ARCHITECTURAL RECORD

Business Design Engineering
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May 1984

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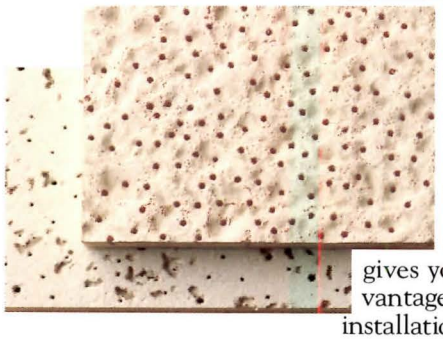

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Letters

Thank you for the Jacobsen details in the February 1984 issue. Especially the bud vase in the mirror-lined oriel.

Maybe details should be a monthly feature of your magazine. Could be that many readers relish this kind of thing.
Richard Devens III, AIA
Center Sandwich, New Hampshire

Please congratulate James J. Foley for his excellent article on architectural education [RECORD, February 1984, page 41 et seq.]. It has been a long time in coming; education is the root of our dying practice. Now that we have focused on the disease of the root, hopefully, we can treat it and have it flourish once again so that the architect can once again achieve his abdicated role as captain of the built-environment team rather than as a mere substitute player.
William Krisel, AIA
Los Angeles

I wish to congratulate James Foley, FAIA, for his very candid article on the schools of architecture in Ohio. I share Mr. Foley's opinion that Ohio schools offer diverse programs for those who wish a particular exposure to certain "academic thrusts." I would like to add that over the past 20 years Ohio has produced many talented architectural graduates who have gone on to become successful practitioners throughout the United States.

Once again, bravo!
Michael F. Martin, AIA
Walnut Creek, California

Regarding the article "Architectural education: a practitioner's view" in your February 1984 issue, I found James Foley's subjective statements concerning Miami University to be careless and simplistic. As a 1979 graduate of Miami, I did find the program to be very design-oriented. Miami's emphasis is on the individual. The school provides a stimulating environment in which each student develops by choice his or her own methodological approach to the profession, supported by a complement of technical courses. There are, thankfully, no design gurus. In their stead is an open and intelligent faculty and well-chosen visiting critics.

I can assure Mr. Foley that when I joined this firm after graduation, I was fully aware of the necessity for structural integrity, the inherent possibility of leakage due to poor selection of materials and inadequate detailing, and the importance of conformance to building codes. I was also very aware of the necessity for honesty and open-mindedness.
Daniel M. Zabowski
Senior Designer
The Architects Collaborative
Cambridge, Massachusetts

Thank God for Ada Louise Huxtable! "The tall building artistically reconsidered: the search for a skyscraper style" [RECORD, January 1984, page 63 et seq.] was the best contextual statement on the subject this reader has been privileged to read in decades.
Bert Anderson, AIA
Alameda, California

Corrections

We should like to correct an important area of misinformed reporting in your coverage of our One Rodeo Drive project in Beverly Hills [RECORD, January 1984, page 55]. The Brown Derby "famous architectural hat" was *never* on this site. The building that was razed for our development was not an historical landmark, although it did house one of the Brown Derby restaurants.
Jerrold E. Lomax, FAIA
Lomax Rock Associates
Venice, California

Architectural credits for the work of Benjamin Thompson & Associates, Inc., at New York City's South Street Seaport (RECORD, January 1984, pages 104-107) should have named Philip Loheed as associate-in-charge of the design team for the New Fulton Market and Bruno D'Agostino as partner-in-charge of the firm's part in the over-all project, including the master plan and streetscape, Fulton Market and Pier 17 Pavilion.

Your article on office furniture and acoustics [RECORD, November 1983, pages 132-135] refers to MUZAK music in ways that suggest that Muzak is a synonym for environmental music. The trademark MUZAK identifies an entire line of products and services provided by the Muzak Unit of Westinghouse Broadcasting and Cable, Inc. It should be used only as a proper adjective to modify common descriptive words. The proper usage is either "MUZAK environmental music," "MUZAK sound systems," or even "MUZAK music," but never just "Muzak."
Enola G. Aird
Vice President and General Counsel
MUZAK
New York City

Calendar

May 1-24
1983 AGC/AIA Student Design Competition, including drawings and models of a proposed Junior Achievement Center by Dayton-area high-school students; sponsored by Associated General Contractors (AGC) and the American Institute of Architects (AIA), Dayton Chapter; at Gallery at the Old Post Office, Dayton, Ohio.

May 22 to July 15
"Great Drawings from the Royal Institute of British Architects Drawing Collection," exhibit sponsored by AIA; at the Octagon, Washington, D. C.

June 4-7
A/E (Architects/Engineers) Systems '84, fifth international conference trade show on the art of automation and reprography in design firms; at the Baltimore Convention Center. For information: Linda Ladas, Technology Marketing Analysis, 680 Beach St., Suite 428, San Francisco, Calif. 94109 (415/474-3000).

June 5-9
RETSIE '84, Renewable Energy Technologies Symposium and International Exposition, along with American Solar Energy Society Annual Meeting and Conference; at Anaheim Convention Center, Anaheim, Calif. For details: Charles A. Bankston, Inc., 2861 Arizona Terrace, N. W., Washington, D. C. 20016, Attn: ASES '84 (202/363-6693).

June 18-19
Small-Firm Roundtable, "Staying Small Successfully," at AIA headquarters, Washington, D. C. Roundtable will be repeated June 21-22 at the Radisson Muelebach Hotel in Kansas City and June 25-26 at the Fairmont Hotel in San Francisco. For information: Bill Hooper, AIA, 1735 New York Ave., N. W., Washington, D. C. 20006 (202/626-7532).

June 24-26
Southern California Home Furnishings Market, at Anaheim Convention Center. For information: Ellen Sandler, Exhibit Manager, Southern California Home Furnishings Market, 1516 South Pontius Ave., Los Angeles, Calif. 90025 (213/477-8521).

June 30 to August 19
ARQUITECTONICA, models, plans, photos and isometric drawings of completed buildings and projects by Bernardo Fort-Brescia, Laurinda Spear and Hervin Romney; at Center for the Fine Arts, Miami.

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Education begins near home

The AIA, properly, is working at the national level to have the profession "position itself in such a way that the public will seek the advice of architects in all matters concerning the built environment." But, of a host of ideas explored at a recent meeting of the AIA's Media Advisory Committee, what interested me most was the advice from newspaper writers in attendance that the best way to "position the profession" is for local architects to take the lead in involving the public in *local* design and planning issues—and early, while there is still time for the public to offer some meaningful input (not necessarily get their way, but make their points). Specifically, might not it be helpful for local chapters to encourage their members in every town or neighborhood to co-sponsor with the local newspaper a series of forums on issues of community importance, and help the public face up to the inevitable conflicts and controversies? To choose a bucolic example: In the town where I live, the water company has expressed a wish to sell hundreds of acres around its reservoir (which it no longer needs since it has switched to deep wells, and no longer wishes to pay taxes on). Questions that a community forum might discuss: How should the land be developed, given that, on one hand, it abounds in protected wetlands, and on the other hand abounds in potential profit for developers and builders? Could the land somehow be kept in open space—but then who (all the townspeople?) has the money to buy it? Is this the time (in the cause of building around the wetlands) for the town's planning and zoning commission to adopt cluster zoning? Would this be the time to consider a sensitively designed office complex that would occupy only a relatively small part of the land? But then what about traffic on the little country roads serving the site? This piece of land in question is big enough to impact on everyone in town—and on the town and its tax structure (that'll get the people out!). What better people to lead the discussion than the local architects—with the support of the town government and community thought leaders. *Before* the inevitable conflicts that will cause the architects involved not to be sought out for advice, but become the lightning rod for community discontent. *W.W.*

Robert E. Fischer, 1923-1984

I am very sorry to have to tell you that Bob Fischer, who had been responsible for the architectural engineering content of RECORD for over 35 years, died on March 25th after a long illness. He was 61 years old.

Bob joined the staff in 1948, as a young engineering graduate of Purdue and Carnegie (inappropriately, in chemical engineering), and for all of those 35 years he remained a young man—full of enthusiasm, with ever-broadening interests, always willing to try something new.

To Bob, a new structural system or heat recovery system or acoustical system was as elegant as the most beautiful building. He wrote *very* early about subjects that are now taken for granted—computer use, energy conservation, the relationship of good architectural engineering to good design. He was editor-in-charge of the memorable annual special issues on "engineering for architecture" from 1974 to 1981—for which he took many of the most memorable photographs. He was always running late (with copy, etc.) but that was because he was so committed to what he was working on and cared so much about getting it right.

As the word spread some months ago that Bob was no longer able to work, a score of engineers called to ask if they could help somehow—maybe they could write an article to help fill in ... or well, *do* something. Those calls were a moving expression of their respect and admiration and love for their, and our, friend.

Bob had a phrase he liked to use in his stories. He used it about once a year. "The most important thing is the right man with the right expertise at the right time." Bob Fischer, for those of us who worked with him and for the literally thousands of professionals whose work was touched by his work, was the right man with the right expertise at the right time for 35 years. *W.W.*

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National Bureau of Standards to investigate all building failures?

An amendment currently in House committee would require NBS to participate in all investigations of structural failures and would be passed as part of the 1985 NBS reauthorization bill. The departure from previous practice here is that NBS only investigated when asked to by local and state governments.

Times Square Tower competition announced

The former Times Tower in New York City's Times Square is the subject of a design competition to generate ideas and stimulate discussion about the contribution the design disciplines can make toward defining and enhancing the future of the Times Square area. Completed in 1908 in typical turn-of-the-century "classical" style, the tower was reclad in recent years with an austere "modern" skin. It is important as a central feature of Times Square today and as the focal point of a group of proposed new towers to be built as a Times Square revival project. Registration must be by May 22, and entries submitted by July 3. For more information, contact Virginia Dajani, The Municipal Arts Society of New York, 212/935-3960.

Management surveys offered

Three surveys useful in the management of design firms are offered by the *Professional Services Management Journal*. They are an executive salary survey, a financial statistics survey and one of design-service fees. Their purpose is to compare your firm's operations with others, and they can be bought from PSMJ Surveys, 126 Harvard Street, Brookline, Mass. 02146.

User fees for tax relief certification take effect

Unimpressed by congressional disapproval and by numerous protests, including that of the AIA (see RECORD, November 1983, page 35), the Interior Department is introducing new user fees for developers and others who want to take advantage of tax relief for certified-historic-building rehabilitation. The new rules also make states' participation in the certification process no longer mandatory.

Projects estimated to cost less than $20,000 are exempt. Above that, the fees are graduated, ranging from $500 for rehab projects between $20,000 and $99,000 to $2,500 for projects of $1 million or more. Preservationists say the user fees don't save the government any money because they are tax deductible and because they require a new collection bureaucracy and that they don't aid preservation because they go to the Treasury.

"A developer immediately writes off 25 per cent of the fee paid and depreciates the remainder," points out Nellie L. Longsworth, president of Preservation Action. "Besides the silliness of this," says Longsworth, "we believe it will affect smaller projects. We also question whether there is precedent for fees as high as this in other agencies."

Preservation Action, along with other interested groups such as the Conference of State Preservation Offices and the National Trust, now may try to attack the problem via Congress by inserting language into an Interior's appropriations bill that would prohibit the Park Service from hiring more staff to handle the fee collection.

In general, preservationists say, the new fees and voluntarization of preservation efforts at the state level mirror what they contend is the Administration's basic antipreservation position based on its deficit-cutting philosophy. They point out that the fiscal 1985 budget does not contain any preservation funding for the states or for the National Trust, the fourth consecutive zero-budget request.

Perhaps paradoxically, at the same time as the Park Service announced the user fees, the General Accounting Office came out with a report praising the Park Service for its handling of the tax incentive program to stimulate rehabilitation. *Peter Hoffmann, World News, Washington, D.C.*

Construction contracts continue on near-record steady course

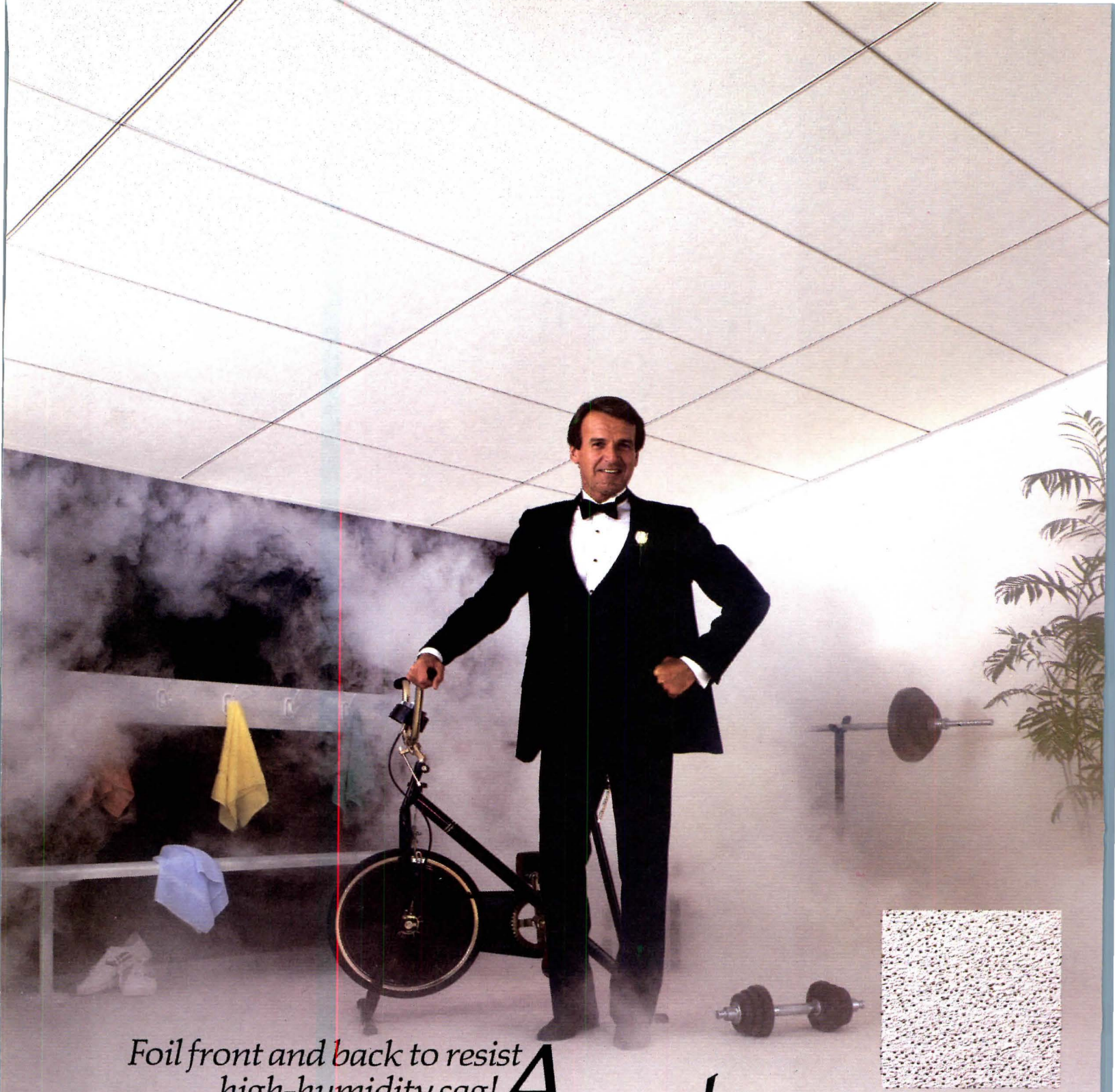
As predicted in McGraw-Hill Information Systems Company's *Construction Economy Update* for 1984 (see RECORD April 1984, pages 27-31), the construction economy, with a big boost from institutional construction, continued at near-record levels through February, according to the company's figures released in late March. Newly started construction of all kinds in February reached $14.2 billion for a seasonally adjusted index of 150, compared with last year's average index of 138. The rise for the year as a whole is expected to be nine to ten per cent. As reported in *Update*, this trend is expected to continue until rising interest rates dampen its momentum.

Two-day course in understanding Federal review processes offered

The United States Office of Personnel Management and the Advisory Council on Historic Preservation are offering a two-day course in understanding appropriateness-review-processes by the council. For more information contact the office of Personnel Management, P.O. Box 7230, Washington, D.C. 20004 (202/254-3211).

DOE to fund individual energy research efforts

The Department of Energy is soliciting proposals for energy and energy-related research and development by individuals, organizations or firms. For information, contact Procurement and Assistance Management Directorate, Forrestal Building, 1000 Independence Avenue, S.W., Washington, D.C. 20585.



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Office notes

Offices opened

William P. Midgley announces the opening of his new office, Midgley Associates, Architects Inc., 9300 West 110th Street, Overland Park, Kansas.

William P. Becker announces the opening of his office for the practice of architecture located at 1541 Sansom Street, Philadelphia, Pa. 19102.

Michael Stanton has established a new architectural firm called Stanton and Associates, Architects. The office is located at 21 Columbus Avenue, Suite 221, San Francisco, Calif. 94111

The Design Partnership Inc. has opened new offices at 1706 Race Street, Philadelphia, Pa. 19103.

David H. Watkins announces that Don W. Carter and D. Kirk Hamilton have joined the formation of their new partnership, Watkins Carter Hamilton, Architecture, Planning, Interior Architecture, 6565 West Loop South, Suite 535, Bellaire, Tex. 77401.

Stanley R. Cain announces the formation of a new office for the practice of architecture located at 140 North Loomis Street, Naperville, Ill. 60540.

David J. Heckler & Associates, Inc. announces its formation and location at 2525 Wallingwood Drive, Suite 1001, Austin, Tex. 78746.

Alan B. Hutchins announces the opening of his practice for architecture, The Hutchins Company, Architects Inc., S. 147 Lake Shore Road, Grafton, Wis. 53024.

Buday Wells, Architects has been formed by Richard Buday and Dwayne Wells with offices at 900 Lovett Boulevard, Suite 102, Houston, Tex. 77006.

Firm changes

William B. Tabler Architects announces that Yoshiro Hashimoto and William C. Meagher, Jr. have been made principals; Benjamin L. Hope, Jr. and William E. Lowry to senior asociates and Eric M. Ohr to associate.

Midgley Associates, Architects Inc. announces Richard H. Sweers as an associate and Brent Gillespie as an associate and director of interior services.

Fee and Munson, Architects announces the appointment of Alisa Quint as the director of interior architecture and Guy Stiles as associate.

Bussard/Dikis Associates, Ltd., Architects/Interior and Graphic Designers announces the acquisition of Dulaney and Associates. David John Dulaney has joined the firm as a project manager and a stockholder. Tim Van Cleave has joined the firm as a project architect.

The Tarquini Organization, Architects and Planners announces the appointment of Harold Lichtman to principal and vice president and Daniel D. Sciullo as senior vice president.

John R. Benson has been appointed marketing manager at Sasaki Associates, Inc.

The Grad Partnership announces the appointment of Dennis A. Posen as director of administration.

James M. Meng has been named project manager of SHWC, Inc.

Charles R. Womack & Associates-Architects, Inc. announces that Mary A. McManaway and Michael S. Youla have joined their staff. John Kersey has also joined the staff as a draftsman and Karon Mason as an executive assistant.

Kenneth H. Kantrowitz and William F. Bell have joined the staff of William/Trebilcock/Whitehead.

Christine Hunter has been promoted to associate of The Edelman Partnership/Architects.

Irving A. Mennen has been appointed health care consultant for Rogers, Shahine & Deschler, Inc.

Larsen/Juster Architects and Planners announces the appointment of Jorge Ambrosoni as director of design and James K. Maeda as technical director.

Hugh Stubbins and Associates, Inc. announces its new name to The Stubbins Associates, Inc. The following appointments are also announced: Hugh Stubbins, chairman of the board and chief executive officer; Richard Green, president; W. Easley Hamner, executive vice president; Merle T. Westlake, senior vice president; Edwin F. Jones, senior vice president.

Cooke-Douglas-Farr, Ltd. Architects, Engineers and Planners announces the appointment of James R. Somers as landscape architect.

Roe/Kite announces the appointment of Deborah Brandt as project designer.

Charles W. Nixon has been promoted to president and chief operating officer of Geren Associates/CRS.

Lawrence Goldberg has been named to the position of senior project manager for Nadler and Philopena Architects Planners.

3D/International announces the promotion of Robert W. Chambers to vice president.

Continued on page 265

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Circle 36 on inquiry card

Round Table:
Computer use in the small architectural firm

Will the computer bring fun and profit—
or will it demand an end to smallness?

ARCHITECTURAL RECORD invited 13 architects and interior designers and four computer experts to Chicago to discuss the benefits of computers to smaller firms. The architects and designers represented firms ranging in size from six to over a hundred people, and their computer systems ran the gamut from Apple II computers to a $200,000 CAD system. Their experiences, too, offered a good cross section of what's happening in the profession today. There was little question, however, about whether small firms *should* use computers. As one participant put it: "In a few years that's going to be a moot point. There's no way you are going to practice any profession without using computers."

The Round Table began with the question:

Will computers help smaller firms compete more effectively with larger firms?

And this in turn led to a discussion about size. RECORD had defined "smaller" as firms with fewer than 25 people—a number chosen because firms of that size usually cannot afford to have a computer expert on staff.

"As computerization really takes hold, the number of professionals will be less and less meaningful as a measure of the size of a firm," said Charles Davis, of Davis Associates Architects & Consultants in Chicago, a 12-person firm that relies heavily on computers. He explained that the productivity ratio his firm is getting from its two CAD stations, which it uses for two shifts, gives it, in essence, a capacity comparable to that of a 25-person firm.

Many smaller firms may not want to compete with larger ones, according to Jack Train, of Jack Train Associates in Chicago, a 15-person firm: "The number of people in a firm is the result of a philosophy or approach," he explained. "A small firm, for example, is one in which the principals control all of the decisions and take all of the responsibilities. In a medium-size firm, the principals still retain all of the ultimate responsibility but delegate some of the decision-making process to others. And the large firm delegates both." It is this distinction, according to Train, that explains the problems many small firms have in using computers.

Another problem Train pointed out is that smaller firms are basically firms with one or two principals, and today, most people in that position are over 35 years old and thus were not exposed to computers in their formal education. "Time will begin to resolve it, but that, more than anything else, is why a lot of small firms are leery of the computer," said Train. "You just can't take the time, if you are a practicing architect in a small

Jack Train
Jack Train Associates
Chicago

firm, to go back and develop the groundwork and computer familiarity, even if you want to do an effective job."

Charles Chief Boyd, partner in Brase Boyd Sober Broach Workman, of Tulsa, whose firm has grown from five to 28 persons in less than a year mainly because of computers, took the opposite tack: "The survival of the small firm is dependent upon computerization," he said. "From a business standpoint, architects and engineers are very stupid. We take a very, very small profit for a very big liability. Computerizing our firm has increased our profitability substantially, and I think that today we're smarter business people than we were before we computerized because our profitability relationship to our liability exposure is now starting to make sense."

But, argued Norman DeHaan, of Norman DeHaan Associates, Inc., Chicago, a 12-person firm whose practice is largely in interior design, profit is not what motivates most small firms. "Most of them are not really business firms at all. They're a commitment to a personal hobby and the gratification has absolutely nothing to do with profit or they wouldn't be in business." Because of this, he said, "the principals have no intention of losing personal control. I think that's the problem with the small firm and computers."

The participants had found many uses for their computers —some of them new

Naturally, much of the discussion centered on computer-aided design, which has captured everyone's imagination. But, as many of the participants pointed out, CAD is the most difficult way to get started with computers. The more prosaic non-graphic business functions also offered opportunities for greater productivity and for new services.

"I worked with a 16-person firm in Honolulu that had four project managers and four word processors," said Howard Birnberg. Birnberg is president of Birnberg & Associates, Chicago, which does management consulting and marketing for the design professions, and publisher of *The Profit Center*, a newsletter on management, marketing and computer issues. "They required that the project managers work only on the machines; no written documents," he said. "They are down to one secretary, and maybe one of these days she will go too. They have lowered their overhead. They have become more productive. And they have certainly become a lot more competitive and been able to expand their operations as a result."

Norman DeHaan
Norman DeHaan Associates
Chicago

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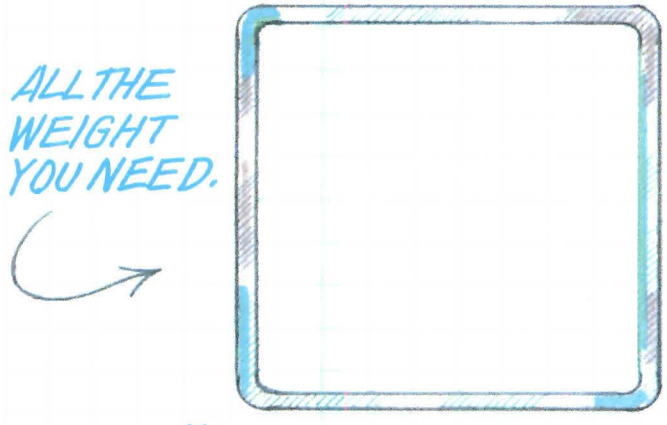

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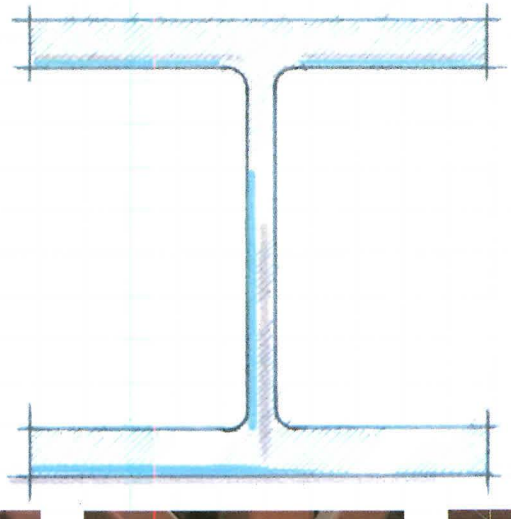

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United Grocers Ltd. warehouse: general contractor, SMF Sacramento; steel fabricator, Palm Iron & Bridge, Sacramento; engineers, Kaiser Engineers; architects, Edward A. Bonelli & Associates.

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"The computer has taken away the drudgery and made work fun."
Chief Boyd

Architecture Plus, a six-person firm in Ft. Collins, Colorado, headed by Jim Cox, has been using two Apple II computers for the past three years doing financial projections, control, supervision, cost-estimating, proposals, and project compensation worksheets—a system that allows them to budget each project from its inception and monitor it throughout its life.

They also had a local computer expert write a program for space management—"We go into an office or whatever, either new or

Jim Cox
Architecture Plus
Ft. Collins, Colorado

existing, and look at the intra- and inter-departmental relationships," Cox explained. "We recently finished doing this for the city of Ft. Collins, where we analyzed 450,000 square feet of space and the people who work in that space. We developed space standards and did space needs projections three, five and ten years out. Now we are monitoring this and giving them yearly updates. We have a three-year contract to do the same thing for the GSA in the Denver metropolitan area. We can do bubble diagrams to scale. We can do a building that's 500 feet by 500 feet and score the relationships based on what the users said they required. It's not design per se, but it is part of the design process in developing space efficiencies and space utilization."

Without the computer, Cox said the Ft. Collins job would have taken months to do; with the computer, it took about a week. "You can turn the computer on in the evening and it will just crunch data until you come back," he said. "It frees time so you can spend more time offering additional services or doing a better job of design and being responsive to your clients." Cox, too, has found that profits are going up because he can monitor job progress and make adjustments. "We have added our fourth computer, which happens to be a portable computer you can carry around like a looseleaf notebook," said Charles Davis. "It's amazing the kind of applications we already have on that little system after two weeks of owning it. There are so many opportunities and such great benefits from the information management side of the computer equation that it's foolish not to use them.

"Once you automate those things that you do manually," Davis continued, "all of a sudden, you have more time to ask questions. We saw this in the banking industry, where bankers used to spend all their time with accountants with green visors keeping the books. As soon as that was turned over to the computer, there was a whole new range of services that banks could offer. The same with engineers. They used to spend all their time doing calculations, and until computers came into common use, we went maybe 50 years without a major breakthrough in structural engineering of high-rise buildings." Davis gave an example from his own practice. "We are very heavy into architectural programming," he said. "We used to ask how many conference rooms people needed and they would say they were a little crowded with two, so maybe they needed three. We started collecting information about how often they met and developed a

Charles Davis
Davis Associates
Chicago

rule of thumb: If they had so many meetings that lasted about a half a day, they needed so many conference rooms. Well, sometimes this worked and sometimes it didn't. That made us wonder if there was a way to simulate the use of a conference room or set of conference rooms. We developed a modeling technique that gives very good answers. There are always exceptions, but generally we get very good predictions of the level of service that a set of conference rooms will provide. We have also gotten into financing: What is the impact of a project on the business's bottom line? Not what the initial cost is, but what are you going to write off this year, next year, and so on? Those are new services in a sense. They are new questions. We wouldn't have time to even think about them if we weren't already automated in other things."

"I agree with what has been said about computer knowledge opening up new markets," said Jim Cox. "I know banking is an example. They are talking about electronic banking, and our in-house computer knowledge has opened up that area for us as far as getting involved with banks."

And Howard Birnberg added: "You will find increasingly in the future that your clients will demand that you provide them with computer consulting services. There was an article in *The Wall Street Journal* recently that talked about developers of office buildings thinking of providing potential tenants with telecommunications type computer services within the structure of the building. So you're going to have to know how to design these systems or else you're going to find another specialized consultant taking away more of your market. This is an example of where your computer knowledge can have a lot of impact on your own marketing, and it's something a lot of firms fail to look into."

Marvin Fitch, of Loewenberg & Fitch Partnership, a 25-person firm in Chicago, brought up another point: "A CAD system can have a great impact on your marketing effort. We have a fairly sophisticated Summagraphics. We got into it because we happen to go after quite large projects. On one job

Howard Birnberg
Birnberg & Associates
Chicago

we were short-listed by the Navy in the final interviews. The firm that beat us out had a computer that could transmit information back to Philadelphia. After that we started taking a hard look at what a CAD system could do for us—not only in terms of the production of our work, which happens to suit CAD systems very well."

Jack Train gave an example of another new service made possible by computer use: "We have just finished an analysis of a one-million-square-foot older building here in Chicago," he said. "The owner wanted to have it drawn on the computer because he didn't have any good existing documents of tenant spaces and the like. It cost $18,000 to digitize and put the whole building on computer. These old buildings are not true rectangles, and the most interesting thing was we found there were 6,000 square feet of the building that the owner was renting to somebody and not charging them for. So for an $18,000 investment, he got a $120,000 return in annual rent."

Bill Hooper, director of the Practice Division of the AIA, who administers most of the computer programs and development at the Institute, summed it up this way: "Instead of dealing with architecture in a linear fashion, where you get on at the beginning of the train at Day 1 when the contract is signed and get off at the time of final completion, we're starting to say, well, let's do it in more of a cyclical and continuing fashion. We can do a lot more work in the early stages—additional services, pre-design services, that sort of thing. And we end up taking care of a building almost as custodian,

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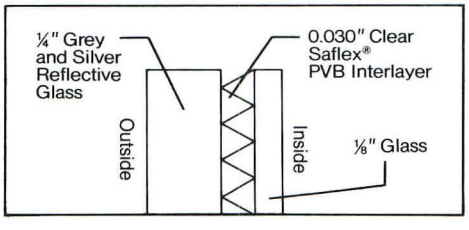

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"We have made the pleasant discovery that our employees are very interested in the computer and in fact invest a great deal of their own time in learning the systems and finding ways to use them."
Mel Hamilton

managing everything from maintenance on, when the building cycle is complete. As a profession, we are now in more of an ongoing pattern: we don't deal with a project in just one direction—get on, get off. We hear constantly about making new markets for ourselves, and that's what I'm hearing from you today. The computer is changing the way we approach what architecture is all about."

One more dividend: computers change the way employees view their jobs

"I have watched our people change overnight with the excitement," said Randall Yearwood, of Yearwood & Johnson Architects Inc., a 70-person firm in Nashville. "Their thinking is different. They are thrilled to be working on the front edge of technology, and it's changing their mind set."

Yearwood offered the example of a young employee who came up with a way to double efficiency. "And that young fellow had no idea what a computer would do a year ago."

Similarly, Mel Hamilton, an architect who is in charge of the Chicago office of ISD, a large interior design firm, came back from a trip and went to his office at midnight, only to find three people in the office working with the computer. "Since we have started, we have made the pleasant discovery that people are very interested in the computer and in fact invest a great deal of their own time in learning the systems and in finding ways to use them—even creating their own programs," he said.

Randall Yearwood
Yearwood & Johnson Architects
Nashville

Jack Train had a similar experience: "We are fortunate in having our chief draftsman take a tremendous interest in the computer. He became a real computer nut and began to develop programs that were way above the programs that had been the main selling point of the system we use."

"I suspect that one of the common factors in the group at this table is enthusiasm," said George Manos, who heads his own ten-person firm in Philadelphia and is also a member of the Coordinating Council on Computers in Construction organized by the McGraw-Hill Information Systems Company. "I'm one who gets a kick out of these machines, and I would be willing to bet that most of the people around this table feel the same way. I would also be willing to bet that the firms that are going to make good use of the computer in the office are the ones that feel they want to have fun with it, they're enthusiastic about what it can do for them, they're willing to take a bit of a leap. They're not going to cost and isolate it down to the last penny. What they are going to do is look around and say, 'I have seen that the thing can do a lot,' and if they have that enthusiasm plus an office that's running relatively well in terms of management, that has been making a profit for a number of years, and that has a solid sense of it's going to be around in two years whether or not it computerizes, then it's ready for it."

Still, there was some question about whether CAD systems make sense for smaller firms

Chief Boyd was an enthusiastic advocate: "They take the drudgery out of a lot of things," he said. "I can remember in the old days I didn't like plotting perspectives, but I loved to draw. Now I can draw but don't have to go through the hassle of plotting perspectives. The computer has taken away the drudgery and made it fun. There were times when I didn't want to do a certain building because I was concerned about how hard it was to plot the perspective. Today, I don't care about the shape, the height, the bearing—you name it: I can do anything."

"If the CAD system is operated properly, it is easier to control all of the various disciplines that go into a job," said Marvin Fitch. "We produce base sheets for every discipline. We don't have any engineers; we use consultants. But we produce the drawings for the consultants so that we know things are going to fit. We do composite drawings in different colors so we can determine where the possibilities of conflict will be, and we examine those things. We're not perfect, but a very complex little job down at the University of Chicago Hospital proved that this system could help a great deal."

On the other hand, according to Norman DeHaan, many

Marvin Fitch
Loewenberg & Fitch Partnership
Chicago

smaller firms could run into trouble with CAD systems because of the type of client they work for. His firm, for example, does about half of its work as a consultant to other architects and half for smaller clients such as restaurants, retail stores, lawyers, etc. "I think most small-office clients are primarily entrepreneurs who own or control their own business," he said. "It's one ego massaging another ego, and if we brought in a computer plot program, most of our clients would be outraged because they would feel we weren't giving our personal artistic or interpretive attention to their job. Our clients are terribly interested in their programs, and they want to feel that the principals or the people they are dealing with are working with them on a very personal basis. We have clients that have huge computer operations in their business, but the last thing they want to talk about when they're concerned with visual look is a computer. They want to know that you personally are involved and that there is that personal touch."

George Manos also had some doubts: "You contrast the smaller firms with large firms like Skidmore, Owings & Merrill, which uses the CAD only on 15 per cent of its projects. A huge firm like Skidmore has such a broad range of work that it can pick and choose which projects to use the computer on. Small firms don't have that sort of luxury. If they have the kind of work on which a CAD system can be used effectively—work that's repetitive, like hotels, apartments, certain kinds of military jobs—CAD can make sense, but if they don't have that kind of work they really have to think seriously about what their productivity gains are going to be."

Charles Davis agreed: "We have varied projects, and the productivity comes at a different level of repetition, such as drawing a wall, doing a door schedule, doing dimensions. Those kinds of repetitive activities are common to any practice, so I think that there is an opportunity. I'm not sure that I would have a CAD system if I were doing residences only. Some of the areas where we have the greatest productivity are in interior design and space-planning. In both of these areas and also in commercial architecture, there is repetition at a lower level."

Taking it one step further: Will CAD allow smaller firms to compete with large ones?

"I don't imagine that we can compete with the SOMs of the world in doing high-rise office buildings," said Charles Davis. "I wouldn't want to run into them if I were trying to sell that kind of service. But there are services a small firm can offer—facility management is one—where we can beat a large firm such as SOM. I think it's possible to develop niches of service where we can compete very effectively with large firms."

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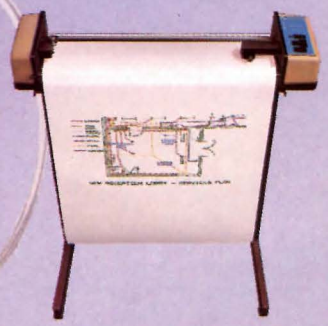

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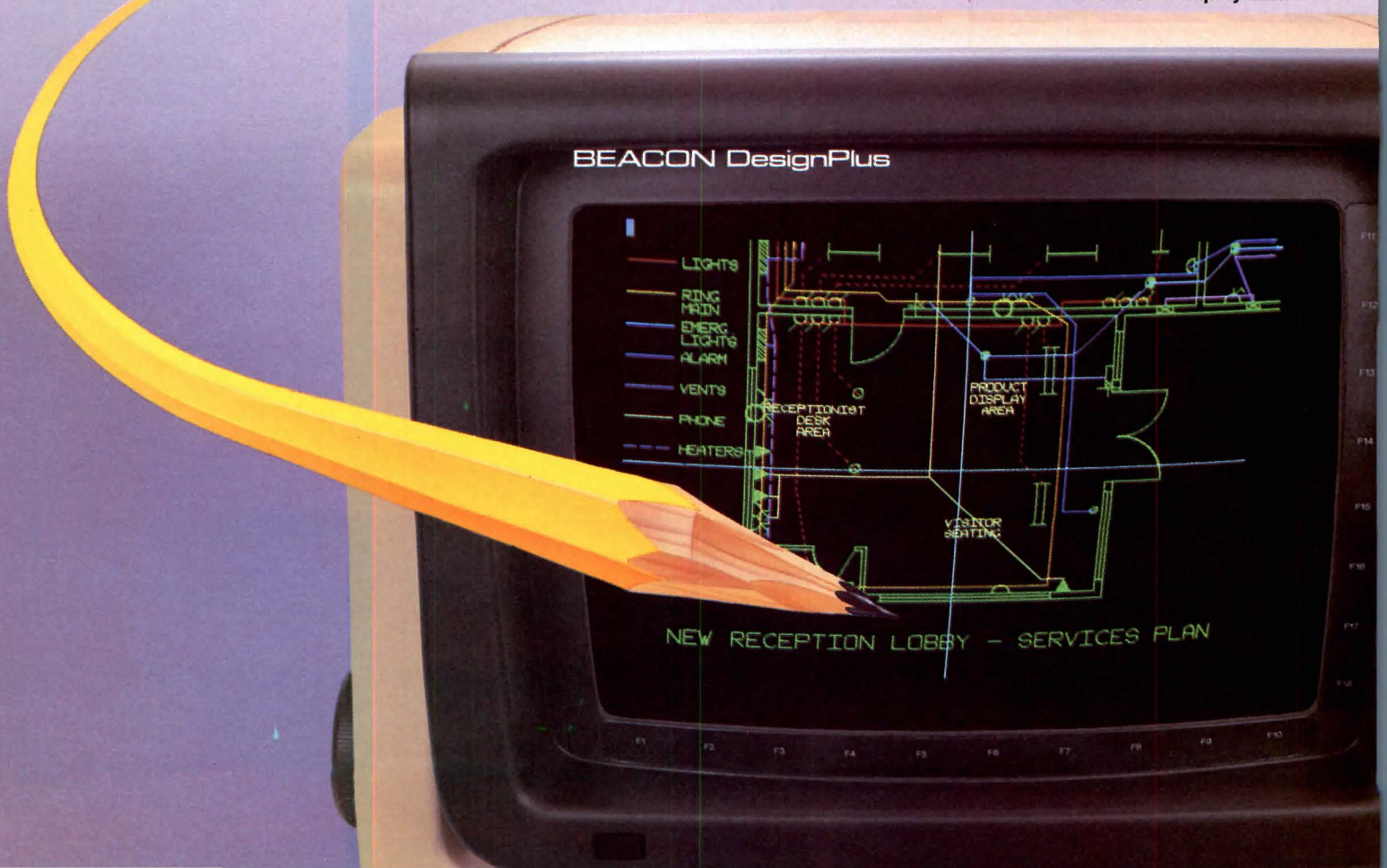


"Too many people are saying, 'Here's a computer that can do all things. Now how can I find a way to use it?' "
Jack Train

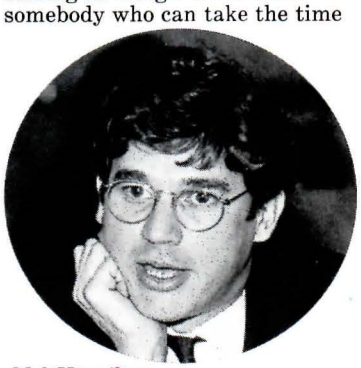
"You wouldn't compete with SOM in designing a skyscraper, and a little while ago you said that if you were doing residences you're not sure you would have a CAD system," said moderator Walter Wagner. "I think I disagree with both of those arguments in that, short of the necessary skills of the structural engineer which anybody can hire, a skyscraper becomes an almost ideal job for the small firm. It's not very complicated."

Davis's response: "The largest job we have done is about $16 million. I don't think the client who gave us that $16 million job would give us a $50 million or a $100 million job. It makes no difference that we're computerized. The problem is, we've never done a $50 million or a $100 million job. Maybe next year we will get a $25 million job and the following year a $40 million job and then we can begin to compete with SOM. But we can't compete, with the high-rise office building, for the kind of client that SOM gets. That's their niche. It's a big niche, but it's a niche. My point is, we can carve niches for ourselves where we can beat them; we can get work that they can't get."

"Go back to residential," said moderator Wagner. "What I haven't heard today is, can the computer improve design quality? I tend to think it can; with a CAD system you can make a lot of explorations instead of endless drawings of the basic shape of a house with different interiors, which just makes you tired. Aren't there ways you could foresee that the quality of design will improve?"

"We don't select projects to go on CAD; everything goes on CAD. So if we did a residence, we probably would put it on CAD too," said Davis. "But we feel that architecture has to be responsive—to the environment, to the client's needs—and that the quality of design comes out of that responsiveness. I see the residence problem as 50 per cent psychoanalysis, with so much time being spent on those issues that the drawing and the costing are minor."

And George Manos summed up: "Everyone knows that in many ways the small firm will never be competitive with a large firm. But a small firm can probably be more competitive within its own sphere of activity with certain computer applications than without. Small firms can probably be competitive with other small firms and medium-sized firms, chiefly in the way they are able to manage themselves with the computer. In most small firms, the principals are so busy turning out the jobs that they don't have the time to analyze where the money is going and how it's being spent and how it relates to the money that's coming in. Larger firms have somebody who can take the time



Mel Hamilton
ISD
Chicago

to monitor that continuously, and the largest firms hire people to do nothing but monitor what happens to the money 24 hours a day. This enables them to bring information to a management decision that the small firm can't. So one of the things that the computer will bring to a small firm is the ability to manage itself better in less time."

There was a real question about whether small firms could afford to computerize

"When we went into computers, we looked at our firm and made a decision: We would not allow any automation to change the fact that we're acting as professionals and as architects and there has to be personal involvement," said Rudy Horowitz, of Rudolph Horowitz Associates, Architects, a seven-person firm in suburban Pound Ridge, New York. "What we feared most was that the computers would take over and we would become enslaved by them—by the debt service and by the rat race of having to go out and generate more business just to support the computer, not necessarily to do architecture. And this is when we decided that we would, initially at least, keep our investment manageable and not be forced into growing helter skelter."

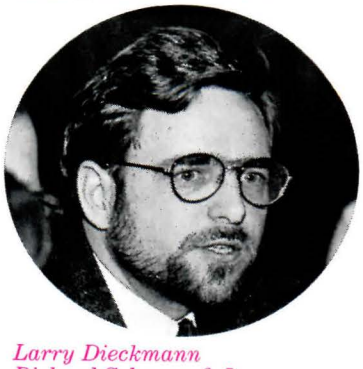
"As long as people think computer systems are very expensive pencils, architects will never take leadership in getting them into their offices," said Chief Boyd. "If they would sit down and carefully analyze them in relation to production—look at them like putting on staff as opposed to putting on big debt—they would be hard pressed to say they can't afford to computerize."

Horowitz disagreed. "While it may seem easy to look at it from the point of view of employment—so many employees at so much per year, etc.—the commitment is quite different," he countered. "If you have employees and the work dries up, you give them two weeks' pay and they are gone. That's not true of your banker. He is going to stand by your door, ready to pick up the pieces. This is one of the reasons why we chose not to go into a large system. In fact, last November we had placed an order for a system that would have run us close to $70,000. After much agonizing, we canceled it in favor of a small start-up system that ran us under $10,000. We don't feel compelled to have the machine work two shifts a day in order to pay for itself. When it sits idle, we don't care because it's not really a big burden to the office."

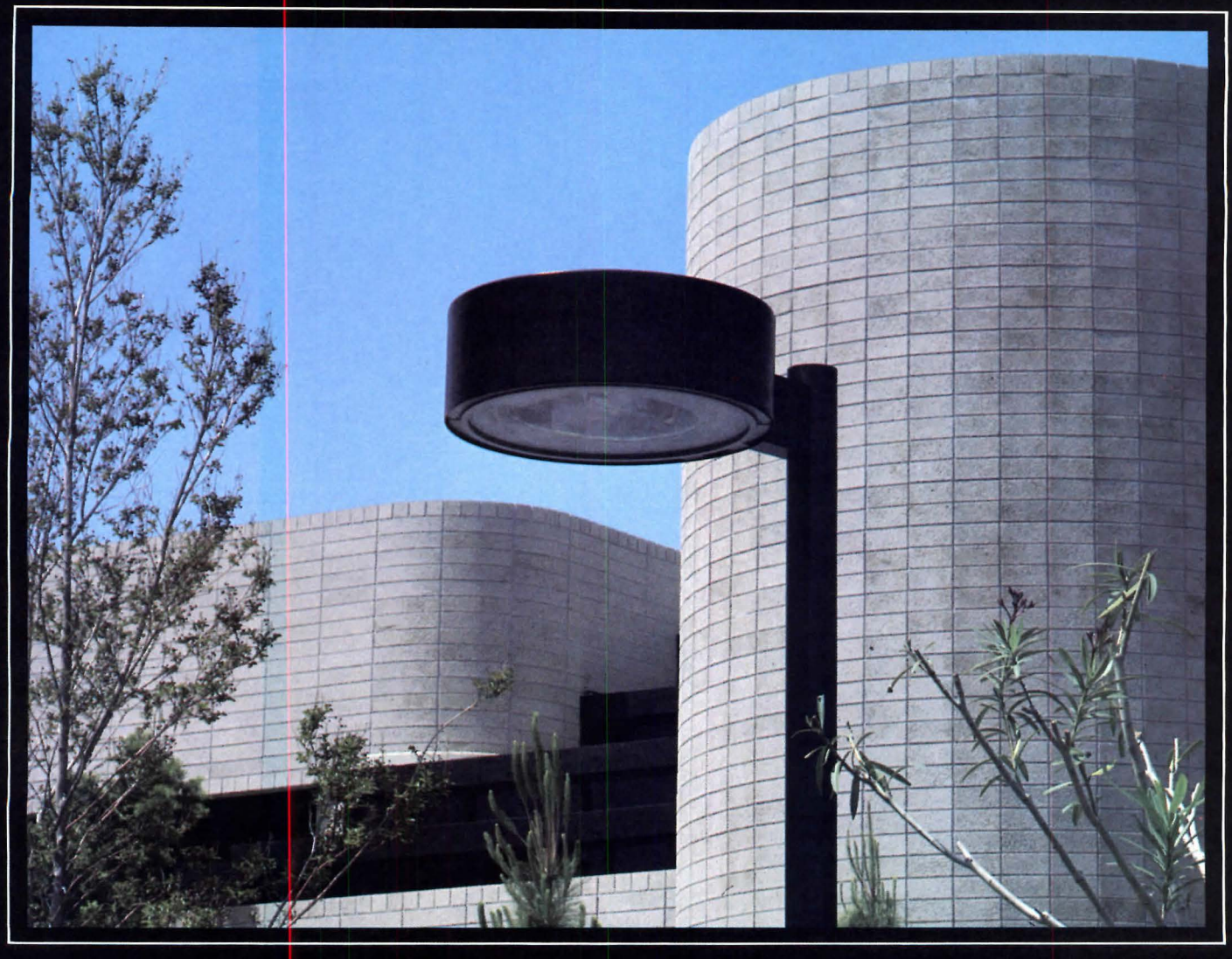
"It isn't just the cost of the system itself," said ISD's Mel Hamilton. "The real cost—and it's a huge cost—is the cost of training people. You may become more efficient, but initially you invest a great deal of time in just learning how to use the computer." While ISD is not a small firm, its five offices operate as independent firms and each has 25 to 30 people. They are starting with a smaller computer system, and don't intend to have CAD for another four years. "Even so," said Hamilton, "the amount of time that we scheduled people to learn the system over the four years costs almost as much in lost revenues as the system itself. We have scheduled almost 2,000 hours for each of our employees over four years, and when you add that up over the whole firm of 100 people, that's a lot of money."

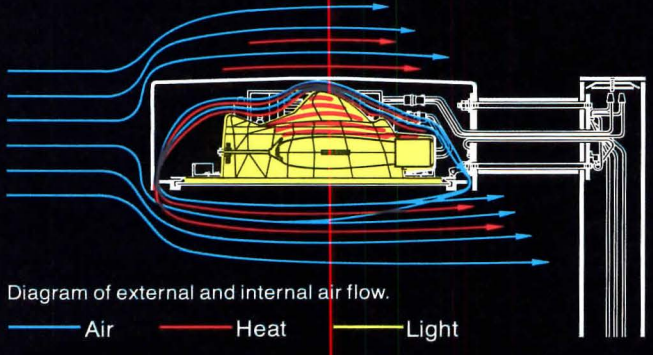
Marvin Fitch reminded the group of the high-technology firms that have gone downhill or even gone out of business because they didn't want to invest the time and research in development. Said Fitch: "Investing time in this kind of thing is akin to R&D in the pharmaceutical industry, the electronics industry, or whatever. I think that in time you are going to find the clients out there expecting that architects, particularly in larger, more complex projects, will have a CAD system in-house or have access to one. We're seeing it somewhat in military work right now."

Larry Dieckmann, of Richard Solomon & Laurence Dieckmann Architects, Chicago, a seven-person firm that concentrates on solar energy concerns, put the whole problem into perspective: "I tend to think of the computerization of architects as analogous to the mechanization of the farm," he said. Dieckmann gave the example of his uncle, who works a 200-acre grain farm all by himself with the aid of large machinery. "But having built that up with his father and himself with low debt, he can handle it," Dieckmann said. "People who have made the jump to a large operation with a large amount of capital equipment in times of drought—and the building industry is no less



Larry Dieckmann
Richard Solomon & Laurence Dieckmann, Architects
Chicago





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"If you can't manage to use non-graphic systems, which are a lot simpler than graphic systems, you'll have a hard time managing a CAD system."
Charles Davis

changeable than the weather—have been very badly hurt by those changes. The potential, as Charles mentioned, of getting the work of a 25-person firm out of a much smaller operation is very attractive, but we have to be cautious about how we go about it."

George Manos
Architect
Philadelphia

Several of the Round Table participants had some suggestions about how to deal with the capital investment problem. Norman DeHaan has several clients that want to work on a CAD system, and he has set up a separate corporation and suggested that they get involved financially "so that their money is where their mouth is." Similarly, Howard Birnberg told of a 60-person Ohio firm that convinced some of its clients—primarily industrial clients—that they too would benefit if they helped the firm with its investment in a CAD system. "More firms should look at that as an option to finance their equipment," said Birnberg. "If you are worried about the economics, that is not only an excellent way to finance a system, but it ties a client to you forever. They have a vested interest in your firm. You are, in essence, making them a stockholder."

Another possibility, said Randall Yearwood, is to link up with a group of professionals. In Nashville, for example, his firm got together with four other architects and two engineers and hired a consultant. After 18 months of study, they settled on a system. At this time, two more professionals joined the group. Yearwood got a big laugh when he described the system and then said: "I didn't leave a wake-up call this morning. My banker called me at 7 o'clock and said, 'Randall, how are you feeling?' He calls me every day and wants to know how I'm feeling."

"I think the fear that architects have that 'I'll be so in debt to the bankers that I can't let the computer go' is sort of a self-fulfilling prophecy," said Charles Davis. "Basically the computer is a risk, as any major capital investment is a risk. There are ways to minimize this risk, but it remains a risk. But computers have increased our profitability. About a third of our billings are now attributable to computer equipment usage, and this has allowed us, starting with a small, non-graphic computer, to develop some reserve capital with which to finance or feel comfortable about buying a $200,000 CAD system. The profit we're making on our non-graphic computer would carry the cost of the CAD system even if we never used it. So that's another way to minimize the risk."

And George Manos added: "It's not the capital investment that frightens us off, although $70,000 or $150,000 is a lot of money. What really scares us is the fact that we don't have the management systems in place to make use of this thing. We're not doing systems drafting right now. There are a great number of things that we should be doing better as a firm before we're ready to take the leap into CAD unless we can buy it for under ten grand. If I can buy it for that price, then it's less than I pay for a car and at that point I would get only one and maybe I would even play with it at home for a couple of months before bringing it into the office."

Which should come first—a CAD system or non-graphic uses?

"The two things are so different you can't compare starting with a CAD with starting with business functions," said George Manos. "Most micros just do business applications; they don't try to make drawings. And a CAD system worth its salt doesn't do the bookkeeping or the word processing. So it's not a question of which you should start with in terms of what kind of risk you're taking; it's more a question of which you should start with based on the kind of practice you have, the kind of problems you want to solve, and the kind of income you can project."

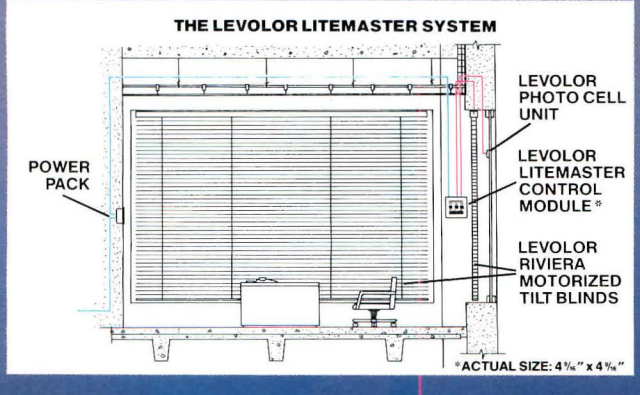
"If you can't manage to use non-graphic systems, which are a lot simpler than graphic systems, you'll have a hard time managing a CAD system," said Charles Davis, whose firm has gone into CAD only in the past year and a half. "I pity the people whose first step is into automated graphics. I think they're getting in over their heads and are going to experience serious problems in actually implementing those systems effectively. It's important to start with small computers doing other kinds of applications—not just specs, word processing and accounting, but specs and other architecture-related applications. The thought process is different. For example, if you think of writing as moving words and paragraphs around, there is an analogy to that in a CAD system. Thinking that way becomes second nature and makes the transition into CAD much simpler."

"We would have been totally overwhelmed if we had started with a CAD system," said Rudy Horowitz. "Starting with a micro and using its usual applications, such as word processing and spread sheets, is essential before you start getting into a CAD system; in fact, in our office we use that for training."

Richard Nedbal
Personal CAD
Los Gatos, Calif.

"I am enthusiastic about how many people are also using spread sheets and word processing," said Richard Nedbal, of Los Gatos, California. Nedbal heads Personal CAD, a firm that produces CAD software suitable for architects and engineers that can run on IBM PCs and compatible hardware, making it possible to put together a CAD system for about $10,000 (RECORD, April, page 155)—a subject the Round Table discussed in some detail later on. "If you can evolve into the area of computer-aided design on the same machine, that makes perfect sense, and training is easier because you really only have to learn one environment, one operating system. I have used CAD systems all my life and I consider myself fairly intelligent. But I would forget how to use a system if I didn't use it all the time. I would go back after a week and I would plow through a process because I could remember how to do it, but I wouldn't remember all the tricks that you would know if you were an experienced operator. Putting that type of system into the hands of a non-computer person is very frightening. I think that common operator interface is an important area in which to start, and if you start with word processing and spread sheets and move up to CAD on the same machine, that makes a lot of sense."

Jim Mitchell, partner in Jordan/Mitchell, a 12-person firm in Philadelphia and head of the National AIA Task Force on Computer Use, stressed the importance of management: "You should be able to be successful without the machine before you can be successful with it. It's not going to do your marketing for you. It's not going to make basic decisions about what kind of buildings you want to build. It's not going to do anything that's the guts of architecture for you. There are aspects of getting a machine that can help because it can make things that used to be nearly impossible in terms of the length of time they took much quicker, but you have got to know that those things are important. If you don't, then having the computer won't help you at all."



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"There's still a bit of a magical aura about the machine—all I have to do is put it out there on the floor and I've got architecture and also money in the bank. It ain't so. It really ain't so."
Jim Mitchell

"If you don't know how to do it by hand, don't try to do it by computer," said Jim Cox. "In other words, if you can't sit down and work through the system—whether it's an accounting system or a space-management system—and manipulate it and know what your end result will be, you won't know what you're buying and whether you can actually use it."

During his term as president of the North Colorado Chapter of AIA, Cox met many architects who had computers and software but just couldn't get their system moving. "They are intelligent people, but they had never really kept their own books and they didn't know what they were doing," he said.

"I don't think that anybody needs a computer unless he can see a need for it—unless he has a problem he can't solve, or finds it difficult to solve manually in the traditional way," said Jack Train, whose computer experience goes all the way back to 1954, when he was with SOM, and SOM got the commission to do the Air Force Academy. "If he can recognize a problem and then look for the piece of equipment that will solve it, the computer will do a lot for him. Too many people are saying 'Here's a computer that can do all things. Now how can I find a way to use it?' "

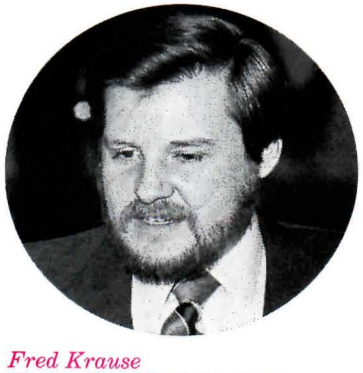
Fred Krause of Design Data Systems Corp. of Cedar Rapids, Iowa, a software firm specializing in architectural and engineering systems, agreed: "We see it day in and day out. People come to shows and they are impressed with all the blow and show, as I call it. They see a system, and they say, 'Boy, that's for me. That's what we need.' But they're impressed by the drawing of a free-hand curve, not by the dimensioning. They're impressed by seeing the word processor turn a full page of text into two columns without ever really thinking about what it takes to do that. So they start out with the expectation that this machine is going to be the answer, and then they plug it in and they are discouraged, depressed. They have spent this money and they don't know what to do with the equipment."

"There's still a bit of a magical aura about the machine," said Jim Mitchell. "If I get a 32-byte thing with colors and electrostatic plotter, I've got it all solved and all I have to do is put it out there on the floor and I've got architecture and also money in the bank. It ain't so. It really ain't so."

The investment in hardware—what can you get for your money?

"It's kind of the old adage that you get what you pay for," said Fred Krause. "You can go up to the large VAX systems or down to an IBM PC. What it really boils down to is, what are you expecting to get out of that machine? How fast do you want to get it? What type of resolution are you looking at on the screen? There are a lot of factors to consider. . . .If you want something that plods along, get a PC. If you want something that speeds by, buy a VAX."

Richard Nedbal disagreed: "My issue with the VAX versus the PC is that you take a big mainframe system with four users on it and you find that the user response time is slower than what you get on the PC," he said. "In terms of how fast you can redraw on the screen or move things around, you find that very often the big machines are tied to a local terminal that is limited by its communications port. The big machines are good at crunching numbers. But most of the work is done in other than the number-crunch mode, and perhaps personal computers ought to be looked at as potential ports into the bigger machine rather than as adversaries. The personal computer—IBM's or anybody else's—is an excellent terminal to be tied to a mainframe and at the same time it can do a lot of the work on its own. If the user is interacting or wants to interact with the machine, a personal computer is a good way to do that. If it's not important for the user to interact, and therefore, the problem tends to be one of number-crunching, then that's better off relegated to the other machine."



Fred Krause
Design Data Systems Corp.
Cedar Rapids, Iowa

Harry Mileaf, director of technology and systems development for the Sweet's Division of the McGraw-Hill Information Systems Company, who also serves as chairman of the Coordinating Council on Computers in Construction, asked: "What don't you get with a PC that you would get with an Integraph or a Summagraphics—the difference between $10,000 and $250,000?"

Nedbal: "Now that a lot of PCs have hard disks, storage is not really a problem. We haven't seen any limitations in terms of drawing size. If you do an E-size drawing down to a thousandth of an inch, which is probably as fine a line as you ever need to draw, you can do that on a PC. However, the resolution of the standard personal computer is somewhat low. That can be upgraded easily. But today it's not an off-the-shelf solution. Again, as we speak, this is being changed."

Davis: "How about a non-graphic associated database—if, for example, I were placing a piece of furniture in a drawing and wanted to know who the manufacturer was?"

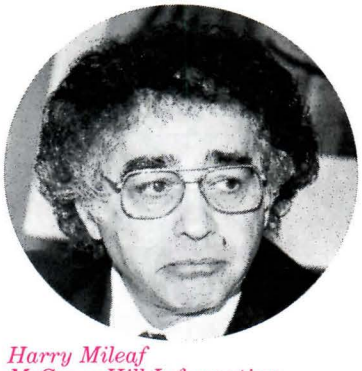
Nedbal: "Attaching attributes to things that you see on the screen so you can find out who the vendor is and what it costs and do a bill of materials and count up doorknobs, etc.—we do that on a PC today. It's an optional software package that overlays the graphics. It might take five or ten minutes to do a reasonable analysis, but that's pretty fast."

Said Mileaf: "You make it sound as though this $10,000 system does practically the same thing as a quarter of a million dollar system, and I really object to that."

Nedbal. "It does a good portion of the job. It can do a lot of the drawing, the user interaction work. It can do a lot of the manipulation of the data. But if you are going to do structural analysis or if you are going to do a detailed sort on a large database. . ."

Mileaf: "Just stick to the graphics. . ."

Nedbal: "That's where it's pretty good."



Harry Mileaf
McGraw-Hill Information Systems Company
New York

"We use desktops in our products as well," Fred Krause interjected, "and I go along with saying that when you are doing interactive work, it makes no difference if you are on a big mainframe or whatever. If there's thinking time while you're creating, that machine is sitting there idle. It's waiting for input, and a PC can react just as fast, if not faster, than a large mainframe. I think there is really no big difference in the graphics capabilities."

And, added Nedbal, "look at it another way: The graphics system of a couple of years ago was a 16-byte minicomputer that runs slower than today's IBM PC."

"When you say the basic drawing capabilities—I have seen enough systems to know that there are a number of drawing capabilities that aren't even on the more expensive systems," said Mileaf.

"Up until six months ago you couldn't do splines, irregular curves, but now you can," Nedbal responded. "If you drew a 2-D drawing and wanted to extract a 3-D representation of it, maybe make an isometric out of it, you couldn't do that in a PC today, and the few programs that are out there to do that take so long that it's not cost-effective for a professional. If you already had an isometric and wanted to rotate it or look at it from another point of view, that's very difficult to do in a reasonable, productive amount of time; you've got a lot of mathematics going on. I wouldn't stand here today and say you ought to think of doing that on a personal computer; that's much better suited to a VAX."

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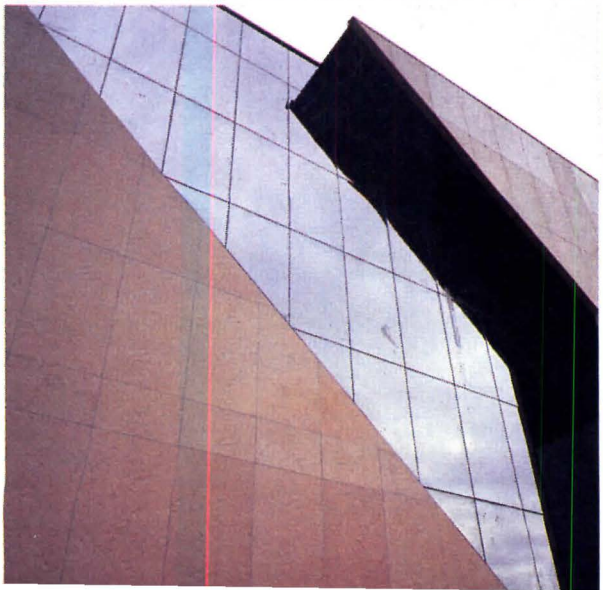
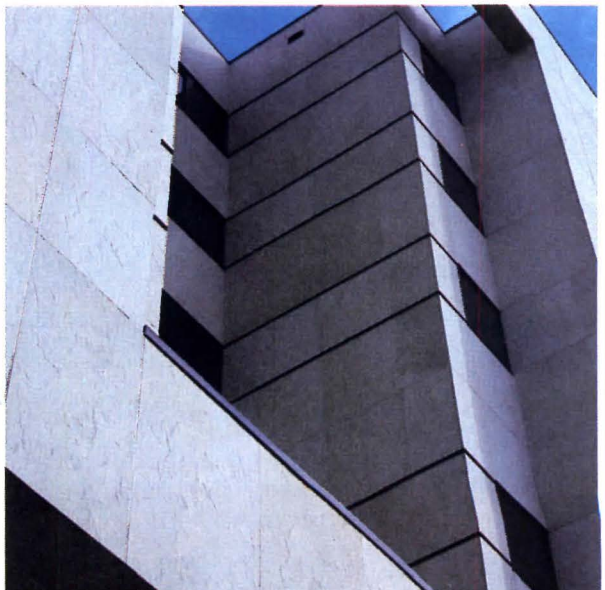




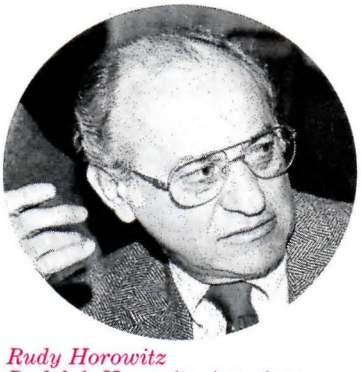
"We're all at different points and doing different things, but everybody seems to be pretty happy with the systems they have. To me that's interesting."
Jim Cox

Here Fred Krause disagreed: "A lot has to do with the CPU, how fast you can process that information. Three-D requires a lot of number-crunching, and the IBM can't do that well. VAX can. We have missed the fact that there's a middle ground, which is the more sophisticated desktop-type computer. This technology is available and it's working every day. It costs about $18,000 for a system with one megabyte of memory built into it, a couple of disk drives—everything is right there."

"We spent close to two years researching different CAD systems," said Rudy Horowitz. "One thing I discovered is that in the area of purchasing both hardware and software—and incidentally we approached everything from the point of view of the software, what the end product would be, what the drawings would be like—there is such a vast disparity between cost and what you get for that price that it's mind-boggling. Harry brought this up several times—that you don't mean that the $10,000 machine is as good as the $250,000 machine. Obviously it isn't.

"But if a $10,000 machine will give you about 80 per cent of the output that you would get from a $100,000 machine, I think this is very worthwhile pondering when you are considering a major investment. You give up a lot of things: I hear talk about solid shading, rotating of shapes and so on. Do we really care about that? What's important is to input information into a graphics system, use data that you have stored, retrieve it effectively and quickly, and improve your productivity that way. You can do that very easily for under $10,000. The system that we put together for less than $10,000 includes a personal computer, a digitizer pad which we use both for pointing and for digitizing of drawings. It includes the graphics board and all the expansion boards necessary. And it includes a plotter."

Chief Boyd: "What we found with the smaller systems was that we got frustrated trying to produce entire sets of documents and tying everything together. I don't see how you can do this as cost-effectively with the smaller system as you can with a higher-priced system. In my firm, 35 per cent of our work is number-crunching, and 65 per cent is document-producing, drawings and stuff. We're up to an



Rudy Horowitz
Rudolph Horowitz Associates
Pound Ridge, N.Y.

intermediate-level system now. The hardware, software—the whole combination is about $65,000. I know $750,000 will buy you a 50-station Integraph system that will do all kinds of stuff—rotating, color, etc.—and if I were competing with SOM and RTKL and some of those folks, I would certainly have one of those systems. In the production mode that I'm in I don't need that, and I am extremely profitable on what I do. When I generate a drawing, I generate an intelligent drawing. I have electronic spread sheets tied in with my drawings, and when I execute a drawing I get all this other stuff with it."

Jack Train: "In using the financial management package some years ago, I discovered about 55 per cent of our cost of doing business is in the production area, not in design. So in initiating the graphic computer activities in our office, we agreed to direct our efforts at production. Design may come down the line, but for the moment we want to pay back our investment in the equipment. We did substantial investigation and decided that the best system at the time—1980—was the Integraphic system, which was expensive. If you buy the whole thing full-blown, you are talking about a quarter of a million dollars. We found, however, that a firm in Milwaukee had a mainframe and would sell us time and service. All we had to do was buy terminals, an alpha numeric attachment, and the electromagnetic plotter. Our investment initially would amount to about $55,000 in today's dollars, and we buy time for the use of the mainframe. We did it this way for a couple of reasons. One was the training time. If we had the mainframe in our office—if I could have afforded it—we would not have been able to use it enough in the learning stages to begin to pay off or get our return on that investment."

Fred Krause summed up: "I think it just really comes down to what type of job do you want to do regardless if it's on a PC, a mid-size system like we produce, or an Integraph. Each one has its niche. Each one does a specific job, and you can investigate forever. It's like looking at cars. Eventually, if you want to drive a car, you are going to have to buy one—some buy for looks, some for performance. I don't think that CAD is much different."

"You said if you really want to buy a car, you will buy it," said Harry Mileaf. "But I'm not so sure that a lot of the architects really want to buy a system. They feel as if they are being forced into it. They keep hearing phrases like 'automate or die.' 'If you don't have the CAD system, you won't exist five years from now.' "

"The more you think about it, the more you realize it's just another tool," said George Manos. "There is a classic saying in computer land that when you try to get the computer to do what a human being does, the computer can knock off the first 50 per cent without any trouble at all. When you get beyond that point, as you reach 80, 85, 90, 95 per cent, the cost to computerize that last 10 or 15 per cent is astronomical compared to the cost of doing it by hand. It's only under very specific conditions that you can justify the cost of something like that, and that, I think, has something to do with your practice."

And Jim Cox noted: "Everybody seems to be pretty happy with what they have. To me that's rather interesting, because we're all at different points and doing different things."

Finding the right software is the biggest problem in computerizing

"Most people who haven't started using computers look into the marketplace and don't see any programs that are called '1-2-3 Architect' or '1-2-3 Designer.' All they see is business software, and it really doesn't seem to relate to them," said George Manos. He pointed out that architects are a very small part of the market. "The first year that IBM came out with a PC, they sold over 300,000. How many architects do you think bought computers that year? How does a company like IBM perceive the size of our market so that they will make a marketing effort to develop software that's specifically directed towards architects? I think it's going to be a while before this sort of struggle is resolved, if it ever is. That's what led a lot of people around here to develop their own software."

And Bill Hooper added: "No one really has any good idea what sort of software we need. One of the major problems for the profession is that the software does not really exist after those elementary applications such as word processing and specifications. The second thing is that as architects developing their own software, we're light years behind the engineers. We're not as thorough in our documentation of the software, and we're so provincial that it's astounding. We just sit down and say I have developed it, and I can guarantee if I have developed it, it's going to be better than Jim Mitchell's, and whatever he has can't be as good as mine—that sort of thing."

"One of the problems in dealing with architects, even on reports and accounting, is that they all have their own way of doing things and they do not want to be restricted by a system or change what they do," Harry Mileaf added.

Charles Chief Boyd
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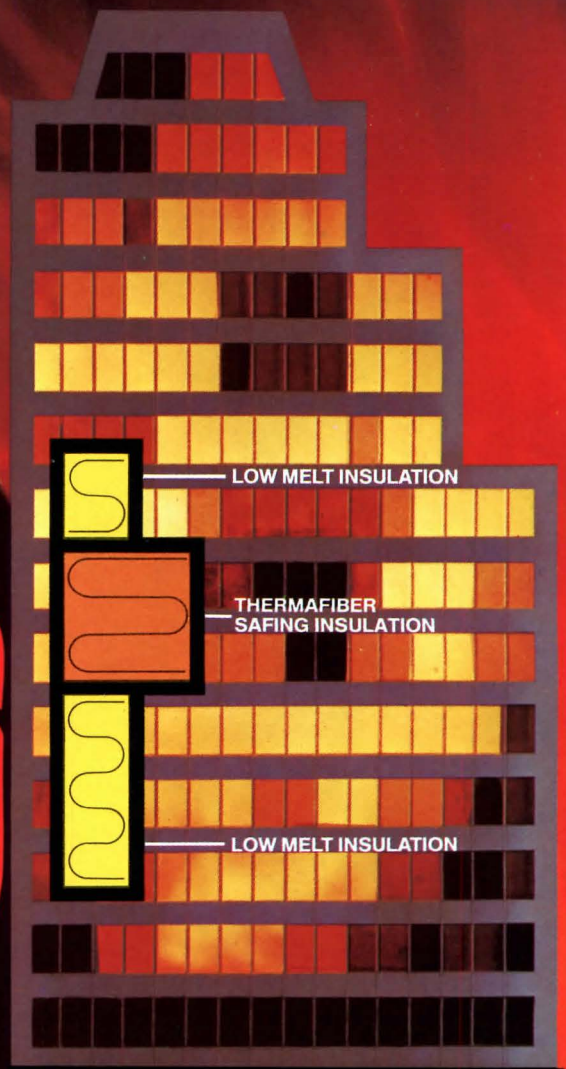

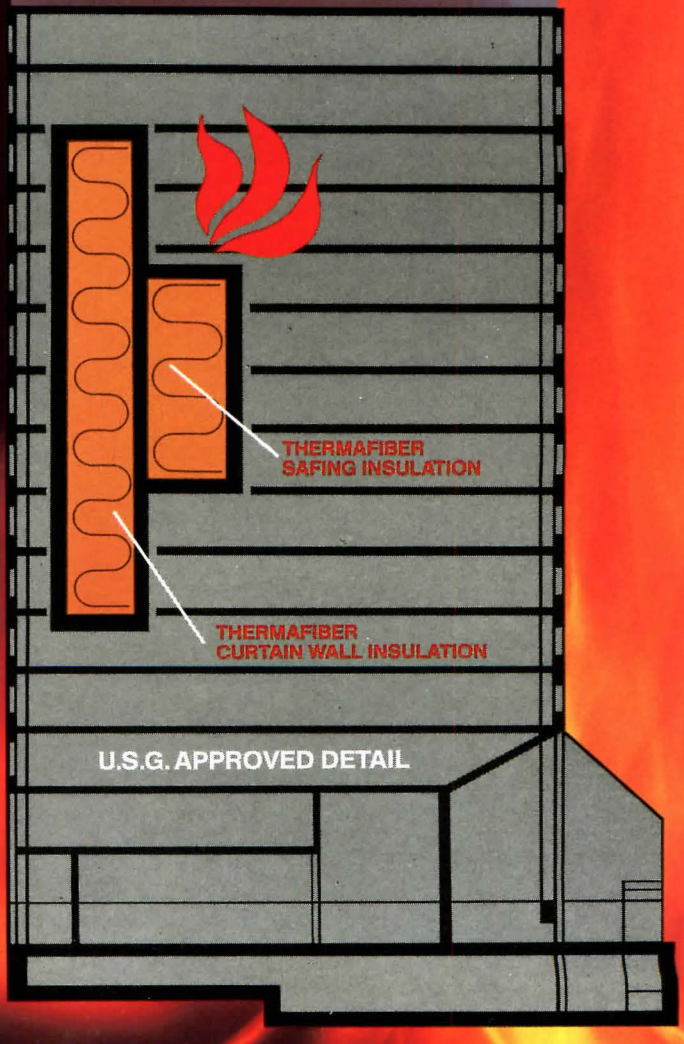

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"If there were such a thing as a standard architect, the job would be much easier."
Bill Hooper

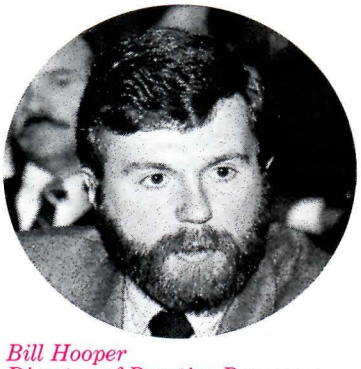
Charles Davis agreed: "There may be certain things, like making drawings, that our firm does the same as everyone else. But I would have a problem exchanging software because I think we do most things in a unique way. We do use Master Spec, and I don't have any problem with that."

"There is an opportunity for combined effort here," said Jack Train. "I would like to see PSAE or some such thing where they can afford centralized software programming perhaps franchise operations around the country. I use the PSAE because I don't have a computer to run that program. So I mark up their books and send them in and they send them back to me. The same with the financial management system. There is no investment, and I can assure you that it costs a whole lot less than it would to have a person in the office trying to sort out this information.

"Why can't we do this with computer graphics and other computer programs? I think Phil Will said years ago that it could be sort of like an architectural hospital. Why can't the smaller firm have an architectural hospital in which the architects prescribe the solution and then turn it over to a center that's made up of more technically oriented people to implement it?"

Marvin Fitch wanted the AIA to take the lead in developing software: "The AIA has no compunction about developing a whole manual of operating procedures that are aimed strictly at architecture. I can't see why it backs away from developing the same kind of software for the computers that are obviously going to come into the field in a big way for all architects."

"It is difficult enough to get enough people to standardize their accounting," AIA's Hooper responded. "There are more people who are still kicking and screaming about the way we wrote some of the books, saying they don't do business that way. That is a very strong inhibiting factor against our coming out and saying this is the best software or this is the most appropriate software. The closest you are going to get is the Institute doing as it has done recently: giving you 25 alternatives and you then have to go and look at them."



Bill Hooper
Director of Practice Programs
AIA
Washington, D.C.

"Is the question maybe that right now it's too early for standardization?" moderator Wagner asked.

Krause: "There is no governing body within the architectural community to set down some standards. In engineering there is, and there is in just about every other industry."

Hooper: "If there were such a thing as a standard architect, the job would be much easier. I realize that sounds like a heck of a dodge."

Mitchell, who is chairman of the National AIA Committee on Computers and Architecture, said: "I should make it clear that I am a member of the AIA as well as the chair of the Committee, and I feel the same frustrations that most of the membership of this organization feels. It is a body that does not act quickly, which is one of its great strengths in some ways. Standards are things that usually develop over time. When you have such rapid change, developing a standard is awfully hard."

George Manos pointed out another problem: Not only has very little software been written especially for architects, but anyone who wants to do his own programming gets little help from the existing computer manuals. "They're terrible," said Manos. "They can only be understood by people who are already computer-proficient. Architects are graphically oriented people, and so are designers. They're not number-crunchers."

And Chief Boyd had some advice for the small firm that can't afford to do its own programming: "I think there are a couple of real important guidelines that can be established early on," he said. "They have to look for people who provide both software and the hardware to run it on. I tend to think that it's good to go to vendors who have both. They have to look for somebody who is committed to keeping the software functional and operational; that's critical. For the small guy who's looking at software, I think it's also absolutely critical that he go and see somebody who is using that software. And if anybody spends more than 90 days making a decision in the CAD area, he needs to start over, because every 90 days the situation is going to change enough so that he probably needs to do a bit of reevaluation."

The Round Table ended with some thoughts for the future

Said Jim Mitchell: "Most of our discussion today has focused on staying within the walls of your own office. Remember, there is an extraordinary world of information out there and that we, as architects, are information processors. We now have this method of communicating to the rest of the world, using very large databases to get information—for instance, *Commerce Business Daily* is available in computer form for those of you who follow the government (see RECORD, March, page 43). The AIA has taken a big step in that area. For those of you here who are in the forefront of the profession, all you have to do is join *Source* and you can go into the part of *Source* that's called *Parti* and join in conferences on architecture that discuss such things as databases, CAD systems, accounting systems, what the AIA is doing right and wrong—that kind of conversation can be carried on at your own convenience relatively inexpensively.

"This is an instance of how we're going to be interlocking with the rest of the construction industry and the rest of the world in future. Up to now we have thought of ourselves as having barriers around our office across which drawings or telephone calls pass. I think in future there is going to be close coordination between all elements of the design and construction team, client, architect, and constructor."

And Jack Train saw quite a different role for computers in the architectural office of the future. "A few years ago when I was in a larger firm, I was driving on the expressway to get to the office and the traffic was bumper to bumper, gas was running low and I was having to wait in line to get gasoline because of the energy crisis," he recalled. "You come to the conclusion this is silly. There must be some way that the transporting could be done in a more economic manner. Certainly the computer provides that kind of opportunity. Transmission over wires permits us to communicate by computer from one place to another. At that time I envisioned that before my career was over, we would probably have satellite offices around a metropolitan area—not working out of the basement, because I don't think the discipline applies when you are working alone at home—but where you could get to and from your office in ten or 15 minutes at the most. In other words, there would be a collection of people still hooked together in a network arrangement. That was a big-firm kind of concept. But there is nothing that prevents us from having a network of smaller firms, and if we can get over our egos and people with expertise and knowledge are tied together by wires and computer facilities, I see a great opportunity to expand the horizons of the profession.

"My parting shot," said Train, "is that we need to be absolutely as open as we can with whatever we learn. The idea of trying to hoard information because you have solved a problem that's one step ahead of the other guy's—make it available because you are already one step ahead. You don't have to worry about being overtaken if you are alive, eager and energetic. So I think we have an obligation to the profession to make available all that we have learned and help move the profession forward."

And on that rousing note the Round Table ended. *N.G.G.*

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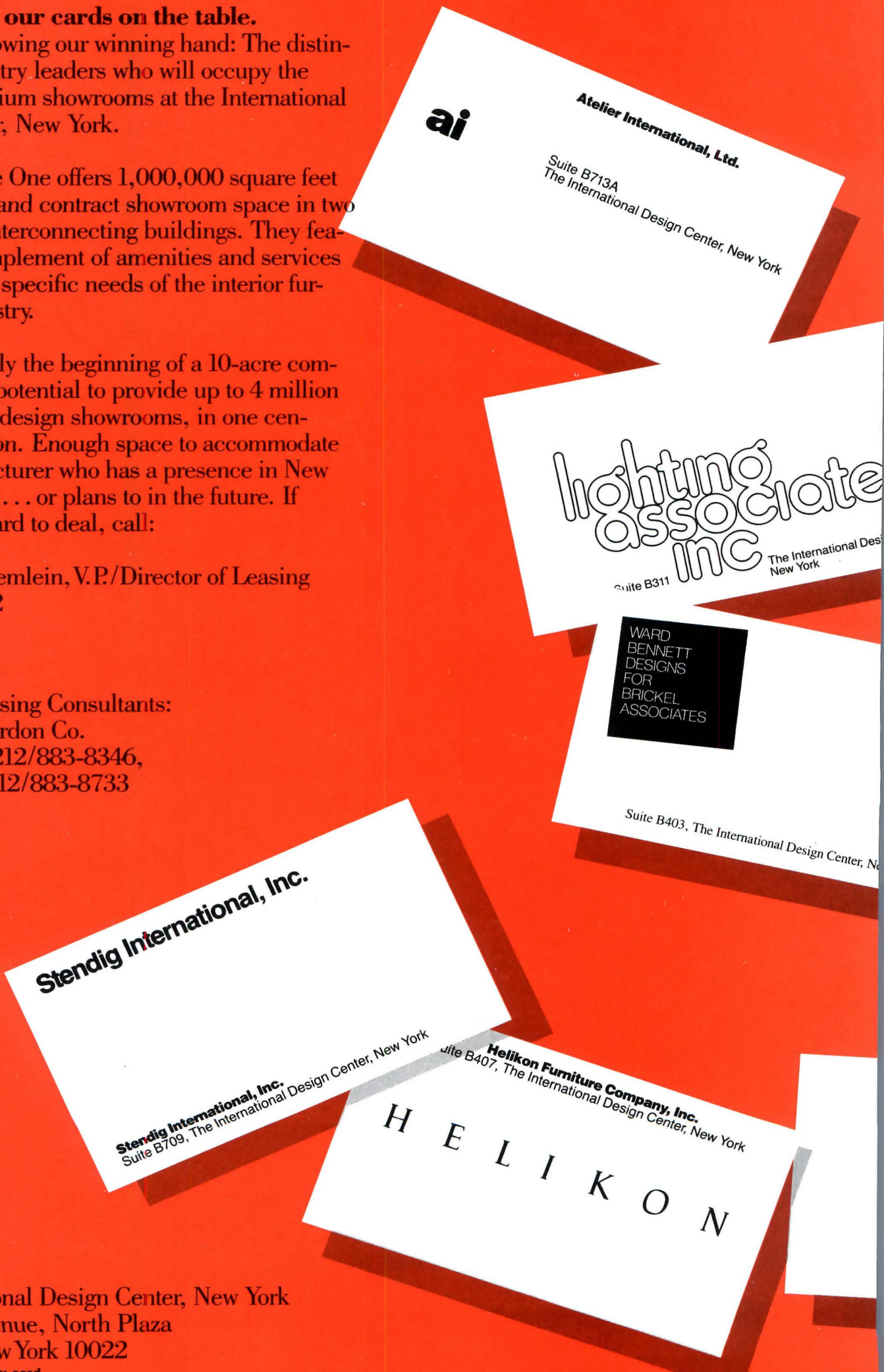

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Architectural education: who needs IDP?

The Intern-Architect Development Program has suffered from lassitude, confusion and resistance as yet another intrusion. Here are some facts and arguments on why it deserves support

By William Wiese II

Through all of the civilized centuries, no profession has surpassed architecture in its devotion to mentorship as the classic way of transferring knowledge from one generation of practitioners to the next. Nowhere is the image of shared experience more vividly portrayed than in the architect's atelier, where the apprentice has sat historically at the master's elbow.

You would think, given such a time-honored tradition, that internship would enjoy one of the profession's highest priorities in today's technologically complex society, wouldn't you?

Well, you would be wrong. For it is an unwelcome fact that while we now have in place the most fully realized internship system ever developed in this country, our profession has thus far been uncharacteristically sluggish in making it work.

I speak with some knowledge aforethought, since it has been a responsibility of mine during the past year to help win support for the Intern-Architect Development Program on a professionwide basis. As a co-chairman of the national IDP Coordinating Committee, I have recently developed enormous respect for the pioneering work of this committee's former, largely unsung, members. Year after year since 1973, they have struggled with one of architecture's most intractable problems—the internship "gap" wherein most aspiring architects disappeared for several unaccountable years between completing their education and applying to take the registration examination.

Today, thanks to the persistence of the Coordinating Committee—which consists of representatives from AIA, NCARB, ASC/AIA, and ACSA—we now have in IDP an internship training program ready for universal application. All that is lacking to make it a dynamic reality is a relatively small amount of *push* from all segments of the profession.

IDP's "self-help" program is a program that could help everybody

The IDP has always been viewed as a way of helping intern-architects to help themselves. At no time has the Coordinating Committee ever felt that the profession should assume a patronizing attitude toward its young candidates for registration. And yet, as so often proves to be the case with fundamentally sound concepts, we have already seen that what's good for intern-architects is also beneficial to many others inside and beyond the profession. The IDP is, in short, an activity through which everybody wins.

Who, you may ask, is "everybody?" Assuming that all of our interns henceforth satisfy the IDP training criteria, they will be beyond question the best-trained young people to enter architecture. And the major beneficiaries of such an enviable situation will be these:

- Intern-architects, of course.
- Architecture firms of all sizes.
- Corporate and government employers of architects.
- AIA and its components.
- Schools of architecture.
- State registration boards.
- The American public.

To appreciate how a single training program such as IDP can benefit so many segments of society, one needs to understand how it works.

The 14 IDP criteria are gaining recognition and application

The fundamental strength of IDP resides in the quality and the diversity of the training experience it requires an intern-architect to gain. To complete the program, a person must have achieved specific levels of exposure in three major training categories. These are *design and construction documents*, *construction administration*, and *office management*.

IDP also encourages interns to gain training exposure in a fourth category—*related special activities*—which includes areas beyond the scope of traditional architectural practice. (See Table A for details of training categories.)

Despite the slowness of some critics to acknowledge the fact, IDP is a wholly voluntary activity. You don't have to "join" anything to participate in IDP. However, while participation is not mandatory, a growing number of jurisdictions are adopting the IDP *training criteria* as their own standard for evaluating an exam candidate's experience qualifications—10 states so far, with 9 others "endorsing" the training (see Table B).

This, the Coordinating Committee believes, is an encouraging trend; when all states have adopted the same training criteria, interns will be assured of equitable treatment wherever they may choose to live and work.

Ironically, it is the comprehensive nature of IDP that has misled the principals of some firms into believing it would be financially burdensome to foster it in their offices. No one has countered this misconception more effectively than Bruno Leon, dean of the School of Architecture at the Universty of Detroit. As head of a co-op program, he is a firsthand observer of professional on-the-job training. Says Leon, "If an intern is worth hiring, self-interest should dictate that a firm help the intern become more productive. In fact, the firms that offer our students meaningful experience are the ones that attract the better graduates. It's the firms that push trainees into a corner and ask them to detail concrete footings for three years that find it hard to compete for promising young people."

Leon's perception is being confirmed over and over these days by firms that readily equate self-interest with unqualified support for IDP. Indeed, we are finding a growing number of firms that actually make it conditional in hiring young people that an intern either be formally participating in the program or agree to do so.

In addition to the fear that IDP will cost a firm too much money, some principals are quick to disqualify their firms because they are either (take your choice) "too large" or "too small." Obviously, both positions cannot be right. But as we are discovering from watching IDP in action, both can be wrong. Consider, for example, the experience of an intern named Chris Alba. Chris worked for a three-persom firm in Albuquerque headed by Randall Kilmer and was counseled in IDP by a professional advisor, Charles E. Nolan, Jr., whose own small firm was located 200 miles away in Alamogordo.

Hearing the intern's complaint that he wasn't getting a chance to do work in structural analysis, Charlie Nolan said, "Chris, don't try to beat your boss around the ears to do the structure on a current project. Go find yourself an old project that the office has done and ask him if he would make you a copy of his calculations. Then go ahead and engineer the job yourself, as you think it should be done. After you've finished your work, *compare it with what the firm actually did.*"

Chris Alba completed the IDP training requirements nicely, took the registration exam and passed it.

Consider, at the opposite

William Wiese, II, AIA, is currently secretary of NCARB; co-chairman of the national IDP Coordinating Committee; and a principal of Freeman, French, Freeman, Architects, of Burlington, Vermont.

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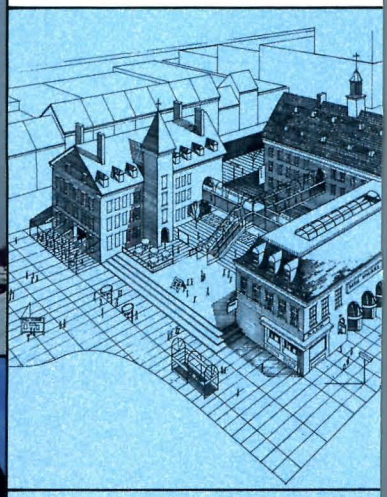

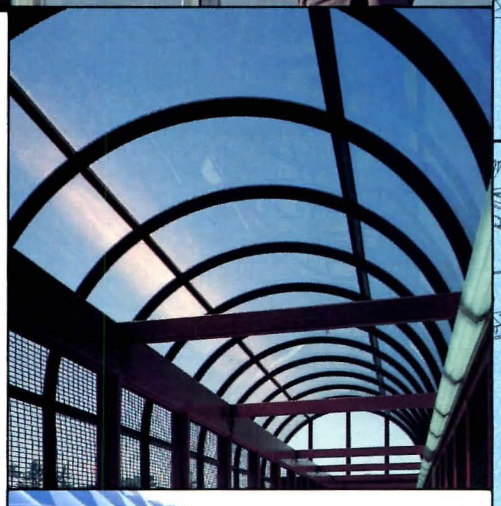

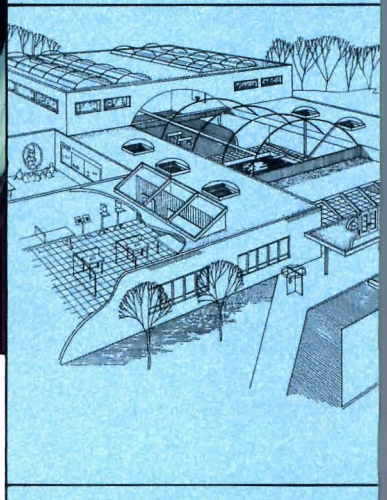

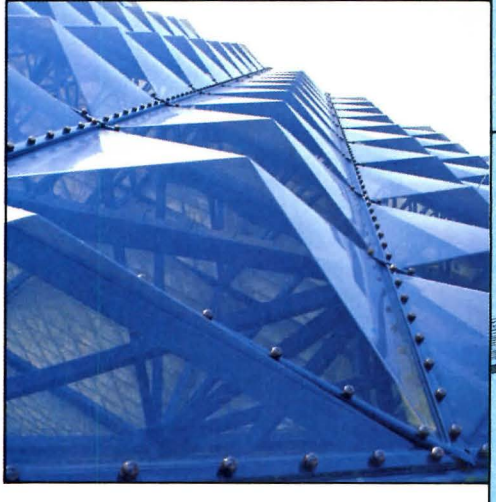

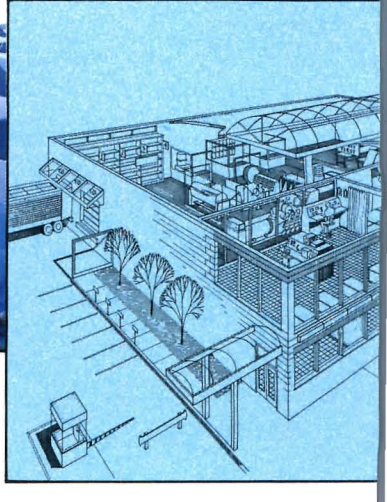

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Table A
To complete the IDP program, the intern must obtain a minimum (yet meaningful) exposure in the following 14 areas:

- Programming and client contact
- Site and environmental analysis
- Schematic design
- Building costs analysis
- Code research
- Design development
- Construction documents
- Specifications and materials research
- Documents checking and coordination
- Bidding and contract negotiation
- Construction phase (office)
- Construction phase (observation)
- Office procedures
- Professional activities

extreme, the experience of Charles Hubbard, who is a partner in the 250-person, Houston-based firm of Morris/Aubrey. He is not only a professional sponsor of several intern-architects in his firm, but also the IDP coordinator for the Houston area. Speaking on behalf of IDP recently before an audience of Chicago interns, Hubbard said, "It's awfully easy to relegate someone just to drawing stair details, and in the past we've wound up doing just that. But the IDP requirements have caused us to reconsider our objectives and made us do some constructive things for interns that we should have been doing a long time ago."

Initiative by the intern is vital to the progress he makes

There can be no doubt that the interns themselves are ready to be taken seriously. I am acquainted with a young man in a neighboring state who exemplifies the determination to make IDP serve the interns' needs, even when no one is particularly interested in them. He decided to participate in IDP for the best of reasons. "It seemed like a good way of documenting my experience," he remembers, "as a matter of interest to myself."

He brought up the subject of internship at his AIA chapter, and nothing happened. "It was kind of funny," he says. "No one had heard of IDP."

Finding no help near at hand, this intern applied directly to NCARB for an IDP Council Record, which is available free of charge. He began recording his experiences in the various training areas identified by IDP. He put in a lot of overtime and picked up experience in such varied activities as computer technology, legal documents and passive solar applications.

In time, he applied for a job with another firm. It was a small but well-known firm. At his job interview, he presented the IDP documentation to show his prospective employer what he had done—and also what he had not yet done—as an intern-architect. He recalls that his interviewer was impressed. "When you are interviewing," he says, "your documentation really becomes your resume. It puts you on a professional footing with a prospective employer."

Yet this prospective employer still wasn't quite sold. He seemed worried that hiring someone who was trying to complete IDP would cost him money. "I had to convince him," he recalls, "that IDP was my responsibility, not theirs."

But state board requirements are varied and final

The intern described above completed the program's comprehensive training requiremnts. As a "graduate" of IDP, he thought he had qualified to sit for the June examination. He learned otherwise when he phoned his state registration board. To be sure, IDP did give him the well-rounded exposure to architectural practice he needed, but he discovered that he was shy a few months of calendar time in meeting that state's minimum three-year practical training requirement.

"My only complaint with IDP," he says today with some feeling, "is that it is not yet standardized across the country. Whenever I call a state board, I can never get a straight answer."

I have detailed this young man's IDP tribulations for two reasons. One, his story illustrates that the intern-architects in this country not only seek a professional internship; but even more important, they are also willing to do whatever is necessary to reach their objective. They ask no special favors, only an opportunity to learn.

What happens when a firm can't—or won't—give training in every category?

Fortunately, the Coordinating Committee in its original wisdom recognized that it is not always possible for every intern in every firm to sail through all of the 14 areas of exposure which comprise the three training categories noted earlier. Sometimes the opportunity to do a certain kind of work isn't available. So the Committee has provided two other means of gaining exposure. One means is through an old and honored learning method—observation. When an intern cannot actually perform a task, he or she can at least learn from watching how it's done.

The other kind of acceptable training exposure is through *supplementary education.* Here, more than in any other internship activity, the interns have proved their sincerity. They have made a publishing success of AIA's excellent "SupEd Guide" series, which was developed seven years ago expressly to enlarge the interns' learning opportunities in areas they've found difficult to experience firsthand.

In a number of metropolitan areas—Portland, San Francisco and Houston among them—the intern-architects themselves have initiated *seminar programs* to enrich their internship. In Portland, they have gone so far as to organize year-long seminar programs, setting fees for themselves and paying honoraria to qualified experts for their services. Instrumental in the Portland operation was an energetic young woman named Michelle Eaton, who has since moved to San Francisco and undertaken the same kind of IDP activities for interns in the Bay Area. In addition to her local activities, she currently serves as the AIA associate representative on the national Coordinating Committee. Says Eaton, "I've spent a lot of time promoting this program because I believe in it. It's great for the interns, but it's also great for the profession."

AIA chapters could gain much by providing sponsors and advisors

A second reason why the experience of my intern-neighbor is worth noting—beyond his sheer determination—concerns the profession as a whole. Whenever the Committee members or NCARB's Robert Rosenfeld speak on IDP at schools of architecture and AIA component meetings, we stress the fact that IDP is a two-way street.

The component representative who tells an intern-architect that he or she has never heard of IDP, then fails to find out about the program, could be ignoring AIA's best opportunity to infuse itself with fresh vitality. A highly motivated young person may be

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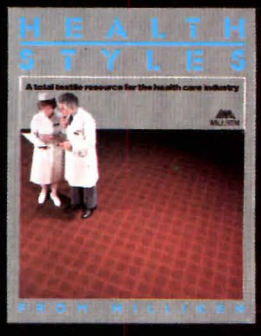

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Table B
These state registration boards require evidence on forms that a candidate has met IDP criteria as of the year stated:

Alaska 1985

Arkansas 1982

Florida 1982

Georgia 1986

Louisiana 1983

Maine 1985

Mississippi 1978

Oregon 1984

Tennessee 1984

Texas 1983

The following state registration boards have endorsed IDP training: California, Illinois, Kansas, Nebraska, New Mexico, Ohio, Oklahoma, South Carolina, Virginia

able to make it through IDP without any outside assistance. But what a pity it will be if these bodies and individuals fail to recognize that it is a matter of enlightened self-interest to actively support IDP.

Foremost among the AIA's opportunities—apart from its sponsoring of supplementary education activities for interns locally—is the development of a vigorous and ongoing pool of *professional advisors*. From IDP's earliest days, it has seemed clear that interns should have personal access to the best advice the profession can offer. One source of such advice should be available, of course, within the firm where the intern works—specifically, the boss could be a *professional sponsor*. The sponsor is a registered architect who is concerned with the progress of an intern in achieving the balanced training experience required to satisfy the IDP criteria. And many sponsors are apt to be AIA members.

So, too, are most professional advisors. The theory behind the professional advisor's role recognizes that young people may benefit from the availability of a mentor—a professional person they can turn to for an impartial assessment of how they are faring in their internship activities. Contrary to the reservations we've occasionally heard expressed by an intern's employer, the professional advisor's role is intended to be supportive, not divisive. In actual practice, he reviews their most recently completed training activities, and offers constructive advice on how to use the months ahead most profitably. It's a help if both sponsor and advisor know each other and are willing to confer.

As a two-way street, IDP offers tangible benefits to the architectural firm. Indeed, we have now accumulated abundant evidence that the initial investments firms have made in supporting their IDP interns have been repaid many times over in terms of greater productivity. The message has been clear—if interns receive increased responsibility they will contribute far more than they receive, returning the professionals' interest with their own, increasing professionalism.

Though still small, the numbers of IDP interns are increasing
Ultimately, the test of IDP's effectiveness will be the performance of our future practitioners. And while it is too soon to tell whether the several hundred "graduates" of the program are better architects than they'd otherwise have been, we do know that they have done very well in passing the registration exam. Not least of the beneficiaries of IDP, moreover, are the state registration boards, which are obliged to evaluate the education and experience qualifications of exam candidates. A few boards expressed the worry in early IDP days that the program would generate more red tape and paperwork. They have since discovered that the exact opposite is true.

Since many intern-architects have elected to start an IDP Council Record, rather than assume the task of attempting personally to compile and validate their experiences, the process of evaluating an IDP exam candidate's qualifications has become more routine for state boards. The candidate's record transmittals are handled in essentially the same way as those of NCARB certificate holders who may seek reciprocal registration in various jurisdictions beyond their base state. From an educated guess of 20,000 to 23,000 current, potential intern architects nationally, some 4,000 to 5,000 (or about one fifth), are estimated to be participating in some way.

The numbers for those actually enrolled in the program are not even that good, however: an estimate of about 700 in the national IDP, and some 350 in Florida—which has a separate program. But these numbers are much better than last year, with the first two months of 1984 being the most active ever. Some credit this with reports circulating that repayment can be deferred on some government student loans by those officially registered with the IDP program.

Architectural schools are beginning to advise budding interns
Though it may not be immediately apparent, it is also true that the schools of architecture are significant beneficiaries of IDP. They are certainly impacted by the program nowadays, since the program is now open to the students of NAAB-accredited architecture programs who have completed their third academic year. To respond to the preparatory needs of these combination student-interns, many schools (some 32 at present or about one-third of accredited schools) have designated a faculty IDP "educator-advisor" to conduct seminars and otherwise provide counsel to students who are approaching IDP eligibility status.

IDP can be a major bridge on the path to professionalism
When all other beneficiaries of a successful IDP have been enumerated, it remains to be said that the final beneficiary is the American public. As a key element in the lifelong learning process of architects, the IDP seeks to fill what was once a really deplorable "gap," and to fill it with substance of the highest quality. Which is to say that when young people in architecture today advance from *education*, and finally to the *examination* and *registration*, they feel confident that they are indeed qualified to perform their professional services in a manner that safeguards the public health, safety and welfare—which is the basic reason for registration.

If our profession needs still another argument for giving IDP that little *push* it deserves, right now, it can find a no more compelling one than this. It is in the public interest to support it, as well as our own.

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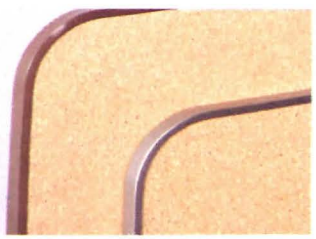

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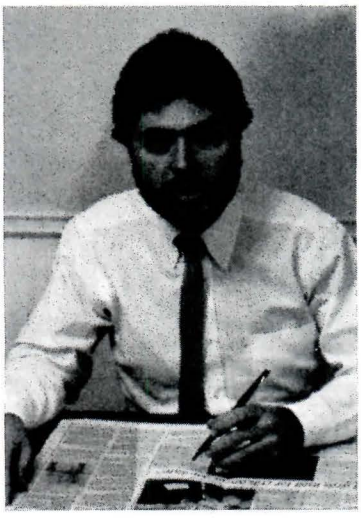
Architectural education: Graduate school and the board exam—are they compatible experiences?

A young designer and teacher, who is on the verge to taking registration exams, wonders poignantly about "legitimizing" alternate career paths in architecture

By Stephen F. Verderber



I was one of those children in the fourth-grade class, who, when asked the proverbial question, "What do you want to be when you grow up?" quickly responded, "An architect." Oblivious as I was to the intricacies of the long road ahead and the elusive concept of "success" in my chosen occupation, I would, nonetheless, eagerly construct, with my multicolored building blocks, Kenner set, cardboard, and so on, grand schemes on the living room carpet. Through adolescence, and on until the end of high school, I remained deep in the throes of the glamorous, singular image of the Master Architect: the architect as the all-knowing, holistic-minded builder a la Frank Lloyd Wright. Thus, when asked, "Will you design my house?" neither I, nor the non-architect questioner (usually a relative) really was able to go much beyond this narrow conception.

There are innate designers and there are those who try

Looking back, it was natural that this image later was questioned and discarded while I was an undergraduate major in architecture. The model inculcated by my professors every day in the design studio can be described as the Architect as Designer: design constitutes the core of the profession; in turn, everything revolves around it. Subliminally, a process began whereby design was rendered to me in bright technicolor and (in not-so-subliminal terms) the nondesign "support courses" were rendered in monochromatic hues of gray. This is where problems first begin for the vast majority of architecture majors in our universities, because the rarified terrain of the design studio can be conquered easily only by a relatively small number of hopefuls. For the rest, it can be frustrating to see a select group of design neophytes emerge and receive the bulk of the professor's attention and praise. This can have bad effects in both the "can do" and "can't do as well but we're trying" camps: those more successful feel a stigma associated with being singled out as exemplary, and the rest are inadvertently branded as somehow being inferior.

Perhaps the most unfortunate consequence of this syndrome is that many (and especially those in the typical five-year B. Arch. degree programs) leave school while still firmly in the clutches of this syndrome. Those who make it through these programs either have adopted a coping attitude ranging from passivity—learned helplessness—to one of critical acceptance, bordering on cynicism. In the disillusioned crowd, those not turned-on to viable alternatives to traditional practice tended to drop out along the way, and if they did in fact receive a degree, they consciously turned their attention and energy away from architecture as an occupation.

Some schools now teach alternate career paths

Having already rejected the narrowness of the Master Architect Syndrome, I came also to question the elitism of the Architect-as-Designer Syndrome. There must be—and absolutely *had* to be—more to a profession supposedly as broad as this. In retrospect, I was lucky to have attended, as a graduate student, a school (The University of Wisconsin in Milwaukee) that acknowledged the plurality of the profession and as such had constructed discrete, yet overlapping, areas of concentration. My areas of concentration were Building Design and Environmental-Behavior Studies. But it was too late. The seeds of discontent had already taken root. The questioning process began for the third time.

Through my subsequent professional experiences, plus earning a doctorate in architecture (Michigan) and serving as a professor of architecture (University of Houston), an appreciation has begun to evolve of the notion of multiple professions existing within the architectural profession.

Alternative career paths can potentially function as conduits to convey new knowledge from, and to, what still constitutes the trunk of the architectural education tree—design. In some of the schools, the attitude that all roads lead to design is ever-so-gradually being reshaped by the input of new as well as rejuvenated branches on the tree: architectural history and preservation; energy-conscious design strategies; advancements in building science and technology; the increasing power and applicability of the computer in design and production processes; and the growing field of environment-behavior programming and design research. This reflects the significance of a rapidly expanding knowledge base and the schools' belief that this new knowledge must be taught—all the while assuming that a multiplicity of career paths will instantly become available to the fledging architect. While faculty members are drawn to teaching and research for a wide variety of reasons, many, as a result, need not squarely confront the clashing objectives of the university and the traditional registration exam process. The net effect of all this remains somewhat disturbing: on the one hand, the leading schools are offering more and more specialized programs of study. At the same time, the generalist format of the NCARB licensing exam for professional registration by the various states and jurisdictions is becoming less and less attuned to what is happening in the architectural schools, especially at the graduate level.

The registration exam and the architectural school: A mismatch?

Is the trend toward specialization in architectural education at the graduate level out of synch with the basic assumptions of the recently revised exam format? I suspect so. First, the test assumes that the registered architect must be all things to all people (each applicant must pass all portions of the exam). This benefits those seeking careers as general practitioners, but what about the rest? It also counters the specialization-is-the-route philosophy of some of the schools and students.

Might it be that the public is insured a higher level of expertise from the specialist certified in a particular facet of architecture in addition to the knowledge required of the generalist? The answer to this question should be obvious, but at the very least there should be increased momentum to more specifically state the skills of the individual beyond the general catch-all of "architect."

In sum, to an increasing extent, due to the rapid expansion of knowledge in the various fields that create architecture and the forces of the marketplace, the orientation of the leading graduate schools—and the desire for students to seek out alternatives to traditional practice—the underlying assumptions, and the format of the licensure rite of passage will be called into question more than ever before. When the current exam format is again overhauled, alternatives such as those discussed below will probably need to be explored. These are feebly defined, for lack

Continued on page 65

Dr. Verderber is a project designer and planner with FBSR, Inc. (formerly the Falick/Klein Partnership, Inc.), Houston, and an assistant professor of architecture at the University of Houston. He holds a doctorate in architecture and environmental psychology from the University of Michigan.

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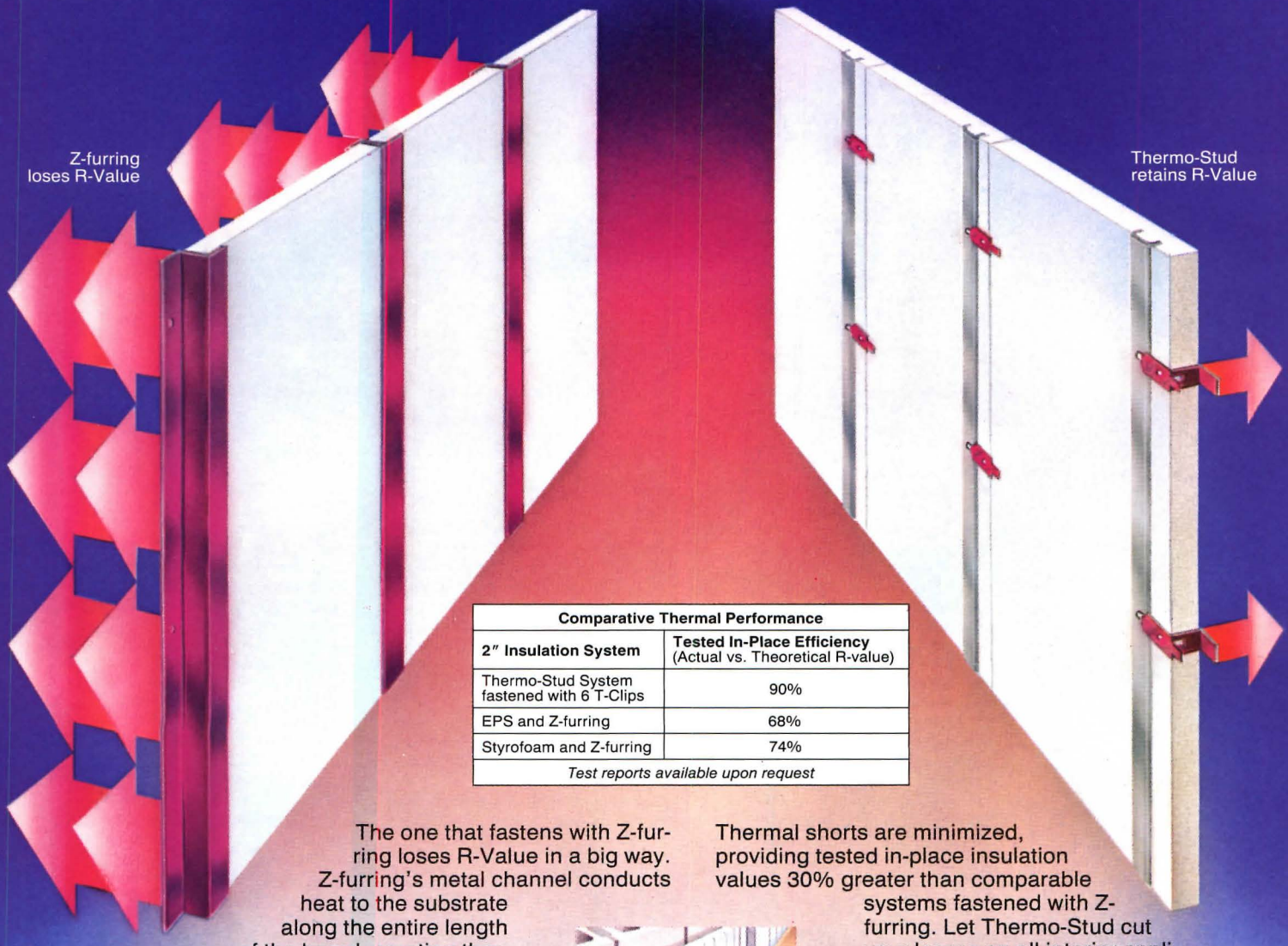

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Architectural education continued from page 63

of better labels, as the factoring method and the certificate of specification process.

The factoring method: give additional weight to special skills

This procedure would leave the current format relatively unaltered—on the surface. Each aspirant would, as at present, be required to sit for all portions of the exam and to pass all sections. However, a factoring method would be instituted, thereby enabling particular sections of the test to be weighted more or less heavily, depending on the emphasis area as selected by the individual.

For example, for someone wishing to concentrate in design, a factor of say, three would be assigned to the site planning and building portions of the exam, thereby requiring a higher passing score on this portion of the over-all exam. The other sections of the test would in turn be assigned slightly less importance in the grading process, and the over-all average score across *all* sections would determine one's success or failure. If carefully implemented, this would ensure that the architect would be qualified in all facets of that which encompasses the test and that he or she would be particularly qualified in one or more areas of expertise. This would be based on the candidate's choice of career paths.

Certificates of Specialization: license each speciality

This procedure would promote the concept of multiple avenues of practice within architecture. A movement has already begun whereby architects feel the need to state further qualifications beyond the generalist title of "architect." But it would almost certainly be viewed as a radical departure from the method currently endorsed by the architectural establishment.

Rather than placing greater emphasis on particular facets of architectural knowledge vis-a-vis a factoring method, perhaps four different tests could be developed. An individual would have the option of taking one or more of these exams and would be awarded a separate certification license in each area. Hypothetically, these exams could cover:

Architectural Technology—successful completion of this exam would lead to licensure as an Architectural Technologist, and would cover such skills as computer-aided design, specification documents, construction drawings, behavior of materials, construction processes, hvac systems, lighting, acoustics, energy-conscious principles in architecture, and so on;

General Practice—in effect, this would be very similar in scope and format to the 4-day A.R.E. (architectural registration exam) introduced in 1983;

Architectural Planning and Design—successful completion of this exam would lead to a license as a Designer in Architecture (or something like that), and would cover key facets of the site planning and design process; and,

Ancillary Services—the Ancillary Services Specialist would be qualified in the areas of office, project, and construction management, budgets, contract documents and related legal issues, marketing, public relations, architectural programming, and evaluation processes. This model would require a substantial restructuring of the current process and some of its most sacred assumptions. And it is not probable that the majority of licensed practitioners could sanction the advent of different types of licenses within architecture without first accepting the concept of professional plurality and fully endorsing the concept of plurality in architectural education.

It was none other than Frank Lloyd Wright, who more than 50 years ago denounced the architectural licensure process as little more than a measure of professional mediocrity. The present discussion, then, is little more than an old idea dressed up in new garb. Granted, alternative licensure models have myriad implications for the schools, the accreditation process, practitioners, allied professions, and for society: What about monitoring processes? Opposition from long-established architects? How would these new tests be structured, pretested, and implemented? What effect would this have on the fee structure? In firms, what new status hierarchies would emerge? And most importantly, in what ways would society be better served by a revamping of the current procedure?

What has become apparent however is that a thorough rethinking by the profession on this subject, when it eventually occurs, would function to legitimize the broadening philosophies and curricula of many leading architectural schools.

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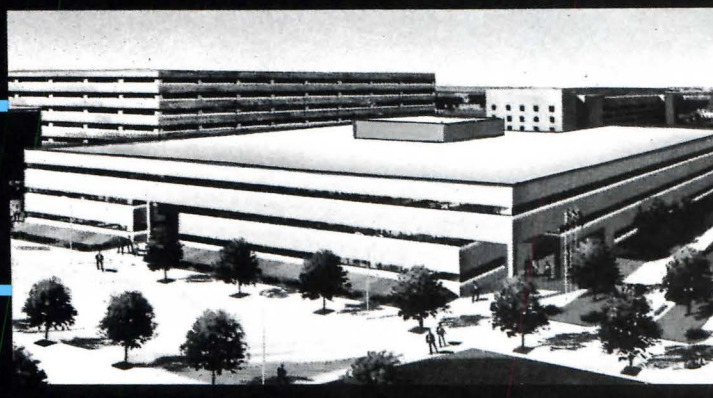

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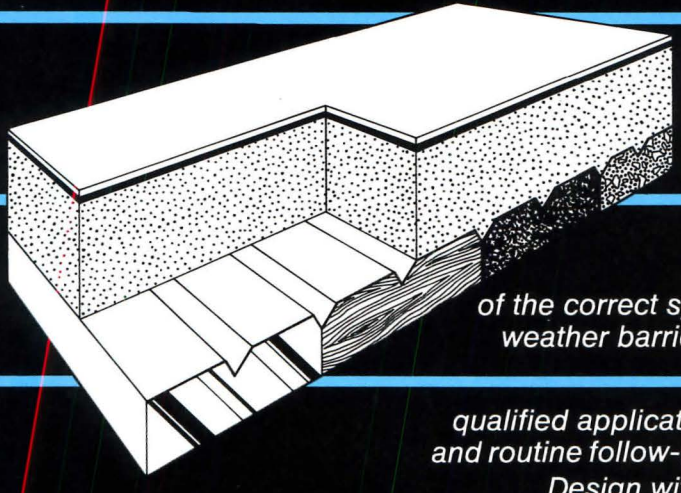

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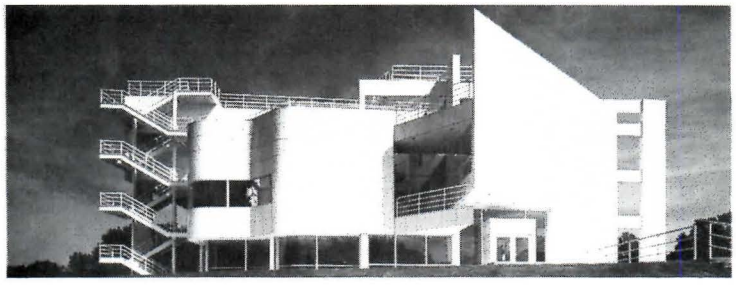
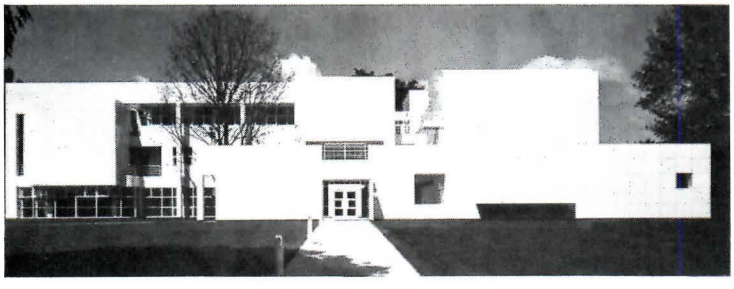
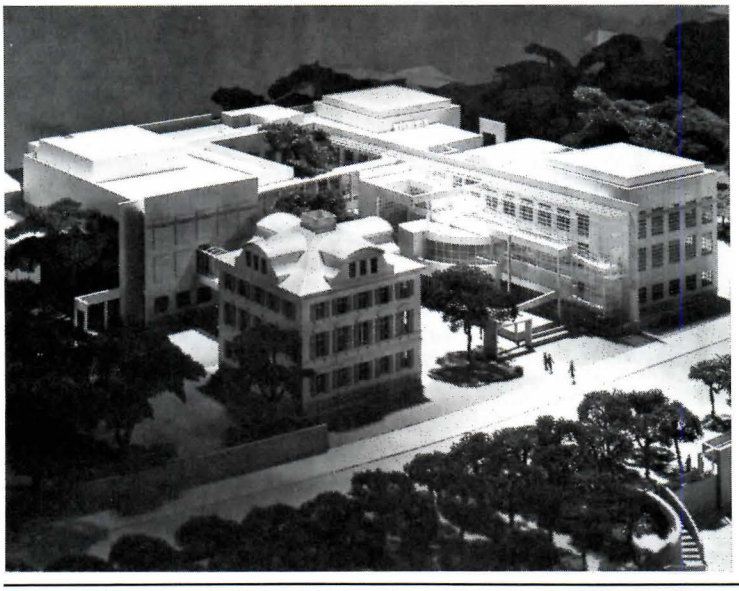
Richard Meier is 1984 Pritzker Prize Laureate







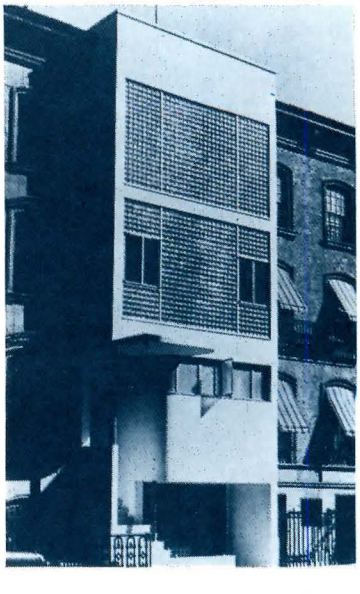
Richard Meier has been named the winner of the sixth annual Pritzker Architecture Prize. Established in 1979 by Jay A. Pritzker, chairman of the Hyatt Foundation, to recognize a creative discipline not honored by the Nobel Prize, the award consists of a $100,000 grant and a bronze sculpture by Henry Moore.

Meier was born in Newark and, at 49, is the youngest architect to receive the Pritzker. He studied architecture at Cornell and first rose to prominence in 1970 with his highly praised conversion of the old Bell Telephone Laboratories in lower Manhattan into the 383-unit artists' housing complex known as Westbeth. Other projects over the past 15 years that exemplify Meier's individualistic interpretation of modernism include the Twin Parks Northeast housing complex in the Bronx (1972); the Bronx Developmental Center (1977); The Atheneum in New Harmony, Indiana (1979, photo top); The Hartford Seminary (1981, middle); and the High Museum of Art in Atlanta (1983). Current projects include the Museum for Kuntshandwerk in Frankfurt, West Germany (bottom), and the Des Moines Art Center.

This year's jury consisted of Giovanni Agnelli, chairman of Fiat; J. Carter Brown, director of the National Gallery of Art; Arata Isozaki, architect; Philip Johnson, architect; J. Irwin Miller, chairman of the Cummins Engine Company; Kevin Roche, architect; and Thomas J. Watson, Jr., past chairman of IBM.

Traveling exhibit examines work of Lescaze

An exhibition on the work of early modernist William Lescaze will be on view from June 1 through September 2 at the National Academy of Design in New York prior to a national tour. Entitled "The Rise of Modern Design in America," the show was organized by Robert Bruce Dean, assistant professor of architecture at Syracuse University, and the Everson Museum of Art. The exhibit consists of over 200 drawings, photographs, pieces of furniture, and models—the nucleus of a collection that Lescaze willed to the university in 1969. A highlight of the exhibit is a restored five-foot-high model of the landmark PSFS Building in Philadelphia which Lescaze designed with partner George Howe in 1932. Other models constructed for the show by Syracuse architecture students include Lescaze's 1933 New York city town house (left) and two unbuilt proposals for the *Museum of Modern Art (1931)* and a new CBS headquarters building (1935). A book on Lescaze written by Lindsay Shapiro and Christian Hubert for the Institute for Architecture and Urban Studies accompanies the exhibition.



International forms and local colors inspire L.A. Olympic designers

An information tent (top), stageback platforms (middle), and entrance booths (bottom) at the Olympic Swim Stadium on the campus of the University of Southern California exemplify the "festive federalism" created for the 1984 Los Angeles Games.

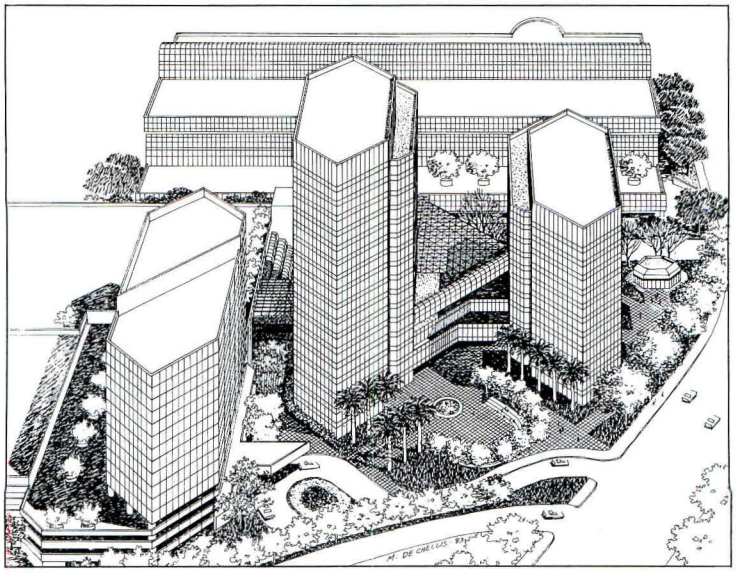
The convergence of the architectural press on southern California during West Week in late March provided the Los Angeles Olympic Organizing Committee with the opportunity to unveil its environmental design and color program for the upcoming Games. Unlike all previous Olympiads, which were characterized by the construction of enormous new athletic and housing complexes, the 1984 Games will utilize facilities that for the most part already exist within a sprawling 100-mile radius of downtown Los Angeles. The challenge, then, for the LAOOC was to develop a consistent look and style for the some 30 diverse sports venues and arts festival sites stretching from Santa Barbara to San Diego.

Coordinated by Jon Jerde and David Meckel of the Jerde Partnership in collaboration with graphic artists Deborah Sussman and Paul Prejza of Sussman/Prejza & Co., the design program now being completed will express "the festive, temporal, and international qualities of the Olympics within the framework of southern California's cultural diversity." The key element of the design scheme is a brilliant color palette devised by Sussman and Prejza that includes "hot" magenta, bright vermilion, chrome yellow, and clear aqua—nonnationalistic hues that were selected to "represent the southern California spirit." The colors will be applied on each designed element of the Games—everything from tickets and employee uniforms to street banners and 80 miles of fence fabric—in a cohesive pattern dubbed "festive federalism," a system that combines proportional bands of color and rows of stars along with pictographs developed by Keith Bright & Associates and the "Star-in-Motion" symbol created for the Games by Robert Miles Runyan.

In order to emphasize the temporary nature of an event that lasts only two weeks, the Jerde Partnership has created a series of portable architectural elements that can be erected virtually overnight and reworked in numerous configurations. This modular "kit of parts" includes fabric structures intended to evoke the communal spirit of festivals and marketplaces throughout the world; scaffolding structures adorned with the hot colors and arranged to form gateways, towers, and walls; painted cylindrical columns to be used as information pylons and structural members; and ceremonial fabric backdrops, banners, and bunting ringing playing fields and decorating city streets.

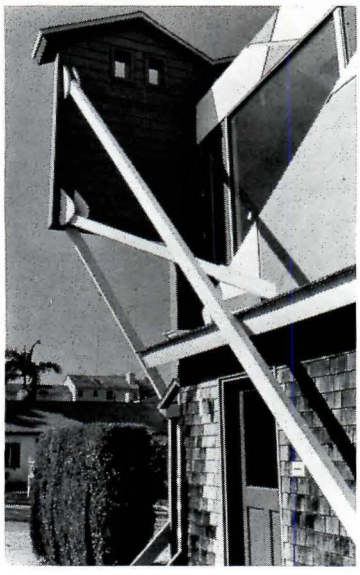
The entire design program was tested last summer at a series of pre-Olympic events, including the McDonald's International Swim Meet illustrated here. Although refinements to the system are continuing right up to the July 28 opening, it seems clear that the Los Angeles Games will be fondly remembered for their "absence of pomposity and lack of the grandiose," in Jerde's words, and for a look that is distinctly "Californian"—relaxed, dynamic, and totally appropriate for an international sports event that over the past several years has grown too formal and expensive for its own good.

Pacific Design Center expands



If the design scheme for the upcoming Olympics represents Los Angeles at its most inventive, an ambitious expansion proposal for the Pacific Design Center by Gruen Associates seems disappointingly conservative. The phased project calls for a 12-story hotel, 11- and 17-story office/mart buildings, several parking structures, and a system of landscaped courtyards and atriums connecting the various elements of the ensemble to the current PDC. The three light-blue hexagonal glass towers of the new complex come off as lackluster in comparison to Cesar Pelli's vigorous Blue Whale and, despite claims to the contrary, they appear to block the impressive view of the original building from Santa Monica Boulevard and the West Hollywood hills.

California dreamers: Fantasies unfolded in Monterey



"Soldiers in Argyle," a house by the San Diego firm of Pacific Associates Planners Architects.

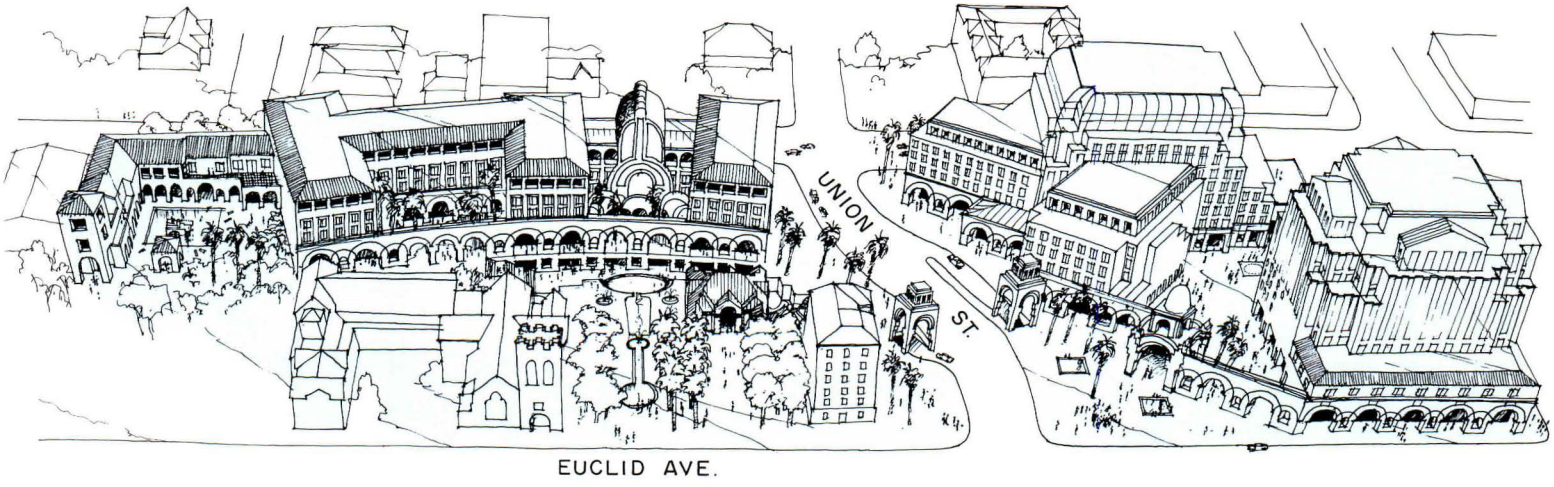
The timing was uncannily apt. Just three weeks before the fifth annual Monterey Design Conference, held in late March, *California* magazine came out with a cover story that attempted to lump the diverse work by the latest generation of local architects into a freewheeling anti-style called "Blendo-ism." More than just a combination of design elements that the name implies, Blendo-ism, according to the article, is often a marriage of opposites—modernism and historicism, the ugly and the beautiful, reality and fantasy—all within one structure. San Diego architect Ted Smith coined the term to describe a mode of building practiced by those who have learned from such elder statesmen as Frank Gehry, Robert Venturi, and Charles Moore that anything is possible.

Blendo-ism may be jargon, but it also pretty well sums up the quality of this year's Monterey conference, which was as inconsistent and varied as the architecture presented. Although the official theme of the event, "Secrets," was selected to encourage architects to share their intimate tricks of the trade, many participants ignored the title and instead used the gathering simply as an opportunity to meet with colleagues and show off their latest work. In addition to presentations by individual architects, the organizers planned supporting programs that focused on the relationship between architecture and other art forms. Glass artist Ed Carpenter of Portland, for example, presented his work in architectural stained glass, while Robert McDonald, director of the Santa Cruz County Art Museum, addressed a luncheon audience on fashion design, which he called "intimate architecture." To stress the point he followed up his talk with an enigmatic fashion show where the clothing worn by models slowly turned into a kind of third-world village.

It is architecture, however, that draws the crowd to Monterey, and if there was any consistency among the 40 heterogeneous presenters, it was the continued influence of vernacular buildings of the past on current West Coast design. Speakers included Steven Ehrlich of Los Angeles, who called such diverse projects as a theater in Nigeria and a bank renovation in Thousand Oaks "post-primitivism—an architecture based on intrinsic truth." The Santa Monica team of Carde/Killefer revealed how the principals' background in construction helped shape a body of work that ranges from psychoanalysts' offices in West Hollywood to a false-front restaurant in Brentwood. Christopher Smith, president of the Hawaii Society/AIA gave a slide overview—or "poi-pourri"—of recent projects by island practitioners. While Smith contended that most current architecture in Hawaii derives from indigenous forms, the pictures revealed buildings that are unsympathetic to the islands' lush tropical environment and instead seem based on mainland prototypes.

The most surprising aspect of the conference, however, was the preponderance of unusual projects by architects from San Diego, a result, perhaps, of the fact that Rob Quigley, the spiritual leader among young San Diegans, was this year's program chairman. If the work by San Diego architects appeared relaxed even by California standards, some cynical Angelenos tried to explain the stirrings from the south by noting that the burgeoning border city has too many underemployed architects who have the time to sit in their offices and dream up architectural fantasies. Whatever the case, names to watch in San Diego include Pacific Associates Planners Architects (PAPA), whose architecture of "opposites, dualities, and extremes" is the perfect embodiment of Blendo-ism; Mark Fehlman of Austin-Hansen, who "takes clients' fantasies and makes them attainable;" and Roesling-Nakamura & Partners, a very young firm that has built little but which delighted the audience with its frank description of the way that "chaos in the office can lead to creativity." Future Monterey conferences will no doubt reveal whether these and other San Diegans are merely of passing interest or a viable extension of the L.A./San Francisco orbit. *P.M.S.*

New bloom for the City of Roses



Long considered one of the most distinctive cities in southern California, Pasadena has seen its image tarnished in recent years by a declining downtown, unsympathetic freeway construction, and a reputation as the smog capital of the Pacific Basin. Although the bad air lingers, young professionals have rediscovered the city's rich stock of early 20th-century housing, and Pasadena now seems on the brink of a full-scale revival. An indication of the city's rebirth is a mixed-use urban renewal project to be developed by Maguire/Thomas Partners on a six-acre site adjacent to City Hall, a striking Beaux Arts/Spanish Revival structure designed in 1924. Dubbed Plaza Las Fuentes, the new complex will consist of two office

buildings, a 350-room hotel, and an arcaded, crescent-shaped promenade lined with shops, restaurants, courtyards, and fountains. Architects for the "post-Mediterranean" project are Charles Moore of Moore Rubel Yudell, in joint venture with Barton Myers Associates, Albert C. Martin & Associates, Lawrence Halprin, and Olivier Vidal.

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Catalan architect is subject of New York show

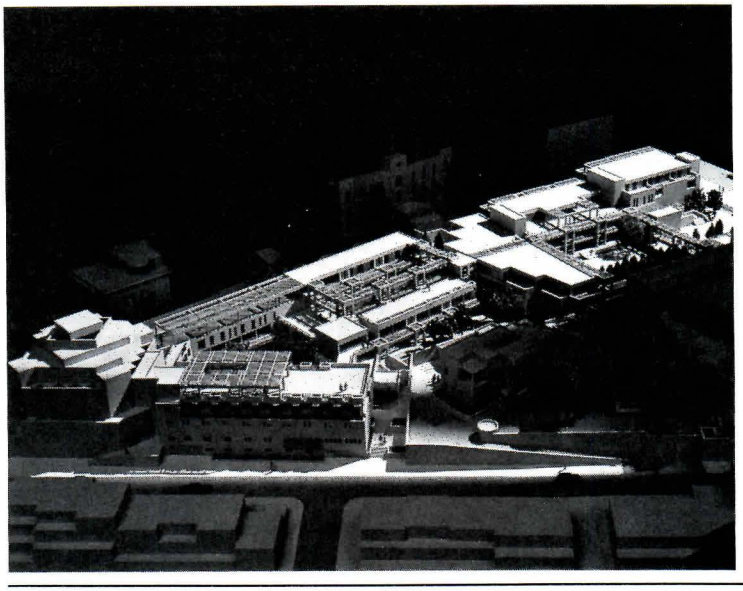
The architecture of Jose Maria Jujol is the subject of an exhibition of black-and-white and color photographs currently on view through May 31 at the Spanish Institute in New York City. Virtually unknown in this country, Jujol was an independent architect as well as an associate and collaborator of the great Catalan Antonio Gaudi. His numerous works in and around Barcelona, including the Casa Negri shown, exhibit elements of the Art Nouveau and expressionism, and at times verge on the surrealistic. The New York show focuses on Jujol's independent commissions between 1915 and 1930, and was organized by SITES, a quarterly literary magazine on buildings, places, and monuments that recently published a guide to Jujol's work.

Architects form anti-nuclear association

Those who fear that organized social consciousness among architects died during the 1970s can now take heart. Architects for Social Responsibility is a national nonprofit group of professionals and students formed in 1982 "to help the public understand the catastrophic consequences of nuclear war and the negative effects that massive expenditures for nuclear weapons have on the quality of life in America." In recent months ASR has sought to expand its national base by encouraging the formation of local chapters—a step that was taken to broaden the group's constituency during the current election year. For further information contact ASR, 225 Lafayette Street, New York City 10012, or call 212/334-8104.

A new study center in Jerusalem

Situated in the center of Jerusalem on the edge of a plateau overlooking the Old City, a five-building complex by Moshe Safdie and Associates will provide a new campus for the Hebrew Union College and expanded facilities for the World Union for Progressive Judaism. The program comprises a library and museum; a center for biblical and archaeological research; an academic center with classrooms and faculty offices; a youth hostel for American students visiting Israel; and a synagogue. The architects have created a walled compound that opens into a series of voids by grouping two- to four-story structures around interconnected cloisters and trellised arcades. The sequence of outdoor spaces and the landscaped roof terraces that step down toward the inside courts are intended "to evoke the sense of Jerusalem's architectural heritage, that of discovery and constant surprise associated with the monuments of the Old City," according to the architects. Reflecting the requirements of the city's zoning ordinances, the exterior walls of the complex will be of yellow local stone that harmonizes with nearby existing structures. Concrete framing and metal and glass infill panels, by contrast, will characterize the courtyard elevations. Although the over-all massing of the building ensemble is low, the synagogue will extend 40 feet above the roofline of the adjacent youth hostel to command views of the Temple Mount and the Old City beyond.



NEOCON 16: The design world comes to Chicago

"Midpoint to the *Millennium*" is the theme of NEOCON 16, The World Congress on Environmental Planning and Design, scheduled for June 12-15 at the Merchandise Mart in Chicago. Always a hectic and exhilarating event, NEOCON this year will have an especially international flavor, as product manufacturers, architects, and designers from throughout the world will assemble to present views on issues confronting the built environment through the year 2000.

NEOCON highlights include an address on Tuesday, June 12, by Richard Fulton, mayor of Nashville, on the future of American cities. On Wednesday, June 13, architects Josef-Paul Kleihues, Carlos Ott, and Robert Venturi discuss vernacular architecture and the new classicism. Thursday, June 14 is Facilities Management Day, and there will be a schedule of sessions focusing on the planning of health care, restaurant, corporate, and educational facilities. Also that day John Burgee, Michael Graves, and Helmut Jahn will participate in a panel on the new American skyscraper. Friday, June 15 is Architects Day and will feature a panel on new directions in European and Japanese architecture, in addition to a major international symposium moderated by Paul Goldberger of *The New York Times* that will attempt to answer that most difficult question: "What is postmodern?"

For updated information on these and other NEOCON events contact the Communications Department of the Merchandise Mart at 312/527-4141 ext. 340.

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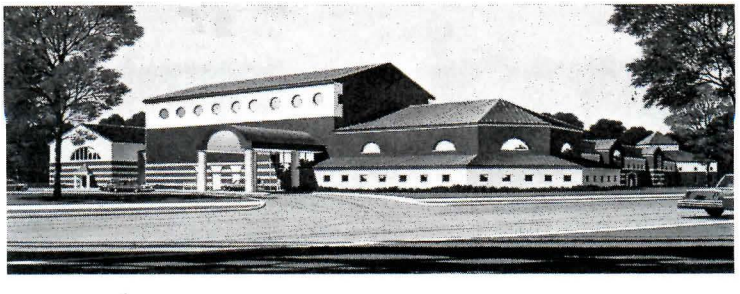

The faintest echoes of Alberti and Brunelleschi have found their way to the heart of Dixie in the design of the new Moody Music Center at the University of Alabama. While the sprawling 106,000-square-foot complex may lack the classically correct proportions of its early Renaissance predecessors, architects Wollen, Molzan and Partners have utilized a vocabulary of stylized classical details to link the red brick, limestone, and stucco building to existing 19th- and early 20th-century structures on the campus. The center will house four performing and rehearsal spaces within a tall main wing, along with classrooms, offices, and practice rooms in a lower, two-story extension. Associated architects on the project are Fitts and White.

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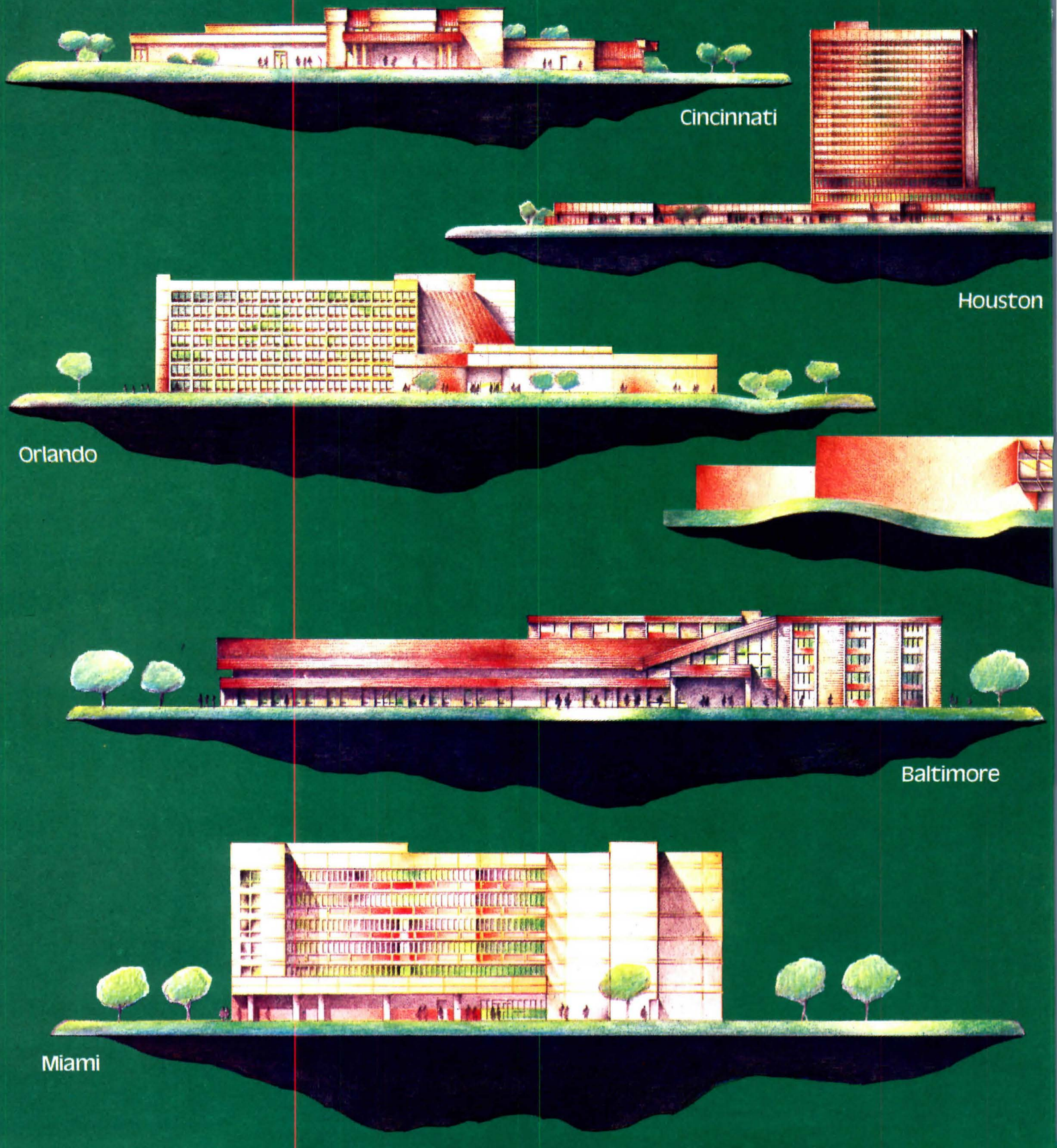

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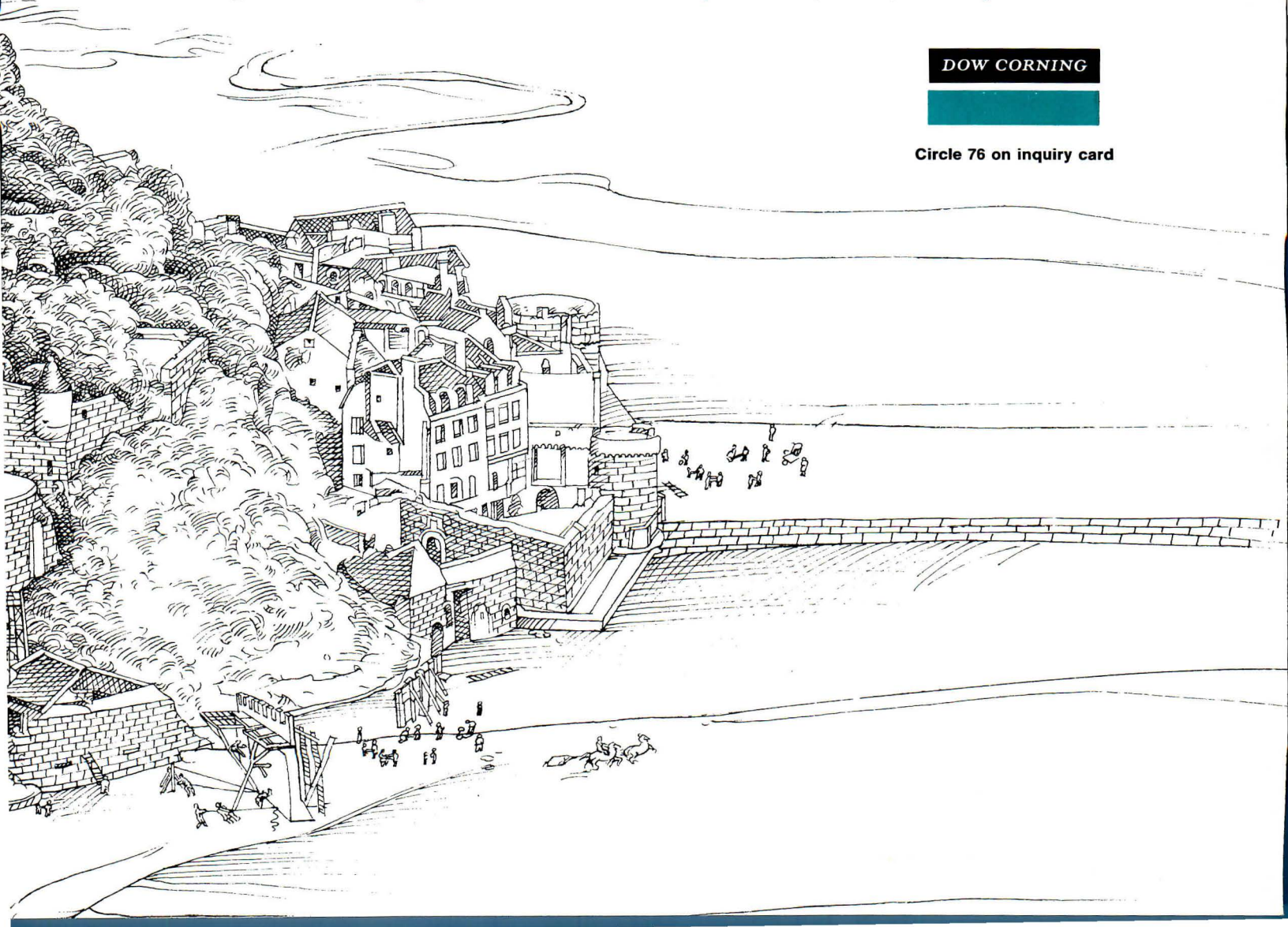
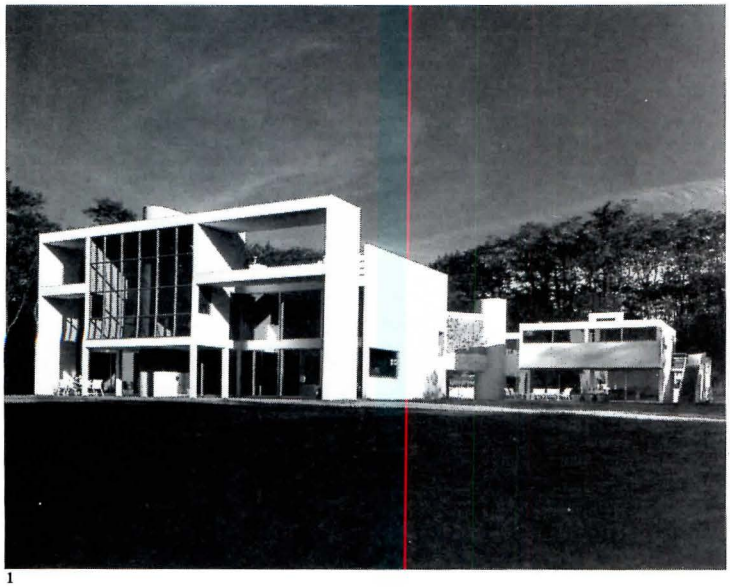


Design awards/competitions: 1984 AIA Honor Awards



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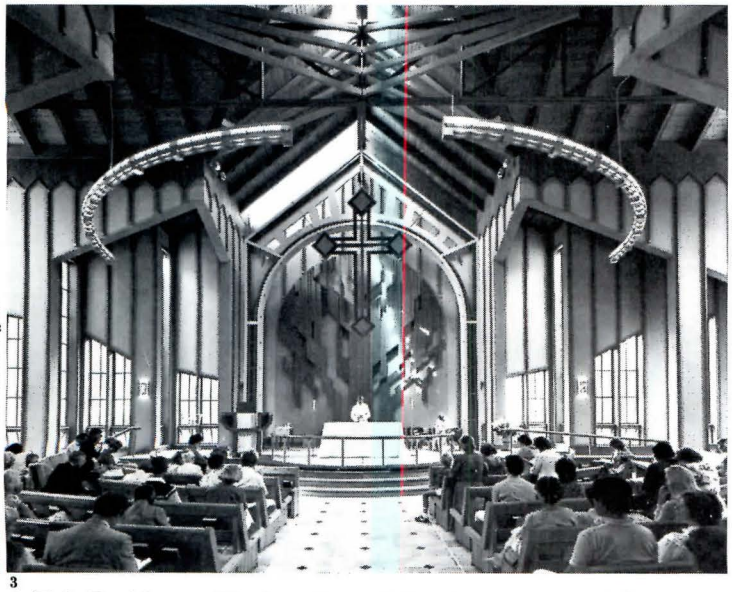

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4

1. Taft Residence, Cincinnati, Ohio; Gwathmey Siegel & Associates, Architects (RECORD, mid-May 1981, pages 86-91). The architects' goal was to design a residence with separate buildings assembled in a villagelike arrangement that allows privacy within the individual units and an over-all visual coherence. The buildings are linked by a second-story gallery that serves as both connective tissue and usable living space. The jury praised the structure for its detailing and its "deftly composed indoor and outdoor spaces. It seems to be a sculpture sitting on a hill."

2. Gordon Wu Hall, Princeton University, Princeton, New Jersey; Venturi, Rauch and Scott Brown, Architects (RECORD, mid-September 1983, pages 86-97). Situated on a narrow, sloping site in the heart of a densely built-up university, this student social hall pleased the jury as "an imaginative design that successfully mediates between the surrounding International Style and traditional collegiate Gothic structures while fitting unobtrusively into the over-all campus fabric." The jurors also lauded the building's interiors, which they called "exceptionally well-crafted."

3. St. Matthew's Church, Pacific Palisades, California; Moore Ruble Yudell, Architects (RECORD, February 1984, pages 94-103). Designed in collaboration with members of the congregation, this hillside church near Los Angeles was praised by the jurors for its "imaginative use of stucco, exposed timbers, roof tiles, and other decorative elements that link the building to the rich tradition of California architecture." The jury added that "while the nave is lofty and appropriately awe-inspiring, the architects have managed to give it a sense of intimacy by arranging the pews in a broad semicircle around the altar."

4. Gainesway Farm, Lexington, Kentucky; Theodore M. Ceraldi, Architect. A racehorse breeding farm consists of eight, four-stall barns for housing valuable stallions, a breeding shed, and a lunging ring for exercising horses during inclement weather. The jury characterized the timber, stucco, and clay tile complex as "a masterly example of great beauty and elegance. The structures relate well to one another and exhibit a mood of tranquility, harmony, and balance that evokes a feeling unique to a farm." The barns in particular were singled out for their "exquisite detailing and fine craftsmanship."

The American Institute of Architects presented its 1984 Honor Awards earlier this month at the AIA National Convention in Phoenix. Selected from 474 entries, the 13 winning projects illustrated below and on page 94 exhibit "a strong common thread of first-rate design and execution," according to jury chairman Gerald Horn, FAIA. "Over and over again we found ourselves admiring finely crafted detail, innovative solutions to problems of site or function, and designs that were well integrated with their environment," said Horn. "If there is a conclusion to be drawn from our selections, it is that architectural pluralism is alive and well in America." Horn's fellow jurors were Arne Bystrom, AIA, of Seattle; John J. Casbarian, AIA, of Houston; Thomas M. Fabian, an architecture student at the University of Illinois; E. Fay Jones, FAIA, of Fayetteville, Arkansas; John P. Locke, AIA, of Des Moines; David Van Zanten, associate professor of art history at Northwestern University; Rochelle Vitone, associate AIA member from Newark, New Jersey; and Harry Wolf, FAIA, of Charlotte.

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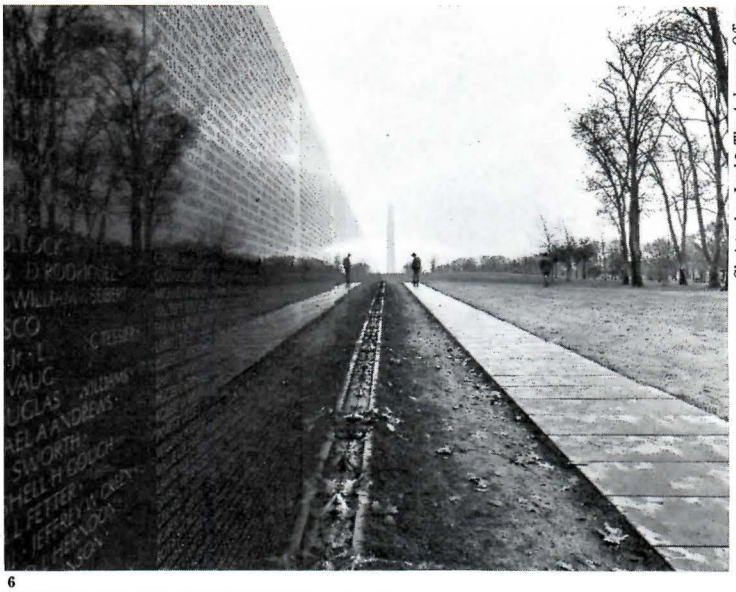

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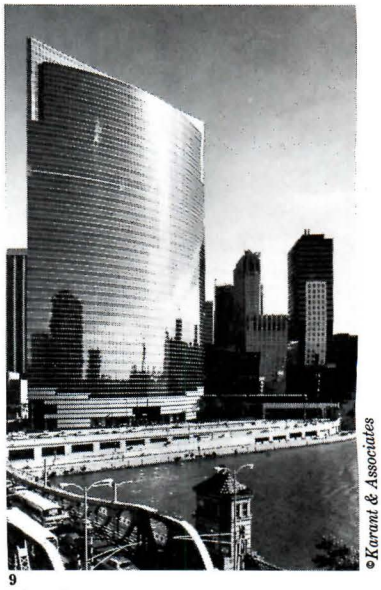

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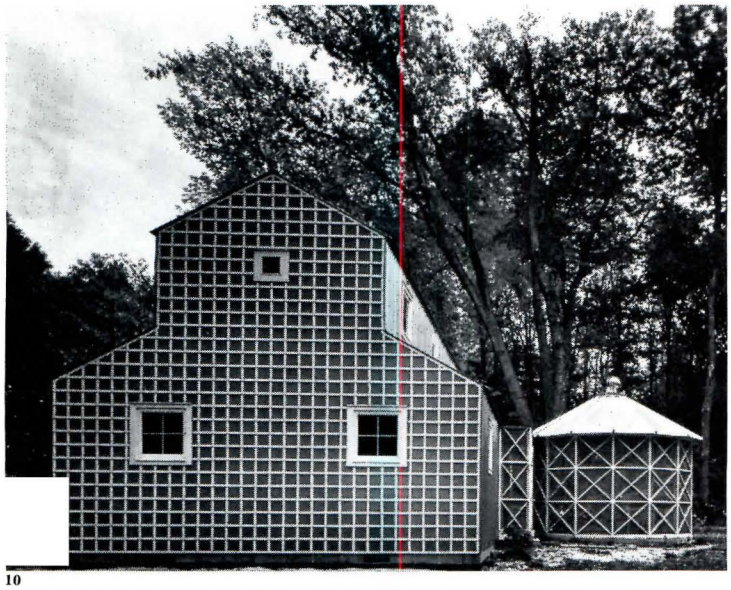
5. Carver-Hawkeye Sports Arena, University of Iowa, Iowa City; CRS/Caudill Rowlett Scott, Architects. The jurors noted that the architects "achieved the remarkable feat of making a large-scale, 15,000-seat arena blend harmoniously into its wooded campus setting." The facility is set into a natural ravine to take advantage of the earth's insulating properties. The placement of the roof plane on the bottom of a lightweight steel space-truss reduces the interior volume that requires heating or air conditioning.

6. Vietnam Veterans Memorial, Washington, D.C.; Cooper-Lecky Partnership, Architects; Maya Ying Lin, Designer. The jury called the V-shaped granite monument on Washington's Mall "the most significant memorial constructed in recent years. The grassy setting and the reflective black slabs that taper to infinity within the earth create a feeling of peace, rest, and finality while unavoidably recalling agony and loss. Unlike more literal commemorations the abstraction of the design permits each viewer to interpret the war's meaning in a deeply personal way."

7. North Shore Congregation Israel Addition, Glencoe, Illinois; Hammond Beeby and Babka, Architects (RECORD, June 1983, pages 104-113). The jury lauded this addition to an existing synagogue for its historical references and its respectful relationship to the existing structure. "Through an artful and subtle use of brick, wood, and natural light, the beautifully finished interior space conjures up different periods of Jewish architectural history. The architects have skillfully integrated the basic geometric forms of cylinder and rectangle to make a simple but powerful statement."

8. Shelly Ridge Girl Scout Center, Springfield Township, Pennsylvania; Bohlin Powell Larkin Cywinski, Architects. The main space of this shingle-clad, four-building retreat is dominated by a large brick fireplace placed on axis with the entrance and pulled out from the wall to radiate heat on all sides. The jurors found the complex "a refreshingly witty and imaginative collection of finely crafted buildings. The architects ... have created an atmosphere of fun through the use of color, columns, and gables, while simultaneously making the structures active learning tools [through solar devices] for the girls who visit."

9. 333 Wacker Drive, Chicago, Illinois; Kohn Pederson Fox/ Perkins & Will, Associated Architects (RECORD, June 1981, pages 82-83). Two distinctive facades—gently curving along the Chicago River and sharply faceted facing the downtown Loop—characterize a one-million-square-foot speculative office building. Both faces of the structure rise from a base of polychromed granite. The jurors praised the 35-story tower for its "sculptured elegance" and called each of the two facades "brilliant in its own right."



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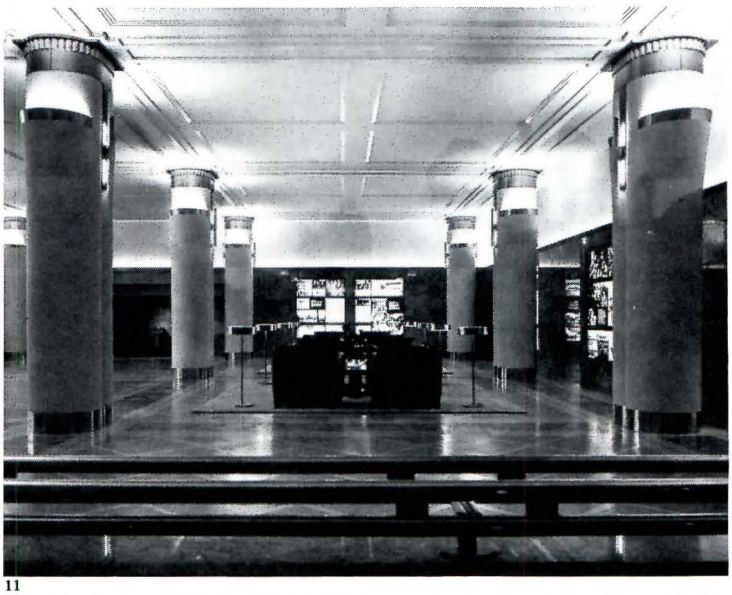

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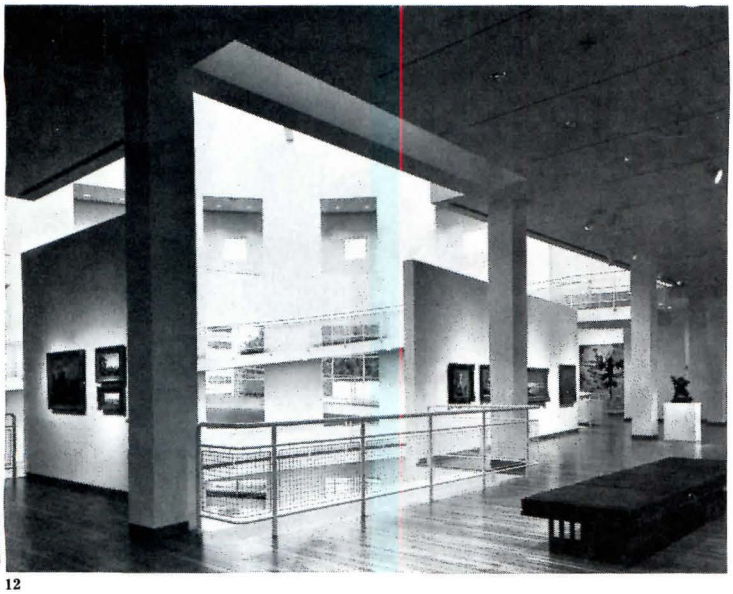

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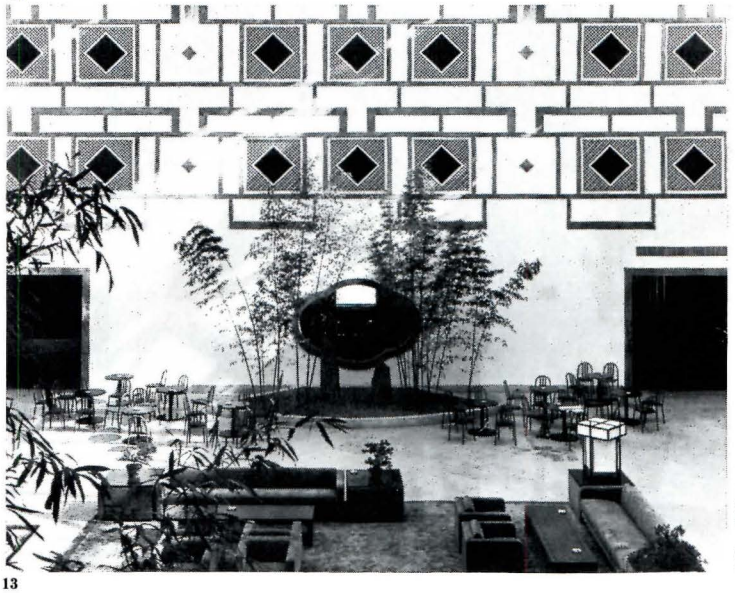

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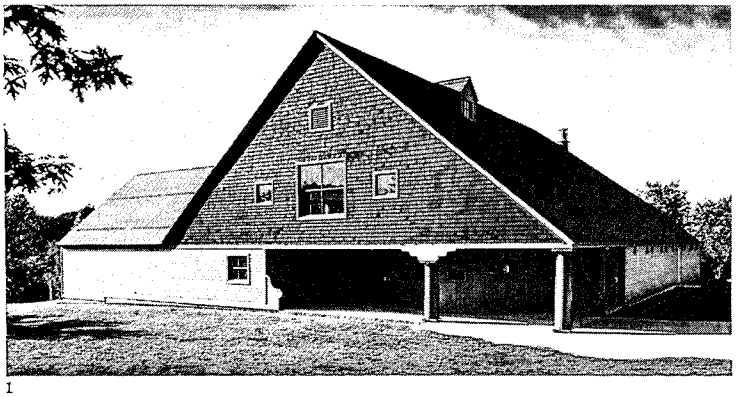
10. Weekend House, Southwest Michigan; Tigerman Fugman McCurry, Architects. This vacation house for the architects and their children was designed to complement its rural location near Lake Michigan. The exterior evokes the images of a barn and a granary, the latter represented by an attached screened porch. Materials used include corrugated galvanized sheet metal, exposed plywood ends covered with lattice, standard windows, and a conical standing-seam galvanized metal roof common to farm outbuildings. "Brilliant and witty," noted the jurors. "While the form is simple and the exterior materials industrial, the house is delightfully and meticulously detailed inside and out."

11. R.J. Reynolds Tobacco Company Building Restoration, Winston-Salem, North Carolina; Croxton Collaborative and Hammill-Walter, Associated Architects (RECORD, January 1983, pages 98-101). The exterior and ground-floor rehabilitation of an Art Deco office building, designed in 1929 by Shreve and Lamb, "exemplifies a superb solution to the difficult problem of harmonizing an old style with contemporary requirements," according to the jury. "The new construction in the main hall and exhibition areas, as well as the restoration of the lobby, is so expertly designed that it is difficult to tell where the old leaves off and the new begins."

12. High Museum of Art, Atlanta, Georgia; Richard Meier & Partners (RECORD, January 1984, pages 118-131). "The High Museum is an artistic, sculptural, and architectural tour de force that asserts itself as a work of art while not overwhelming its contents," said the jury. "One of its greatest attributes is its accessibility: within an instant of entering, one gets a complete reference to the location of the collections. The museum-goer is then swept through the building by the dynamic arrangement of interior spaces. The exterior, with its complex geometry and brilliant white porcelain-enameled panels, fits well into its urban setting and gives Atlanta a first-class museum, as well as a new architectural landmark."

13. Fragrant Hill Hotel, Beijing, China; I.M. Pei & Partners, Architects. The jury praised the architects of this 325-room hotel for blending contemporary elements with traditional Chinese architectural forms. "In the context of its special location, the hotel reflects a high level of professional integrity and consummate artistry. It successfully draws on China's cultural heritage in a fashion that touches the past, embraces the present, and offers a model for the future, not just for the Chinese, but for all nations seeking to preserve what has come before."

Design awards/competitions: Pennsylvania Society of Architects 1983 Design Awards



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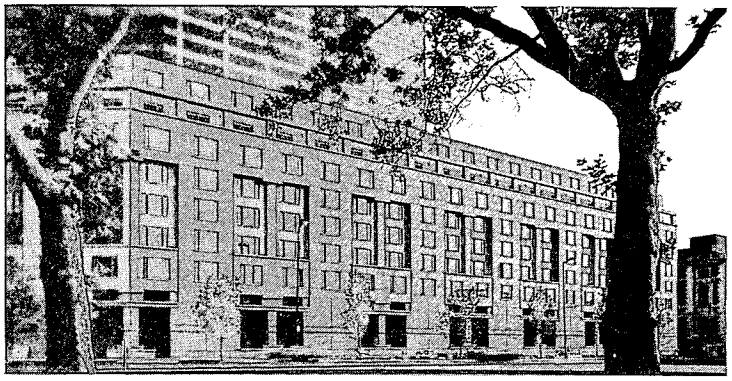

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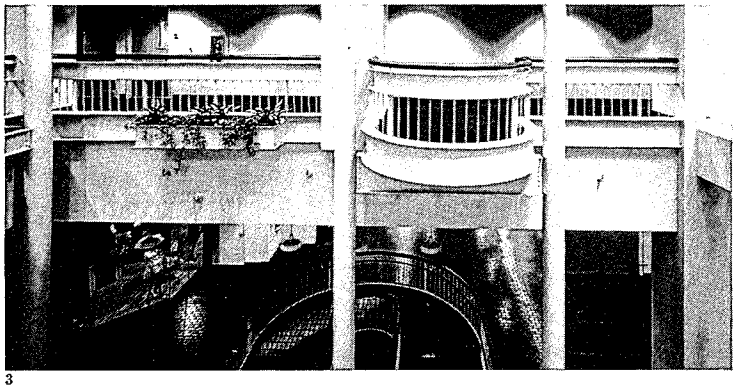

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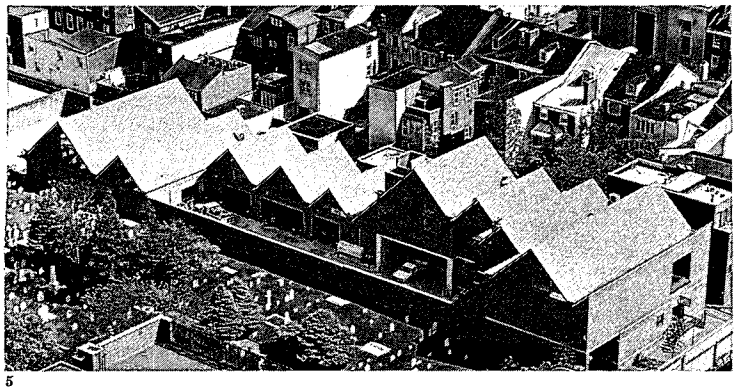

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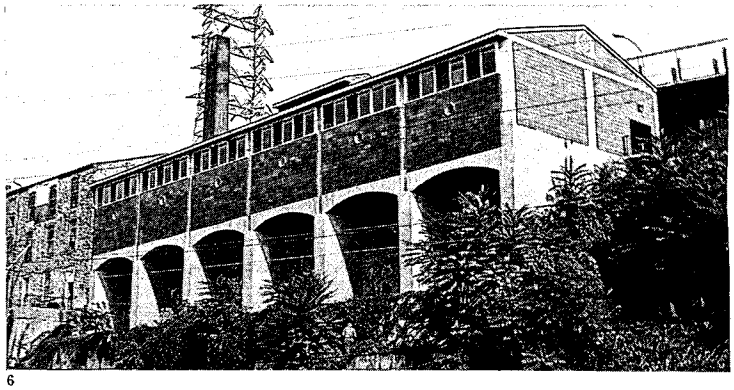

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The Pennsylvania Society of Architects granted one silver medal and five merit citations in its annual design awards program. The winners were chosen from 60 entries by Alexander Cooper, AIA, of Cooper Eckstut Associates; Colden R. Florance, FAIA, of Keyes Condon Florance, and Warren J. Cox, FAIA, of Hartman-Cox Architects.

1. Shelly Ridge Girl Scout Center, Springfield Township, Pennsylvania; Bohlin Powell Larkin Cywinski, Architects (Silver Medal). An 88-acre nature preserve is the site of a four-building complex that consists of a shingle-clad program center (above), garage, caretaker's residence, and storage facility. The architects used passive solar mechanisms for the center's heating and hot water systems.

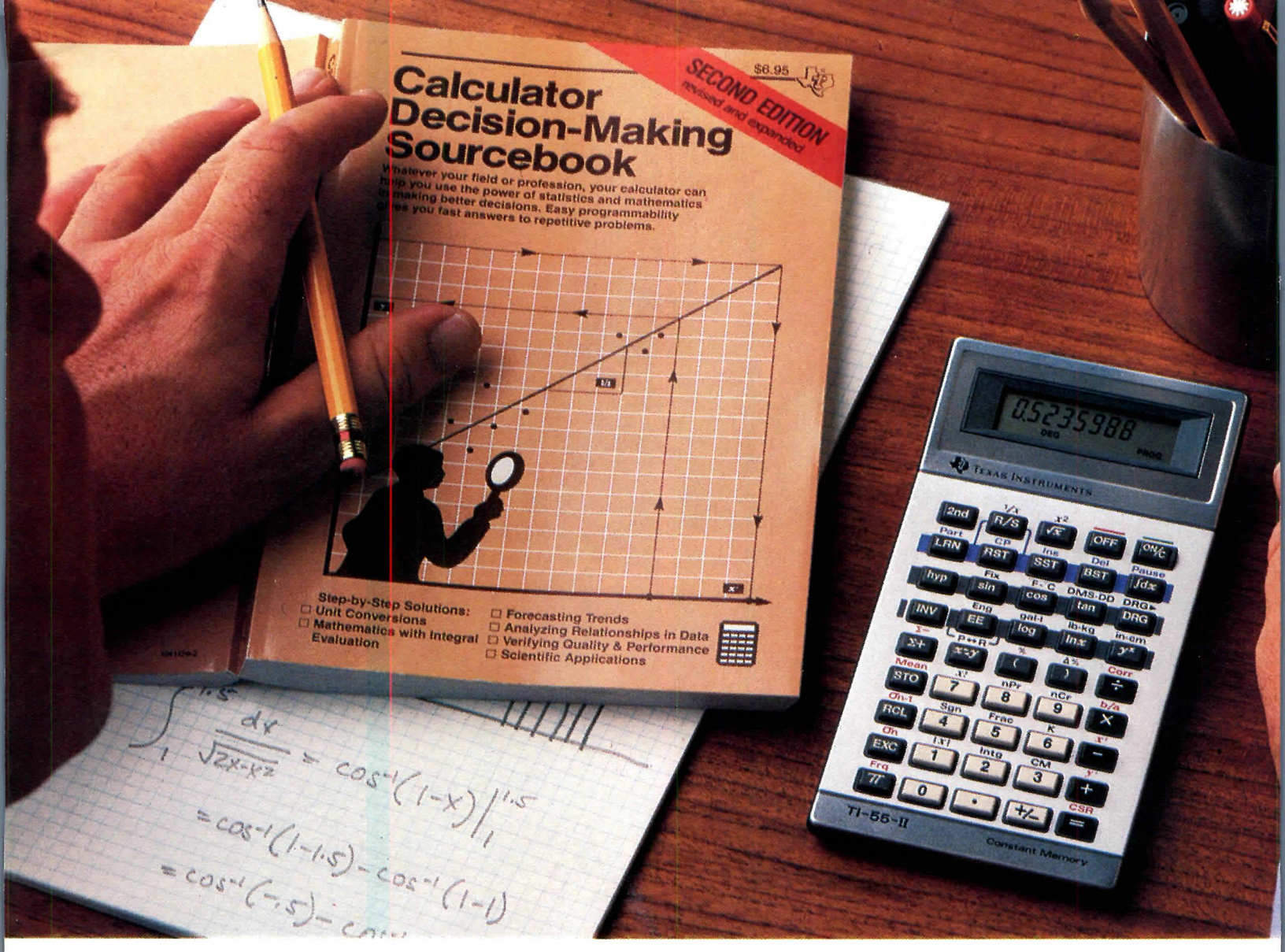
2. One Logan Square, Philadelphia, Pennsylvania; Kohn Pederson Fox Associates, Architects. Local zoning considerations dictated the configuration of this mixed-use complex. A 350-room hotel forms a required street wall, and a 30-story office tower is set back 200 feet while rising to the 400-foot height limit imposed by the city.

3. Commerce Court Offices and Shops, Pittsburgh, Pennsylvania; Williams Trebilcock Whitehead, Architects (RECORD, October 1983, pages 96-101). The program was to convert a 300,000-square-foot railroad warehouse into an office and retail complex. The architects' solution was to insert a large central atrium framed in exposed structural steel and pierced by glass-walled elevators.

4. Gordon Wu Hall, Princeton University, Princeton, New Jersey; Venturi, Rauch and Scott Brown, Architects (RECORD, mid-September 1983, pages 86-97). The centerpiece of a new undergraduate residential college, this dining and social center was conceived to give visual coherence to an existing group of dormitories. Patterned marble and granite panels at the main entrance are meant to recall the Renaissance decoration of Elizabethan manor houses, while a long narrow dining hall evokes images of English collegiate architecture.

5. Maintenance Facility, Independence National Historical Park, Philadelphia, Pennsylvania; Mitchell/Giurgola, Architects (RECORD, July 1983, pages 126-127). A 20,000-square-foot workshop is organized as a series of red brick pitch-roofed sheds that relate to the scale and character of adjacent Society Hill row houses. A tall wall shields vehicular openings from a graveyard.

6. Wilde Mill, Philadelphia, Pennsylvania; Reshetar Architects. An addition to an 1884 textile mill consists of 20-foot-long precast beams and perimeter columns, brick walls, and a roof structure composed of clearspan fire-treated wood trusses and decking. South-facing windows provide ventilation in summer and solar gain in winter.



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Cheap thrills: Decals, postmodernism, and the architecture of illusion

By Christine Benglia Bevington

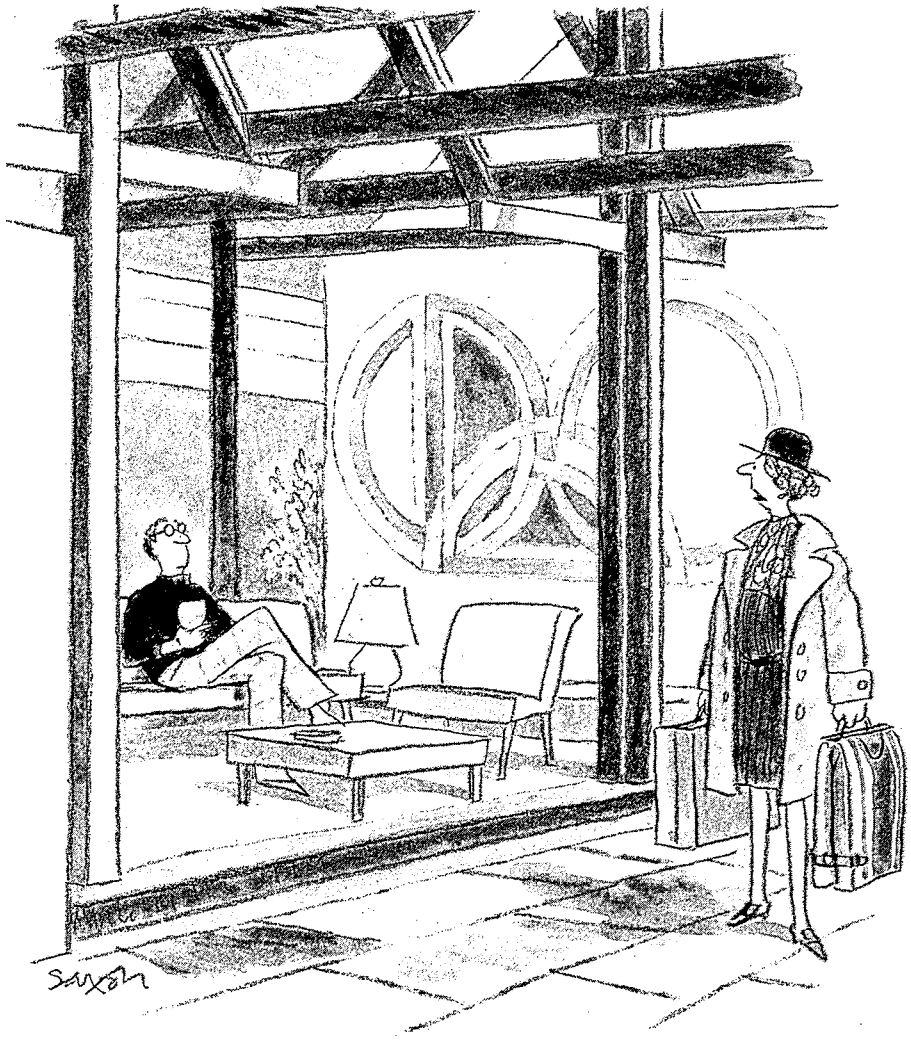
On the front page of *The New York Times* on November 7, 1983, we were informed that the plight of the South Bronx, Bedford-Stuyvesant, Harlem, and other beleaguered areas in New York City is finally being addressed: vinyl decals depicting an exemplary residential life (pretty curtains, flourishing plants, Venetian blinds, etc.) are to be pasted on the boarded-up windows and doors of derelict buildings to "spruce up the neighborhood." This is not meant as a farce or as a tongue-in-cheek trompe-l'oeil, but is the result of a two-year research project that has measured residents' morale, local impact on crime and vandalism, neighbors' sense of pride and participation, and so on—all pointing to positive effects. The study also notes that the decals will be beneficial in three ways: rich motorists speeding along the "spruced-up" neighborhood will more readily invest in it if they get a good impression; visitors to New York will no longer be put off by those nasty pictures of diseased streets; and people will know, as the commissioner of Housing Preservation and Development puts it, "that we're interested and that we care."

It seems unlikely that there are any architects or architectural students who find this solution satisfactory at the social level, but the focus here is its significance in terms of contemporary design. Looking at it from the standpoint of an architectural designer, rather than a political designer, it appears that the solution is a remarkably ingenious response to the problem of fixing devastated neighborhoods within a budget of $300,000 (undoubtedly *the* bargain of the century). And is it not perhaps witty, playful, somewhat whimsical, or vernacular? It even has some authenticity in the sense that it most certainly is a genuine expression of our culture. In fact, it is such a clear-cut case and pure-state product of our present cultural climate that it serves well in shedding some light on what is happening to us and to our architecture. Several parallels come to mind, a few of which are submitted here.

The vinyl decal solution is unashamedly temporary. The decals are designed to look their best on opening day but will then weather miserably. The same could be said of our contemporary buildings: The colors are supreme, the surface is impeccable, the high-gloss is dazzling, and tomorrow is another day. A general loss of know-how or a lack of concern for graceful aging—whether manifested in program content, in conceptual choices, or in construction practices—has become quite acceptable if not entirely de rigueur. Too much of postmodern construction, for instance, appears to be flimsy.

No question about it: Buildings, even significant buildings, are now unashamedly temporary. Their construction problems, together with all problems involving the time dimension, are blissfully airbrushed out of existence. At the core of this phenomenon lies a profound pessimism ("who says there will be a tomorrow anyway?") which is simply anti-architectural. Although our generous ancestors have left numerous buildings that bring us pride and joy, whether they are still standing or have fallen into romantic ruins, we never allow ourselves to consider what we are leaving to our descendants. An architect who would today attempt the design of a building to last a thousand years would certainly be deemed naive or even bizarre. The fashion has not yet arrived to do unto other generations what was done unto us. Meanwhile, our talents are being invested into works of art surely headed for an untimely trip to the solid-waste dump, vinyl decals and all. At issue is a fundamental question: Are we interested in continuing the history of architecture or are we accepting a switch to a history of stage-set design?

The vinyl decal solution shows an unmitigated faith in the power of illusion. It is believed that the public, even if not fooled, will be genuinely soothed or positively recharged by the "as if" situation. And it is true: illusion does seem to work wonders these days. Marketing strategists are not the only ones to know that, if properly administered, illusion can be nearly as effective as vastly more demanding alternatives. Psychologists, too, are now evaluating the various ways to promote the "perception of safety" (safety proper is passé). The day may yet come when decorators will paint registers on the ceiling to bring a "perception of fresh air." Indeed, we have already reached the stage where we find it quite natural that anyone pasting Venetian blinds over the windows of the South Bronx in broad daylight is not shipped to the nearest asylum!



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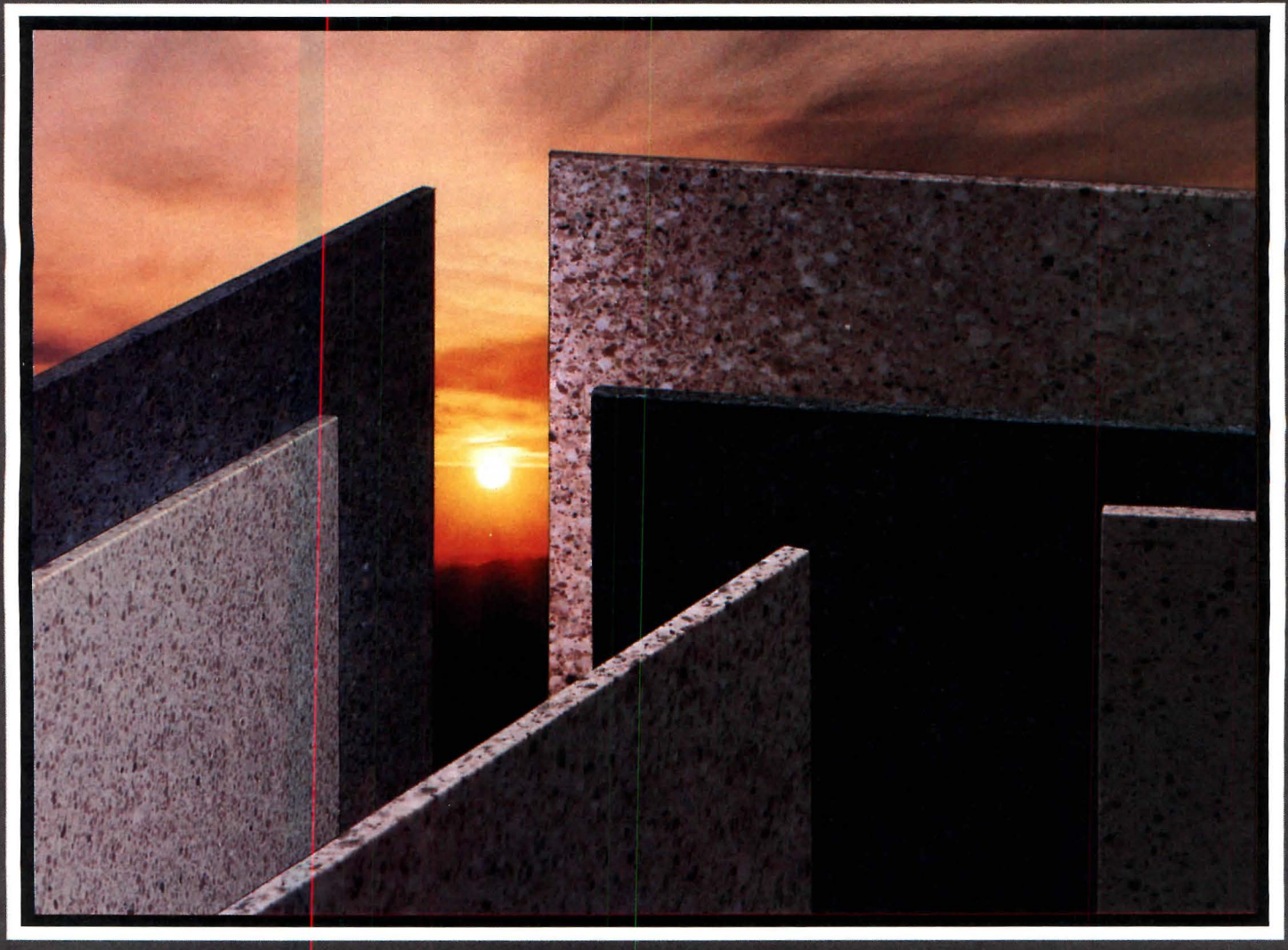

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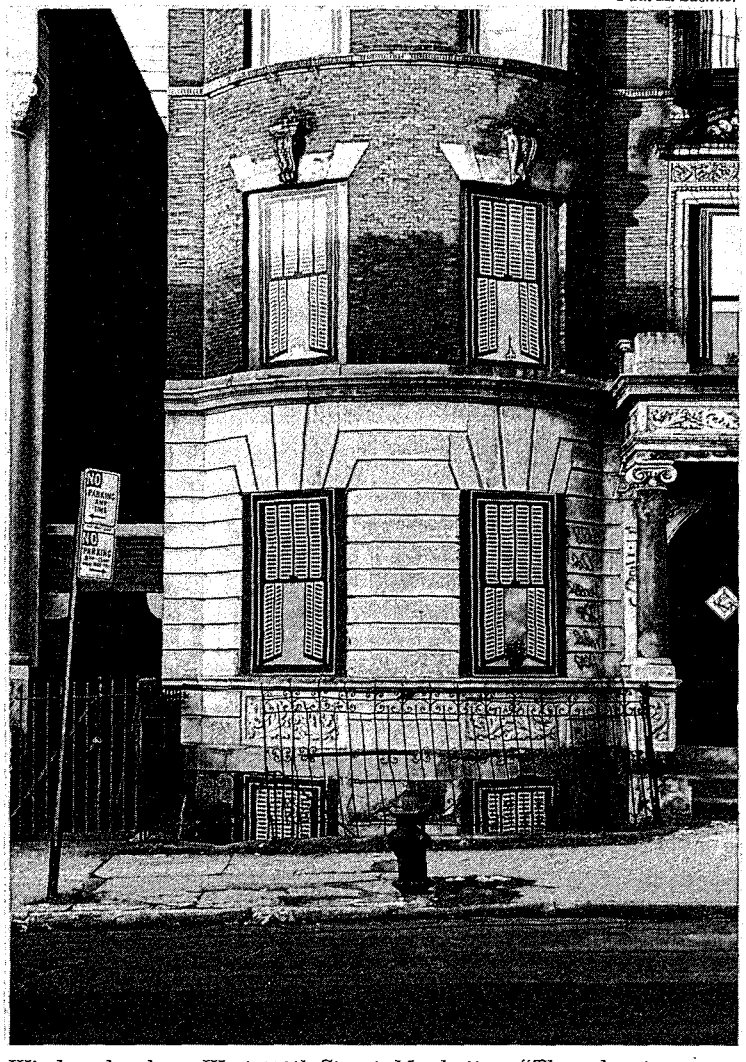
The boundary between everyday life and show business is becoming blurred beyond recognition. We are so much part of the illusionistic climate that it is difficult at this time to assess with any precision how it affects the arts and the sciences; but it would be foolish to think that the architectural world remains entirely weatherproof. In architecture, as in other aspects of our environment, there undoubtedly is an awful lot to unlearn from Las Vegas.

Not unlike many of our contemporary buildings the decals stand up rather well when judged in terms of metaphors, images, signs, gestures, intentions, translations, impressions, suggestions, evocations, allusions, and references. They too attempt "to elevate the spirit"— they elevate as much spirit as is feasible for the money! But the physical environment, and that includes its spiritual content, cannot be restricted to the visual mode, let alone the rapid-glance mode.

Designing chiefly for initial visual impact has now led us to produce some of the most photogenic architecture ever built or, at the very least, the most deliciously drawable. The actual experience of a building at normal living speed, however, may leave a certain void. What looked like a block of marble has the temperature of a wood panel, what looked like cedar wood has a vague polymeric smell, what looked impressively massive gives a hollow sound, what looked definitely luxurious is peeling off at the edges, what looked like a roof is the billboard of a roof, what looked just like home is an institution, what looked like an institution happens to be a home. In such a setting the senses, the mind, and the heart can no longer trust a wall. The public may very well applaud the architect-as-conjurer's performance (before passing on to another show) but that should not be mistaken for authentic appreciation of architectural style. It is precisely in the midst of a cultural climate where the power of illusion reigns supreme that it becomes very important for a wall to be trustworthy.

We do not know to what levels of fantasy the Age of Information will transport us, but we do know that architecture can and should remain a pervasive, profound, and powerful medium to make us appreciate the realness of what is down here on our planet. The essence of our craft is to enhance true sensations (not false alarms), to face true issues (not euphemisms), to aim for true love (not fickleness). The vinyl decal attitude is the antithesis.

Paul M. Sachner



Window decals on West 104th Street, Manhattan: "They elevate as much spirit as is feasible for the money."

The vinyl decal solution's primary aim is to buy time. It is assumed that even if the decals are obviously not an end in themselves, some better solution could somehow be found at some future date under more favorable circumstances. Complex problems can thus be kept at bay without too much expense or inconvenience by applying a steady succession of imaginative Band-Aids of one sort or another. Likewise the architect can supply a constant flow of imaginative styles which, on the whole, amount to an architecture of procrastination.

Overwhelmed by the scope of issues unique to our age, the architect is buying time. The pendulum has thus swung from one extreme of total brashness in the heroic "modern" days to one of total timidity in the present.

While sweeping technological advances are profoundly affecting our physical environment with no architectural input whatever, we are entertaining the world and each other with strange combinations of "historical fragments." Yet it is precisely in rapidly changing times that architectural design could be making spectacular leaps forward, as was the case when we moved from an agrarian society to an industrial one. In the transition from an industrial to a cybernetic age one crucial role for today's architecture is to communicate effectively just what it is that we like, always liked, and always will like about our physical world. What, in the face of sudden change, should be safeguarded at all costs? Why would living in a building be preferred to living in a holographic image of a building? Will the answers be evident in the built environment or will they be left up to the information industries?

One thing is certain: The very fresh data we possess should generate fresh design responses. So, how can it be that a 1984 building turns out to be a poorly constructed adaptation of one designed in the 1930s? Buying time is about as futile as inaction, and it is not altogether harmless. Whether at the level of decals or of architectural design it presents two rather serious drawbacks: first, more propitious times may very well never arrive; second, while the designer is waiting, the world is not.

Thus we see that both the vinyl decals and the exquisite facades we produce are walking hand in hand in the same direction. The fact that one expression is crude and the other more refined is nothing but a footnote. Even if one chooses not to analyze the socio-political parallels between the two, one can discern the very same attitudes at the design level: temporary, illusionistic, procrastinating. These are three facets of one weakness of most contemporary design, and postmodern architecture in particular: an impoverished sense of time.

The time dimension cannot easily be represented in pictures but it is quite unfair to judge, teach, or practice architecture without taking it into account. It is every bit as much a part of design as the horizontal or the vertical and, although it cannot be visualized as readily, it is nonetheless what differentiates architecture from mere decoration. The time of day, the time of year, the time it takes to walk, the time to transform, the process of weathering, and the reality of our ancestors and of our descendants all come into play when designing with time in mind.

An architecture with a correct sense of time should automatically be immune to the decal syndrome, therefore yielding buildings that aim to be permanent, trustworthy, brave. This architecture should be difficult.

Christine Benglia Bevington is a practicing architect from New York City who also teaches design at The Pratt Institute.

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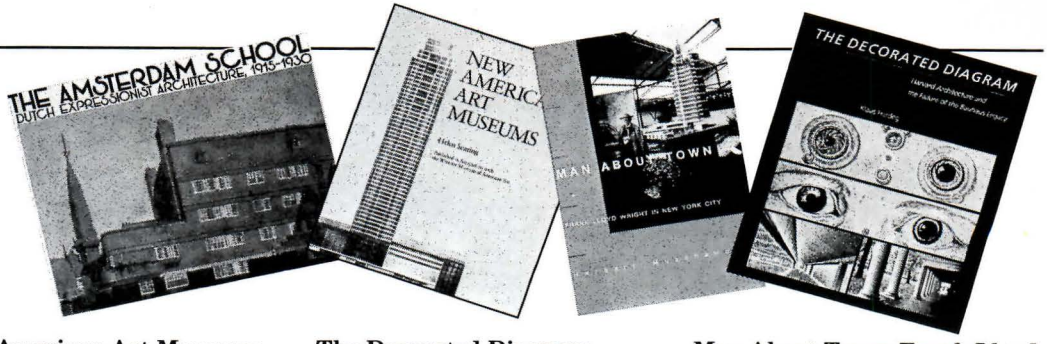


Reviewed by Sarah Williams

The Amsterdam School: Dutch Expressionist Architecture, 1915-1930, Wim de Wit, editor. Cambridge: The MIT Press, $25.00.

Best known for Michel de Klerk's housing blocks on Spaarndammerplantsoen in Amsterdam, Dutch Expressionist architecture seems to reaffirm the very traditions, vernacular forms, and lush ornamentation that modernists despised. This is the first book in English on Dutch Expressionism which argues that it was not a "late outcropping of outmoded design ideas" (Reyner Banham), but a revolutionary movement. Although the book does not convince us that the Amsterdam School was more than a brilliant, atavistic outburst of 19th-century esthetics, it gracefully fulfills its larger aim of drawing serious attention to this impressive movement.

The book consists of five essays. Wim de Wit places the Amsterdam Expressionists alongside Rotterdam's de Stijl, trying to extract common roots and ideologies. He concedes substantial differences: the former valued intuitive creations by a prophet-architect, exulted the handmade, and celebrated architecture as the highest art; the latter demanded a search for universality, employed the mass-produced, and embraced the wholly designed environment. Despite such distinctions, de Wit claims both believed art to be essentially "communal," but never quite explains what this means. Maristella Casciato, like de Wit, claims the Amsterdam School to be modernist. They also envisioned Utopia, she writes, but then admits that their Utopia was so unrevolutionary that it quickly got built. The last three essays do not discuss the Amsterdam School's "modernism" at all: Helen Searing's intellectual biography of de Klerk shows the influence of Art Nouveau, the Vienna Secessionists, Berlage, and Viollet-le-Duc; Karin Gaillard's history of Amsterdam's housing policy shows that the group had little ideological investment in radical ideals; and Petra Timmer shows how their interior designs embraced a relentless dedication to the handmade.

The Amsterdam School doesn't change the Dutch Expressionists' place in architectural history, but it does inform. Besides, the book is profusely illustrated, and the architecture is splendid.

New American Art Museums, by Helen Searing. Berkeley and New York: University of California Press and Whitney Museum of American Art, $12.95.

New American Art Museums is too ambitious to be comprehensive as it presents both history and current developments in a heavily illustrated 142 pages. But as the first genre treatment of American museum architecture for the scholar and historically-minded lay person, it is a serious contribution to the field.

Born of the Enlightenment, the art museum was the physical embodiment of the belief that common people could perfect themselves through education. Buildings like Schinkel's 1823 Altes Museum in Berlin provided the prototype for America's early structures, where exhibition space was constructed in a rationalist, neoclassical style. From this start the American museum underwent a series of stylistic metamorphoses that paralleled mainstream developments in modern public architecture. Concurrent with stylistic changes was a programmatic transformation, in which gallery halls were supplemented with auditoriums, classrooms, facilities for scholars, bookstores, and gift shops, all combining to confer upon the contemporary museum the symbolic role of cultural urban cynosure. The seven recent projects discussed by Searing tame the current complexity of a museum program with tautly controlled professional spaces, and they reflect stylistic obsessions with context, light, and the symbolic potential of form. Searing never mentions why she chose these seven projects, though they do present a range of styles and programs.

There are omissions, to be sure, in Searing's historical essay: she rushes through social developments and stylistic analyses without explanation, at times forcing material into overly reductive categories, such as her "greenhouse" versus "strongbox" characterization of the museums of 1960-1980. Still, Searing is a distinguished scholar, curator, and writer. One can only guess that she ran out of time or money, and wish that *New American Art Museums* provided more history, more projects, and more visuals. But such wishes also mark the book's success: finally, American museum architecture has captured our attention.

The Decorated Diagram: Harvard Architecture and the Failure of the Bauhaus Legacy, by Klaus Herdeg. Cambridge: The MIT Press, $22.50.

The Decorated Diagram is an intellectual's version of *From Bauhaus to Our House,* written by Columbia professor Klaus Herdeg after Clement Greenberg asked him to explain the proliferation of "all those ugly buildings." Relying on a series of breathtakingly sophisticated formal analyses, Herdeg concludes that most of today's major buildings are "curiously passionless" because they are built by former students of Gropius at Harvard's Graduate School of Design—the "Bauhaus legacy." These architects, including (among others) Johnson, Barnes, and Pei, design "decorated diagrams": decorated because the plan is generated merely from functional concerns, diagram because the nonshelter aspects are designed only "to excite the eye" in a "narcotic fascination with mindless graphic and tectonic activity."

Herdeg initiates his definition of the term "decorated diagram" with a comparison of Breuer's 1949 MOMA house with Le Corbusier's Errazuris House in Chile (1930). Though the houses look similar, they reflect entirely different notions of space. Breuer's plan derived from strictly functional considerations and his "butterfly roof" was no more than a "pretty trick," while Le Corbusier used the same roof to orchestrate a spatial experience in which "poetic allusions transcend architectural function." Herdeg thus presents his architectural ideology of "spatial logic" which conveys, through symbol, memory, and opposition "the purpose and meaning of a building."

Only once is Herdeg's stance unclear. He criticizes the Harvard architects for ignoring the architectonic possibilities of irony, and dismisses Johnson's use of it in the apartment house at 1001 Fifth Avenue as "cheap" while lauding what appear to be virtually identical devices in Le Corbusier's Besnos House.

Herdeg's paean to spatial sophistication will no doubt have its detractors, and one thinks immediately of Venturi, who recently called conceptually intricate spaces "late modern gymnastics" while exulting the "decorated shed." But Herdeg's brilliant essay cuts across realms of modern, late-modern, and postmodern into a far more exciting and illuminating sphere.

Man About Town: Frank Lloyd Wright in New York City, by Herbert Muschamp. Cambridge: The MIT Press, $15.00.

Man About Town is the only book on Frank Lloyd Wright to focus exclusively on his dry spell between the Prairie School houses and his renaissance in the early 1940s. During this period Wright traveled frequently to New York City, so in focusing on the architect in New York, Muschamp offers us an opportunity to see Wright without his buildings. And Wright without his buildings is not a pretty sight.

Wright, Muschamp posits, fancied himself a romantic prophet who was "individualistic, nonconformist, heroic, emphasizing emotional authenticity over objective reason'," convinced that he alone saw truth where the rationalists—i.e., everybody else—failed. Wright hated the city (calling it a pig-pile), but traveled there often because it was "thesis to his antithesis," and offered him not only respite from wives and debtors, but also contrast.

The New York projects are best understood as products of an egotistical romantic exploring the place of his art in a hostile society. The Price Tower was "a tree that escaped the crowded forest," a virtuoso that fulfilled the romantic ideal of being of the city while standing in opposition to it. The Guggenheim, Muschamp adds, is a jealous building, envying the artist his freedom from clients, money, construction workers, and lumpy sites. It is not so much an envelope as a painting, nonfunctional and stunning.

Although Muschamp virtually ignores the need to substantiate his argument with evidence, and often presents his ideas in a disorganized and confusing fashion, the little evidence he does provide, combined with what we already know about Frank Lloyd Wright, makes his central thesis stick. And what a disheartening thesis it is.

Sarah Williams is an architectural writer from New York City.

How much weight should the hippopotamus lose before crossing the bridge?

An unfinished business

It is a rueful axiom of those engaged in what has come to be called the health care industry that no hospital is ever entirely completed.

Why this should be so is intimately rooted in the nature of the society the industry serves, in its needs and demands for health care, and in its willingness and ability to pay for what it wants. Like the larger society, for example, hospitals are swept up in a tide of advancing technology, notably sophisticated (and costly) new diagnostic and treatment equipment that for competitive as well as humanitarian reasons few can long resist. In addition, hospitals more than most institutions are feeling the impact of an aging population, which inevitably implies a disproportionate burden on health care delivery systems: per capita expenditures for Americans aged 65 or more are twice those for persons aged 19 to 64. And to compound the dilemma, many hospitals are themselves aging and consequently unable to operate efficiently, to accommodate rapid changes in medical practice and technology, to compete for the patient share needed to sustain economical operations, or to attract capable staff.

These factors alone (though of course they are not alone) go far to account for the seemingly endless upward spiral of hospital costs—and the increasingly draconian measures being taken to bring them under control. The most far-reaching of these is a shift, adopted by the federal government in fiscal 1984 and sure to be followed by many states and some third-party insurers, from direct reimbursement for patient care to prospective reimbursement based on diagnostically related groups of illnesses. Although it is not yet known how reimbursement for capital-related costs will be calculated, the effects of the legislation on facilities planning are already appearing, not least in the resort by many hospitals to delaying, reevaluating, or abandoning capital projects in light of the uncertainty whether they will be able to afford them.

At the same time the imperative to bring patient care costs in line with the new reimbursement structure by improving efficiency and productivity is making capital improvement of many kinds more than ever necessary. This, with a new emphasis on outpatient care and other treatment modes less costly than traditional hospital care, the introduction of new patient and community services, and the inexorable need to compete for "clients," is leading to an intensified interest in long-range and master planning as a prerequisite guide for achieving orderly incremental growth, effectively integrating new with existing buildings, upgrading outmoded facilities, and developing a physical plant sufficiently flexible to respond to new needs as they emerge over time.

This study, accordingly, traces three master planning projects that have, in differing settings and for clients with differing institutional aims, successfully achieved those goals. If the dynamics of the health care field suggest that hospitals can never be fully completed, they can nonetheless guide their continuing evolution so as to maintain coherence and integrity in the face of change. *Margaret Gaskie*

Expanding up and out

Eastern Maine Medical Center
Bangor, Maine
Payette Associates, Architects

The Eastern Maine Medical Center, now the state's second largest acute-care hospital, began operations in 1892 with 16 beds in a four-square graystone mansion on the outskirts of Bangor. By 1896, as the photo top opposite shows, its future was portended by a tent pitched on the hospital grounds: an "addition" to handle patient overflow in summer months.

Ad hoc expansion continued with major additions at roughly 20-year intervals until 1968, when it appeared to have reached its natural limits. Anticipating a surge in demand for a broadened range of health care services, the hospital was confronted with a physical plant whose ungainly horizontal sprawl virtually precluded the addition of new facilities without a substantial increase in density and a thorough reorganization.

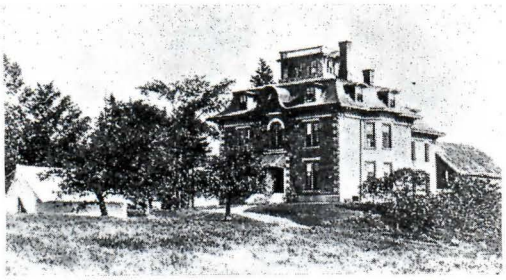
Three-quarters of a century of fragmentary growth had taken its toll in chaotic patterns of access and circulation both within the complex and on its site, where the prevailing disorder was perhaps best exemplified by the lack of direct access from the adjacent highway to the emergency room. Moreover, many of the hospital buildings were outworn and outdated: operating efficiency was low, its price tag high.

Accordingly, the medical center embarked on a reevaluation of its administrative procedures, patient care services, and facilities needs. In 1970, architects Payette Associates were engaged to translate the resulting program into a development strategy that subsequently unfolded over more than a decade of addition, expansion, and renovation—all while the center conducted business as usual.

The architects quickly perceived that their principal ally was the hospital's site, which though poorly used in previous expansions was large enough to provide ample room for growth. It also was—and is—strikingly beautiful, bordering on and commanding sweeping views of the Penobscot River. The existing buildings, though outmoded, were sound and afforded a viable base for growth.

These assets, however, were vitiated by the Topsy-like growth that over time had led to disfunction not only in circulation but in the organization of medical services. Even less explicably, the medical center had evolved with a near-total disregard for the pleasure that patients and staff might

Paul Ferrino photos



The most recent expansion of the Eastern Maine Medical Center added a floor to the patient tower rising above the lower structure housing public, service, and ancillary spaces. (The monitors over the main entrance shown below light the second-floor cafeteria.) Though placed beneath a grade-level courtyard, the radiation therapy unit (bottom opposite) enjoys its own patio.

derive from the proximity of the Penobscot, with its long vistas and ever-changing moods.

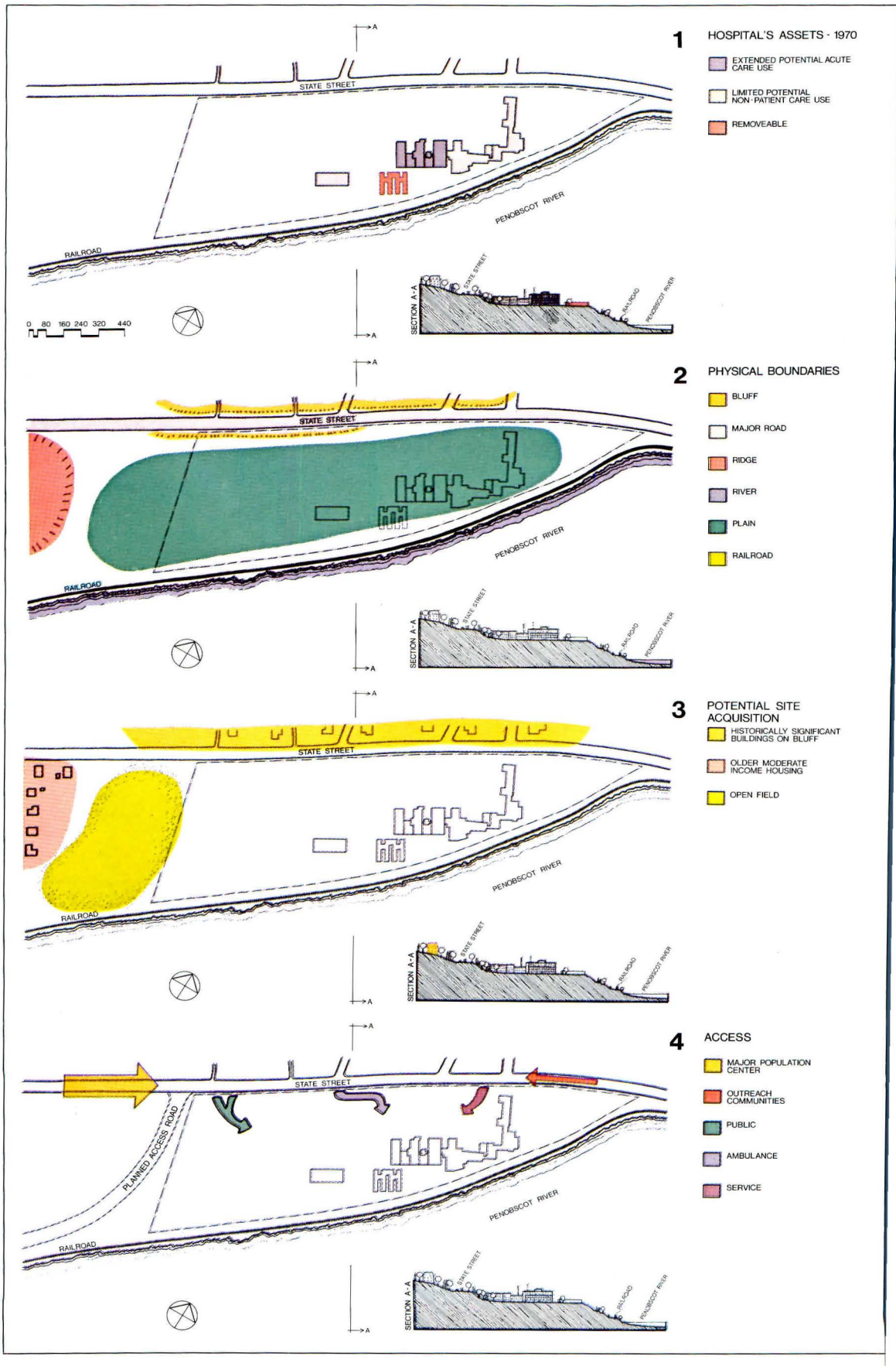
The first order of business for Payette Associates was to rationalize access and circulation. Internally, this was done primarily by defining zones of utilization along a new circulatory spine that connected usable existing buildings with proposed first-phase construction and also became a framework for future development. Externally, inefficiencies of circulation were resolved by regrouping public parking to relate clearly to a new main entrance, relocating emergency and service entrances, and establishing separate access for public, staff, service, and emergency vehicles. (In the process, the architects prompted a series of astute land trades that claimed for the center access to a contiguous property.)

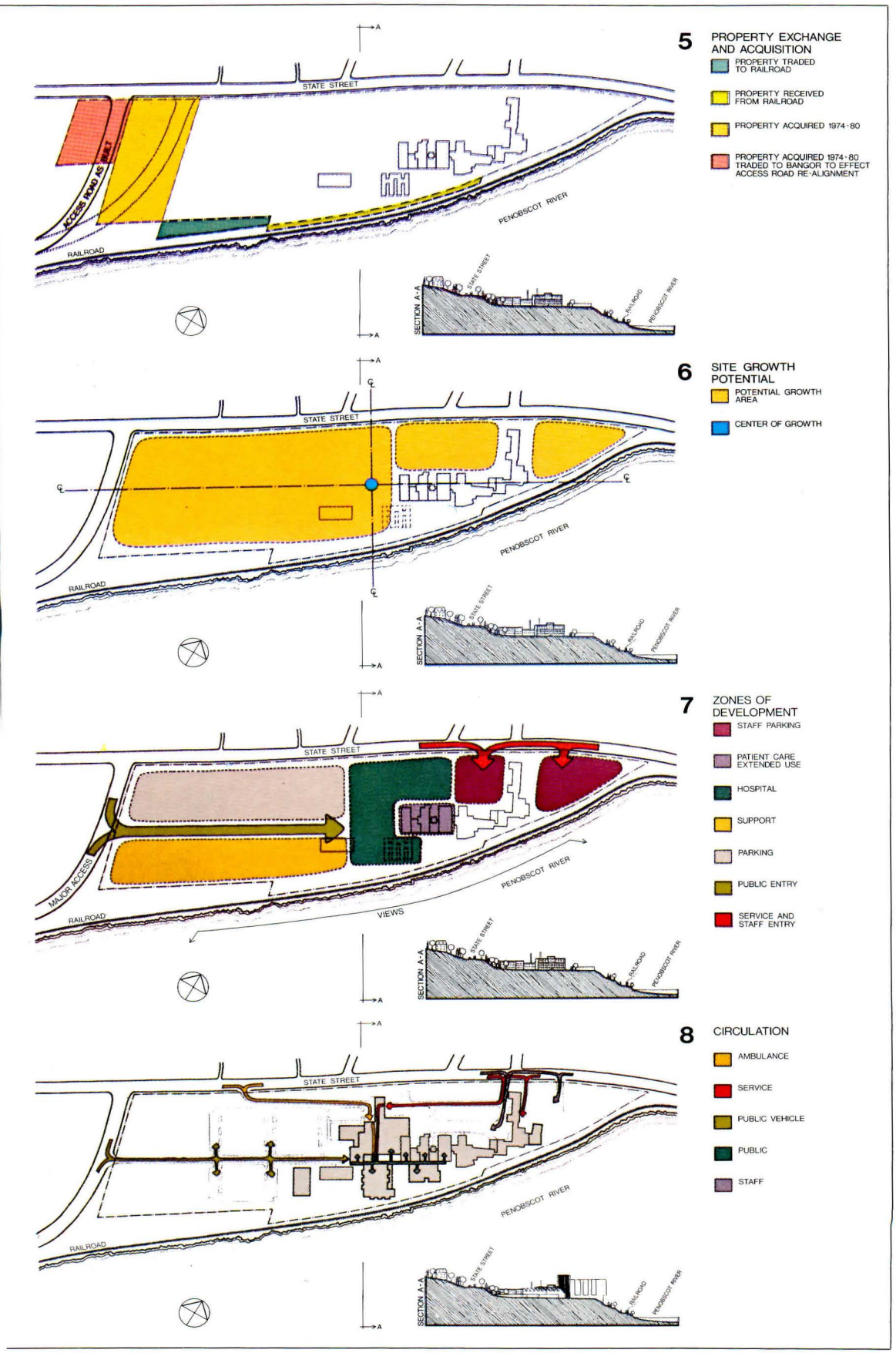
The heart of the planned development was a 275,000-square-foot addition, completed in 1974, that provided 190 medical/surgical beds on three floors, and a floor of "shell" space for expansion, as well as first-level ancillary spaces (emergency and outpatient services, surgery, radiology, pathology, intensive and cardiac care) and second-level service spaces including stores, food service, and an education center.

In addition to housing needed new facilities, the first-phase construction set the tone and direction for development to come. Augmenting the newly defined circulation spine, the building incorporated vertical zoning and circulation that, with an over-sized reinforced concrete structural system and nonloadbearing walls, further increased its flexibility by allowing future expansion via added patient floors atop those built at the outset. On the lower service floors, change and growth were anticipated by the inclusion of shell (unfinished) and soft (undedicated) spaces designed to expand, contract, or assume new functions as needs shifted.

Nor were less pragmatic concerns neglected. While avoiding sprawl, the master plan envisioned development along the gentle curve of the Penobscot, and the first-phase addition was carefully oriented to afford to all patient rooms (and most departments) sweeping river views. At grade level, courts and landscaping similarly knit the hospital's public areas with its felicitous site.

Shortly after completion of the new building, a doctors' office building housing a family




5
PROPERTY EXCHANGE AND ACQUISITION
PROPERTY TRADED TO RAILROAD
PROPERTY RECEIVED FROM RAILROAD
PROPERTY ACQUIRED 1974-80
PROPERTY ACQUIRED 1974-80 TRADED TO BANGOR TO EFFECT ACCESS ROAD RE-ALIGNMENT
STATE STREET
ACCESS ROAD AS BUILT
RAILROAD
PENOBSCOT RIVER
SECTION A-A
6
SITE GROWTH POTENTIAL
POTENTIAL GROWTH AREA
CENTER OF GROWTH
7
ZONES OF DEVELOPMENT
STAFF PARKING
PATIENT CARE EXTENDED USE
HOSPITAL
SUPPORT
PARKING
PUBLIC ENTRY
SERVICE AND STAFF ENTRY
MAJOR ACCESS
VIEWS
8
CIRCULATION
AMBULANCE
SERVICE
PUBLIC VEHICLE
PUBLIC
STAFF

practice center and residency program was built to accommodate the growing *number of specialists* attracted by the evolving center. But for some years thereafter the development effort focused on renovating older structures and finishing shell spaces.

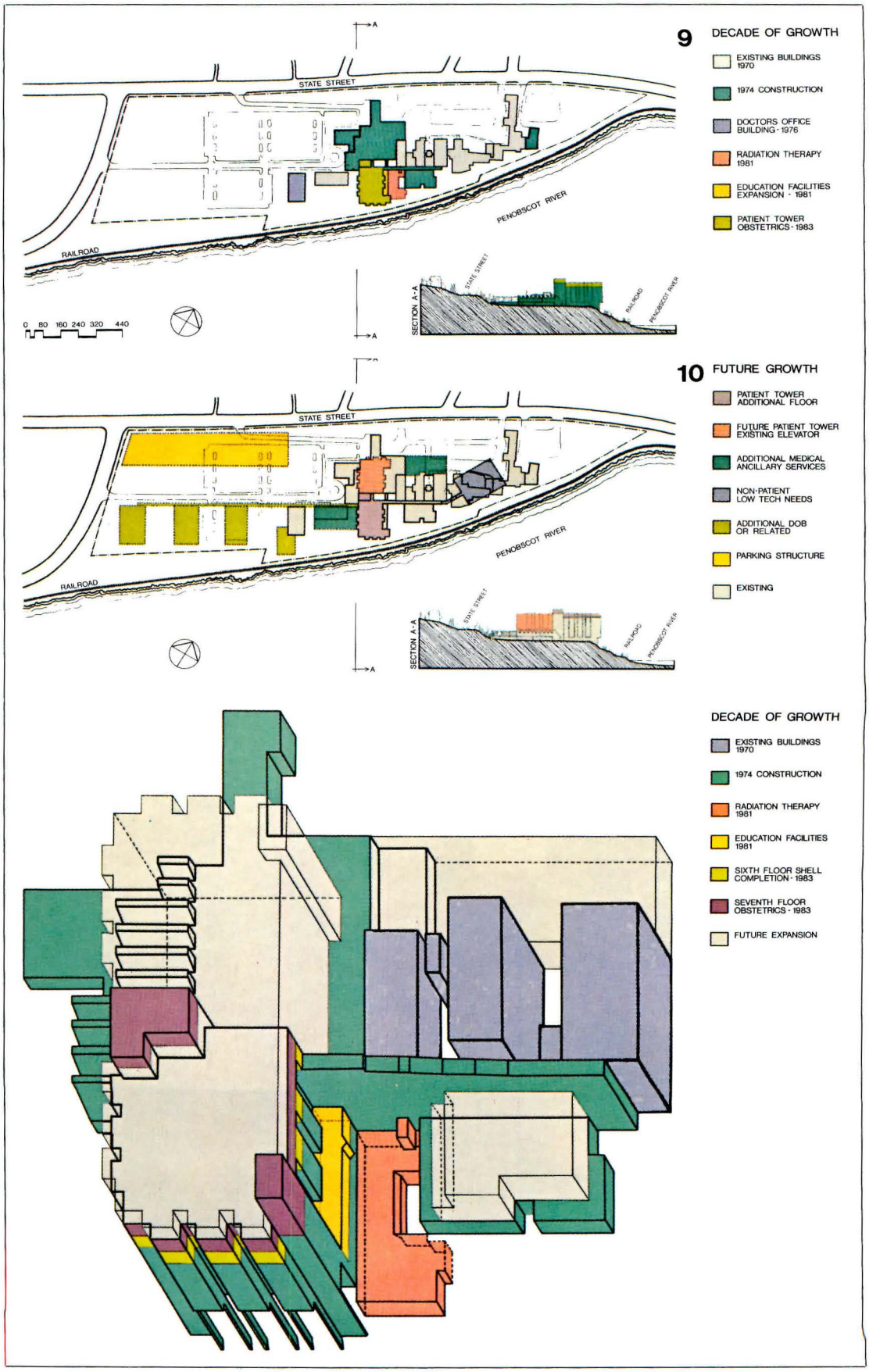
The first test of the master plan's ability to compass unforeseen needs arrived in 1980 with the second construction phase. Although expanded educational facilities and a new chapel could be inserted into existing shell space, the siting of a new radiation therapy unit, made necessary by new treatment methods and patient demand well over that anticipated, was more problematic.

After studying several alternate locations, the planners settled on a site underlying a major courtyard off the east-west pedestrian spine. This choice provided the desired proximity to a basement cobalt unit in an adjacent '60s building, permitted easy access via a dedicated elevator from the main outpatient corridor, and allowed shielding of the unit by the earth fill above. Not least, it preserved the original court both as an amenity and as potential expansion space. Piercing the upper court with a small patio opened the treatment areas to the outdoors.

The most recent stage in the *planned evolution* of the medical center, completed last year, was the vertical expansion of the patient tower by adding a new maternity floor on the former roof, and the conversion of the original shell floor to a 58-bed medical-surgical unit. Patient capacity was thus increased with no change in the vertical circulation core save the use of preexisting elevator shafts.

The "excess" capacity built into the structure and elevator core is also the key to the medical center's further growth. Not only can the present nursing tower support yet another patient floor, but a wholly new tower can if needed be added on the north of the elevator bank, tapping for access the established circulation spines and vertical core.

Ancillary services meanwhile can continue to evolve largely through the reorganization of soft space and the renovation of pre-1974 buildings, as well as judicious infill. Future growth without undue sprawl is also provided for by allocating the west of the site to medical office facilities and parking.



The relocated main entrance and lobby (below) form the nexus of the newly established east-west circulation spine that links the patient tower with buildings predating the expansion and establishes a route for future growth. The most recent expansion, however, was vertical: the addition to the tower of an up-to-date maternity floor, including the neonatal intensive care unit shown in the photo at bottom. Although the radiation therapy unit was buried below grade, it is rimmed by a glazed and skylit corridor (photo right) that admits natural light and opens to an intimate garden court.

Eastern Maine Medical Center
Bangor, Maine
Owner:
Eastern Maine Medical Center
Architects:
Payette Associates (formerly Marcus-Nocka and Payette Associates)—Thomas M. Payette, principal-in-charge; Robert H. DeVries, project architect; Young Jo Sul, designer; John Dellea, project engineer (mechanical/electrical)
Engineers:
Mitchell Systems Inc. (structural)
Consultants:
James Collins Associates (soils); Carol R. Johnson & Associates, Inc. (landscape)
Contractor:
H. P. Cummings Construction Co.

Growing in place

The Johns Hopkins Hospital
Baltimore, Maryland
RTKL Associates, Architects

In 1876 when Baltimore merchant Johns Hopkins founded the hospital that bears his name, he charged the original trustees with creating "a hospital which shall in construction and arrangement compare favorably with any other institution of like character in this country and in Europe." Their reply was a three-part complex fashioned by architect John Shaw Billings to the concept, advanced in 1889 when the hospital was dedicated, that disease and infection might best be contained by isolation within discrete pavilions surrounded by light and air.

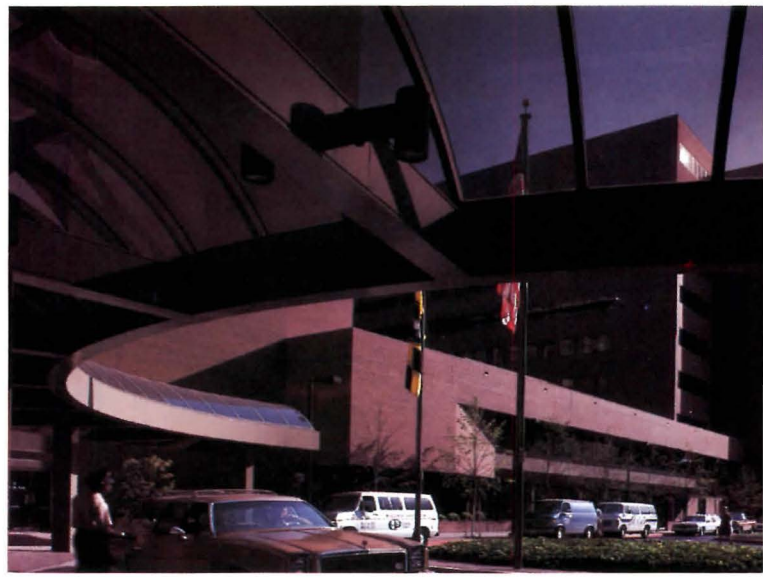
As Hopkins had dreamed, the fledgling hospital soon grew to preeminence among the world's great medical centers, gathering under the umbrella of The Johns Hopkins Medical Institutions not only the hospital of Hopkins' vision but allied teaching centers as well. But as the hospital approached its centennial the dream had begun to fade.

The population of the East Baltimore community the hospital had served so long was declining, and the community itself had so succumbed to urban blight that the hospital met increasing difficulty in drawing staff and patients from the larger metropolitan area. Although some buildings were new, most were aging (even the three original pavilions were still in use) and too many were obsolete or inefficient. Moreover, the stubborn pursuit of the pavilion concept over time had produced a congested assemblage of unrelated buildings—the fiefdoms of medical departments and specialties—that lacked the flexibility and interchangeability necessary to their full utilization.

Little wonder that the embattled trustees pondered abandoning the existing plant and building anew in a congenial suburb—a debate finally swayed when the hospital received funds for one of the National Cancer Institute's regional oncology centers. This lure triggered a far-reaching commitment to remain on the original site and to tackle the herculean task of rebuilding within its 20-acre bounds.

The decision made, the institutions promptly plunged into the preparation of a long-range development plan—an update of the founder's original charge—which was relayed in 1973 to RTKL Associates as leaders of a multidisciplinary team responsible for programming, master planning, and design of the redevelopment.

Although the overriding goal of the institutions—to integrate



Central to the Johns Hopkins redevelopment was the relocation of the main entrance to introduce the new core hospital constituted around the Nelson-Harvey building (below and top left). The curving canopy follows the arc of the drive to the flanking Adolf Meyer neuropsychiatric center, seen at center left from the main entrance and in detail at bottom left. The use for new buildings of a brick compatible with the facades of older buildings contributes to the quiet harmony of the exterior spaces of the complex. Interiors, by contrast, are pointedly cheerful, sporting indoor greenery, vivid colors, and bold graphics.

the special centers with an efficient, up-to-date core hospital—was straightforward, *the path toward it was* labyrinthine. Not only did the master plan have to provide for the relocation or replacement of virtually all clinical departments, it had to do so incrementally, guiding a still-functioning hospital through a coordinated schedule of new construction, building modifications, and the phasing out of obsolete facilities. New, existing, and renovated facilities were to be physically and functionally meshed at each stage of development and linked with over-all improvements in services and circulation patterns so as to increase the hospital's operating efficiency and capacity for incorporating advanced medical technologies and procedures.

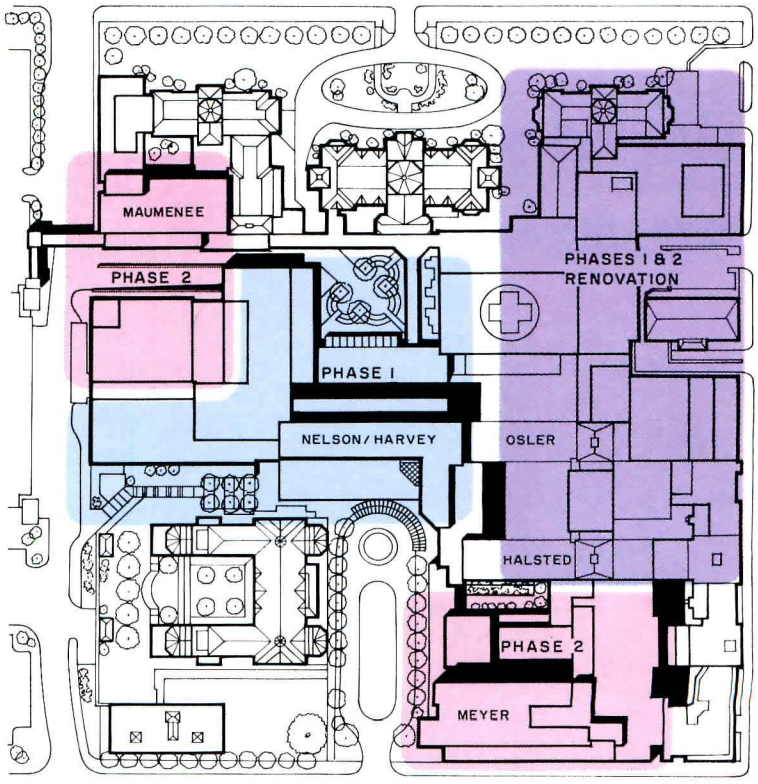
In addition, this ambitious and complex planning effort was launched under an extremely tight deadline. Because the NCI grant stipulated that construction of the cancer center be under way no later than May 1974, the master plan, with first-phase programming and design, had to be produced within a year after it was commissioned.

According to Sandor Csobaji, RTKL's principal-in-charge for the project, the most formidable aspect of Johns Hopkins' rejuvenation was its phasing over the 10-year span from the inception of master planning to the completion last year of the final stages of construction. Apart from the obvious need to keep the hospital operating with full capacity and minimal disruption, the phasing problem was compounded by the demand for functional self-sufficiency at each stage of the redevelopment in order to leave open the hospital's options to continue, delay, or halt the program at any time, as dictated by its finances.

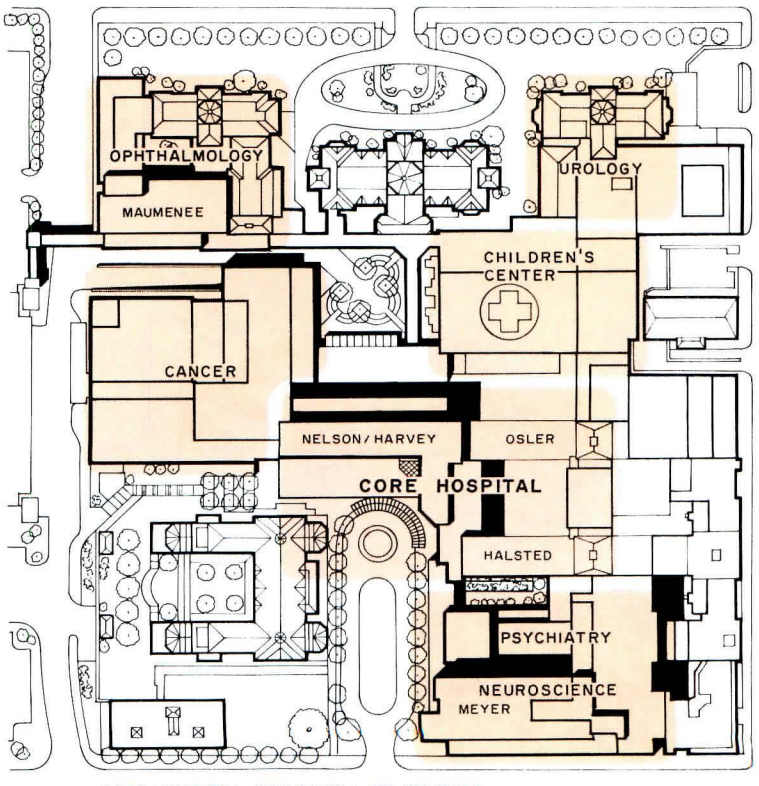
The master plan accordingly was predicated on the meticulously ordered transition of the center from a complex of independent pavilions to an integrated entity constructed on a framework of horizontal layering in which each developmental increment would represent a step toward the establishment of contiguously related activity zones.

A new sub-basement service zone, for example, was to centralize receiving and materials management areas, later augmented by central sterile processing, and pave the way for automated horizontal distribution to service shafts.

A basement-level support zone

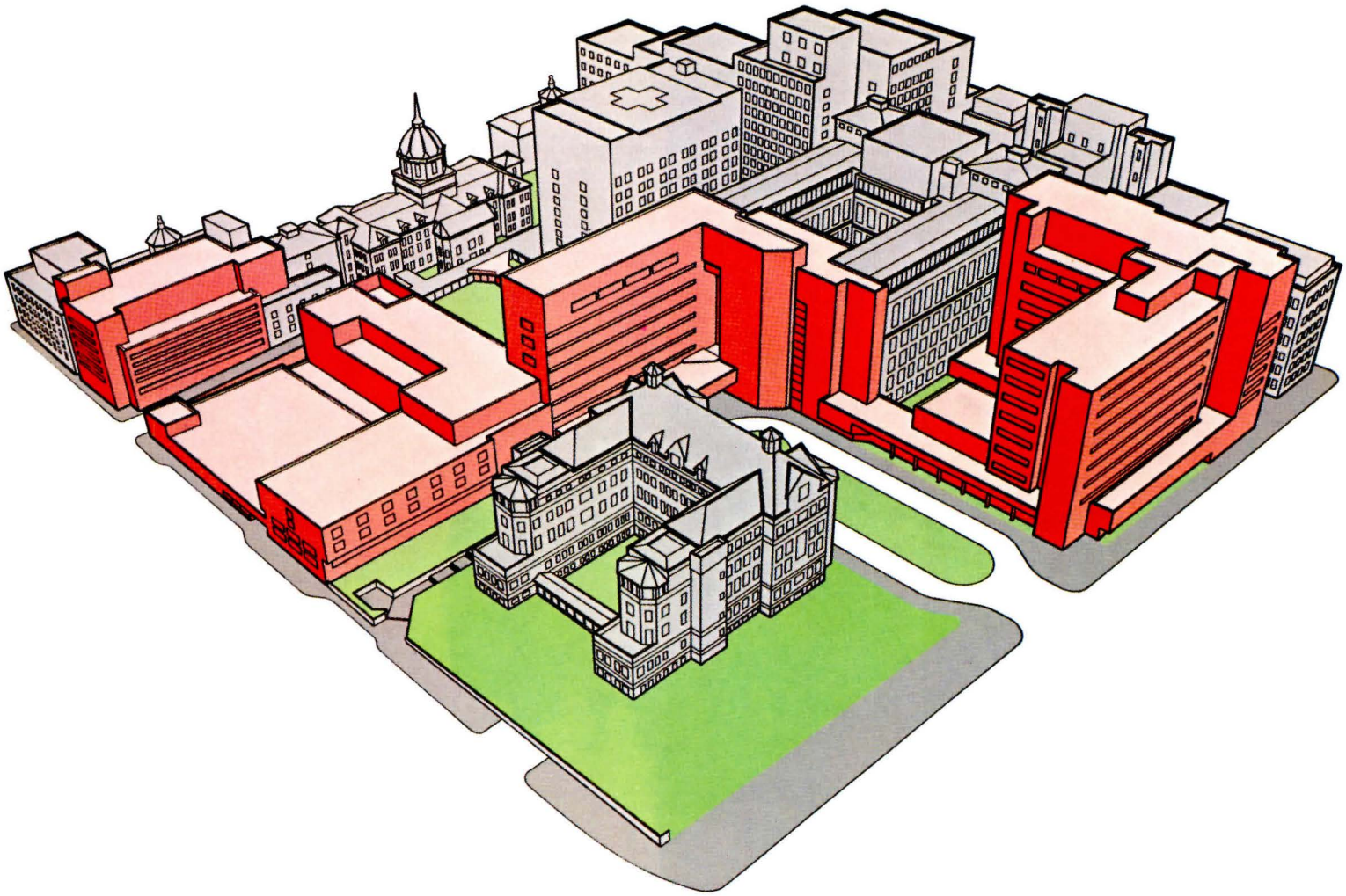


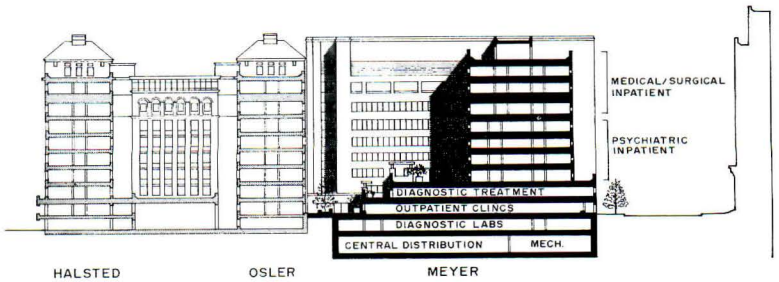
REDEVELOPMENT PHASING

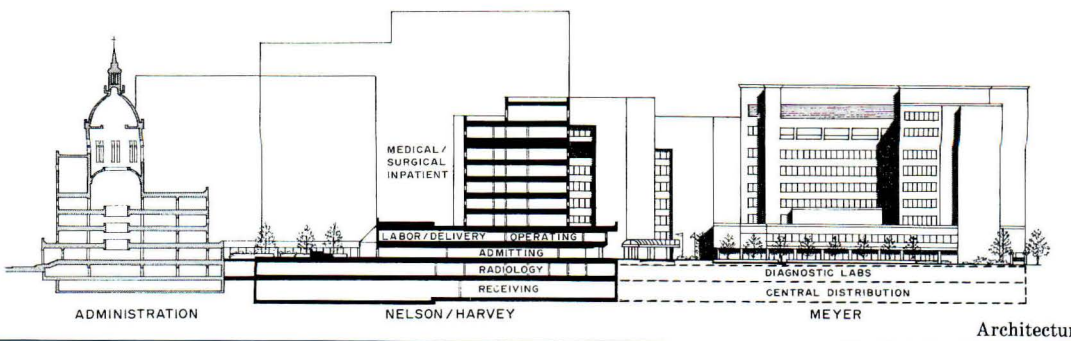


CORE HOSPITAL AND SATELLITE CENTERS

The key to the successful rejuvenation of the aging Johns Hopkins hospital was the development of a horizontal zoning concept that laterally links service, support, public, and treatment areas in successive layers in a complex-wide "platform" (see sections below). A similar scheme is used to integrate new patient-bed floors with extensively renovated existing floors: the combined treatment areas are organized across building boundaries in levels devoted to related medical disciplines, thus facilitating interchange among subspecialties. New construction was undertaken in two major phases (drawing above left) accompanied by a continuous round of supporting renovation and reconstruction.







would consolidate formerly dispersed diagnostic and treatment functions, including medical imaging facilities and clinical laboratories. At street level a public and community zone indicated in the first phase by a relocated entrance, lobby, and admitting area could expand laterally to incorporate a range of amenities for visitors and staff as well as administrative functions and outpatient services.

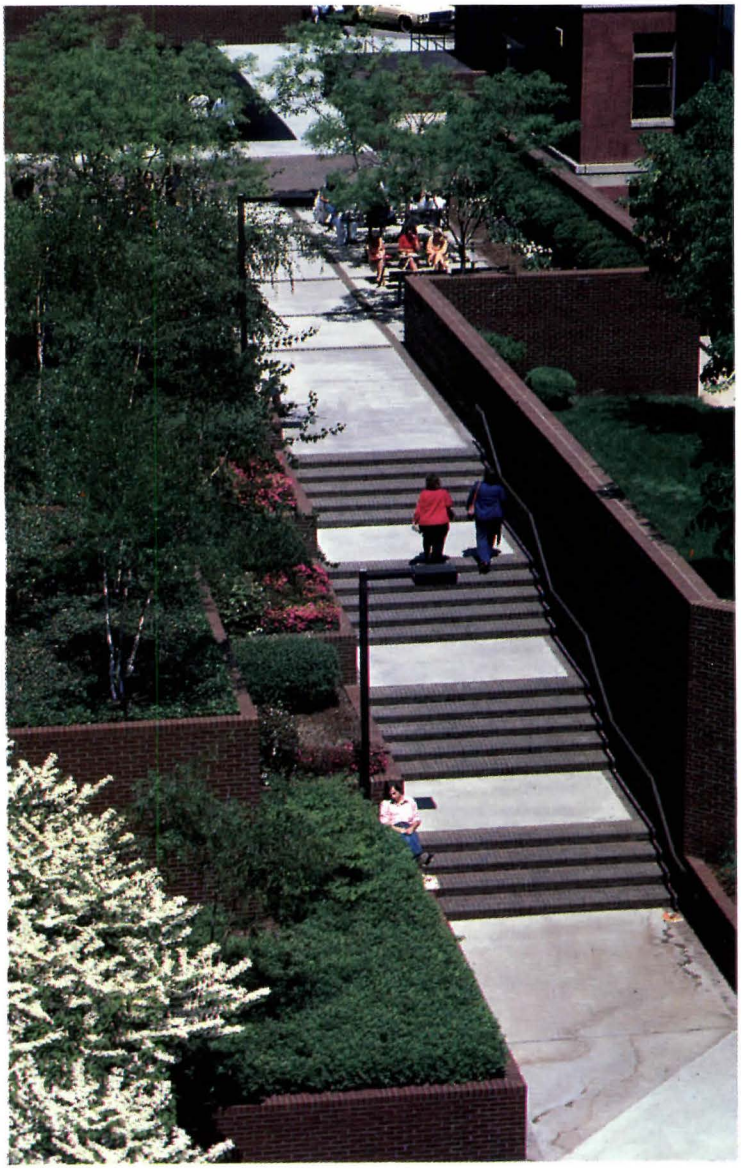
Although the total complement of patient beds was to remain constant at 1,100, almost all were to occupy new, renovated, or replacement spaces. The master plan accordingly also provided for the lateral integration of inpatient care facilities. The circulation network effectively erases boundaries between new and renovated buildings, permitting major departments within the hospital to be organized on one or two levels and encouraging the interchange of available beds—and expertise—among subspecialties. (The heart center, for example, unites on the fifth levels of four contiguous buildings inpatient and outpatient care for adults and children, as well as teaching and research programs.)

The redevelopment plan was implemented in two major phases accompanied by a continuous round of renovation to upgrade existing facilities and link them to the circulation network. Apart from the cancer center, the key first-phase component was the Nelson-Harvey tower, which added along with new patient treatment facilities the relocated main entrance, lobby, and admitting unit that became the focus of the core hospital. The adjacent Osler and Halsted pavilions, originally built in the 1920s, were then reconstructed to house inpatient units tied to the Nelson-Harvey service core so that each floor comprises three nursing wings, two renovated and one new.

In the second development phase, the major new element was the construction of the nine-story Meyer Psychiatry and Neurosciences Center, which completed the main entrance parti. This final building phase also included the adaptation of the historic Marburg building, one of the hospital's original structures, to house new patient rooms behind a spruced-up but unchanged facade, and the sensitively sited addition of a new clinic and research facility (the Maumenee building) to serve the Wilmer Ophthalmological Institute, which occupies the second of the 1889 pavilions.

Although a major thrust of the redevelopment program was to overcome the operational drawbacks of a complex of independent buildings, the campus had also enjoyed the virtues of its defects: the light, air, and greenery posited by the original pavilion concept. (The newly renovated Marburg pavilion is shown in the bottom photo this page.) Because new construction on the hospital's tight urban site would necessarily rob it of its gardens and open spaces, the architects took pains to include in the master plan pocket parks and plazas carefully placed and landscaped to wring the most amenity from the least area and open mini-vistas from interior spaces. Views from the lobby of the Maumanee building and the cafe in the Harvey building are shown in the photos at far right.

The Johns Hopkins Hospital
Baltimore, Maryland
Owner:
The Johns Hopkins Medical Institutions
Architects:
RTKL Associates—Sandor B. Csobaji, principal-in-charge; Bernard J. Wulff, David R. Beard, Paul C. Zugates, Robert P. Pfeifer, project architects; Vernon D. Moorer Jr., James F. Blose, Daniel J. Shanahan, Mark E. Hasslinger, project managers; Catherine Mahan, landscape; Ria Zake, interiors
Oncology Center architects (phase 1):
Cochran, Stephenson & Donkervoet
Engineers:
RTKL Associates—Robert J. Kolker (structural), Frederick J. Thompson (civil), Robert R. Manfredi (mechanical/electrical); Henry Adams, Inc. (mechanical/electrical)
Construction managers:
Turner Construction Company (Phase 1); The Whiting-Turner Contracting Company (Phase 2)



Burt Glinn

Burt Glinn

Building from strength

Valley Presbyterian Hospital
Van Nuys, California
Bobrow/Thomas and Associates, Architects

Valley Presbyterian Hospital (VPH) not only exemplifies the changing demands that overtake even relatively youthful medical institutions but is itself the product of such change. A spin-off from Hollywood Presbyterian Hospital, a venerable Los Angeles institution, VPH was established in 1958 when the older hospital found itself losing staff and patients to the suburbs at such a pace that its trustees and administrators decided to join the exodus, reinstituting the hospital in the burgeoning San Fernando Valley and phasing out its in-city facilities.

In the event, the downtown hospital survived (and finally thrived) while its offshoot evolved separately, pursuing its own style of growth with a three-phased burst of expansion from 63 beds in 1958 to 363 beds, its present complement, in 1970. Over the years the hospital's scope of service expanded to encompass 50 medical departments; a health education center was added; and Valley Presbyterian emerged as a major medical resource in its fast-growing service area. Its physical resources, however, were hard-pressed to keep pace.

In 1978 a long-range role study reaffirmed the mission of VPH as "a full-service community hospital," and identified as particularly compatible with both the hospital's chosen role and its community's emerging needs several areas of concentration: comprehensive cardiology and oncology programs, a center for maternity and child care, and ambulatory care for outpatients.

The priority services having been established, architects and planners Bobrow/Thomas Associates were retained to develop a master plan for managing the hospital's physical resources in support of its long-range goals—a task lent urgency by the recognition that the existing plant could not support desired growth in some departments or new technology in others, and that its inadequacies would be exacerbated by the new focus on specialized programs requiring special spaces and equipment.

The architects accordingly prefaced the master plan study with a thoroughgoing facilities analysis that examined the demands and deficiencies of each of the hospital's functional areas, with emphasis on the services given long-term priority, and identified a congeries of problems ranging from inadequate space to

Marvin Rand photos

The two-story administrative wing to the west of Valley Presbyterian Hospital's newly relocated main entrance is rimmed on south and west by garden courts carved out to give light and views to basement offices. Although natural lighting is emphasized largely for esthetic reasons, in a building used mostly during daylight hours it also contributes to energy savings, with the help of a solar screen that blocks summer heat and admits winter sun. Skylights in the arched corridor between the new and existing buildings (center opposite) and in the main lobby (bottom opposite) are orientation aids as well as light sources.

inappropriate design.

The facilities analysis also revealed, however, the basic strengths adhering from the sound planning the hospital enjoyed at its inception. A model for its generation, the original plan by Pereira and Luckman (carried through in later phases by Charles Luckman Associates) was noted especially for the design of the circular inpatient floors, which by the then-uncommon expedient of pulling the elevator core out from the nursing units achieved within them an unprecedented degree of compactness and efficiency.

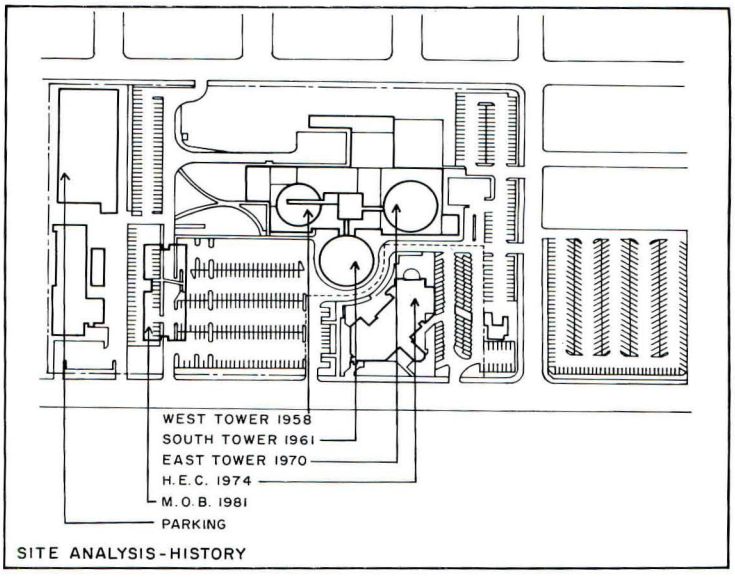
The plan had also sufficiently lent itself to orderly growth so that Bobrow/Thomas were able to bare beneath subsequent "improvements" a nearly intact framework of vertical and horizontal zoning. Vertically, inpatient floors surmount two levels of ancillary and support facilities, while functions within the base floors are arranged laterally from the entry and public areas on the south, through an intermediate zone of diagnostic and treatment facilities, to service functions on the north.

The master planning effort therefore addressed two related and complementary themes. The first was to set flexible, open-ended guidelines for the hospital's immediate and future growth, the second to restore the lucidity of a plan obscured over the years by dubious physical accretions and haphazard functional realignments.

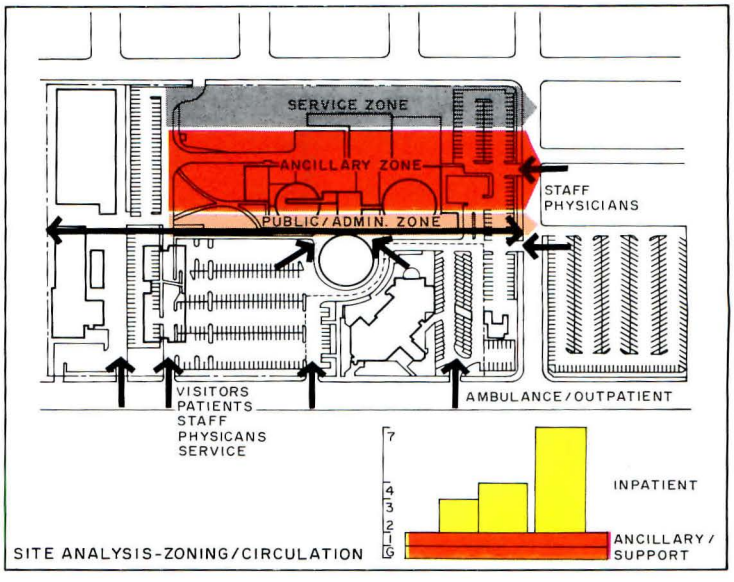
As the hospital did not in the short-range plan to increase the total number of patient beds, the architects emphasized in their near-term planning the rationalization of its ancillary and support services, weaving in new elements in such a way as to reinforce the still-serviceable fabric of the original scheme.

A key issue was managing expansion within the constraints of a site bounded on three sides by major streets and on the fourth by large buildings (a parking structure and a medical office building) that were then well into construction and so, for practical purposes, existing. After juggling alternate zoning patterns, department locations, and building configurations, Bobrow/Thomas recommended to the client a site utilization plan they believed to combine the best aspects of the proposals studied.

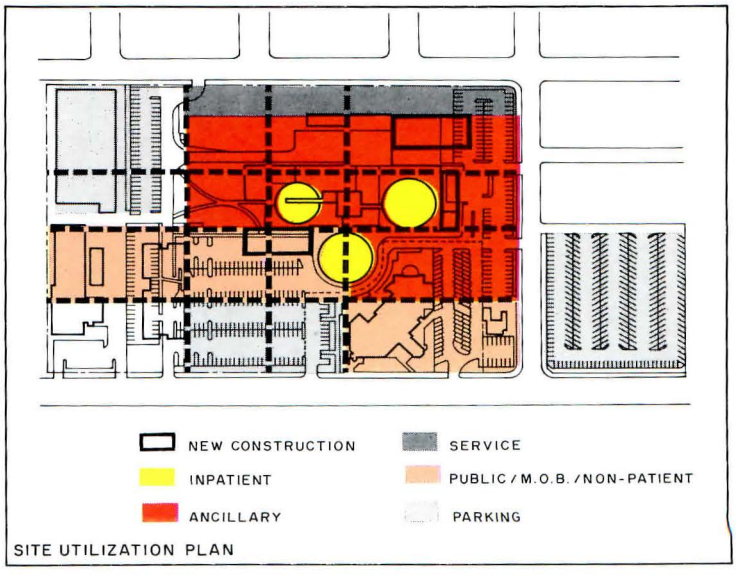
The recommended plan reinforced the existing zones by centralizing services to support both the first-floor outpatient functions and the inpatient units



SITE ANALYSIS-HISTORY



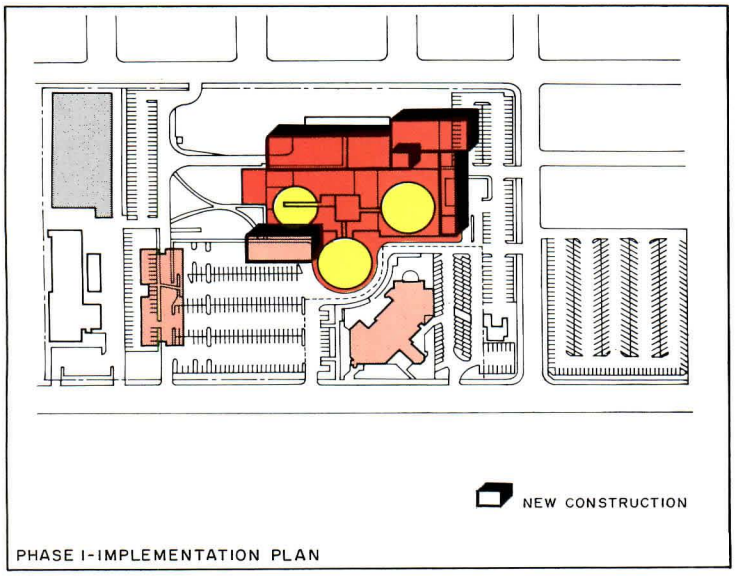
SITE ANALYSIS-ZONING/CIRCULATION



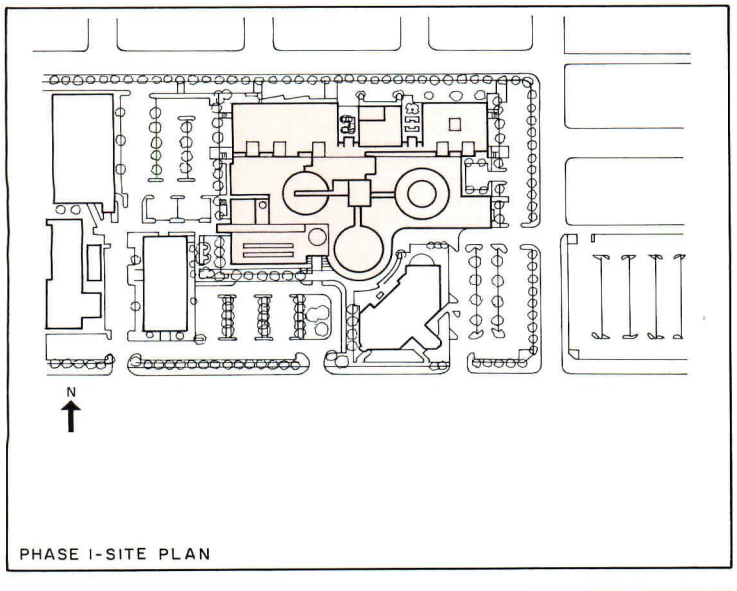
SITE UTILIZATION PLAN

Valley Presbyterian Hospital
Van Nuys, California
Owner:
Valley Presbyterian Hospital
Architects:
Bobrow/Thomas and Associates—Michael Bobrow, partner for design; Thomas Chessum, senior designer; Kenneth Lee, principal, planning; Kenneth Liu, principal-in-charge; Jack MacAllister, Julia Thomas, project team

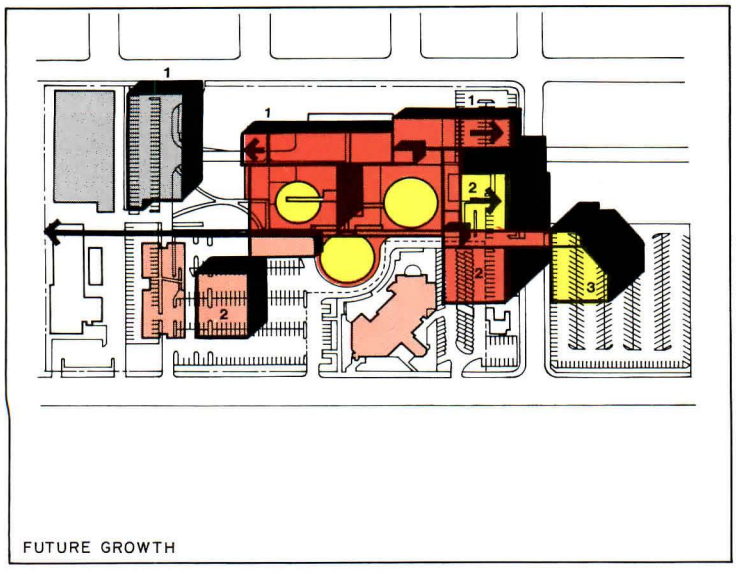
Engineers:
King.Benihoff.Steinman.King (structural); Rogoway/Borkovetz Associates (civil); Toft Wolff Farrow Associates (electrical); Syska & Hennessey, Inc. (mechanical)
Consultants:
Eriksson, Peters, Thoms & Associates (landscape)
General contractor:
Stolte, Inc.



PHASE I-IMPLEMENTATION PLAN



PHASE I-SITE PLAN



FUTURE GROWTH

above. It also emphasized expanding major departments from their established locations in order to minimize the need for remodeling vacated space. Traffic patterns were to be improved by strengthening the link with the new buildings on the west, concentrating expansion on the east, and relocating the entry to conform with the new flow.

The ensuing implementation studies focused in the first phase on correcting existing space problems and promoting the priority services while expanding ancillary and support functions and enlarging the inpatient oncology unit. Plans for later phases foresee serving larger numbers of outpatients; opening traffic access to the west; and eventually replacing or adding to the inpatient towers.

For first-phase expansion Bobrow/Thomas designed 100,000 square feet of new construction and 40,000 square feet of remodeled space. The two-story building on the south is largely devoted to administration, while the larger three-story structure on the north houses medical departments, outpatient clinics, laboratories, and other ancillary services. Joining the two, and tying into the existing building between, landscaped patios offer sunny waiting and visiting areas.

Believing that providing users a sure sense of orientation is among the central issues of hospital design, the architects seized the expansion of VPH as an opportunity to clarify its circulation patterns. The dual entries on either side of the central patient tower gave way to a new and unmistakable main entrance heralded by a colorful glazed canopy. The lobby within is dominated by a domed skylight and intersected by an arched skylit corridor that now gives access to the administrative wing and will later be extended the full length of the building's east-west spine.

In both new and renovated areas the architects sought to establish a coherent network of major and minor corridors logically relating to the central elevator bank. And to further aid orientation they were at pains to mark by architectural "events" key corridor junctures and department entrances. The related desire to combine the comprehensive services of a big hospital with the amenities of a small one led to unusual emphasis on "humanizing" the center and visually taming its scale by the frequent interjection of courts and concourses, outdoor views and indoor daylight.

A skyscraper in context

IBM 590 Madison Avenue
New York City
Edward Larrabee Barnes
Associates Architects

The pendulum of appreciation must swing once again in the direction of the esthetic of the Modern Movement before New York City's IBM Building, designed by Edward Larrabee Barnes Associates, will get the attention it deserves. One block to the south on Madison Avenue is IBM's famous neighbor, the postmodern skyscraper everyone is interested in right now. "This building has been written about too much," says Philip Johnson of his AT&T World Headquarters, and as usual he is right. The corollary to Johnson's utterance is that the IBM Building has been written about too little. In truth, the pair of giants looming over midtown should be written about together. The postmodern esthetic is essentially a critique of and a reaction to the modernist esthetic. Therefore, the IBM Building symbolizes the academy and the AT&T World Headquarters the avant-garde challenge to its hegemony. The stylistic differences between the two skyscrapers should constitute a lively polemic.

It may be more useful, however, to leave the issues of style to others and focus for once upon IBM—not in terms of its modernist esthetic, but from the perspective of urban design. Because Barnes's building was designed first, it played a catalytic role in the siting and ground-level planning of both AT&T and the Trump Tower on Fifth Avenue. The latter, designed by Swanke, Hayden & Connell, occupies a quadrant of the block shared by IBM (site plan opposite page bottom). In using urban design rather than stylistic criteria to evaluate IBM's contribution to its context, it is necessary first to turn to the New York City zoning ordinance under which all three buildings were designed, paying attention to the ways in which each building conforms and deviates from it.

IBM and AT&T are so-called "special permit" buildings. This means that their developers were not required to adhere to the height and setback regulations of the 1961 zoning ordinance. Their nonconforming shapes and immense bulk are the result of negotiation between the corporations that built them and the New York City Planning Commission. The corporations won the day, forcing the city to relax its zoning requirements. In IBM's case the deal was being made in the mid-seventies when the financial community feared that New York would go bankrupt and there was no development in the city at all. Thus, the city made every accommodation to get the building started, including granting a tax abatement. Later AT&T won its concessions by threatening to move to New Jersey.

The Madison Avenue and 57th Street facades of IBM rise without setbacks to constitute a 100 per cent invasion of the sky-exposure plane (a phrase planners use to denote the controlling geometry mandated by the zoning ordinance which forces architects to devise receding building silhouettes so that sunlight can reach the streets and light and air enter the buildings opposite). This exception was granted to facilitate placement of the glass-enclosed greenhouse to the south. Otherwise IBM conforms to the zoning requirements, including the regulation that the tower occupy only 40 per cent of the site.

The AT&T Building rises without setbacks on three sides forming another 100 per cent invasion of the sky-exposure plane. Its tower footprint also deviates from the ordinance, since it occupies 55 per cent of its site. Furthermore, the 37-story AT&T tower is as high as the 43-story IBM. AT&T's floor-area-ratio bonus in return for its street-level arcade earned it that many floors at approximately 20,000 square feet per floor. IBM, in return for considerably more street-level amenity, earned a higher FAR; it could have been five stories taller than built. With IBM's already completed design in hand, Johnson/Burgee simply increased AT&T's floor-to-floor heights to make their building as tall as its neighbor—a violation of the spirit, if not the letter, of the zoning law.

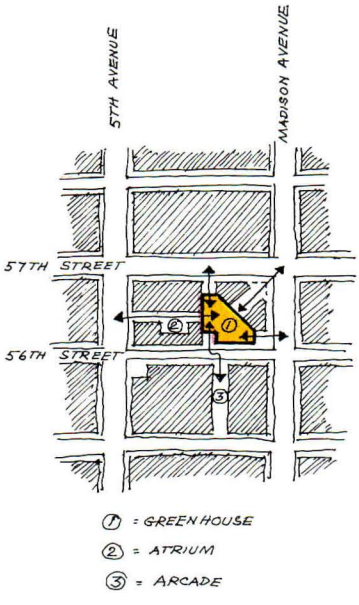
Trump Tower, the other huge new skyscraper in the IBM context, also got too big. At the time the building was designed it came under the regulation of the New York City Planning Commission's Fifth Avenue Special Zoning District legislation. This zoning law encouraged the construction of mixed-use buildings which were to comprise office and residential space and street-level retail. A bonus of 20 per cent more floor space was offered to developers who complied with its provisions, requiring that the extra space be used for apartments, not offices, and another 20 per cent bonus was granted for the provision of interior pedestrian space. The 68-story Trump Tower took advantage of all these provisions, but its truly monstrous size was not derived entirely from special district floor area bonuses. Additionally, developer Donald Trump was allowed to purchase and transfer Tiffany's air rights to his site. By law, his building could have been even bigger.

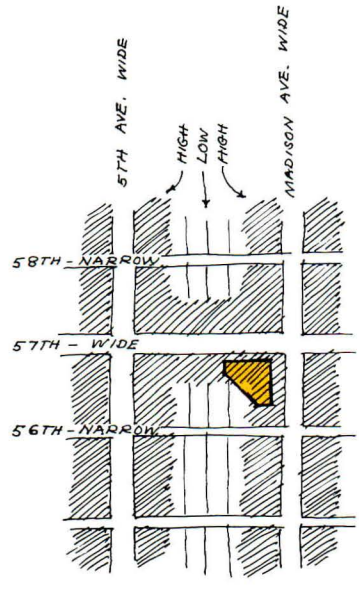
It all came to an end of course when New York City's watchdog organizations—among them the New York Chapter of the American Institute of Architects, the Municipal Art Society and The Architectural League, began to realize what was happening. The city responded to their pressure, studied the problem and came up with a new set of comprehensive zoning policies, which are now being applied. Essentially the east side of midtown has been downzoned. Most of the bonuses used by AT&T, IBM and Trump are no longer offered. It will not be possible to build towers quite like them again. Big as they are, however, and in spite of their faults, taken together they represent real progress in the art of urban design at the street level. Madison Avenue between 55th and 57th is almost all right. And so are all the other streets surrounding the two blocks.

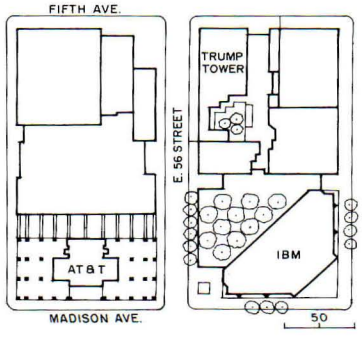
Although, on the one hand, all three buildings demand to be viewed abstractly as separate works of art, surrounded by their own space like sculptures in a gallery, on the other hand they really address themselves to the ordinary citizen in the street, not just to the esthetic observer. Their great quality is in the way they perform as an ensemble, offering great pleasure to pedestrians moving along the sidewalks and through the passages and public spaces they make. Edward Larrabee Barnes, as the first architect to remain on the scene, worked with Lauren Otis of the Office of Midtown Planning in an attempt to map these interrelationships before anyone knew who would acquire the adjoining properties or exactly how they would be developed. Barnes could have wished for firmer design controls for the site to the south, but almost from the beginning it was clear that whoever built it and for whatever purpose, IBM's neighbor would also be a special permit building. (When Barnes began work on IBM, David Beer of Welton Becket was designing a hotel for the site now occupied by AT&T.)

The sketches to the right were made by Barnes to illustrate the genesis of the IBM parti. He regrets that zoning concepts today no longer preserve the principle that buildings of great height and bulk belong only on wide streets and that the low brownstone scale of the side streets should be preserved. He deliberately shaped the IBM tower to put the mass on the wide streets, indeed to help define them, and at the same time to preserve the lower scale of at least the middle of the north side of 56th Street. To this end he placed a 68-foot-high greenhouse there. The greenhouse functions as an important city "square," a pivotal space generating pedestrian flow in several directions. The plan allows and entices people to move diagonally through the building from the 57th and Madison corner; through the Trump/Bonwit atrium from Fifth Avenue; in and out of the AT&T arcade from 55th; from 57th into the greenhouse and from Madison into the greenhouse. At the four corners of the IBM lot, there is a release of space—an easing of the compression of normal sidewalk width. There are little recessed plazas on 56th and 57th. There is a corner plaza on Madison with a small fountain and places to sit. And there is the enthralling space under the great cantilevered corner—a sudden release easing pedestrian flow and celebrating the entrance to IBM. Taken together, these generating forces have established a plan which, as Barnes put it, "books" about a diagonal line (a sort of crease)—the low greenhouse on one side, the prismatic tower on the other. The form of the tower generates changes in its aspect when seen from different directions—sometimes a block, sometimes a slab, sometimes a thin shaft.

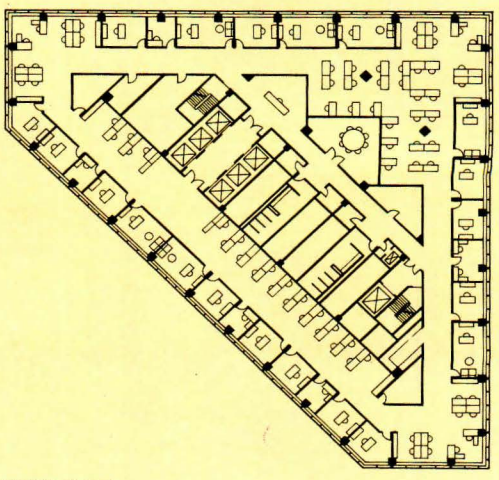
Now that the two blocks are almost complete, all of Barnes's urban design gestures seem to have been necessary, rather than arbitrary. He has proved himself to be a master of the delicate art of balancing a building's public and private role. And he has demonstrated that a building that faithfully follows the esthetic canons of the Modern Movement can, like postmodernism, be "contextual." *Mildred F. Schmertz*



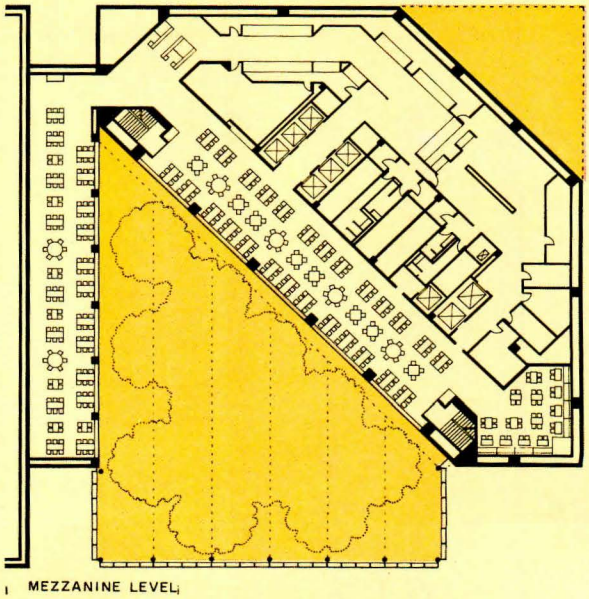




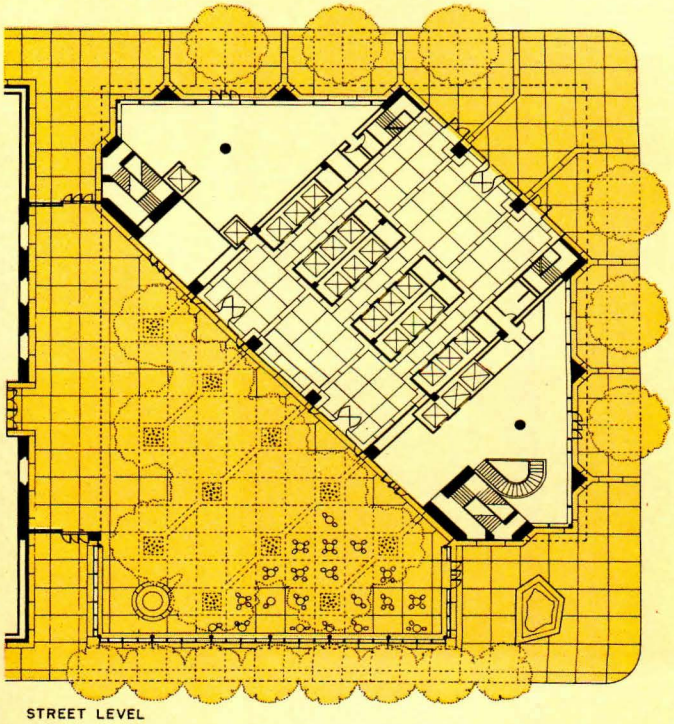
The diagrammatic sketches (left) were made by architect Barnes to illustrate the basic urban design considerations that shaped his building. The two-block plan (bottom) shows the street-level interrelationships among IBM, AT&T, Trump Tower and Bonwit Teller. The top drawing indicates the manner in which IBM's greenhouse acts as a public square, generating and facilitating through-block pedestrian movement, direct access from the Madison Avenue and 57th Street corner, and both streets as well. The tower (middle drawing) has been pushed toward the corner of 57th and Madison, holding the sidewalk line on 57th and set back ten feet on Madison. Barnes believes that the older New York City zoning practice of allowing high rise to be erected on the wide streets, with low rise on the narrower cross streets should be observed wherever possible. To this end, he sliced his tower on the diagonal to keep almost all of its bulk toward the wide street frontages. As the floor plans (right) indicate, the tower is a modified triangle, bounded by closely spaced columns on three sides, essentially a "tube" building. Wind flows about a triangular tower with different patterns of movement and intensity than it does around more conventionally shaped buildings, tending to concentrate at one point. This created a problem with the original structural system, an orthogonal grid of widely spaced columns, that turned out during wind tunnel tests to have very little rigidity against twist causing motion and vibration that would be disturbing to the building's occupants. After the wind tunnel tests the engineers, now aided by LeMessurier Associates/SCI as consultants, proceeded to stiffen the building. The framing around the elevator core remained approximately the same, with some diagonal bracing added. Around the edge of the building, however, the column spacings were cut in half—to 14 feet—and the strength of the spandrel beams was increased. A new grid was thus created that was mobilized into a connected series of rigid frames with rigidly jointed columns and girders. "The amazing thing," notes William LeMessurier, "is that after we made these changes the steel quantities went down." An additional challenge to the engineers was the design of the entrance corner. The problem was not primarily one of designing the transfer of gravity loads to the enormous cantilevered truss, for the truss carries only the first ten stories or so. Rather, it is the perimeter tube construction that does much of the work of holding the overhang. But doing without the corner column gives the building a very difficult stance, weakening its ability to counter wind forces. The engineers solved the problem by increasing the strength and dimension of all the exterior columns at the base.



TYPICAL TOWER FLOOR



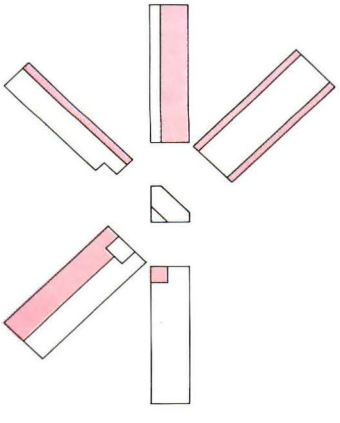
MEZZANINE LEVEL



STREET LEVEL

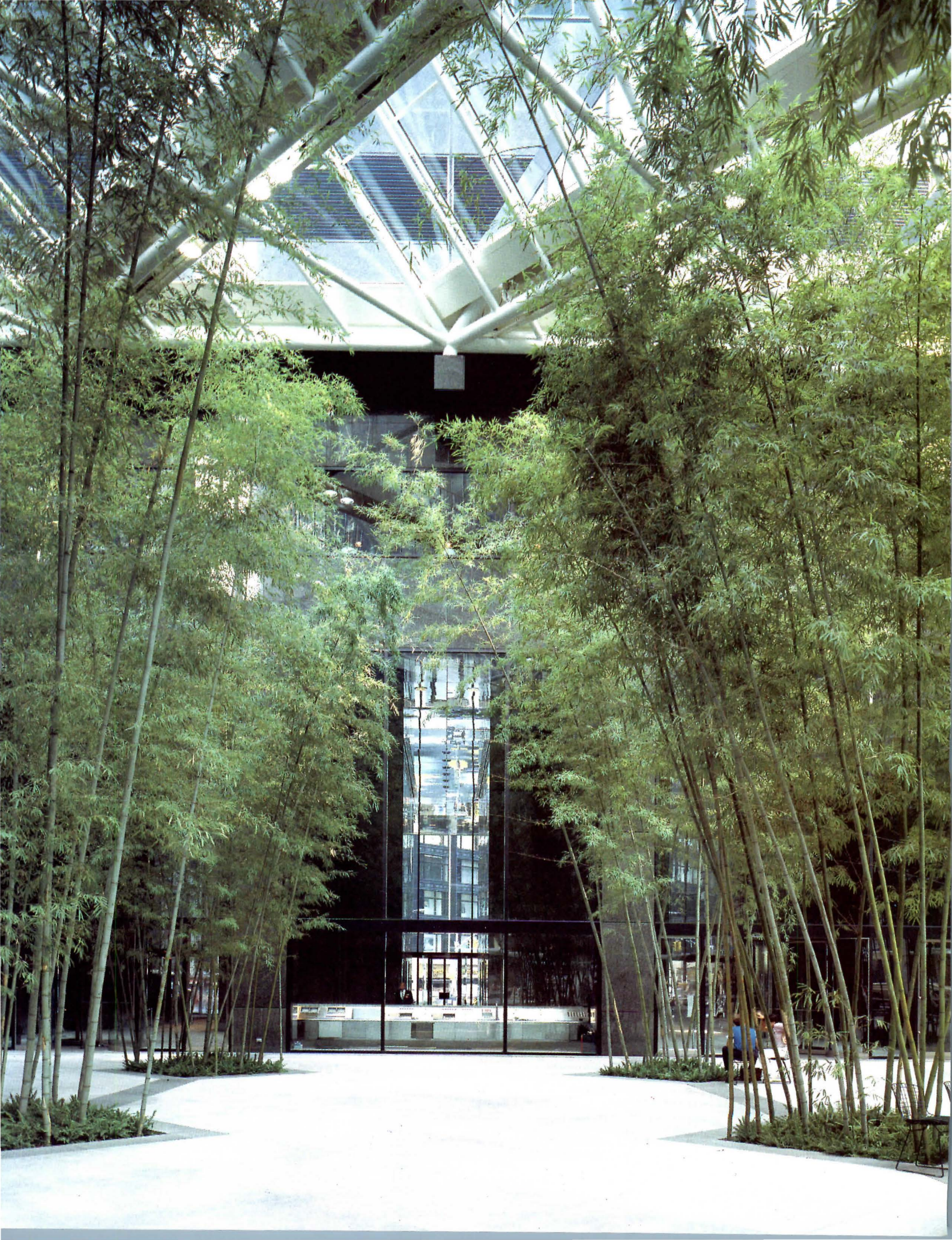
©Cervin Robinson photos

Judged by its urban design quality as well as by its elegance of proportion and detail, the IBM Building may share with Seagram the honor of being one of the two best Modern Movement skyscrapers yet built. Barnes elected to express the Modernist esthetic of weightlessness by means of a sleek volumetric high-tech form with many facets (diagram of plan and five elevations right).

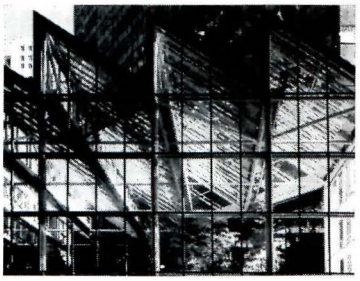


The greenhouse (above and opposite page) is a great enclosed public square filled with clusters of bamboo trees and informal seating. Shown above is the entrance to IBM's exhibition gallery. The view opposite is on axis with the IBM lobby looking through to the Madison Avenue, 57th Street corner. An article on the greenhouse by architectural critic Paula Deitz follows.

IBM 590 Madison Avenue
New York City
Owner:
International Business Machines
Architects:
Edward Larrabee Barnes Associates—John M.Y. Lee, Armand P. Avakian, associates-in-charge; Richard Klibschon, project architect
Engineers:
The Office of James Ruderman (structural); LeMessurier Associates/SCI (structural consultant); Joseph R. Loring & Associates (mechanical, electrical)
Consultants:
Zion and Breen Associates (landscape architects); Chermayeff and Geismar Associates (graphics); Donald Bliss (lighting)
General contractor:
Turner Construction Company



The IBM Garden Plaza



By Paula Deitz

At 8:55 a.m. on Saturday, March 14, 1981, Larry Tatum, the American Bridge superintendent overseeing the steel erection for the IBM tower, called out to his signal man, Bobbie Snow: "Give me an easy swing to the left." Snow radioed the order to Bob Portland, who was controlling the derrick guyed out from the 23rd story of the IBM tower; and by 9 a.m., the first of the gigantic hollow-pipe triangular-section steel trusses that form the saw-toothed roof of the four-story greenhouse was set down on columns. It was 73 feet long, 14 feet high and weighed 21 tons. The ironworkers had begun their shift at 1 a.m. that morning, having already worked 14 hours straight the day before unloading the four trusses from a barge. These were floated down the Hudson River, through late-winter ice floes, from Newburgh, New York, after having been fabricated by Quickway Metal Fabricators, Inc. in Monticello. A city permit had been issued to bring the trusses across town in a convoy of steerable dollies from the West Side dock in the middle of the night—two on Saturday, two on Sunday.

Having seen these huge white linear forms lumbering through the razzle-dazzle of New York City streets on a freezing night—traffic lights were temporarily removed to gain clearance at corners—and having stood by for long hours until they were unloaded at dawn, I retain a memory of a unified effort and of a camaraderie that enriches the experience now of sitting in the completed greenhouse on a quiet sunny afternoon. When the work was over that night, the general contractor, Turner Construction Company, to loud cheers from all, treated the ironworkers to breakfast. By 5 p.m. Sunday, near the end of an 18-hour shift, the second truss, 113 feet long, was raised into place, and sparks from the welders' torches sprayed their last light into the dusk. Larry Tatum and Lee Saunders, his assistant, sat in their trailer office. "We did a stroke of work this weekend," Tatum said—the skeletal structure of the greenhouse was partially in.

What gives this greenhouse its special allure? It is an interior world of light and air defined by a structure but not restricted by it from its exterior surroundings—the tracery of its framework creates only a veil-like separation. It is a place to be inside without surrendering the outside; and yet from out-of-doors, the interior appears to have a fixed life, a quiet orderliness that is becoming to good architecture. At night, the structure glows jewel-like on the city street; the roof, facets of light against a dark sky.

Many years have gone by since midtown Manhattan had a public glasshouse structure—New York's Crystal Palace inspired by its London predecessor was completed in 1853 on the present site of Bryant Park only to burn down in 1858. While it stood, millions of visitors filed through to see the exhibited wonders of art, science and mechanics. There was a dual tradition of 19th-century glasshouse architecture. The great botanical conservatories, for cultivating the horticultural exotica of the world, have survived in public parks and on private estates. In the urban winter gardens, on the other hand, the decorative flora was only incidental to pleasurable pastimes cultivated for people. With pathways through luxuriously landscaped interiors, and with music and cafés, there were no better retreats in Europe from noisy, bustling city streets. Their heights grew to cathedral-like proportions to accommodate the increasingly popular palm trees.

"What I wanted," says the architect, Edward Larrabee Barnes, "was a structure that would look like outdoor space and that would appear to be a separate building—a brilliant crystalline form next to a prismatic tower, a stone shaft that comes right down to the paving " The big moment in the design, he says, came with the idea of putting the greenhouse on the diagonal behind the tower.

The completed structure is a house within a house, a conventional truss system anchored to a glass-and-black-anodized-aluminum curtain wall (the aluminum is the same as for the tower's own window mullions). The trusses are painted white. "I think from the inside all greenhouses should be painted light so that the structure melts into the sky—all of the great old ones, like those at Kew Gardens in London, are painted white," explained Barnes.

To describe the effects on a neighborhood of quality public space, Barnes likes to cite the experience of leaving behind the din of Wall Street as one enters the calm of Trinity Church. Tranquility as a paramount characteristic of public space is a no less valid requirement than the circus atmosphere prescribed at the other end of the spectrum. More on this later.

Beyond the esthetic and philosophical reasons behind the design of this 11,000-square-foot, four-story greenhouse, its existence is motivated by zoning regulations that offered bonuses in the form of additional floor area for the building in exchange for amenities that benefit the public. Reading the greenhouse then in terms of what it accomplishes gives other interpretations to the form. According to Armand P. Avakian, who was the associate architect-in-charge during the design and working drawing periods, the basic component was the covered pedestrian space. In those days, the old Fifth Avenue Bonwit Teller backed up to the property and provided the necessary retail presence (the story of how Bonwit's was then sold, relocated to 57th Street and slipped back in behind the greenhouse is for another time), and from an early date, the New York Botanical Garden had opted for space in the greenhouse as a midtown plant information center. Also, continuing the long tradition of providing tasteful exhibitions in their former building on the same site, IBM planned a Gallery of Science and Art for museum-quality loan shows on the subterranean level just below the greenhouse. In keeping then with the grand tradition of the Crystal Palaces themselves, the IBM greenhouse would become the foyer of an exhibition hall one flight down.

Finally, a through-block arcade between 56th and 57th streets at mid-block was originally foreseen with open entrances until wind-tunnel tests proved the necessity of the great rolling doors at the mid-block points of both streets to avoid the effects from the impact of high winds on the tower base and the greenhouse. A constant pedestrian flow through the arcade area adds to the life and activity of the greenhouse and retail spaces.

The most dramatic aspect of the structure is the 16-foot-high saw-toothed or folded roof, with the six ridges running north to south. The total height of the greenhouse is 68 feet. Although this resembles the ridge-and-furrow glasshouse roofs devised by John Claudius Loudon and Joseph Paxton in 19th-century England to regulate the intensity of direct and indirect light, the purpose here is contemporary: "Maintenance was one of our considerations," says Barnes, "for the slanted glass is easier to clean, and the ridges create an interior space for vents, lighting and catwalks, making a kind of stage tower." There are three kinds of lights: incandescent for general illumination, colored-gel theatrical spotlights, and special growing lights for the trees, which are illuminated between 2 and 7 a.m.

As in the gables of traditional greenhouses, there is a system of louvered vents that open automatically to let out overheated air as it rises, and these vents are also maintained from the catwalks. The greenhouse has an "intermediate climate" between the street and the controlled atmosphere of the offices. Coming in from the street, one will always feel warmer in the winter and cooler in the summer. Barnes achieved this by redirecting into the greenhouse, through louvers, the percentage of air that by law has to be exchanged from the tower's interior; and because this air has been filtered, it is cleaner than outside air, and has been heated or cooled as well. Thus a climatic zone—between 40 degrees and 90 degrees—similar to that of Virginia and North Carolina is maintained. Also, the temperature would be lower at night (on the night-cycle), which is conducive to plantings accustomed to the outdoors and a requisite quiescent period.

At that point, the project's landscape architect, Robert Zion of Zion & Breen Associates, came up with a suggestion for plantings that was pure Southern romance in contrast to the hard-edged city: magnolia trees. This idea waned due to the difficulty of finding trees in the nurseries with a significant horizontal spread. While driving around North Carolina in the quest for magnolia trees, Alistair Bevington, another Barnes associate, had noted the large stands of bamboo trees growing wild in the region and added them to his list of possibilities. About the same time, Carlton B. Lees, then vice president of the New York Botanical Garden, showed Barnes some photographs of bamboo groves in the Los Angeles State and County Arboretum, and Barnes liked the sculptural effect of the tall stems with a canopy of light feathery tops. He later told me that he could see the tight groves of bamboo, in the seven-foot-square sunken planters set on a grid, resembling the massive columns of the temple at Karnak. The decision was soon made in favor

Paula Deitz, the IBM tower's Boswell, is writing a book entitled The Tower and the Story *to be published by Random House.*

of bamboo: *Phyllostachys pubescens*, from North Carolina.

On March 10, 1981, I spent a day in North Carolina with Turner's expediter, Guido T. Garbarino, to see the bamboo and to verify the ready state of some of the material being fabricated for the tower. We drove to the largest open-faced granite quarry in the world, the North Carolina Granite Company in Mt. Airy, which was providing the paving stone for the greenhouse in five-foot squares as well as the round granite refreshment kiosk. Guido counted the paving slabs, and then the owner, Ed Corder, drove us out to the quarry flats. By then it was night, and the granite glowed almost white in the pale moonlight—Indian tribes understandably were attracted to these plateaus for ritualistic ceremonies. At night, in the greenhouse, one sees the granite as it looked that night in North Carolina.

On November 17th, a team including Richard C. Keller, Barnes's field architect, Leo Plofker, the structural engineer from The Office of James Ruderman, Daniel Millman, a project manager for IBM and others traveled down to the Construction Research Laboratory alongside a highway in Miami, Florida, for the stress tests on the garden enclosure. The laboratory is an outdoor area around a warehouse and looks like a movie lot with a main street of fake building facades, which in reality are two- and three-story test mockups of buildings under construction from all over the world. The greenhouse mockup, an end section of one saw-toothed element, was constructed next to the ruins of the former two-story granite mockup of the IBM tower itself. The man who oversees the testing of this unusual empire for the vicissitudes of climatic conditions—wind, rain, heat—is A.A. Saknovsky, or simply Sak.

The subcontractor for the garden enclosure curtain wall had built the full-size mockup of aluminum framing and heat-strengthened triple- laminated glass for the slanted panes of the saw-toothed roof. Early in the testing, they first increase the air pressure, then suction the air out of the enclosure—now a closed chamber—to test the framing for deflection and the effect on the glass, in imitation of wind pressure conditions. They found unfortunately that they could do neither with success, and it was not the fault of the machinery. There must be leaks, and to see where they were, they exploded a smoke bomb in the interior. There were more curlicues of smoke coming through seams than I could count.

Everyone went home until the sealant and gasket problems were resolved. On the return in January to complete the tests successfully, the most dramatic moment came when a 100-pound leather bag filled with lead shot was raised high over the slanted panes by a hydraulic crane and dropped from ever increasing heights to test the amount of force required to fracture and then fully penetrate the roof panels. At 37½ feet the shot bag finally broke cleanly through a previously intact roof panel, leaving less than half a teacup of fine powdered glass. There were no long or sharp knifelife shards, as had been feared, from any of the drop tests; some of the panels were repeatedly pounded, with the same results.

Later, as actual construction proceeded, it took six glaziers to install the large trapezoidal panes, two on ladders at either side with suction cups, three at the bottom and one man underneath on the scaffolding planks balancing as if he were on a surfboard. It took 28 glaziers to install the seven-and-one-half-ton, 33-foot-high rolling door at the 56th Street entrance to the pedestrian walk-through. At times, the scene looked like Philip Henry Delamotte's photographs of the reconstruction of the London Crystal Palace at Sydenham Hill.

On October 13, 1982, the bamboo was delivered by truck, and the event generated an unusual amount of excitement, for in the public imagination, winter garden or no, a greenhouse is for plants. "Birnam Wood has come to Dunsinane," quoted Dick Keller as we watched the 45-foot-high trees unloaded, the enormous balls wrapped in burlap. Zion was there to counsel on the arrangement; and after a few days, the interior was transformed by the 11 groves, which made the space seem less high. The outlook from the third-floor employees' cafeteria, which wishbones around the upper reaches of the garden, was now onto feathery pale green. The best view of the bamboo is from the northeast corner of Madison Avenue looking across the street through the main entrance and the three open elevator lobbies, and seeing from a distance the groves and their waterylike reflections in the lobby ceiling and on the polished granite walls. The fact that Barnes designed a visually porous main floor creates some unusual vistas into the greenhouse.

Recently, William H. Whyte, the author of the book and classic film *The Social Life of Small Urban Spaces*, has been called in to study the activity in the greenhouse—too little of it and too quiet, in the opinion of many people, now that both the Trump Tower atrium and the new Bonwit Teller main floor exist as competing razzmatazz environments. As of now, inside the greenhouse on the 56th Street side, there are 20 fixed round tables of honed Vermont marble and 60 Knoll Bertoia side chairs with the wire mesh painted a dark green and green vinyl seat cushions. Whyte is right; people do move the chairs about to sit in the sun and also to make their own social groupings. He wishes the tables could move too. "I would like to see the number of tables and chairs doubled," he said, "and the critical mass moved to the center." The refreshments are reminiscent of a French patisserie, and a handsome polished stainless-steel ring, like a halo, over the kiosk gives digital time in four directions so everyone knows when to go back to work.

One of the fears expressed by critics in recent years is of overmassing due to the new towers in the East 50s. The greenhouse brings a character of its own to these cavernous streets. One feels it most after a stroll through the Trump Tower atrium into the greenhouse through Bonwit Teller. The quiet hits like a breath of fresh air—"Going from Trump's seraglio to New England," is how Whyte describes it. Why not? Or from Wall Street to Trinity Church?

About 11 a.m. on December 16, 1982, Ed and Mary Barnes came over to the greenhouse together. (As part of the firm, Mrs. Barnes has been associated with the interiors of the tower as well as the selection of granite and other decorative materials.) In a low-key way, this was the opening day of what IBM now officially calls the Garden Plaza. It was the first day the Bonwit Teller doors into the garden area were opened—their four show windows were decorated for Christmas. The New York Botanical Garden's Shop in the Garden, tucked into the tower base, was doing a land-office preholiday business. The unveiling of Michael Heizer's sculpture, "*Levitated Mass*," on the plaza outside the Madison Avenue entrance was about to take place. It was raining hard, and water streamed down the glass walls.

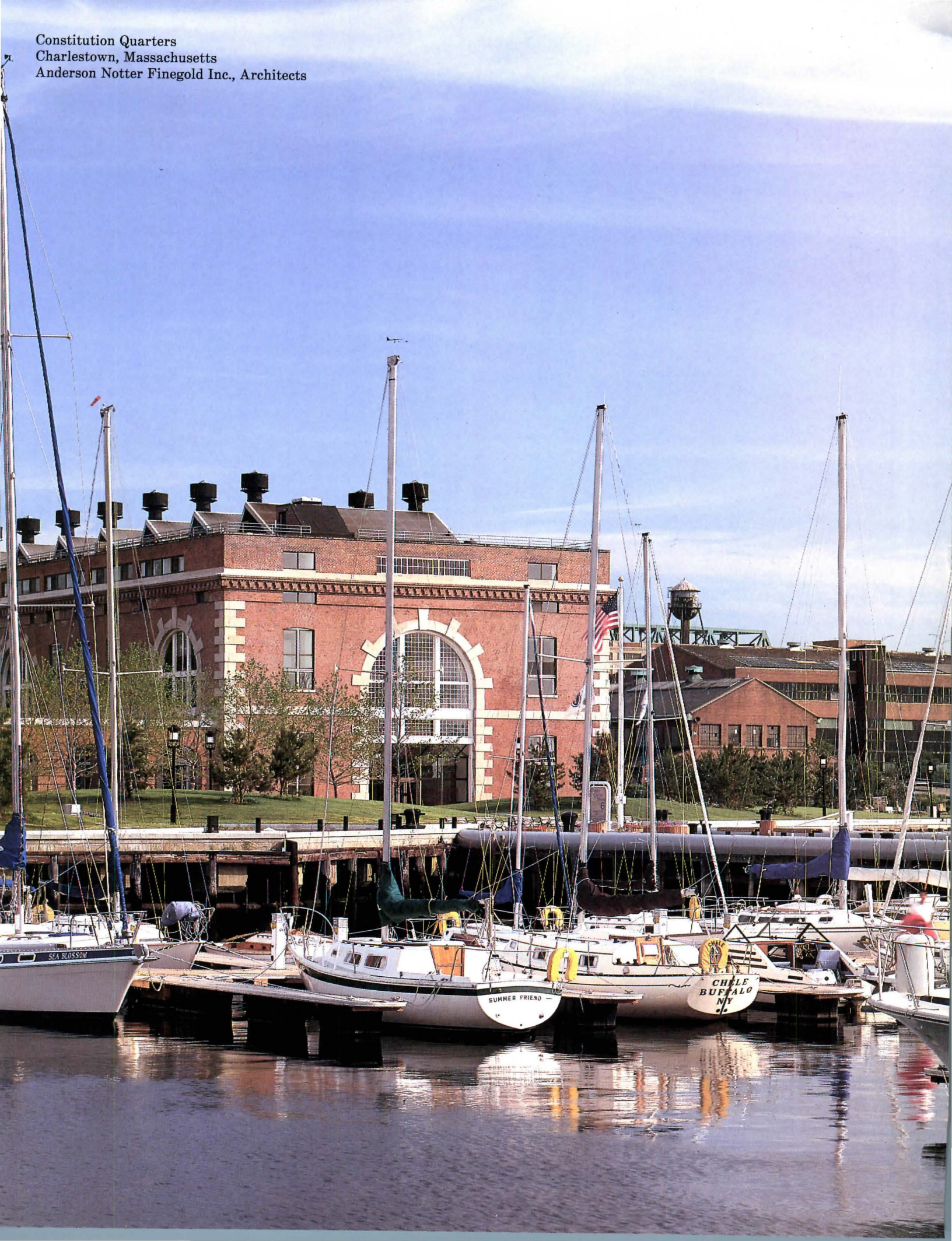
Barnes spoke to me again of his earlier concept for the bamboo, the columns at Karnak, but he was pleased now with the lighter, more airy look, with the bamboo—about 20 trees to a well—resembling a series of church organ pipes. At that moment, a musical entertainment began with the Barnard-Columbia Chorus singing "Angels We Have Heard on High" accompanied by the St. Paul's Chapel Brass Ensemble, and people began to crowd in from the streets to listen. Everything was still except for the music; and when the last note was sounded, it reverberated in the air. Ed Barnes looked surprised and then pleased. He walked over to Mary Barnes. "There's a five-second cathedral echo—the acoustics are wonderful." No one had ever thought about the acoustics. It was good luck.

The weekend before this it had snowed, and I went there alone at dusk on Sunday evening. I remembered that other Sunday evening now long ago when the second truss was raised at the end of the ironworkers' marathon weekend—where were all those men now? This evening the snow glistened on the slanted glass panes of the saw-toothed roof. I felt sheltered and comfortable within, yet I was surrounded by cold gleaming streets streaked with the red and white lights of moving cars, which were also reflected like streamers of light in the mirror-finished stainless-steel laminate ceiling in the tower's main lobby. Suddenly the vastness of the interior and the quiet repose intimated the atmosphere of a great European winter garden—a place in which to be alone and yet feel the pulse of the city.

The same chorus was filing in slowly for rehearsal and quite suddenly struck up a rousing rendition of Giovanni Gabrieli's "Plaudite." As they sang, one word rang out for me above the others. This word says it all for the return of the winter garden to midtown: Alleluia!

A Navy Yard refloated

Constitution Quarters
Charlestown, Massachusetts
Anderson Notter Finegold Inc., Architects



Photion Karas

©Steve Rosenthal photos except as noted

Peter Vanderwarker

Tourists tend to think of the late Charlestown Navy Yard mainly in terms of "Old Ironsides," still moored in Boston Harbor as part of a national park. But between the yard's founding in 1800 and its phasing out in the 1960s and '70s, the institution—100 acres of industry and a major source of employment—came to mean more than a single ship to the residents of Charlestown. Moreover, the departing Navy left behind a great number of sound buildings, all having historical significance and many having esthetic merit.

Working for the Boston Redevelopment Authority, Anderson Notter Finegold as master planners not only pinpointed worthy buildings to be saved and recycled but also formulated a long-range strategy for turning the complex into a neighborhood. The strategy calls initially for housing, to be followed by commercial and cultural development.

Constitution Quarters, designed for a private developer by Anderson Notter Finegold, is the first maneuver to be completed in the strategy—five buildings that used to contain a foundry and machine shop recycled as rental apartments. (The firm has also designed commercial facilities to occupy a neighboring granite building, which faces a city park across the street as part of a designated historic area.)

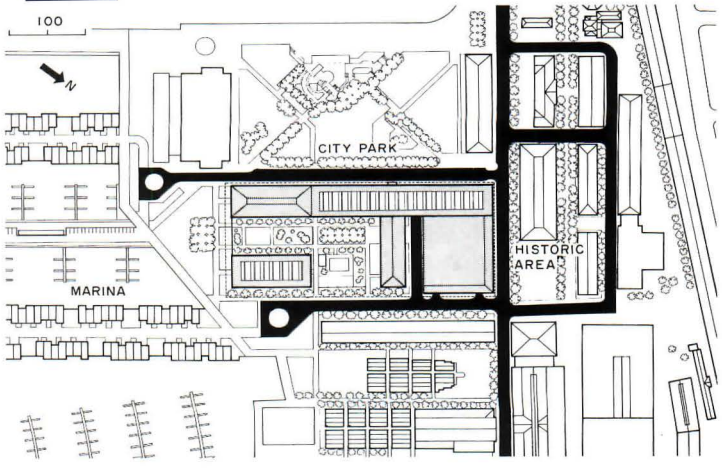
An essential condition of the renovation, clearly, was to preserve as much as possible of the buildings' external character as shown in structures dating from the 1850s and 1940s. These included most notably a pair of neo-Georgian buildings with monumental arches and stone quoins, as well as another with impressive long walls of industrial glazing.

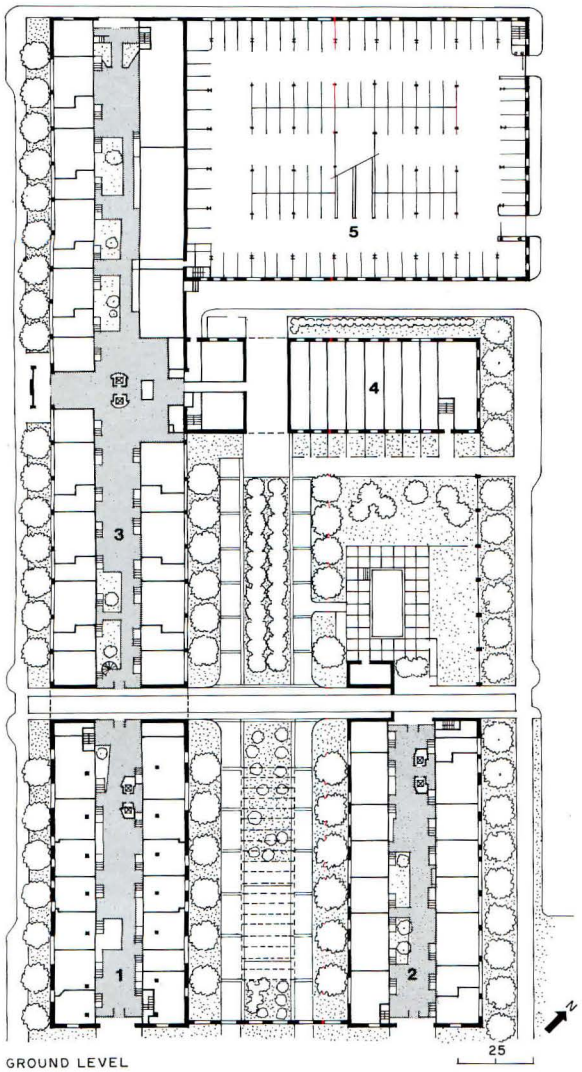
The architects were obliged to pursue two aims at the same time: to preserve at least a memory of the buildings' industrial past and to establish a residential milieu. The major alteration required demolition. During World War I, new plant filled the space between the two brick buildings. Demolition revealed again the inner brick facades with high arches. To remember the earliest version of the buildings, the architects reconstructed a brick arcade that originally connected the buildings, and to remember the middle version, they preserved an industrial steel truss as trellis above the new courtyard (both shown overleaf). While both quoined buildings originally had identical hipped roofs, the Navy had altered one to incorporate sawtooth monitors and ventilator fans, which matched similar devices on top of the long building. The fans have no functional purpose now, but the architects kept them for their strong esthetic form and for their historical reference to the old maritime/industrial precinct.

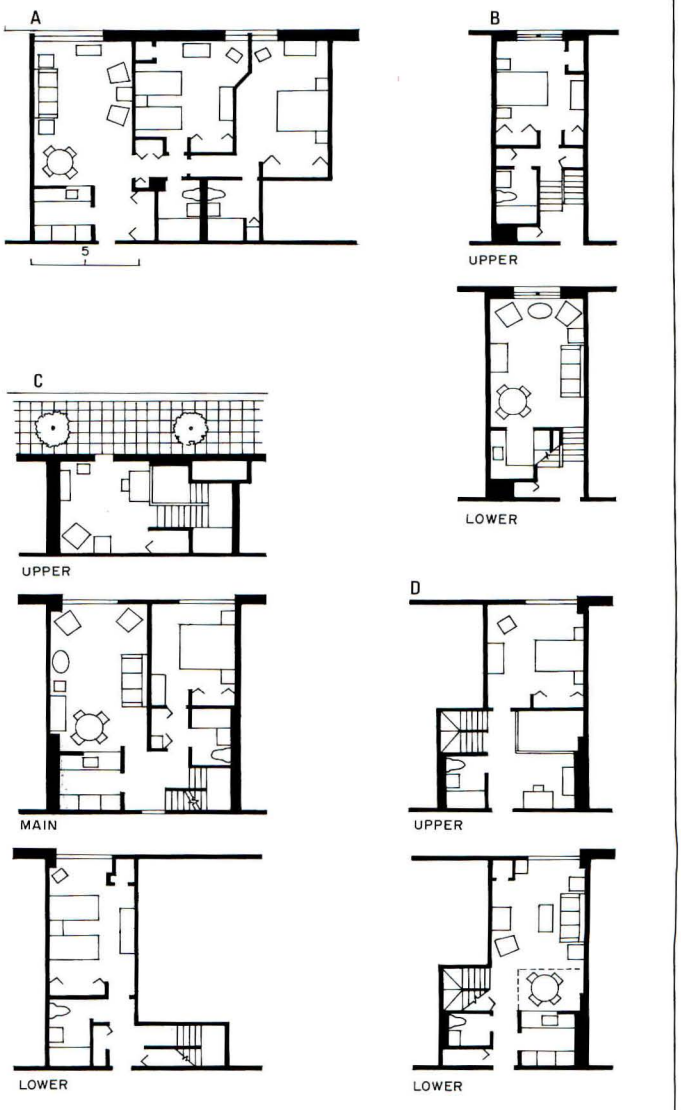
Because Constitution Quarters is literally a background building, its long facade visible from the national park as a backdrop behind the city park, early consideration was given to the restoration of the industrial glazing. The effort proved fruitless, however, since slender mullions could not accommodate the necessary double glazing or hvac ventilation. For the new glass curtain wall, the architects echoed the old proportions, indicating three floors inside although in fact the renovated building has six. The insertion of three extra floors for 367 apartments, including duplexes and triplexes, took structural advantage of the heavy load-bearing capacity offered by the existing buildings.

The most dramatic internal change, however, was to transform the 60-foot-high industrial volume into atriums, one of them almost 700 feet long as it connects two of the buildings. To invest the colossal space with a residential scale, the architects broke it into bays with glass elevators and foot bridges and added stoops to apartments at "street" level. The monitors just go on doing what they've done so well all these years. *Grace Anderson*

The pair of imposing neo-Georgian buildings that overlooks a marina on Boston Harbor (pages 156-157) clearly deserves its listing on the National Register of Historic Places. The complex consists of five old industrial buildings, now converted to four apartment houses and a garage. The apartments form three sides of a landscaped courtyard (below) recovered when industrial construction was removed between the two quoined buildings; one set of steel trusses remains as ornamental trellis. The longest facade of the apartment house, which incorporates two of the former industrial buildings, faces a new city park (opposite top and bottom).



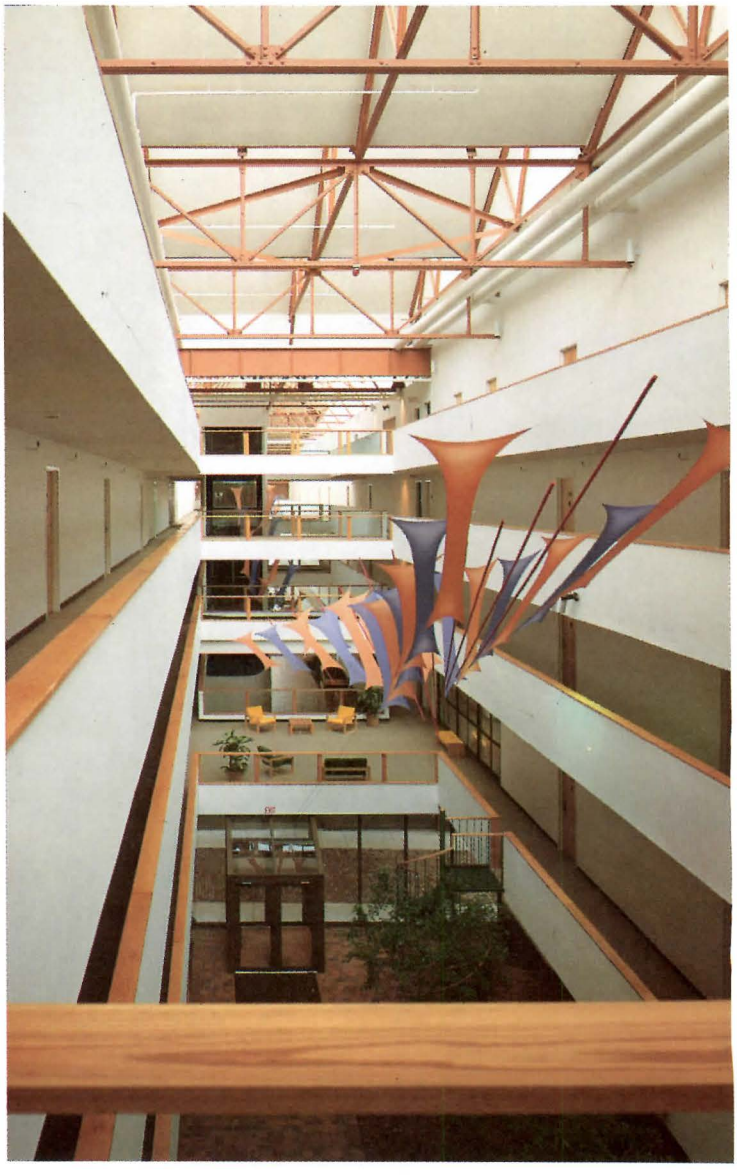




The interiors of all five of the buildings redeveloped as Constitution Quarters differed from each other; even buildings 1 and 2, originally a pair, had different roof configurations. Buildings 1, 2 and 3 gained very large, brightly daylit atriums below their monitors; the open corridors tiered on either side were thrust forward from the old industrial gallery columns. Only Building 4, among the apartment buildings, has a more or less conventional plan, with double-loaded corridors separating perimeter apartments (the ground floor shown on this plan contains bedroom floors that carry across the building in duplex units). Residents at the top of this building get new balconies hollowed out of the roof (see pages 156-157). Building 5 retains its old walls, but was gutted for a steel and concrete plank parking garage. While it would not be accurate to say that each apartment had to be custom-fit to its location, the number of apartment types certainly exceeds the four shown on this page. Types A and B are typical of the simplexes and duplexes found in Buildings 1, 2 and 3. Type C, however, a triplex unit, occurs only at the top of those buildings with sawtooth monitors, where the study has access to the roof. Type D, in Building 4, offers its tenant a bonus study, which FHA, the mortgage guarantor, refused to count as a room because of its unavoidable lack of windows.

The conversion of shops at the Navy Yard preserved some grand views for the new apartments—long, unobstructed vistas of Boston, Charlestown and the harbor. In some apartments, the muscular structure recalls the buildings' historical purpose: at bottom below, a deep transfer girder marks the edge of a former shaft in the entry tower of Building 3. And in the high atriums under monitors, the variously shaped planting beds also recall earlier industrial purpose: they occupy assorted pits excavated to the shapes and sizes of heavy machinery. A local artists' competition produced a number of sculptures and murals for the atriums, including sculptor Mario Kon's fabric banners (below right).

Phokion Karas



Constitution Quarters
Charlestown Navy Yard
Charlestown, Massachusetts
Owner:
Building 42 Associates
Architects:
Anderson Notter Finegold Inc.—George M. Notter, Jr., principal-in-charge; Anthony C. Platt, project architect
Engineers:
Brown, Rona, Inc. (structural); Joseph Schneider, Inc. (mechanical/electrical)
Consultants:
Haley and Aldrich, Inc. (geotechnical); William Cavanaugh and Associates (acoustical)
General contractors:
Sydney/Solimando

Scaling the office landscape

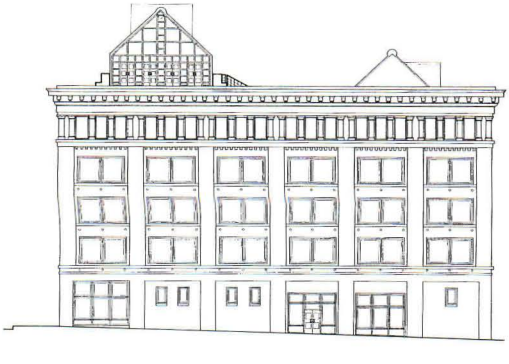
The NBBJ Group Headquarters
Seattle
The NBBJ Group, Architects

Visitors to Seattle seldom complain that the city's seven hills aren't worth the climb, given the scenic prospects they command. Most visitors to the new headquarters of Seattle architects The NBBJ Group feel similarly rewarded by the manmade incline that zigzags up the core of the firm's offices (opposite and right), even if the landscape it surveys is open-plan rather than open-air. The dramatic five-story skylighted staircase is only the most obvious component in NBBJ's $2-million remodeling of an 80-year-old warehouse in Seattle's historic Pioneer Square district. To passers-by, meticulously restored facades belie the extensive transformation carried out within the 65,000-square-foot interior to accommodate a 235-person staff. Except for the discreet addition of a new entry vestibule, solar-tinted window panes, the skylight, and a roof-top greenhouse, the turn-of-the-century exterior stands virtually intact (sandstone walls were acid-cleaned and altered fenestration restored).

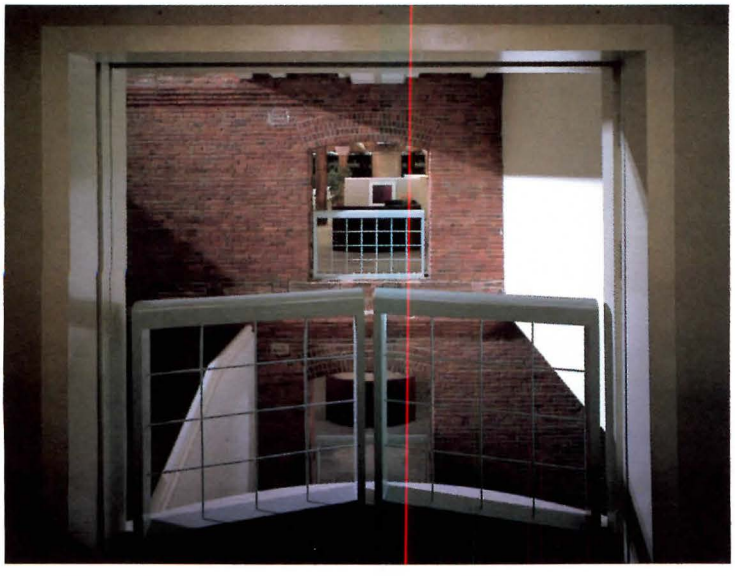
NBBJ's previous headquarters "uptown" was a low-rise International Style pavilion designed by the firm in the 1940s. It was a classic building of its era, but as NBBJ prospered and grew, the old headquarters became woefully cramped. A series of extensions was tacked on over the years, and by 1980 personnel were scattered among three locations. Staff communications suffered, and the odd conglomeration of physical surroundings hardly conveyed the image of "sophistication" and "corporate yet humane architecture" that NBBJ sought to project.

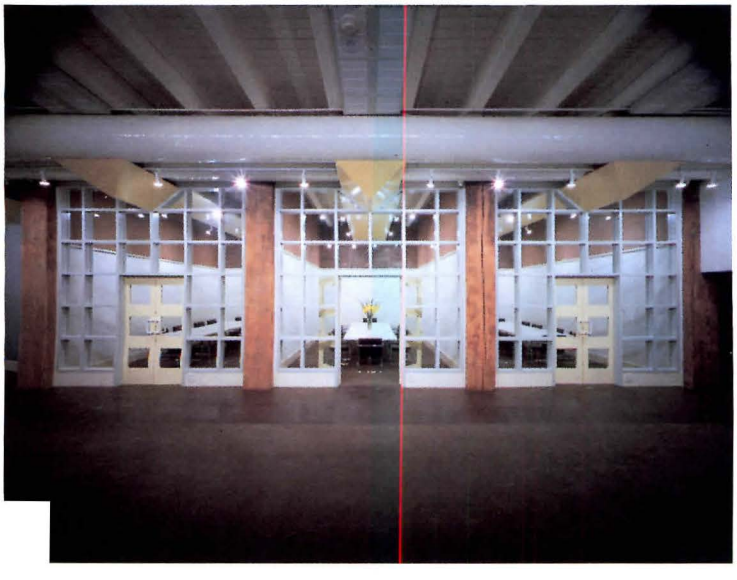
The warehouse they found downtown was more than large enough to house the entire firm, and the regular bays of the 1904 wood-frame structure proved eminently adaptable to diverse functional requirements (plans overleaf, section page 167). To define conference rooms and other specific program spaces, NBBJ deployed crisply painted partitions, keyed into the exposed shell of timbers and brick bearing walls but contrasting with their rugged surfaces. Open work areas serve the changing needs of 15- to 20-person design teams and support groups. This multilevel layout also comprises a basement gym and locker room, street-level retail shops, and a lunchroom-cum-meeting-place in the penthouse (photos pages 166-167). The unifying focus for the entire complex is the grand stairway, whose diagonal course honors and enriches the extant bay structure. More than a compelling symbol of organizational community, the stairway also reminds clients that when skillful architects don't find a spectacular view in place, they can build one. *Douglas Brenner*

©Dick Busher photos

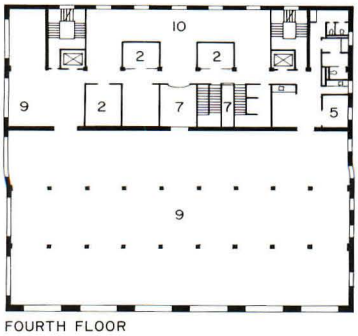


Despite the dazzling virtuosity of the stairway and the picturesque counterpoint of textures and colors, both the parti and details of NBBJ's headquarters are governed by pragmatic concerns as well as by esthetics. Shallow balconies not only reinforce the visual connection of the central stairwell to adjoining spaces (photo upper left), but encourage communication among offices on all floors. As channels in the jambs and lintels of the balcony apertures indicate, all openings onto the central shaft are fitted with sliding fire shutters. Sprinklers and other fire-protection devices are installed in furred compartments between the central purlins of each bay. The furred interstices also house branch-line feeder supplies and returns attached to exposed trunk lines that flank the shear wall. Air handlers permit floor-by-floor control of air distribution from a roof-mounted chiller. Other energy-saving devices include an economizer cycle and night setback for air conditioning and an automatic sunshade for the stairway skylight. Sensitive to solar intensity, the shade can screen out as much as 80 per cent of radiation. Fortuitously, the stairwell acts as a seasonal chronometer. During the spring and fall equinoxes, sunbeams strike the lobby floor, rising up the stairs toward the summer solstice and across the ceiling during the winter. Within the open offices, task lighting is built into movable furniture systems, which are also acoustically effective. Exposed purlins help to interrupt sound transmission across the ceiling, and fiberglass batts laid into every four-purlin bay absorb noise.

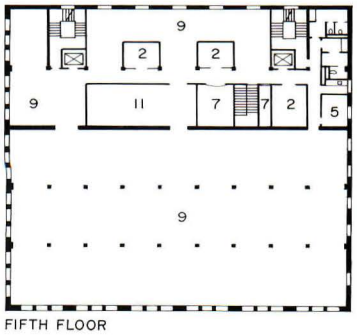




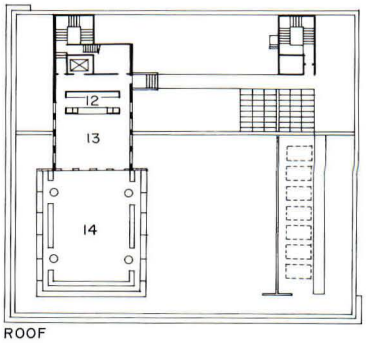
Conference rooms on each of the five main floors offer more private alternatives to open work areas, whether for casual retreats from the office landscape (opposite right), or for scheduled meetings and presentations. Varied dimensions and degrees of enclosure provide a choice of environments—ranging from the 416-square-foot conference room behind a niche off the ground-floor lobby (below), to smaller "storefront" meeting spaces alongside an in-house exhibition gallery (opposite lower left). The most sought-after conference room is on the fifth floor, beneath the skylight at the head of the stairs. Diagonals, stepped profiles, and gables echo the configuration of the focal stairway as well as the silhouette of the penthouse pavilion (inverted gable forms in the conference rooms house circular air-return ducts). As throughout the building, grid patterns link modern inserts to the proportional scheme of the 1904 warehouse structure, though the juxtaposition of sleek painted surfaces against the patina of time-worn wood and brick heightens the contrast between new and old. Besides the introduction of fire stairs, elevators, and direct access for the handicapped, the existing fabric was brought up to seismic standards. Improvements include steel beams between purlins and a new plywood diaphragm for each floor, strapped to the exterior walls by bolts with neoclassical rosette-patterned heads.



FOURTH FLOOR

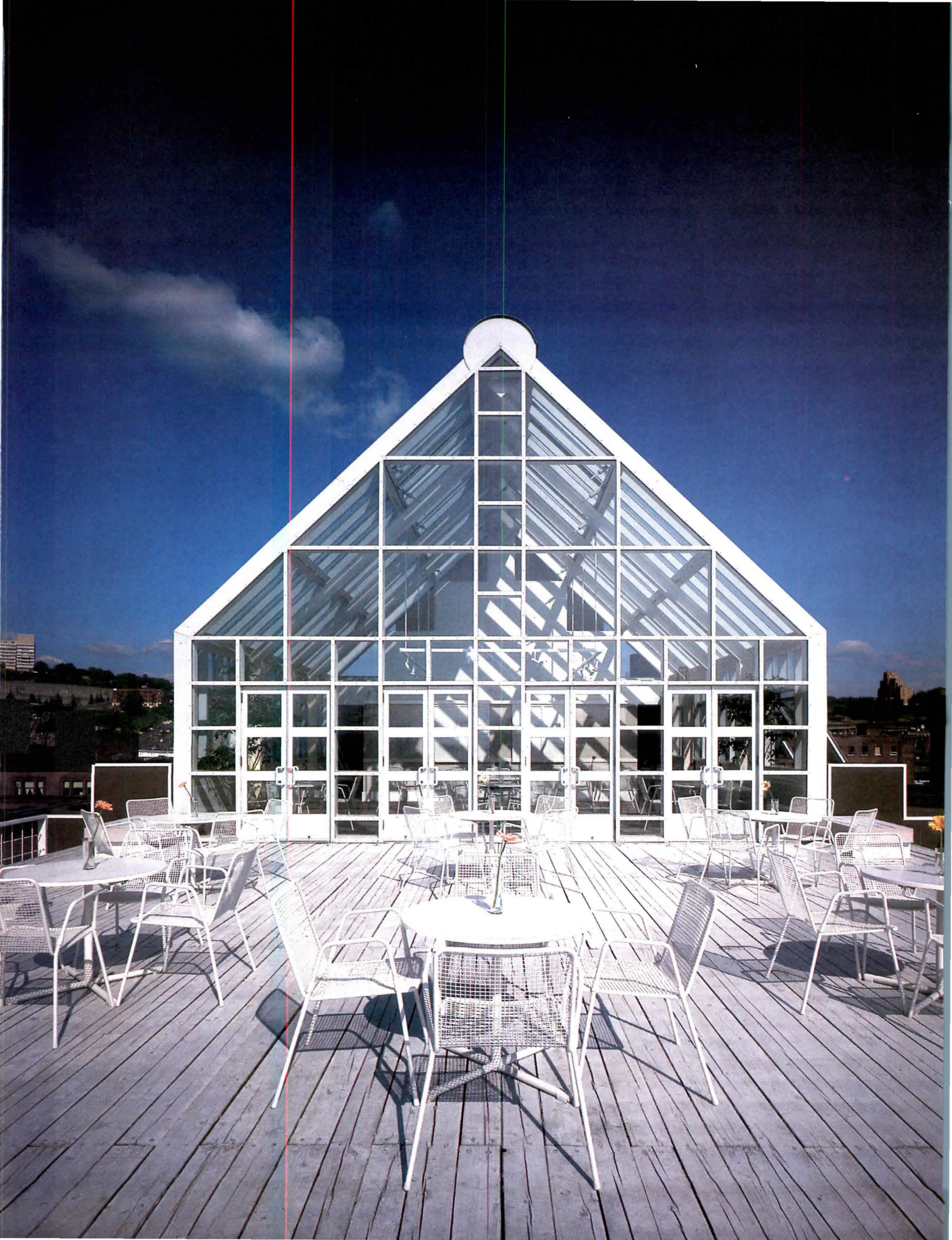


FIFTH FLOOR



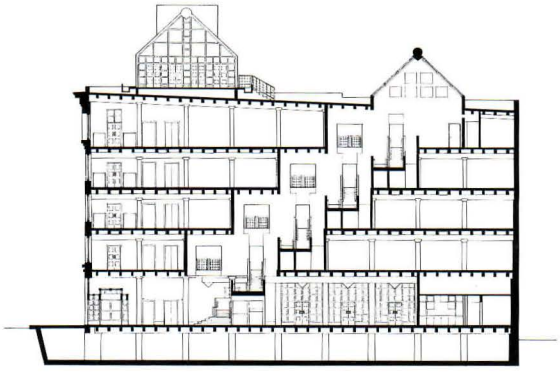
ROOF

1. *Waiting*
2. *Conference*
3. *Reception*
4. *Gallery/display*
5. *Hvac*
6. *Business Space Design (interiors)*
7. *Open*
8. *Computer*
9. *Work area*
10. *Library*
11. *Technical library*
12. *Kitchen and vending*
13. *Lunch room*
14. *Deck*

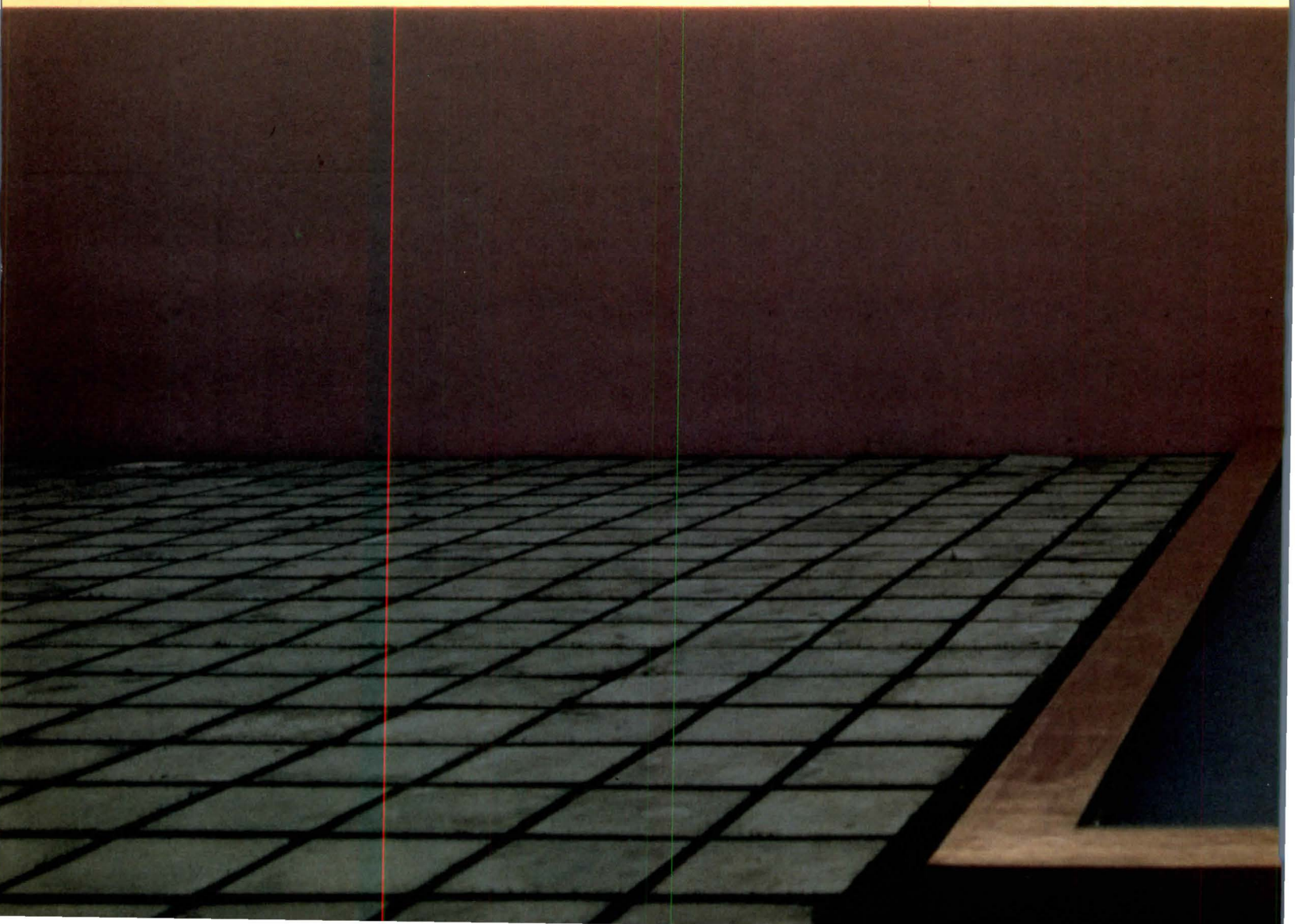


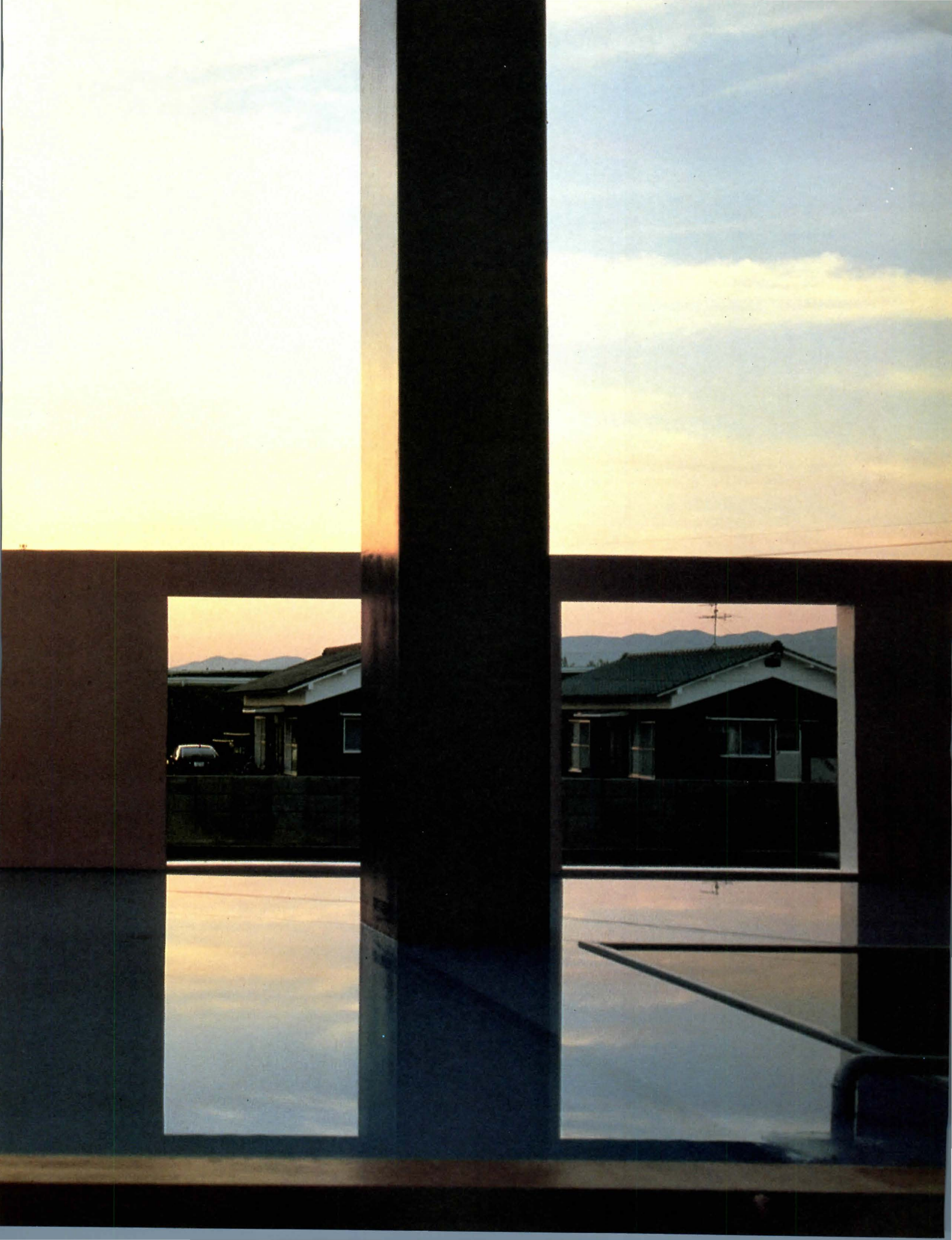
The NBBJ Group Headquarters
Seattle
Owner:
South Jackson Street Associates
Architects:
The NBBJ Group—Stuart Charles, principal-in-charge; Dennis Forsyth, project manager; Mark Helenius, technical architect; Patrick James, designer; Rysia Nowaczyk-Suchecka, interior designer
Interior design:
Business Space Design
Structural engineers:
Ratti/Fossatti Associates
Contractors:
J.M. Rafn Company (general); Air-Con, Inc. (hvac); Phoenix Mechanical (plumbing/sprinkler); Collins Electric Co. (electrical)
Custom furniture:
Tallahan/Loop Corporation

The glazed penthouse opens onto a deck with views of Puget Sound and the Olympic Mountains. This airy belvedere is a lunchroom and all-purpose getaway from the offices by day, and a starlit pavilion for parties and receptions at night. Entirely solar-heated throughout the winter, the greenhouse is naturally ventilated during the warmer seasons. Windows at the peak are electronically operable. Landscape plans for the deck comprise potted trees, a hedge rooted in planters, and an ivy-clad Corinthian capital brought from the garden of NBBJ's former office uptown.



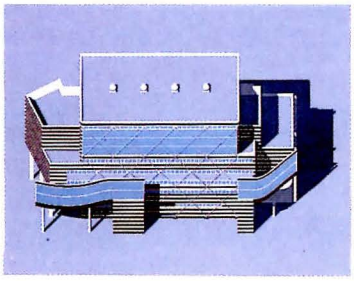
Isozaki's innovations

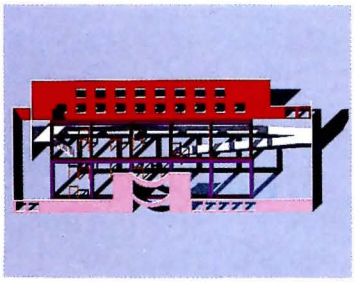


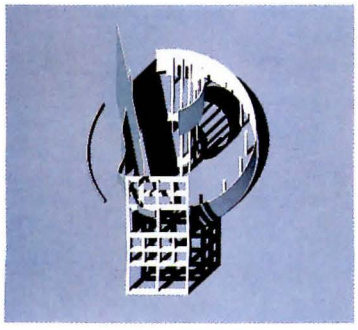


The recent work of Arata Isozaki: Part II

By Martin Filler







Three silkscreen prints by Arata Isozaki representing (from top to bottom) Nippon Electric Glass Co., Ltd. Employees' Service Facilities, 1978-80; Etoh Clinic, 1980-81; Kamioka Town Hall, 1976-78. Photo, opposite: Interior of the hall at Waseda Sho-Gekijo Toga Sanbo Theater, 1980-82. Preceding pages: Etoh Clinic.

The completion of a significant body of new work by a major architect is an important event, giving us the opportunity to determine a sense of direction not so readily discernible when we look at the majority of individual buildings. This is particularly true in the case of the architectural avant-garde, which tends to influence the profession as a whole far out of proportion to the small number of commissions that innovative architects are given the chance to carry out. The conclusion of a major phase in the career of Arata Isozaki therefore provides an appropriate juncture at which to re-assess his contribution, which is now generating the kind of worldwide attention reserved for the most distinguished of practitioners. On the basis of the evidence provided by several of his major new projects, seen on the following pages, it seems clear that such interest is indeed well-founded, for this is architectural design of surpassing excellence, and is particularly encouraging coming as it does at a moment of real doubt and apparent confusion about where architecture ought to be going next.

This is not to say that this star out of the east has the stylistic answer that a large part of the architectural world seems to be waiting for. Far from it, for Isozaki's latest output is perhaps most noteworthy for its exceptionally heterogeneous nature. His range is enormous, including the rough-hewn Japanese vernacular as well as sleek international high-tech, and can be strictly utilitarian or lyrically poetic by turns. Even as uncharacteristic a departure as his postmodern Tsukuba Civic Center (RECORD, October 1983, pages 124-137) is unlikely to become the basis for a wholesale reorientation of Isozaki's concerns: he has revived and set aside a number of themes over the course of his 20 years as an independent architect, but a radical and absolute shift in values (in the manner of Michael Graves, for example) would be unthinkable for him.

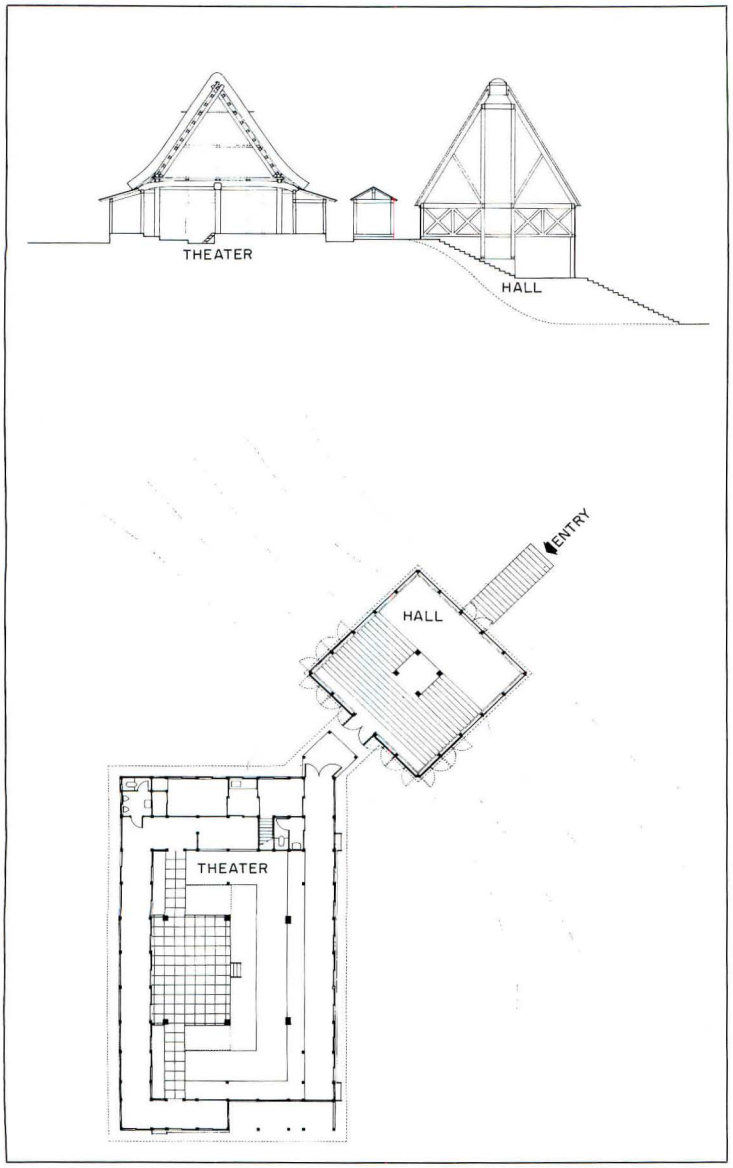
Still, for all his protean attributes, Isozaki is no chameleon, and his best buildings, no matter how various their modes of expression, could have been designed by him alone. The shared qualities that unite them include an unerring clarity of conception, a willingness to experiment, an acute sense of knowing just how far to go with architectural play, and a kind of tough elegance that prevents even his most alluring designs from appearing superficial. Above all, his architecture embraces a vast compass of cultural experience, and Isozaki's ability to transmit that sense of a true world-view gives his work the authenticity and expressiveness so obviously lacking in the vast majority of current architecture now being presented as alternatives to the conventions of the modernist establishment.

Just as he would not indulge in the unimaginative borrowings that pass for invention in some quarters of the profession today, neither can we extract an easily applicable formula for success from Isozaki's latest buildings. They are about learning rather than memorizing, seeing rather than looking, and creating rather than copying. As such they invite the kind of close scrutiny that only the best architecture can withstand, and implicitly they challenge us to respond, intellectually as well as experientially, on the high level they occupy in the architecture of our time.

Martin Filler is editor of House & Garden *and frequently writes criticism on architecture and design. Last May he traveled to Japan to see the architecture of Arata Isozaki, and his* House & Garden *profile of the architect and his work appeared in the October 1983 issue. The first part of* RECORD*'s two-part article appeared last October as well.*

Waseda Sho-Gekijo Toga Sanbo Theater
Toga Mura, Toyama Prefecture, Japan
Arata Isozaki & Associates, Architects

Traditional structure as cultural link

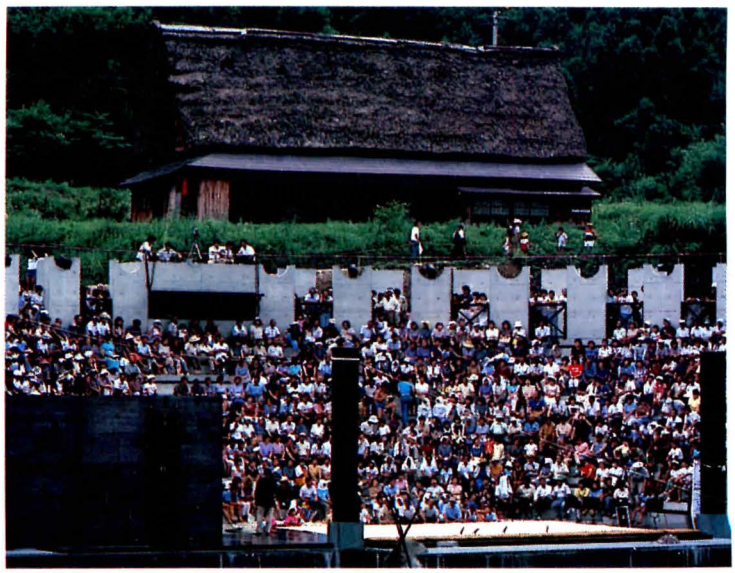


Taking his cue from the characteristic forms of traditional Japanese A-frame farmhouses, Isozaki gave the roof of his new hall structure (section top right) the identical pitch of that of the 19th-century farmhouse (section top left) that holds the indoor theater. The hall, set at a 45-degree angle to the old farmhouse (plan above), is both a vestibule and a theater for smaller performances and lectures, with its aedicular platform (preceding page) used as stage and its 17 wooden steps as bleacher seating. For larger audiences, there is a 600-seat reinforced concrete amphitheater (right) on the hillside below a second traditional A-frame, which serves as a dormitory for the theatrical company.

On New Year's Day, Arata Isozaki dons a kimono and pays ritual visits to religious shrines in the age-old custom of his countrymen, which is to say that this most contemporary and cosmopolitan of artists is concerned with preserving a connection to the ancient observances of his society. In fact, there have been strong undercurrents of traditional Japanese attitudes, both social and architectural, in most of Isozaki's works, but their deceptively modern appearances tend to obscure that important aspect. In one recent commission, however, the impetus to provide a strongly indigenous scheme brought forth what is certainly his most specifically traditional design to date. The architect was asked to renovate a Meiji-period farmhouse in the Japan Alps, a hundred miles northwest of Tokyo, for the Waseda Sho-Gekijo theatrical company. The troupe had been using the 100-year-old A-frame (or *gassho-zukuri*) for an annual performance, but the event attracted so many visitors to the remote village of Toga that the festival was established as a permanent one.

Isozaki was eager to retain the venerable character of the old building, mindful of "the accumulation of experience and familiarity that imbues the wooden surfaces of the farmhouse theater with an aura of humanity." He achieved that beautifully, and also introduced an aluminum stage floor that is remarkably sympathetic and, less astonishingly, quite theatrically effective. Isozaki's major contribution to the ensemble—which also includes a second old farm building for the actors' sleeping quarters—is a small vestibule structure through which the converted farmhouse theater is entered. Though its roof is four-sided rather than an A-frame, it is at exactly the same angle as those of the two old buildings that flank it. This evocative shelter can also accommodate intimate theatrical offerings too small for the farmhouse stage or the amphitheater that Isozaki designed for the lowest part of the steeply sloping site. Both old and new elements fit together with a seamless ease not often found in Japan today, where the conflict between tradition and innovation is more apparent than its resolution in all too many recent building complexes.

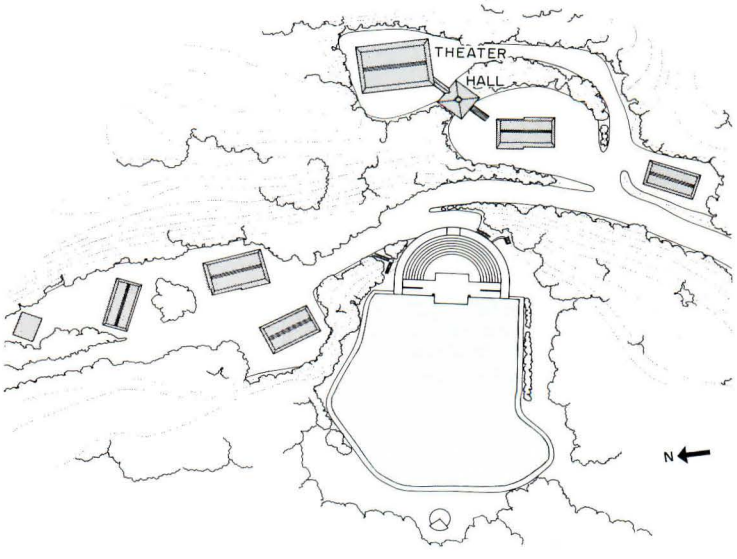
Isozaki's ability to reconcile history with modernity, in terms of his own culture, is a promising indication of his ability to provide equally fitting solutions on an international scope as well. His kimono is a source of spiritual renewal, not a sign of stylistic return.



Katsuaki Furudate photos

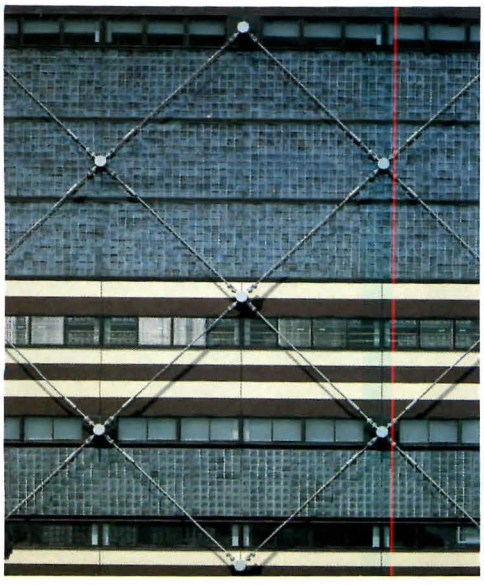
The two thatch-roofed buildings (below) for the theater at left and dormitory at right are given a lively but respectful contrast by the new copper-shingled hall between them. The interior of the theater (bottom left) is a superb example of traditional Japanese timber construction, which Isozaki evokes in the interior of his hall (preceding page). The new aluminum flooring of the theater's stage (bottom left) was suggested by the troupe's director, who had seen Isozaki's similarly modified Noh stage in the architect's 1978-80 exhibition, MA: Space-Time in Japan. *The site plan of the complex (bottom right) shows the amphitheater facing a natural pond, which is often incorporated into performances and extends the range of theatrical effects available to the company.*

Waseda Sho-Gekijo Toga Sanbo Theater
Toga Mura, Toyama Prefecture, Japan
Owner:
Waseda Sho-Gekijo; Tadashi Suzuki, director
Architects:
Arata Isozaki & Associates (basic design); Arata Isozaki, Tadashi Murai (theater); Arata Isozaki, Suichi Fujie, Hideo Matsu-ura (amphitheater); Sō Architectural Design Office (theater detailed design)—Suguru Yamazaki
Engineers:
N. Inoue Structural Design Office (structural); Soei Design Office (mechanical)
General contractor:
Nohara-Gumi and Takakuwa Komuten Co., Ltd.



Nippon Electric Glass Co., Ltd.,
Employees' Service Facilities
Otsu, Shiga Prefecture, Japan
Arata Isozaki & Associates, Architects

Innovative materials as industrial display



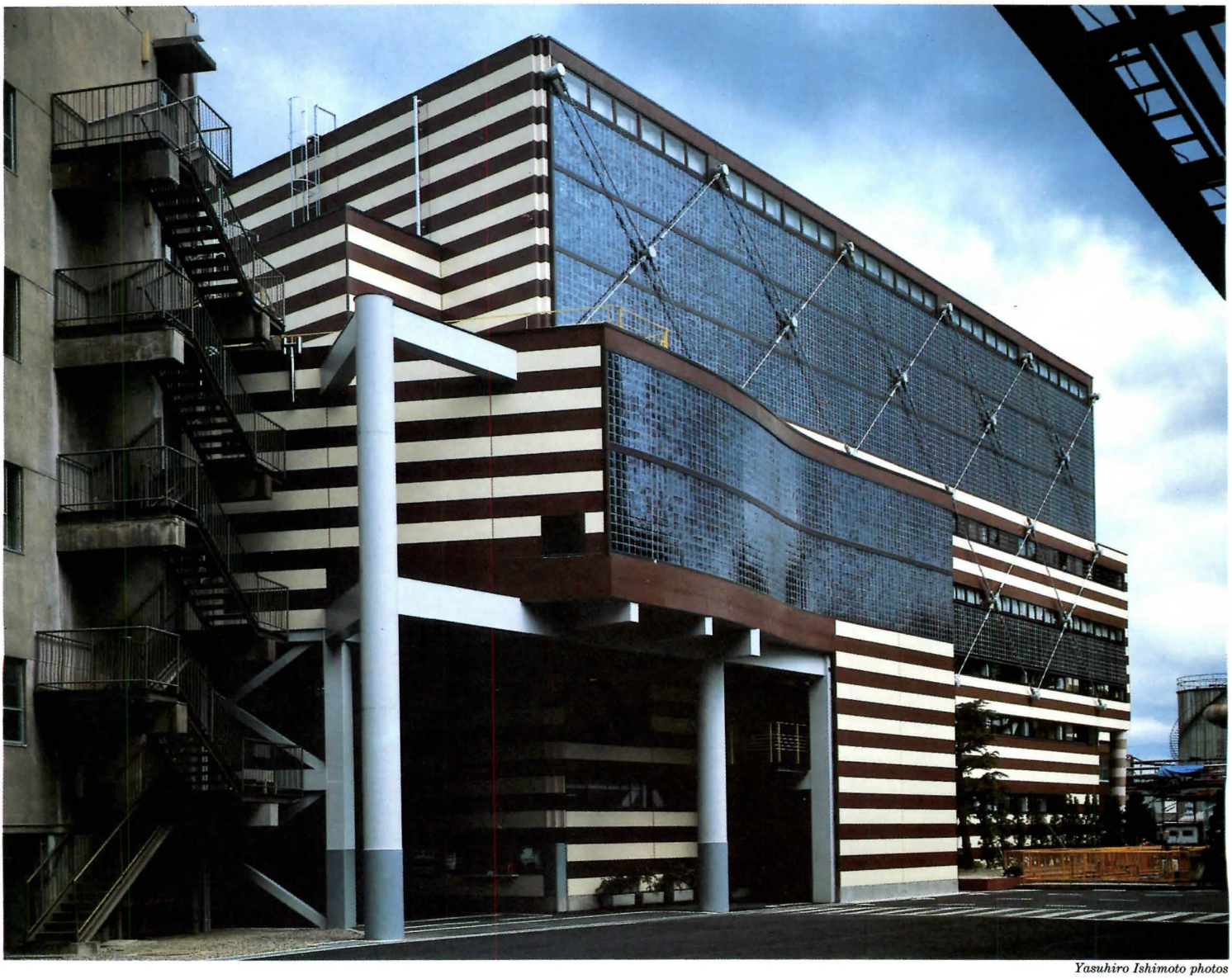
The exterior of the building acts as a brilliant billboard for two new products developed by the client: metal-oxide-coated solar-reflective glass-block (top) and Neopariés, *a crystallized-glass cladding material, seen on the column and surfaces adjacent to the main entrance (above). The wall to the left of the entrance and the remainder of the structure's striped exteriors are painted asbestos extrusion panels. The diagonal bracing ties (top and right) minimize wind loads and serve as protection against earthquakes, but also have been an emblem of modernity in Japanese architecture since the 19th century. The east facade (right) forms a strong outer edge for the complex. Behind the glass-block upper portion is the employees' gymansium (overleaf).*

Although a number of important ideas and motifs appear time and again in the work of Arata Isozaki, he is also an architect who frequently explores previously unexamined concepts and new stylistic approaches in his designs. Thus, although he does not, in the words of Mies, try to invent a new architecture every Monday morning, he has nonetheless produced a corpus of work noteworthy for its diversity, especially for an artist of the avant-garde, which in recent years has been inclined to favor the consistent development of a limited number of ideas that are internally consistent, if not wholly self-referential.

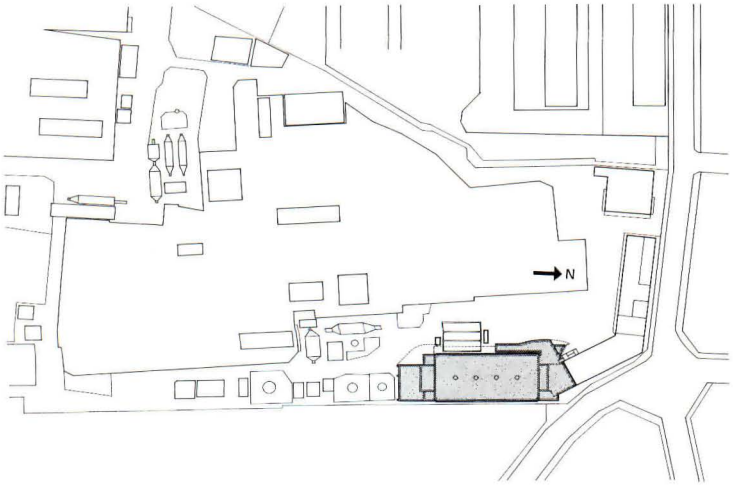
An excellent endorsement of Isozaki's inclination toward new modes is his Employees' Service Facility for the Nippon Electric Glass Company in Otsu, just east of Kyoto. It is quite unlike any of his other designs before or since. Its boldly polychromed exteriors are a most unusual departure for an architect whose buildings invariably have neutral-toned surfaces, no matter how minimal or maximal their articulation. The exuberance with which he deploys structural elements such as the diagonal bracing ties, and the confidence of his handling of surface materials—especially the reflective glass block and crystallized-glass paneling that are two major innovations of Nippon Electric Glass—demonstrate an expansive sensibility perfectly in concert with that of Japanese industry, which is largely untrammeled by the lack of foresight and imagination that plague the post-technological nations of the West. Despite the fact that its program is based on providing amenities for the firm's personnel rather than actual manufacturing, this building is worthy of standing with the best of 20th-century industrial designs, from Peter Behrens's AEG factory to Gropius and Meyer's Fagus factory to Brinkman and van der Vlugt's Van Nelle factory to Albert Kahn's Ford plants on the River Rouge.

Does the shift of dominance in a given building type from one country to another reveal trends of larger significance? Almost certainly, but one need not learn for the first time of the daring of Japanese industry by looking at this building. Still, it is a convincing indication that especially in the realm of this client's products, there is a keen understanding that good design means good business, and that exceptional architecture is an exceptionally desirable advertisement. Isozaki's admirable and appropriate design is clearly expressive of boldness without bombast, of optimism without false hopes. This is architectural image-making at its most appealing.

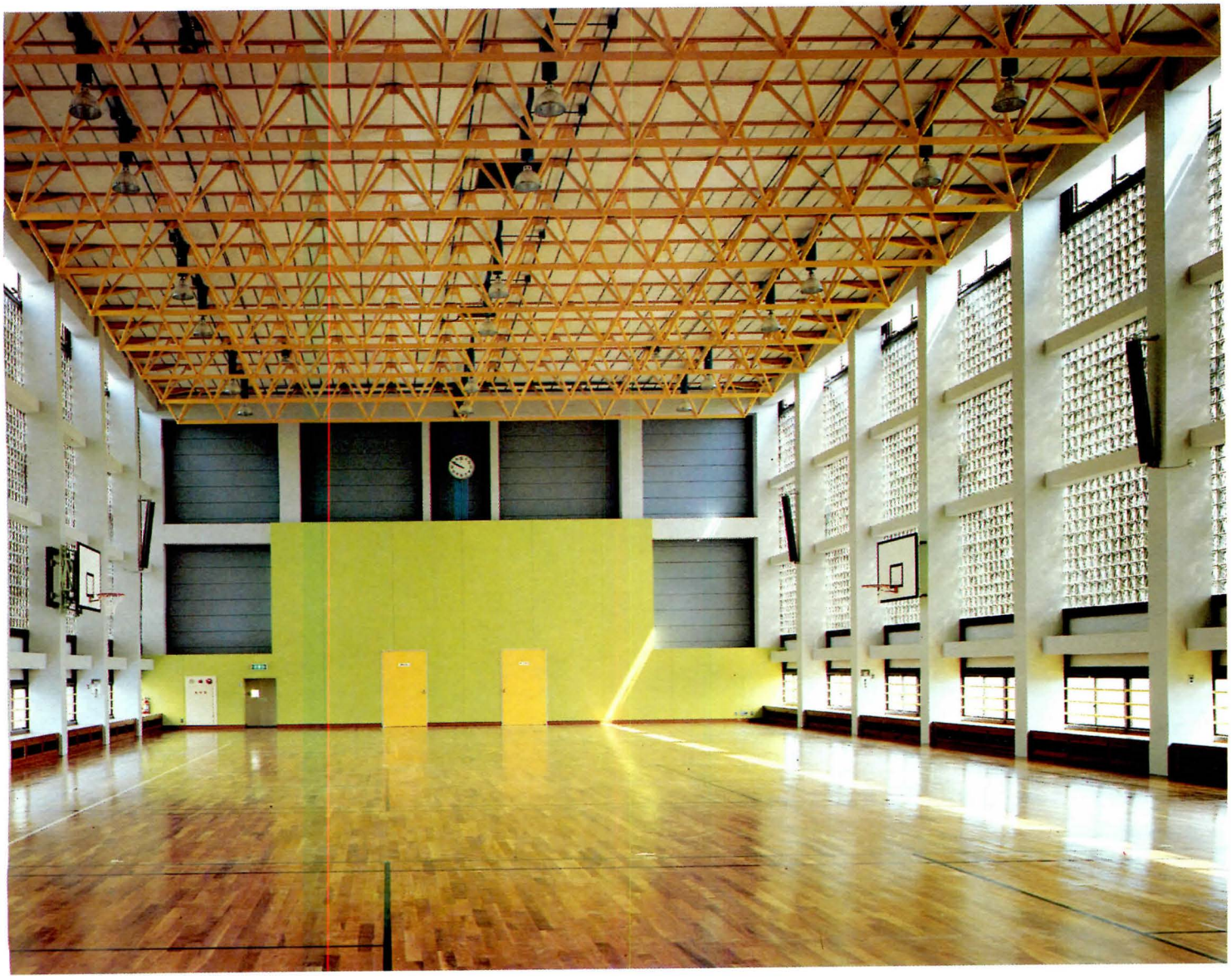
The west facade of the employees' service building (below) is crowded by existing structures and overlooks a courtyard used for loading. The degree to which it is nevertheless able to establish its own strong presence by the vigorous character of its massing and polychrome finishes is an index of its success amidst particularly challenging surroundings. The curving glass-block wall (which screens the visitors' dining room behind it) is a recurrent Isozaki motif, and has reappeared most recently in his Tsukuba Civic Center (RECORD, October 1984). The site plan (bottom) indicates the closure this scheme gives to the existing structures, which include office, factory, and storage buildings.

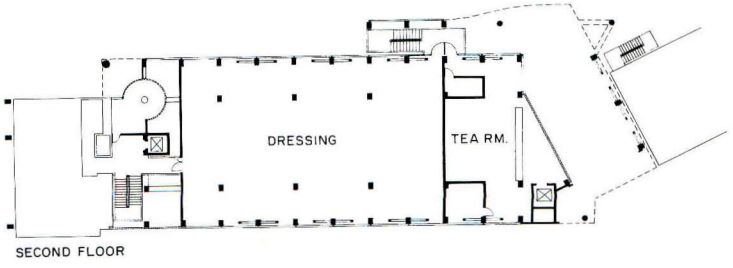


Yasuhiro Ishimoto photos

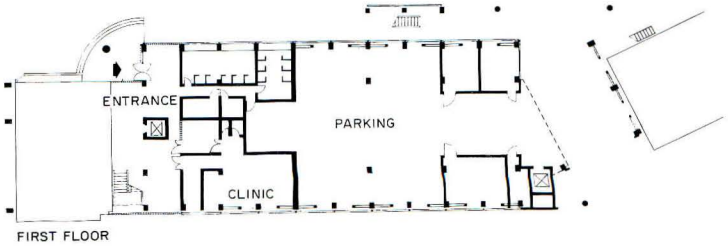


On the top floor is the simple but handsome gymnasium, typical of Isozaki's straightforward approach to utilitarian interiors and similar to those of his West Japan General Exhibition Center of 1975-77 in Kitakyushu. Here, the glass-block wall at right faces east and the wall opposite it west; though the material and orientation make artificial illumination largely unnecessary, they also contribute to a significant heat build-up, one of the building's few functional flaws. Other employee facilities in the four-story structure (plans bottom) include a cafeteria, infirmary, lounges, locker rooms and a company store.





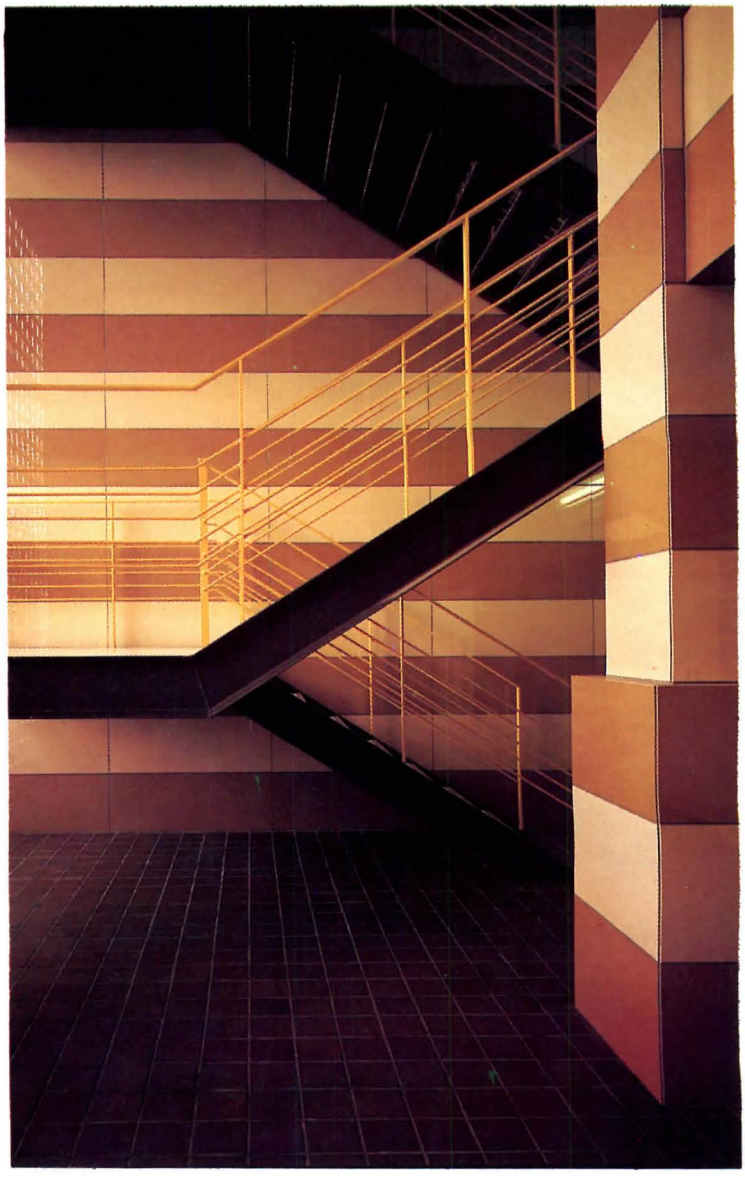
SECOND FLOOR

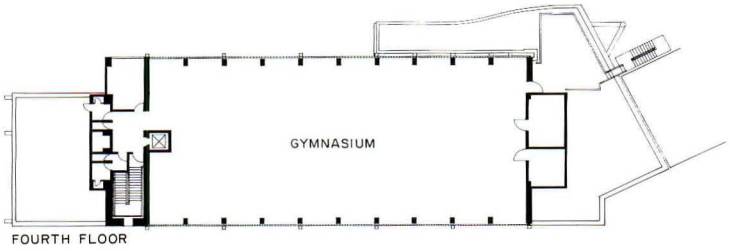


FIRST FLOOR

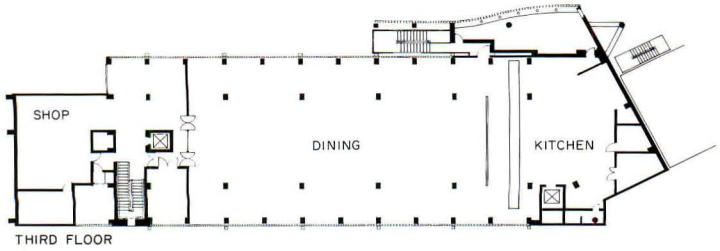
The company's Neopariés *crystallized-glass paneling is used to great effect on the building's interior, in bands of brown and beige on the ground-floor level of the main stairwell (below right) and stripes of gray and white in the visitors' dining room on the third floor (below left). There, behind the undulating glass-block wall of the west facade, Isozaki makes a visual jest similar to one in the lobby of his Nova Hall at Tsukuba Civic Center, where he gave a granite column an obviously nonloadbearing light fixture for its capital. In the dining room, the rusticated "quoins" at the near and far right are illuminated translucent glass panels, playfully dematerializing the implied weightiness of the wall surface, which has a subtly stippled pattern reminiscent of polished granite.*

Nippon Electric Glass Co., Ltd. Employees' Service Facilities
Otsu, Shiga Prefecture, Japan
Owner:
Nippon Electric Glass Co., Ltd.
Architects:
Arata Isozaki & Associates—Arata Isozaki, Shuichi Fujie, Hideo Matso-ura
Engineers:
Kawaguchi and Engineers (structural); Yoshida Design Studio and Go Design Studio (mechanical)
General contractor:
Kajima Corporation

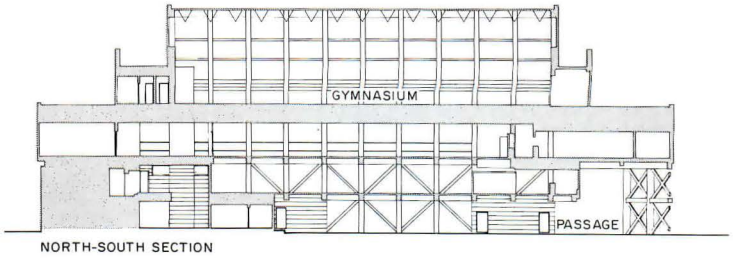




FOURTH FLOOR



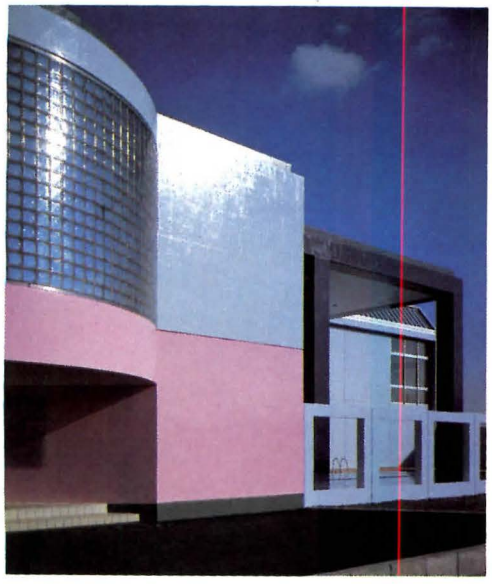
THIRD FLOOR

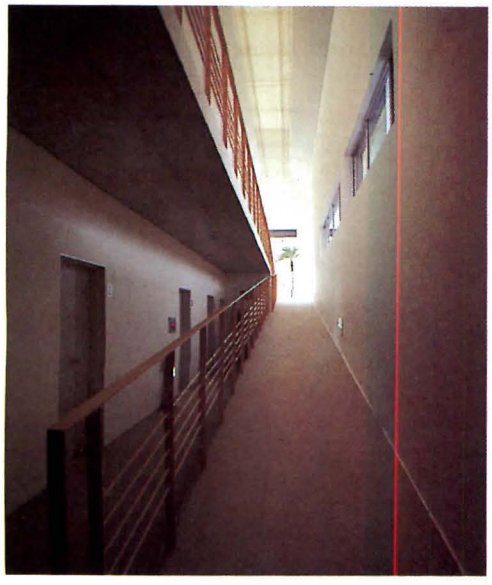


NORTH-SOUTH SECTION

Etoh Clinic
Kitsuki, Oita Prefecture, Japan
Arata Isozaki & Associates, Architects

Serene spaces as physical metaphor





The Etoh Clinic's striking juxtaposition of volume and dematerialization is announced on the west facade (top), where the geometric mass of the entry area at left contrasts with the more schematic containment of space posed by the screen and aedicule at right. That canopy and pierced wall define the therapy-pool area (pages 168-169), which is very similar in feeling to the minimalist courtyards of Luis Barragán. Illuminated at night (right), the solid and transparent portions of this intricate composition are most readily apparent. A ramp (above) extending from the center of the clinic to the southernmost end of the structure connects the first and second floors without steps. There is a stairway on the opposite end of the building.

In and around the city of Oita on Japan's southernmost major island of Kyushu, Arata Isozaki is still regarded as a local architect. Even though he has long since left his native city for Tokyo and an international career, his five earliest buildings are in Oita, and he has subsequently seen six more constructed there, amounting all told to more than a third of his executed work to date. The newest is the Etoh Clinic, an obstetric/gynecological office and lying-in hospital in the countryside across Beppu Bay from Isozaki's home town.

The very idea of such a specialized health-care facility in rural Japan is unusual to begin with, and the lack of a traditional local precedent for this building type inspired fresh thinking on the part of the client. Dr. Kozo Etoh, who liked the spaces in Isozaki's Oita Medical Hall of 1959-60, wanted a building that seemed more like a comfortable hotel than a hospital, with an atmosphere of beauty and repose not generally found in most medical institutions. Isozaki responded to his client's vision by designing one of his most engaging buildings, which skillfully combines esthetic pleasure and functional efficiency.

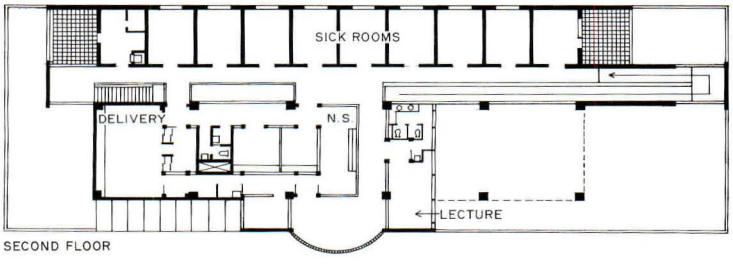
The architect's organizational parti was simple: the reception, waiting, examination, and operating rooms were all placed in a compact, rectangular two-story block at the front, with offices and patient's rooms in a long, narrow two-story wing at the rear; the two parts are connected by a central, sky-lit circulation spine extending the full length of the building. On the exterior, each segment of the tripartite scheme is given distinctive coloristic emphasis: the entry and treatment structure is painted pink, the spine white, and the east facade of the office-dormitory wing red. But despite its formal and tonal variety, the scheme as a whole has a remarkable coherence, stemming from Isozaki's fine eye for proportion and composition.

Even though the Etoh Clinic is quite unlike the buildings its patients are most familiar with, it nevertheless is able to convey simply and eloquently that it is a place they can come to with a feeling of confidence. In this case, the success of the architect-client relationship is a metaphor for the success of the physician-patient relationship as well. That alone is a considerable achievement, for medicine as well as architecture. Psychological responses to the physical are crucial in each, and that was understood and addressed with great sensitivity by both doctor and designer. That is what makes the Etoh Clinic a contribution to its community far more important than its intriguing design.

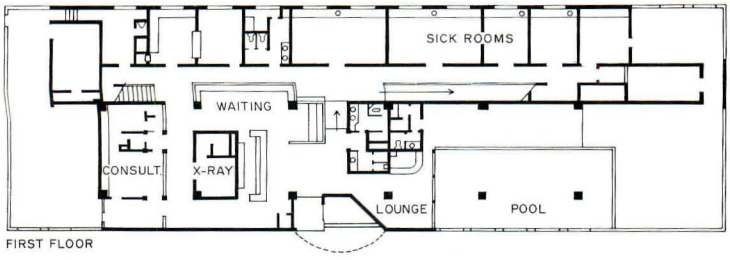
The central spine that runs through the structure (below, and plans, bottom) also extends past the freestanding, red-painted east facade, further emphasizing the impression of layering. The white-bordered windows of offices and examination rooms on the first floor and patient's rooms on the second story look out on an irrigation canal and cultivated fields.

Etoh Clinic
Kitsuki, Oita Prefecture, Japan
Owner:
Dr. Kozo Etoh
Architects:
Arata Isozaki & Associates—Arata Isozaki, Hiroshi Nishoiza
Engineers:
Fuji Denki Sosetsu Co., Ltd. (mechanical)
General contractor:
Ohbayashi-Gumi Ltd.

Tomio Oohashi photos



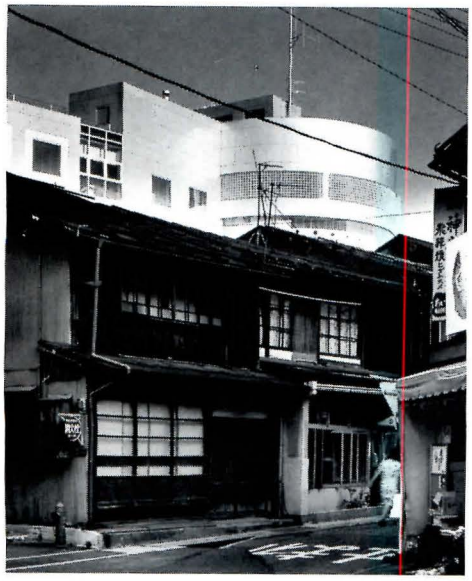
SECOND FLOOR

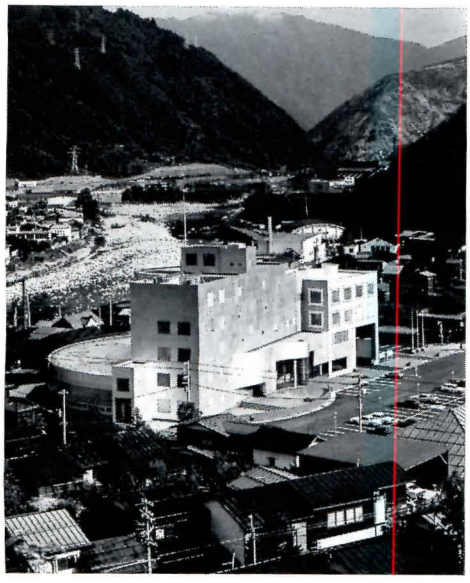


FIRST FLOOR

Kamioka Town Hall
Kamioka, Gifu Prefecture, Japan
Arata Isozaki & Associates, Architects

Geometric strength as civic symbol





Kamioka is situated along the banks of the Jinzū River in a narrow valley in the mountains of west central Honshu (above). It has been largely spared the haphazard postwar development typical of the cities of Japan's populous eastern corridor, and still retains a great deal of the flavor of traditional Japanese town planning, making the contrast between the new town hall and its older, low-rise surroundings all the more pronounced (top). Facing the river to the west (right) are the building's most dynamic forms: two stacked half-cylinders that contain offices in the lower one and the town's council chamber in the upper part of the smaller one above it. The use of glass block and aluminum paneling adds to the sleek image of this elevation, which also recalls Eric Mendelsohn's Universum Cinema of 1926-28 in Berlin.

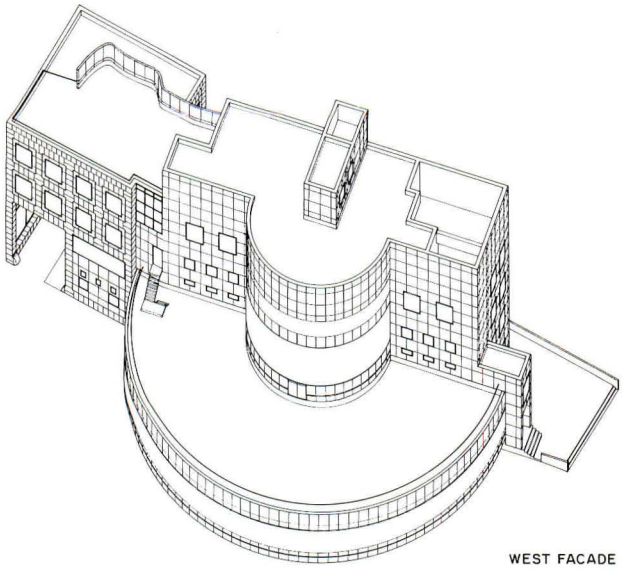
Although Arata Isozaki admits to numerous historical influences in his designs, his buildings for the most part possess an essential originality that transcends his sources. That is especially true of his Kamioka Town Hall, the civic center of a small city in a mountainous region 100 miles northwest of Tokyo. The architect took Claude-Nicolas Ledoux's Oikema, or temple of love (designed but never built for Chaux between 1773-79), as a point of departure for the massing of the town hall's semicylindrical west facade and granite-faced cubic portico, both of which correspond to major elements of Ledoux's scheme. But there the parallels end. Isozaki manipulates those basic geometric forms with all the finesse of the architectural sculptor that he is, and with all the playfulness of the architectural mannerist that he is just as certainly. The result is one of the finest accomplishments of his career, and proof that the Classical tradition in architecture is most effectively reiterated when its underlying principles, rather than its surface characteristics, are evoked. The Kamioka Town Hall is convincing evidence that Isozaki is capable of pointing the way towards an architecture that acknowledges cultural diversity even as it presents an authentic new synthesis.

The difficulties inherent in devising a contemporary public architecture in Japan are considerable, as shown by Isozaki's problematic Tsukuba Civic Center, in which he attempts to establish a context by means of rather literal quotations from a variety of well-known Western masterworks. But the Japanese architect has considerably fewer indigenous traditions to fall back on in the public domain, for there is a surprising absence of a civic architectural vocabulary in that most group-dominated of societies. Thus, while the Kamioka Town Hall bears absolutely no resemblance to the buildings around it, neither does it attempt to mimic anything else either, giving it an integrity that remains intact after its startling initial impact subsides.

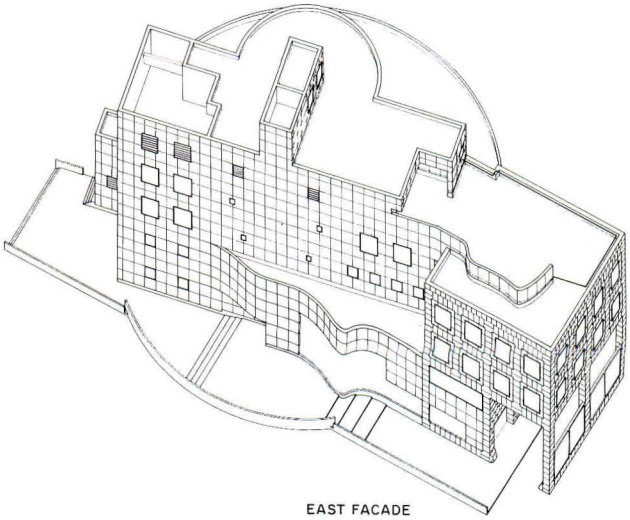
For all its formal distortions and collage-like effects, however, the Kamioka Town Hall exudes a quiet dignity befitting its program. Its interior spaces—especially the three-story-high main hall with its half-circle of columns and the majestic council chamber above it—are impressive without being intimidating. Grand in scale and conception but relatively modest in size, this superb structure is an inescapable urban presence, as few individual buildings in Japan are ever able to become. As such it is a reminder of the power that architecture has at its best.

The east facade (below and bottom right) adjoins a parking lot, a rarity in larger Japanese cities where open land is at a premium. The entry wing at right is clad in granite, with its windows framed in the same aluminum paneling as the main part of the building. Raised on columns two stories above street level, it serves as a porte cochère. *The clear geometric form of the entry wing—a cube composed of 16 smaller cubes—relates it to the cylinders of the west facade and counterbalances the more random fenestration of the east facade. The sinuous line inscribed by the rippling wall on the east side of the building (bottom right) is a restatement of Isozaki's Marilyn Monroe curve, inspired by the silhouette of the actress's famous nude calendar photograph.*

Yasuhiro Ishimoto photos



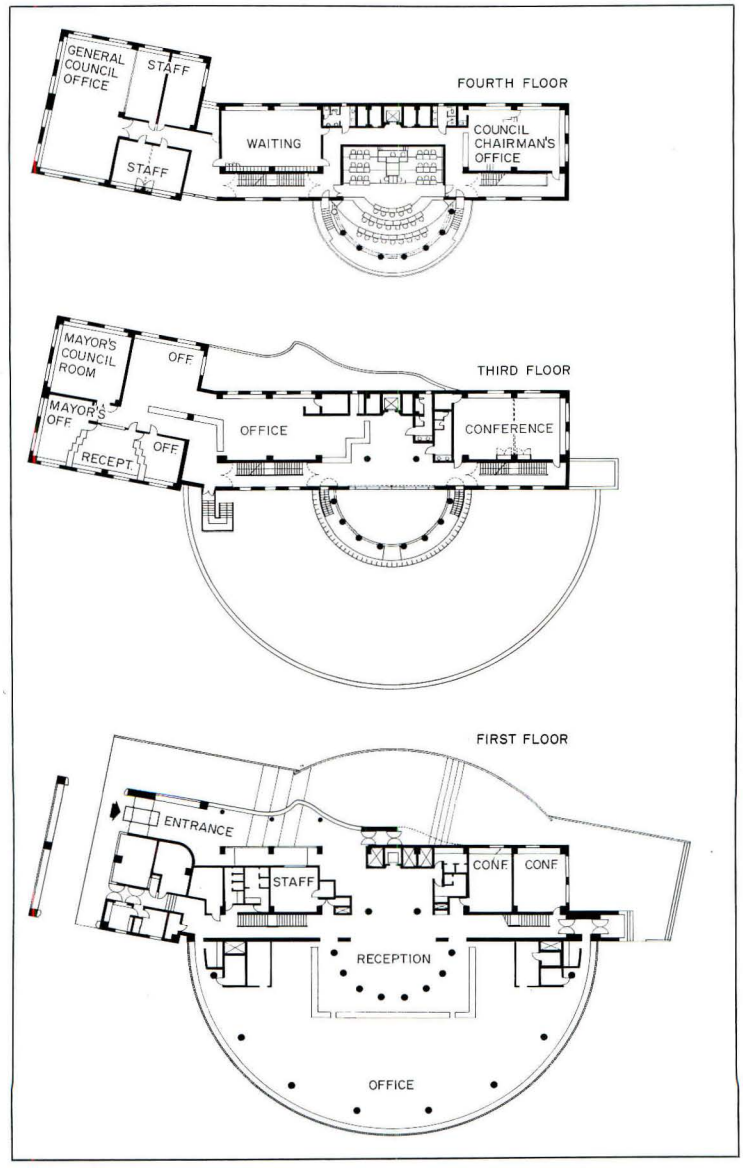
WEST FACADE



EAST FACADE

The peristyle configuration of the interiors of the half-cylinder portion of the town hall has an unmistakably classicizing feeling, without resort to overtly historicizing motifs. The council chamber (right) conveys an air of gravity and authority appropriate to its function, but its refinement and inherent simplicity seem perfectly at home in a Japanese context, even though the form of the space itself is of purely Western derivation. So is that of the main hall (opposite) directly beneath the council chamber. The glazed, curving outer wall of its upper half acts as a clerestory and gives the columned room the grandeur of a Classical rotunda. The plans (below right) show the relationship of the main structure to the entry wing, which is inflected at a 22.5-degree angle from the predominant axis. On the ground floor (bottom right), the terrace on the east facade continues the arc of the lower half-cylinder, and "completes" it into a full circle.

Kamioka Town Hall
Kamioka, Gifu Prefecture, Japan
Owner:
Town of Kamioka
Architects:
Arata Isozaki & Associates—Arata Isozaki, Shuichi Fujie, Hiroshi Aoki
Engineers:
Kimura Structural Engineers (structural); Chibu Sekki Co., Ltd. (mechanical); Setsubi Keikaku Co., Ltd. (electrical)
General contractor:
Kajima Corporation



Raised floors: super flexible and increasingly cost-efficient

Raised floors got their start in special computer rooms for housing bulky cable harnesses, 24-hour air conditioning and fail-safe power circuits. When computer terminals were first installed at workstations, raised floors were never considered a necessary companion—despite difficulties caused by wires and cables that did not often fit in conventional wiring chases. Yet the raised floors used in computer rooms were not designed or priced for general offices, nor easily retrofitted into existing buildings. But as more and more workstations were outfitted with terminals, and the practice of rearranging workstations grew, a growing number of owners and architects began looking at the solutions offered by raised floors. Added momentum came from raised-floor manufacturers who designed new systems specifically for general offices—with convincing life-cycle-cost analyses. Today, raised floor installations such as the 1.1 million sq ft European American Bank Plaza in Uniondale, New York (pages 186-187, this issue), the 600,000-sq-ft Building 157 for Lockheed Missiles and Space Company (RECORD, January 1984, pages 138-143), and the 500,000 sq ft CIGNA Office Building (RECORD, April 1983, pages 160-167) are not uncommon.

A raised floor is, unarguably, a very flexible system, not unlike the interstitial spaces often used in hospitals, laboratories and trading floors. In offices, raised floors permit workstations to be wired for power easily, with any number of duplex receptacles, including dedicated circuits. Further, since deregulation, the telephone company will no longer wire tenant spaces automatically, and in many cases the responsibility will shift to building owners or tenants, making easy access and capacity for installing, changing or relocating wiring an important consideration. And because of the flurry of developments in local area networks and fiber optics cable, the same is true for computer wiring.

Easier wire management is not the only reason for the growing popularity of raised floors. The trend towards smaller, decentralized mechanical systems, with downsized ducts, creates opportunities to incorporate hvac systems into the floor and to gain several possible benefits: task air can be delivered directly to workstations, and controlled individually by users to create a "micro climate." In some systems, horizontal-distribution ducts can be eliminated. Architects are afforded greater freedom in their designs for ceilings. And, of course, when mechanical systems are combined in a floor with the wiring, the initial expense of the raised floor can be amortized over a broader base.

The first cost of a raised floor is often higher than that of other systems of wiring distribution, and so users have been primarily banks, insurance companies and other large corporations with the capital and the willingness to evaluate the floors on a life-cycle-cost basis. Dividends accrue each time a workstation is moved or a new computer terminal added. But even speculative developers are, through architects, evaluating raised floors as a potential amenity to distinguish their spaces from others on the market.

Raised floors are offered in many styles and load ratings to suit different applications and budgets. Among the issues for architects and engineers to address when specifying a raised floor are:

Raised-floor heights, which can be easily varied from 4 in. to 30 in., depending on the number and type of services to be housed.

Static loads, including point loads from office furniture—particularly desks, which concentrate large loads on a small area of floor.

Rolling loads from mail carts, moving equipment, or special dollies for systems furniture.

Impact loads—for instance, from furniture dropped accidentally during a move.

Traffic and circulation patterns, both for equipment and people. Mail carts, for instance, travel continuously, usually on fixed paths. Elevator lobbies are subjected to frequent and often unpredictable traffic and loading.

Acoustic performance under rolling loads, walking, running, etc.—and as a barrier against (or conduit for) sound traveling from one office to the next.

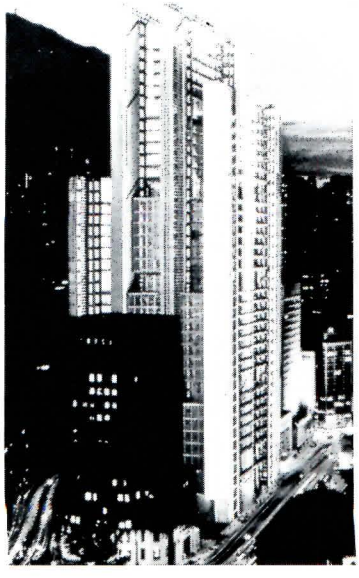
Fire rating.

Mode of failure when a panel is loaded beyond its maximum strength. Will it distort and bend, or collapse?

Expected developments in raised floors are lower installed costs, improved acoustics, longer wearing coverings offered in new varieties, more flexible wiring and greater use of the floor void for housing other building systems such as lighting, plumbing, security and telecommunications.

Raised floors are not a panacea. In many instances, other systems can suffice for less. But given the increasing demand for flexibility and the increasing complexity of services, their usefulness is on the rise. *James B. Gardner*

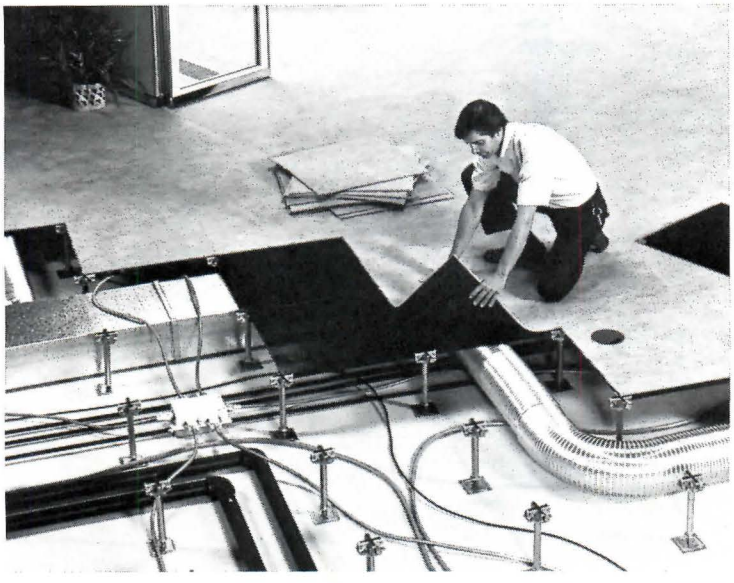
James B. Gardner



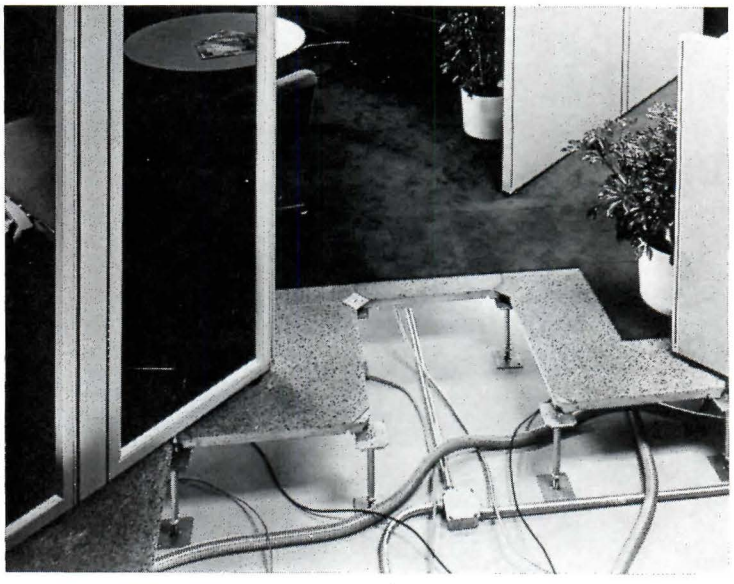
George A. Cott

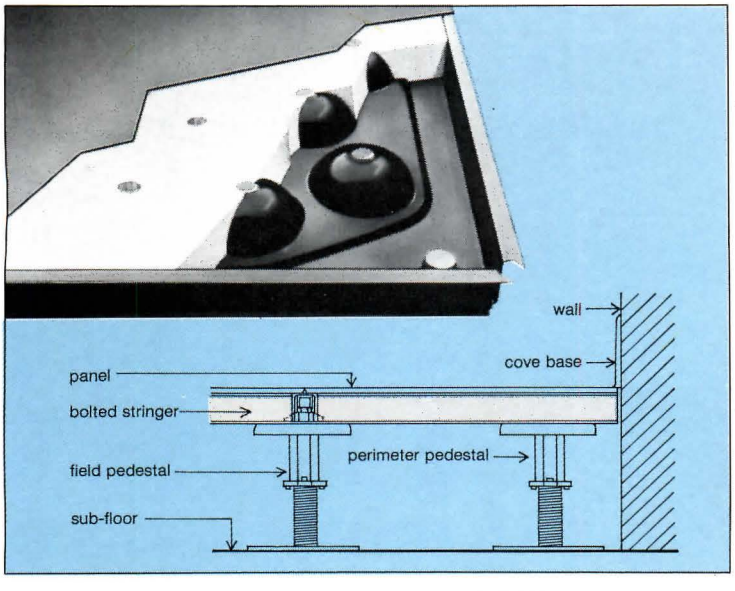
Raised floor projects abound. Three shown here are, clockwise from top left: EAB Plaza (page 186), Hongkong and Shanghai Bank Headquarters (page 190) and Pioneer Center (page 188).

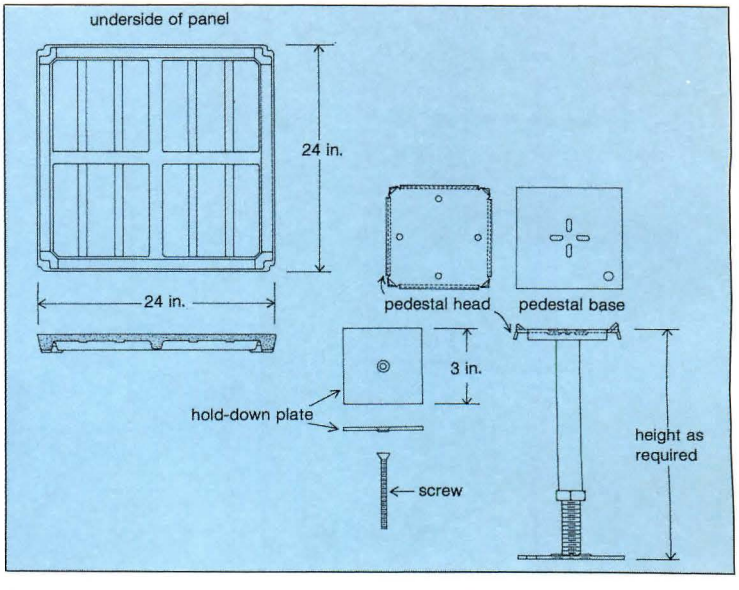
Tate Architectural Products



Innocrete Systems







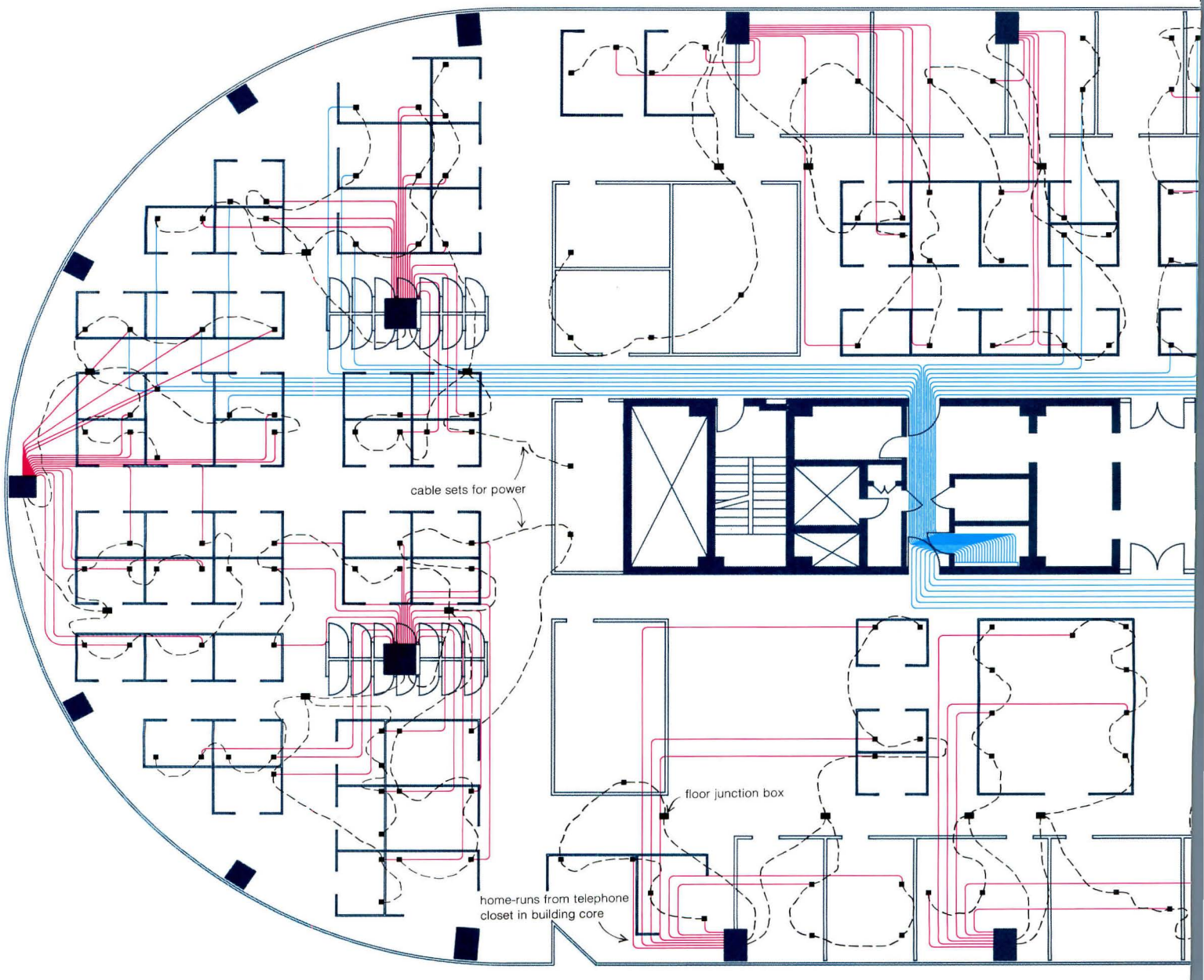
A raised-floor system consists of panels, which are normally 24- by 24-in., and adjustable pedestal assemblies. (Photos above show two different raised floor systems, with corresponding details.) Pedestal assemblies are generally made of galvanized steel and include a base, which is affixed to the concrete sub-floor with an adhesive, a pedestal shaft for height adjustment and a head, on which the panels rest. In some systems stringers connect the pedestal assemblies for greater horizontal rigidity, or span areas where pedestals cannot be placed. Panel constructions vary. Many are steel—some filled with cementitious material for improved resistance to deflection and acoustics (photo detail above). Some panels utilize a wood core between steel facings. Others are made entirely of modified concrete—their shape emulating the cross section of a conventional concrete floor slab (photo above right and drawings beneath). A new entry is a modified concrete panel laced with small reinforcing bars to prevent the panel from breaking under sudden impact. Even newer is a panel made by honeycombing aluminum. This design offers high strength, yet light weight (an application is the Hongkong and Shanghai Bank, page 190).

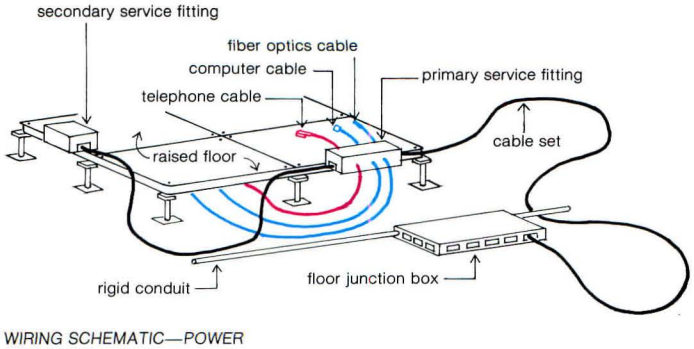
Raised floors are generally installed 4 to 7 in. over the structural slab for electrical applications, and at heights up to 30 in. when mechanical systems are added. Panels are leveled during installation by laser, to within approximately .1-in. plus or minus. For rigidity, panel corners are typically affixed to pedestal heads with screws and hold-down plates.

Carpet tiles preserve access to the floor void. Some manufacturers offer their panels pre-upholstered with carpet cut exactly to panel size. This can eliminate carpet waste when electrified panels are moved.

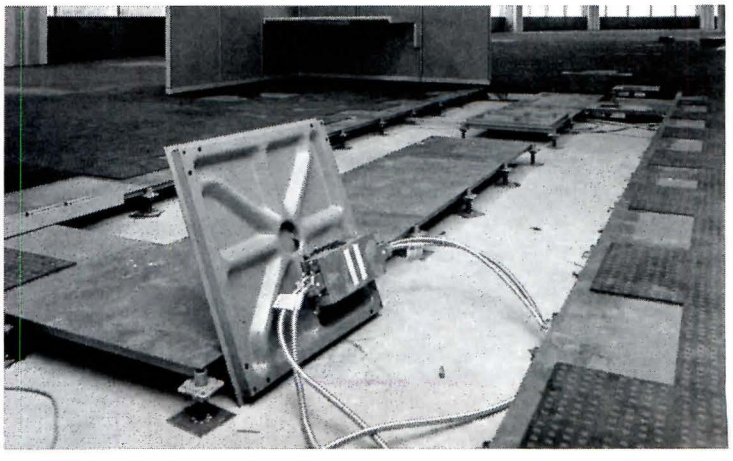
At EAB Plaza, wires run freely in 2½-in. space

Thinking of a prime tenant/owner's wish to accommodate up to three computer terminals per workstation, while providing maximum flexibility to change layouts, Walter Lenskold of EPR suggested raised floors instead of the duct system intended for this 1,100,000-sq-ft reinforced concrete structure on Long Island. With interest from the developer, the bank and others on the design team, Lenskold organized further studies to determine costs and impact of the raised floors on the existing design. Costs were similar for both systems. The raised floors fit into the structure without increasing slab-to-slab heights. Further investigations included mocking up sections of different raised floors to test strength for static and rolling loads, acoustics and long-term wear of carpet tiles. The 800,000 sq ft of





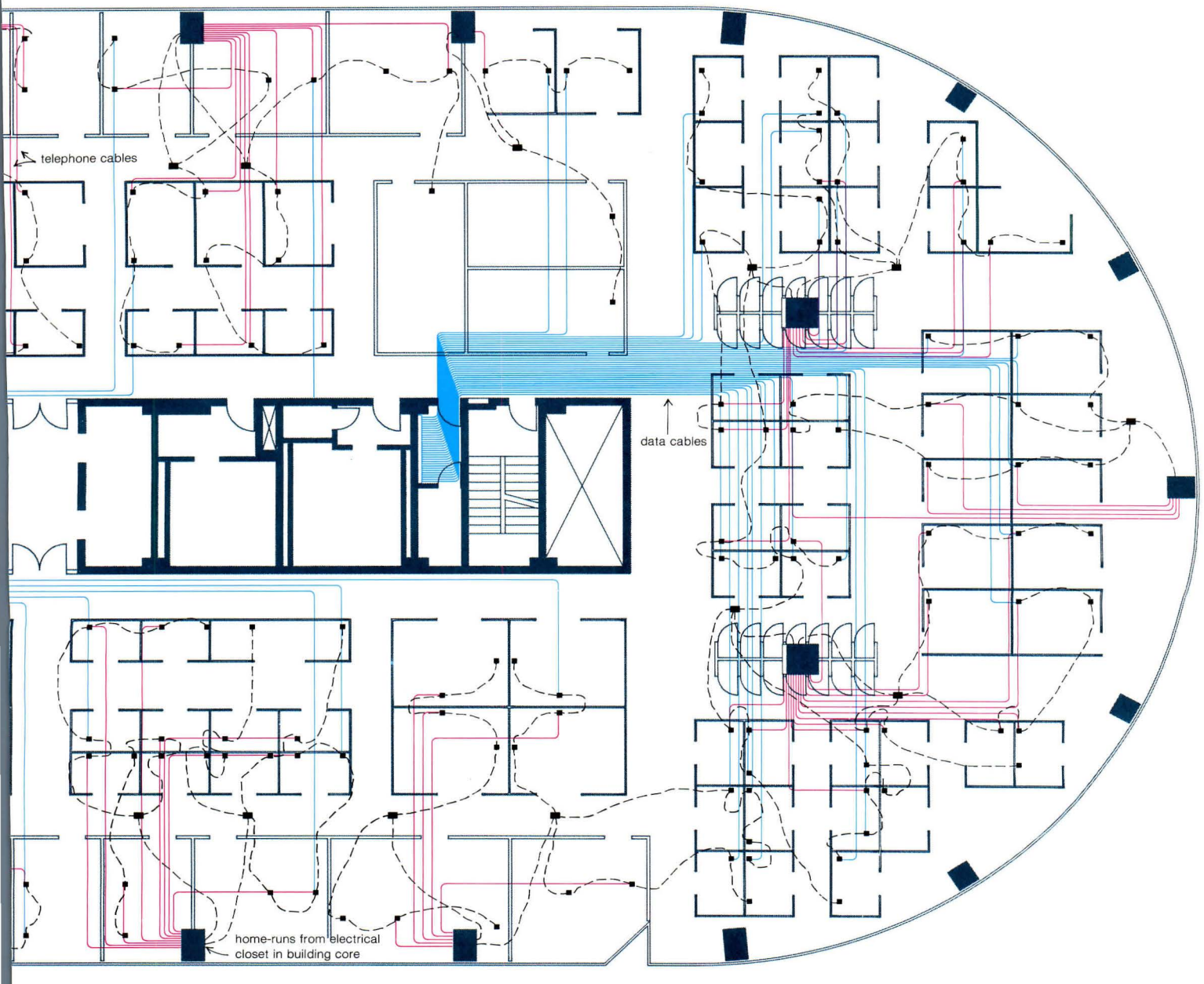
WIRING SCHEMATIC—POWER

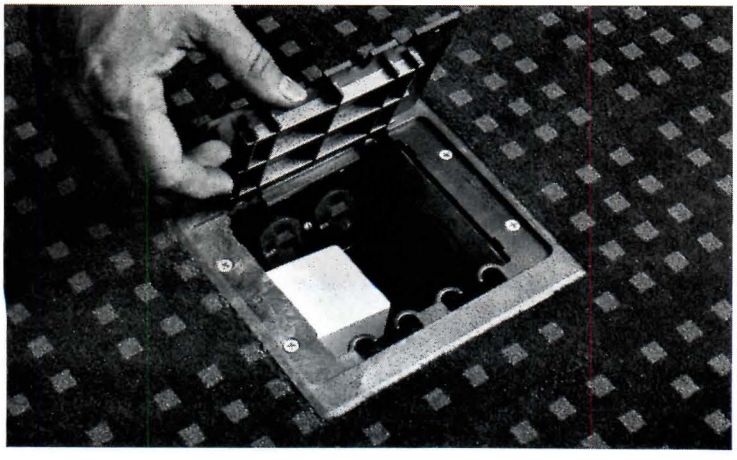


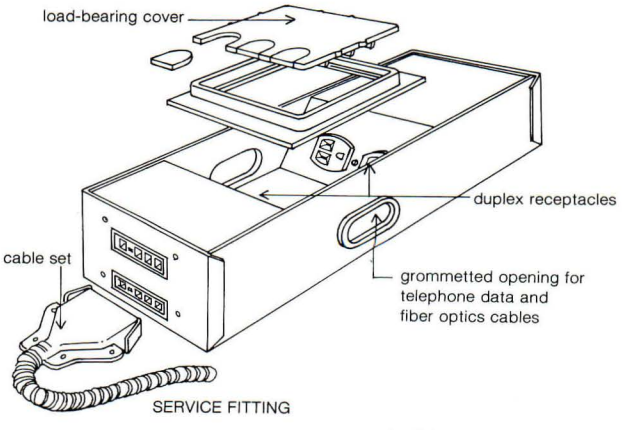
Liskey raised floors in the completed building will serve the bank and a large number of other tenants with a 2½-in. floor void (ceilings are 8 ft 6 in.) that accommodates distribution wiring for power, telephone and computer (see plan). Delivery of services to occupants is through floor service boxes that mount beneath selected panels (see drawings and photos). The design of these service boxes and the circuiting for power within was ingeniously modified by Edwards & Zuck, the electrical engineers, to permit secondary service outlets to be connected to primary outlets in daisy-chain fashion (drawing bottom left), thus enabling panels and circuits to be easily moved or extended using a minimum of wire. According to the bank, the life-cycle costing of these floors is "very appealing."

EAB Plaza
Uniondale, New York
Owner:
The DeMatteis Organizations, European American Bank
Architects:
The Spector Group
Interior designers:
Environmental Planning & Research, Inc./Neville Lewis Associates, Inc.—Walter Lenskold, project manager

Consultants:
Edwards and Zuck, P.C. (mechanical/electrical)— Frank Lorenz, vice president; A. Gyimesi Associates (structural); Robert A. Hanson Associates (acoustics)
Manufacturers:
Liskey Corporation (raised floor); Emerson Electric Company (modular wiring)

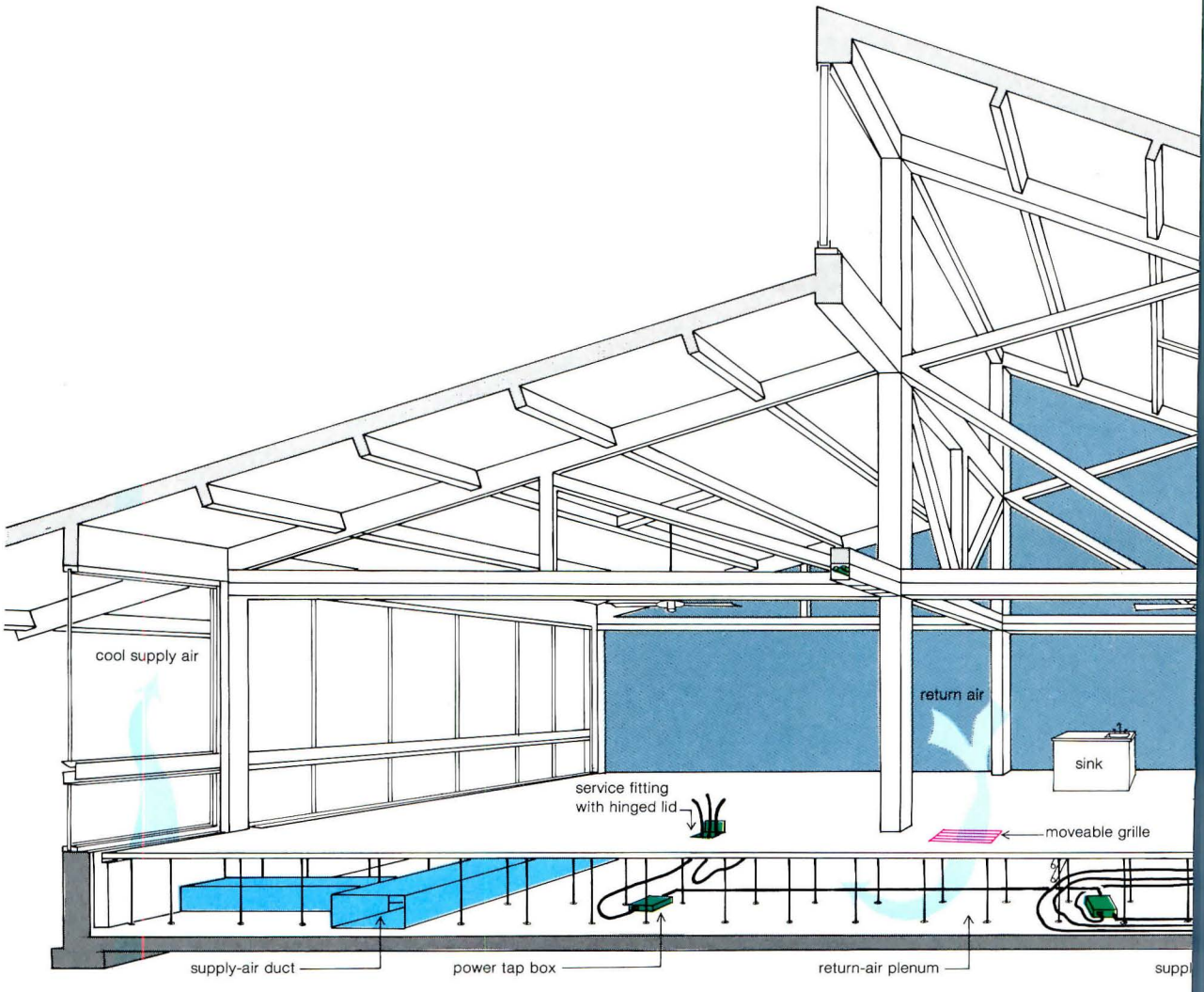


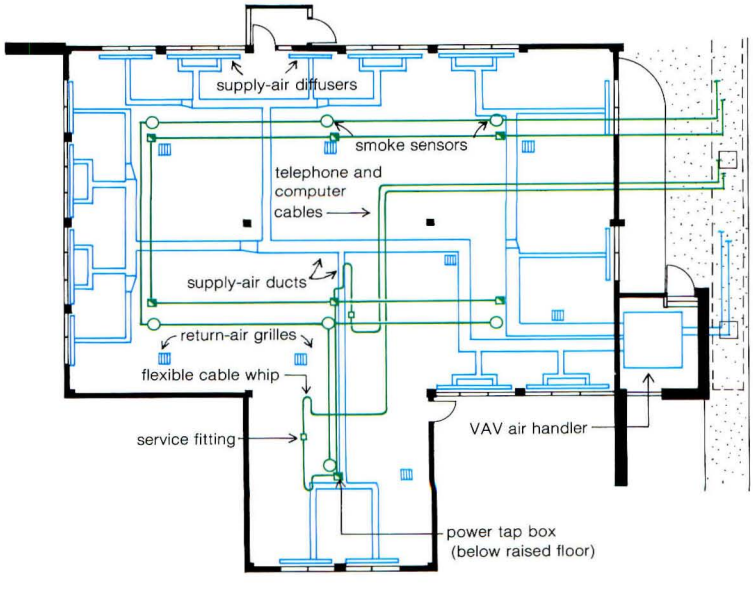




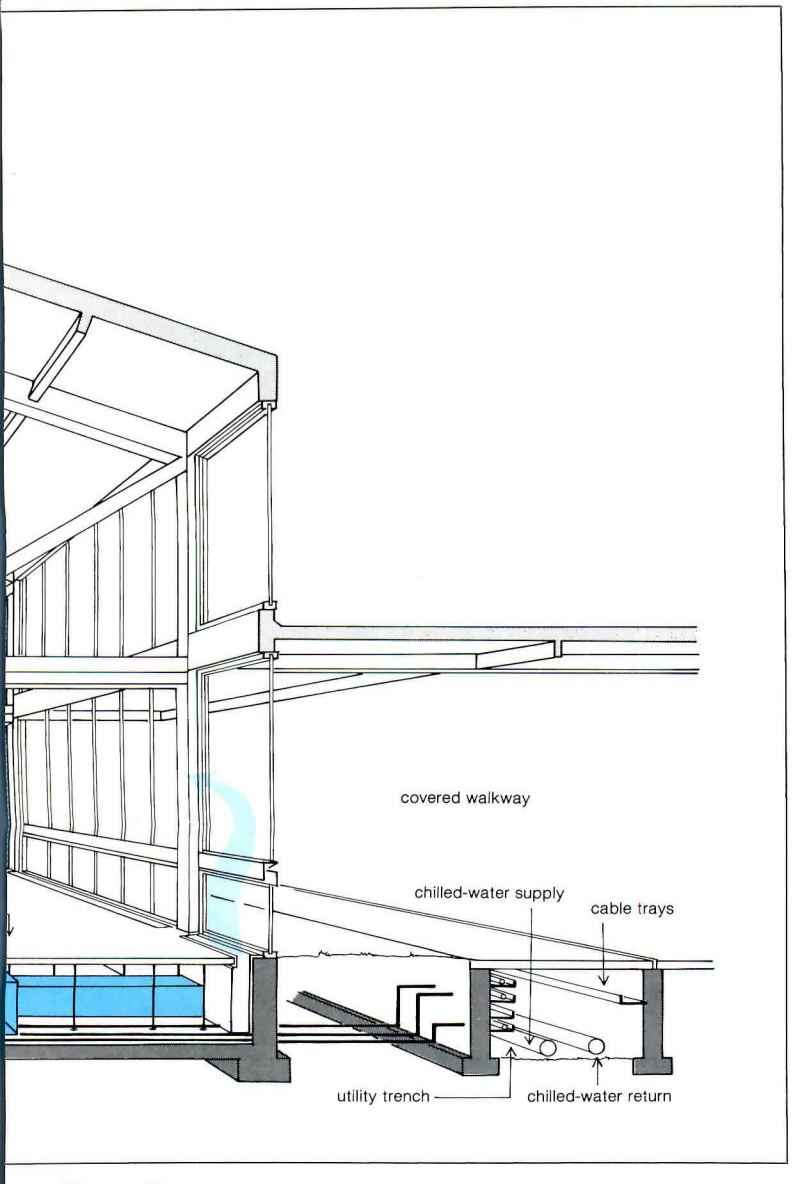
Pioneer Center combines wiring and hvac ducts in 30-in. floor

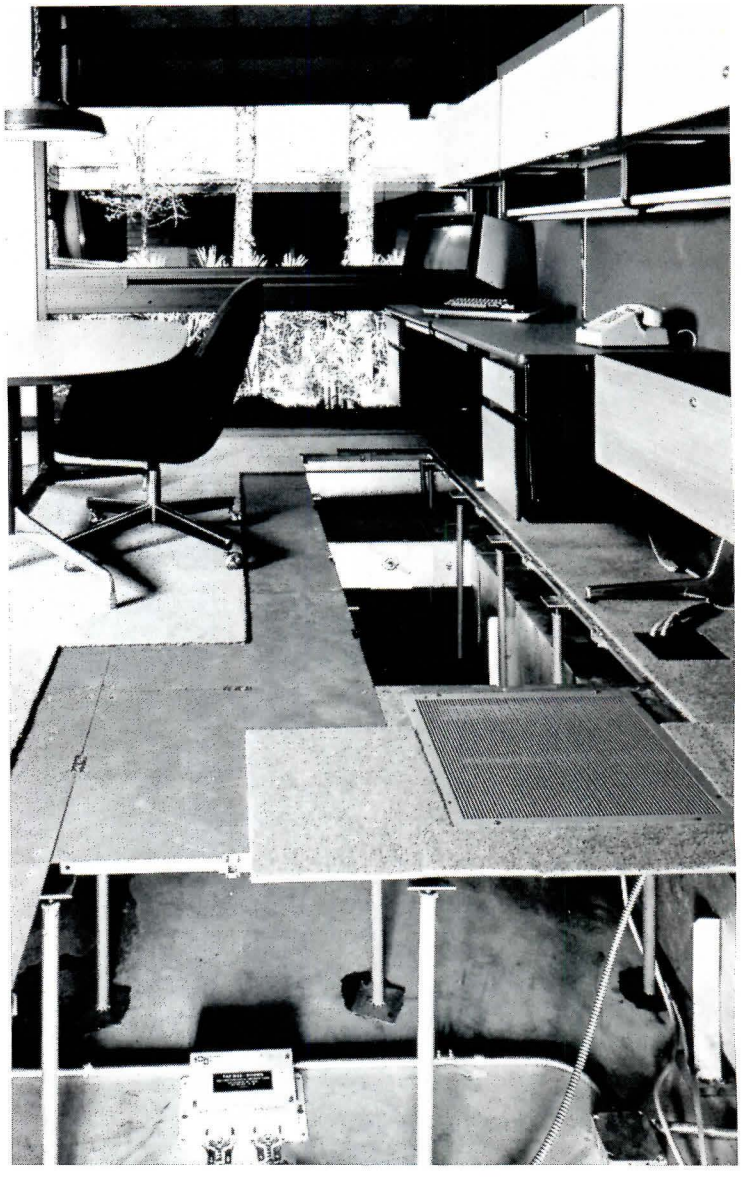
In the 93,000-sq-ft multi-unit headquarters for Pioneer Federal Savings and Loan Association in Clearwater, Florida, air-conditioning ductwork, which could have encumbered spaces created by vaulted ceilings, is placed in 30-in.-high raised floors. The timbered ceiling vaults provide daylighting, positive roof drainage, air movement from paddle-wheel fans, and contribute to the "lodge-type" atmosphere that the client wanted. The ducts, which supply conditioned air to offices through linear diffusers fixed along perimeter walls (shown in blue on drawings), are fed from variable-air-volume fans in each building. Hot and cold water for the fan units comes from a central plant through a two-pipe system in a utility trench beneath a continuous pedestrian walkway (lower right of





section). Return air is drawn out of offices into the plenum created by the floor through moveable 18- by 18-in. grilles (red on drawings). Power and communications wiring for telephones and computers is conventional for a raised floor, with power feeding floor-mounted junction boxes via rigid conduit (green on drawings and visible at the bottom of photo). Flexible cable whips connect the floor boxes to service fittings, which are mounted on the underside of the 2- by 2-ft raised-floor panels (see photo). Communications wiring for telephone and computers feeds directly from outlet to outlet. Thanks to a smoke purge feature of the mechanical system, and a favorable interpretation of the local building codes, a non-plenum rated cable for telephone and computer wiring was permitted in the raised-floor void. This cut wiring costs considerably. The raised floor system is Liskey Severn panels. Stringers link the 30-in.-high support pedestals for greater rigidity. Carpet tiles serve as a floor covering, to maintain simple access to the floor void.

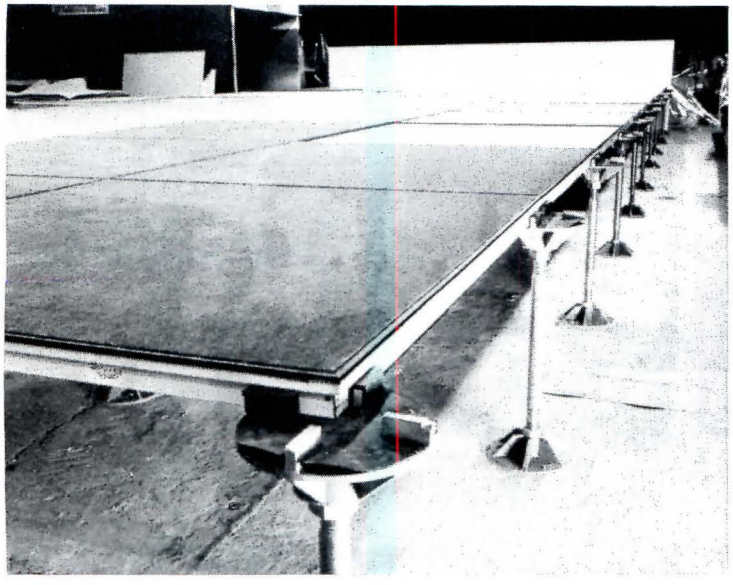


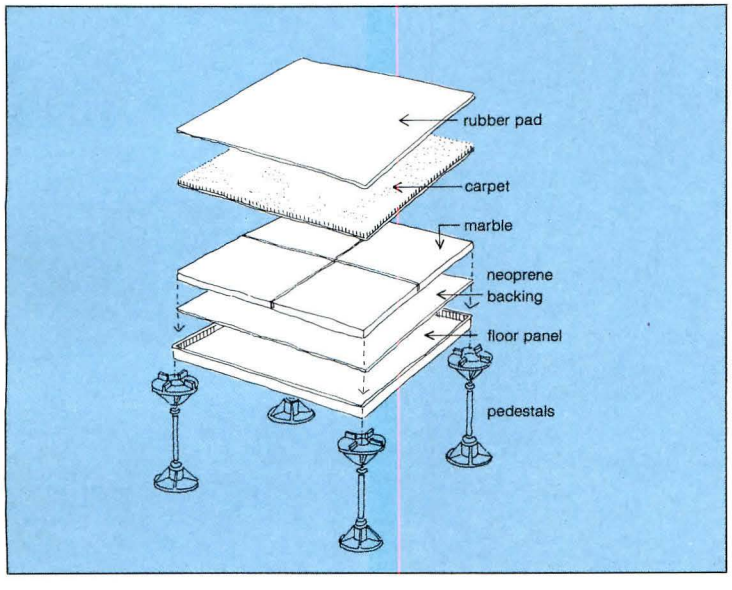


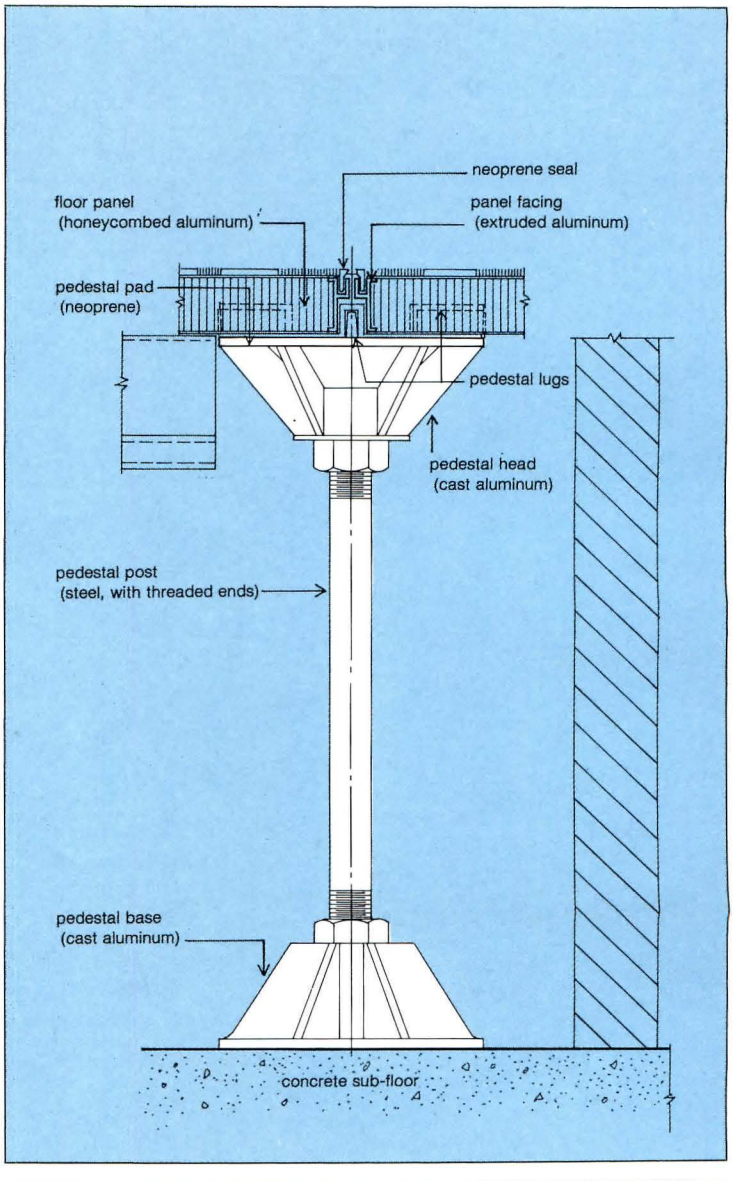
Pioneer Center
Clearwater, Florida
Owner:
Pioneer Federal Savings and Loan Association
Architects:
Fasnacht-Schultz-Collman, Architects—Ted E. Fasnacht, Rodney L. Collman, principals-in-charge
Consultants:
Terry L. Rowe (interior design); Paul J. Ford (structural); Mather Group, Inc. (mechanical/electrical and plumbing); Post, Buckley, Schuh & Jernigan (site)
Manufacturers:
Liskey Corporation (raised floor); Emerson Electric Company (modular wiring)

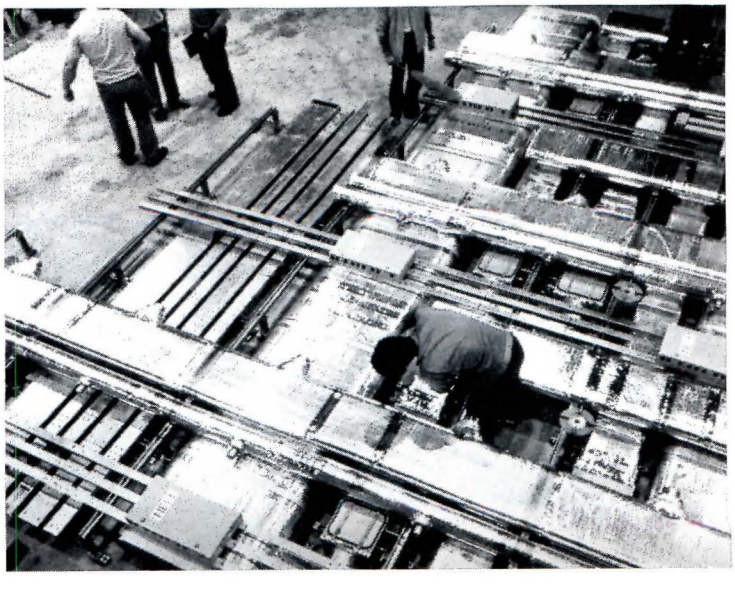
Hongkong & Shanghai Bank floor houses all building services

In this advanced application of a raised floor for the Hongkong and Shanghai Banking Corporation's world headquarters under construction in Hong Kong, not only are a variety of finishes used (see drawing at bottom left), but the 2-ft space beneath permits horizontal distribution of all building services. This includes air conditioning, power, data, telephone, sprinkler pipework and security systems. Primary distribution is east-west, through conduit and ductwork mounted directly on the structural slab (top to bottom in bottom photo). Sprinkler piping and wires for lighting, public address and smoke detection penetrate to the soffit of the floor below. Remaining services connect upwards to north-south-running header ducts (these run left to right in bottom photo) and to

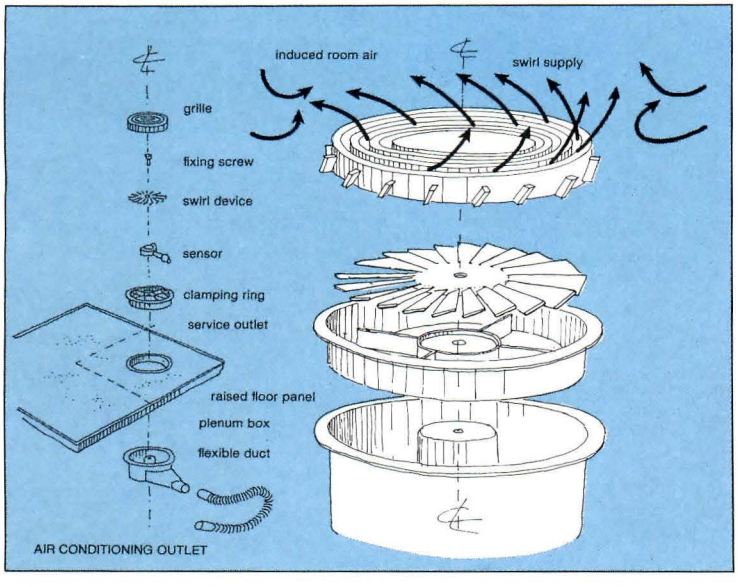


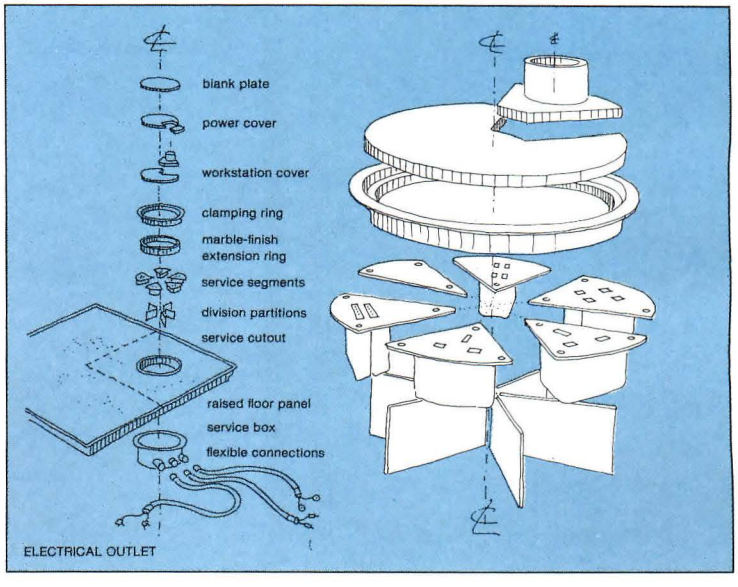






outlets in floor panels through flexibile whips (see drawings and photos at bottom right). To meet the architect's design criteria, most components, including floors, conduit, ductwork and service outlets, were specially designed. This produced several innovations: To span the wide ductwork, floor panels had to be 4 ft by 4 ft, yet still light enough to be easily lifted. This led to the use of aluminum honeycomb for the core of the panels, and an aluminum-skin facing. Panel edges are sections of extruded aluminum that support neoprene wiper blades (drawing second from left). These blades overlap those in adjoining panels to seal the floor for air and acoustics and allow for building movement. The system of pedestal bases, posts, heads and stringers that supports the panels permits phased installation: Pedestal bases are installed first, followed by ductwork. Then posts and heads. Detailing for posts and heads permits some installation error, yet will maintain the unusually close specified tolerances in the finished floor. Stringers permit the use of smaller 2- by 2-ft panels while permitting the system to bridge over areas congested by ductwork. Electrical outlets include 2-power, 2-telephone and 2-data outlets, and a blank compartment, which can be coupled directly to a cable management system within workstations.



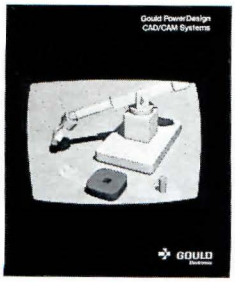


Mechanical systems include variable-air-volume and constant velocity air handlers. Supply-air outlets were specially designed to maximize induction of chilled air with room air. Some outlets contain thermostat sensors that control the output of the variable-air-volume systems.

Hongkong and Shanghai Bank Headquarters
Hong Kong
Owner:
The Hongkong and Shanghai Banking Corporation
Architects:
Foster Associates Hong Kong
Consultants:
Ove Arup and Partners (structural); Ryoden Mitsubishi (sub-floor services); H.H. Robertson Company (raised floor); Ackermann Electrical Systems (electrical outlets); Trox Brothers (air conditioning and subcontracting)

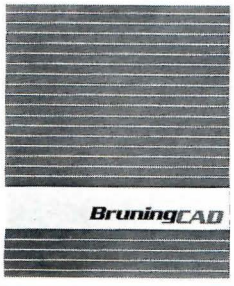
Product literature

For more information, circle item numbers on Reader Service Card, pages 275-276



CAD/CAM
The *PowerDesign* family of workstations, which uses 16/32-bit supermicros and 32-bit superminis, is featured in an 8-page color brochure. Software, system architecture, processors, and peripherals are described while photos show typical screen displays. Gould, Inc., Fort Lauderdale, Fla.
Circle 400 on reader service card

Shared logic
The *7200* word processor with personal computer and data communication capabilities is featured in a 4-page brochure. The computer supports multiple workstations while modular hardware and software permit clustering. Typical clusters are diagrammed. AES Data Corp., Stamford, Conn.
Circle 401 on reader service card

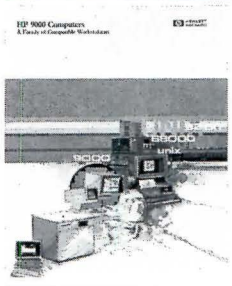


Turnkey CAD
Spectra, a stand-alone turnkey system, is highlighted in an 8-page color brochure. The system has a 19-in. color video terminal on a fully articulated arm and incorporates 3½-in. microfloppy disc storage. A photo showing the workstation with its plotter is included. BruningCAD, Tulsa, Okla.
Circle 402 on reader service card

3-Dimensional software
3-D Scribe, a 3-dimensional program for the *Apple II+* or *IIe*, is covered in a 4-page color brochure. As described it requires a 12-in. monitor, 5¼-in. floppy diskette drive, controller card, and joystick. Typical screen and plotter images are shown. 3-D Scribe, Santa Ana, Calif.
Circle 403 on reader service card

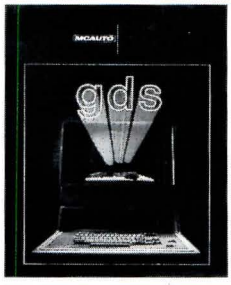
Information processing
The *Micro Information Processing Family (IPF)* of software for records management and data entry is described in an 8-page color brochure. Typical applications of the software, which runs on the IBM *PC* and Control Data's *110*, are listed. Control Data, Minneapolis.
Circle 404 on reader service card

Software
Over 200 software packages, designed primarily for architects and engineers, are covered in a 148-page catalog. Applications offered include drafting, project management, engineering analysis, and general office management. Languages and necessary hardware are listed. Data General, Westboro, Mass.
Circle 405 on reader service card

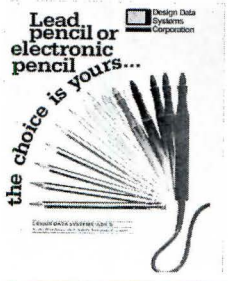


Supermicros
The *HP 9000* family of computers, which includes the 32-bit *Series 500*, is featured in a 16-page color brochure. Photos of all models accompany charts listing specifications, while the *HP-UX* UNIX operating system and networking capabilities are described. Hewlett-Packard, Palo Alto, Calif.
Circle 406 on reader service card

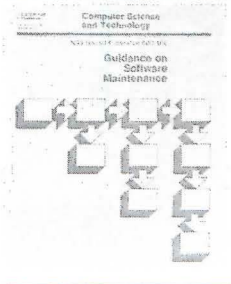
Solid modeling
SynthaVision modeling software for *CADAM* installations is featured in a 6-page color brochure. Functions such as calculating areas and volumes are described, while typical screen images are illustrated. Mathematical Applications Group, Inc., Elmsford, N.Y.
Circle 407 on reader service card



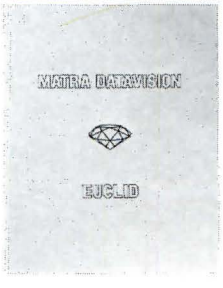
2-Dimensional drafting
A 6-page color brochure features the *General Drafting System*, a turnkey system that involves DEC or PRIME computers. System software offering space planning, structural details, schematics, and mapping, is described. McDonnell Douglas Automation Co., St. Louis.
Circle 408 on reader service card



CAD workstation
A 12-page brochure describes the features of the *ADS-3* workstation, which offers space planning, site layout, dimensioning and perspectives. Typical printouts and menu options are illustrated. Design Data Systems Corp., Cedar Rapids, Iowa.
Circle 409 on reader service card



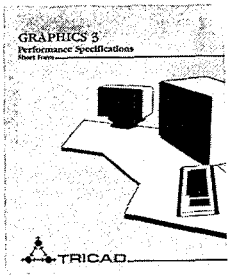
Software maintenance
A 66-page booklet offers standards for the maintenance of software and documentation. It provides both advice on controlling changes to perfect, adapt, or correct software, and guidelines for establishing diagnostic routines and policies. National Bureau of Standards, Washington, D.C.
Circle 410 on reader service card



CAD/CAM software
A packet of literature covers the features of *EUCLID* solid modeling software, including 2-dimensional drafting, multicolor 3-dimensional display, and database management. Applications and technical data are listed. Matra Datavision, Burlington, Mass.
Circle 411 on reader service card
More literature on page 197

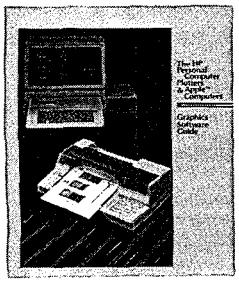
Product literature *continued*

For more information, circle item numbers on Reader Service Card, pages 275-276



Interactive CAD
Performance specifications for the *GRAPHICS 3* interactive CAD system are covered in a 22-page brochure. Diagrams show how the elements of the system interact, while the text describes a variety of applications and options. Environmental specifications are included. TRICAD, Milpitas, Calif.
Circle 412 on reader service card

Software survey
A 12-page survey lists 58 vendors that offer software programs for home-builders and developers. Included in the literature is a breakdown of such software program functions as cost, language, comparative hardware, and service area. Arthur Andersen & Co., Houston.
Circle 413 on reader service card



Software guide
Eight graphics-software packages enabling the *Apple* personal computer-user to produce charts and graphs on *HP 7470A* and *HP 7475A* plotters are described in a packet of color data sheets. A description of each package, hardware needs, and prices are included. Hewlett Packard, Palo Alto, Calif.
Circle 414 on reader service card

Graphic display system
A 2-page data sheet describes the *CX 1500* color graphics display system for CAD/CAM, mapping, animation, and scientific applications. Four pipeline processors produce 500,000 transformed vectors per sec. Features and specifications are included. Chromatics, Tucker, Ga.
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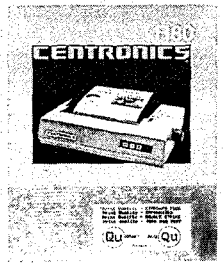

Dot matrix printer
A 2-page data sheet features the *H80* dot matrix printer for use with personal computers. Capabilities include an 8-in. print line; 160 characters per sec draft printing; 27 characters per sec letter printing; and enhanced, overstrike, condensed, pica, elite, and expanded print modes. Centronics, Hudson, N.H.
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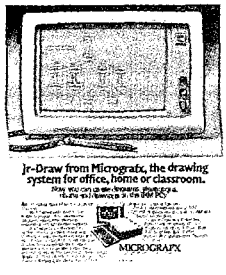

Drawing system
Jr-Draw is an interactive drawing system for an IBM *PCjr* computer that utilizes a light pen or keyboard for selection and placement of symbols. An 8-page color brochure describes the system and includes sample drawings created on the program. Micrografx, Inc., Richardson, Tex.
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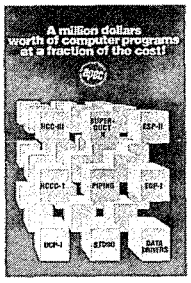

Software
A 4-page brochure describes nine building design software packages developed by a nonprofit association of engineering firms. Programs offered include heating/cooling calculation, duct analysis, electrical distribution, and overcurrent protection. APEC, Inc., Dayton, Ohio.
Circle 418 on reader service card

CAD
The *Fastdraft* automated drafting system consists of an IBM *7361* graphics processor unit, IBM *3251 Model 2* work stations, an IBM *3101 Model 10* display terminal console, and an IBM *7374* or *7375* color plotter. The system is described in an 8-page color brochure. Ozalid Corp., Mahwah, N.J.
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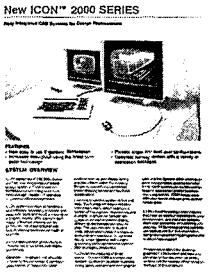
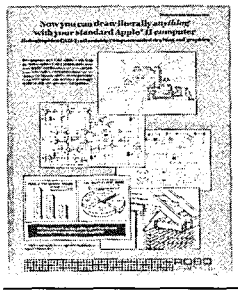
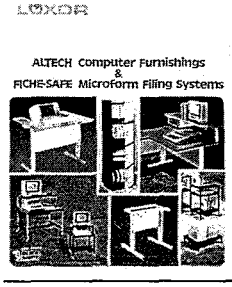


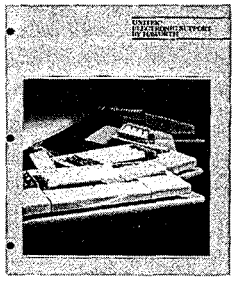
CAD
A color data sheet describes the *ICON 2000 Series* fully integrated CAD system for architecture, engineering, and construction applications. The literature includes operating specifications, features, hardware components, and available options. Summagraphics Corp., Fairfield, Conn.
Circle 420 on reader service card



CAD
A 4-page brochure features *CAD-1*, a drafting and graphics system developed for use with *Apple II* or *IIe* computers. System features are described and sample schematics, architectural layouts, mechanical drawings, and business presentations are illustrated. Robographics, Newtown, Pa.
Circle 421 on reader service card



Computer furniture
A color catalog contains information on the *Altech* line of computer furniture, including printer stands, floppy disc files, and adjustable CRT platform workstations. Over 30 new products are featured. Luxor Corp., Waukegan, Ill.
Circle 422 on reader service card



Electronic support
Unitek worksurfaces and tables featuring fixed, recessed keyboard pads are diagrammed in an 8-page color brochure. An adjustable keyboard pad, which fits all surfaces, is also shown. Photos show individual elements and typical installations. Haworth, Inc., Holland, Mich.
Circle 423 on reader service card

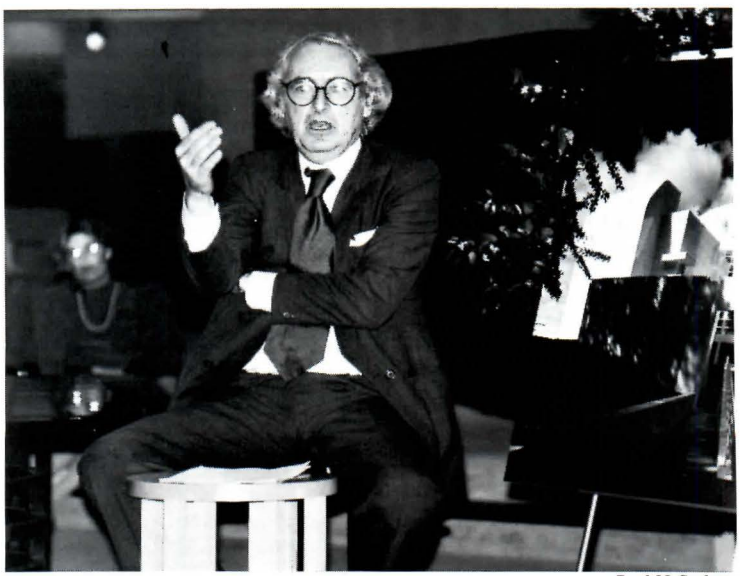
More literature on page 211


EMER

West Week 1984

A West Week panel discussion on places of international stature included, from left to right, Charles Jencks (moderator), Joseph D'Urso, Wolf Von Eckardt, Lella Vignelli, Bruce Graham, and Hans Hollein.

Jasmine



Paul M. Sachner

Following the pattern established over the past few years, West Week 1984 combined a showcase for tenants of the Pacific Design Center to display their latest wares with a major program of lectures, exhibitions, and symposiums that had large crowds shuttling back and forth between the Blue Whale and the West Hollywood Auditorium. Although the purpose of the annual interiors market and design conference has always been more along the lines of selling than educating, the didactic side of the event seemed especially strong this year, a result, perhaps, of the fact that there was little in the way of truly new products unveiled. To be sure, a few items were notable from an architect's point of view, including the two handsome Eliel Saarinen chairs by ICF and Robert Stern's provocative "Dinner at Eight" rug by Furniture of the 20th Century highlighted on the following pages. Most manufacturers, however, limited innovation to refinements of existing lines or to the introduction of new colors, apparently saving their big guns for next month's NEOCON.

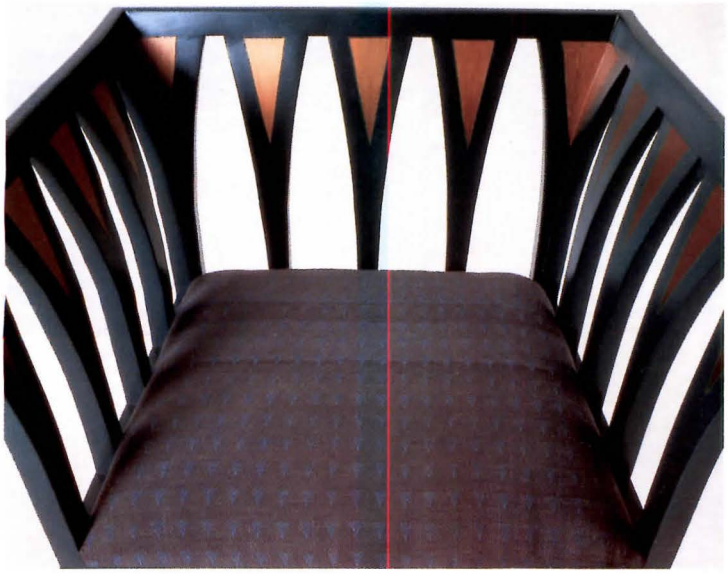
The over-all theme of West Week, "Gateway to the World," was selected to recognize the attention that will be focused on Los Angeles this year as the city hosts the Summer Olympic Games, and was intended to show California's influence on the world of design. An important complementary subtheme on the international stature of design was provided by PDC2, the alliance of 30 contract manufacturers located mainly on the second floor of the Blue Whale, which brought to Los Angeles an impressive roster of architectural superstars whose very presence at West Week symbolized that the city has indeed arrived. Featured participants included Hans Hollein, Wolf Von Eckardt, Robert Stern, Lella Vignelli, Bruce Graham, Suzanne Slesin, Joseph D'Urso, and Ralph Caplan, to name a few. Richard Meier lectured informally at Knoll to explain why he has held on to the tenets of modernism, while Robert Siegel of Gwathmey Siegel & Associates described his firm's philosophy regarding both architecture and furniture design. Four noted Californians—Johannes Van Tilburg, Rob Quigley, Andrew Batey, and Peter Shire—participated in a design charette that revolved around a program for the Los Angeles Olympic flame. Carol and Roy Doumani presented their Venice beach house by Robert Graham, and the Museum of Contemporary Art held a reception at its striking temporary headquarters downtown. Clearly, there was something for everyone.

All the events associated with West Week attracted large audiences and, with the exception of a much-anticipated multimedia presentation on the growth of Los Angeles between 1932 and 1984 that succumbed to technical problems, everything had a relaxed, well-organized quality that seems especially endemic to California. Where problems arose, they had to do with the way some of the participants tried to overstate the role that the West Coast currently plays in international design. In a panel discussion moderated by Charles Gandee of RECORD, for example, four California architects presented projects that may have been interesting in their own right but, except for Jon Jerde's Horton Plaza scheme in San Diego, offered little that was indigenously "Californian." Local chauvinism reached new heights, moreover, when Norman Riker of PDC2 claimed that "the artistic milieu of Los Angeles in the 1980s has been compared with that of Paris in the 1920s and New York in the 1950s"—to which Robert Stern, the indefatigable New Yorker, retorted that "the people of Manhattan aren't exactly lying down these days."

The confusion here stems from the fact that California has certainly had an enormous influence on our popular culture, which does not necessarily translate into influence on design. Although innovation surely exists on the West Coast, particularly in residential architecture, the singular nature of California's topography, climate, and local building materials means that ideas developed in the state are not always transferable to other places. And in the area of large-scale commercial buildings, most Los Angeles practitioners have chosen the homogenized path of least resistance, as one look downtown or along the Wilshire corridor reveals. The strongest case that can be made for the international stature of Los Angeles is the city's substantial architectural past—the Vienna/L.A. connection via Schindler and Neutra, the superb work of the California Craftsmen, and the remarkable collection of Art Deco and Moderne structures—as well as the imaginative buildings being done by some of the area's younger architects. Happily, West Week's final slide presentation on the colorful design program currently being developed for the upcoming Olympics (see page 84) represented Los Angeles at its world-class best and helped erase memories of the unnecessary boosterism that preceded it. *P.M.S.*

Center above: Four Californians participating in a design charette were, clockwise from upper left, Andrew Batey, Peter Shire, Rob Quigley, and Johannes Van Tilburg.
Lower photo: Richard Meier speaks at the Knoll show room.

West Week 1984: New products



Two Eliel Saarinen classics highlight West Coast product showcase

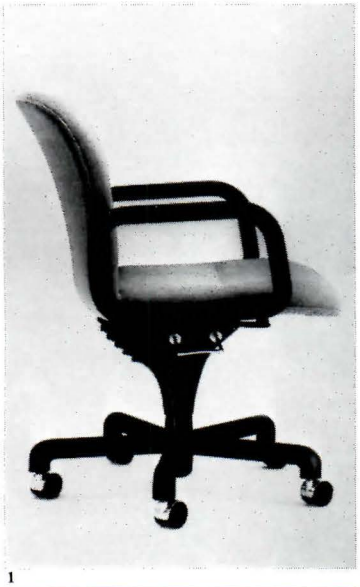
Culminating a collaborative project with the descendants of Eliel Saarinen, the Cranbrook Academy of Art in Michigan, and the Hvittrask Museum in Helsinki, ICF has introduced the first two pieces of an important group of furniture re-creations designed by Eliel Saarinen in the first half of the 20th century. The recent unveiling of two chairs in New York and Los Angeles coincides with the current exhibition at the Metropolitan Museum of Art entitled "The Cranbrook Vision," which features 25 years of work by Saarinen and his associates.

The new chairs are produced in Finland and represent two distinctive phases of the architect's career. The White Chair (top) was created in 1910 for Hvittrask, Saarinen's home and studio outside Helsinki that is open today as a museum. It was here that Saarinen, working with Armas Lindgren and Herman Gesellins, developed the new Finnish Jugendstil, a mode of design that incorporated the romantic, neoclassical elements of the Arts and Crafts movement. Writing in the recently published volume on the history of Cranbrook, R. Craig Miller characterizes Saarinen's furniture during the early years of the century as "very much a part of the mainstream of modern European design—individual and memorable without being overtly avant-garde." Hand-crafted of solid beech and lacquered a warm eggshell, the White Chair exemplifies Saarinen's work of the period.

The Blue Chair (above) was designed in 1929 at Cranbrook, where Saarinen was associated from 1925 until his death in 1950 as both architect and director. Also constructed of beech, the lacquered chair features gold leaf insets. It was designed for the atelier of Saarinen's wife Loja and clearly exhibits Art Deco influences.

The White Chair measures 26 ¾ in. wide by 21 ¼ in. deep by 32 ⅞ in. high. The Blue Chair is 25 in. wide by 19 ¾ in. deep by 30 in. high. Both are available in a limited range of fabrics that have been approved by the Saarinen family. The two pieces constitute the first phase of a full line of Saarinen furniture that ICF plans to introduce gradually over the next several years. ICF, Inc., New York City. *Circle 300 on reader service card*

For more information, circle item numbers on Reader Service Card, pages 275-276



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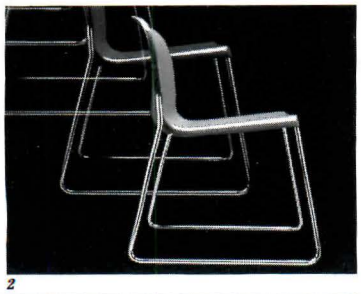

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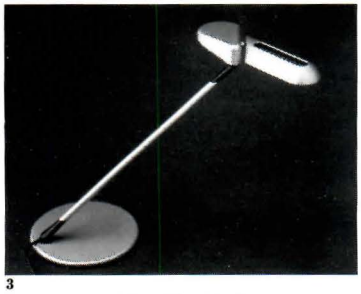

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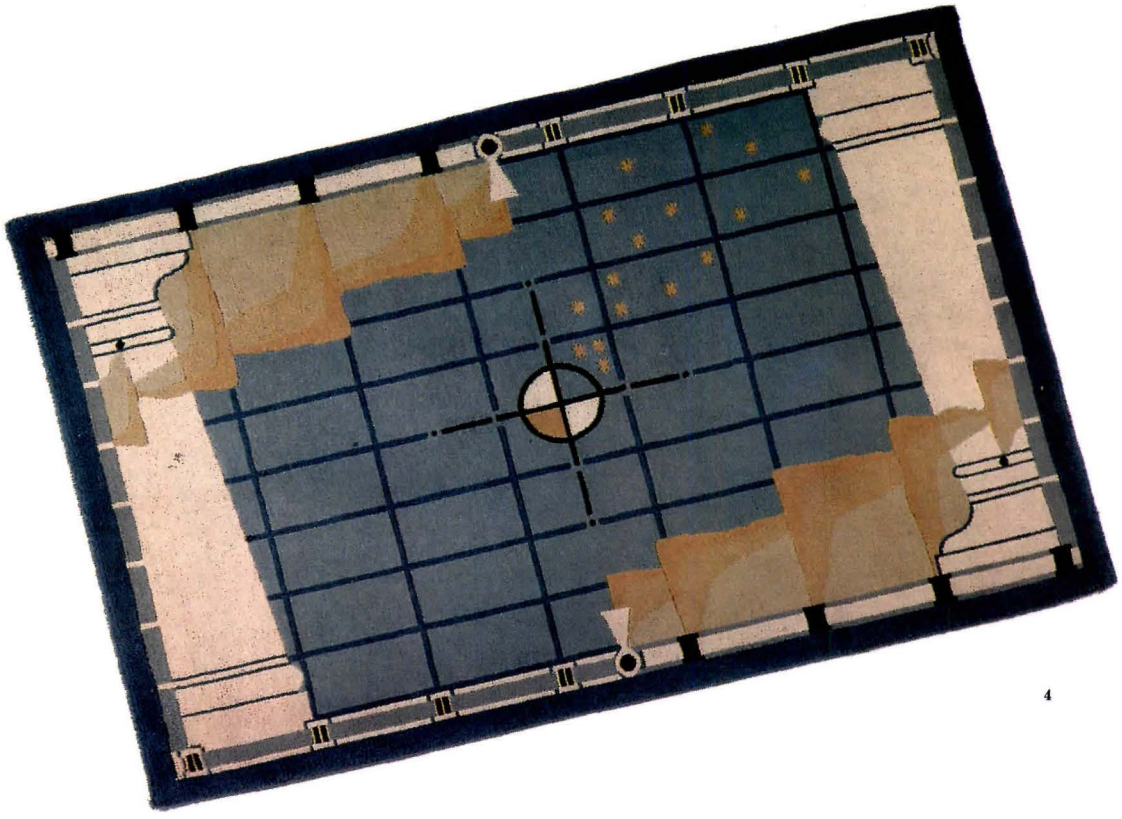

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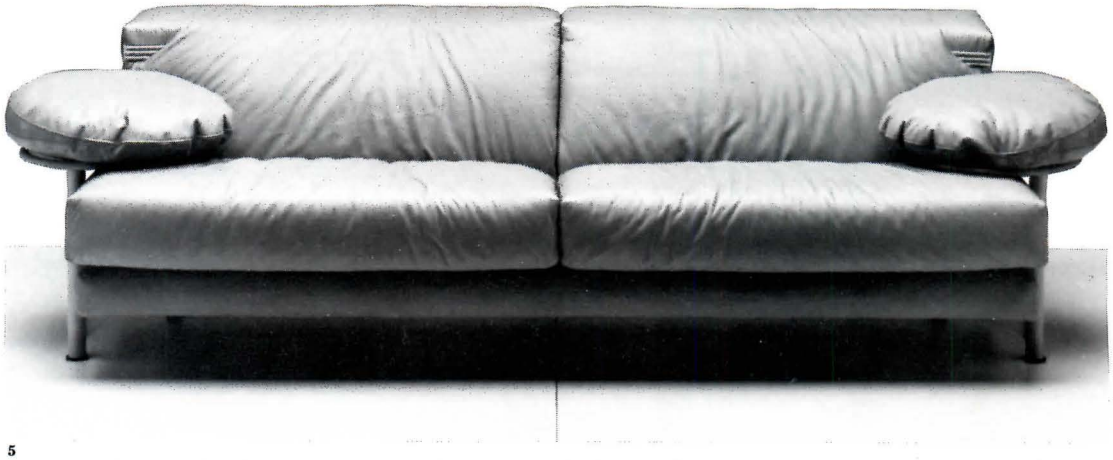


5

1. Chairs: The *Kastholm Collection* is an ergonomically designed line of office, lounge, and conference room seating available in seven models. Secretary and manager units feature exposed satin chrome levers that control tilt and height. The seating is offered in 70 fabrics and leathers. Harvey Probber, New York City.
Circle 301 on reader service card

2. Stacking chair: An 11-lb seating unit said to require less storage space than other stacking chairs can be ordered in ganged or individual models. The chair features a lip carrying handle and a one-piece steel frame that has no crossbars. Many colors and fabrics are available. Westinghouse Furniture Systems, Grand Rapids, Mich.
Circle 302 on reader service card

3. Lamp: Designed by Bruno Gecchelin for a halogen light source, the *Ring* tasklamp is now available with a 6-in.-long 7W dual fluorescent tube that has a low heat level and lasts up to 10,000 hours. The 15.2-in.-high cast-aluminum unit is offered in charcoal gray or red enamel finish. Atelier International, New York City.
Circle 303 on reader service card

4. Rug: Although Robert A.M. Stern has created rugs for specific interior commissions, "Dinner at Eight" represents the architect's first rug designed for production. The rug measures 5 ft 5 in. by 8 ft 2½ in. and is handmade of 100 per cent wool in Spain. Commenting on the rug's design and title, Stern has observed that "the phrase 'Dinner at Eight' invokes a certain genre of Hollywood film comedy that combined disingenuous innocence with metropolitan sophistication. The rug seeks to recapture the mood of those films—their heightened sense of romance, and their use of theatrical convention and exquisitely ambiguous euphemism. It presents a highly formalized image within a prosceniumlike frame of classical columns and theatrical drapes. The curtains are drawn, the doors about to open, and music about to play as the comedy begins." Randy M. Correll of the Stern office was the assistant in charge of the project. Furniture of the Twentieth Century, Inc., New York City.
Circle 304 on reader service card

5. Sofa: *Arca* is a two- or three-seat sofa that features individually adjustable headrests and clear glass table tops that may be rotated for storage under arm cushions. Designed by Paolo Piva, the sofa is steel-framed and comes in a choice of chrome, dark chrome, or white or gray enamelled finish. The unit is offered in two lengths—80¾ in. for the two-seat model and 96½ in. for the three-seat version—and is available in a selection of leather upholstery from the B & B collection. An optional blanket may be ordered in brown, ecru, bordeaux, or yellow. Stendig International, New York City.
Circle 305 on reader service card
Products continued on page 227

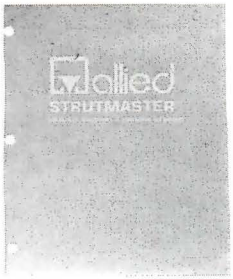
You create flexible space.
We create flexible tables.

When one of our many flip-top or folding tables is being flipped or folded, it's helping change the nature of your space in minutes. Any other time, of course, it's doing what a table gets paid to do. And just how solidly it sits and feels while performing its traditional duties is something that interests our engineers no end. In fact, their stability standards are *very* high. Just think of the Rock of Gibraltar on a hinge.

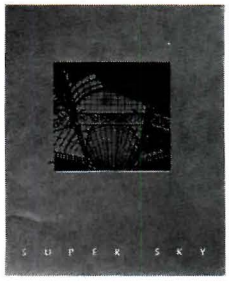
HOWE, *155 East 56, N. Y., N. Y. 10022 (212) 826-0280*

TABLES BY HOWE

Literature continued from page 197



Channel raceways and framing
Detail drawings illustrate components of *Strutmaster* framing channel and raceway systems in a 116-page catalog. Fasteners, fittings, and other necessary hardware, as well as 50 channel variations, are featured. All components are offered with plain, painted, or pre-galvanized finishes. Dimensions and specifications are included in the literature. Allied Tube & Conduit Corp., Harvey, Ill.
Circle 424 on reader service card



Glazing and skylights
Dome, vault, ridge, and pyramid skylights as well as a number of glazing configurations are featured in a 42-page color brochure. Photos of installations and section details of individual systems are shown while glazing considerations and specifications are listed. Super Sky Products, Inc., Mequon, Wis.
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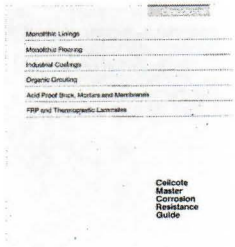

Corrosion resistance
A chart of temperature limits and corrosive environment tables for floor toppings, industrial coatings, grouting, bricks, mortars, and thermoplastic laminates are featured in a 20-page *Master Corrosion Resistance Guide*. Also included in the brochure is a coatings selection guide. The literature is designed to simplify the process of choosing corrosion-resistant material for a particular application. Ceilcote, Berea, Ohio.
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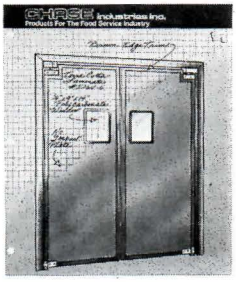

Double-acting doors
Both solid-core and sheet-style aluminum doors, custom-designed for the food service industry, are featured in a 4-page color brochure. Insulated and vinyl strip doors are also illustrated and described. Mounting details are included. Chase Industries, Inc., Cincinnati.
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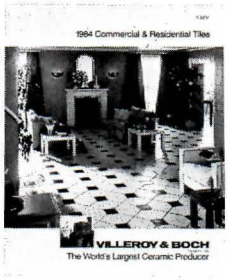
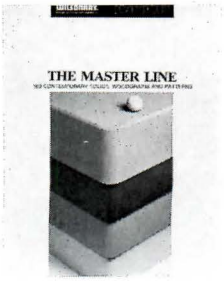


Ceramic tiles
Unglazed vitreous and glazed vitreous and nonvitreous tiles are illustrated and described in a 32-page color brochure. Photos show tiles both individually and in installations while dimensions are listed. Available colors are illustrated and specifications are included. Villeroy & Boch (USA) Inc., Pine Brook, N.J.
Circle 428 on reader service card

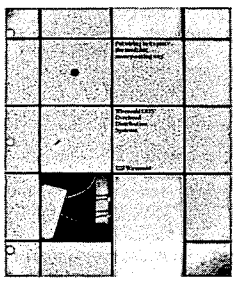


Laminates
The Master Line of 160 solid color, abstract patterned, leather, stone, marble, and woodgrain laminates is featured in an 8-page color brochure. Laminates come in sheet sizes ranging from 36 by 96 in. to 60 by 144 in. Ralph Wilson Plastics Co., Temple, Texas.
Circle 429 on reader service card
Literature continued on page 217

Literature continued from page 211

Roofing insulation
Insulations for built-up and single-ply roofing systems are featured in a 20-page color brochure. Thermal values, dimensions, and technical data are included for each product. Diagrams illustrate typical applications, and specifications are listed. The literature also has a glossary of insulation terms and symbols, in addition to a section on design considerations. Manville Service Center, Denver.
Circle 430 on reader service card

Rolling doors
A 32-page manual describes and illustrates rolling service doors, fire doors and grilles, side coiling doors and grilles, accordian grilles, and counter shutters. The *Enermaster* insulated metal rolling door is highlighted. Construction details and charts of dimensions are included. Also shown are details of motor, chain, and manual operating systems, as well as a variety of options. Atlas Door Corp., Edison, N.J.
Circle 431 on reader service card



Overhead wiring distribution
Three separate modular, plug-in wiring distribution systems designed for above-the-ceiling installations are featured in an 8-page color brochure. Photos and diagrams illustrate systems, which allow for either 125- or 277V circuiting, 1-, 2- or 3-level lighting, and wiring for both voice and data communications. The Wiremold Co., West Hartford, Conn.
Circle 432 on reader service card

Toilet compartments
Rustproof *Melamine Component Panel* and high-pressure laminate-surfaced compartments are featured in an 8-page color brochure. Elevations with dimensions and typical layouts are shown while material performance characteristics are listed. Masonite Corp., Dover, Ohio.
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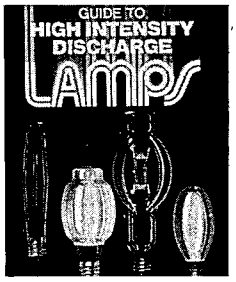

Lamps
The 24-page *Guide to High Intensity Discharge Lamps* describes types, including mercury vapor, metal halide, and high- and low-pressure sodium. Diagrams show lamp components while graphs illustrate performance and spectral distribution. North American Philips Corp., Bloomfield, N.J.
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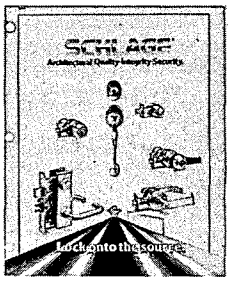


Locks
Several series of knob- and lever-style locks are shown, and materials and finishes are described in a 30-page color brochure. Functions, applications, and specifications are listed. Designs for the handicapped are included. Schlage Lock Co., San Francisco.
Circle 435 on reader service card
Continued on page 223

SYSTEM-R

A framework for change. In the business world, change is constant. Big change...."Tel

within three years." Small change...."Congratulations,

And change that's

"He likes oak,

neutral,

and mauve."

ness. That's why

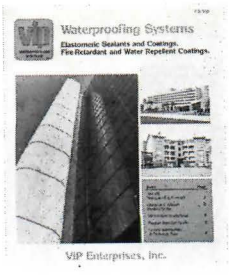
the heart of "System R" is the frame, giving

components and

power distribution within the system. And

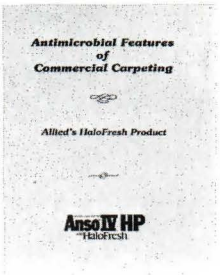
To find out how System R

can give you a framework for change, call toll-free: 1-800-253-8104



Concrete waterproofing
Elastomeric sealants and coatings as well as fire-retardant and water-repellent coatings are featured in a 4-page color brochure. The products carry a written five-year warranty when applied in accordance with the manufacturer's specifications. The brochure includes answers to a number of questions about coatings, a product selection guide, and a chart listing technical data. VIP Enterprises, Inc., Miami, Fla.
Circle 436 on reader service card

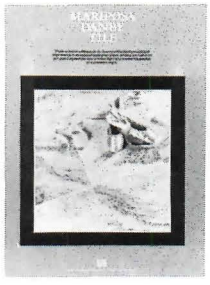
Commercial door hardware
Photos illustrate solid brass hinges, levers, knobs, security devices, and accessories in an 8-page color brochure. Available finishes, including polished brass and oil-rubbed bronze, are also shown while construction information and specifications are listed. Baldwin Corp., Reading, Pa.
Circle 439 on reader service card



Commercial carpeting
Anso IV HP nylon carpet with *HaloFresh* antimicrobial treatment is featured in a 24-page technical bulletin. Reasons for using the carpet in hospitals, schools, and restaurants are described while results of independent laboratory testing are listed. Allied Corp., New York City.
Circle 440 on reader service card

Laundry equipment
Brochures on fully automated and manually loaded washer-extractors, continuous batch washers, and materials handling systems are included in a packet of literature on modernizing large laundries. Photos show models while diagrams illustrate how they operate. Pellerin Milnor Corp., Kenner, La.
Circle 441 on reader service card
Literature continued on page 262

Duct silencers
An 8-page brochure includes information on the construction, sizes, materials, and acoustical performance of *Soundpak* rectangular and round duct silencers for hvac and industrial applications. The silencers are said to have been examined by an independent test facility, and performance ratings are available. Photos show various models while diagrams illustrate construction details. United McGill Corp., Groveport, Ohio.
Circle 437 on reader service card



Marble tiles
Several types of marble are represented in a packet of literature on marble tiles. Color photos illustrate tiles, which range in color from various mixtures of gray and white to beige, black, veined tones, and the green and white variety indigenous to Vermont. The Vermont Marble Co., Proctor, Vt.
Circle 438 on reader service card

Products continued from page 209

Interior paneling
Pacific California redwood paneling is ½ in. thick and comes in 6- and 8-in. widths. The tongue-and-groove panels are available in two grades—clear and all-heart—and have a reversible sawtextured/smooth finish. Pacific Lumber Co., San Francisco.
Circle 306 on reader service card

Refrigerator
A compact 28-in.-wide frost-free refrigerator/freezer contains 16 cu ft of storage space and has an automatic ice maker. The unit features an *Electri-Saver* energy-conserving switch, a removable ice server, and two deep door shelves. Frigidaire Co., Dayton, Ohio.
Circle 307 on reader service card

Chair
The *Bare Chair* is a solid oak seating unit measuring 35 in. high by 16½ in. wide by 17½ in. deep. The dining unit features steam-bent back posts, metal braces, and a U-shaped back slat. Richardson Brothers Co., Sheboygan Falls, Wis.
Circle 308 on reader service card
Products continued on page 233

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The "ravages of time" derive mostly from weather. In the case of concrete and masonry, the worst weather is the wet kind, which penetrates to the inside, where the eye can't see.

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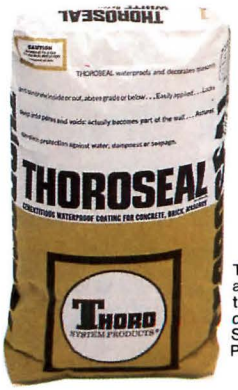

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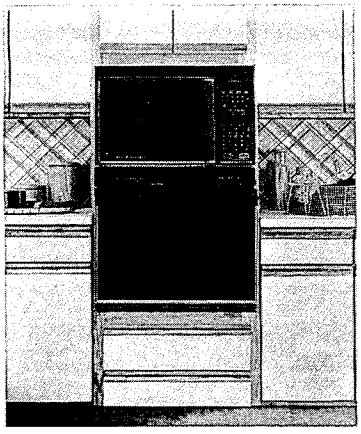
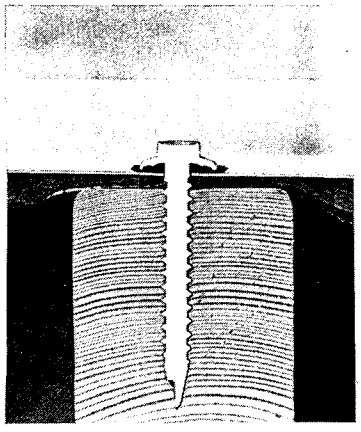
Products continued from page 227



Oven
An electronically controlled built-in cooking center features a 1.4-cu-ft microwave oven above a self-cleaning conventional oven. The unit comes with black glass doors and measures 26 in. wide by 42 in. high by 24 in. deep. General Electric Co., Louisville, Ky.
Circle 309 on reader service card



Wood fastener
Tapfast is a new fastener for wood frame construction available in lengths from 1 to 3 in. The screw features a corrosion-resistant coating and a *Flo-Seal* sealing washer built into the fastener head. Elco Industries, Inc., Rockford, Ill.
Circle 310 on reader service card

Redwood siding
Seasoned knotty redwood siding features a combination of dark heartwood and light-toned sapwood. A 1-in. thickness of the siding is said to equal the insulating properties of 4 in. of plaster and 5.8 in. of brick. The siding is available in 4 to 6 in. widths. Simpson Timber Co., Arcata, Calif.
Circle 311 on reader service card
Products continued on page 239

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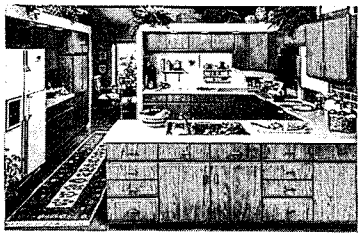
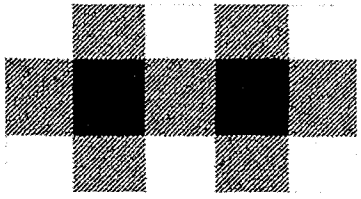
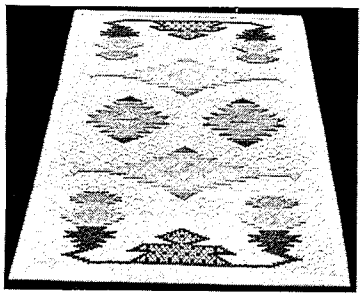
Products continued from page 233



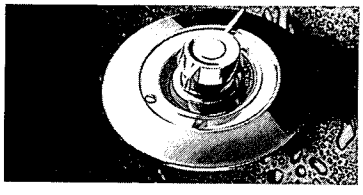
Kitchen cabinets
Horizon is a line of kitchen cabinets constructed of solid oak with double doweled front frames. Accessories include revolving pantry shelves, a cutting board/cutlery drawer kit, and a microwave oven cabinet. Merillat Industries, Inc., Adrian, Mich.
Circle 312 on reader service card



Fabric
Camp is a new buffalo plaid homefurnishings fabric woven of 100 per cent new wool, fiber-dyed yarn. The 54-in.-wide fabric is closely sheared for pill-resistance and is available in color combinations of blue/black, red/black, and white/black. Gretchen Bellinger, Inc., New York City.
Circle 313 on reader service card



Area rug
Bengala is a 100 per cent wool Spanish-made rug inspired by Aztec art. The rug is offered in the two colorways of blue/brown and rose/blue accents on a natural ground. Three sizes—4 by 6 ft, 6 by 8 ft, and 8 ft 3 in. by 11 ft 6 in.—are available. Eurotex, Philadelphia.
Circle 314 on reader service card



Mixing valve
The *PAM II* is a bath/shower control that is said to react immediately to pressure changes in either the hot or cold water supply. The unit has bronze interior parts, a stainless steel pressure-balancing piston, and a chromium-plated wall flange. Leonard Valve Co., Cranston, R.I.
Circle 315 on reader service card
Products continued on page 245

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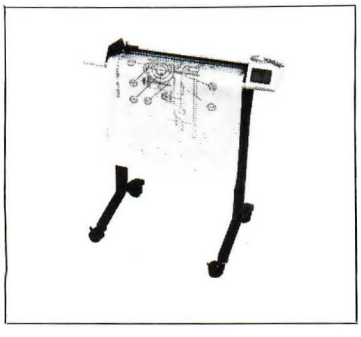
Products continued from page 245

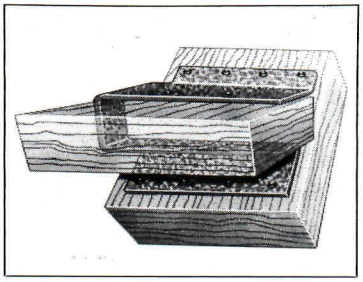
Single-ply roof
Insta-Seam is a single-ply roofing system said to have the first EPDM-based rubber membrane that can be heat-sealed. The membrane has factory-applied adhesive that reacts chemically when laid down with a hot air welder. The roof is available in black or white. Goodyear, Akron, Ohio.
Circle 319 on reader service card



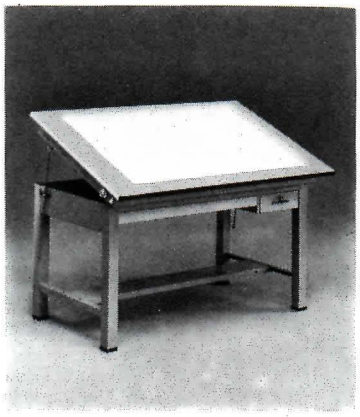
Plotter
The *DMP-51* is a high-speed (22-in./sec) plotter that produces C- or D-size drawings. The 26,000-byte unit is compatible with existing DM/PL software programs offered by 150 vendors. Houston Instrument, Austin, Tex.
Circle 320 on reader service card

Sofa
The last piece of furniture designed by Charles Eames in the late 1960s is a posthumously manufactured leather sofa with padded arms. The sofa has a polished aluminum base, flexible webbing in the seat, and a walnut or teak back that resembles the sculptured look of the Eames Lounge Chair. The unit is designed especially for lobbies, reception areas, and waiting rooms. Herman Miller, Inc., Zeeland, Mich.
Circle 321 on reader service card
Products continued on page 255

Products continued from page 249



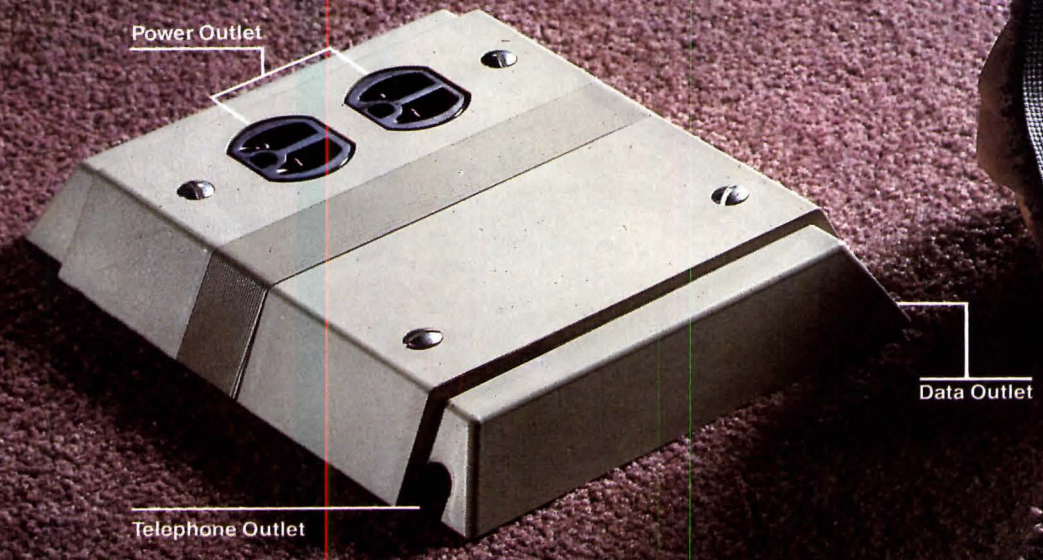
Hangers
SK hangers for joists and trusses are skewed 45 deg and are offered in either right- or left-hand models. The units come in four sizes and are appropriate for either metal or wood loads of up to 1,200 lb. Staggered holes permit back-to-back nailing. Cleveland Steel Specialty Co., Cleveland.
Circle 322 on reader service card



Light table
The *371LT* light table has a diffusion system that combines five 40W white fluorescent lamps with baffles, a white box interior, acrylic diffuser panel, and a 30-in. by 48-in. clear glass work surface. The table is equipped with a tilt mechanism that permits adjustment of the angle from 0 to 60 deg. A dimmer switch controls light intensity and allows for optional use of three or five lamps. Plan Hold Corp., Irvine, Calif.
Circle 323 on reader service card

Bath
The *Sensorium* is a new acrylic bath measuring 72 in. long by 44 in. wide by 19 in. deep. The unit can accommodate two persons, and its interior is designed to fit the body's contours. A microprocessor-based *Ambiance* control system allows the bather to adjust water temperature and whirlpool action; control lights and other appliances throughout the house; and communicate via a built-in telephone. American-Standard, New Brunswick, N.J.
Circle 324 on reader service card
Products continued on page 257

This new Flexway™ service fitting is just the beginning!



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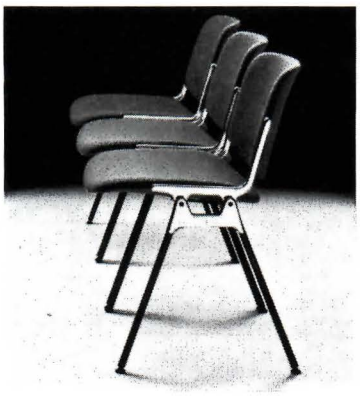
Products continued from page 255



Portable seating
The *106 Chair* was designed by Giancarlo Piretti for use in offices, conference rooms, meeting halls, and reception areas. The die-cast aluminum alloy chairs may be used individually or ganged, and are available with upholstered, wood veneered, or textured polypropylene seats and backs. Castelli, Bohemia, N.Y.
Circle 325 on reader service card

Door control
Heritage Smok-Chek is a smoke-actuated door control device designed for mounting on a standard 2-in. door frame. The all-metal unit is available with an integral photo-optic detector and has a free-swing adjustable friction arm that allows the door to be held at any position. Rixson Firemark Division, Conrac Corp., Franklin Park, Ill.
Circle 326 on reader service card

Roofing
Derbigum HPS is a modified bitumen elastomeric roofing system with a multidirectional tensile strength in excess of 200 psi. The roofing is triple reinforced with a glass fiber weathering mat, an interior glass fiber web, and a woven polyester core. Owens-Corning Fiberglas Corp., Toledo, Ohio.
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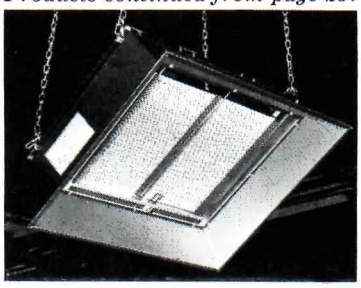
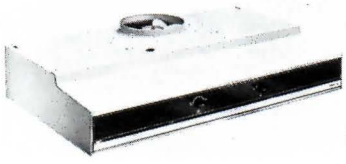
PERT and CPM: Network Methods for Project Planning. 5½ x 8, iv, 56 pp. $5.00 postpaid. SSMB, PO Box 5, San Luis Obispo, CA 93406.

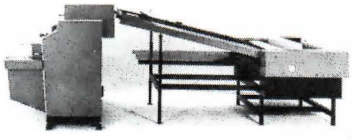
Products continued from page 257



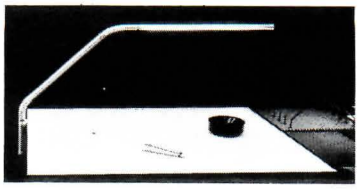
Heaters
The *M* series of infrared natural or propane gas heaters offers 21 burner inputs from 28,000 to 135,000 BTUs per hour. The units come with wire re-radiating screens and high-intensity 1,700-deg ceramic burners. An optional parabolic reflector is available. Solaronics, Inc., Rochester, Minn.
Circle 328 on reader service card



Range hood
The *V-200* range hood was designed for use with 7-in. ducting and comes assembled with prewired junction box and plug-in power unit. The hood has a black finish panel that coordinates with dark glass-front appliances, a brushed aluminum accent strip, and black rotary control knobs. It is available in 30-, 36-, and 42-in. sizes. NuTone Housing Group, Div. of Scovill, Inc., Cincinnati.
Circle 329 on reader service card



Print system
The *654/685* modular diazo print systems feature automatic paper size selection, automatic cutting, multiple copying of up to 25 prints without re-feeding the original, and automatic roll-up of extra-long prints. A powerdown mechanism cuts energy consumption when no prints are being made. Océ-Industries Inc., Chicago.
Circle 330 on reader service card



Lamp
Tuesday is a desk lamp from Belgium available in white, black, red, or yellow. The lamp is offered in a 40-in. model that accepts a 50W halogen light source and a 48-in. version for a 13W fluorescent bulb. George Kovacs Lighting, New York City.
Circle 331 on reader service card
Products continued on page 261

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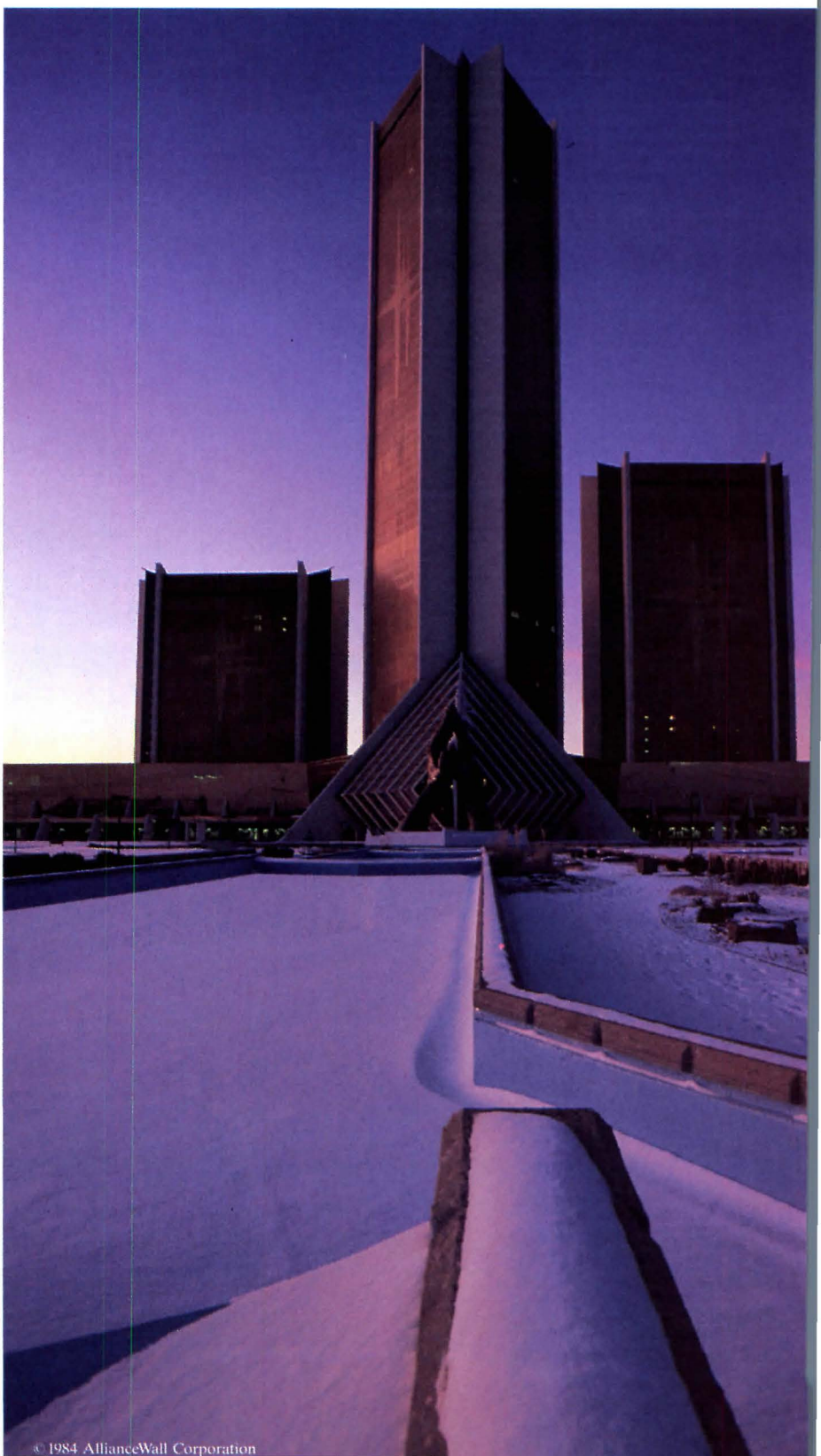


POSITIONS VACANT

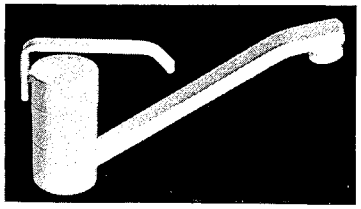
Land Planner/Designer with 5-7 years experience needed for Denver Branch office of major architectural firm. Must be able to perform detailed site analysis, understand development, dynamics and be familiar with P.U.D. application, and approval processes in Western U.S., mainly Colorado. Salary open. Send resume to: Caplinger Planners, Inc., Attn: Charles Caplinger, 237 Lafayette Street, New Orleans, LA 70130 or call: 504-524-1660.

Designer of Architectural Interiors: Leading Cambridge Architectural Firm with national practice seeks an architect/interior designer with 10 years experience in commercial/institutional work to lead interior design team on diverse contracts for hotels, retailing, restaurant, theaters and offices. This is a career opportunity for someone who knows and loves materials, space, color, fixtures, furnishings, people and creative team work in a lively office. Salary open. Send resumes to: P-9261, Architectural Record.

Project Architect — all phases — Residential and commercial. With progressive growing Southeastern Virginia Architectural Firm/Degree in min., 3 yrs. experience. Registration desirable. Starting salary 19-23K plus bonus incentive plan. Growth potential. Resumes to: be sent to: Magoon/Guernsey Architects, 220 North Boundary Street, Williamsburg, VA 23185.

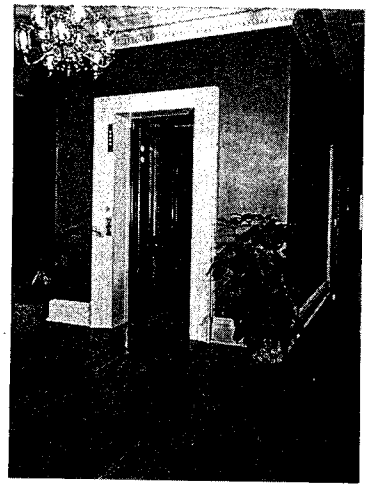
Area Manager/Project Manager/Chief Resident Engineer/BS degree architect and construction with 20 years of design, construct and management experience in Middle East, Africa, Europe and U.S. on infrastructure, airport, rapid transit system, institutional buildings, public works and Islamic mosque. U.S. citizen seeks aggressive overseas assignment. Fluent Arabic language. Please write to: R. E. 8065 SW 107 Ave., #308, Miami, FL 33173 (305) 595-7126.

Products continued from page 259



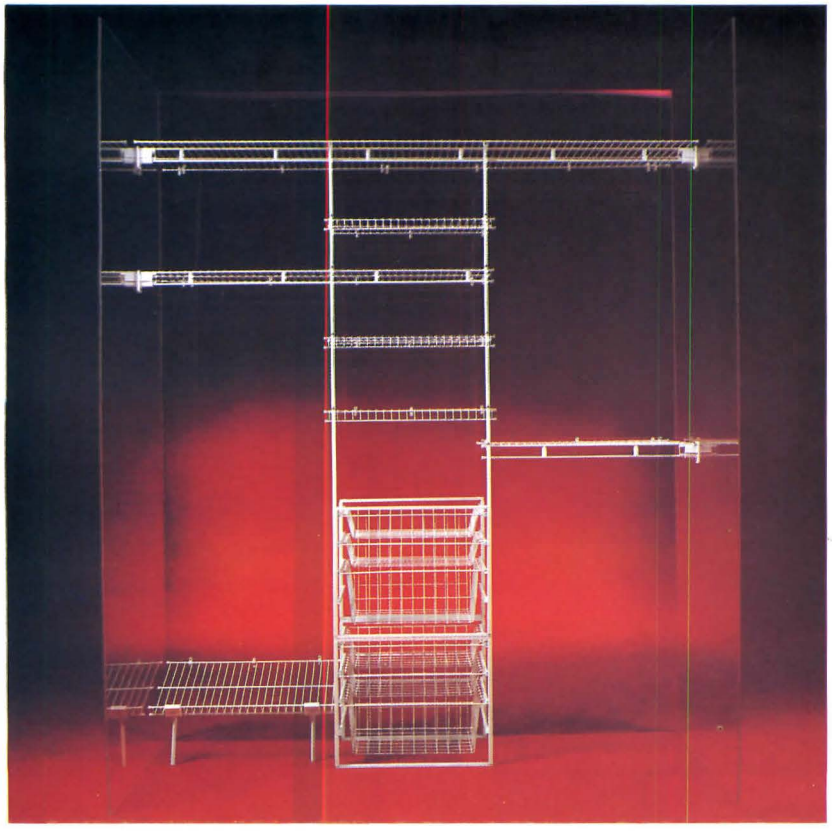
Plumbing fixtures
Designed by Prof. Knub Holscher, the *Nordica* line of plumbing fixtures is manufactured in West Germany and is available in polished chrome or white. The complete collection includes a pressure-balancing thermostatic mixer for tub or shower, a tub spout, control valves, a lavatory mixer, a personal hand-shower set, and a single-hole kitchen mixer (shown). International Plumbing AG, Ben Lomond, Calif.
Circle 332 on reader service card

Computer support furniture
The *WCF* system of computer support furniture consists of mobile units and stationary work stations that are available in 27- and 29-in. heights. Cabinets are of Appalachian white oak or American black walnut veneers and hardwoods. Work surfaces are either veneer or laminate plastic. EOC, Inc., Compton, Calif.
Circle 333 on reader service card



Elevator
The *Renaissance* series of hydraulic elevators features custom brass handrails and doors and hand-stained birch walls, entrance columns, and fascia. All lighting is indirect, and the ventilation system is concealed. General Elevator Corp., Orlando, Fla.
Circle 334 on reader service card

Today's smaller homes demand smarter closets.



It's a reasonable demand. Afterall, today's high cost of construction has forced homes to be built noticeably smaller. So every square foot of space really counts. Especially storage space.

Closets that were once judged adequate if they had a wooden shelf and a bar for hanging clothes on, now fall short. You must now put every inch of space to work. Home buyers expect it.

That's why the addition of Closet Maid systems for closets, pantries, utility rooms and bathrooms makes so much sense. Whether you offer a standard shelving configuration or one of our complete systems with shelves, baskets, and shoe racks, people will notice and appreciate the quality difference. That's the kind of appreciation that helps close sales.

When it comes to your costs we're sure you'll appreciate the fact that Closet Maid is competitively priced with wood. And we'll take care of the installation. What could be easier? Closet Maid closet systems. They answer the demands of today's new homes.

Call, or write, for more information. Clairson International, 720 S.W. 17th Street, Ocala, FL 32674 (904) 732-8734 or Clairson International, 100 Business Center Drive, Corona, CA 91720 (714) 371-4610.

Clairson International **CLOSET MAID®**

Call Toll-Free
1-800-342-0412 in Florida
1-800-874-0007 throughout the U.S.

See our booths #304 & 306 at AIA, June 5-9 and #1531-1533 at CSI, June 16-18

Circle 142 on inquiry card

Continued from page 223

CLASSIFIED

POSITIONS VACANT

Architect, permanent position with long-established Central Florida firm: Minimum three years experience. Salary commensurate with ability. Smith Architectural Group, Inc., 4420 South Florida Ave., Suite 100, Lakeland, Florida 33803.

FACULTY POSITIONS VACANT

Architectural faculty position opening. A tenure track position in the Architectural/Engineering Technology Programs at SUNY at Alfred is anticipated September 1, 1984. The program is heavy in building methods and the applicant should have good, practical experience. A masters degree in Architecture or Architectural Engineering and the ability to become licensed within a reasonable time are required. The residential campus has a student enrollment of 4000, and is located in a rural setting of rolling hills with excellent fishing and hunting available.

Apply with resume and three professional references by May 15, 1984 to:

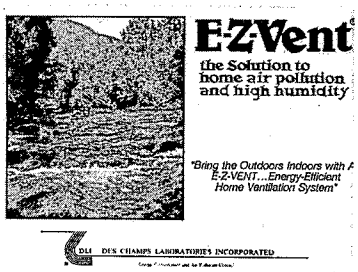
Ronald S. Nichols, P.E.-Chairman
Civil Engineering Technology
State University of New York Agricultural College
Alfred, NY 14802
AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER

Interior Design — Southern Illinois University at Carbondale. Interior Design (2). Tenure Track. August, 1984. Assistant Professor. M.F.A. in interior design preferred. Other master's degree in interior design considered. Experience in teaching and/or professional practice. Duties will include undergraduate teaching in production and presentation drawing, design history, mechanical systems, lighting and facilities programming. Full participation in educational duties and professional activities expected. Associate Professor or Professor. M.F.A. in interior design preferred. Other master's degree in interior design or related field considered. Experience in university teaching and professional practice required. Leadership capabilities essential. Duties will include undergraduate teaching with emphasis on mechanical systems and lighting, facilities programming, CADD and design studios. Leadership in education duties and professional activities expected. Submit letter of application, 3 letters of recommendation, resume, and 20 slides of personal and students' work. A/D until filled, AA/EOE. Marion Wyers-Smith, Chr. Interior Design Search Committee, School of Art, Carbondale, IL 62901.

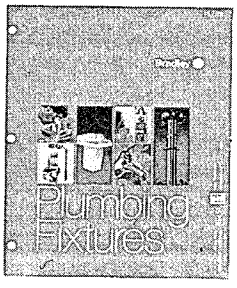
Faculty Vacancy, Architectural Engineering, Pennsylvania State University, University Park, PA. Tenure track opening, Asst. Prof. level, primary duties — teach materials and methods of construction, working drawings and residential and light commercial construction to students in architecture and architectural engineering. Requires master's degree in architecture or architectural engineering, Architectural registration, 3-5 years office experience. Experience in computer graphics a desirable plus. Closing date — June 1, 1984 or until position is filled. Send curriculum vitae to Mr. J. S. Futrick, Admin. Aide, Dept. of Arch. Eng., Box B, 104 Engineering A, University Park, Pa. 16802. PSU is an Affirmative Action/Equal Opportunity Employer.

POSITIONS WANTED

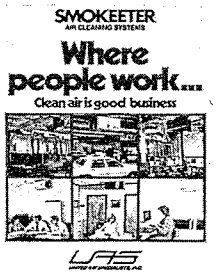
World — Class Theme Park/Resort Architect (AIA) seeks International assignment. Reply PW-9185, Architectural Record.



Residential heat exchanger
A 4-page color brochure featuring the *E-Z-Vent* residential air-to-air heat exchanger line describes units and how they operate. Diagrams illustrate typical installations while a chart lists dimensions and specifications. Des Champs Laboratories, Inc., East Hanover, N.J.
Circle 442 on reader service card



Plumbing fixtures
Washfountains, security plumbing fixtures, column and panel showers, metering faucets, and emergency fixtures are featured in an 8-page brochure. Lavatories and water closets are also included as are barrier-free showers and washfountains. Bradley Corp., Menomonee Falls, Wis.
Circle 443 on reader service card



Air cleaners
Photos show individual electronic air cleaners as well as typical installations in an 8-page brochure. A diagram illustrates the operation of an air cleaner and how it saves energy by recirculating air. Self-cleaning models are included. United Air Specialists, Inc., Cincinnati.
Circle 444 on reader service card

HELIOS Soft Shell Structures

Stage coverings are a frequently employed application of tensioned membrane structures. Their soaring shapes and free-span space heightens the spirit of performance and opens up new horizons of design freedom.

This stage shelter at the University of Miami, Florida is both beautiful and practical. Besides sheltering the performers, it becomes a dramatic visual accent at night as well as during the day. The structure is fabricated of vinyl-coated polyester material held in tension on steel poles resulting in a lightweight, rigid structure engineered to withstand heavy winds and rain.

When your imagination calls for visual excitement and graceful curvilinear shape, Helios can help. As the world leader in membrane structures, Helios has the technology and experience to translate preliminary design concepts into workable Soft Shell Structures. We offer a complete design, engineering, fabrication and erection service unmatched in the U.S.

For more information, or assistance with a specific project, call or write:

HELIOS INDUSTRIES, INC.
20303 Mack Street
Hayward, California 94545, U.S.A.
Telephone (415)887-4800, Telex 176226

HELIOS INDUSTRIES, INC.
Soft Shell Structures Division

Stage shelter at the University of Miami, Florida
Architect: Todd Jonas, AIA
Photo: © Steven Brooke

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 136-141
The Johns Hopkins Hospital
by RTKL Associates
Pages 136-140—Brick: Beldon. Brick paving materials: Norvell Solids by Baltimore Brick.
Page 141—(top, right) Storefront: Kawneer. Glass handrail: Newman Brothers. Architectural millwork: Helmut Guenschel Inc. Ceiling: Alcan. Furniture: Vecta Contract. Benches: John Addon. (bottom, right)—Ceiling: Alcan. Furniture: John Addon.

Pages 156-161
Charlestown Navy Yard
by Anderson Notter Finegold
Page 161—(right) Windows: Capitol. Floor tile: Welsh Quarry Tile. Stairs: York. Elevators: Otis. Furniture: John Addon.

Office notes

Continued from page 37

Firm changes
Interspace Incorporated announces the appointment of Nancy Cameron-Egan as vice president and director of marketing. J. L. Meadows also joins the firm as vice president and principal-in-charge of the Washington design division.

Sandy & Babcock announces the promotion of Gregory Choy, William S. Lyons and Daniel Wong to senior associates.

Sikes Jennings Kelly, Architects/Project Consultants announces the appointment of Judith A. Buck as director of interior architecture.

Larry E. Kula has joined Chumney/Urrutia as a project architect.

Haver, Nunn and Collamer Architecture-Engineering-Planning Inc. announces the promotions of Jimmie R. Nunn to chairman of the board and George A. Collamer to president and chief operating officer.

Eugene Holland & Associates, Ltd. announces the addition of Michael J. Cornwell and Lindsay M. Anderson to their staff.

Adam Hamlyn, Anderson, Consulting Engineers, Inc. has become a division of DMJM and has changed its name to DMJM/Adam, Hamlyn, Anderson.

Robert G. Guajardo has been promoted to project manager at Cerna, Garza & Raba.

Doug Gooch is the new director of marketing for Architects Design Group.

MBT Associates announces that Lee Van De Kerchove has been appointed an associate.

Skidmore, Owings & Merrill announces that Debra Lehman-Smith, Paul Overy and Christopher G. Ions have been made associates.

William A. Edgerton, AIA & Associates announces the addition of George T. Butler, III as a partner in the firm.

Light... Years Ahead.

P2 Parabolume® . . . For Maximum Efficiency

First introduced in 1980, the super-low brightness P2 features an optical system that maximizes lighting distribution and efficiency while retaining the high visual comfort levels that are the trademark of quality lighting.

Designed as an energy saver for the 80's, P2 has proven itself to be the most practical and reliable parabolic innovation since Columbia introduced the original Parabolume 18 years ago.

P3 Parabolume® . . . For Maximum Air Handling Performance

P3 Parabolume is high-technology lighting at its best. Combining the classic appearance of Columbia's 1965 original Parabolume with the advanced performance of P2 optics, the P3 is the latest in a long line of successful Columbia designs.

P3 matches aesthetics with optimum performance. For more information on the P2 or P3 Parabolumes, contact your Columbia Lighting representative or write us.

Columbia Lighting Inc

P.O. Box 2787
Spokane, WA 99220
(509) 924-7000

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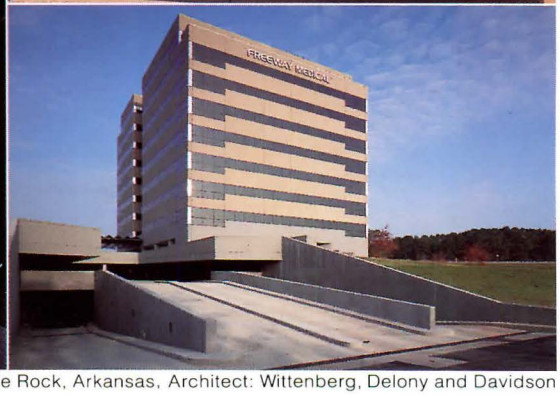

Freeway Medical Tower, Little Rock, Arkansas, Architect: Wittenberg, Delony and Davidson

Put yourself in the picture by combining ceramic tile's design flexibility with pre-fab economy.

Jack Stouse, architect with Kearny Construction, is designing with Gail colors and textures on velcro panels. Stouse is one of many architects across the country taking advantage of the design opportunities offered by Gail prefabricated panels. From coast to coast buildings using the Gail system are soaring skyward... the new 22-story Watermark Tower in Seattle, Washington; the Skyline Bank in Dallas, Texas; the Mt. Sinai Hospital in Cleveland, Ohio and the Metroview Corporate Center in Edison, New Jersey are a few.

Establish the personality for your building with one of a combination of Gail's Combi-Color palette of sixty-two glazed and unglazed Brickplate™colors. Design faces of natural earthtones in solid or varigated colors... clad elevations in bold, vivid or soft, neutral tile (there are six grays from which to choose!). Because the Gail palette is color-coordinated, you can combine different tile for special effects or run an accent stripe or band.

You can have the look of brick or the appearance of granite—all in lightweight ceramic tile. If a high-tech building is on the boards, consider the advantages of combining glass with Gail panels of a reflective glossy similar color glaze! Gail Ceramic Tile offers the opportunity for design flexibility that is unequalled in any other material... take advantage of it!

The Gail Prefabricated System also offers surprising economy. The panels are significantly less expensive than glass or porcelain enamel curtainwall, and offer better performance. The lightweight panels weigh approximately 80% less than brick or pre-cast concrete and eliminate tons of costly deadload in design and require less structural mass. Another economy with the system is the elimination of costly scaffolding. But, the biggest financial saving of all can result from the speed with which the building can be enclosed and completed. The panels are constructed off-site while the steel is going up. Bad weather won't delay construction schedules because the panels are made in the fabricator's plant.

Ceramic tile offers a skin that never needs painting or renovation... it's virtually maintenance-free. Because Gail Brickplate is vitreous, it has superior resistance to pollutants and weather (it's frostproof). A special feature of Brickplate is the "dovetail keyback"design which provides a superior bonding by permanently locking the tile into the portland cement plaster.

Gail is the leader in the technology of the prefabricated panel system... a system whose time has come. Put yourself in the picture with other innovative architects across the country.

Call your Gail distributor or sales representative for a presentation on how you can design with the flexibility of ceramic tile and the economy of prefabrication.

Gail Architectural Ceramics
14791 Myford Road, Tustin, CA 92681
(714) 731-8361

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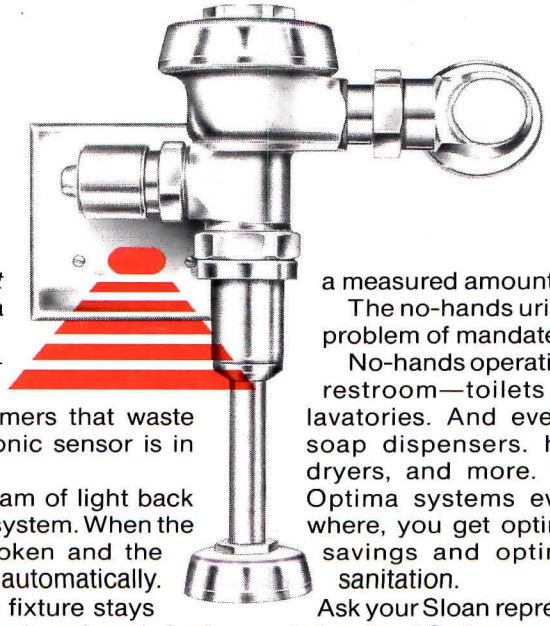
Sloan presents the no-hands urinal.



Take the operation of the urinal *out* of people's hands, and it becomes a cleaner, more cost-efficient fixture.

That's the big idea from Sloan—the no-hands urinal, with no levers to flip, no buttons to push, no timers that waste water. The Sloan Optima™ electronic sensor is in charge.

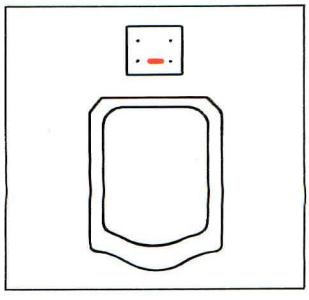
The user reflects an invisible beam of light back into the Optima sensor arming the system. When the user steps away, the beam is broken and the Sloan flushometer flushes the urinal automatically.

With no "forgotten" flushes, the fixture stays cleaner and bacterial contamination is reduced. And there's less water waste, because the system dispenses a measured amount of water only on demand.

The no-hands urinal also automatically solves the problem of mandated access for the handicapped.

No-hands operation easily adapts to the rest of the restroom—toilets *and* lavatories. And even to soap dispensers. hand dryers, and more. With Optima systems everywhere, you get optimum savings and optimum sanitation.

Ask your Sloan representative about Optima systems today. Or write us.



SLOAN VALVE COMPANY
10500 Seymour Avenue, Franklin Park, IL 60131

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