-standard elements, such as metal finishes or glass-unit types not usually offered by the manufacturer, the entire glazing system can be affected in unexpected ways. It



Glazing seals should have nearly invisible sightlines.

would be ideal to work out the system with a single manufacturer and installer during the design phase. If this is not possible, the specifier can require a single entity to procure and install the materials required for the glazing. Certification of testing for water infiltration, compatibility, and adhesion is commonly required for assembled units. The window tested should be fabricated with the specified insulating-glass unit (with the specified glass type and coating on the glass), and the sealants, tape, or gasket-glazing system, metal finish, and glazing accessories such as setting and edge blocks that will actually be used in the project. (It is not enough, for example, to accept tests of sealants by generic categories, since the actual chemistries used, particularly the curing system—of which there are nearly a dozen for silicones alone—have varied properties and may affect other materials disastrously or not at all.) The American Architectural Manufacturers Association (AAMA) and the Sealed Insulating Glass Manufacturers Association (SIGMA) require specific tests for certification. The architect can attempt to assure quality by calling only for installers with several years of experience. Bob Spindler, of Cardinal IG Glass, recommends instead that "you ask for a list of jobs that you can go look at in the field. Some manufacturers that have been in the market a

very short time have the best people."

Heat-treated glasses (heat-strengthened or tempered) are often needed for large glass lights subjected to high winds and varied thermal loads. Such glasses, however, are less flat than annealed types. If a "dry" glazing system of gaskets or tapes is used, in which the seal is dependent on compressing the glass against the frame, the bow or warp across the dimension of the light may prevent adequate sealing (generic wet, dry, and combination glazing systems are shown on pages 148-149. When working with manufacturers to determine the proper frame type or configuration, the specifier

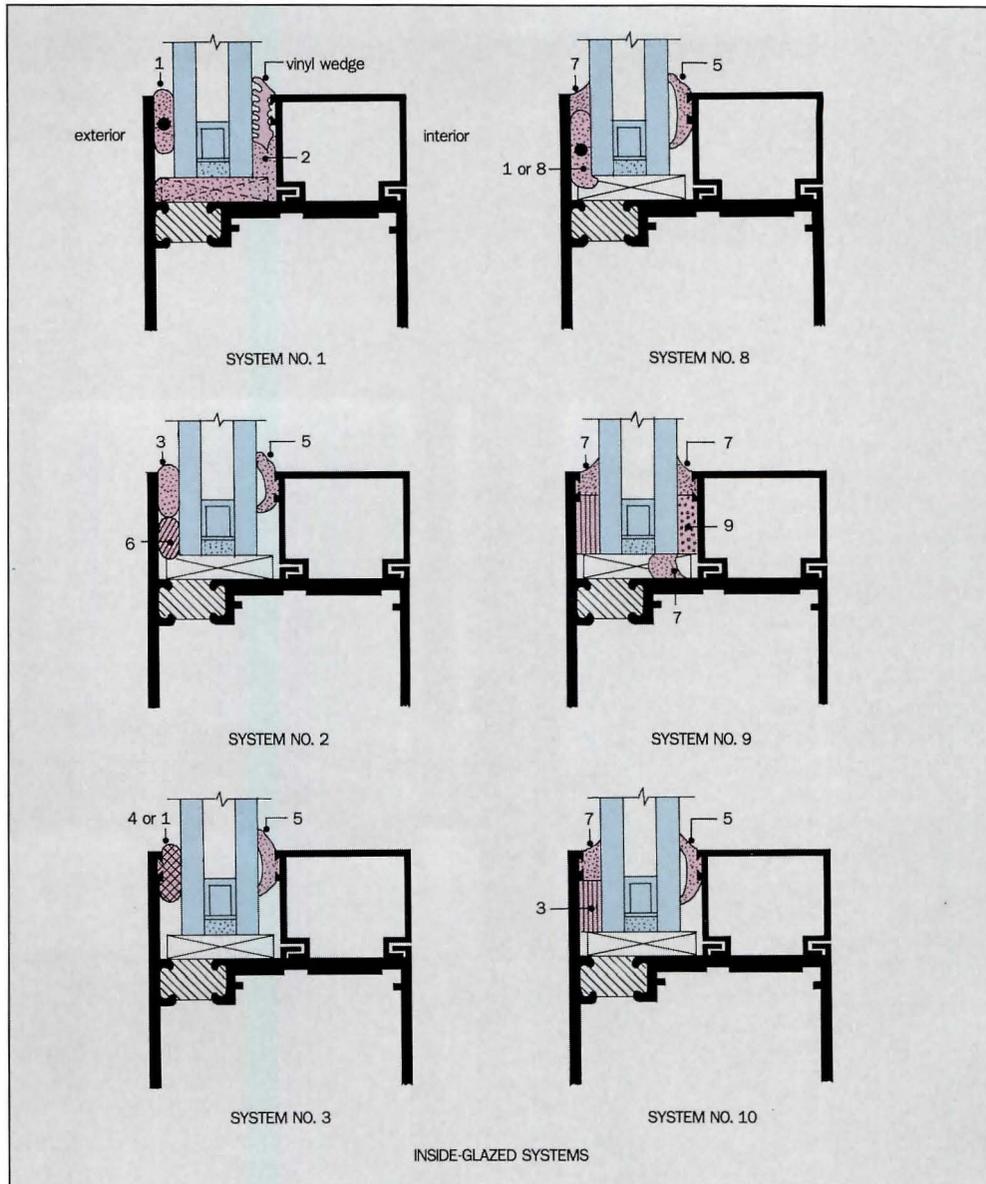
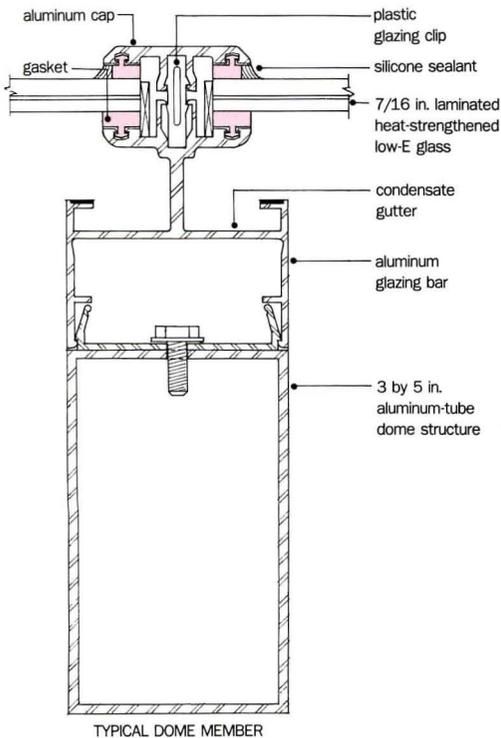
should make the representative aware of the types of glass specified so that an appropriate unit and glazing system can be proposed.

Coatings

The number of glass coatings continues to expand, whether for tinting to achieve a desired color or reflective character, or to reduce glare or heat gain. With widespread use of insulating-glass units, the designer must indicate the surface on which the coating is to be placed, which may be dictated by thermal efficiencies or protection of the coating. Low-emissivity coatings, for example, are recommended by SIGMA to be placed on either the second or third surface (the inside of the outside light and the outside of the inside light, respectively) depending on whether the function of the coating is to keep in winter heat or to reflect solar-heat gain. Some coatings must be held away from glass edges, especially spandrel-glass opacifiers when they are not compatible with the glazing sealants used.

Films, whether applied to glass, adhered between layers of glass (the interlayer in laminated glass), or hung between lights of glass, must be considered for possible incompatibilities. Laminated glass offers resistance to glass fallout in the event of breakage, and the polyvinyl butyral inter-

WALTER DUFRESNE



Source: American Architectural Manufacturers Association

In the reglazing of the Climatron, laminated glass is clipped to glazing bars with thermoplastic rubber gaskets. A liquid sealant was also applied as a secondary seal. At the top of the dome, which is nearly flat, small gaps were left at the ends of aluminum caps for drainage. An additional seal was provided at these vulnerable areas. Once hung from the hexagonally patterned tubular aluminum superstructure by aircraft cables, the new system is self supporting on 3- by 5-in. extrusions in order to avoid extensive reinforcement of the dome.

layer can be tinted (which may be less expensive than coloring glass), but it may not be compatible with the sealant system of an insulating-glass unit within which it is glazed, or with glazing accessories.

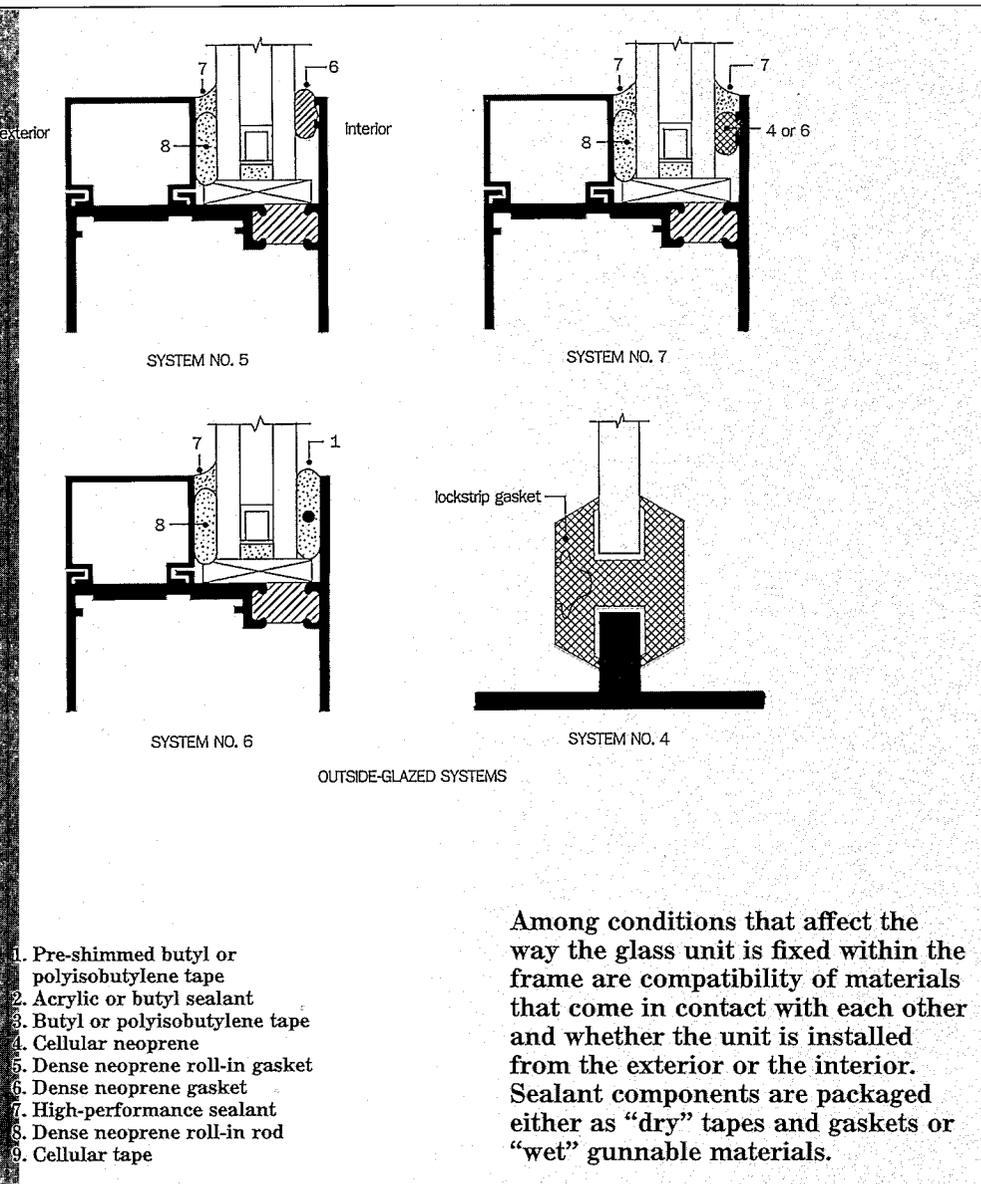
An inexpensive way to tint glass or to improve thermal performance is to apply an adhesive-backed plastic film to the finished window. If the glazing unit was not designed to have a film applied, deterioration within the unit due to heat reflected by the film can take place. At the very least, such a practice may void the manufacturer's warranty.

Insulating-glass units

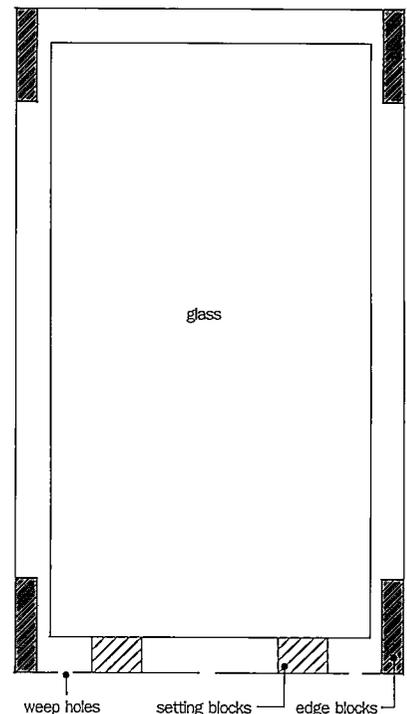
While some 40-year-old insulating-glass units remain trouble-free, other installations have been plagued by failures of as many as 30 percent of lights in the first few years. No doubt manufacturing defects are responsible for some of the problems (many manufacturers offer units certified—with appropriate labels—by independent agencies such as the Insulating Glass Certification Council), but others are due to avoid-

able glazing errors. In some cases, deflection of the framing is excessive and ponding takes place, especially if there are insufficient weepholes or they are improperly placed (detail opposite). Most insulating-glass seals are not highly resistant to immersion, and failure due to wet glazing channels is not covered under the unit's warranty. In other cases, setting blocks can prevent the flow of condensation or leakage to weepholes. "If you put blocks at quarter points, and there's only one weep hole near the center, you'll have water accumulation," says Tom Martin, a glass consultant. Architects are advised to carefully review such items on shop drawings.

Details that architects draw should reflect a framing configuration that realistically will be able to support the weight of the glass unit. This means establishing thickness of both lights during design rather than leaving this decision to the unit manufacturer. Martin goes on to note that another area related to failures is the use by installers of accessories that are not compatible with the unit seals. "A unit



Among conditions that affect the way the glass unit is fixed within the frame are compatibility of materials that come in contact with each other and whether the unit is installed from the exterior or the interior. Sealant components are packaged either as "dry" tapes and gaskets or "wet" gunnable materials.



that would be expected to have a 20-year life can fail in just a year because of compatibility problems," he says. "The architect needn't specify the unit sealant or the material of setting blocks and edge shims. But you do want documentation of compatibility testing."

Plastic glazing

Acrylic plastics and polycarbonates are increasingly finding a place in glazing, particularly for exterior canopies and for greenhouses. Plastic glazing is chemically incompatible with some kinds of sealants, but of greater importance, according to Chuck Mulcahy, supervisor of technical services for structure products at GE Plastics, is that details must reflect the material's coefficient of expansion, which is much larger than glass. Many manufacturers will conduct prebid testing to verify compatibility and long-term adhesion. (Since load data is proprietary for plastic products, GE is among those manufacturers that will recommend a thickness and edge-engagement dimension based on a

computer-generated analysis of loads and glazed-opening geometry.) Plastics can be inexpensively formed into shapes such as barrel vaults and pyramids, but some of the coatings offered for abrasion resistance and for filtering ultraviolet light cannot be used in these configurations.

Considering the complex interaction of products, it is tempting to rely on the manufacturer's warranty. But is it enough protection? Only if it goes beyond factory defects to cover deficiencies in field erection. Some manufacturer's warranties even limit liability to less than that required for the building under the general conditions of the contract.

As complex as these decisions can be, glazing systems are more versatile than ever. Laminated glass and recently developed thermoplastic gaskets were selected to reglaze the abraded, discolored, and leaking acrylic-plastic roof of the Buckminster Fuller-inspired Climatron at the St. Louis Botanical Garden (photo and detail, opposite). Technology *can* at times come to the rescue.

JAMES S. RUSSELL

Clearances for edge blocking (sometimes called anti-walk blocks) are important to avoid damage to the glass edge or insulating-unit sealant. The location of setting blocks and weepholes must be coordinated to prevent water accumulation.

SEALANT CONFIGURATIONS AND PERFORMANCE

Carefully designed fillet joints can solve some tough sealing problems.

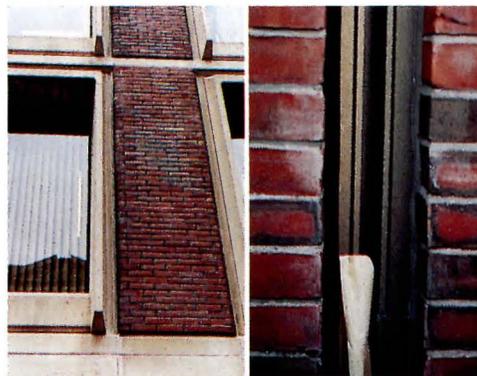
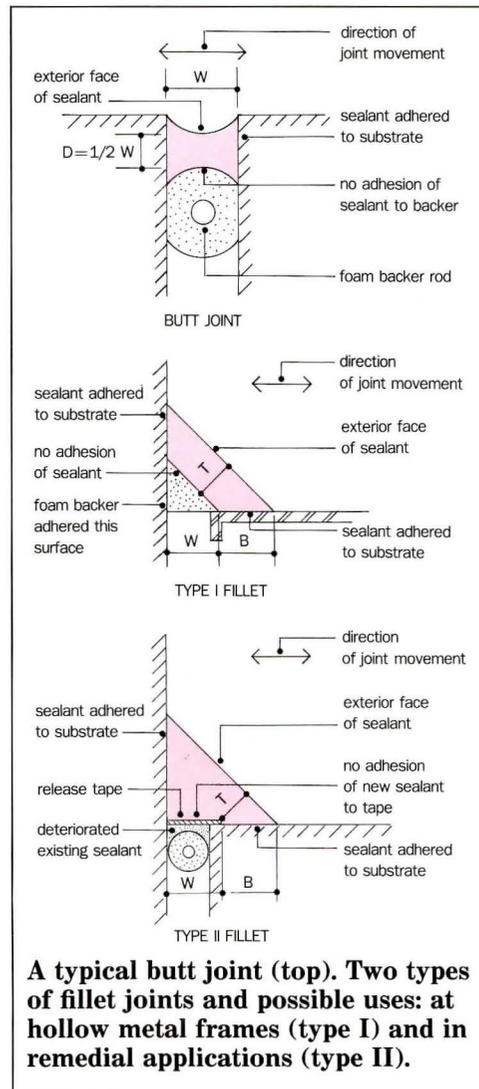
The use of elastomeric, liquid-applied sealants for moving joints in the building envelope has advanced steadily over the past 20 years. Many factors affect performance, such as surface preparation, priming, and material selection. The *configuration* of the seal and the way the joined surfaces meet influence performance as well. Research in the late 1960s and early 1970s provided the basis for current design standards for joints between parallel substrates (butt-type joint, right), but little has been known about joints for perpendicular substrates (fillet joints, bottom drawings right).

Butt joints are commonly used to seal moving joints between adjacent panels of precast concrete, in curtainwall systems, or masonry. Although hourglass-shaped cross sections of sealant are usually recommended, there are conditions in which rectangular shapes are appropriate. Since so much attention has been given to these types of joints, it is easy to forget that the faces of adjacent panels cannot always be in the same plane. When joints occur in substrates that are perpendicular to each other, such as the inside corners of building walls or around window and door frames that are set back from the plane of the facade, sealant joints could be made with a *fillet* that has a triangular cross section.

Fillet joints have been thought to perform poorly and, consequently, have received little attention from designers and manufacturers. Recent research into the relationship between sealant stress and joint configuration by the author at the engineering firm of Simpson Gumpertz & Heger shows that these joints can perform well and that improper design and construction account for most problems that have been encountered.

Fillet joints: a useful option

There are a number of situations in which fillet joints can be useful in a job, particularly in remedial applications. In locations where the narrowness of adjoining substrates precludes proper application of a butt joint (around a setback window or inside corner of a wall, for example), a fillet joint can be installed. Many hollow-metal doors and windows lack flanges to support



An example of a location requiring a fillet joint (left) and application of new sealant over old (right).

a perimeter butt joint. In these conditions either a type I or type II fillet can be used, since the sealant bonds to the face of the frame and does not require a flange (type I, left, is shown as an example).

In many remedial caulking situations, existing geometry may make it difficult or impossible to remove the deteriorated old sealant completely and prepare the surfaces properly. The protruding concrete fin (bottom left) is an example of one such obstacle. Some substrates, such as exterior insulation and finish systems, can be damaged by removal of existing sealant or by surface cleaning in preparation for sealant replacement. Since the labor to remove existing sealants and prepare the previously sealed surfaces is costly, applying new sealant over old can be effective and less expensive. The substrate conditions may require a fillet shape to properly cover the existing joint (an example is type II joint, left).

Making the most of sealant movement

Designers have recognized that the sealant in butt joints should bond to the two opposing surfaces being joined, but should not adhere to the back of the joint. Bond breakers are devices that prevent adhesion. A foam-rod backup is inserted in cases where the back of the joint is open; a release tape is applied to cover a substrate behind the sealant if it might adhere. The unbonded width of the sealant stretches and compresses (strains) as the joint opens and closes. The interaction of the bonded and unbonded areas creates stress within the sealant as it moves (shown in computer-generated stress graphs, opposite). In general, the wider the portion of the sealant joint that is unbonded (over a foam or tape bond breaker), the greater the movement capability of the joint.

In a butt joint, a foam backer rod is typically compressed and inserted between the parallel substrate surfaces to support the sealant and to act as a bond breaker across the concealed face of the joint. With the perpendicular substrate surfaces in fillet joints, the bond-breaker material cannot be held in place by a compression fit. Foam bond-breaker rods in triangular or quarter-round cross section could be adhered to the substrates in a fillet joint (as shown

type I), but such materials in appropriate shapes are unfortunately not readily available at present, although they can be custom-made for larger projects. A more commonly available material that can be used as a bond breaker for fillet joints is adhesive-backed polyethylene release tape applied to one of the substrates (type II). In remedial applications, the tape is applied over the existing butt or fillet sealant joint.

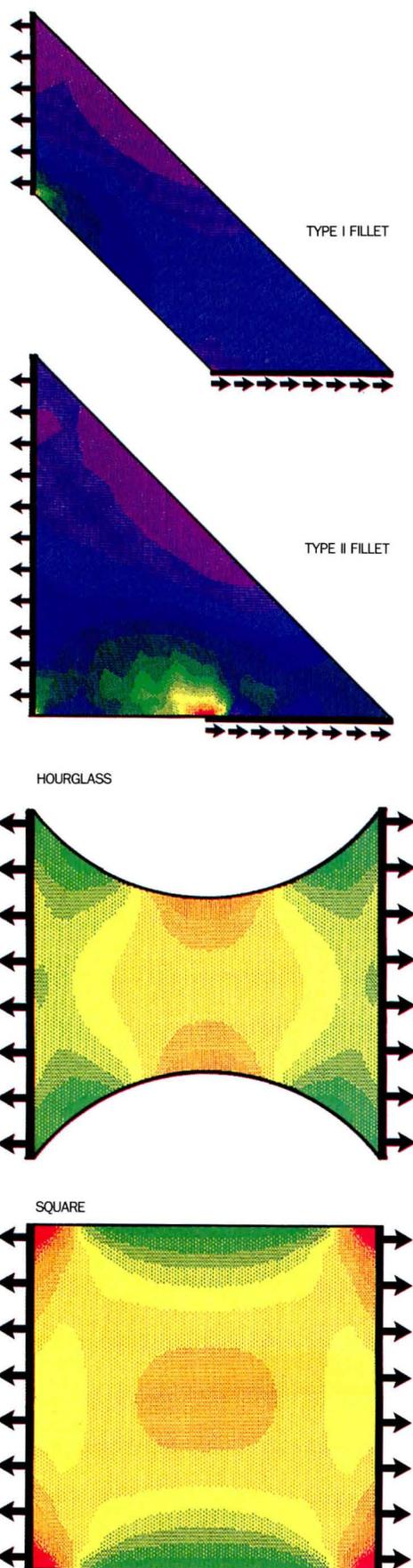
Shaping the fillet seal

Research into the locations and degree of stress encountered by various substrate configurations shows that many of the principles applicable to butt-joint design also apply to fillet-joint design. Fillet joints made without bond breakers show higher stresses than those with them, and exhibit much higher stresses than typical butt-joint configurations.

The width of the bond breaker (dimension W on details) is the key factor in the movement capability of sealants. A standard test method (ASTM C719) assigns a movement capability to the sealant materials that is stated in terms of percent of butt-joint width. To design a joint, however, it is best to begin with the anticipated joint movement (derived from the anticipated thermal, moisture, or other dimension change expected in adjacent panels) and divide it by the sealant capability to determine W , which is the same as the joint width in a butt joint. For example, an hourglass-shaped butt joint that is expected to move one-eighth inch and in which a $\pm 25\%$ capability sealant is specified, needs to be one-half-inch wide (0.125 in. divided by .25). For a fillet, this equation would yield the *bond-breaker* width, which would be greater than the joint opening width.

Fillet joints have larger sightlines than butt joints with comparable movement capabilities, since the adhered dimension (B) and the bond-breaker dimension together form the sightline of the joint. For adequate grip on the substrate, three-eighths inch is usually an adequate adhesion width. The resulting exposed width can be so wide that the sag resistance of the sealant material and esthetic considerations limit the size of the fillet, and consequently the maximum movement capability of the joint.

The type I and type II fillets are shown applied to example substrate conditions. From a sealant-performance point of view, type I is preferred because it has greater movement capability than the same-size type II fillets. (In terms of movement, type II joints are better than square configurations but not as good as rectangular shapes, so they may not have an acceptable range of extensibility for a given condition. An ASTM publication, "Standard Guide for Use of Elastomeric Joint Sealants, ASTM C962," contains more details on considerations in joint sizing.) The



Computer-generated graphs indicate qualitative differences and locations of stress for various sealant configurations. Low stresses are blue to purple; medium stresses are green to yellow. Points of highest stress are red.

graphs give a qualitative idea of the difference in stresses among the joint types.

Proper application is key

The thickness of the joint (T in types 1 and 2) strongly affects the stresses and movement capability. Extending a shallow cross-section of sealant a given percentage requires less force than does a thick layer of sealant. As a general rule, reducing the sealant thickness reduces the stresses in the joint and increases movement capability. This principle is the reason rectangular joints with two-to-one width-to-depth ratios are preferred over square geometries in butt joints. (The latter is primarily used as a reference specimen in tests.)

Fabrication tolerances and material characteristics limit the minimum sealant thickness to typically about 1/4-inch for dimension T in type I and in type II. However, a 3/8-inch thickness in fillet joints provides more margin for error and can be needed with irregular substrate surfaces. The thickness of fillet joints and straightness of the joint edges are subject to more variation than in butt joints, since there are no substrate edges to guide the installer in applying and finishing the joint sealant. Masking tape is nearly essential to provide a straight finished edge to a fillet joint (renewed joint, opposite bottom right).

The right sealant shape

A sealant configuration that is thinner in the middle of the joint reduces stresses in the sealant. This is the reason hourglass joints are preferred over rectangular joints. Reducing sealant thickness in the center of fillet joints has a similar beneficial effect. This can be achieved by using a quarter-round backer rod or tooling the sealant concave. Tooling the joint is essential—no matter what the joint design—to consolidate the sealant and to press it against the substrate for best adhesion. Fillet joints that are tooled concave and contain a quarter-round backer rod have much less tolerance for error in construction than other fillet shapes and should be used cautiously.

At this time, type I and type II fillet joints do not have a long track record of field performance to substantiate laboratory results, and they should be used with this understanding. With incorporation of adequate bond breakers and with careful attention to joint configuration, however, fillet sealant joints can be designed to perform successfully. □

James C. Myers is a staff engineer at Simpson Gumpertz & Heger, in Arlington, Mass.

SORTING OUT BUILDING SEALANTS

When buildings were built using traditional, empirical methods, sealants were called caulks, reflecting their limited use in filling cracks. With today's lighter-weight building components that have been engineered to ever-closer tolerances, we could not do without high-performance sealants, particularly in types of construction that require a barrier to water penetration. Yet selecting sealants can be like walking in a minefield. Sometimes it seems that the specifier needs to have the background of

a chemical engineer and at the same time imagine what life is like on the business end of a caulking gun. No definitive standards exist to assist the designer in choosing among generic types of sealants, leading many architects to specify high-performance products (in terms of movement range and life expectancy) when other criteria may be more important in the field. Sealants can be very expensive on a unit-price basis, but they are used in such small quantities within the

overall building that their expense is rarely a major factor.

Exterior building joints, in which sealants take up the movement in adjacent panels and at the same time prevent water infiltration, have received the most attention from manufacturers and researchers. Sealant products, however, apply to many other areas of the project. Some materials are intended primarily to *adhere*, that is to attach adjacent substrates and prevent leakage. Such a joint may have to with-

Type	Low Performance		Medium Performance		High Performance					
	Oil-resin 1-part	Acrylic-latex 1-part	Butyl, skinning 1-part	Acrylic solvent release	Polysulfide 1-part	Polysulfide 2-part	Urethane 1-part	Urethane 2-part	Silicone 1-part	Silicone 2-part
Movement range (% of jt. width)	±3%	±5%, ±12%	±7.5%	±10 to 12.5%	±25%	±25%	±25%	±25%	±25% to +100%/-50%	±12.5% to 50%
Life expectancy (years)	2-10	2-10	5-15	5-20	10-20	10-20	10-20	10-20	10-50	10-50
Service temperature range (deg. F)	-20 to +150	-20 to +180	-40 to +80	-20 to +180	-40 to +180	-60 to +180	-40 to +180	-25 to +180	-65 to +400	-65 to +400
Cure time (hrs) to tack free condition	6	1/2-1	24	36	24	36-48	12-36	24	1-3	1/2-1
Cure time (days) to specified performance	continues	5	continues	14	30-45	7	8-21	3-55	5-14	1/4-3
% Shrinkage	5%	20%	20%	10%-15%	8%-12%	0%-10%	0%-5%	0%-5%	0%-5%	0%-5%
Hardness, new (1-6 mo.) Shore "A"	Some rigid Some nonhardening	15 to 40	10-30	10 to 25	20 to 40	20 to 45	20 to 45	10 to 45	15 to 40	15 to 40
Hardness, old (5 yr.) Shore "A"	Some rigid Some nonhardening	30 to 45	30 to 50	30 to 55	30 to 55	20 to 55	30 to 55	20 to 60	15 to 40	15 to 40
Resistance to extension at low temperature	low to moderate	moderate to high	moderate to high	high	low to high	low to moderate	low to high	low to high	low	low
Primer required: masonry metal glass	no no no	yes some no	no no no	no no no	yes yes no	yes yes no	yes no no	yes no no	no some no	no some no
Applicable specifications	TT-C-00593b	ASTM TTS-00230	ASTM TT-S-001657	ASTM C-920 TTS-00230	ASTM C-920 TT-C-00230C	ASTM C-920 TTS-00227E	ASTM C-920 TTS-00230C	ASTM C-920 TTS-00227C	ASTM C-920 TTS-00230C TTS-001543A	ASTM C-920 TTS-001543A TTS-00230C
Primary uses	concrete joints masonry copings non-moving joints	perimeter glazing interior joints low movement	glazing cap seal insulating glass	glazing metal-to-metal glass-to-metal	general const. glazing dissim. metals	general const. insul. glass plastic glazing	general const. insul. glass curtain walls	general const. insul. glass flashing precast conc.	general const. glazing insul. glass	struct. glaz. general const. insul. glass

Source: Jerome Klosowski, *Sealants in Construction*

Sometimes it seems that the specifier needs to have the background of a chemical engineer while imagining what life is like on the business end of a caulking gun.

stand little or no movement, such as between curtainwall panels or in cap flashing-to-parapet joints. Structural silicones literally glue glass to the building structure; a separate layer of silicone is applied to keep water out and absorb movement. Other products' primary function is akin to a high-tech caulk: fire-stopping sealants are intended to fill gaps around pipe penetrations through rated floor construction.

Comparing common types

The table (opposite) summarizes important aspects of widely specified sealants, but it should be noted that various manufacturers' products claim significantly different performance for almost every category. (Many sealant products are used primarily in electrical devices or in roadways and paving. These have not been shown.) The table is useful as a preliminary selection guide, intended to allow the elimination of clearly inappropriate types. The designer can then investigate the likely products in greater detail by consulting manufacturers' product data and technical staff. A number of useful sealant types are not listed, including polymercaptans (variations on polysulfides), neoprene and Hypalon (both are medium-performance sealants often used to separate dissimilar metals). Some manufacturers package products in which one type of base sealant is modified by another in an effort to capture the best qualities of both. In such cases, it is useful to compare the performance of the modified product with that of its constituents to see if the combination truly performs better.

For exposed locations, the category of sealants that is of most concern to architects is the hardening, nonrigid type, which is flexible, with resistance to penetration measured by a Shore durometer. ("Shore-A hardness" refers to the type of instrument used in testing.) Except for some types of oil-resins, all of the sealants listed are called "hardening" systems because they go through a curing process when installed, be it a chemical reaction with a catalyst (two-part systems), a chemical reaction in response to water vapor in the air (one-part systems), or solvent-release systems (which cure like oil-based paints). For simplicity, not all formulations

Sealant Performance Criteria

Some of the qualities listed below can be critical for a sealant location.

- Resistance to degradation by ultraviolet light
- Resistance to degradation by air pollution
- Tendency to pick up dirt (both during cure and once cured)
- Tendency to stain adjacent materials
- Range of temperature and humidity acceptable at time of application
- Sensitivity to moisture present on the substrate during application or cure
- Presence of objectionable odor during application or cure
- Toxicity during application or if consumed after cure
- Flammability
- Mildew resistance
- Color availability
- Abrasion resistance
- Ease of application
- Pot life (length of time opened or mixed sealant can be used)
- Paintability

The longevity and strength of a sealant is often emphasized over more prosaic qualities such as an offensive odor or stain resistance.

of all types are shown. Acrylics are the most versatile, available in hardening, rigid types (primarily for use as adhesives), and nonrigid, nonhardening types (for sealing protected components where little movement is anticipated and where a permanently tacky surface is an advantage). Other nonhardening types are butyls and polybutenes which are frequently used in glazing tapes. Other polybutenes are formulated for use as insulating-glass seals.

Other selection factors

The need for a primer must be evaluated for each substrate material, since natural materials actually used on the job (stone, for example) may have more variations than producer's samples, and manmade products (aluminum, concrete) may be covered by finishes that affect adhesion. (Estimates of life expectancy in the chart were prepared by author Jerome Klosowski. Manufacturers' estimates are usually more optimistic, but not necessarily incorrect because sealant life is affected more by onsite workmanship than by material quality.) There are a number of characteristics that can be critical to sealant choice in specific locations. The checklist (left) can serve as a reminder.

In most conventional applications, the *strength* of the sealant is not critical. The design of joints subject to greater-than-average movement or stress, however, must take into account the modulus of the sealant. A high-modulus sealant can pull apart a substrate with low resistance to tensile forces, such as gypsum board or foam insulation, while a low-modulus sealant may tear within itself—fail cohesively—when joining high-strength substrates like metal panels. Another strength-related factor that may have to be considered is compression- or expansion-set, which measures the degree to which the sealant returns to its original shape after stress.

JAMES S. RUSSELL

Further data

Additional information can be found in *Sealants in Construction*, by Jerome M. Klosowski (1989). Marcel Dekker, Inc., 270 Madison Avenue, New York, N. Y. 10016; *Construction Sealants and Adhesives*, by Julian Panek and John Cook. New York: John Wiley & Sons, 1984.

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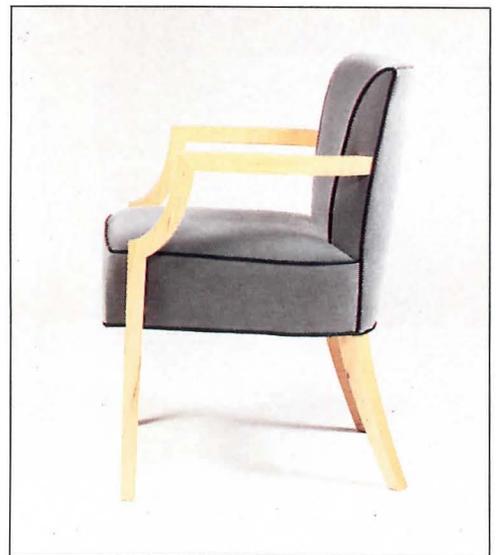


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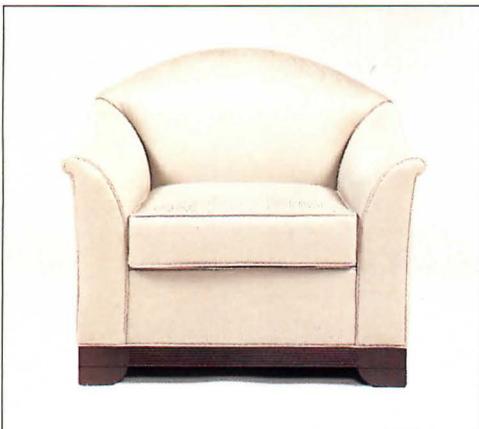
"Furniture can be works of architecture in miniature" is the opening line of Hickory Business Furniture's oversized brochure introducing a line of seating and tables designed by New York architect Robert A. M. Stern. Although promotional claims are generally just that, this glossy tabloid offers a surprisingly accurate assessment of how most architects view designing on the more modest scale of furniture. Its expanded format spotlights what is truly an ambitious undertaking for the North Carolina-based manufacturer: some 20 new pieces, all crafted in wood. If Stern's public television series "Pride of Place" depicted the architect as an armchair historian, that impression is furthered with the recent unveiling of a collection of furniture that incorporates a mix of stylistic references. As eclectic as their venerable-sounding names indicate, *Moderne* (1), *Claridge* (2), *Savoy* (3), *Chandler* (4), and *Hague* (5), among such others as *Triglyph*, *Bodleian*, and *Cyma*, the furniture conjures up visions of a worldly, but genteel lifestyle. Under the direction of its president, Christian Plasman, HBF has sought in recent years to achieve the delicate balance between tradition and innovation. In turning to Stern, the architect largely responsible for adapting Classicism to contemporary needs, the company has found an apt interpreter of its mission.

K. D. S.

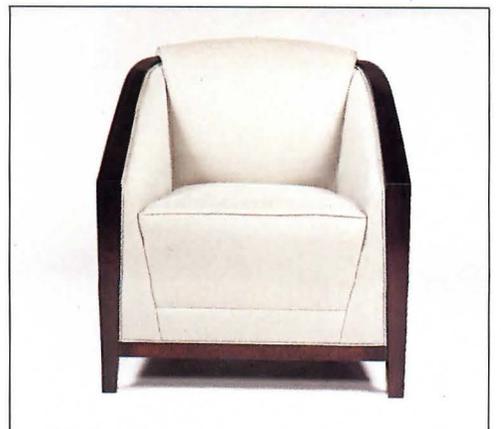
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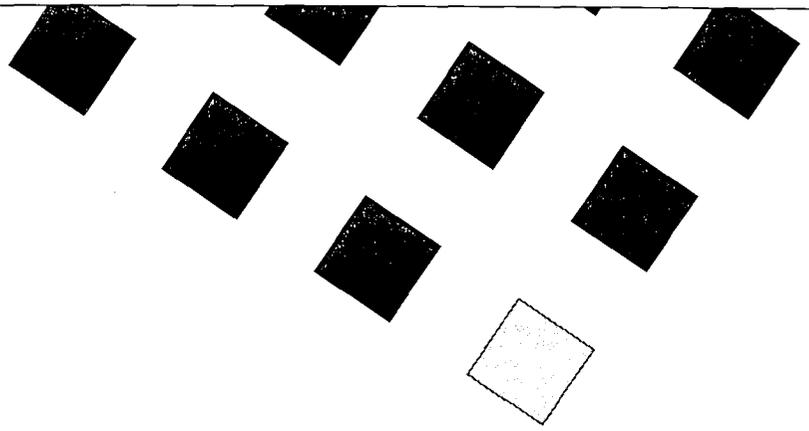
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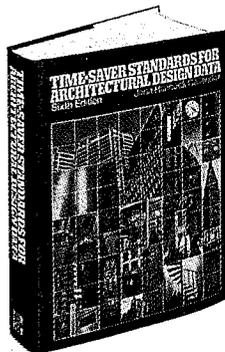
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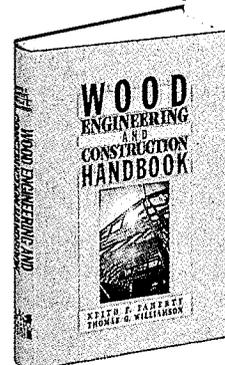
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APPLE GROWS AT TALIESIN WEST

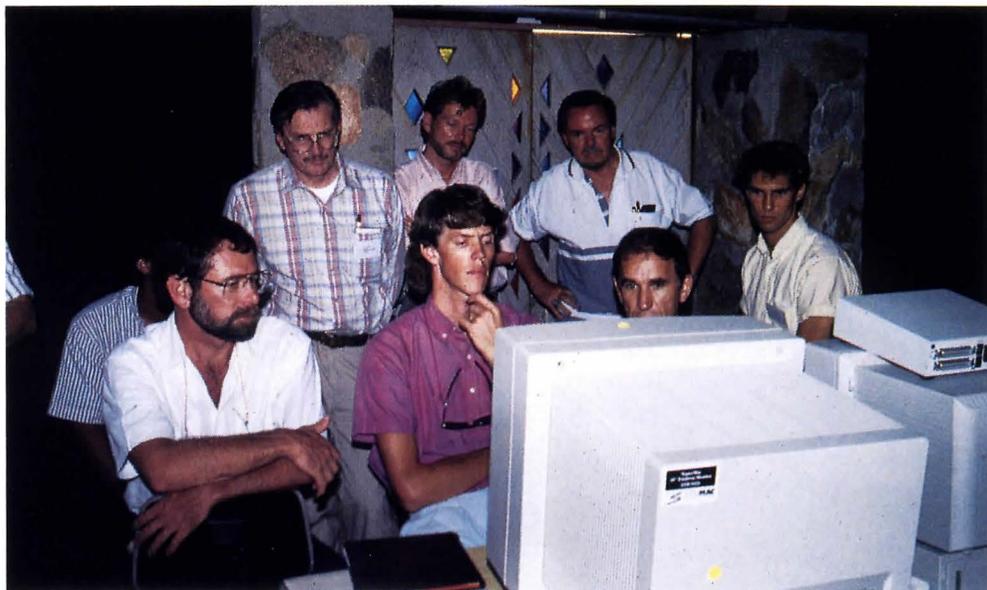
Architects test out Mac software on computers blossoming throughout Frank Lloyd Wright's Arizona studio.

The computer is not being used to the fullest extent possible by architects, even by architects who use them. Nor are the current uses tuned to maximize economic benefits to architectural firms. Frank Lloyd Wright's Taliesin West was the setting this past Labor Day week for a conference focusing on what Apple Macintosh-based systems can do to improve matters.

The conference was unusual in that participants had the opportunity to use Macintosh software as it was being discussed by speakers. To do that, a studio at Taliesin was filled with computers and printers. Among the sponsors was Apple itself, and Gimeor, the distributor of the popular Mac Architrion CAD and modeling package.

San Francisco architectural educator Fred Stitt says he conceived of the idea several years ago as a new learning experience because "rarely are new ideas generated" among professionals at conventional trade shows and sales presentations because, he believes, they "can't stimulate one another."

The practice followed by many firms—doing designs roughly, then handing them over to drafters to enter them into a CAD system—impedes productivity, speakers said. They called for more firms to bring computers right to the designers' seats. "The majority of firms do not change their



Conference participants cluster around a Mac at FLW's Taliesin West.

method of production," said Maurice Herman, director of student affairs at the College of Environmental Design at California State Polytechnic University, Pomona. "If you change the tool, you change the product."

In the words of Frank Lloyd Wright himself, "The machine can be nowhere creator except as it may be a good tool in the

creative artist's toolbox. It is only when you try to make a living thing of the machine itself that you begin to betray your human birthright. The machine can do great work—yes—but only when in the hand of one who does not overestimate its resources, one who knows how to put it to suitable work for the human being."

First, because of the separation between designer and machine, the computer is only used as a drawing tool, rather than as a receptacle for all the information about a project. Second, the designer is denied an opportunity to fiddle with the design and see immediately, on-screen, the effects of the change.

"I want to offer a better service, a better design, better buildings for my clients," said Brian Smith. "I did one housing project, a 10-unit project, with PowerDraw on the Macintosh. I was more willing to change ideas, explore things I think about. With ink and Mylar I'd be reluctant to make the change."

Jay Pace, computer manager at Taliesin, and one of the conference organizers, described the personal computer as a perfect example of the "decentralization" tool Frank Lloyd Wright talked about. He quotes Wright:

"The true center (the only centralization allowable) in Usonian democracy is the in-



Conferees held lively evening discussions in the Taliesin living room.

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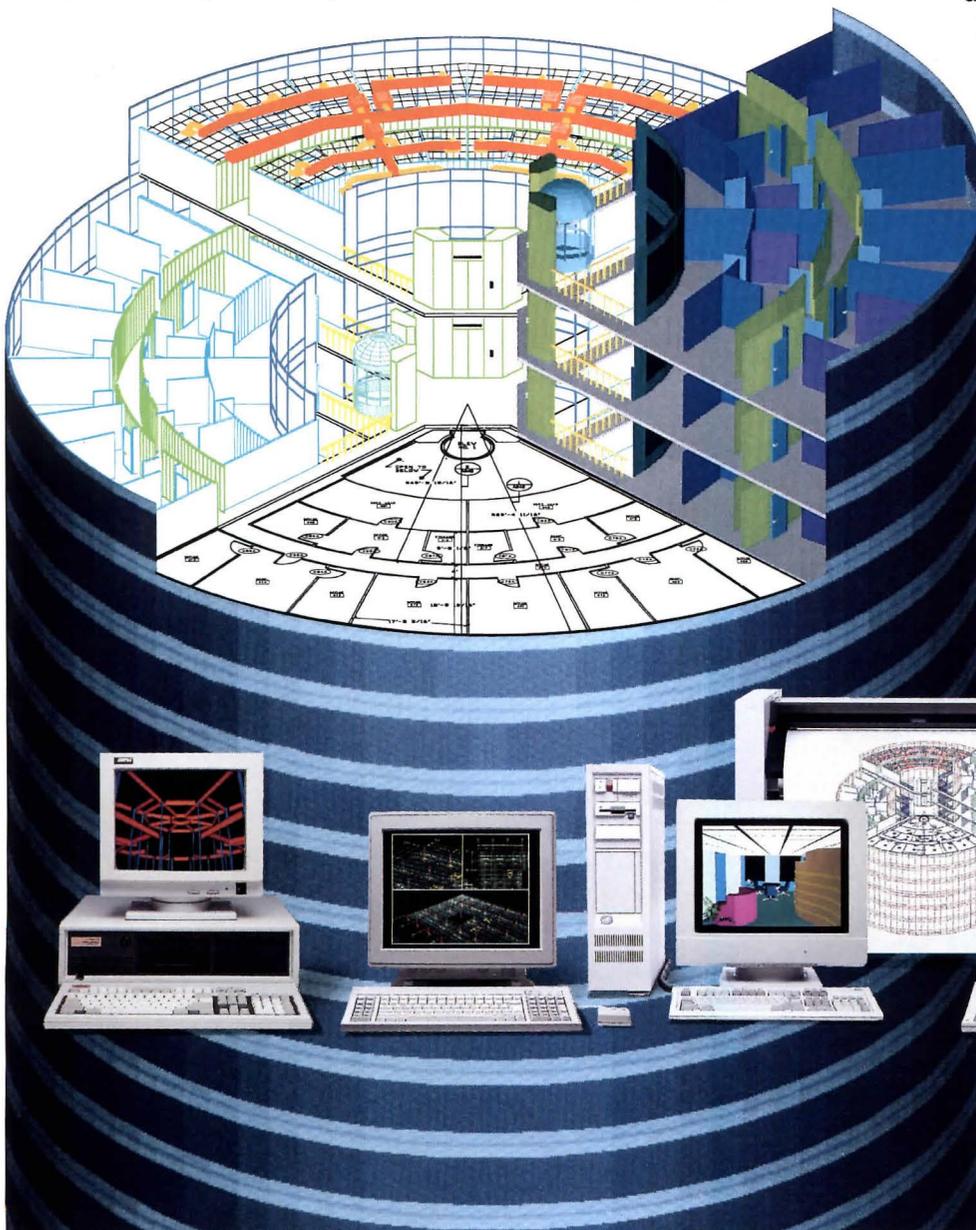
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“I’m not a corporate person. I don’t like computers. But they can do the things I hate, so I can do the things I like.” *Frank Mascia*

dividual Usonian home. In that we have the modern building which we must learn how to build. Integration is vitally necessary. Differentiation, too is just as necessary. Free individual choice is what the home should especially cherish, free choice eventually based upon a greater range of possible freedom.”

Finally, the resulting documentation may not be optimally arranged or complete enough for the firm to easily handle post-construction facilities management. “I’m not a corporate person,” said architect Frank Mascia. “I do not like computers. But it can do the things I hate, so I can do the things I like.”



Consultant Michael Fox (navy T-shirt), of Rebus Technology, Cambridge, Mass., led many of the conference’s after-hour discussions.



‘Look for a lot of little hits’

Robert W. Selzler, Apple’s AEC market manager for design and modeling, said the consistency of the Apple interface—most programs share many common commands—helps promote casual use of Macintosh software by all professionals in the office. He said Apple studies show designers actually spend only 10 to 20 percent of their time doing design work.

Newer CAD software has so many new features that some of the consistency has disappeared recently. But Selzler promised extensions to guidelines for software developers. “AutoCAD has made us even more religious about the interface,” he said. AutoCAD for the Macintosh is consistent with AutoCAD on other hardware, both in the DOS and UNIX worlds. But it is not as consistent with other Macintosh programs.

Mascia noted that the AIA lists more than 100 billable items in a project, but that fewer than a half-dozen are actually drawings. “You can do repetitive stuff. You can do details. You can justify the cost of Macintosh CAD just to do details! Specs! All the technical parts of the job! There’s a 5 to 1 advantage over manual methods,” he said. Mascia admitted that the tendency when using the computer is to “overdetail. . . the computer can draw it, but the construction workers don’t use it.” Mascia advised justifying computerization by “looking for a lot of little hits.” He said

10 minutes a day saved, at a \$25 per hour rate, is worth \$1,084 a year, assuming you can still bill the client. He recommended starting small, with slower computers and no networking if you cannot cost-justify a big system.

Smith said he was looking forward to using the computer for 3-D studies, color, and shadows. At the same time, he said, a cocktail napkin and felt-tip pen make a good design tool.

Many of the attendees saw the computer as a force that can help unify architects as well as projects. Paul Schwam and Toby Alvarado of Crowder Land Company described the need for computerization at the company’s ambitious “new town,” Santa Teresa, on the Mexican border west of El Paso. The community is expected to grow from almost nothing to well over 10,000 within five years.

“We see it getting away from us, so we hope automation is the answer,” says Alvarado, an engineer/planner on the project. Part of the computerization will help in the design of inexpensive housing.

Crowder hopes to provide solid 1,000-square-foot houses for \$6,000 to \$10,000 each, using tilt-up construction. Schwam, in architecture and planning with the project, says that by next fall “we will have hundreds of architects from all over the country dealing with us. We want to design in 3-D. We would give architects, say, from General Motors a disk. They’d give us back a proposal on disk.” Schwam hopes computers can even help analyze the design proposals to check for obvious violations of Santa Teresa zoning.

More client participation

Asa Herring uses the computer to help design store interiors. Working out of Arizona he can design to codes nationwide. “The computer also allows clients to help with brainstorming ideas, side-by-side,” he says. “Clients can come in and stretch or change designs in 3-D. The client in a sense buys into the project, so there are fewer changes later.” Designing in 3-D also allows quick, easy installation, because surprises are minimized. “We can in-

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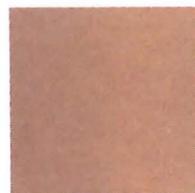
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“If the architect doesn’t grasp the technology fast, there’s going to be a machine down at the building-supply store to do all this. Architecture has to lead, to set standards.” *Jay Pace*

stall an interior from bare walls in four days,” Herring says. He started using the computer only after failing to design a particularly complex detail by hand.

Terry Sewell of OBA, Inc., Phoenix, said he designs with AutoCAD and then converts the files to FastCAD so that clients can more easily manipulate them.

Mark Nickum of Pozzi of Idaho said he was not sure he needed CAD software at all to keep track of the wide variety of shapes from which the firm builds custom windows and doors. A database program that allows a graphic view of the shapes would do the job. There are several such packages available for the Macintosh.

Michael Fox of Rebus Technology, a consulting firm in Cambridge, Massachusetts, says the advantages of 3-D modeling for client visualization cannot be overestimated. One of his clients used DynaPerspective to create realistic views for a DEC project. He says that using a large color monitor requires plenty of memory.

One firm used Macintoshes equipped with Timbuktu Remote software to simultaneously display views of a project drawn with Mac Architrion in the firm’s three offices—New York, Texas, and Virginia. The project, a large department-store interior, had to be completed within a year so that the store could open on time.

Fred Stitt said one of the most exciting products of computerization may very well be what he called the “demystification” of architecture. “People without any architectural training can design a building” with the computer. “The next step is to teach them what GOOD is.”

Pace echoed the sentiment. “If the architect does not grasp the technology fast, there’s going to be a machine down at the building supply store to do all this. Architecture has to lead,



Bark cutout patterns for dyeing, from the Wright archives.

to set standards.” Already, some building-supply firms have computer terminals to help customers design their own decks and window treatments.

Office-to-office networks

At evening meetings after the formal presentations, participants put forth ideas of office-to-office computer networks. “I see a network with no center,” said Pace. “Every node would give what it can to the others.” There was some regret: “The slicker we get, the faster we can build things,” said one. “We can cover the world with urban sprawl.”

Joe Smyth has been working on a demonstration model for county-wide plan-

ning—the Oxnard Plan in Ventura County, California—using Silicon Graphics Metasite. He praised the emerging statewide plan for New Jersey. But when he heard the plan was under attack by builders, and that architects have not offered much positive input, he suggested computer links to help architects communicate their concerns and sharpen their views.

There was some speculation on what Wright would have done with his unit system if computers had been available to create base plots while he was practicing. In Wright’s words, dug out by Pace:

“In laying out the groundplan of even the more insignificant of these buildings, a simple axial law and order and the ordered spacing upon a system of certain structural units, definitely established for each structure in accord with its scheme of practical construction and esthetic proportion, is practiced as expedient to simplify the technical difficulties of execution, and although the symmetry may not be obvious always, the balance is usually maintained.” Wright may have, indeed, had the last word on the computerization of architectural practice:

“In this day and generation we must recognize that this transforming force whose outward sign and symbol is the thing of brass and steel we call a machine, is now grown to the point that the artist must take it up, no longer to protest.

“Genius must dominate the work of the contrivance it has created. This plain duty is relentlessly marked out for the artist in this, the machine-age. He cannot set it aside, although there is involved an adjustment to cherished goals, perplexing and painful in the extreme . . .” STEVEN S. ROSS



Conferees Schwam and Alvarado admire FLW statuary.

Steven Ross’s latest book, Data Exchange in MS/PC-DOS, was published by McGraw-Hill in December.



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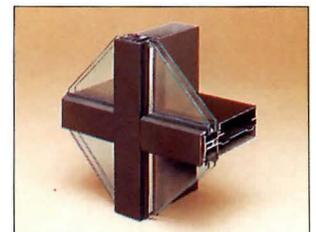
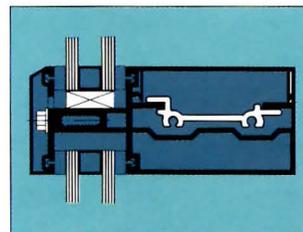
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DESIGNED FROM THE GROUND UP FOR ARCHITECTURE

Graphisoft's new ArchiCAD package for large Macintosh computers includes 2-D drafting and 3-D solid modeling.

ArchiCAD 3.4 with PlotMaker 1.03

A powerful 2-D drafting, 3-D solid modeling package for large Macintosh computers. Bill-of-materials processing is built in. So is a Geometric Description Language (GDL) that allows parametric symbols—symbols that can change dimensions, in scale—and macros for tasks such as automatic stair construction. Designed from the ground up for architecture, ArchiCAD is about as close to intuitive as high-end Macintosh software gets.

Equipment Required: Macintosh SE/30 (with large screen), Macintosh II or larger, fixed disk, System 6.0, Finder 6.1 or MultiFinder 6.0, LaserWriter driver 5.2 or later. At least 2 megabytes of random-access memory (more for MultiFinder). Color monitor recommended. The program files use 4 MB of disk space. Compatible with most plotters, standard Apple printers, and digitizers.

Vendor: Graphisoft, 400 Oyster Point Blvd., Suite 520, So. San Francisco, Calif. 94080. Phone 415-266-8720, 800-344-3468. \$3,950 with one full year of support; \$395/year thereafter. PlotMaker is \$295. A 2-D version, TopCAD, is also available.

SUMMARY

Manual: There are four: The User Manual contains information on getting started and on using basic drawing tools and libraries. The Appendix is a reference to menus and to the library. It also contains a GDL (Geometric Description Language) tutorial and numerous examples, upon which to base your own macro programming. The Case Study book covers advanced topics in a tutorial-like manner. Finally, there is a small reference manual for the GDL.

Ease-of-use: Excellent for so full-featured a package. All program functions can be accessed from within the main pull-down menu system. You do not have to exit one function (such as 2-D drafting) before getting into another (such as 3-D modeling). ArchiCAD uses a hardware "lock" on the SCSI port as copy protection. Installation is a cinch.

Error-Trapping: Good. You can open libraries with the same name—but for different projects. If you are sloppy with naming libraries, make sure the one you want is in the same folder as the drawing it refers to. The manual warns that two walls connected end-to-end (in the same line) may not be converted to 3-D properly

unless they are exactly connected—that is, at 180 degrees. But we were unable to cause an error condition by connecting them at what we think was a quarter-degree off.

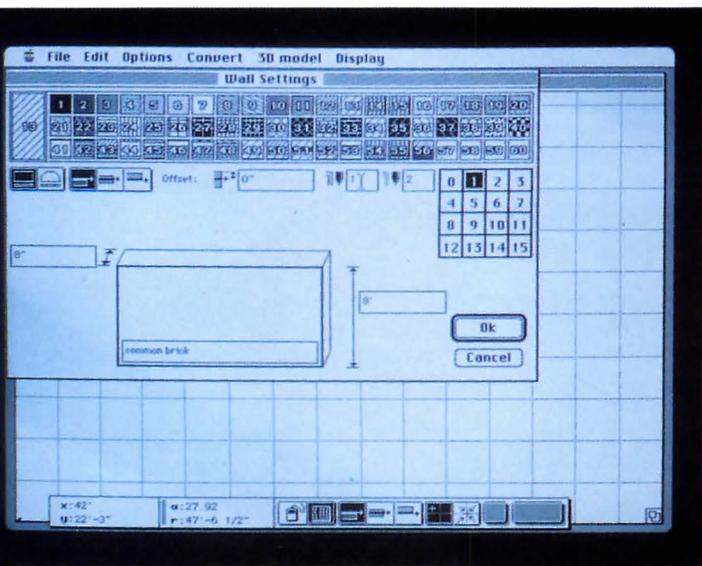
You can punch a hole in a slab (or a roof, for that matter), that oversteps the edge of the slab itself. If you do, you get an error message if you convert to 3-D. A hole in a nonexistent slab will be treated as if it were actually a slab. You check by shading the object in 3-D.

The copy-protection is well-behaved. That is, the device must be present to start the program. But files do not seem to become corrupted if the device is removed after the program is started.

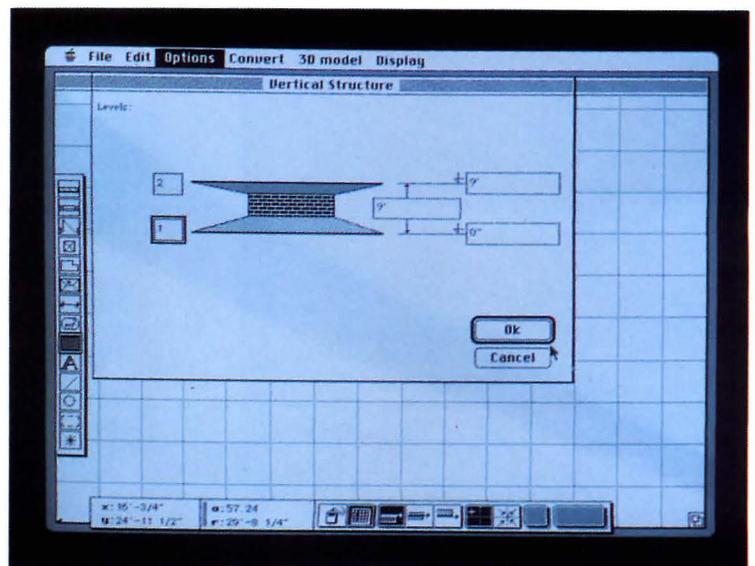
REVIEW

ArchiCAD is one of the few high-end packages that was designed from the ground up for architecture. It shows. You can draw a line on the screen, instantly turn it into the 2-D representation of a wall, then "convert" the wall to 3-D, with a "height" specification.

Like its primary competitor, Architrion, ArchiCAD allows users to build up models from solid shapes—geometric forms—with openings punched into them. That's



To change settings, open a dialog box (here, wall textures).



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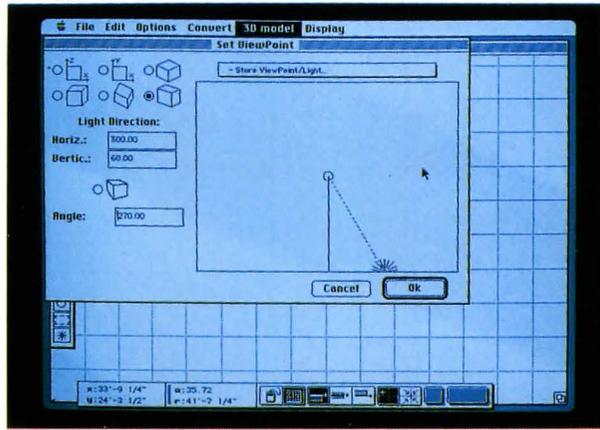
quite a bit different from more generalized CAD packages, which require that shapes be built up of smaller pieces. Unlike Archi-trion, however, the forms are more "building-like." Floors are floors, walls are walls, and so forth, rather than being somewhat abstract surfaces.

In general you draw in 2-D, while the software keeps track of 3-D settings. If you wish to change the settings for a given element, open a dialog box by clicking twice on the drawing tool you are using to draw the element. Change the settings. Then draw the element.

A window inserted into a wall, for instance, will have a different "height" than the wall itself. It will start at some level above the floor, and end at some point below the ceiling. If all the windows in a room have the same vertical placement and vertical depth, you can insert the windows into the wall in 2-D without touching the dialog box again. Holes for windows and doors can touch vertically, but one cannot be placed touching over another. If you want an irregularly shaped hole for a window or door, you create it with a GDL macro.

If you have to change things, walls and openings can be stretched or shrunk. A sloping roof added to a rectangular room can be made to truncate the vertical walls. The chief limitation is that any one upper corner of a wall can only be truncated once. You cannot truncate a wall with two roof planes (for a Dutch gambrel roof, for example). To build the hip roof, build the roof first, then stick the walls underneath.

To handle all this, you have to keep the 3-D "tools" separate from drawing "tools." The 3-D tools are: wall construction, window construction, doors, objects, slabs, and roofs. The drawing tools include one to define hatch patterns, another for lines, one for text entry, and so forth. The tool palettes can be moved around the drawing window.



The 3-D modeling is more than surface modeling, too. Details of far walls show through windows, for example. The shading is crude, though fast for a Macintosh system.

There are some nice touches that help keep the drawing speed up at acceptable levels. Say that you want to join one element to another. You can set ArchiCAD to do the joining if you come close; the on-screen cursor changes shape to show when you are close enough. No more overshooting, then snipping back. How close? You tell the software. It is tricky; you can also guide the cursor by setting a 2-D grid to snap to, or a vertical or horizontal "ruler" to do the same thing in one dimension.

There are 16 layers in ArchiCAD. They can be switched off and on. You can draw on a turned-off layer, but you won't see what you've drawn. A drawing of a multi-story building can be constructed one story at a time; each story can have all 16 layers—layers are not the same as stories. Floor slabs and ceilings can be set at intermediate levels in the story as, for instance, with a sunken living room.

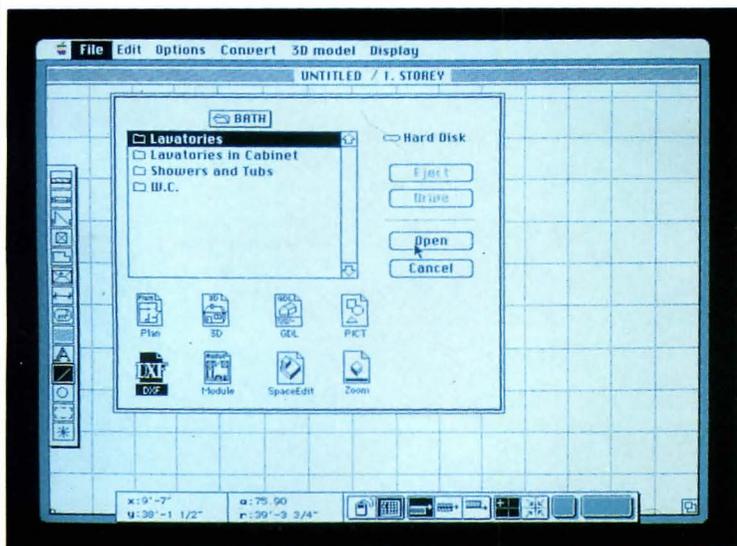
Libraries are quite flexible. They can consist of 2-D and 3-D symbols (the latter defined by GDL macros), and descriptions that will appear on the bill of materials.

The 3-D tools must be kept separate from drawing tools. 3-D tools consist of wall construction, window construction, doors, objects, slabs, and roofs. Drawing tools consist of one to define hatch patterns, another for lines, one for text entry, and so forth.

You can also import DXF files into libraries.

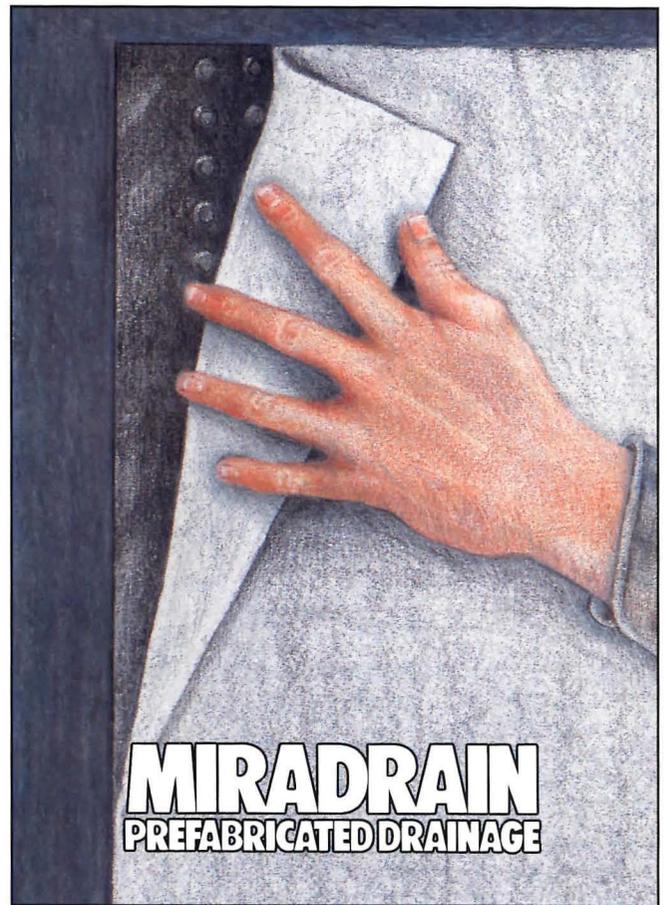
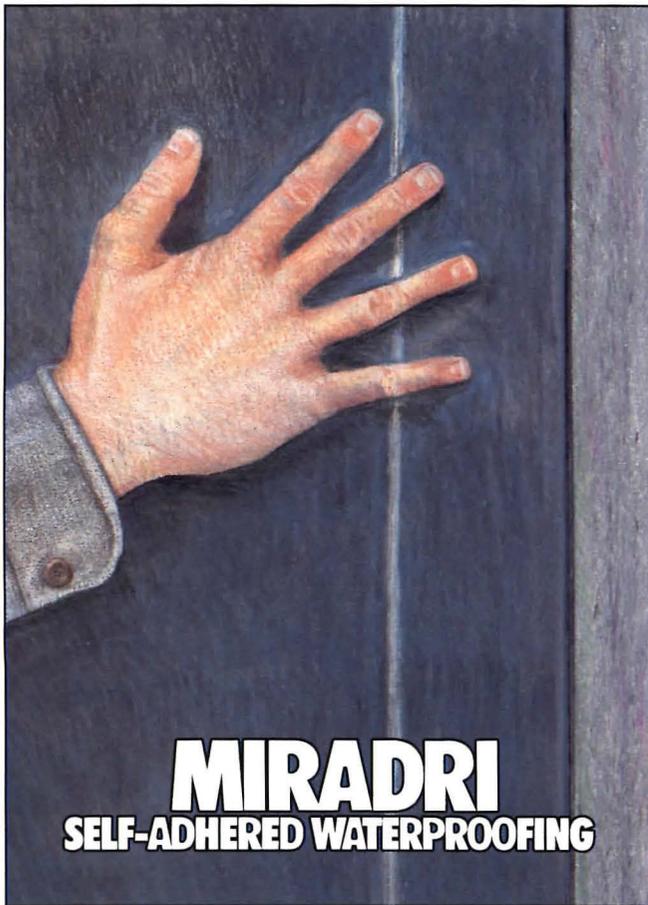
Imports and exports of data and drawings are impressive. The bill of materials can be exported in spreadsheet format, to be picked up by common Macintosh software such as Excel. Drawings can be imported or exported in PICT format, through the Macintosh clipboard. There is a DXF translator, for exchange with AutoCAD and other CAD software. But DXF does not work perfectly when exchanging, for instance, block-by-block ArchiCAD files with line-by-line AutoCAD. Not even the absolute size of a translated object is known, because DXF records only "drawing units," not actual measurements. You get a chance to specify real units during the translation. There are also translators for SpaceEdit and Zoom 3-D files, to turn them into ArchiCAD library objects.

Metric and English measurements are supported, and dimensioning is full-featured. Drawings can be of almost unlimited size. But ArchiCAD is as clumsy as most in drawing a building in context with a ground plan. In ArchiCAD's case, the weakness is in describing irregular curved shapes for contours. ArchiCAD is for describing buildings. And ArchiCAD is very good at it. *(Another review follows)*



Libraries are flexible, consisting of 2-D or 3-D symbols and descriptions that will appear on the bill of materials. A user can also import DXF files into the libraries.

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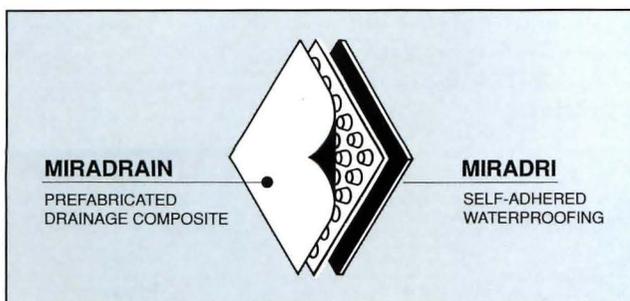
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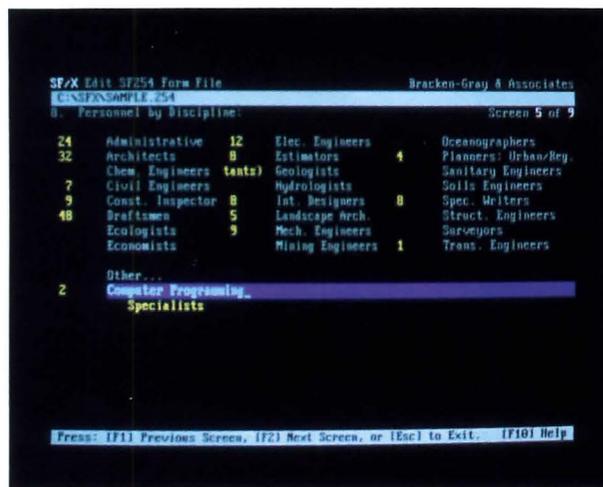
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A user can enter longer descriptions than the screen displays, such as personnel by discipline. (The "tants" in the center of the screen, for instance, stand for consultants.)



SF/X Version 1.0

Easy-to-use software for preparing Standard Forms 254 and 255 on an IBM PC or compatible with Postscript laser printers (or non-Postscript printers equipped with supplementary Postscript cards). Output is fast once the first page's fonts are downloaded.

Equipment Required: IBM PC, AT, PS/2 or compatible, 640K of random-access memory, fixed disk. The program files take up about 2 megabytes. Your firm's data files can take up another megabyte.

Vendor: Parallel Resource, Inc., 621 Stage Rd., P.O. Box 2488, Auburn, Ala. 36831. Phone (205/821-9000). \$695 including 90 days free service.

SUMMARY

Manual: Quick and to the point. The on-line help is all most users will need. The help can be edited, by the way, to acquaint part-time typists with the procedures of a small office.

Ease-of-use: Good. Forms use fill-in-the-blank screens. One oddity is the use of the F2 and F3 keys to move back and forward a screen; the normal keys for this would be PAGE UP and PAGE DOWN (those keys are used instead to page through long sections of narrative text you might enter using the built-in word processor). Another is that, to keep screens compact, some of the fields allow entry of more data than can be seen on-screen at once. There is good column-control while editing resumé files.

Error-Trapping: Good. Commands that would cause loss of unsaved data require confirmation. Pressing the ESC key to end a function automatically saves your work and moves you back one menu. Deliberately killing power in the middle of data entry lost new data on the specific screen being entered, but kept other files intact.

You will rarely want to define your own fonts for the printed output; the selection of pre-set fonts is fine for most purposes. In the event you must use a user-defined font, you will have to tell SF/X the font codes. The codes can be complicated on

printers that emulate Postscript imperfectly; as with most other types of software, there is no error-checking performed by SF/X itself on the codes or specified font sizes. Thus, output should be checked before final files are printed.

REVIEW

Here's a program that will not do all the things full-house marketing software can handle. It will not handle prospect mailings, for example. But it does SF254 and SF255 with ease. Data entry is simple and just about fool-proof. And the output—on a LaserJet equipped with Postscript interface board, Pacific Data Postscript cartridge, or Postscript printer—is gorgeous. All the standard Postscript font styles and sizes are supported on the SF/X menu, with italics, underlinings, and boldface included.

No special form cartridge is needed for your LaserJet, as long as it is equipped with a Postscript board or cartridge. SF/X downloads whatever you need to the printer.

The SF254 is a corporate biography, updated periodically and sent to federal agencies you wish to do business with. The

SF255 is project-specific, sent by your firm in response to a specific request for proposal.

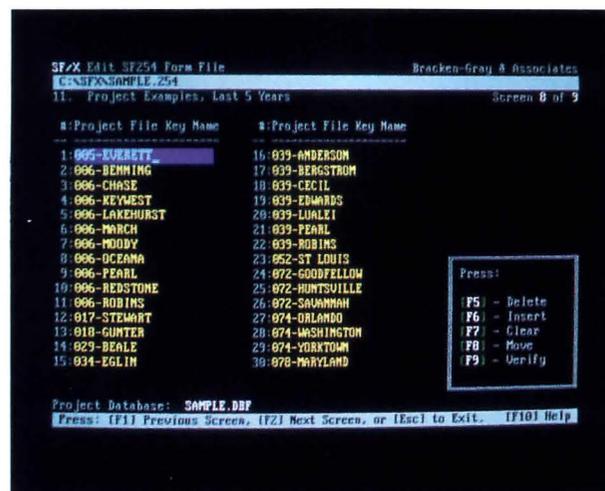
You can copy an entire existing file to a new filename, then edit the new file without disturbing the original. Resumés, projects, and lists of qualifications for the forms are stored in separate databases that can be accessed for just the information you need to include for a specific project proposal.

The project's database is compatible with dBase III. If your files are already in that format, you can edit field lengths and field names while inside dBase III, and import the file into SF/X. Branch offices, associated firms, and consultants can all be flagged.

Up to 60 resumés can be handled in any one proposal, with two resumés per page. The last 26 resumé pages are numbered 8a through 8z. Extra-long resumés can take up more than one side of the form pages, although you may have to print the specific page a few times to get it looking just right.

One minor irritant is the inability to output directly through the serial port or through special cards that sit inside your PC and add Postscript processing to a non-Postscript printer. Older LaserJets and many Postscript printers require serial input. You can, however, save your print file to disk, and then use a DOS utility, PRINT.COM, to actually send the file to the printer. Postscript files are lengthy, however. A complete set of forms can take a half-megabyte or more of disk space.

You may have to experiment with the interval between sending of pages to the printer; there's no automatic sensing to make sure the printer is ready to receive a new page after an earlier one has been sent. But most Postscript printers seem to have enough on-board memory to allow the interval to be set to "zero." □



Standard Form 254, with a project file key name on the screen. It is updated periodically and sent to federal agencies the architect is doing business with. "Data entry is simple and just about foolproof," says the author.

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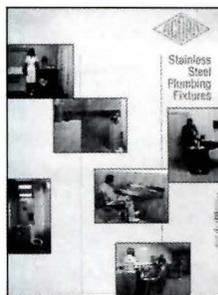
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For more information, circle item numbers on Reader Service Cards



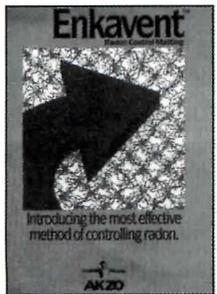
Tile-setting materials

Product performance data and color photos of all standard grout shades are included in an architectural brochure on TEC ceramic tile and marble setting systems. ANSI data is charted for adhesives, mortars, grouts, and additives. TEC Incorporated, Palatine, Ill. *Circle 400*



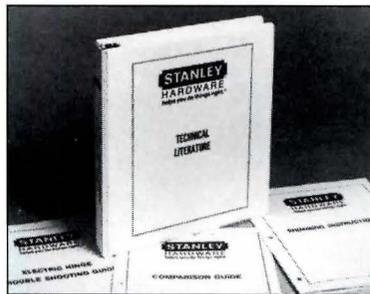
Stainless-steel plumbingware

Five lines are profiled in a 16-page catalog. Built to be durable, save space, and conserve water, products include group washing units, lavatory/toilet combinations for patient rooms, and extra-duty prison fixtures. Acorn Engineering Co., City of Industry, Calif. *Circle 406*



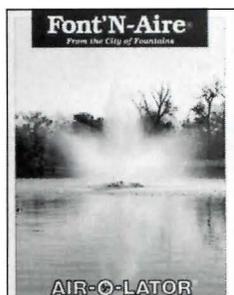
Radon gas control

A four-page brochure explains the use of Enkavent fabric-faced nylon matting in the construction of an under-slab venting system for radon gas. ASTM test results are given for all components. Akzo Industrial Systems Co., Asheville, N.C. *Circle 401*



Hardware specification

A series of architectural hardware brochures suggests solutions to problems associated with poor door performance. In print are Shimming Instructions and an Architectural Hinge comparison guide. Stanley Hardware, New Britain, Conn. *Circle 407*



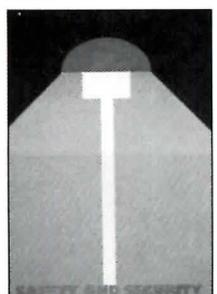
Aeration fountain

Designed to prevent algae growth and unpleasant odors in ponds and lakes, the Font'N-Aire floating fountain also adds a decorative element. A brochure illustrates various spray patterns and illuminated fountains. Air-O-Lator Corp., Kansas City, Mo. *Circle 402*



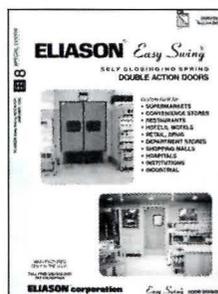
Vinyl-faced gypsum panels

Revised to illustrate some of the newest vinyl finishes available in the Textone panel line, a four-page product brochure also contains full technical and installation information. Textone offers lower in-place costs than field-applied vinyl. United States Gypsum Co., Chicago. *Circle 408*



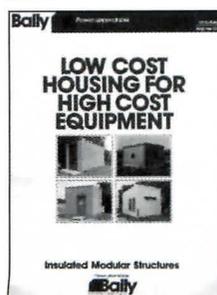
Security lighting

An informative 36-page guide helps the building owner realize the importance of lighting designed for a specific function. Quality issues discussed include glare, color rendition, and light trespass. Small charge. The National Lighting Bureau, Washington, D. C. *Circle 403*



Double-action doors

A colorful catalog demonstrates how a wide range of appearance and function options let the Easy Swing self-closing door work in institutional, factory, restaurant, and health-care interiors. Eliason Corp., Kalamazoo, Mich. *Circle 409*



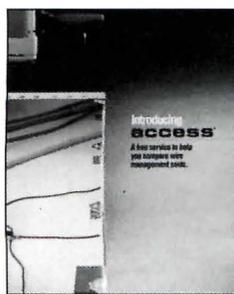
Modular structures

Modular equipment structures can be assembled on-site of pre-insulated panels clad in steel, aluminum, or stone aggregate. A four-page catalog describes erection, thermal values, and appearance options. Bally Engineered Structures, Inc., Bally, Pa. *Circle 404*



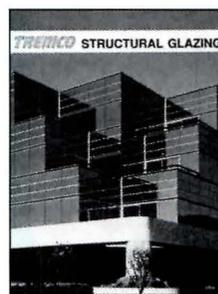
Architectural woodwork

Profusely illustrated with on-site photography, a catalog covers wood mantels, moldings, chair rails, deep-relief carvings, linenfold paneling, and balustrades. All designs are by Anthony Lombardo. 54 pages. Architectural Paneling, Inc., New York City. *Circle 410*



Access flooring

A brochure highlights the technological, real-cost, and accelerated depreciation benefits of C-Tec access flooring systems. A free analysis service compares the long-term costs of individual wire-distribution systems in a specific structure. C-Tec, Inc., Grand Rapids, Mich. *Circle 405*



Structural glazing

Products that meet the severe performance, adhesion, and installation requirements of structural glazing applications are explained. Necessary design considerations are discussed, and glazing details are illustrated. 16 pages. Tremco, Beachwood, Ohio. *Circle 411*



Self-Portrait with Bandaged Ear, 1889

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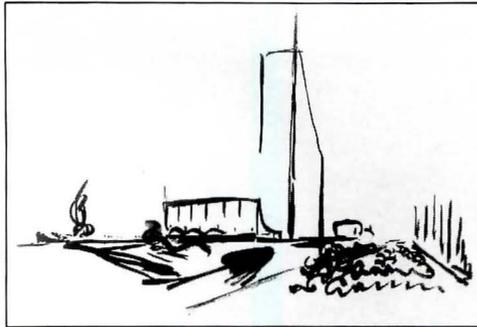
Biographer Victoria Newhouse reevaluates the work and role of Wallace K. Harrison.

Wallace K. Harrison, Architect, by Victoria Newhouse. New York: Rizzoli, 1989, \$45.00.

Younger generations of architects have often been compelled, in one fashion or another, to kill their fathers and teachers in order to make their own mark. With the ascendance of the European avant-garde around mid-century, the break became particularly brutal as the Modernist pioneers—propelled by a vision of messianic fervor—carried out hatchet jobs on the leaders of the Beaux-Arts establishment. There is a certain poetic justice in seeing the reputations of some of these same Modernists ambushed in turn by their own students, but the process has made life very difficult for the historian.

Consider the case of Wallace K. Harrison. In her fascinating new book on his long and varied career, Victoria Newhouse makes clear that Harrison was anything but a Modernist ideologue. Nevertheless, his reputation has suffered enormously in recent years along with those of virtually all of the most conspicuous and prolific American practitioners of the postwar era, including Eero Saarinen, Paul Rudolph, Minoru Yamasaki, Edward Durell Stone, and Gordon Bunshaft.

Though the projects on which Harrison



Sketch of the United Nations

collaborated early in his career, such as the original buildings of Rockefeller Center, the Rockefeller Apartments, the Trylon and Perisphere at the 1939 New York World's Fair, and the United Nations, are widely admired, most critics today disparage his largest postwar commissions, notably the later additions to Rockefeller Center carried out in the 1960s and '70s along the Avenue of the Americas, the Lincoln Center cultural acropolis in New York, and, above all, the Albany Mall, the massive remaking of New York State's capital complex. Because these bold and self-confident projects epitomize the expansive mood of the 1960s, they were a natural target for the next generation of architects who called for a less assertive, finer tex-

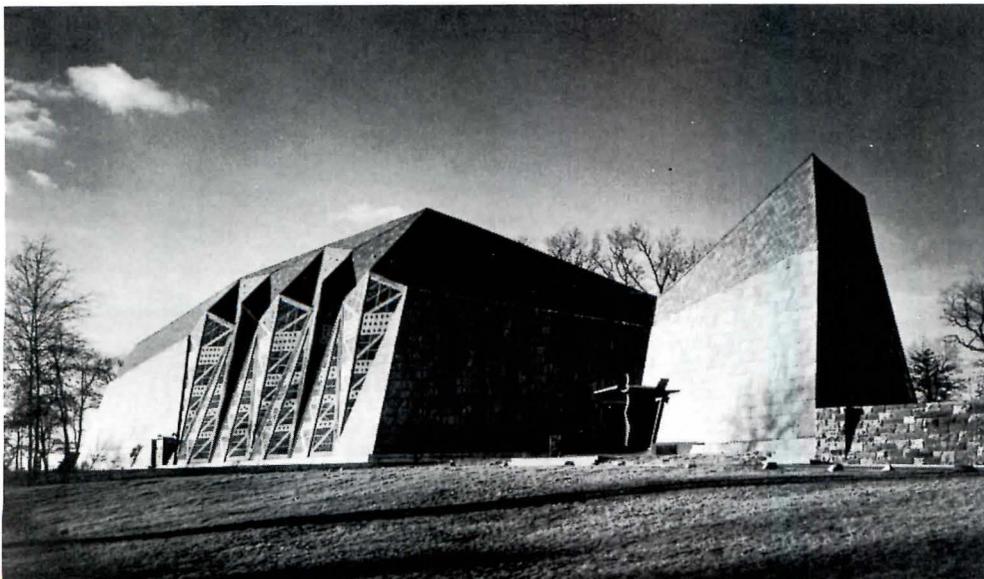
ture, more ornamented architecture.

Though Newhouse cannot be said to have single-handedly resuscitated Harrison's reputation, future generations will certainly be thankful that she took him on. In a series of interviews with Harrison, his wife, and a number of colleagues and clients, she unearthed a wealth of testimony that would have disappeared without trace in a few years time and that sheds light on not just a career but on an entire age already past.

The author tells the story of this rich and full life with economy and style. Along the way the reader is treated to a series of short but highly evocative vignettes of prominent figures with whom Harrison collaborated. We meet William Zeckendorf barking orders into telephones at his Monte Carlo restaurant table; the "ebulliently excitable" Raymond Hood; Oscar Niemeyer, whose layers of oversized sweaters made him look like a ragamuffin; and Le Corbusier, whose monumental ego led to bizarre antics during the design of the United Nations. Nor is Harrison himself slighted. It is remarkable how much we learn from the few beautifully crafted passages about the rise and heartbreaking decline of the relationship between Harrison and his larger-than-life patron, Nelson Rockefeller. Rockefeller is portrayed as monumentally self-confident and generous in his early years, but later disillusioned. The older Harrison, the governor's steady and dependable counselor, in the end feels betrayed. Newhouse describes so well Harrison's reserved, aristocratic facade that it will no doubt disappoint some readers that she is unwilling to probe very far beyond the surface of such conflicts, but this undoubtedly would have threatened the relationship of subject and biographer.

When the author turns from Harrison's life to his work, it is clear that she faced major problems. To her credit, Newhouse recognized that the size and complexity of Harrison's practice required a complex narrative. She sometimes follows the story of a major project through a lengthy gestation, but at other times interrupts her narrative to jump to other commissions so that she can juxtapose new and recurrent stylistic themes and plan organizations.

Continued on page 188



The First Presbyterian Church in Stamford, Connecticut



Bristol Myers Research Facility, Wallingford, CT
Architects: The Stubbins Associates, Inc., Cambridge, MA
Roofers: Premier Roofing, W. Haven, CT
Photographer: Hay Photographers



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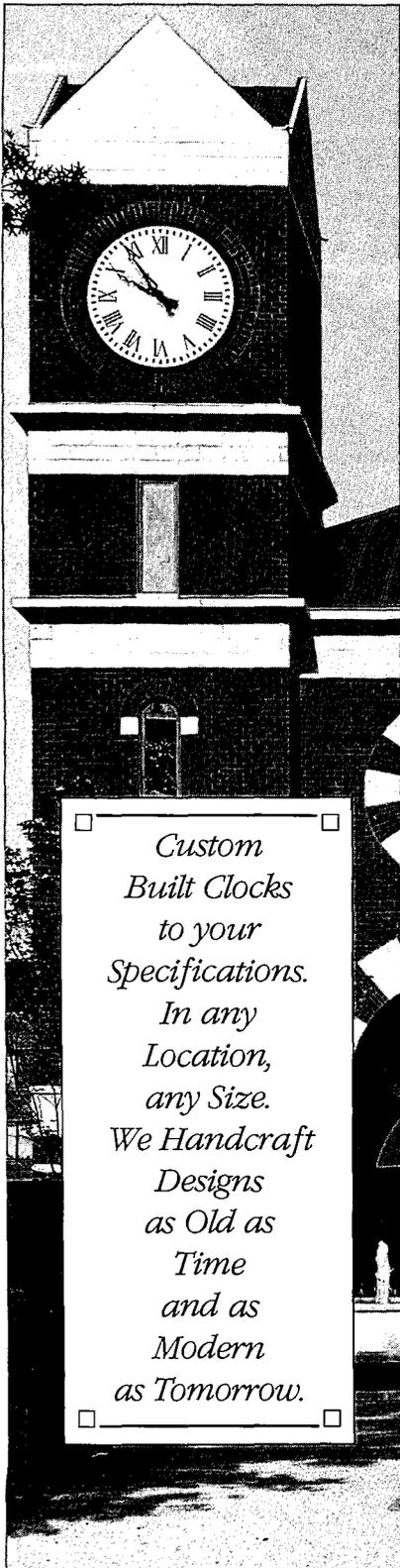


Pitney Bowes, Inc. World Headquarters
Architects: I. M. Pei & Partners, New York, NY
Roofer: Gottfried Roofing, Inc., Stamford, CT
Photographer: Hay Photographers

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Books continued from page 186

Despite a valiant attempt to tell all of these stories, it is no surprise that some are more satisfying than others. Harrison's efforts in the field of housing, for example, are given short shrift, with middle-income apartment complexes lumped together with public-housing projects.

The author is much more successful in the larger public commissions where she could rely on first-hand accounts. She has managed to fashion coherent narratives filled with fascinating new information on the United Nations, the 1964 World's Fair, Lincoln Center, and the Albany Mall, all such dauntingly large subjects that each deserves a book in its own right.

Newhouse made considerable effort to determine what the architect himself actually did, a problem inherent in the biography of a principal of a large firm. But the record remains somewhat murky since there is virtually nothing on how the office was organized, how profits were divided, or how much credit should be given to Harrison's partners, especially Max Abramovitz.

Newhouse's most crucial problem was to place Harrison's work in a historical context and to judge it. This was probably a hopeless task. One of the great obstacles is that since Giedion and Pevsner, the standard view of modern architecture takes European avant-garde Modernism as the gold standard. This viewpoint is wholly inadequate to explain the more pragmatic, particularly American, flexibility of a Wallace Harrison, whose work could be by turns revivalist and eclectic without ceasing to be modern. And in an era that prizes the small-scale, personal, and idiosyncratic work of personages like Carlo Scarpa or Louis Kahn, it would probably be futile to attempt to convince most readers that a figure like Harrison—whose personal vision had to accommodate corporate committees, always-insufficient public funds, and undertakings at almost superhuman scale—merits at least equal attention. Newhouse has refused to take the easy way out, making Harrison into a great hero or a figure betrayed by forces beyond his control. She is content, for the most part, to report how buildings were received at the time of their completion and to leave the job of deciding on Harrison's ultimate place in history to later scholars and pundits. She does, however, remind us that those buildings most ferociously damned by one generation often become the most admired monuments of the next. By the time the current heroes' heads are being carried through the street on pikes, the reputation of the Albany Mall will no doubt have begun to soar. In the meantime, Victoria Newhouse's quiet, sympathetic biography should continue to offer readers a good introduction to one of America's most interesting architects. □

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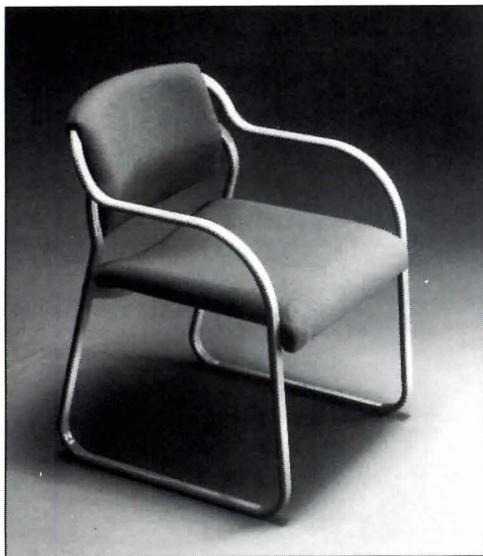
Continued from page 166



Reception desk

Designer Jack Kelley describes Corridor Group furniture as successfully accommodating the "ideal look" of the traditional office to today's computers, modems, and FAX machines. A U-shaped configuration, this reception-area station has a support rail for above-the-desk mounting of telephones, VDT monitors, and shelves. Sligh Furniture Co., Holland, Mich.

Circle 306 on reader service card



Occasional seating

The Twist Chair is named for the subtle change in direction Bruce Sienkowski gave the tubular metal of the frame as the back curved into the arm support. Suggested for almost any multiple-unit contract application, the chair comes in the stacking, four-leg version pictured, and as a sled base. Charlotte, Inc., Belding, Mich.

Circle 307 on reader service card



Low-voltage accent lighting

Called Lytejacks, Lightolier's halogen accent lights plug into a powered jack that can be recessed as shown, as well as surface- or track-mounted. The fixture is a Style Jack, a cobalt-blue cased-glass pendant. Also offered are Focal Jack spotlights that give directional accent lighting. Lightolier, Inc., Secaucus, N. J.

Circle 308 on reader service card

Continued on page 193

Normandale Lake Office tower developed by Trammell Crow Company
Bloomington, Minnesota
Architects: Wilson, Jenkins & Associates

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Models 550 combination over-n-under refrigerator freezer.

Continued from page 191



Mortise lockset

30H Series mortise locksets are designed to provide enhanced security, and to meet the stringent California Administrative Code Title 19 and 24 handicap access and function requirements. A new forged lever handle with curved return is made of brass, bronze, or stainless steel; lock case, mechanism, and knob hubs are heavy-gauge steel. Interchangeable core allows master-keying with existing or new systems. Best Lock Corp., Indianapolis.

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Compact kitchen units meet stringent new New York City accessibility and adaptability requirements, as well as pending federal standards. Designed for office, apartment, and private home applications, the kitchen components can be made with steel, laminate, or wood cabinets. An undersink cabinet can be added where accessibility is not crucial. Dwyer Products Corp., Michigan City, Ind.

Circle 311 on reader service card
Continued on page 199

95%* of architects who use glass block specify

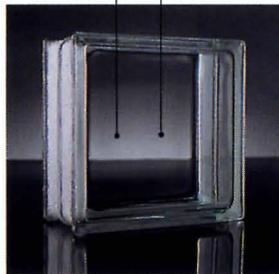
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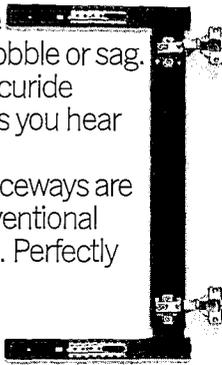
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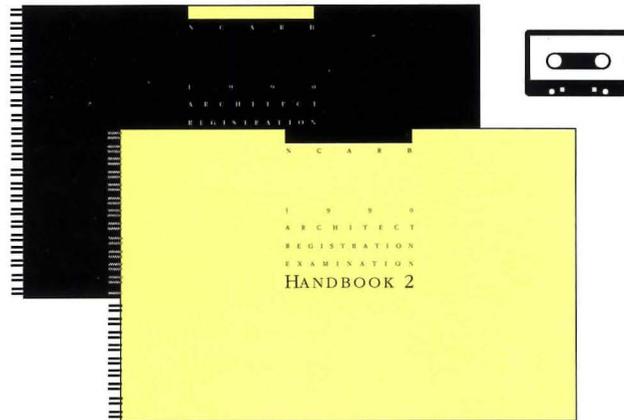
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Manufacturer Sources

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 82-89

Creative Artists Agency

I. M. Pei & Partners, Architect

Pages 82-85—Marble: Bruno Poggi e Figli. Storefronts, entrance, spandrel panels, and sun-control louvers: Corona Aluminum. Glazing: Spectrum Glass Products. Sealants: G. E. Co., Silicone Products.

Pages 86-87—Custom rug: Edward Fields, Inc. Lobby seating: Knoll International. Skylight: Plas-Tal Mfg. Co. Paint: Benjamin Moore.

Page 88—Carpeting: Harbinger. Custom workstations: Architectural Woodworking. Elevator: Fujitec.

Page 91

Armcast Duplex

Rebecca L. Binder, Architect

Siding: Weyerhaeuser Co. Wood doors: T.M. Cobb. Awning windows: Milgard.

Pages 92-93

14-16 Leroy Place

Hood Miller Associates, Architect

Aluminum-framed windows: Bonelli. Paint on redwood siding: Kelly-Moore. Upward-acting garage door: custom by architects. Door glazing: Rohm & Haas (Plexiglas). Locksets: Schlage Lock Co. Tile: Monarch Tile Mfg. Co. Fireplace: Majestic. Elevator: Inclinor Co. of America (Elevette).

Pages 94-95

Lombardia

Hood Miller Associates, Architect

Mission-style clay roof tile: Gladding, McBean & Co. Exterior sconces: Louis Poulsen, Inc. Lights at main entrance: custom design by Shaper Lighting. Aluminum-framed windows and sliding doors: Blomberg.

Pages 96-97

Meadow Court

David Baker + Associates, Architect

Siding: Masonite (Superside Pineridge). Elastomeric roofing: Dex-O-Tex. Asphalt shingles: Celotex Corp. Aluminum-framed windows and sliding doors: Alenco Div., Redman Building Products Inc. Wood doors: T.M. Cobb. Locksets: Schlage Lock Co. Paints: The Glidden Co.

Pages 98-99

Seacliff

Kanner Associates, Architect

Paint on cement plaster: Ameritone. Out-

door furniture: Brown Jordan. Locksets and door hardware: Russwin Div., Emhart Hardware Group. Facade lighting: Killark.

Pages 108-115

Herman Miller Manufacturing and Distribution Center

Frank Gehry, Architect

CMU: Crystalite Block Corp. Windows: Blomberg. Paint: Frazee; Ameritone; Pratt & Lambert Co. Metal cladding: galvanized steel; 16-oz copper. Translucent fiberglass panels: Resolite Div., H. H. Robertson Co.

Pages 124-127

Gates of the Grove Synagogue

Norman Jaffe, Architect

Page 124—Windows and doors: custom by architects, fabricated by David Webb.

Pages 125-127—Custom woodwork: David Webb. Quartz-lighting fixtures: L.S.I. Limestone: Valders Dolomite. Carved lettering: Randall Rosenthal. Bema: custom by architects, fabricated by David Flatt.

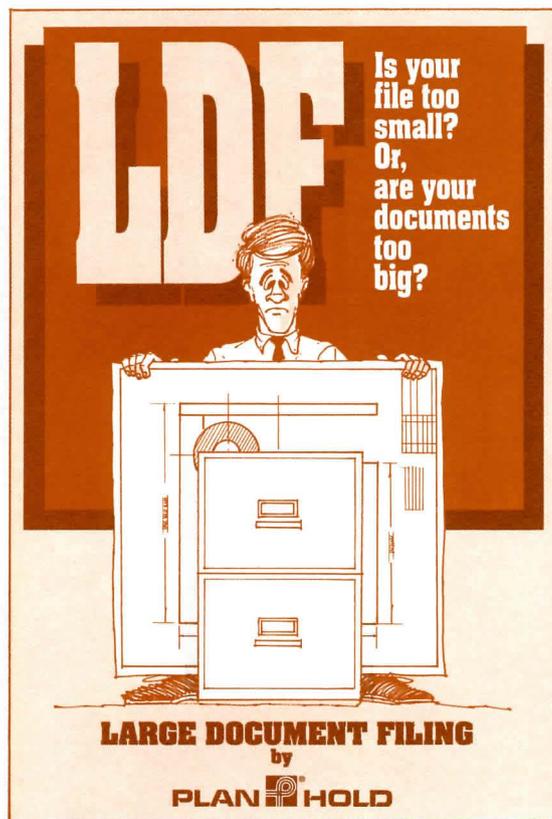
Pages 128-129

Beach United Methodist Church

William Morgan Architects

EPDM roofing: Firestone Building Products Co. (Rubbergard). Stucco: Thoro System Products (Thoro Seal). Aluminum-framed windows: Kawneer Co., Inc.

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Exposed wood ceiling: Douglas fir. Paints: The Glidden Co. Pews: Sauder Mfg. Co. Carpeting: Mohawk Carpet Mills. Dimming system: Lightolier, Inc.

Pages 130-131

Blackhawk Baptist Church
Harding Associates, Architects
Pre-engineered building frame: Atlantic Building Systems. Brick: Carolina Ceramics. Metal wall panels: Walcon. Aluminum windows: Wausau Metals Corp. Carpeting: Patcraft Carpet Mills. Pews: Hall Manufacturing. Upholstery: Chatham. Sanctuary downlights: Prescolite. Acoustic panels: Armstrong. Paints: Benjamin Moore.

Pages 132-133

St. Peter's Catholic Church
Hugh Newell Jacobsen, Architect
Brick: Belden Brick (Alaska White Veour). Metal roof: Petersen Aluminum Corp. Aluminum-framed windows: J. Sussman, Inc. Skylights: Royal Greenhouse. Shutters: Arlington Woodworking. Brass-elad entrance: Brite Vue Glass Systems, Inc. Locksets: Schlage Lock Co. Closers: LCN Closers. Hinges: Stanley Hardware. Concealed exit devices: Von Duprin, Inc. Floor-recessed closers: Dorma. Pews: custom by Valley City. Lighting: Rambusch, Inc. Sanctuary benches: custom by architect, fabricated by Michael Milner.

Calendar

January 13-March 12

"Architects' Art," an exhibit of functional art by architects, features seating, lighting, tables, jewelry, and ceramics by architects from the United States, Europe, and Japan; at the Gallery of Functional Art at Edgemar, Santa Monica, Calif.

February 2-4

For the centennial of the American Institute of Architects' Committee on Historic Resources, a symposium titled "The Role of the Architect in Historic Preservation: Past, Present, and Future"; at the National Building Museum, Washington, D. C. Architects, educators, and preservation activists will participate.

February 18-22

"Accent on Architecture," a national celebration of design excellence by the American Institute of Architects national awards program. Events include a symposium on architecture on Feb. 18, and a gala awards dinner on Feb. 22. An exhibit, "Sir Christopher Wren and the Legacy of St. Paul's Cathedral," runs Feb. 22-May 8; at Octagon Museum, Washington, D. C.

February 22-March 31

"Industrial Baroque," architectural designs, furniture, and paintings by architect Arthur Cotton Moore; at the Barbara Fendrick Gallery, New York City. Exhibit

travels to Fendrick Gallery, Washington, D. C. April 5-28.

Through March 1

"Tool as Art: The Hechinger Collection," a collection of 85 works made of or from tools, hardware, and building supplies; at the National Building Museum, Washington, D. C. (202/272-2448).

March 7-8

A conference, "Europe 1992, Market Update: Doing Business in Europe," by Frost & Sullivan; at Hotel Parker Meridien, New York City. For information: Frost & Sullivan, 106 Fulton St., New York, N. Y. 10028 (212/233-1080).

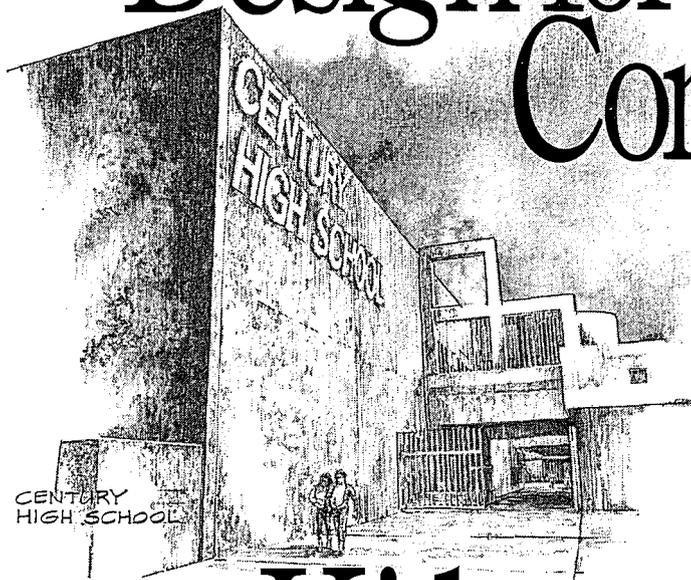
March 13-17

"Seventh International Making Cities Livable Conference" with special sessions "Reviving the Heart of Cities and Towns," and "Urban Design for Children and the Elderly"; at the Center for Well-Being, Carmel, Calif. Registration due by February 1. For information: Suzanne H. Crowhurst Lennard, P. O. Box 7586, Carmel, Calif. (408/626-9080) or Fax (408/624/5126).

March 14-May 18

"Architecture Tomorrow: Tod Williams/Billie Tsien—Domestic Arrangements," an installation of elements for a house with a focus on nontraditional uses of inexpensive materials; at the Whitney Museum of American Art, Downtown at Federal Reserve Plaza, New York City.

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Century High School, Santa Ana, CA

Developer: Santa Ana Unified School District,
Santa Ana, CA

Architect: Ralph Allen & Partners, Santa Ana, CA

Engineers: F.T. Andrews, Inc., Fullerton, CA;

Frederick Brown Associates, Newport Beach, CA;

Ralph Allen & Partners, Santa Ana, CA;

Consultants: J.D. Sales Company, Inc., Los Angeles, CA;

David S. Hayes, Fullerton, CA

Sunnycrest Animal Care Center, Fullerton, CA

Developer: Dr. Richard and Mrs. Mary Glassberg

Architect: JDR Corporation, Brea, CA

Engineers: JDR Corporation, Brea, CA; Triad Foundation
Engineering, City of Industry, CA

Consultants: Shea and Associates, Huntington Beach, CA;

Purkiss Rose Associates, Fullerton, CA; APS Security Systems,

Pomona, CA; Barrington Systems, San Carlos, CA;

Dorian Hunter, Fullerton, CA; RWR-Pascoe Engineering, Inc.,

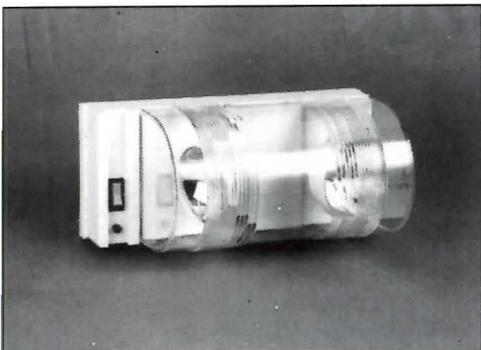
Costa Mesa, CA



Southern California Edison

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Continued from page 191



Decorative emergency fixture

A compact unit only 5 1/2-in. deep by 11 in. long, the New Provider light may be ordered with a vandal-resistant polycarbonate diffuser. The lamp heads are fully adjustable, and have mirrored reflectors. The fixture has been designed to blend with many commercial interiors, and can be mounted in any orientation on walls or ceilings. Emergi-Lite, Westbrook, Conn.

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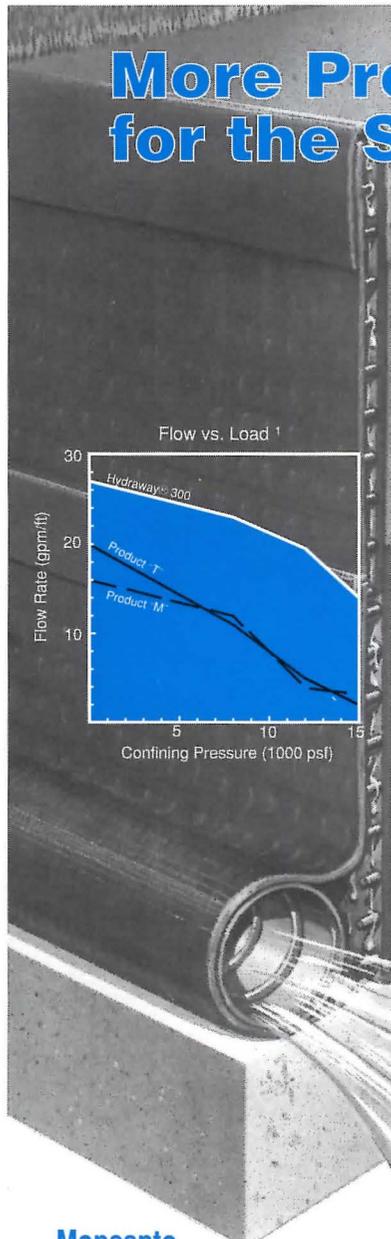
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Continued on page 201

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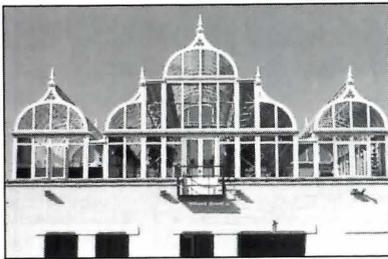
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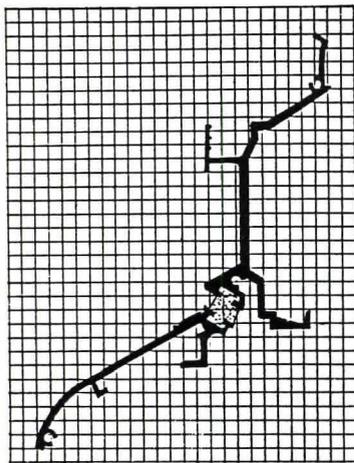
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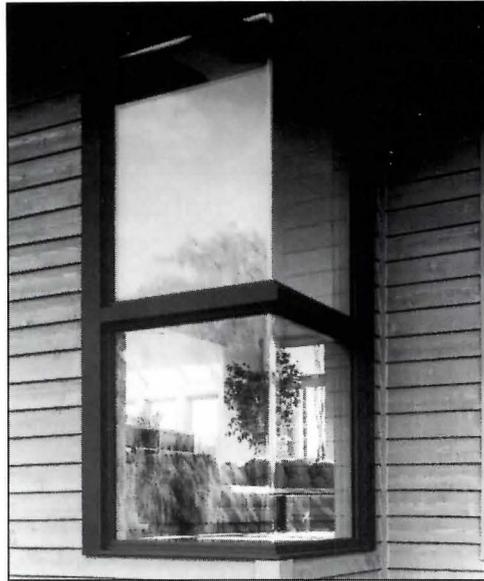
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Continued from page 199



Seamless corner window

A new all-glass corner reinterprets Frank Lloyd Wright's box-expanding window treatments in a sleek, contemporary style, with 1-in. insulating glass bent at a 90-degree angle to create a seamless corner without post, mullions, or butt joints. Framed in solid pine, bent-glass windows are available in seven standard sizes, up to 60 in. tall by 40 in. wide, with a choice of mold casings and jamb extensions. The window can be installed one or two units high at corners, as shown, with cantilevered structural framing, or into flat walls as triangular bays. Marvin Windows, Warroad, Minn.

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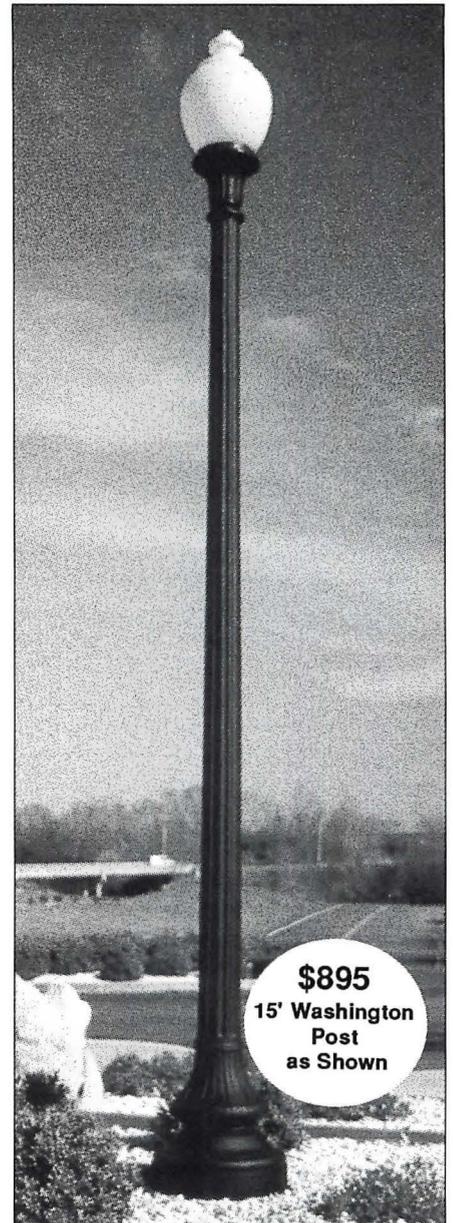


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Continued on page 203



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University of Tennessee, Knoxville. The School of Architecture is seeking candidates for up to four (4) full-time, one year, Visiting Lecturer positions, salary commensurate with experience. The appointments will begin August 1, 1990, and the candidates should be prepared to teach design and have a related field of expertise. Applicants should have a M. Arch Degree, or a B. Arch with experience in teaching and/or practice. Senior faculty or practitioners seeking to extend their experience are encouraged to apply. Please send a curriculum vitae, portfolio, and the names, addresses, and phone numbers of three references to: Faculty Search Committee, c/o Dean's Office, 217 Art and Architecture Building, 1715 Volunteer Blvd., The University of Tennessee, Knoxville, Tennessee, 37996-2400. Review of applications will begin on Feb. 1, 1990, and continue until the positions are filled. The University of Tennessee is an Equal Opportunity/Affirmative Action Employer. We encourage applications from women and minority candidates.

Department of Architecture Norwich University. Seeking faculty member to fill tenure track position starting in fall 1990. Norwich offers two different campus lifestyles: the Military College of Vermont in Northfield and Vermont College in Montpelier which offers the traditional campus setting. The Architecture program is located on the Vermont College campus, which traces its history to the early 1800's, and will be housed in a circa 1870 building that is undergoing a \$1.6 million renovation. The Bachelor of Architecture program is admitting its first class in fall 1990 with a timetable of NAAB accreditation in place. Norwich has strong engineering programs, a strong engineering technology program, and a strong liberal arts. With these as a base, the thrust of the architecture program will be to strike a balance between structures and design. The successful candidate must have a M. Arch, teaching experience at schools with NAAB accreditation, a record of scholarly and/or professional work, and be registered. Rank and salary will be commensurate with background. For the first year the individual will be teaching basic architectural drawing, construction practices, and possibly some history. Please send letter of application, vita, statement of philosophy regarding education in general and architecture education specifically along with the names, addresses, and phone numbers of three references by 15 February 1990 to: Robert E. Schmidt, Chairman of the Department of Architecture, Vermont College of Norwich University, Montpelier, Vermont 05602. EOE. Women and minorities encouraged to apply.

The Princeton University School of Architecture is seeking candidates for the full-time position of Assistant Professor in Architecture. The position is tenure-track. Teaching duties include participation in undergraduate, professional (M. Arch) and doctoral programs. Qualifications include: teaching experience at the level of assistant professor or above; background in architectural design and one of the following: urban design, building technology, history and theory, and computer graphics. Position to begin September 1990. Application letter and vita should be sent before January 31, 1990 to: Faculty Search Committee, Princeton University, School of Architecture, Princeton, NJ 08544. Princeton University is an Equal Opportunity/Affirmative Action Employer.

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