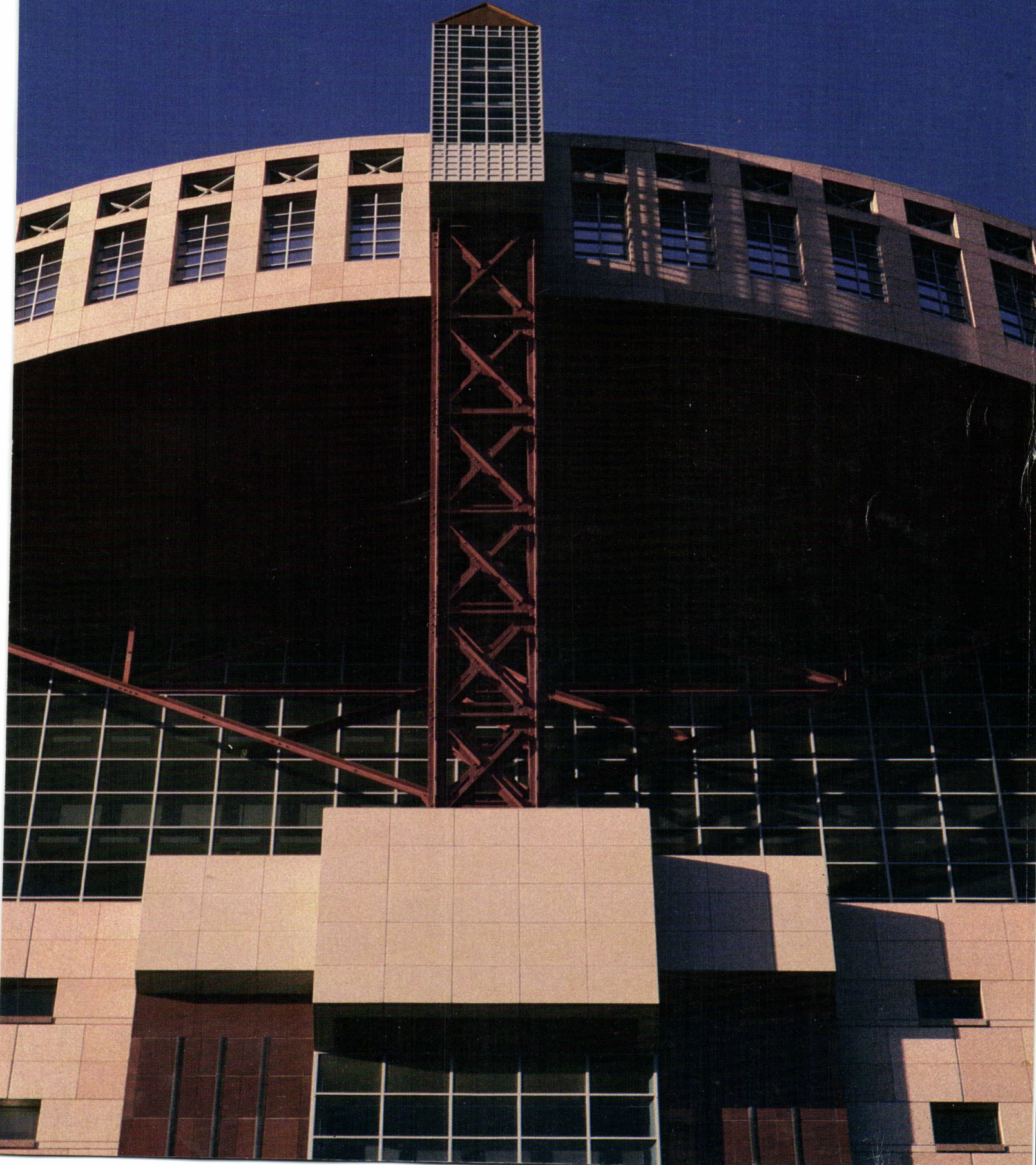


ARCHITECTURAL
RECORD

Business Design Engineering
A McGraw-Hill Publication, Six Dollars a Copy
August 1985



Understanding the most misunderstood ceiling.

An architect's guide to Armstrong integrated ceiling systems.

Among all ceiling specifiers, architects should most appreciate the advantages of integrated ceiling systems.

Yet many architects seem to be unaware of the systems' benefits. Consequently, they consider these ceilings to be too involved. Too expensive. Or both.

This guide will help clear those misconceptions. It explains the many cost-saving features, functions, and benefits of an integrated ceiling system.

Pre-engineered elements relocate easily.

Unlike lay-in ceilings, an integrated system is totally pre-engineered. Its four major elements — acoustical panels, suspension, lighting, air handling — are fully compatible.

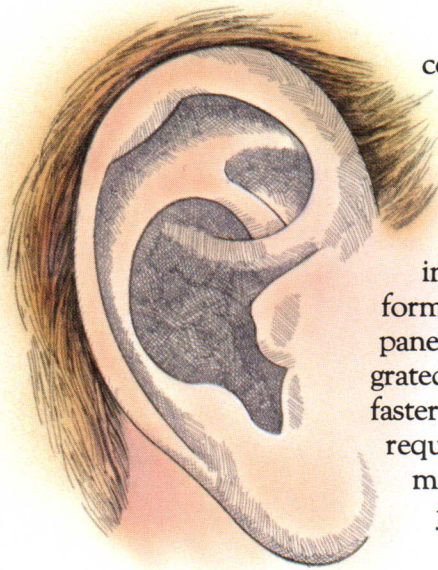
Pre-engineering saves you the time spent detailing and organizing ceiling elements. You no longer have to piece together a system during investigation. It's all done for you in advance.

Better yet, it's all done by one supplier. You won't have to call one manufacturer for fixtures, another for diffusers, then hope the components will integrate properly.

With an integrated ceiling, it's one system from one supplier.

Acoustical panels control noise to 1.0 NRC.

Large-size integrated ceiling panels provide superb acoustical control in any environment. You enjoy numerous acoustical options, including high-performance glass-fiber panels. These integrated ceiling panels are faster to install because they require no exposed sub-modular tees. And no job-site cutting.



Suspension systems conceal diffusers.

Medium-width integrated suspension systems increase your design flexibility. They allow you to locate partitions virtually everywhere. Or to relocate lighting fixtures after installation. And they handle air-diffusion requirements.

As a result, you organize your space and grid configurations much more efficiently.

Your feature on Housing for the Elderly [RECORD, February 1985, pages 95-113] brought back memories for me.

As a young designer with Leo Daly some 15-plus years ago, I was deeply involved in the design of these facilities under some of the Federal programs that you write about. With the growing age of the U. S. population, obviously this type of "sheltered independence" will become very significant, as you point out. I have been curious as to what direction we will take in our profession toward solutions for this shelter. Your article has given me some optimism.

Congratulations—that was a nice feature!

Joseph D. Vaccaro
Vice President,
Executive Director, Los Angeles
Leo Daly
Los Angeles

Your "wish book" editorial in January 1985 identifying a crisis in fees and earnings was almost laughable. As usual, you address your remarks to 5 per cent of the professional firms in the country.

Say "No!" you say. Well, I say "No, no and no," and what is the result? A 25-year practice is on the brink of failure. Why?

We are offered projects with fees that could not begin to cover the design phases of the project. So we respectfully decline and the projects are sucked up by firms that will take any project at any price.

Some facts about fees:

1. A \$13-million office complex for a fixed fee of \$92,000 (.07 per cent).
2. A multifamily multistory housing project with a \$9-million construction budget in St. Petersburg, Florida, for a fee of \$42,000 (.04 per cent).
3. A 200-room standard hotel with a construction budget of \$6.5 million for \$125,000 (.019 per cent).

Yet in a recent local survey, not one firm in Dade and Broward counties, Florida, admitted to accepting any project for less than 5 per cent. The problem begins with public projects. Local professionals are paid 3 per cent for designing schools, visiting experts over 5 per cent.

Our fees are set by the industry, not by the profession. No other business, even the used car lots, would allow this to happen. I doubt that a physician or attorney receives phone calls from persons whose "fingers do the walking" through the yellow pages to query how much do you charge to "draw a blueprint."

Dream on!
E. "Manny" Abraben, AIA
Fort Lauderdale, Florida

In regard to your article on the Victoria General Hospital in Victoria, B. C. [RECORD, April 1985, pages 146-155], our firm, Beinhaker Irwin Associates Architects and Engineers (now practicing in British Columbia as IBI Group) were joint-venture architects with Russell Vandiver Architect for the Victoria General Hospital.

The joint-venture agreement between the two firms required that "all public statements, releases, photographs, drawings," etc., were to be approved by the two firms. In the case of the materials supplied to ARCHITECTURAL RECORD for your recent article, this policy was overlooked, resulting in several inaccuracies in the specific content and the general tone of the article by Brad Perkins.

The project was carried out as a joint venture in the truest sense. The design was a collaborative and cooperative effort of both firms, which resulted in a successful project completed on time and within budget. There was specifically no "partner in charge of design," a conscious decision on the part of both firms to reflect this collaboration. Members of both firms contributed equally to all aspects of the professional work from design through to construction supervision. The work was carried out in Beinhaker Irwin offices but as a separate joint-venture office staffed by members of both firms.

The joint venture, while equal in the professional effort, was structured to have a slightly larger participation by Beinhaker Irwin (54 per cent/46 per cent) to reflect our responsibilities for management of the joint venture.

Victoria General was a significant project for both firms in the development of our respective practices. IBI Group (Beinhaker Irwin Associates) is a national practice with a major component of its work in the health care field. Our reputation in this field is in part due to the success of VGH and our contribution to that success, of which we are extremely proud. We have always represented this project to our clients (present and prospective) as an example not only of the respective skills of our firms but also of the value of true collaboration among professionals.

Mr. Perkins's article is not consistent with this representation, a matter that causes us some concern in light of ARCHITECTURAL RECORD's wide circulation and the high regard in which the magazine is held.

Philip H. Beinhaker
Managing Director
Group
Vancouver, British Columbia

Through September 8

Arquitectonica: Yesterday, Today, Tomorrow, an exhibit of models, photographs and drawings from the Miami architectural firm; at the Walker Art Center, Vineland Place, Minneapolis.

August 20-24

WORLDESIGN 85/ICSID USA (International Council of Societies of Industrial Design), conference and exhibitions on the theme "Realities and Aspirations," sponsored by the Industrial Designers Society of America; at the Sheraton Washington Hotel, Washington, D. C. For information: The Design Foundation, Attn.: WORLDESIGN 85, 1630 Beverly Rd., Suite 303, McLean, Va. 22101-3671 (703/556-0919).

September 9-10

Seminar, "Marketing Construction Services," to be followed September 12-13 by "Design/Build, Build/Lease and Financing" and September 16-17 by "Advanced Negotiating Skills," sponsored by Group Communications, Inc.; in Dallas. Similar series will be held at Nashville in October, at Chicago in November, at Philadelphia in December, at Orlando in January 1986, and at Denver in February 1986. For information: Group Communications, Inc., 10417 Rockley Rd., Houston, Texas 77099 (1-800/231-3353).

September 18-20

Convention, Society for Marketing Professional Services; at New Orleans. For information: Society for Marketing Professional Services, 801 N. Fairfax St., Alexandria, Va. 22314 (703/549-6117).

September 26-28

Energy Planning for Communities, an international conference sponsored by the American Institute of Architects and the U. S. Department of Energy, in cooperation with a number of professional organizations and agencies; in St. Paul, Minn. For information: Energy Programs, AIA, 1735 New York Ave., N. W., Washington, D. C. 20006 (202/626-7448).

September 30 through October 3

Lighting seminar, Institute on Indoor Applications/Industrial & Commercial, at Boulder, Colo. For information: Independent Testing Laboratories, 3386 Longhorn Rd., Boulder, Colo. 80302 (303/442-1255).

October 1-6

Third annual international ceramic tile and bath fair and exhibition; at Bologna Fairgrounds, Bologna, Italy. For information: Italian Tile Center, 499 Park Ave., New York, N. Y. 10022 (212/980-8866).

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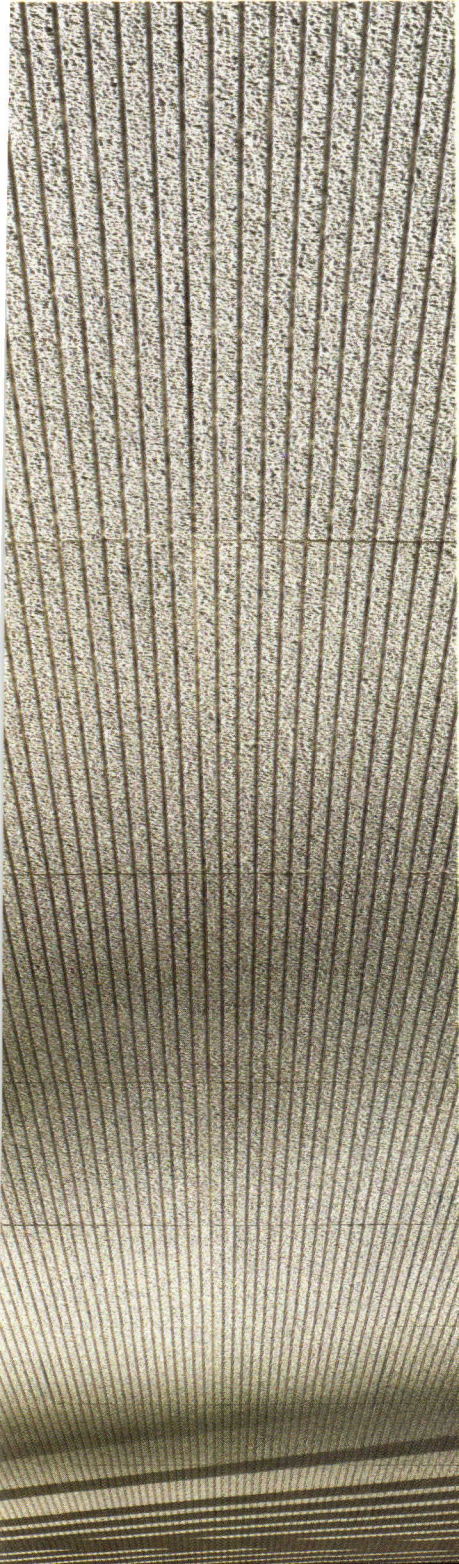
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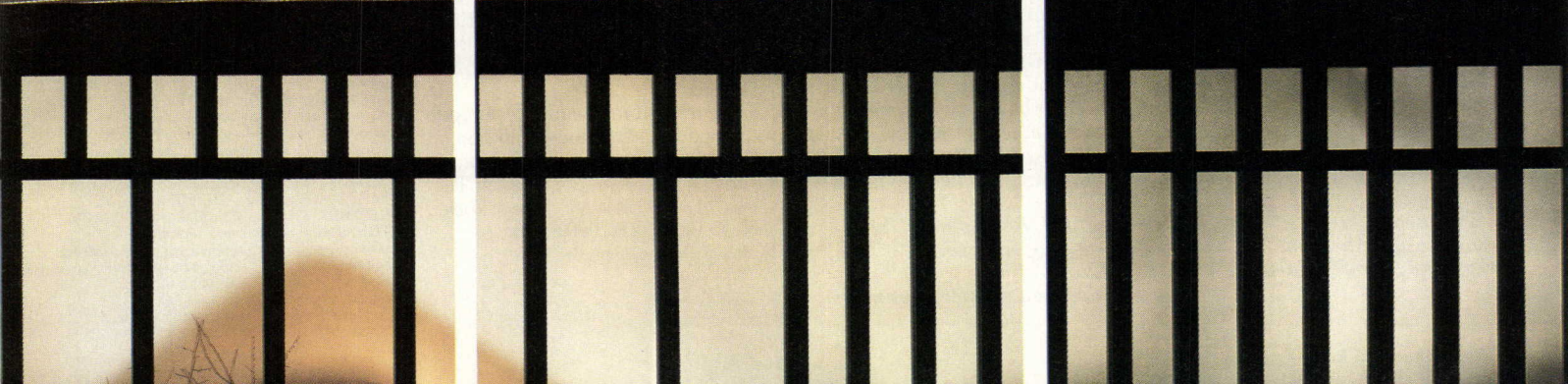
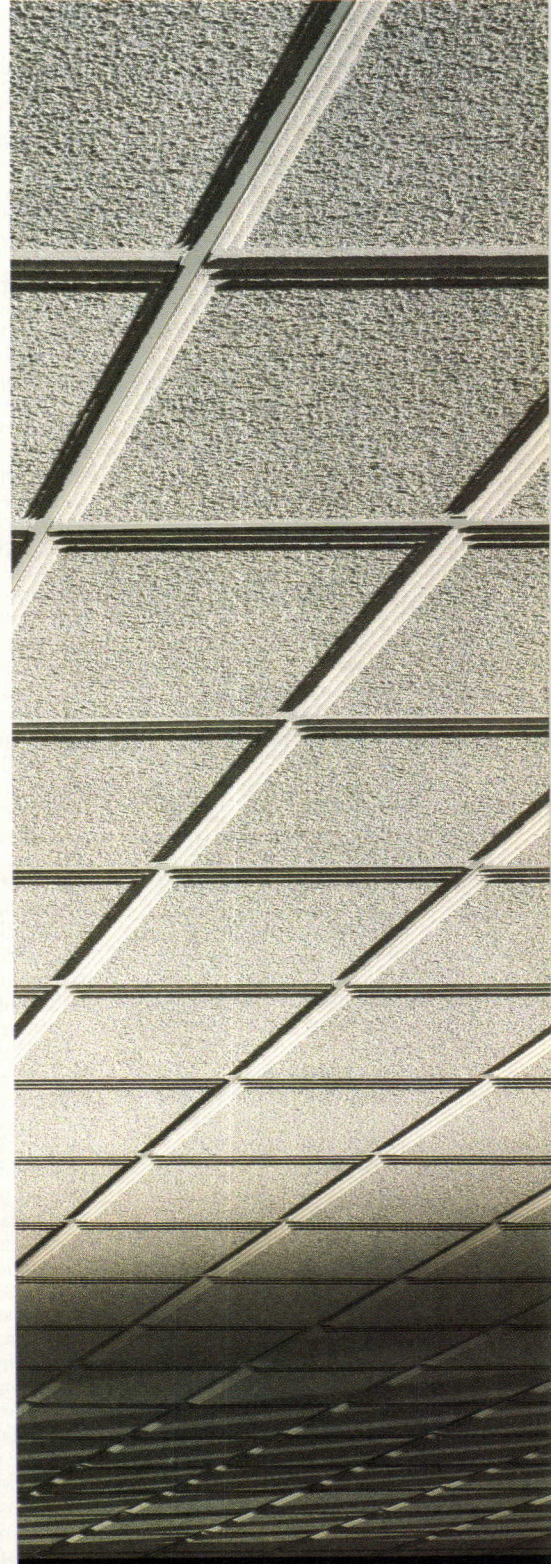
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Darl Rastorfer, engineering

Karen Stein, new products and product literature

Letters/calendar, 4

Editorial: In memoriam: Walter F. Wagner, Jr., FAIA 1926-1985, 9

Business

News, 33

Computers: Where are we and where are we going on PCs, 37

Practice: How to manage a crisis, 41

Marketing: Who's doing what, when and how...

an important survey report, 47

Architectural education:

How well is the registration exam doing its job?, 53

Design

News, 65

Design awards/competitions, 70

Observations, 73

Building Types Study 617: Research libraries, 87

Walter Royal Davis Library, The University of North Carolina, 88
By Mitchell/Giurgola Architects;
Boney Architects, Architects of Record
The John Crerar Library, The University of Chicago, 94
By The Stubbins Associates, Inc./Loebl Schlossman & Hackl, Inc.,
Associated Architects
Broward County Main Library, Fort Lauderdale, Florida, 98
By Gatje Papachristou Smith/Miller & Meier & Associates/
A Joint Venture

The Humana Building, Louisville, Kentucky, 102

By Michael Graves, Architect

Linda Dresner, New York City, 114

By JW Fred Smith, Designer

A portfolio of projects, 118

By Turner Brooks, Architect

Engineering

The metal-skin technology of Foster Associates, 130

Three projects in England: Sainsbury Centre for the Visual Arts,
The University of East Anglia,; Renault Parts Distribution Centre,
Swinden, Wilts; IBM Greenford Technical Park, Greenford, Middlesex

New products: NEOCON 17, 138

Product literature, 144

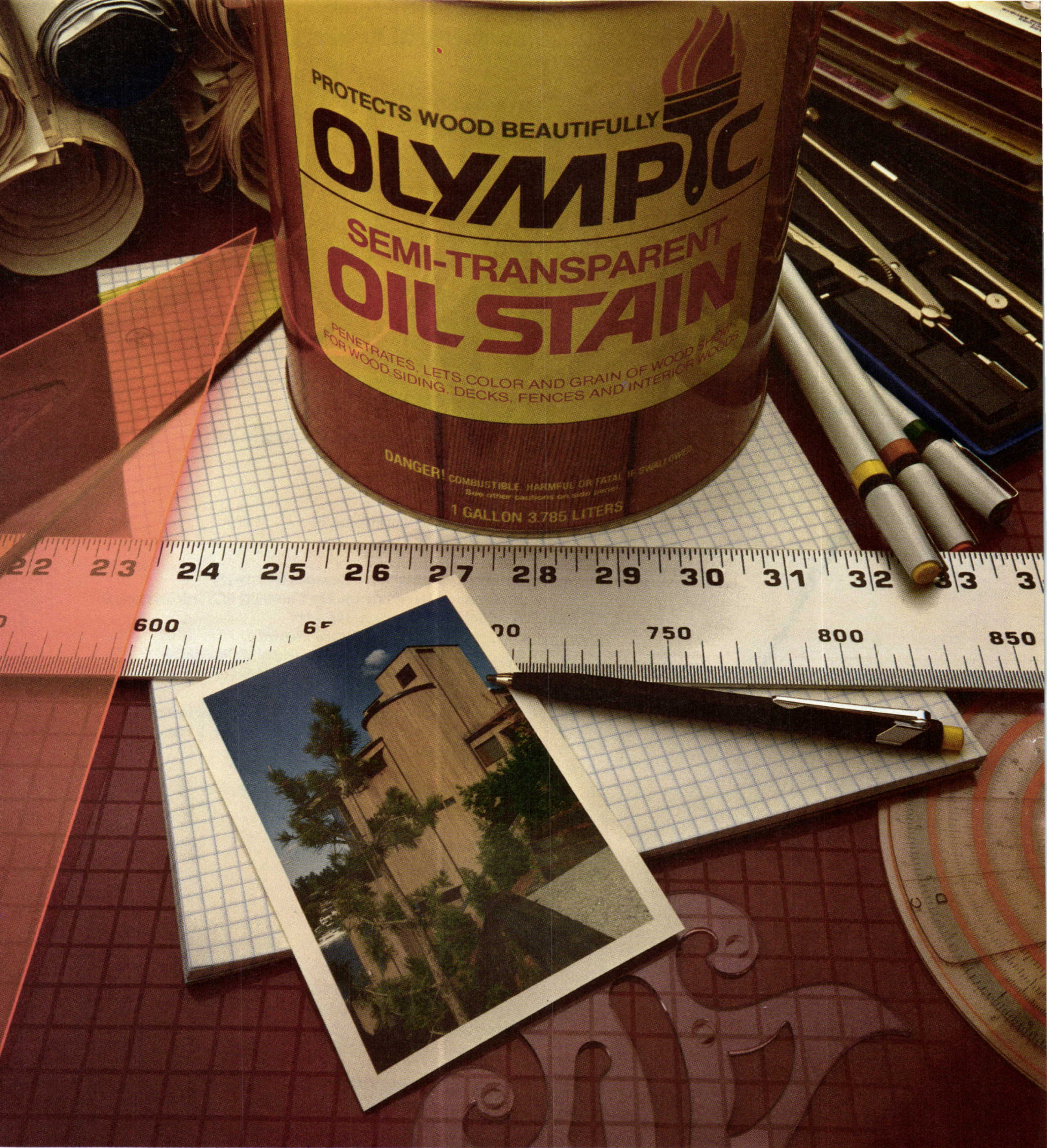
Manufacturer sources, 163

Classified advertising, 184

Advertising index, 202

Reader service card, 205

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The Humana Building, Louisville, Kentucky
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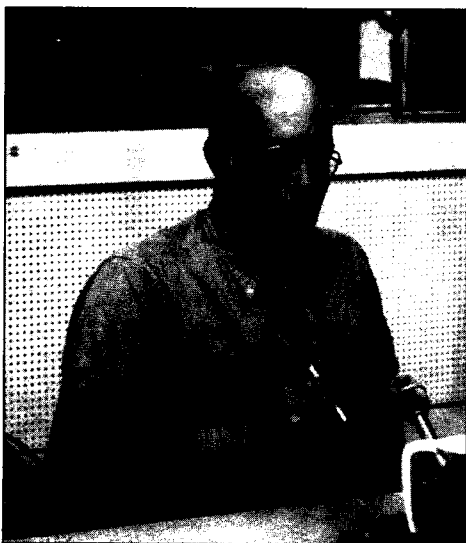
In memoriam:

Walter F. Wagner, Jr., FAIA 1926 -1985

I never met an editor like Walter Wagner until I became publisher of ARCHITECTURAL RECORD. I knew many chief editors, of course, because I had been in the magazine business for a while before coming to McGraw-Hill, but I was not prepared for Walter. At first I told him my ideas — about editorial content, graphics, directing the staff, market focus, the rest — but not much seemed to be happening. I thought him stubborn, and I was right, but gradually I began to realize that he was patiently trying to teach me what RECORD was all about. He turned out to be the one who decided what to keep and what to change. To my surprise, he saw the arrival of a new publisher as the chance to get what *he* wanted for the RECORD, not the other way around. He learned from me, but I learned so much more from him. Together we accomplished many things.

He was a comprehensive editor, eminent in the world of architectural journalism, and widely admired by the architectural profession itself. But additionally, he understood both the publishing and the construction industries and long before I knew him had earned the respect of what editors call “the business side.” But he never forgot the reader. Architects knew that he believed in them and the importance of what they do. His fundamental editorial policy was to give them all the help and support he could.

He fought for better architectural education and for the highest professional standards. He was a busy editor, yet he made time to see as many architects as possible — especially young men and women just starting out. And he kept the magazine open to designers with new ideas and to changing theories and styles, without neglecting accomplished, if conservative, work. I didn't control him, but no particular group of architects, historians or theorists did either. But we all tried to borrow his private self when we could, for he was a great companion — gifted, funny and kind. He is missed. *Paul B. Beatty*



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Program to encourage historic preservation in commercial districts begun

Despite proposed changes to Federal tax laws that would greatly hamper such efforts (see right), the National Trust is proceeding with a planned, three-year project to demonstrate how commercial needs can be met with practical approaches that encourage the preservation of worthwhile older buildings in commercial areas. Eight cities have been selected: Knoxville, Tenn.; Dubuque, Iowa; Cheyenne, Wyo.; Joliet, Ill.; Boston (the Roslindale Square district); Pittsburgh (South Side); Albuquerque (Nob Hill); and Chicago (Milwaukee Avenue). The eight cities, working largely with local resources, are expected to form laboratories for future revitalization along such lines. For more information, contact the Trust at 1785 Massachusetts Avenue, N. W., Washington, D. C. 20036.

Sweet's Files and Dodge Reports to go electronic

The McGraw-Hill Information Systems Company has announced a multimillion-dollar project to provide two of the company's construction-related divisions, Sweet's and Dodge Reports, with the ability to service customers through their computers. What this means for the familiar Sweet's, which now comes in 50 volumes containing some 10,000 different products, is that a user will be able simply to key the characteristics of a product, say a door of given dimensions, weight, material, and fire and acoustic rating, into his or her computer and be presented with a complete listing of manufacturers with products that meet those specifications. Also listed would be available brochures, applications information, and graphic materials. "Over the next five years," says F. P. Jannott, executive vice president of McGraw-Hill's Construction Information Group, "the impact will be felt by all those involved in the industry—architects, engineers, contractors, subs and those who manufacture and market building products." It is within those same five years that Sweet's research indicates that 90 per cent of all architectural and engineering firms will be using personal computers. *C. K. H.*

Effects of tax reform already being felt

In a scene freighted with considerable irony, Representative Dan Rostenkowski, chairman of the powerful House Ways and Means Committee, shared the spotlight in early July on his home turf with the president of the National Trust for Historic Preservation, J. Jackson Walter. The two men were cutting the ribbon to start a revitalization effort in downtown Chicago.

Reviving Chicago's Greater Milwaukee Avenue as a demonstration project under the National Trust's Main Street program (see story this page) is aided significantly by the investment tax credit program for rehabilitating historic buildings, which yields credits of from 15 to 25 per cent of the cost of rehabilitation, depending on the age and quality of the building to be worked on. Democrat Rostenkowski originated these tax credits. But now he is backing President Reagan's tax reform package that would eliminate those rehabilitation incentives. In his job at the tax-writing House Ways and Means Committee, Rostenkowski is a key figure in the tax-reform drive.

At the Chicago ribbon-cutting, Walter gently spotlighted "Rosty's" dilemma in his remarks: "A couple of projects just down the street are happening because of a very special program Rostenkowski developed—the investment tax credit for historic rehabilitation," said Walter. "That credit will be wiped from the pages of the Federal tax code if the Administration's tax package is passed. With it will go one of the most effective tools ever developed to help revitalize neighborhoods such as Wicker Park and main streets like Milwaukee Avenue."

Earlier in a speech at the National Press Club, Walter hit the same theme more forcefully in both esthetic and economic terms: "If rehab tax credits are eliminated," he said, "the predictable consequences in terms of more city wrecking would have to be characterized as intentional." The rehab tax credit is an "efficient and effective urban policy innovation. It is not simply God-given that we be a nation of shopping malls, cookie-cutter glass-box office towers and suburban subdivisions. We're a country with a splendid and usable past. We can save the best of what we have—but we have to provide the incentives to make it happen."

As outlined on this news page last month, certified historic rehab work has, since 1982, led to more than 180,000 new jobs and more than 36,000 rehabilitated housing units. Such tax-aided projects generated \$5.3 billion in increased local retail sales and general business activity. In contrast, repeal

of all rehab tax credits would produce only about \$400 million in extra revenues in fiscal 1987, according to Walter.

As it happens, the mere existence of these proposals is already putting the brakes on rehabilitation work around the country. Treasury II, as the latest round of tax reform suggestions is known, has already stopped historic renovation work in most large and even not so large cities "cold in its tracks," according to Ian Spatz, a tax expert at the Trust's headquarters in Washington. "It's like a cold, wet blanket for new projects."

Examples abound: Bertram Lewis, chairman of New York-based Sybedon Corporation, says, "We have probably a dozen projects hanging in the balance." On Manhattan's Upper West Side, Sybedon had been working to renovate a block-long dilapidated former nursing home into a youth hostel, an \$11.2-million project. But with the new uncertainty and because of complicated financial assumptions, Lewis is reluctant to get going now. Other Sybedon projects on hold are the Mission Inn in Riverside, California, where President and Mrs. Reagan spent their honeymoon; Old Union Station in Nashville; the Alden Park residential complex in Philadelphia; and a group of industrial buildings in Richmond containing 1.3 million square feet. Lewis says all of these projects have not started in the formal sense, but "they have been acquired, architectural plans have been prepared, and engineering and financing have been arranged. They are all on hold now."

He adds Sybedon has "a number of other projects in the construction phase, and we are pressing like mad to get them done before December 31st," the date rehab credits would cease to exist. "It costs more, and with overtime you just don't get the same kind of efficiency," he adds.

In the Midwest, SFM Venture Corporation of Wichita is also hurrying to finish a hotel in Colorado Springs and an office building in Durango, Colorado, that were, according to original timetables, to be completed in 1986. "I'd guess that every city with historic or interesting older buildings is threatened," says partner and general counsel Bruce E. Frazey. "In Wichita, there is a whole block of historic buildings with no chance now."

He adds, "Tax credits have done a lot for our inner cities. It would be a shame if everything—economic benefits, the viability of downtown—goes by the wayside."

Sighs Frazey, "Everything turns into a pumpkin January first." *Peter Hoffmann, World News, Washington, D. C.*

How can the owner of this building meet the code requirement for elevator lobby separation and still keep this elegant lobby elegant?



John Ascuaga's Nugget Hotel/Casino Sparks, Nevada.

Systems '85 Where we are and where we're going

Judging from attendance at this year's A/E Systems '85, held in the big Anaheim Convention Center, the interest in computers among architects, engineers and facilities managers is still on the upswing. The five-day show drew over 17,000 people, some 5,000 more than last year, and a total of 237 exhibitors—slightly more than last year despite some casualties among computer vendors, which were reflected on the exhibit floor by some absences.”

As usual, CAD was the big drawing card for most of the attendees

One difference from previous years, however, was that a large number of this year's attendees felt confident enough with computers to sit at the terminals for some hands-on evaluation. Continuing last year's trend, a substantial number of the exhibitors offered microcomputer-based systems. Harry Mileaf, director of technology and product development for Sweet's, offered some statistics on this trend based on his continuing research. Among his findings:

- 40 per cent of the micros that are being used now were bought within the last year. Many were bought by first-time users, but many were also bought to supplement minis and mainframes.

- 56 per cent of all the micros bought are either IBM or IBM-compatible; 19 per cent are Apples; and 16 per cent are Radio Shack computers. This lopsided breakdown, according to Mileaf, is probably due to the fact that software developers are still focusing on IBM.

- 60 per cent of the independent firms that sell software have fewer than 10 packages to sell. Mileaf noted that companies like IBM are starting to take over distribution of software, and he predicted that hardware manufacturers and systems vendors will become the dominant influences in software in the next few years.

Company decisionmakers talked about the trends they are helping to create

Among the many tutorials and seminars was a panel of company presidents chaired by Charles Foundyler, president of Daratech, Inc., of Cambridge, Mass. Their comments and predictions often revealed the direction their companies were taking.

John Walker, president of Autodesk, Inc., Sausalito, Calif., commented: “The one point I want to make is that CAD is software. You can go down on the exhibit floor and see lots of boxes, lots of machines. But the value-added, the thing that solves your problem, is nothing but a computer program running on that machine. . . .

“If you lock a CAD system to one hardware base, you're locking the

people who buy that system into one point in the history of this technology. . . . A lot of vendors underestimate the intelligence of their users, and they limit them. They say that we're providing this solution, you will learn to use it, and it will do everything you want. That's nonsense. Nobody can anticipate the way you work. You need a system that you can adapt, that you can mold to the way you work. In the computer industry this is called open architecture.”

Walter Von Seggern, president of Sigma Design, Inc., Englewood, Colo., was concerned that the management of architectural firms paid so little attention to their CAD systems after they acquired them. “We're trying to develop a new tool that will attempt to get management involved in the process of running the CAD system so that they can know what's going on and take advantage of the information that's now available to them because of using a computer rather than manual techniques.”

Robert Tiel, director of engineering marketing, CAD/CAM, for IBM in White Plains, N. Y., predicted that the continuing decline in the cost of computing will make it possible for most people to have an intelligent workstation, with significant power and file survey capability, on their desk within the next five years.

“As we look at architecture, we step back and say that it's really a database problem. People want to have access to the database from

the smallest project to the largest skyscraper, and they want to do it from the original programming or thinking out of the original design through the maintenance of the building to the end of the life of the building itself. We think that to do the best job for the A-E-C and facilities management professions, we have to think through all the database implications, and that's where a lot of our focus is.”

One company president argued that CAD systems don't meet architects' needs

David R. Skok, president of SKOK System, Inc., Cambridge, Mass., said that most of today's systems are more drafting-oriented than necessary. “We believe that the real challenge for CAD vendors is to move the current systems beyond drafting,” Skok said. He argued that architects should see themselves as being in the information management business. “They should be selling the concept of that information and that database which they put together. Once they have that, they will do as-built documentation during the construction phase, keep a complete, accurate database of what is actually going on in the construction process, and finally continue with facilities management, as they are almost without question or doubt the best-suited people to deliver that database they have spent so much time and effort developing.”

Charles Eastman, president of

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Formative Technologies, Inc., in Pittsburgh, agreed with Skok about today's drafting systems: "Right now we're using a drawing technology that is highly oriented toward accurate dimensioned drawings. You pay a terrific overhead for that, and that's why you can't design very well by connecting to grids and moving dimensions around on most of the CAD systems today. Some architects are beginning to use other kinds of systems for doing design. I know of many who are using the graphic systems on a PC and finding them much more friendly. But we don't have CAD systems to support the smooth transition from that into dimensioned drawings.

"Also, all of you work in a complex environment; you don't have complete control of the project. You have consulting engineers. You're doing retrofit work or rehabilitation work where there are old and existing drawings. We really need data conversion of existing drawings in a much greater and much easier fashion than we have today. That is a real stumbling block in CAD. The scanning capabilities that are becoming more widely available everywhere are fundamental and provide a range of capabilities for data management today that aren't provided by IGES or CIF or any of the highly structured and slow and cumbersome kinds of drawing formats."

Stephen Ball, president of Cascade Graphic Development,

Santa Ana, Calif., identified another problem—and a solution: "One area that we've found from our users' group that is quite a stumbling block is the plotting area. Plotting, we believe, should be a clerical function and not a management or an engineering function. We believe that somebody earning \$5 an hour and not somebody earning \$50 should be doing it. So we have designed a system called IPLLOT, which stands for Independent Plotting Station, that is an inexpensive way to do plotting completely off line, put it in a reproduction room and make it a clerical function, and again add productivity to the drafting department."

Some more predictions from the men who make the trends...

Frank Puhl, president of Cadam, Inc., in Burbank, Calif., saw future hardware development as moving toward networked workstations that will have greater capability than today's and also cost less. "Communications with high accuracy results are going to become essential, because we are going to move away from that stand-alone system whether we are small mom-and-pop operations or large, sophisticated integrated ones," he said. Essential to this development, according to Puhl, is the interfacing to peripherals. "We've got to get digitizing, plotting, printing, hard copies—all types of devices have to get

standardized and opened up so that we can provide the user with a productive tool," he said.

In sum, said Puhl, "I think that what we really need are systems that have upward compatibility so that you don't paint yourself into a corner, so that you have a database that can be expanded through time and carried forward, so that you can do the advanced functions that really begin to integrate the system, and so that you have communications capability."

Bill Conlin, president of CalComp, of Anaheim, Calif., added: "Many vendors of CAD systems are running into the problem of not having compatibility among their own equipment, and therefore how can they supply that kind of assurance to their end users?" He advised the audience to look for a stress on industry standards, on expandability, on not being tied to the hardware characteristics of whatever product they were acquiring.

For Roger Paradis, president of Skantek Corp., of Warren, N. J., archival retrieval systems that interface to and become part of the conventional computer-aided design system are going to be of prime importance to users. According to Paradis, once a database starts to develop, various users within an organization typically demand access to that data, and that access can be broader than just the CAD terminals that are used for inputting or creating files. Said Paradis: "We have recently been

party to a major U. S. Army/Air Force project to build one of the first all-digital archival retrieval systems, and the initial structure of this system will be non-CAD in that it will capture and store only raster data. So essentially it will store and retrieve and manage the black-and-white dots that represent the images that are on these documents."

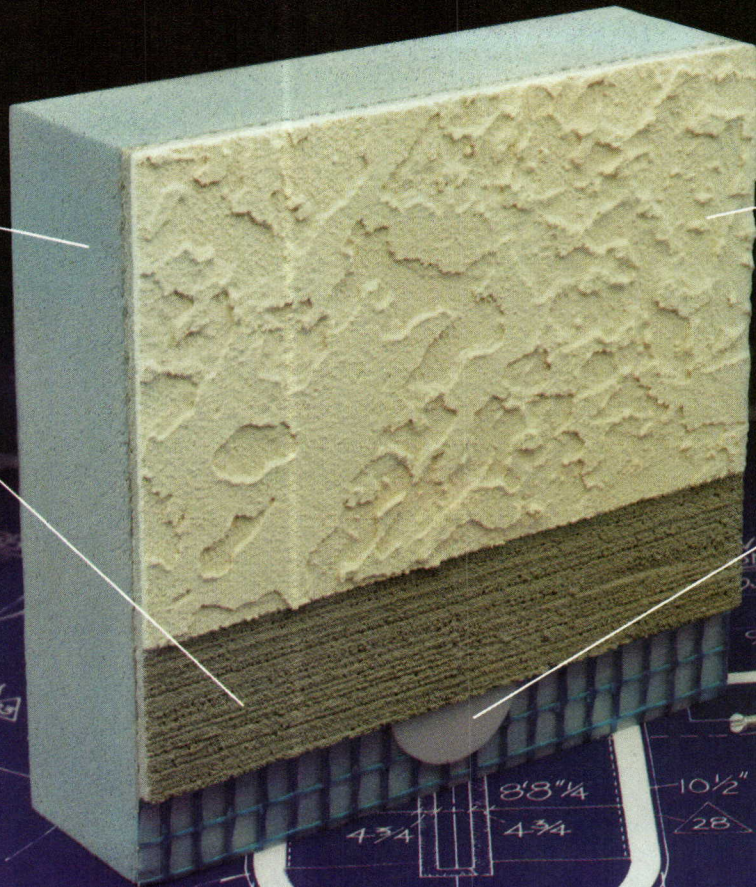
Another prediction: artificial intelligence is going to take off

According to Sweet's Mileaf, computers will have to change from being task-oriented to becoming decision-oriented so that they can be applied in a totally different way much earlier in the process. Artificial intelligence will permit that to happen. He predicted: "Sometime soon an artificial intelligence package will be released that everybody can get involved with and understand, and it will be an intelligent spreadsheet. . . . In the spreadsheets that will come out in the future, the what-if manipulations will be done by the intelligent program handling it, and it will produce a set of optimum numbers for the user."

Mileaf predicted that by the year 2000, computers will perform the over-all functions of a design office in an integrated manner. "In the design phase, the computer will be an invaluable aid to the profession," he said, "but in the production phase the computer will function almost alone."

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Computers: Where are we and where are we going on PCs?

The database management story

By Eric Teicholz and Dan Smith

In the first part of their article (see *RECORD*, May, pages 47 and 49), authors Eric Teicholz and Dan Smith laid to rest an ongoing dialogue in these pages on whether or not personal computers were really ready to handle the broad range of tasks—especially CAD ones—that occur in architects', engineers', and interior designers' offices. They answered that indeed they were, within limitations they expected would be ironed out in the near future. And they listed the reasons that PCs have become so attractive: namely price, versatility, ease of use, decentralization, and productivity when compared with more traditional manual methods. They went on to describe what PCs will do in one important application, CAD, including the particulars of the leading systems when put through their paces on the authors' IBM. This month they report on what they can do on this hardware with database management systems. C. K. H.

If we take a general look at data management software for, in the case of our study, the IBM PC, we find a broad spectrum of products ranging from simple file managers, capable only of basic input and retrieval of information, to the very sophisticated database programming language systems in which powerful programs for manipulating data may be written. One such system for the IBM is dBASE II. Also at the upper end of the performance spectrum are the integrated software packages, which can tie together a number of software applications, such as DBMSs, word processing, spreadsheet use and graphics.

Most DBMSs store information in a similar format. File, record, and field are the terms commonly used in describing the three basic elements in a data structure. A field (or attribute) is a single entry of information and can be a word, a number, a date, a price, and so on. A set of one or more attributes combine to make a record.

For instance, the record of a building product manufacturer might contain the company's name,

address, and phone number. A group of records (i.e., several manufacturers) all having the same number and type of fields, would be contained within a file.

In simple filing systems, records are linked together in sequential lists. That is, each piece of information "points" to the next in some predefined order. In this manner, the records in a file containing manufacturers' information might be stored in alphabetical order according to the manufacturer's name, as in figure 1 (see next page).

The links, here seen as arrows pointing from record to record, are organized automatically by the software and are independent of the order in which the records are entered. Likewise, links might also be kept with reference to the manufacturers' zip codes, thus permitting a listing of companies in order of geographic location, as well as alphabetically, as in figure 2.

If a second file is present, for instance one containing product information, it too can be internally organized, but a simple filing system has no way of cross-referencing information between files. This is a distinguishing feature between filing systems and more advanced database management systems.

In the more sophisticated systems, cross-references or "links" may be drawn between records in different files, as in figure 3. A manufacturer's record might point to any and all records in the product file if the product was made by that company. Each product record can in turn point back to the manufacturer of the product.

We can add additional files to our example, such as "customers" and "invoices," and have multiple arrows pointing between associated fields in all the different files. Now, given a certain manufacturer, the database user can find all of the products made by that manufacturer and all of the customers who have purchased any particular products.

This kind of structure is sometimes called a network because of the interdependencies between files. Although these links are maintained by the system and are not visible to the user, they must be set up by the user when initializing the data structure. That is, they must be explicitly designed and implemented before they can be used.

The DBMS suppliers realized that the use of linking techniques enables rapid sorting and the ability to retrieve relevant information from multiple files through explicit association. The degree and manner in which the techniques are employed varies between one

competitor's DBMS product and another, but some manifestation can be found in all of the more comprehensive DBMS packages. These capabilities are some of the principal features associated with relational databases, and yet these features are not really relational at all.

If there is one misnomer constantly used for database systems, it is "relational"

What is a relational database? The term actually refers to a well-defined, quite specific theory of storing and retrieving information. But in today's software jargon, the expression is freely applied to many products that may or may not be truly relational in nature.

Relational DBMSs, rather than allowing links between files, make predefined links unnecessary. If the user requests a list of all products made by manufacturer "A" and purchased by customer "B," then he or she will get it despite the fact that the interrelationships were not preprogrammed. This is to say that the program that accesses the data allows the user to freely query the database.

Simply stated, a relational database is one that permits the user to ask for and receive information without having to write a procedure, or program, for extracting it.

Going back to our description of simple filing systems, remember that there are no links between files. In that environment, if we wanted a listing of every product with its manufacturer's information, we would have to include the manufacturer's information in each and every product record. Of course this would be very redundant since the manufacturer's information would have to be repeated for every product made by the same manufacturer.

In more sophisticated DBMSs, where links (actual or implied) can exist between records, each product record can simply point to the record of its manufacturer, thereby allowing the information to be accessed. The manufacturer's information has only to be kept in one place, and all those products that pertain to it merely point to it. By observing this law of "normalization," great efficiency and, what is in computer users' terms, elegance can be achieved.

But remember that in a true relational system there are by definition no actual links. Instead the relational DBMS must search entire files looking for descriptions that match in order to put together products and manufacturers. If this sounds less efficient than using direct links, it is, especially when

the size of files become large. Furthermore, relational systems have no provisions for verifying the integrity of data—i.e., making sure that there are no products that do not have manufacturers.

As *Datamation* author Frank Sweet points out, the concept of the relational database was first proposed in the early 1970s as a hypothetical, not an actual, system. This proposal dealt only with the extraction and not the creation and the maintenance of data that are real. In fact, relational techniques provide insufficient means for use with real databases. No purely relational databases exist!

"Relational database" has become a buzzword. Software suppliers are now promoting the relational or "relation-like" qualities of their products. So, whereas the meaning of relational database was something quite specific 10 years ago, it today refers generally to DBMS products that (probably) have at least a few relational capabilities but which rely also on more traditional procedural, or programmatic, methods.

So let's get down to the classification of DBMS systems

Databased Advisor, a monthly users' magazine, places all DBMS packages in five general categories: 1) simple file managers; 2) menu-driven file managers; 3) query-based databases; 4) query-based databases with logical programming languages; and 5) integrated packages. Currently the market is dominated by PFS:File at the low end and dBASE II at the top.

PFS:File falls somewhere between *Advisor's* first two categories. It provides for simple storage and retrieval of information with some degree of flexibility but no real relational or cross-reference capability. Menu-driven systems differ in that, rather than requiring the user to type in commands, the user may select options by pointing to them as they appear on the screen. Menu-driven programs are generally easier to work with—especially for the uninitiated.

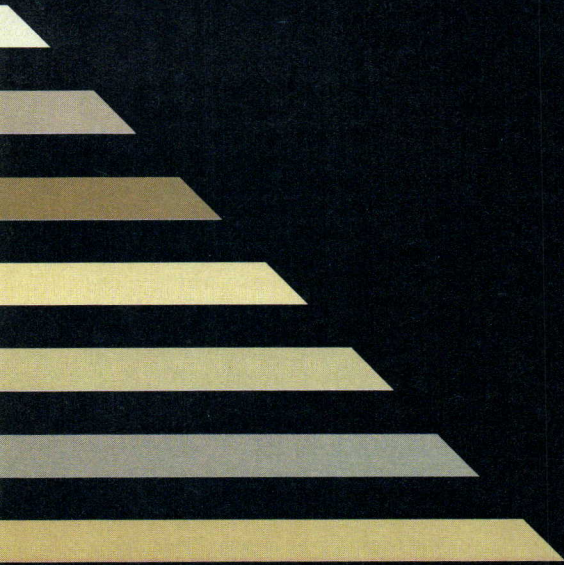
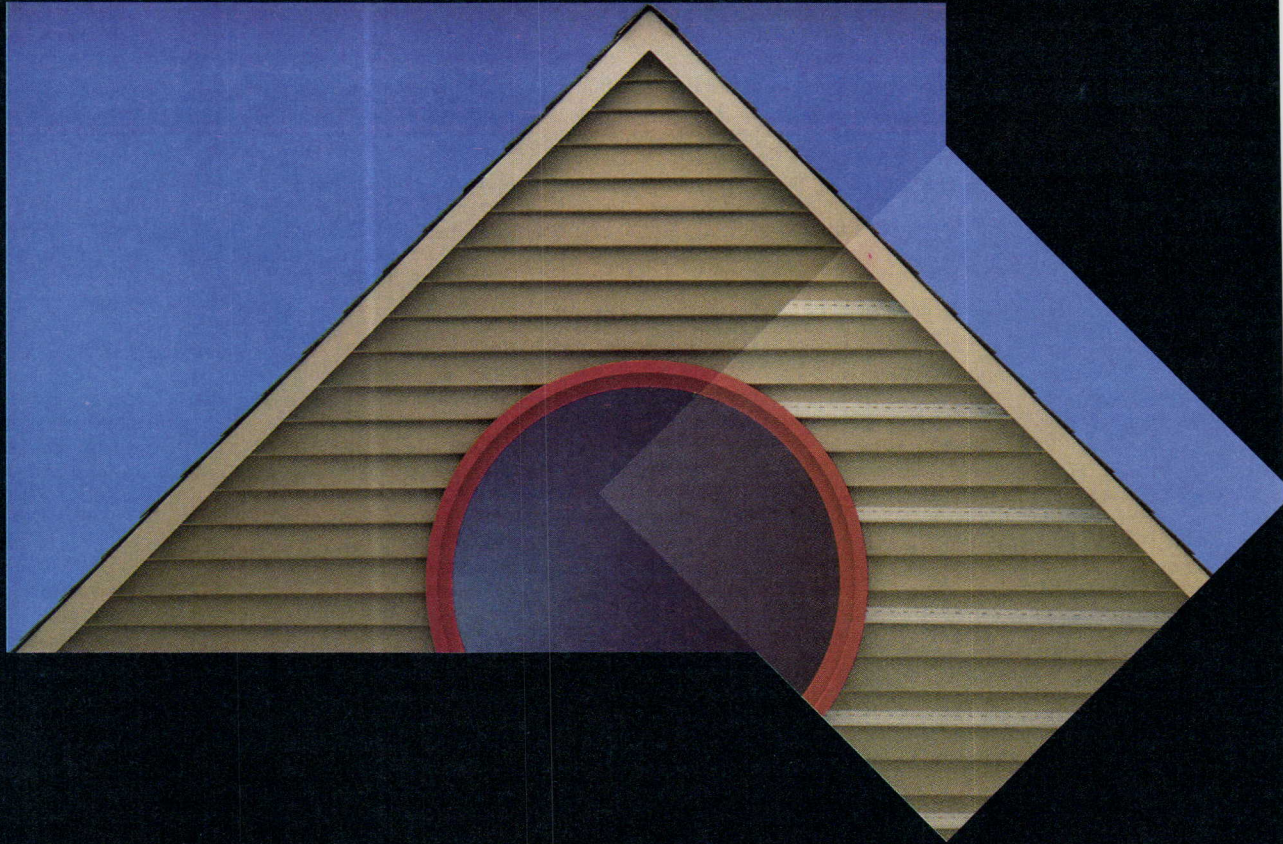
Query-based systems allow the user to request information in a freeform, rather than pre-structured, fashion. This implies a more sophisticated relational approach. There are many other significant features common to the systems in this category as well (some relational, some not). They include more advanced sort, select, and extraction capabilities as well as a high degree of flexibility in defining output report formats.

There has been a great deal of attention shown to these middle-range products recently as
continued

Mr. Smith is a principal and Mr. Teicholz the president of Graphic Systems, Inc., a Cambridge, Massachusetts-based computer consulting firm working in the areas of system evaluation, procurement, and management. Mr. Teicholz is an architect, a former professor at Harvard, a lecturer at MIT on architecture and computers, and the author of *A/E Computer Systems Update*, *Computer Graphics and Environmental Planning*, *CIM Handbook*, and the recent *CAD/CAM Handbook*, all published by McGraw-Hill.

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Figure 1 shows how a simple file links together in sequential lists, with each piece of information pointing to the next in a predefined order.

Figure 3 shows how more advanced database systems can go far beyond simple listings, in fact cross-referencing information in one file to that in another.

Figure 2 shows how this technique can be used to provide more than one type of information—here a listing by zip code as well as name.

suppliers have attempted to fill the gap between the two ends of the market. Power-base and R:Base are examples of these new products that attempt to fill the gap.

DBASE II (and III) are good examples of query-based systems with logical programming languages. These allow users to set up their own applications. DBASE II comes from its box as a tabula rasa with nothing but a cold blank screen to greet the user (dBASE III has a menu), but the user is virtually unrestricted in what he may do with his new system.

Of the integrated software packages, Symphony by Lotus is the best-known example, followed by Ashton-Tate's Framework. These products tie together the capabilities of several generic software types: database, spreadsheet, word processing and graphics, and allow them to interchange data freely. The graphics capabilities oriented toward business are of the pie-chart, bar-chart variety and so are not applicable to CAD.

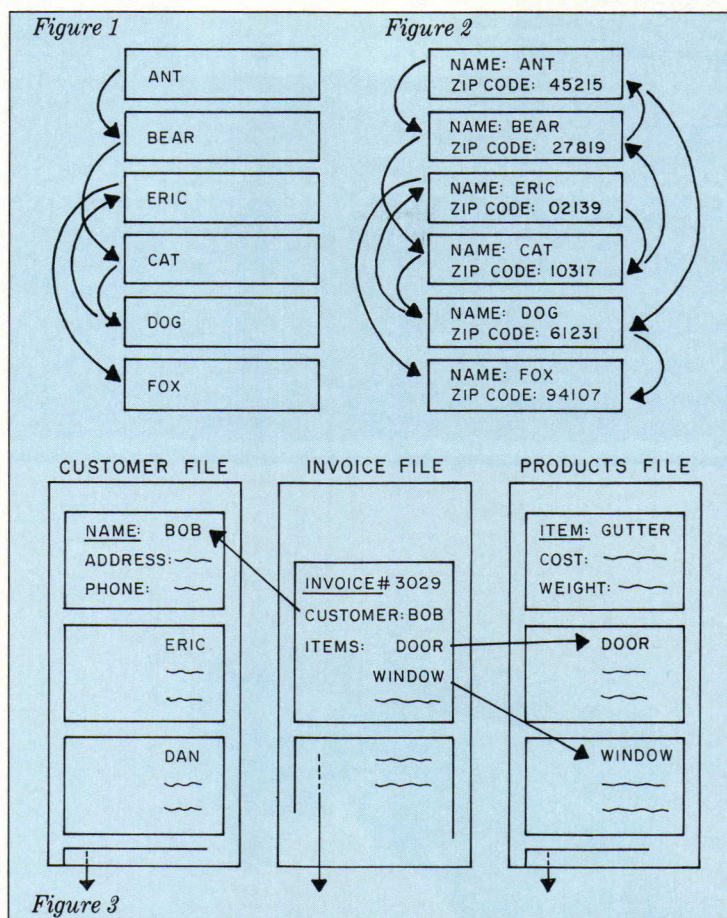
And then there is the practical use of a database management system

For purposes of illustration, we used a commercially available relational DBMS called Power-base to establish a model consisting of five interrelated files containing information on manufacturers, products, architectural assemblies, and selection data as found in Sweet's Files. The data structure we created served as a framework for hanging sample bits of information for the purposes of testing and demonstration.

Three of the files served as a nucleus for the structure: manufacturers, components and assemblies. For example, the manufacturers' file was created containing names, addresses, and other pertinent information on a number of sample companies. The components file contained data on many products, including their specifications, manufacturer, and Sweet's Files' product codes.

These two files were crosslinked so as to be mutually accessible (i.e., given a product, you can find out about its manufacturer, and given a manufacturer, you can find out about its products). The relational capabilities of Power-base allow the data to be freely queried so one can ask for all the manufacturers in New York or for all sliding-glass-door products—as well as all sliding-glass doors manufactured in New York.

The third file contained information on building assemblies. We generated sample data on roof and floor systems of assorted materials and construction types.



The assemblies were organized in accordance with Sweet's coding and contained performance specifications and references to product types. These in turn were linked to products in the components file. In this way, one can trace from a specific assembly to the actual products that they are constructed of and their makers.

This core implementation also provided automated access to the kind of information found in the indices at the beginning of the Sweet's selection data book: firms to product codes (page references); product codes to firms; products to firm and codes; and trade names to product types and codes.

We included an additional two files, "generic assemblies" and "categories," which were included to incorporate information as found in the other chapters of the selection data book. This was done to facilitate selection of products from the top down.

The categories file contained information on cement and concrete, stone and masonry, metals, etc. as can be found in chapters of the same names within the Sweet's directories. The records in this file contain descriptive information and references to building systems within the various building categories.

The Generic Assemblies file

maintained records for these building systems with more descriptive information and performance data. These in turn point to the relevant specific assemblies.

Hence, starting from the top down, the user can progress from very broad-based information, through generic systems and specific assemblies, to specific products and manufacturers. At each step along the way the scope becomes more focused.

Using Power-base's report-writing feature, we were able to overcome one of the system's ultimate constraints. We have mentioned that among the database products, none have the ability to generate graphics, with the exception of a few of the new integrated packages where the capabilities are still very limited.

Our goal within the context of this study was to provide not only textual but also visual information about the products in the database, and to at least imply the possibility of incorporating database information onto a CADD drawing while it is in production.

Using AutoCAD on the same PC, we were able to draw sample details and name them in a manner that was consistent with our information in Power-base. In Power-base we were able to create a predefined

report format which, when invoked, creates a report on a disk pertinent to AutoCAD.

With the Power-base system, the user invokes the report feature and selects a particular product that he or she wishes to view. A report will be generated with directives to graphic information in AutoCAD. Exiting Power-base, the report will instruct AutoCAD to recall and display the selected drawing which may then be operated on, and, in theory, added to a CADD drawing in progress.

All this raises the question of what is possible with current abilities

We can say that our trial database application was extensive but not comprehensive, meaning that we experimented at many levels of functionality but made no attempt to establish a complete set of information. Because of the great mass, but relative simplicity, of information organized in Sweet's, it would be relatively simple, but labor-intensive, to develop complete cross-referencing of product and manufacturer information, organized in accordance with existing product codes, and thereby linked to the existing printed Sweet's Files.

Such a system would, as in previous examples, allow users to freely query and select items from the database and be directed to product information in the printed volumes. This would provide automated access to information in the selection data indices, but more importantly would allow users to readily isolate and locate catalog information.

In the future, the capabilities of the database could be extended internally to incorporate additional layers of information such as the selection data and, externally, via links with other data storage-retrieval and generating systems such as video disks and CADD systems. Objectives for extending the capability of such a system would eventually include such functions as: retrieval of visual information such as pictures, retrieval of technical information such as specifications and drawn details, the transfer of database information to CADD systems, and the eventual integration of CADD and database systems.

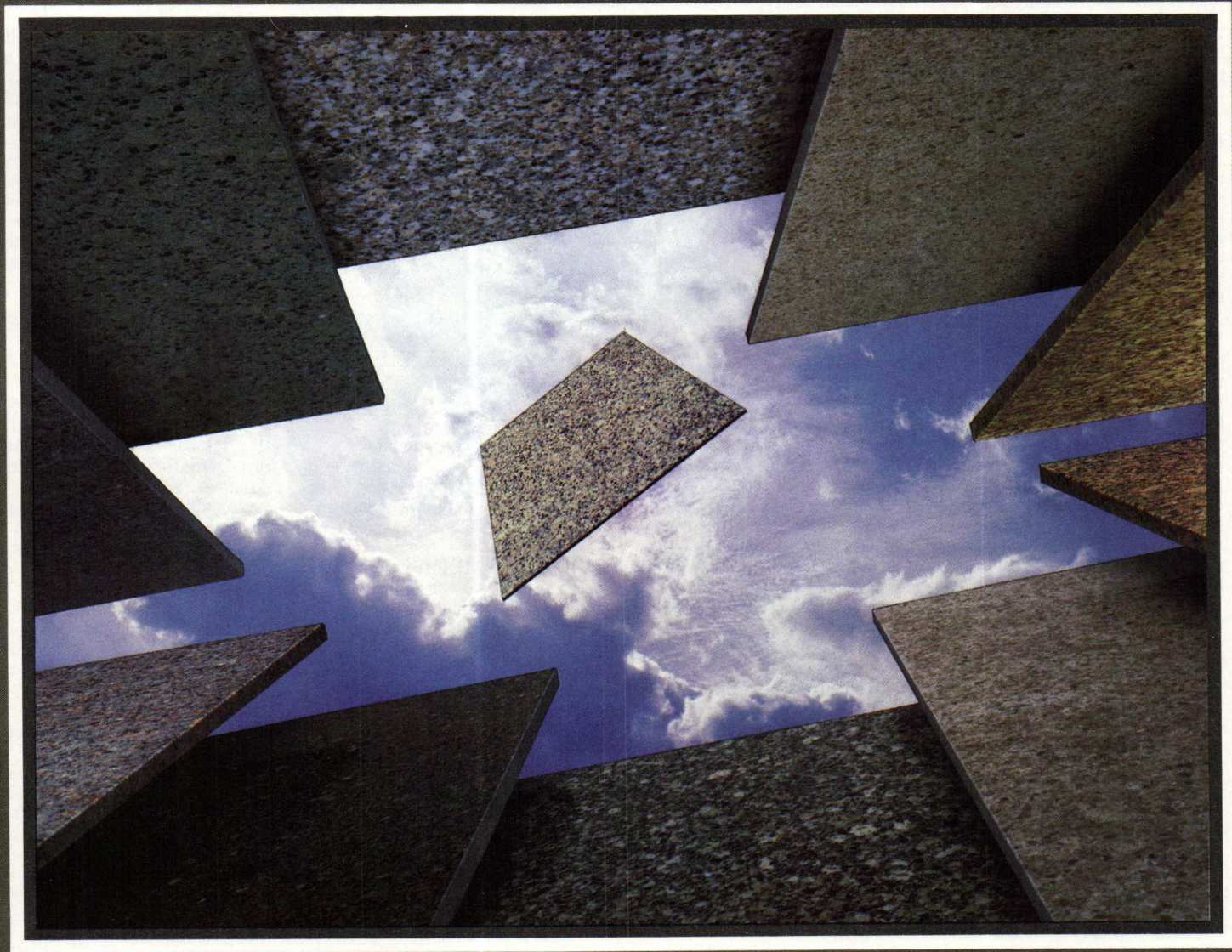
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Practice: How to manage a crisis

In the case of a building failure or other adverse happening for a design firm, many attorneys will advise public silence. Here's another view

By Joan Capelin

When the skywalks inside the Hyatt Regency in Kansas City collapsed killing 114 people, the tragedy was yet another grim reminder that construction and building design have become high-risk businesses. Yet an informal national survey of construction and design companies indicates that it's a rare firm that is prepared to deal with such publicly visible problems—whether a roof collapse, the death of a key person in the firm, or a lawsuit. Ms. Capelin tells us how we can change that situation.

There is a probability that your design firm will one day be faced with a crisis from building failure. Most people feel it's unthinkable. But building failure was probably unthinkable to I. M. Pei & Partners, until John Hancock; to Vincent Kling, until the Hartford Civic Center; to Hugh Stubbins, until Berlin; to Gilbane, until they managed the construction at Lake Placid; to TAMS, until the Mianus Bridge; and to Murphy/Jahn, until the Kemper Arena.

It's not just the big guys, though. Six years ago, Patty Berkebile Nelson, the architects for the Kansas City Hyatt Regency, had only 22 people in their firm. But at the Hyatt, 114 people died. In other words, the magnitude of the crisis has nothing to do with the size of the firm.

Who *will* think about this? I submit that public relations and marketing professionals have a special point of view and experience to contribute in a crisis—or in preparing for one.

Here is their chance to manage the survival of a firm, which is, after all, what is most at stake in a crisis situation. Yes, crisis management—survival management—is not a contradiction in terms.

Assess your firm's vulnerability and understand the kinds of crises that can happen

- There are structural collapses and other failures, such as facade failures. Construction has become a high-risk process.

- Even if it is someone else's structure that has failed, you are vulnerable if you have designed a similar building. When the Hyatt skywalks collapsed, a well-viewed TV program taped part of its gruesome report with the narrator standing in front of an arena

Ms. Capelin is president of Capelin Communications in New York City, a public relations firm that consults primarily to design professionals. This article is based on a speech she gave to the Society for Marketing Professional Services at its annual meeting last year.

designed by one of my firm's clients. It didn't matter that the Hyatt failure was a suspended bridge and the arena is long-span. Other spans had collapsed before, making this a natural set-up.

- A partnership can change, especially when a notable leader dies. This will happen with more frequency, since so many design firms were formed right after the Second World War.
- A bright idea—say a new division of your firm—just doesn't work out, or a widely announced merger fails to materialize.
- A big project may stall and you have to lay off people.
- You act earnestly and professionally, but come up on the wrong side of a controversy.
- The process for selection for a public project sometimes attracts attention you don't want. In the case of public buildings, investigations are almost a *quid pro quo* that gets built into the cost and conduct of the project.
- And, finally, in our litigious society, lawsuits against design professionals are increasing tremendously.

That list should help clarify how broad a scope is entailed here. And although I'm going to concentrate on the worst cases of collapses and deaths, the techniques aren't too different.

Taken over-all, then, a crisis is characterized by urgency and tension. A crisis begs to be resolved—also defined and communicated about, mediated, and followed through. A lot goes on.

Let's see how communications can thread through all of this drama and turn it to your benefit

There are many different kinds of people involved in a crisis. You have to know who's affected, so you can understand the scope of the situation. Here is a list of people and organizations you must deal with in a crisis:

- Your client/owner.
- Agencies concerned with public welfare.
- Your employees.
- Their families.
- Your potential employees.
- Your branch offices (or headquarters).
- Contractors.
- Others in the design community.
- Professional organizations.
- Community leaders.
- Shareholders.
- The general public.

Why put the general public on this list? They understand little about what design professionals do, and they will possibly soon forget a crisis. But you are professionals, and your dedication to society is at the fiber of your being. You want to show that is the case.

The media? It fits in here only as a conduit. It will quickly find you. All too often, you learn of a crisis when a reporter calls for verification.

Here's the point: Ultimately, the prime audience you, as a principal of your firm, will be considering is your marketplace. This is not a callous disregard of personal tragedies, if they are involved, but of your survival! This, then, becomes a marketing issue. And who better than market-sensitive folks can assess the extent of your firm's possible exposure? Who more than they know how to prepare for war in time of peace?

Here are some ways to see just how involved marketing people should be:

- Raise some issues in your firm. Ask the principals how they would have handled Mianus or Hartford? Ask yourself and them such questions as:
 - How credible are our experts and project managers?
 - What misfortune is likely to confront the firm?
 - Focus on your communications program, assuming you have one. Do your public relations people initiate—not just simply serve as courier and mouthpiece, and to correct spelling? Do they gain your firm exposure and, especially, credibility?

With these imperatives and questions, what are we talking about? Strategy. All too often in a design firm, the marketing strategy is the only plan that is consistently used and reviewed. Well, there must also be a crisis strategy. If you review tapes of the Hyatt disaster, they will remind you that, in a crisis, you are on your own.

Mind you, Hyatt had no crisis communications plan. The public relations agency that dug them out of the rubble came into that crisis unprepared.

Let's get down to some specifics of how to deal with crisis

Can you *really* plan for—let alone answer—a crisis of the proportion of the Hyatt? My answer is *yes*. Not only *yes*. You *must*. Thus my goal is to persuade you that you can get through any crisis that comes to you—by planning.

My father, a management consultant, often quoted Mark Twain: "By failing to prepare, you are preparing to fail." We have already decided that the marketing and public relations people are naturals to plan for—and lead in—a crisis, so let's now discuss how to prepare both your firm and them to survive one.

First off, if survival is important, you'll need to be clear on what you want to achieve in a crisis:

Goal 1: To eliminate or reduce confusion and exaggeration.

Goal 2: To kill rumors.

Goal 3: To foster a united front.

Goal 4: To increase the likelihood of balanced coverage.

Goal 5: To establish the company as a reliable, objective source.

Openness will ultimately be considered professionalism and statesmanship. Keep that in mind as you start the planning process. The job in your firm is to pre-think and pave the way for each phase, bring influence to bear, and achieve decisions. Many firms hold to that old saying, "If it ain't broke, don't fix it." Persevere. Get policy set.

What kinds of decisions do you need to do this?

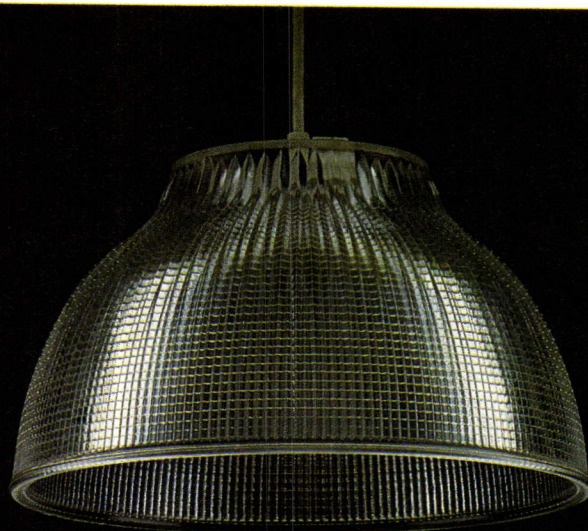
- Determine what constitutes an emergency, and where your firm fits within the situation. In other words, is it your problem? How much of it is yours?
- What will be the chain of command, since a crisis operates 24 hours a day?
- Determine whether to work one-on-one with the press or through meetings—partly a factor of your ability to withstand pressure.

A policy statement, when issued, should inform everyone on the staff, from switchboard to chairman of the board, if you have one, of their obligation to report a crisis, even the potential for one. To amplify on the second decision to be made, the firm must speak in one voice during a time of crisis. Who will be that lightning rod? Your spokesperson should be quick-thinking and cool. Someone credible, a good speaker. This is not always the top person in the office. In fact, the two who represented Hyatt to the public were senior managers—not Pritzkers. This keeps a heavy-duty authority in reserve if needed.

Another "people" decision is who will handle communications—internal staff or an outside agency? Some tasks to be done in a serious crisis include gathering information, contacting the media, handling the phone, writing, clerical work, and taking pictures. Who can do this best? Certainly few design professionals are sufficiently comfortable with words. Also, you should line up your legal and technical experts. Wait until you actually need them, and you may not have someone you can rely on and work well with. At the least, you should get your firm's lawyers to read the skeleton plan.

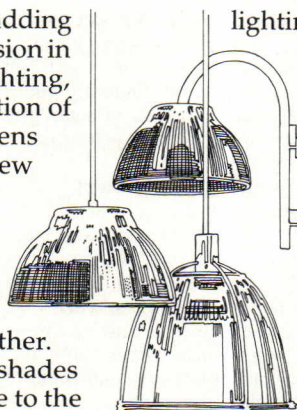
1. Marshal the crisis team and the attorneys.
2. Make sure that what must be done for health and safety is under way.
3. Inform management.
4. Notify families, if that's part of *continued*

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the crisis, and activate that part of your plan.

5. Keep getting the facts and ascertain the extent of the crisis. Be sure the entire file on the project and all applicable codes—and the people you need for information—are on hand and start that research.

6. At the very least, let the media know you're there and will get information to them as soon as possible, that you're professionals, and that it is your goal to learn what happened and make sure it is corrected.

7. Start a log of whom you've spoken to, from what media, and what action was or will be taken.

8. Determine the positive side. What's good about your firm—its history, safety record, whatever—that pertains.

9. Write your statement and circulate it among management so everyone has the same story. This script should be updated and reissued religiously, and you should provide a copy of the statement to each member of the firm.

10. Write down any complexities you will be describing, simplify the text, and prepare for distribution as needed.

This appears to be a sequence. Actually it's not. All actions should start at once. A lot of pressure. That's why I'm urging you to be prepared. Recall what Samuel Johnson wrote long ago: "When a man knows he is to be hanged in a fortnight, it concentrates his mind wonderfully."

In a search to see which design professionals have crisis communications plans, I learned that very few have anything formal. Haines Lundberg Waehler, where I was director of corporate communications for seven years, later had a plan done by Jane Cohn, who says she wanted to be able to sleep nights.

Although only two pages long, it contains one key sentence we should all heed: "It is in our best interest to cooperate with the media so they will not resort to unreliable sources and get information that may be untrue and more damaging to HLW than the facts." Listen to Jane.

Most building failures *never* come to trial. Hartford decided not to prolong the expensive Civic Center trial. John Hancock never even got to court. But most of the time a trial *does* occur—in the media, written against deadlines, by general reporters who don't know our field.

Learn what some firms, design and otherwise, have done about dealing with the media in crisis situations.

In the case of the Hyatt, the design professionals simply—on the advice of their attorneys—circled

the wagons. That made it harder for the press, and even more gratifying for the Kansas City *Star* when it won a Pulitzer Prize, largely for its technical coverage. The paper had been so frustrated when trying to cover the Kemper Arena roof collapse that, when the Hyatt occurred, it brought an engineer on staff.

Here's how *Engineering News-Record* expressed its editorial frustrations about stonewalling: "We would prefer to tell all, define all, but when our sources withhold information due to lawsuits and other problems, we are forced to issue an alert that defines problems as closely as possible."

The structural engineers for Hyatt, GCE, recently went through hearings called by the Missouri Licensing Board. The charge was gross negligence, incompetence, and unprofessional conduct—an inevitable result of situations like this in which some entity must be blamed, no matter who is at fault.

The firm chose the opposite route from silence. It hired a crisis communications team from one of the country's largest public relations agencies which, in turn, distributed a pack of materials. The agency called the media, offering interviews and the game plan for GCE's defense.

Here's another situation. August 8th, two years ago, 50 tons of ceiling collapsed in a major rail station. The suspended ceiling was the type you'd install anywhere. Two people were killed and 12 injured. Journal Square was not a great moment for the Port Authority of New York and New Jersey which operated the facility.

The Port Authority, which does much of its own work, would not release any information until the official report was out.

Time dragged. The press grumbled and sensed a great story in the making about a cover-up and bureaucratic delay. Sensitive to public relations, the Port Authority headed off the possibility of a *media* crisis by holding an interim press conference. The material they distributed was so thorough, it was a textbook.

As for their spokespeople, to show their seriousness and to overcome the charges of disinterest and mismanagement, the Public Affairs Office put executive director Peter Goldmark and chairman Alan Sagner in front of the microphone.

When the final report was issued this June, the candor, and concern, in fact the anger and frustrations expressed, showed the Port Authority was trying to solve the problem so it would never happen again, anywhere.

continued

Some ground rules for working with the press in a crisis

In a crisis, the media always has the last word. You'll do well to come away with a tie score. How you handle the media, though, can make the difference between a tie score and a defeat. The following suggestions may help:

- Be prepared. Be candid. The reporter is probably under more pressure than you are.
- Explain your responsibility and your company's role in the project.
- Verify that the reporter is from the publication or station he claims.
- Don't assume the reporter has all the information. Ask first. If you have made a statement, ask for it to be read back.
- General reporters rarely come in contact with design professionals. Be very aware of cultural differences and biases.
- Nothing should be "off the record," to be absolutely safe. But if you go off the record, get their agreement.
- Be clear about what you cannot discuss. Reporters will always push, especially because a crisis is so dramatic and controversial. Let them know you will withhold information that violates someone's right to privacy or jeopardizes your organizations's legal rights.
- Don't speculate on the causes of the situation.
- Don't call names.
- Do use the occasion as a hook for positive coverage, especially if you are correcting misinformation.
- Be completely informed. Find missing information if you are asked and don't have it: "I'll get the answer and get back to you."
- If it's a tough question, you can mull it over and get back with an answer. You can also choose not to answer.
- Respect deadlines.
- "Bridge": Answer a negative point quickly and go immediately to something positive or to a point you want to make: "More to the point. . ." or, "I'd like to be sure you understand. . ."
- You can ask for the questions in general before meeting with a reporter, in order to prepare.
- State conclusions first. They want quick takes, especially for television, where you get 20 seconds to state your case. Also, if you wait, you may forget your clincher.
- Make only your statement and stop talking. This is a nerve-racking moment, even for pros, but if you are silent, you won't be in danger of a slip.
- Careful of jargon. The Kansas City *Star's* engineering expert recounted: "Papers don't want 'redundancy,' but engineers do."
- Use exact words. An "explosion" is very different from a "rupture."
- Know your rights. Know the libel law.
- Carefully read all coverage as it happens for accuracy. Courteously correct errors.
- Where possible, tape press conferences, interviews, and phone calls. At the least, when your management or partners think you are at fault for bad coverage, they can hear the tape and see what the reporter did with your information.

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Circle 41 on inquiry card

Practice continued

One man's performance shows how effective public relations can save the day

There is another example of grace under fire. In September 1981, a rooftop crane collapsed at a building being built with construction management by Tishman Construction Company just as it was nearing completion at Madison Avenue and 52nd Street in New York. The construction bridge had already been removed because construction was entirely internal by that time. The swinging boom—one paper called it the “killer crane”—knocked chunks of granite 40 stories to the street. One person was killed and 16 injured.

Tishman's offices are a block away, and its public relations agency, a few blocks beyond. Within minutes, Richard Kielar from Tishman was there with his staff and four people from the agency. So were the police chief and the buildings commissioner, who really took over, as is their public fiat.

Throughout the long weekend, Tishman's communications people were available, conducting briefings every two hours, even if only to say, “We are analyzing the information.” Although Tishman was the construction manager, Kielar spoke for the subcontractors who had no way to work with the press. The crisis center was the trailer, so a phone was available. Everything was done to foster the impression of cooperation with the city to keep the public safe and anything like this from happening to the public again.

Kielar's training as a civil engineer didn't hurt. He also knows when he's being leaned on. When the television reporter came up with a piece of granite and wanted to interview him live, with the stone, Kielar refused. Repeatedly, he explained what a construction management service is, so it would be clear that Tishman did not build nor erect cranes.

While he offered cooperation to the police and public works people, he was monitoring what they were planning, so he and his management were prepared. He quickly had available off the company's computers the history of the building's construction, Tishman's over-all safety record, the contract terms (so who does what could be clarified), and he emphasized Tishman's 20 other safe jobs going on in the city. He was just as informative and cooperative while corrective steps were planned and implemented.

Kielar's technique for getting a crisis plan activated within his company: “Get the right people at that first internal meeting and discuss the options. Give them the scenario about what will happen if they take one route or another.” He also says, “I never guarantee that my preferred plan will happen but, if I prevail, I assure them I will try for positive results.”

What are the lessons to be learned from these case studies?

- Be prepared.
- Get your ducks in a row—spokespeople, experts, writers, and researchers.
- Say something to the press. Show

your interest. The public must be reassured.

- You are not alone. But not all your company will be your friends such as your lawyers, your associations, and your public relations people. There are lots of other players out there with lots of vested interests: the press that must sell papers, the lawyers for your insurance company that want to minimize their exposure, the police department and its public information people, the department of public works and its public information people, the client (who feels betrayed), the other design professionals involved in the crisis and *their* lawyers. Keep your antennae sweeping.

- Seek positive hooks. There are good things to say about your organization and, even better, exemplary ways to act.

- Project calm and confidence.

That was the basics, but I keep wanting to open the window to broader issues

There are some larger philosophical questions that emerge between the lines of this presentation.

- Do we dare innovate?
- Should design professionals and the related industries speak out?
- Why, in God's name, isn't the construction process coordinated, like everyone says it is?
- Why aren't we hearing what caused these failures? There is *no* excuse.
- Why aren't our professional associations prepared to support their members in time of crisis when they are needed most?

If some of these thoughts occurred to you and start you and your firms thinking and acting, then I've accomplished something even more important than making you aware of crisis communications.

The public relations professional who led the Hyatt's crisis team told me that disaster made him see his own mortality. He stepped off a chartered plane thinking how he would set up a communications center. He spent the night moving concrete and helping victims.

So, I've talked about vulnerability to crisis. And planning. And survival. Above all, I've talked about the determination to do this right. You may have gotten into the crisis because of mismanagement. Don't mismanage this part of the situation. Too much is at stake for your firm.

Time alone does not make a crisis go away. The seeds for the future must be present to survive. Nature provides this. So should you.



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Practicality aside. High quality resilient Radial® II rubber flooring lends itself to even the most imaginative design applications. In a vast array of contemporary colors and crisp patterns. Call 1-800-633-3151. Or write P.O. Box 553, Tuscumbia, AL 35674. Then let your imagination go. Call for a free poster edition of this ad.

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Circle 43 on inquiry card

Marketing: Who's doing what, when and how

An important survey report. . .

By Ernest Burden

Broad, fully coordinated promotional programs and new techniques for their implementation were the main ingredients of the fifth national conference known as "Promotion Strategies" held in Chicago this year and sponsored by Barbara Lord of Lord Communications, Weld Coxe, and the *A/E Marketing Journal*.

As in years past (see RECORD, August 1984, pages 29-33), it was based on recent research, including data from a national survey by Barbara Lord and otherwise contributed by leading design and marketing professionals.

Here is what the firms that contributed to this year's program are like

Generally they represented a good cross section of size, although there was a slight imbalance of locale, since more firms reported from the Northeast than from other regions. Ninety-three per cent of all firms said they were willing to share information with others. This, as pointed out by moderator and co-sponsor Weld Coxe, contrasts favorably with commercial companies, most of which are not willing to share their business or marketing expertise.

Eighty-four per cent of the firms have organized public relations programs and 79 per cent have a direct mail program. Forty-five per cent use advertising in publications, and five per cent advertise on TV—usually by underwriting programs on public service broadcasting. Eighty per cent of the firms have full-time marketing professionals and, as last year, 17 per cent use outside consultants.

We have never asked about professional graphic designers before but, this year, judging by the appearance of materials submitted, it is not surprising that a high number, or 63 per cent, use them, says Coxe.

Sixty-eight per cent of the firms have yearly marketing budgets, and

Ernest Burden, an architect and SMPS member, heads the firm of Burden Associates in New York which specializes in communications for architectural and engineering firms, and offers small and medium-size firms assistance in strategic planning, and master planning of promotion. The firm also designs and produces promotional material, including slide and video presentations for competitive interviews and project submittals to public agencies, and publishes a newsletter on state-of-the-art presentation techniques called the Communicator's Advisor. Burden is the author of numerous books, including Design Presentation published by McGraw-Hill and Design Communications: How to Produce Successful Marketing Tools, now in progress for McGraw-Hill.

20 per cent have separate promotional budgets. The latter group spends an average of 22 per cent of the total marketing budget on promotion. Thirty-two per cent of the responding firms are currently involved in—or have recently completed—a promotion program they report is working.

According to Coxe: "Promotion is extremely cost effective in terms of results. Yet, too many people talk about it without making it happen. Consequently, management is important." Eighty per cent of firms are not doing any significant promotion, even though many are actively engaged in other marketing activities. Lord notes that, among the promotion materials submitted to this year's program, none rely on only one technique. Almost all ads, direct mail pieces and/or trade show programs are part of an integrated promotion program utilizing multiple techniques to reach a common marketing goal.

"We are in a new league now when it comes to the quality of print pieces," says Lord. "Graphics, concept, copy, illustration, and reproduction are noticeably superior today. What was the exception is now the rule. The best products seem to be coming from joint efforts between professional design firms and outside communications consultants."

Here are a few of the differing techniques used by design firms in promotion programs

As used by engineers, PSOMAS/Justice & Associates, an ad campaign became part of an intense name recognition program that had, along with other promotion techniques, a special emphasis on publicity. The firm's budget for advertising for the subject year was \$13,000. The ads won the Sacramento Advertising Club's 1985 "Gold Award."

At the opposite end of the advertising spectrum are Heery, Heery International, and Heery Program Management, each of which have advertising budgets of about \$150,000 a year. Their ads run in *Delta Sky*, *Harvard Business Review*, and *Alaska Airlines Magazine*, the latter in recognition of the companies' up-and-coming markets in Alaska.

Reference Point is a quarterly newsletter put out by engineers and surveyors McCrone, Inc. The ostensible objective, by way of exposing the firm, is to give useful information about engineering and surveying to clients and prospects. All research, editing, and graphics are done in-house. The current mailing list is 3,000 of the firm's present, past, and potential clients.

School House Forum is a newsletter of architects and

engineers Everett I. Brown. Buildings for education are a primary market for Brown, and this newsletter represents about 25 per cent of Brown's marketing effort. It is directed to all educational administration levels ranging from local principals to government agencies. It contains news articles on public education topics and interviews with education leaders. All research and writing is done in-house, and the printing budget is \$2,500 per issue for a run of 3,000.

One of the simplest target mailing formats is the postcard. Engineers and architects Wallace & Watson Associates recently started a "Project of the Month" postcard, mailing it to executives in their market area. The objective was to keep the name of the firm in front of prospects and clients. The format has proved so successful that the firm uses it for other purposes, such as to announce its underwriting of a public service television program.

In the field of public relations, Gensler and Associates was looking for an effective way of demonstrating its new CAD capabilities. Public relations director Darlene Weidert's solution was a brochure of cartoons that illustrated how CAD enhances the firm's performance.

Special occasions such as trade-show participation and seminars are other good types of promotion

This year, architects and engineers Haines Lundberg Waehler celebrate 100 years of practice. The firm's comprehensive press kit contains not only a press release, but a 20-page history of the firm's growth, showing photos and drawings of projects from 1885 to the present. Also celebrating an anniversary this year, MBT Associates marked 30 years of practice with a portfolio retrospective of its work. The portfolio was sent with an invitation to a birthday party.

Architects LZT took the ribbon-cutting ceremony for their new offices to prospects and the media in the Chicago area with an announcement sealed with a ribbon. All the prospects were called on during the next four weeks, and most of them remembered LZT immediately because its mailing was so unusual. Engineers Walter P. Moore and Associates, wanting their prospects to think of them as a firm with fresh and creative ideas, sent a poster of orange peelings wrapped around a Jalapeno to announce a new office.

The annual "giants" listings in a national construction or design publication is always a source of pride for the firms listed. Two firms

continued

Glass Distinction

Naturalite Skylights Make Atrium Concepts Work Beautifully.

The handsome Bent Tree Green office condominiums in north Dallas capitalizes beautifully upon the atrium concept through use of structural ridge skylights by Naturalite.

The Naturalite engineered glass skylight system encloses two identical areas measuring 50' x 71'. Glazing consists of 1/2" heat strengthened reflective laminated glass with an .060 poly vinyl inter-layer. The finish of the aluminum structural ridge is dark bronze anodized.

General contractor, Bramcon General Contractors. Architects, Harwood K. Smith and Partners, Inc., Dallas.

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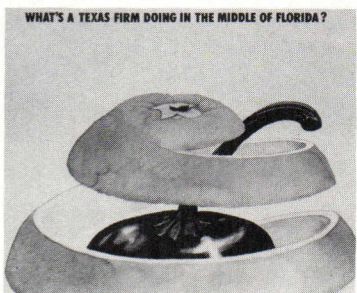
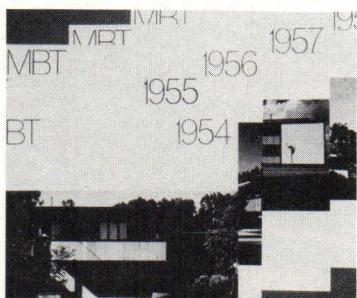
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Circle 44 on inquiry card



Various forms of promotional effort are illustrated above. From the top: Architects MBT celebrated the firm's 30th birthday with a portfolio of work illustrated on separate cards for each year the firm had been in existence. It was sent with an invitation to a birthday party. Engineers Walter P. Moore and Associates introduced a new office in another state with a Florida orange wrapped around a Texas Jalapeno. Environmental engineers Camp Dresser & McKee capitalized on their hazardous-waste experience with a jigsaw puzzle showing hazardous-waste removal, which they handed out at trade shows. Architects and planners NBBJ attracted wary scientists into their trade show booth with a backdrop of 16th-century alchemists.

participating in this year's program—Jung, Brannen and Dewberry & Davis—took advantage of this distinction through mailing reprints to clients. The Grad Partnership celebrated their listing by buying their clients and prospects a state lottery ticket.

Engineers Fred Hart Associates recently positioned the firm through its seminars as experts in the new "market" of leaking underground storage tanks. A flyer was mailed to 3,000 industrial and petroleum companies. By the third seminar, each of which had been attended by about 20 people, the firm had been asked to submit seven proposals.

Carson Business Interiors ran a seminar for facilities planners on life-cycle planning for the contemporary office. Announcements were mailed to 1,000 companies with a response card enclosed. The firm also took radio ads during the two weeks prior to the seminar to greatly increase attendance. One design firm, Anderson DeBartolo Pan, has generated so many leads through their participation in a pre-packaged seminar program that they are having trouble following them up. With another segment due, a principal says that this has proven to be the best of all promotion techniques for his firm.

When environmental engineers, Camp Dresser & McKee were selected for a \$125 million Environmental Protection Agency contract, its principals capitalized with a new push in the hazardous waste market through trade shows. Taking booths, they handed out brochures and jigsaw puzzles with the theme of "fitting the pieces together."

Architects and engineers, NBBJ exhibited at a biotech show attended mostly by scientists who don't like to be cornered by salesmen. NBBJ designed a backdrop that would attract the interest of the scientists—a scene from a 16th-century alchemist's laboratory—and offered booklets telling how NBBJ's laboratory planning services can help biotech companies to design more presumably advanced facilities. An enclosed response card allowed the scientists to request specific information without being pressed by human contact.

Getting down to the actual sale of their services at an interview, NBBJ passed out their own version of "Trivial Pursuit" to a selection committee. The first card established the categories of questions and answers: blue denoted questions about the client, pink about the project, yellow about technical facilities planning, and green about the NBBJ team. The other cards to follow presented

questions on one side and answers on the other. It was a clever way to deliver the message that NBBJ understands the client and knew a lot about the project.

Following the case-study format of previous Promotion Strategies Conferences, in which a firm's marketing team or its principal explained the full scope of its efforts, this conference showed progress by the varying techniques above. It also pointed out that the common ingredient in successful promotion campaigns is innovation by which the effort is matched to the needs of the client.

The first of the case studies is a promotion for a rapidly growing young firm

Harper & Buzenic, Architects/Engineers, Inc. is a Miami-based firm founded in 1979. It was listed during 1984 as one of the country's fastest growing private companies. President David Michael Harper attributes the growth to an innovative advertising campaign which was part of an over-all promotion program.

The company's goals were growth, a wide geographic base, and a balanced mix of projects. Harper determined that advertising would help produce balance and that name recognition would be enhanced throughout the state.

The first advertisements were run as full pages in publications that would be seen by selected target audiences. They were later reprinted as mailers with a response card at the bottom. The firm found that, when placing ads relating to real estate and construction, a planning calendar from the magazine is vital.

Their ad agency observed that architects are usually more interested in pictures of their work rather than what will stick in the public's mind when they go through a magazine. Thus, the ads they developed to gain correctional facilities work had the headline: "With Our Record We Were Bound To End Up In Jail." This slogan was intended to capture the attention not only of corrections officials but of the general public as well. The firm has had a 90 per cent growth rate per year, but Harper feels he needs to increase that to 125 per cent to offset the cost of the advertisements.

This firm markets technology for cold regions with direct mail and advertising

Diane Creel, vice president of marketing for The Earth Technologies Corporation, described how her firm faced the development of marketing tools without photographs and within a short time frame. The key to marketing

offshore projects built on ice is to expose the firm's services between September and February. The specific objectives of her program were to reach the major oil companies quickly, and to convey knowledge of and experience in cold regions. In addition she had to establish a name recognition for a firm that had changed names three times in 14 years.

The chosen techniques of direct mail and advertising were designed to appear as if they were the beginning of a newspaper story.

A study was done before the program. It showed that 87 per cent of respondents in the oil and gas technology market failed to recognize the firm's name. Nine months into the direct mail program, the firm has received 30 inquiries from viable potential clients. A proposal for an Arctic pipeline is one pending result.

Another firm accomplishes promotion with a special event for its 100 years in engineering

Rose Reichman, vice president and manager of communications for Parsons Brinkerhoff, described her firm's planning, begun in 1976, for this year's centennial. Research for articles in the firm's regular publication, *Notes*, generated photos and memorabilia that became part of a business development program timed to correspond with the event.

Actions planned and budgeted for the program included redesign of the firm's logo; a book, *Parsons Brinkerhoff: The First Hundred Years*, published by Van Nostrand Reinhold and written by Benson Bobrick; the establishment of the William Barclay Parsons Fellowship Award to be presented to a firm employee each year; new stationery and business cards with a slogan selected from a competition; donation of an exhibit on the history of rapid-transit technology to be permanently on display at the California Museum of Science and Technology; a centennial brochure showing the firm's history through milestone dates and black-and-white photographs; a media blitz that was successful in achieving the publication of 10 articles in the trade press; a four-color desk calendar mailed to clients and prospects in place of the annual 1984 Christmas card; silk-screened banners hung in each regional office; the proclamation of William Parsons Day on April 15 by New York State; a centennial *Notes* issue with a fold-out montage poster of staff photos.

Management noted that the pride generated in employees was an extra benefit to the interest from clients and business associates.



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Circle 45 on inquiry card

A mid-size firm does a basic promotion program from which it gets leverage

In this case study, the mid-size architectural firm of O'Brien/Atkins Associates embarked, in the midst of its ninth year, on a promotions program for the first time. The causes are familiar—rapid growth, limited staff, and recognition that something had to be done. The principals fully recognized the value of promotions as part of an over-all marketing effort, but did not have the staff to coordinate a program. Hence, they used an outside consultant.

One of the results was to build up their quarterly newsletter in its first year of publication. The decision to focus on a newsletter was made for four reasons:

- A variety of promotional and human resources needs could be addressed in one publication.
- The firm had no experience with a direct mail effort.
- Competitive firms did not have a newsletter.
- Put to multiple uses, the newsletter turned out to be relatively inexpensive, despite the use of quality techniques and materials.

Each section of the newsletter has a specific purpose and a targeted audience, and the response from the various audiences to the first three issues has been greater than anticipated. The fourth issue—a special 10th anniversary edition—is currently being printed. The marketing staff, which had formerly responded to inquiries on an individual basis, can now use the newsletter in a variety of ways to illustrate specific points in proposals and presentations.

As the firm's marketing plan is implemented, an evolving role for the newsletter is planned, as a three-year promotions program is put in place.

An annual seminar program is successful for this firm with public sector clients

Mid-State Associates, Inc. is a 60-person engineering, architectural, planning, and surveying firm, with some 45 per cent of its contracts with small municipalities. About four years ago, the marketing staff felt the firm would do well to let clients know that their continued business was appreciated. It suggested a seminar for municipal officials. Certain ground rules were established: Seminar topics would be relevant; speakers would be doers rather than theoreticians; and no Mid-State personnel would be on the program.

The format has varied slightly, but generally there is a social hour with cocktails and dinner, a speaker program for about 1 1/2 hours, and

some socializing afterward. The seminars are held on a tour boat on the Wisconsin River, and have a fee of \$5 per person.

Enough Mid-State people attend to assure that someone from every municipality is talked with at some length. Each person has specific assignments, so no one is overlooked.

Each year they have approximately 200 guests at the seminar representing 23-30 municipalities. Roughly 60 per cent are existing clients. The good will has been excellent. Clients now ask several months before if there is going to be another seminar. Leads for new projects come from existing clients, who always seem to find out about things they did not realize the firm did.

The cost of producing each seminar is roughly \$5,000 including time. After meeting clients at the seminars, the principals find that one or two other visits are usually necessary to secure a contract. The firm generates roughly 15 concrete leads at each seminar.

At the end of each program the participants are asked to fill out an evaluation form and make suggestions for topics for next year. The firm addresses any negative comments and selects the speaker topics from suggestions.

A mailing program grows out of finding out what the public thinks through an image survey

Business Space Design was founded 22 years ago in Seattle to do office space planning. During its first years, it worked for one major client. Although it was perceived as a design firm, the developers it sought as clients were wary of hiring it because of the tie to the one client, a rival developer.

Furthermore, an image survey showed that it was perceived as lacking in salesmanship and as slow in production. Further, its members were perceived as loners rather than team players or experts in technical/code issues. And it was perceived as expensive.

Susan Woodward Wright, the firm's marketing director, explained how a solution increased the firm's work by 200 per cent.

The key was a series of postcard mailings which addressed all the negative issues found in the image survey. Since a postcard is not in an envelope, recipients had to look at it, and were inclined to read it since it had little text. Each dealt with an area of perceived weakness, the key word being at the head:

"salesmanship, team, experience, fees, budgets, quick," and "accurate." The design of the postcards was such that it could be applied to other materials such as posters or advertisements. A final

brochure was produced that summarized the cards. The cards were mailed over a 14-week period, one card every two weeks. Two weeks after, follow-up calls were made. The firm has four new projects as a result.

A big firm gets experience with that still-new form of promotion—advertising

Morris/Aubrey Architects is a 200-person architectural and interiors firm that, in 1982, launched a major advertising campaign to build awareness in all types of prospective clients. High on the list were developers of office buildings. Since many local developers arrange for financing in New York City, Los Angeles, and Chicago, a series of ads was placed in the East and West Coast editions of *The Wall Street Journal*. To reach the interiors and medical facilities markets, other ads were placed in regional and national trade publications.

Partner H. Davis Mayfield revealed some facts and figures on how the program worked. They had originally set a budget for a 12-month period of \$260,000 to cover six ads. (The firm's gross income at the time was \$10 million.) Most of the money (\$214,000) went to place the ads, and the balance went for creative and miscellaneous services. After publication, the ads were sent as a direct-mail package to prospects in case some had missed them.

The bottom line results? Four awards were received for the ads and seven articles were generated about the ads. The firm received 83 letters (some from incensed architects) and 24 phone calls. From these emerged 12 potential prospects and two firm projects yielding over \$1 million in fees.

A year later, the firm sent out a survey questionnaire and found that 20 per cent of the respondents still remembered the ads. The principals were told that an ad program was only as effective as its length, so they followed up the major campaign with "advertorials" in a major interiors magazine. They received 62 responses from which 10 prospects emerged, resulting in one project with a \$245,000 fee. The cost of the ad was \$7,500.

In another instance, they placed a \$5,000 ad in an interiors magazine with a reader response card on the bottom. They received 77 responses, 52 prospects which resulted in 38 requests for proposals and interviews that landed them five jobs with a total fee volume of \$625,000.

How has this affected the image of the firm? Five years ago the members were doing production drawings for tall buildings in Texas.

Today they are working in 28 cities across the country, have a 50 per cent growth rate, and have expanded services into graphics and interior design.

The advertising positioned the firm to be able to achieve these goals. One of the most important aspects of the program is to have a good follow-up program in place to keep the efforts from going to waste.

One firm turns video reports into marketing tools for building clients and design teams

This case was presented by Nancy Cameron Egan of Interspace, Inc. and Thomas Ball of Telos Productions, a video production company. Ball described how video was used extensively throughout a project from before the selection of the architect through to occupancy.

Client TRW began its new headquarters with an extensive needs analysis performed by Interspace. It then held an architectural competition. All of the three-hour architectural presentations were videotaped. Ten-minute summaries were then edited from the three hours of footage. These summaries were used in the selection process to remind committee members of the highlights.

Video was then used to document the early phases of construction. Some of these practical uses included the documentation of buildings on the site that were to be demolished. A video camera was put on a crane to show the client and architects views from various floor heights in the new building; video was also used during dramatic or unusual construction activities that required a visual record.

Video was an important part of a campaign to motivate and inform each contractor and construction worker on the project. The video presentation detailed exactly what was expected of them to ensure that the site would not be damaged during construction.

Later in the project, a videotape on quality control was produced by the general contractor. This was shown to spearhead a quality control campaign directed at contractors and workers responsible for finishing details.

Egan related how her firm used this video in an interview they were involved in for another client. She felt the tape showed their process and could be used as a third-party endorsement. It gave them a credibility in terms of showing their design process and in the sophisticated level of communication techniques to describe the services to the client.

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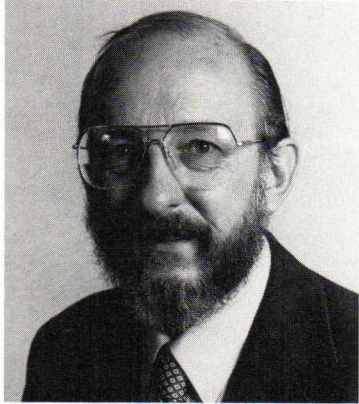
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Circle 46 on inquiry card

Architectural education: How well is the registration exam doing its job?

By Theodore L. Mularz



More than three years have passed since the NCARB Architect Registration Examination (A. R. E.) was introduced as the only exam all applicants for registration are required to take. Each June since 1983, a new edition of the A. R. E. has been administered, and by now a grand total of 41,700 examinees, including repeaters, have sat for this exam—and about 187,000 individual examinations taken.

These figures suggest that enough examinees have taken enough of the new exams to tell us whether the A. R. E. is measuring up to everyone's expectations for it to be an appropriate modification of previously successful exams. Predictably, you would expect an NCARB officer such as myself to find the exam commendable. But there are other sources, I am glad to say, that are less subjective and more persuasive. These include the accumulated data, the current "generation" of examinees, and a validation study undertaken by an independent panel of practitioners.

How do passing rates compare with earlier tests?

The performance of the examinees indicates that the pass-fail rate for the A. R. E. has not changed significantly from that of examinees of the pre-A. R. E. years. While the new nine-division format makes comparison somewhat imprecise with that of its immediate predecessor—the Professional Examination (plus a site and building design test)—similarities can be noted in two exam areas. One is in building design.

In 1983 and 1984, the percentages of examinees who passed building design (Division C) were 39 per cent and 41 per cent respectively—not very different from those of the 1981 and 1982 examinees. Their pass rates were 36 per cent and 44 per cent.

The second generally comparable testing area was covered in the Professional Exam's "Construction" (Part IV) and by the A. R. E.'s "Construction Documents and Services" (Division I). The passing percentages in this area in 1983 and 1984 were 61 per cent and 75 per cent respectively; in 1981 and 1982, they were 73 and 76 per cent.

In earlier years, the examinee who failed one part of the Professional Examination had to take all parts of the exam again. By contrast, only a failed division or divisions of the A. R. E. must be retaken. The pass-fail rates for the several categories of examinees nonetheless were generally within a few percentage points of each other. In building design in 1984, for example, the passing percentages for all examinees was 41 per cent; for accredited degree holders, 44

Now that the new Architect Registration Examination, administered by the NCARB, has become a truly national test for licensing, NCARB President Theodore Mularz explores how valid and effective the revisions have so far proven to be

per cent; for all first-time takers, 46 per cent; for four-year preprofessional degree holders, 43 per cent; and for intern-architects who hold NCARB's IDP record (and are first-time takers), 48 per cent.

The NCARB examination committee makes a conscious effort to create an exam that is of the same difficulty and relevance as earlier exams. Yet, after 23 years' experience, if a new exam's results differed radically from the historic pattern, NCARB would no doubt consider it a cause for concern. And so, too, quite probably, would state legislatures and others interested in public health, safety, and welfare.

Does the exam help protect public interest nationally?

It now seems clear that the impetus for the A. R. E. grew from a maturing concern over how architects and architecture actually do serve to protect the public interest. Where examination for registration was concerned, the maturity came remarkably fast. It was as recently as 1962 that the first examinations were prepared by NCARB committees for use on a national basis by all state boards. Practitioners not yet 50 years old are prone to refer to "the old sevens-partner," as if it were a product of dim antiquity.

The seven-part, 36-hour exam format continued through 1973, when it was succeeded by two distinct tests. One of them, the Professional Examination, was a four-part, multiple-choice exam which in many, though not all, states was the only one an examinee with an accredited degree was required to take.

The other, first called the Equivalency Examination and later renamed the Qualifying Test, served essentially to qualify those candidates who did not hold an accredited degree in architecture. As the name implies, this test had to be passed before a person could take the Professional Examination.

Many members of state boards felt it an anomaly, with public interest implications, that the Qualifying Test contained as one of its parts a graphic examination in architectural design. The Professional Examination, although testing design knowledge, did not do so graphically. It is also fair to say that in the minds of some member board members, the issue of whether all examinees should be required graphically to demonstrate their design ability was linked to the equally provocative issue of whether an accredited degree in architecture should be required for NCARB certification. As most architects know, both issues have been resolved in favor of a design test and a degree requirement.

In 1978, the graphic design exam was made a requirement for all applicants for registration. As a part of the registration examination process, it became known as the "Site and Building Design Test," or Section A, of the Professional Examination.

The exam tests 38 skills for critical architectural services

The following year, NCARB once again undertook to assess the national examinations through a major study of architectural practices and client/user needs. The basic question confronted in this study was: "Are the NCARB examinations actually testing for the kinds of knowledge, skills, and abilities required to practice architecture in the public interest?"

The key phrase, *in the public interest*, served to differentiate between those identifiable architectural activities within the "generalists' profession" that do, or do not, affect the public health, safety, and welfare.

The study, completed in mid-1981, concluded that while the NCARB examinations then being given were reasonably related to the practice of architecture, they could also be improved. In its final report, *NCARB Examination Validation Study, Final Report* (June 1981), the study identified 38 services performed by architects that are considered critical to the public's health, safety, and welfare. In performing these services, architects use identifiable knowledge and skills.

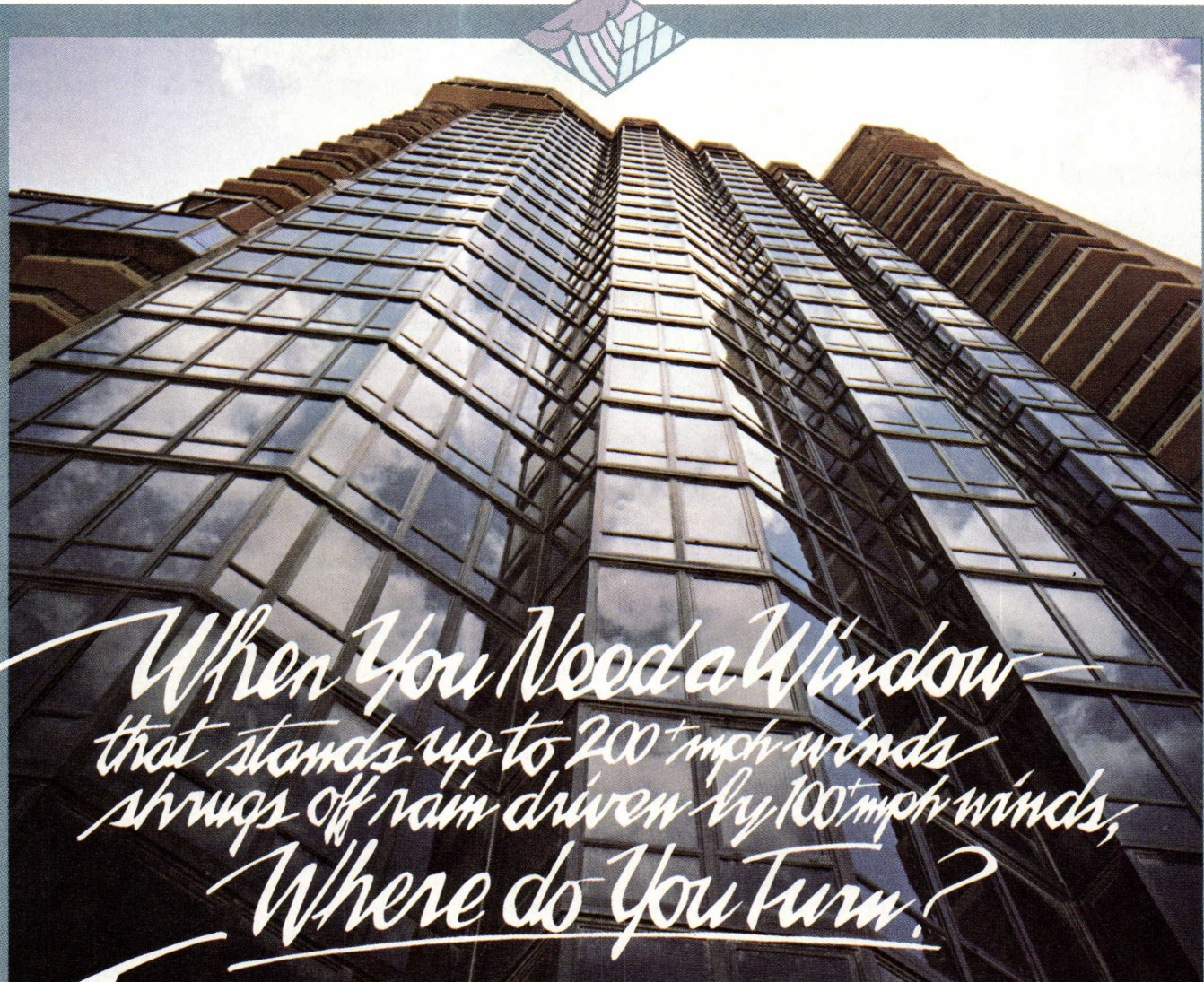
It was those services, that body of knowledge, and those skills that formed the basis for development of a specification for today's A. R. E.

A major objective is to reflect tasks of actual practice

How does the A. R. E. differ from its predecessors? Basically, through increased concern for its fidelity to the *practice* of architecture. The A. R. E.'s content, as in all other NCARB-produced examinations, relates as closely as practicable to the actual tasks an architect encounters in practice. Of course, no single exam can test for competency in all aspects of architecture. However, the A. R. E. can and does concentrate on those services that most affect the public health, safety, and welfare.

In addition to testing for competence in specific subject areas, the A. R. E. takes cognizance of the responsibilities an architect may have for coordinating the activities of others involved in the design/construction process. As noted in NCARB's *Circular of Information #2*, "This examination attempts to *continued*

Theodore L. Mularz, AIA, is the current president of NCARB, member of the Colorado State Board of Examiners, and principal of Theodore L. Mularz and Associates, Architecture-Planning, Aspen, Colorado.



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A.R.E. Examination Schedule and Duration

Day 1

Division D—Structural, General.
2 1/2 hours

Division E—Structural, Lateral
Forces. 1 1/2 hours

Division F—Structural, Long
Span. 1 1/2 hours

Division G—Mechanical/
Plumbing/Electrical. 2 1/2 hours

Day 2

Division H—Materials and
Methods. 2 1/2 hours.

Division I—Construction
Documents and Services.
3 1/2 hours

Day 3

Division A—Pre-Design. 3 hours

Division B—Site Design.
3 1/2 hours

Day 4

Division C—Building Design.
12 hours

determine the candidate's qualifications not only to perform measurable tasks but also to exercise the skills and judgment of a generalist working with numerous specialists. In short, the objective is to reflect the practice of architecture as an integrated whole" (worth noting here is the importance of *Circular of Information #2* as the basic source of information on the A. R. E. offered by NCARB at no cost to candidates for registration).

The A. R. E. is four days of intense examination

The A. R. E. is by design a rigorous examination. As noted earlier, it consists of nine divisions, is 32 1/2 hours long, and is given over a four-day period, usually the third week in June. (A breakdown of the four-day sequence is shown in the accompanying box.)

Most practitioners will agree, I am sure, that the A. R. E.'s nine divisions encompass the core functions of architectural practice. Site design and building design are accorded fundamental importance in Divisions B and C. The other divisions are written to assess or evaluate an examinee's ability to deal with the design process, as well as the technical and programmatic aspects integral to design.

New methods of testing are now included

In addition to stressing the importance of practice-relatedness, the 1981 Validation Study also suggested that new exam methodologies—new types of questions and question forms—might also be considered. Several forms of test questions that proved valid in other vocations were recommended. Accordingly, three of these methodologies were pre-tested by NCARB in pilot studies. Two of these were found to be appropriate and are now incorporated in the A. R. E. Thus, as it is now structured, the exam draws upon these four methods:

1. *Multiple-choice*, which is well known and had been previously used in NCARB exams.

2. *Graphic presentation*. The examinee is required to execute a drawing or series of drawings, depicting the answer to a problem or situation in graphic form. The longest graphic presentation problem in the exam—a single 12-hour problem—comprises the Building Design Test (Division C). Other graphics-based problems, called "vignettes," are found in the Site Design Test (Division B); as the term describing them suggests, they are limited in both scope and scale.

3. *Written identification*. The examinee is required to identify

various elements of a system, procedure, detail, document, etc., using a given master list of terms. This kind of test problem uses written or graphic evidence about which certain questions are asked. Examinees must choose their answers from a list of one-word or one-phrase answers provided in an alphabetized "key list." Several questions are typically grouped around one particular key list.

4. *Written simulation*.

Examinees are given a written description that includes attendant details, tables, forms, or photographs, as necessary to allow them to place themselves accurately in the position of the architect. Each description is followed by a series of options, including statements, single words, or phrases. Examinees must evaluate each of these in the context of the situation described and indicate on an answer sheet whether the options given are appropriate or inappropriate.

A special panel thoughtfully evaluated the entire exam

Writing an exam is a difficult experience, and when brand-new methodologies are introduced, as was the case with the A. R. E., the challenge is awesome. NCARB's leadership felt confident that the first A. R. E., the 1983 edition, was a good exam. But how could they be sure? One way, they concluded, since its claim to distinction lay in its practice-relatedness, was to subject it to the scrutiny of practitioners: young ones, old ones, members of small firms, large firms, firms from the east, west, north, and south. Most important, such architects should have never served on the state boards or on other NCARB-related bodies or activities.

An exam validation panel was formed. Recalls Robert Tessier, currently NCARB's president-designate, who chaired a committee to select and assist the panel, "We got a great mix: the head of a one-person office, a couple from offices to over 100 people, another person who is a principal in the oldest continuously operating firm in America, an educator, three Fellows of the Institute, and a lot of award-winning architects."

Before the validation panel convened to evaluate the examination itself, its members had studied the specifications on which the A. R. E. had been based. Over three full working days, the panel made a detailed study of all nine divisions. Their final report expressed a collective view that was generally positive. Though by no means reluctant to offer specific criticisms and recommendations, the panel concluded as follows: "The Validation Panel wants NCARB

to know it should be proud of the A. R. E. The dedication, the expertise and hard work of the exam writers is thoroughly appreciated, and the efforts of the Council have provided the profession with an exam that thoughtfully, fairly, and thoroughly tests candidates for entry into architecture."

The report concluded: "The Panel's position can be summarized by the final comment made at their meeting: 'I wouldn't have any problem working with an individual who passed this test.'" (Note: The validation panel's final report is available on request from NCARB.)

All grading procedures were thoroughly re-studied

As most architects know, all but the site and building design divisions of the A. R. E. are machine-graded. In the years since 1978, when testing for design competence was reinstated, many hundreds of jurors have gathered regionally each July to grade thousands of the examinees' graphic solutions. The process is necessarily subjective. We feel gratified that the track record reflects that personal bias in assessing the solution has been reduced significantly.

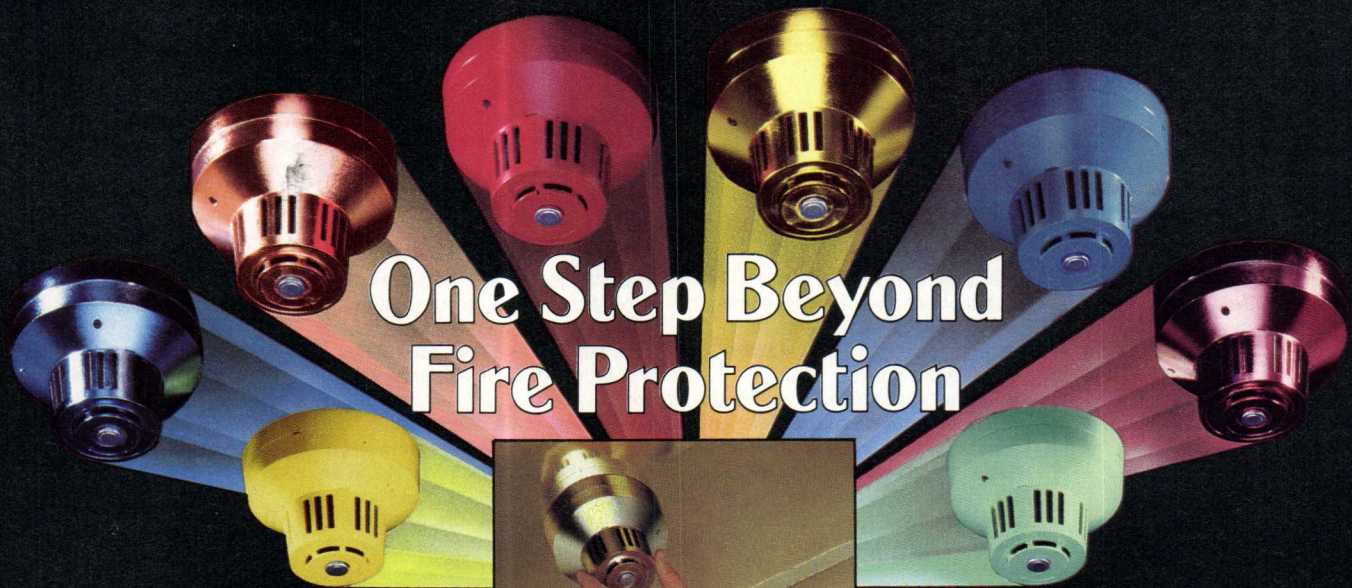
At the grading sessions last June in Fort Lauderdale and Salt Lake City, the grading procedures were further improved. A group of "master jurors" was selected to provide consistent advice to the other jurors on design evaluation criteria. Having excelled as graders themselves, the master jurors monitored the grading process. They resolved "borderline" solutions and, when jurors strayed from the judgmental mainstream, they offered the guidance necessary to bring them back.

The jurors' performances are also now graded

Additionally, the computer has been incorporated into the process. The jurors' grades are now recorded as the grading proceeds, thus making it possible to assess their performance as the hours go by and the scoring accumulates.

The exam process never ends for the exam committee. Year after year, it is influenced by two dynamic aspects of this society. One is an ever-changing profession whose practitioners, interns, and students are continually being tested by new technology and complex environmental and social challenges.

The other is an abiding concern: the realization that architects are unique among the professions. Unlike the others, they must serve not only the client who commissions them but also the users of architecture beyond counting. Literally, the public.



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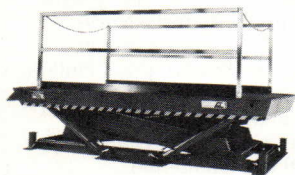
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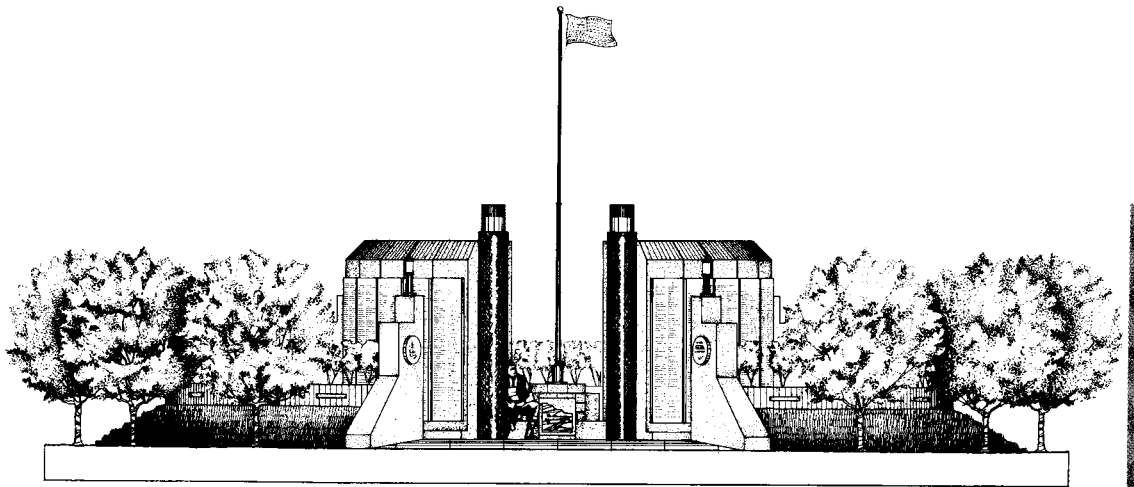
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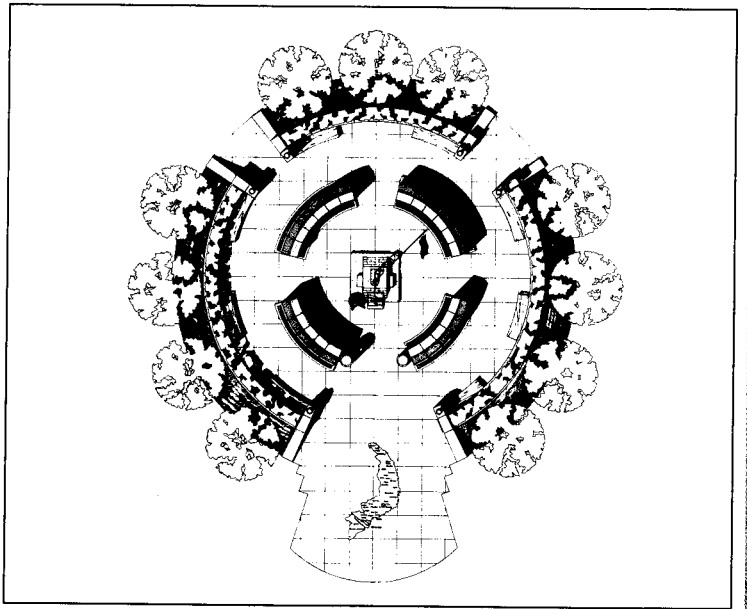
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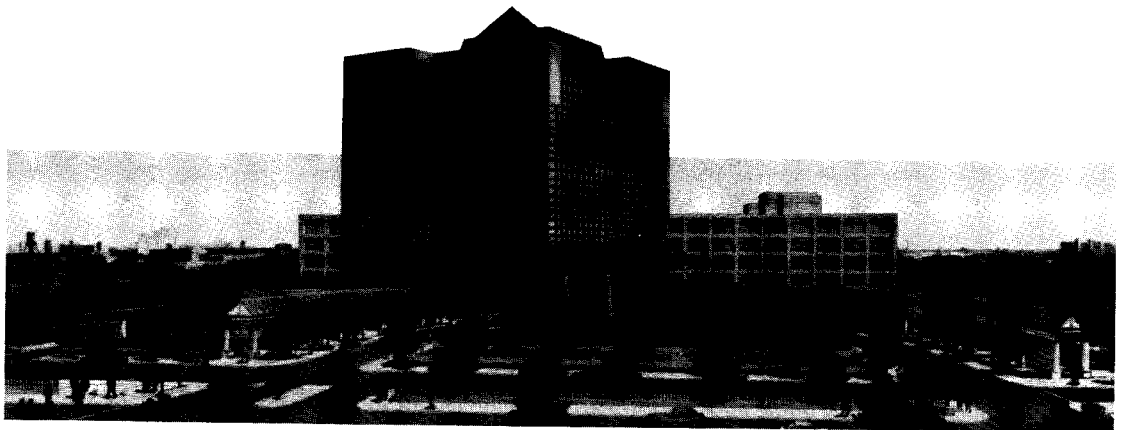
Binding up the nation's wounds: California unveils its Vietnam Veterans' Memorial



Michael Larson and Thomas Chytrowski of San Francisco have won a competition for the design of the California Vietnam Veterans' Memorial, scheduled to be built on the grounds of the State Capitol in Sacramento. The cylindrical monument will consist of four 11.5-foot-high concrete arcs faced on the outside by granite panels carved with the names of 5,420 Californians who died in Vietnam, and on the inside by bronze bas-reliefs showing scenes adapted from war photographs. Calling the memorial "a radical monument in conservative clothes," designer Larson observed that although the structure exhibits a traditional architectural vocabulary, its depiction of weary soldiers engaged in non-heroic activities—exemplified by a bronze figure seated on his helmet reading a letter—is atypical of most American war memorials.



Burroughs to Detroit: "We'll stay"



Although corporate flight from the inner city remains a chronic urban problem, there are still companies that have elected to remain in town and, in some cases, expand. One such corporation is Burroughs, the manufacturer of high-tech business equipment, which is planning to erect a major addition to its current world corporate headquarters, located on the edge of downtown Detroit, rather than resettle in

greener suburban pastures. Designed to house 700 employees, the 265,000-square-foot expansion will incorporate a new executive suite, a product display show room, and a conference center, in addition to 11 stories of general office space set alongside a curving glass-roofed arcade. The 185-foot-tall structure will be placed at a 45-degree angle to Burroughs's existing headquarters and will be sheathed

in a curtain wall of flame-finished granite, green tinted glass, and bands of stainless steel. Like many recent commercial buildings of its type, the interior will be organized around a full-height atrium terminating in a 40-foot-high glass pyramid. Project architects are Rossetti Associates.

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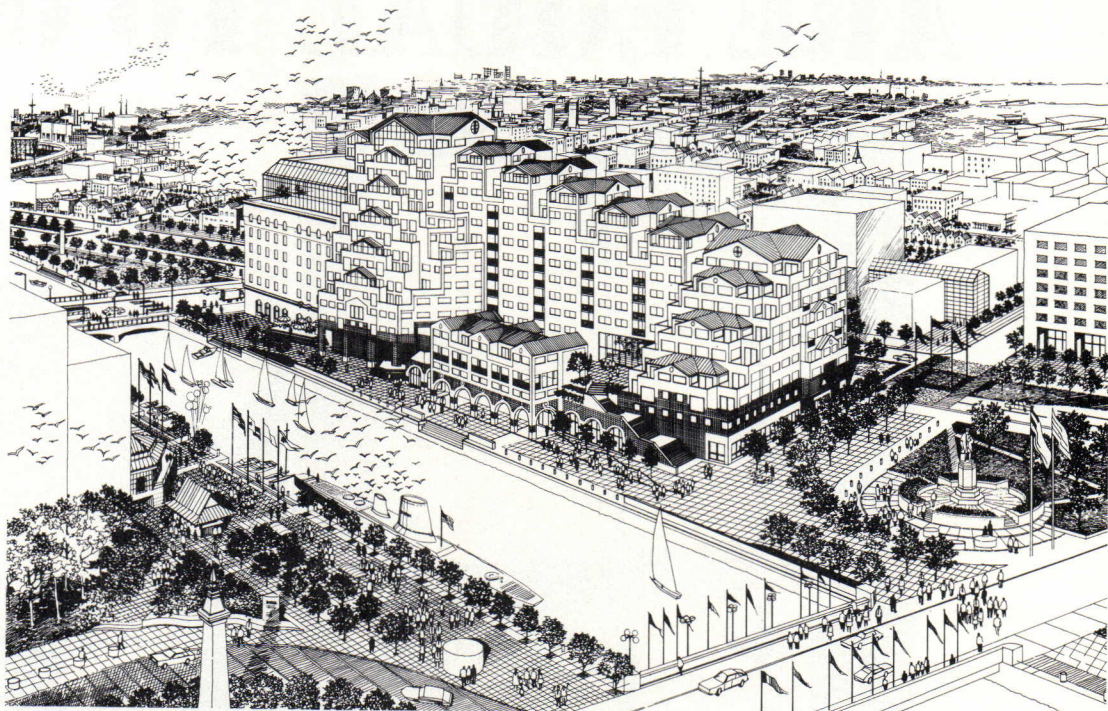
San Francisco's Board of Supervisors, by a vote of six to five, has approved a controversial new zoning law for the city's central business district that Mayor Dianne Feinstein proposed over two years ago. The plan drastically limits the height and size of buildings that can be erected downtown; discourages boxy slabs in favor of buildings with tapered profiles; pushes development away from the existing financial district to an under-utilized area south of Market Street; and places a cap of 950,000 square feet of new office space per annum over the next three years. The law also protects 251 architecturally significant older buildings from demolition.

The National Building Museum in Washington, D. C. will formally open to the public on October 24th. Located in the restored Pension Building, the museum will inaugurate its program of activities on the built environment with the exhibition "Building a National Image: Architectural Drawings for the American Democracy." The show will feature 100 drawings for American Federal buildings designed between the late-18th and early-20th centuries.

The Castillo Corporation of New Mexico has obtained plans from the Frank Lloyd Wright Foundation for an unbuilt, 200-room hotel that Wright designed in 1947. The company is planning to incorporate the structure, which was originally commissioned by Huntington Hartford III for a site in Los Angeles, into a new golf resort and conference center in the mountain foothills of Santa Fe.

The Knights of Columbus, the American Catholic fraternal organization headquartered in New Haven, is financing the first comprehensive restoration of the marble facade of St. Peter's Basilica in Rome. Work on the 350-year-old architectural icon will include sealing fissures in the marble with special resins, restoring all ornament and statuary, and replacing old iron clamps installed during the 19th century with stainless-steel supports. The restoration will take place over the next two years.

The Eldridge Street Synagogue on New York's Lower East Side recently received its first bay of restored stained-glass windows. The installation is part of an over-all project to stabilize and rehabilitate the ailing 98-year-old landmark, a twin-towered, terra-cotta and brick structure that was the first synagogue built on the Lower East Side by Eastern European Jews.

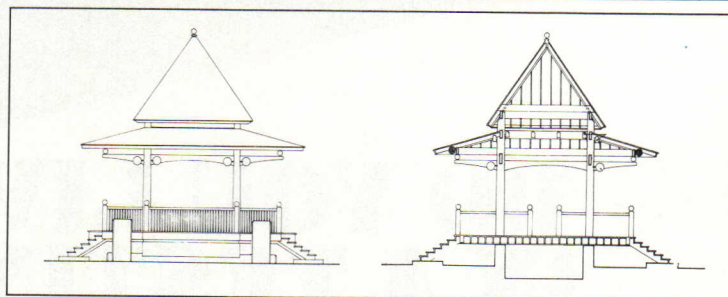


The redevelopment of Baltimore's Inner Harbor, already viewed by many as a national model for urban renewal that combines new construction with adaptive use, appears to have lost none of its momentum. Witness plans for Scarlett Place, a 412,000-square-foot mixed-use proposal that will comprise 66,000 square feet of commercial space, 181 luxury condominiums, retail shops, and

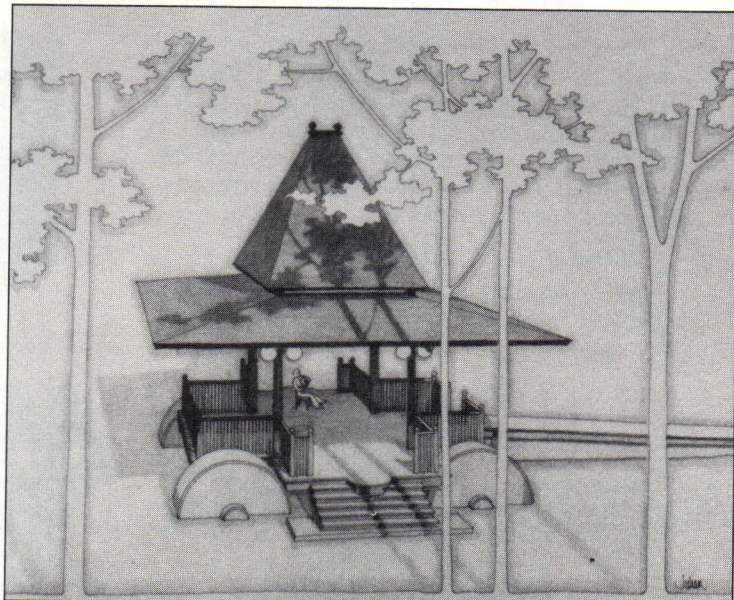
parking facilities. The project's name derives from the former Scarlett Seed Company building, a seven-story, turn-of-the-century brick warehouse that will be converted into a ten-story office structure (top left in rendering). For three adjacent parcels of city-owned land, architects Meyers & D'Aleo have designed a series of elaborately terraced buildings—a "stepped village reminiscent of a

Mediterranean hillside town," in the words of partner-in-charge Leo D'Aleo—that will range in height from four to 13 stories. The most significant urbanistic aspects of the project will be the extension of the city's bustling Inner Harbor Promenade from Pratt Street south to Eastern Avenue and improvements to an existing bulkhead over the same distance along historic Jones Falls.

American bandstand



One of the most evocative legacies of American vernacular architecture is the bandstand, usually situated in the center of a community's public square or common. Although this appealing piece of architectural nostalgia has disappeared from many towns, Oberlin College in Ohio recently turned back the clock by sponsoring a national competition for a new bandstand on Tappan Square. Chosen from 148 entries, the winning design is by Julian Smith, a preservation architect from Ontario who, coincidentally, received his bachelor's degree at Oberlin. Smith's timber-framed creation is meant to evoke an Asian festival cart—complete with wheels sunk in the soil up to their axles—as well as the 19th-century wood houses of the town. "A happy sight for all seasons," commented the jury. "It is both functional and delightful."



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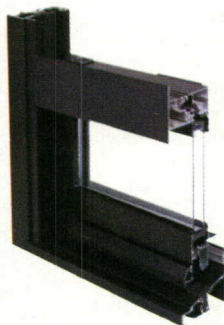


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Cambridge symposium examines ways of preserving a fragile—and valuable—legacy of architectural records

A symposium on the appraisal of architectural records recently held at the Massachusetts Institute of Technology was an extraordinarily useful event and, by virtue of the mixture of architects, financial and legal experts, archivists, collectors, appraisers and art dealers that it attracted, a unique meeting. The symposium was sponsored by the Massachusetts branch of the Committee for the Preservation of Architectural Records (COPAR), a national network headquartered at the Library of Congress that has been active in the traditional area of locating historical collections and in the emerging one of records management in private firms. The group's experience helped define the legal, financial, administrative, and market aspects of records appraisal addressed by symposium participants.

Under the legal heading, copyright and ownership of drawings were discussed and the results of the Tax Law of 1984 analyzed. Although the recent law has clarified the question of ownership (unless otherwise stipulated, drawings belong to the architect), that of their value is an uncharted sea for which the Internal Revenue Service, inexperienced in assessment, has drawn no maps, to the detriment of all involved in the appraisal and collection of drawings. Both ownership and appraisal problems beset estate-planning as well.

Regarding the question of managing architectural records, insurance experts explained the risks of under-insuring, of inadequate storage, and of insuring irreplaceable drawings as "valuable papers" rather than as art "objects." In all areas, the small design firms, with their characteristic informality and lack

of financial resources, lie open to the greater risks, both during and after the life of the principals.

The net was widened in the afternoon by discussions about the art market from the point of view of the gallery owner (Ian Dunlop of Artis), the auction house (Nancy McClelland of Christie's), and the institution (the Library of Congress Prints and Photographs Division). Here, the waters were less murky, but the treasures gathered were few. Dunlop described the slow take-off of his sales of Beaux-Arts and neo-Classical drawings and the rather quiet state of his market in terms of price, attractive subjects, and types of buyers. McClelland based her talk on Christie's experience in the sale of Wright and Arts-and-Crafts objects and drawings, and she noted that limits had also been reached there. In fact, only the problems seemed boundless: the Library of Congress, for example, is required to restrict the number of drawings it accepts for lack of space and staff.

Turning to documents and drawings still in firms, Nancy Shrock, the head of the symposium, reviewed records organization within offices, pointing toward new, ill-defined areas in cataloging, conservation, and disposal. The emerging field of records-management will offer some solutions, and both the AIA Foundation and the Association of Records Managers and Administrators are at work developing guidelines.

Despite all the problems, COPAR's energetic lobbying has begun to exert influence on individual firms, and an increasing number now employ archivists or librarians. A forthcoming publication based on this symposium should extend this vital activity. *Hélène Lipstadt*

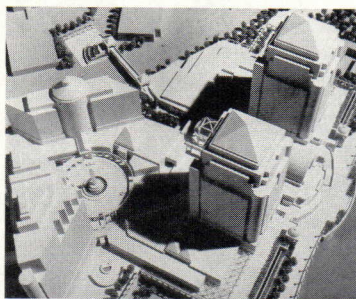
Kevin Roche wins 1985 Reynolds award



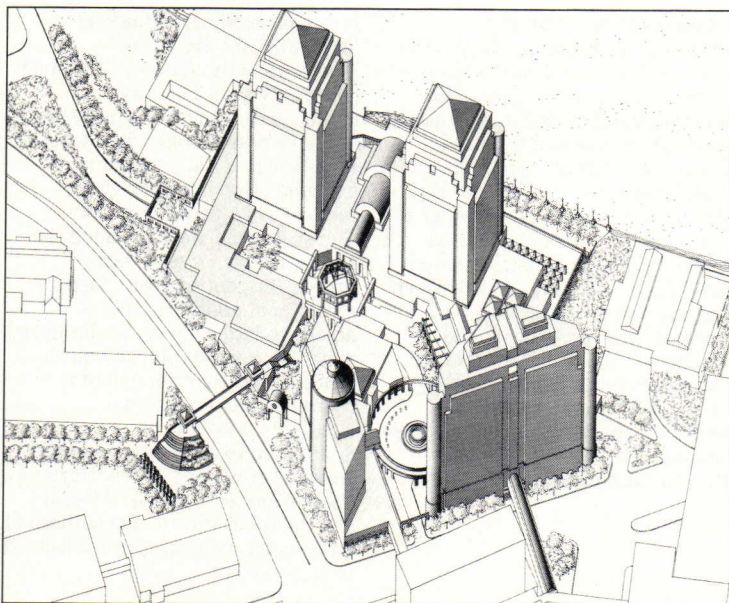
The 29th annual R. S. Reynolds Memorial Award for distinguished architecture using aluminum has been awarded to Kevin Roche for his design of the General Foods headquarters building in Rye, New York. The 1985 award carries an honorarium of \$25,000 and a sculpture by artist Arthur Gibbons. In its report the jury characterized the 1.1-million-square-foot building, as a "magnificent solution for a

corporate headquarters. The complex forms are bold in their shape yet simple in their execution." The structure's vinyl-clad aluminum skin was chosen, according to Roche, because "the design flexibility and maintenance-free characteristics of this material combine to allow cost-effective, durable, and visually attractive solutions for nearly unlimited applications."

Newark riverfront redevelopment renaissance

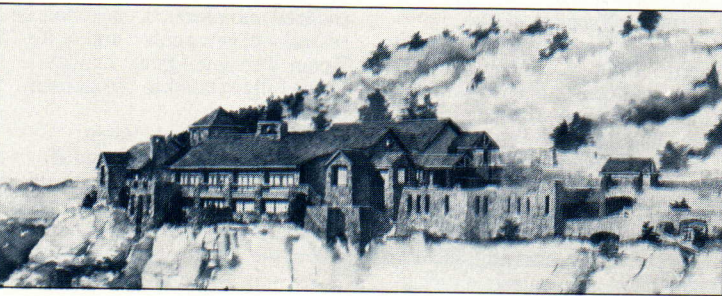


Although the City of Newark has had little to boast about in recent years, a highly visible redevelopment project along the banks of the Passaic River should give the New Jersey metropolis a much-needed shot in the arm. The first phase of the 14-acre proposal will be the 15-story Legal & Communications Center (right in axonometric below), a 400,000-square-foot, glass-and-granite office building that will house space designed specifically for law firms. Future phases will include two additional office structures, a 216-room hotel and conference center, a vaulted retail atrium, and a public pedestrian promenade along the river. The project is a joint venture of The Port Authority of New York and New Jersey, and the Newark Economic Development Corporation. Architects are The Grad Partnership.



A mountainside retreat

The 19th-century American tradition of rustic lodges that seemingly grow out of their bucolic settings clearly inspired the design of a new clubhouse at Castle Pines, a luxury residential and golf community located 23 miles south of Denver. Perched atop a 300-foot-high cliff, the three-story, stone-clad recreational facility was designed by architects William Zmistowski and Lex Ulibarri.



Design awards/competitions: Dallas Chapter/AIA 1985 Design Awards

The Dallas Chapter of the American Institute of Architects has honored ten completed projects by locally based architects in its 1985 Design Awards Program. Jurors for the annual event were Paul A. Kennon, FAIA, president of the architecture division of CRS Serrine, Inc., in Houston; Warren Cox, FAIA, partner of Hartman-Cox Architects in Washington, D. C.; and Robert S. Harris, FAIA, dean of the School of Architecture at the University of Southern California, Los Angeles. In its comments, the jury expressed particular pleasure in the fact that although there were many high-priced



©R. Greg Hursley



1. Charles B. Key Cataract Surgery Center, Dallas, Texas; The Oglesby Group, Architects (Honor Award). A four-story outpatient surgical center is clad in alternating bands of smooth and textured Texas limestone and green-tinted glass intended to blend in with existing post oak trees. In order to accommodate visually impaired visitors, the architects eliminated most stairs and made underground parking directly accessible by elevator. The jury praised the architects' "skillful execution" of materials and called the building "a beautifully crafted object sensitively and realistically sited to minimize the visual impact of streetfront parking."

2. Sundance Square, Block 42 West, Fort Worth, Texas; Woodward & Associates, Architects (Honor Award). The jury characterized a 68,500-square-foot adaptive-reuse project in downtown Fort Worth as "an excellent example of architecture that revitalizes its place in the city." The architects' work included the reconstruction of the block's turn-of-the-century brick facades, redesign of all interiors to accommodate a mixed-use program of shops, restaurants, and office space, and the conversion of a rear alley into an internal circulation system.

3. Addition to a Private Residence, Dallas, Texas; Woo James Harwick Peck, Architects (Honor Award). For the renovation and expansion of a two-story clapboard house located in an established Dallas



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neighborhood, the architects utilized a series of gridded wings grouped around a central courtyard and swimming pool. The street facade of the house was extended in respect to the existing residential context. The jurors admired the contrast between the original structure and the more abstract addition, and they especially liked the building's new interior gallery space. "The architect has created a very livable house," they concluded.

4. Genaro's Tropical, Dallas, Texas; Murphy-Murphy Architects (Merit Award). A new multi-level restaurant constructed within an existing 1940s department store is based on a tropical Art Deco theme. The jury called the project "grand . . . and executed with skill, flair, and enthusiasm. The clever plan provides a beautiful sequence of spaces for a restaurant, including a bar that is particularly enticing."

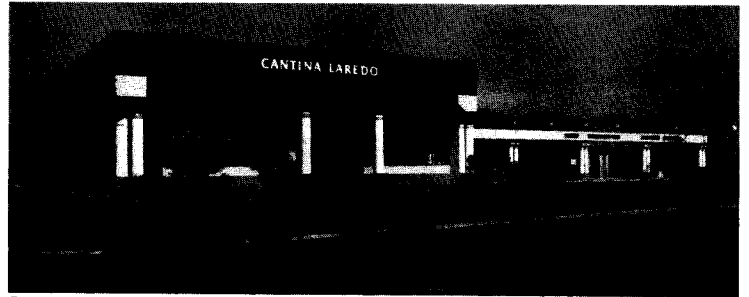
5. Addition to a Private Residence, Highland Park, Texas; Howard Glazbrook III, Architect (Merit Award). The expansion of an existing one-story house in a Dallas suburb incorporates a new guest house, an arcadelike greenhouse, and a swimming pool. The rhythm of brick columns used to tie the various elements together echoes the architectural details of the original structure. The jury called the project "well-executed, . . . a civilized and pleasant place that is restrained, vernacular, and quite Texan. The small guest house is beautifully related to the garden and the pool."

6. Pella Commercial Design Center, Dallas, Texas; David A. Dillard, Architect (Merit Award). Since the client of this show room is a manufacturer of windows and doors, the architect utilized these

structures among the 68 competition entries, the projects ultimately tapped for honor awards, merit awards, and citations were generally in the low-to-moderate cost range—proving, in the words of one juror, “that a building is not necessarily good because it is expensive.”



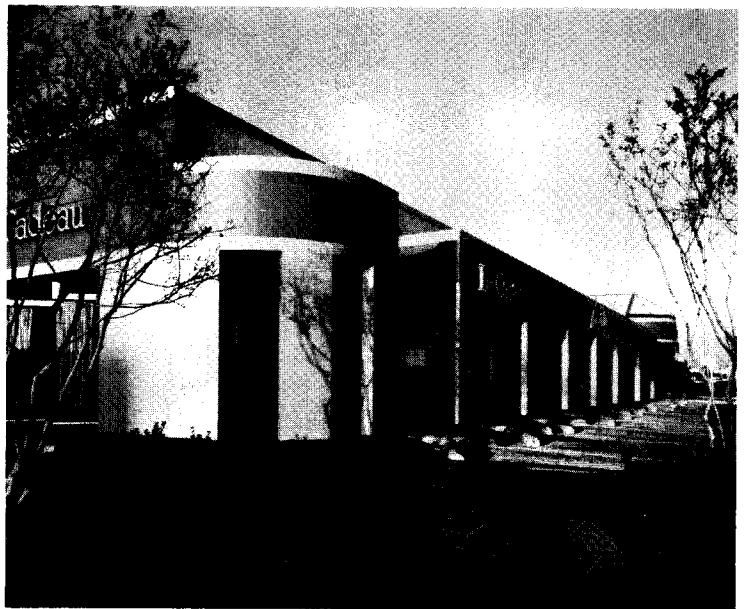
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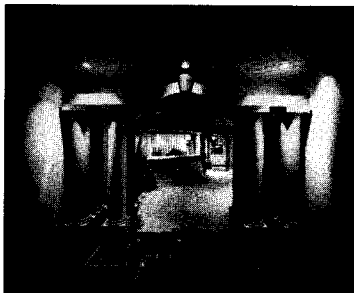
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products both as part of the over-all design and in the individual displays. A unifying element throughout the space is the grid of fixed, frame windows extended to such architectural details as glazed walls, signage, and carpet patterns. The jury commented that “the architect made the most out of a modest program by exploring the transparency of planes to give the illusion of space while at the same time displaying the manufacturer’s windows and doors.”

7. Addison Market, Addison, Texas; Urban Architecture/Dallas, Architects (Citation). A narrow site and the proximity of an adjacent subdivision determined the perpendicular, rather than usual parallel, orientation of a strip shopping center to the main traffic artery of a Dallas suburb. The

architects selected a Texas vernacular style for the center in response to the community’s desire to establish an “old town” character in privately developed projects. The jury felt that the building represented “an inventive solution to the difficult problem of strip shopping developments. With an economy of means, this project is effective and well-executed.”

8. Lovers West Shopping Center, Dallas, Texas; Good, Haas & Fulton Architects (Citation). A Southwest desert palette of peach and gray ceramic tiles and terracotta pavers characterizes the architects’ conversion of a drug store and five-and-dime into an upscale shopping center, located on a 1950s commercial strip that is gradually being rehabilitated.

Stores are arranged along a new gallery that links the streetfront facade to parking in the rear. The jury called the project “a fantasy within strip city. The strength of the building grows out of its setting.”

9. Architects’ Offices, Dallas, Texas; Scott Dye Architects (Citation). Post-modernist columns and entablature are meant to convey both a strong sense of entry and an appropriate image of the profession for the architects’ own offices. Light filtering through private, glass-enclosed exterior offices and translucent glass-block walls illuminates interior space, while a neutral color scheme allows people, artwork, and furniture to become the primary color accents. “The details are well-executed,” said the jury.

10. Cafe Pacific, Dallas, Texas; Selzer Associates, Architects (Citation). A new restaurant occupies space in Highland Park Village, one of the oldest shopping centers in Texas. In an effort to revitalize the center’s original Mission Revival-style architecture, the architects removed heavy furnishings from a German restaurant that previously occupied the space, installed a black-and-white marble floor and an antique bar from an old Dallas hotel, and opened up original window bays. “The interiors are elegant without being overworked, pretentious, or flashy,” observed the jury. “The bar looks like the best in town. We hope it lives up to its appearance.”

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The Charlottesville Tapes, introduction by Jaquelin Robertson. New York: Rizzoli, 1985, \$25.

Reviewed by
Philip S. Kennedy-Grant

From time to time a small book is published that has a large impact. *The Charlottesville Tapes* seems destined to be one of those books. It is the transcription of a two-day meeting of 26 eminent architects from Europe, Asia, and the United States, held at the Rotunda of the University of Virginia in November, 1983. The subject was architecture, the setting was architecture of significance, and the discussions were candid and revealing.

Organized initially to celebrate the 10th anniversary of the Institute for Architecture and Urban Studies in New York City, the symposium was shifted to Charlottesville when administrative problems at the Institute made IAUS sponsorship impossible. Architects were invited from a group known to be "serious" about architecture. The participants, moreover, had variously taken part in previous Institute events, had taught together, worked together, and developed their professional skills generally in the same milieu. As Jaquelin Robertson notes in his introduction: "Those who came were architects of quality, deeply committed to their craft as an art and to a profession that they believed had (or should have) a central role in the shaping of culture."

The conference was organized to allow each architect to present a previously unpublished project. Six presentations were scheduled for each morning and afternoon session. Each architect was allotted 10 minutes to present his project, and 20 minutes were provided for critical review. Although a different moderator was chosen for each half-day session, Robertson, dean of the University of Virginia School of Architecture, seems to have been more than host. His written introduction to the proceedings not only describes the gathering, but also questions its results. He mourns, for example, the "continued avoidance of confrontation with the real public issues of urbanism by most 'high design' architects." During the symposium itself, Robertson assumed the dual role of prompter and organizer, reminding someone of another's question, reinforcing a point that had been overlooked, insisting that the goal of clarifying

architectural intentions be pursued. Robertson appears to have been the conference's stabilizing force, the keel that kept a volatile, talent-loaded vessel on its course.

The quality of the book varies not with the strength, or weakness, of the various projects; rather, the quality of discussion is related to how strongly the participants are moved, favorably or not, by the project at hand. Leon Krier declares that "the level of discourse is such a miserable intellectual ruin" that he feels like leaving. When he asks "how can we listen to somebody describe this miserable hole and take him seriously?" one is compelled to investigate the project more closely and reread the positive comments that have gone before in order to weigh the arguments.

In fact, it is in passages such as this one (which is not atypical) that the value of the book lies. The reader is a clandestine observer at the trials of the current crop of high-design architects. One has read about them in the architectural press and seen seductive color photographs of their work. And now the reader witnesses the big boys pushing each other around. Interestingly, there is not a single project that is uniformly well-received. In virtually every instance someone raises a question that, although it often has been framed

in one's imagination, has not been posed directly before. Richard Meier is asked why he makes his buildings all look the same. His work is described as scaleless, and he is accused of designing for photography. A Charles Gwathmey house is termed a petrochemical plant, and "a naked shingle style" that reflects little improvement over work he did 17 years ago.

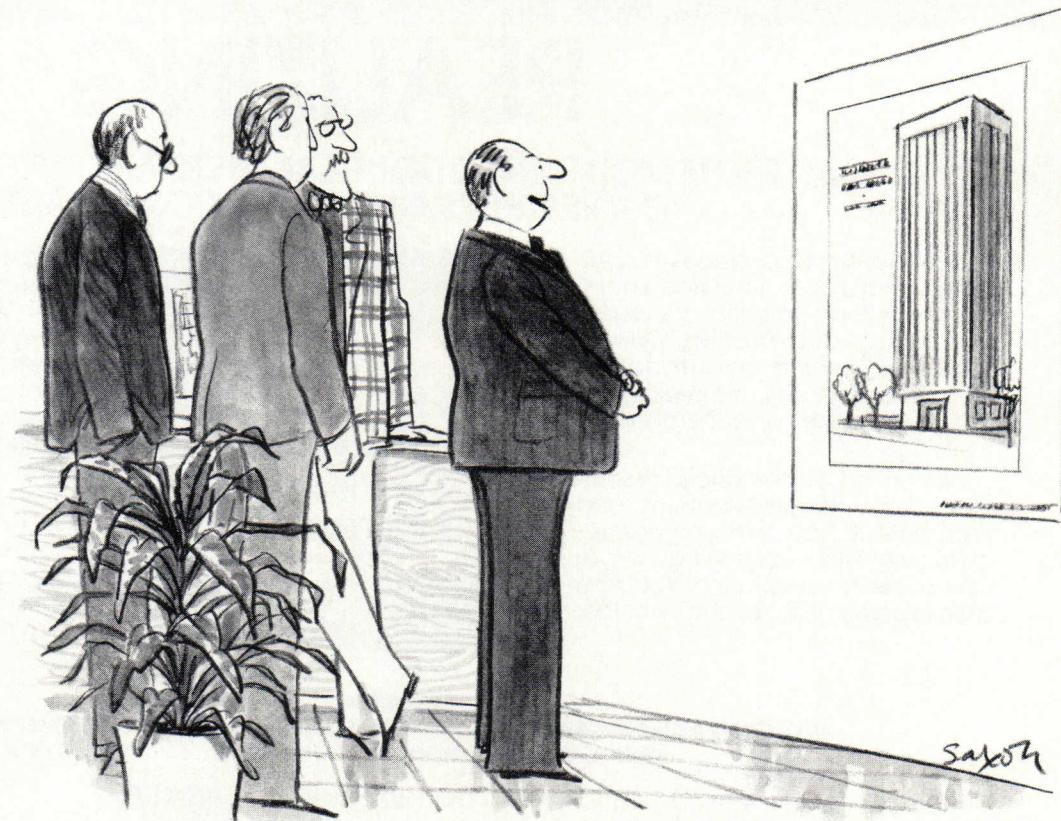
The constant challenges of each project reinforce the notion that architecture is a process and that it is not so well-defined that issues of correctness are universally accepted. It is important for us to see that there are flaws even in the best architecture. The suggestion may be that the flaws are ours and that our civilization fostered them. But every suggestion, every innuendo, is only supposition. There is no incontrovertible proof. For those of us seeking to make architecture as best we can, and do it for a living, it is encouraging to be reminded that we are not alone.

The Charlottesville Tapes is exciting precisely because it documents disagreement. Robertson mentions that architects will talk about their own work but not that of others unless in critical terms. While the book is never less than engrossing, one does feel a tinge of uneasiness: with such

widespread disagreement is there hope for an architecturally intelligent future?

Even though the book's lack of abundant graphics restricts the reader's investigation of individual projects, this condition is satisfactory because it focuses one's attention on the words, the discourse. And, as Peter Eisenman states in one of the sessions, those present "are trying to learn how to communicate rather than to stifle communication."

In the end, the intensity of *The Charlottesville Tapes* and the deep involvement of the participants make the book read almost like a play—one in which the characters are developed not by being described, but by their own description of the projects they review. These characters become real people, not just personalities known through the press or through esoteric writing in academic journals. The conversations captured here are visceral, tough, and direct. They cut through jargon to the heart of the matter. The participants seek to illuminate architecture for themselves, and while they attempt to do so, they shed light on the concerns of thinking architects everywhere. The result is vital to everyone concerned with the quality of the built environment.



"It's great. I love it.
But how about a little gesture toward historicism?"

Philip S. Kennedy-Grant, AIA, is coordinator of design with the office of Barrett Allen Ginsberg in Bedminster, New Jersey.



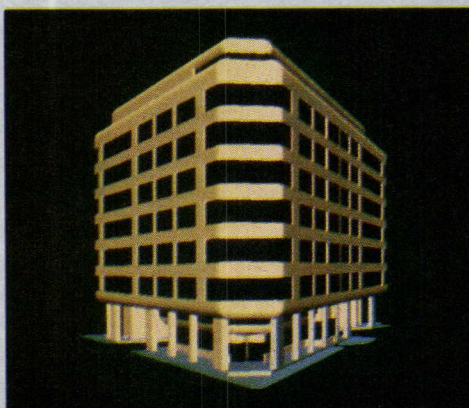
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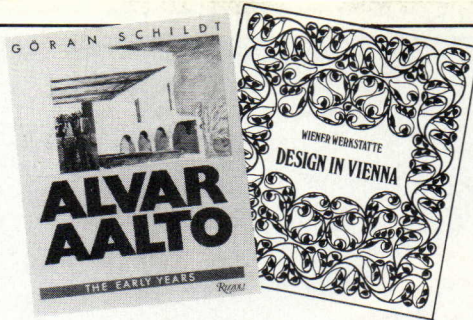
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Books



Reviewed by Caroline L. Hancock

Alvar Aalto: The Early Years, by Göran Schildt; translated by Timothy Binham. New York: Rizzoli, 1984, \$35.

"The fact is that, in evaluating the world of forms around us from the point of view of beauty, the well-developed heart is a far better instrument than the educated mind."

This quotation from a lecture broadcast on Finnish radio in 1925 is among the many writings by Alvar Aalto to appear in Göran Schildt's new critical biography, the first book in a projected three-volume series on the life and work of the architect. In Aalto's family background, training, and early practice, Schildt, an acquaintance of 30 years, adroitly finds the origins of the threads that will run through his later work and appear in his mature, iconoclastic style. Despite having commissioned a house from Aalto (or perhaps because of this), Schildt paints an objective yet beguiling portrait that features many personal reminiscences.

Alvar Aalto: The Early Years was originally published in Finland under the title *The White Table*. This phrase refers to the large white piece of furniture that Aalto's father, a surveyor, used as his office desk and around which he and his assistants sat, drawing maps. For his young son Alvar, this table represented an elevated plane for work, as well as a part-time stage on which plays could be performed by the young extrovert and his siblings. The theme of the white table therefore becomes a link to Aalto's architecture, which as Schildt points out often featured theaters and fanlike shapes. Another strong childhood influence was Aalto's grandfather, a forestry instructor. Knowing this, one can more easily comprehend Aalto's ensuing interest in both the relationship of architecture to the landscape and the application of wood in its most natural state in both buildings and furnishings.

The focus of the current volume is primarily on the period from 1898, the year of Aalto's birth, to 1927, when he moved his office to Turku. It is fascinating to see the groundwork laid by Aalto's early experiences for elements that will later appear and reappear in his buildings, such as the U-shaped courtyard of the traditional Finnish farmhouse or the campanile and romantic forms of the Italian hill towns that he first encountered through family readings of Goethe and later studied at the Institute of

Technology in Helsinki. His architectural style during this period still combined Finnish vernacular with neoclassicism, and his heroes were such Nordic classicists as Gunnar Asplund (who failed to offer him a job) and Ragnar Österg, the designer of Stockholm's City Hall.

This first volume only begins to deal with the increasing influence of Le Corbusier and the Bauhaus on Aalto. Under the spell of rationalism, Schildt tells us, Aalto cut out much of the originally intended classical decoration from two projects after beginning construction. These two buildings in Jyväskylä—the Farmers' Cooperative Building and the Defense Corps Building, both of 1927—embodied in their stripped-down yet historically allusive forms the transition Aalto was beginning to make toward functionalism.

Schildt divides his text into two parts. The first deals with more strictly biographical material, and the other with the substance of Aalto's work. Just when the reader begins to connect Aalto's life with his art, Schildt provides a thematic analysis of Aalto's development not restricted by chronological limitations. Among the topics discussed are Aalto's use of open and closed space, his interest in multipurpose buildings, and "anarchism as an architectural principle."

Both sections of the text and the list of works between 1912 and 1927 are well-served by illustrations, many of them new to print, and by a handy system of cross-referencing. Moreover, 20 color illustrations of Aalto's Cézanne-inspired landscapes, still lifes, and street scenes reveal the architect's considerable skill as a painter. Although this volume, frustratingly, has no index, perhaps the author is planning to provide a comprehensive one at the end of the series. If, as Schildt maintains, "Aalto only really became himself after the war, in the '40s and '50s, when he achieved his great synthesis," then the next two volumes will be joyfully received by those who have read this intriguing beginning.

Wiener Werkstätte: Design in Vienna, 1903-1932, by Werner J. Schweiger. New York: Abbeville Press, 1984, \$65.

As successors to John Ruskin, William Morris, and the rest of the English Arts and Crafts movement, the Wiener Werkstätte—or Vienna Workshops—achieved the transition from Art Nouveau to the new Modernist style. The Werkstätte also clearly acted as a forerunner, both stylistically and as a system of total design, to the Bauhaus. However, as W. G. Fischer points out in his excellent introduction to art historian Werner Schweiger's book on the Werkstätte, the goal of the Bauhaus was to design objects for mass-production, while the Werkstätte emphasized the importance of the unique, individually created art object. If the book has a thesis, it might be that, as an art critic wrote of a Werkstätte exhibition in the *Wiener Allgemeine Zeitung* in 1910, the group was "dedicated to luxury, but to luxury of the most exquisitely intellectual type."

Although this handsomely produced catalog with over 700 illustrations has been a resource in many European designers' studios since its first appearance in Germany last year, those who have waited can now take advantage of this new English edition in order to close any gaps in their knowledge of Werkstätte lore. Schweiger's research has culminated in a comprehensive survey of the Werkstätte's production that would have been applauded for its graphic design by Josef Hoffmann and Kolo Moser, the group's founders. In a layout by the author and Christian Brandstätter, the book's endpapers, text borders, and chapter-headings are all Werkstätte-derived.

The first half of the book is devoted to a chronological history of the founding of the Werkstätte in reaction to machine production and the "mindless imitation of old styles" (as the founders' 1905 "Working Programme" statement put it). We follow the organization's financial and critical ups and downs, its changes of backers, and the fortunes of its various departments. Schweiger examines in detail the relationship of the Werkstätte to other artistic associations, such as the Vienna Secession and the Deutsche Werkbund, and its place in the larger world of design as established in exhibitions and branches abroad.

Schweiger portrays Moser and Hoffmann as having filled the complementary roles of innovator and implementer, aided by Dagobert Peche, the prolific young decorative artist who became a major design force in the

Werkstätte's later phase. Such artists as Egon Schiele, Oskar Kokoschka, and Gustav Klimt, already well-known as painters, became permanent members of the workshop staff, along with sculptors, graphic artists, and other craftspeople. Schweiger covers in detail the many style-setting exhibitions installed by the Werkstätte: even sales displays were designed under the concept of *Gesamtkunstwerk*, or "integral work of art."

Architects will be particularly interested in the chapter called "Construction." Hoffmann's intense involvement in the Werkstätte meant that his architectural work was done more or less under its aegis. His two largest building projects were the Purkersdorf Nursing Home (1904-05) and the Palais Stoclet, which was completed in Brussels in 1913 and has become a lasting exemplar of the Werkstätte's achievements. Another enormously influential, if smaller, project was the Cabaret Fledermaus of 1907, created in the basement of an existing house in Vienna. Featuring a bar ornamented with over 7,000 majolica tiles (called a "colorful chamber of horrors" by one reviewer), the cafe-theater incorporated objects and ornamentation designed and executed by Hoffmann and the Werkstätte down to the smallest detail, including the still popular "Fledermaus" chairs.

The second part of the book contains sections on graphic design, glass and ceramic designs, and "wearables"—i.e., jewelry, textiles, clothes, and theatrical costumes. The chapter on graphics includes examples of lettering and typeface styles, logos, marks and monograms designed for both the Werkstätte's own publications and for other firms, bookplates, bookbindings, calendars, posters, stationery, postcards, and wallpaper—all created by Werkstätte designers, though in many cases produced by associated printers and manufacturers.

With its extensive footnotes, bibliography, illustrated artistic biographies, and indexes, *Wiener Werkstätte: Design in Vienna* is a uniquely valuable reference work on a design movement that is once again influential and popular today.



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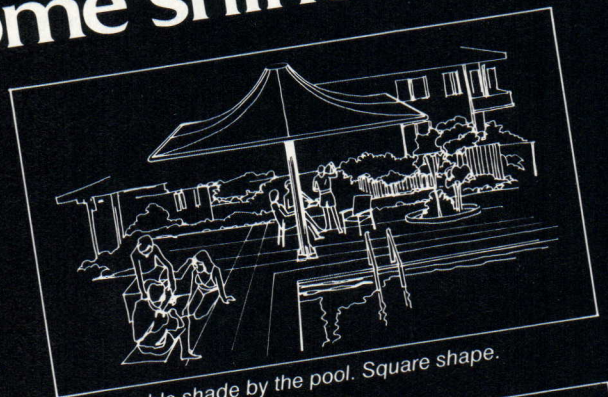
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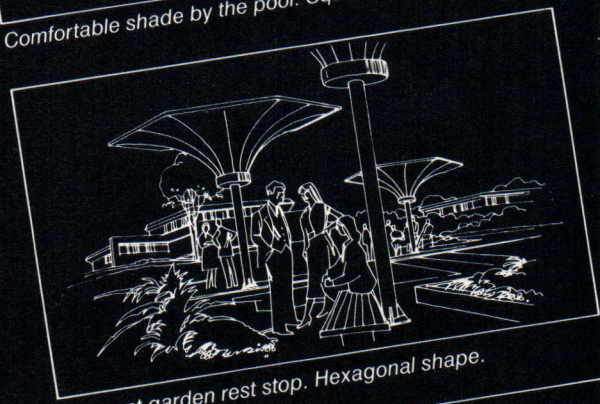
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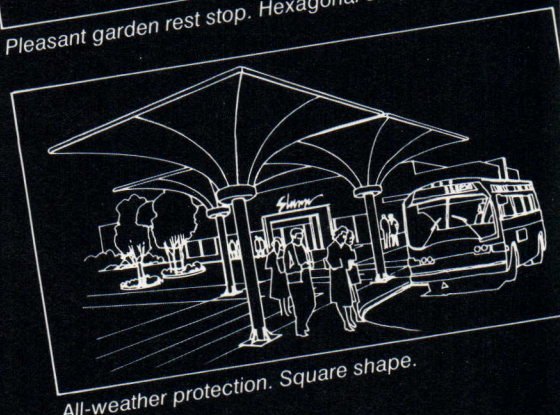
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In search of the ideal city: The architecture of Ricardo Bofill and Leon Krier

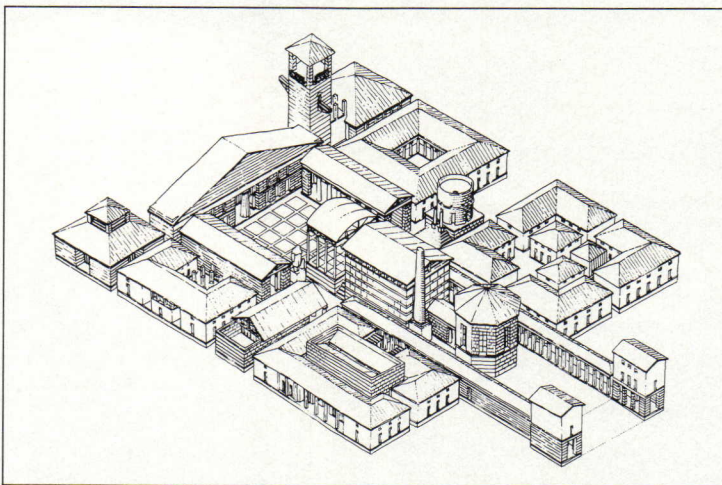
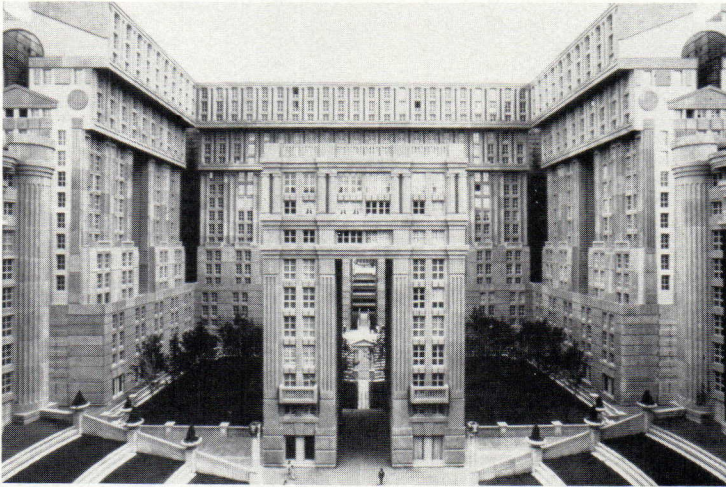
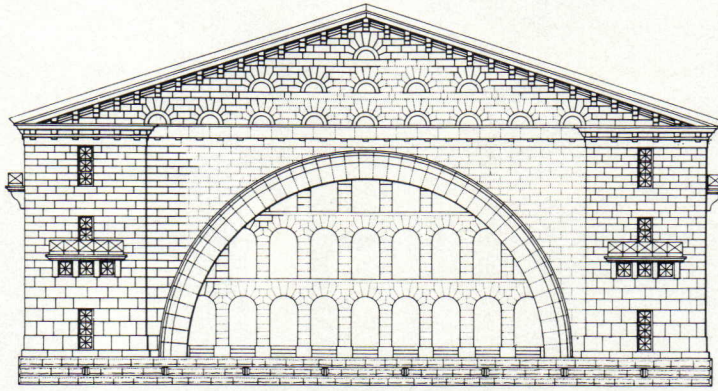
By Roger Kimball

An exhibition of recent works by the architects Ricardo Bofill and Leon Krier opened at The Museum of Modern Art on June 27th, inaugurating a series of five annual exhibitions devoted to exploring contemporary developments in architecture. Organized by Arthur Drexler, director of the museum's Department of Architecture and Design, the exhibitions are sponsored by the Gerald D. Hines Interests. The current show, entitled "Architecture, Urbanism, and History," will be on view at the museum through September 3rd.

In addition to providing an overview of Bofill and Krier's work, the exhibition also presents original designs undertaken by both architects especially for this show. The suggested project was to design something for New York City. Bofill submitted drawings for New York Tower, a 67-story, "poly-functional" skyscraper intended to accommodate apartments, hotel rooms, and offices in midtown Manhattan. The building forms a sturdy rectangular shaft, full of crisp, chiseled edges. Its facade is cut into a series of identical boxlike units, each composed of two bands of vertical elements. Inscribed at the top is a stylized Doric temple—to my mind, a gratuitous if not indeed incongruous gesture, though the over-all effect of the building is one of cool, even remote, elegance.

Krier, signaling his revolt against the ethos of modern urbanism, opted to submit an ambitious master plan for the "completion" of Washington, D. C. Highlights of his plan for a scaled-down "New Federal City" include flooding the mall to enlarge the tidal basin. Krier christens the result "Pyramid Lake," after the Civil War monument he proposes building there, which would stretch from the Washington Monument to the Lincoln Memorial, and from the grounds in front of the White House to the Jefferson Memorial. The envisioned community of 80,000 would fulfill Krier's goal of a city that allowed "man to satisfy all his material and spiritual needs within walking distance."

Bofill and Krier both reject modernist architecture's anti-historical bias; and both freely plunder the tradition for stylistic cues for their own work. But, as the special projects they contributed for this exhibition suggest, they are in other respects very different sorts of architects. Bofill, though still based in his native Barcelona, has built all of his major projects in France. Together with his firm, Taller de Arquitectura, the 46-year-



old architect has won international acclaim for his large-scale public housing projects that blend advanced construction techniques and materials with striking neo-classical and baroque facades.

For many observers, Bofill's attempt to produce a monumental, classically inspired architecture that remains faithful to the imperatives of contemporary taste and building requirements has been a stunning success. Typical is the complex of 598 apartments at Marne-la-Vallée, near Paris, which was completed in 1982. The dramatic public spaces, shifting scale, and eclectic, classicizing vocabulary reminiscent of Gaudi create a rich network of associations that is grand in a playful, almost mocking way.

Krier, born in Luxembourg in 1946, has lived in London since 1974. Unlike Bofill, he rejects modern technology and the high-density,

commuter-oriented city that modern means of transportation have made possible. Instead, he calls for a small-scale, craft-intensive architecture, an architecture that could embody—and thus help to re-establish—the humanistic values that modernism is said to have abandoned. In Krier's view, then, the architect is as much a moral legislator as a technician; he is called upon to challenge the uprooting values of modernism and project a public space that could once again bind people into a genuine community. And because the architecture he demands is at odds with the realities of modern architectural practice, Krier designs but does not build: "I can only make Architecture, because I do not build," he writes. "I do not build because I am an Architect."

Throughout Krier's work there is a conscious effort to evoke a more

Top to bottom:
Leon Krier, Odeon project for Berlin-Tegel, West Germany, 1980-83.

Ricardo Bofill, "Les Espaces d'Abrazax: Le Palacio, Le Theatre, L'Arc," Marne-la-Vallée, France, 1978-82.

Leon Krier, School project at St. Quentin en Yvelines, France, 1977-79.

humanized future by imagining the past. In the face of an unsatisfactory reality, he composes highly personal versions of tradition that seek more to liberate the imagination than to describe some definite task. Thus even his most detailed architectural drawings are not so much instructions for particular buildings as intimations of the *kind* of building—and ultimately, the kind of world—that Krier would wish to see realized.

The great delight of this exhibition are the often exquisitely rendered drawings that Bofill's Taller de Arquitectura and Krier have produced. Many are accomplished works of art. Yet considered as *architecture*, the work of both men raises a number of difficult questions about the vocation of architecture in the modern world. Bofill has enriched the modernist architectural vocabulary by incorporating traditional themes and motifs that an earlier, more austere modernism had sought to exclude. Reacting against the "excessively reduced" Miesian ideal of "less is more," Bofill, as Arthur Drexler put it, has deliberately striven to "dramatize housing." The result is an architecture that is undeniably exuberant and alive but perhaps also, precisely because of its eclecticism, somewhat arbitrary or even, at times, frivolous.

Krier, of course, must be judged primarily on his program. For it is one thing to berate modernism and technology for their alienating, dehumanizing influence, quite another to propose workable alternatives. That Krier has had such a powerful impact on the imagination of so many architects is a testimony to the power of his vision. But this is not to say that his vision compels uncritical acceptance. However attractive his evocation of a smaller, less complicated world might be, in announcing the "colossal and almost inhuman task of *global ecological reconstruction*," Krier veers dangerously close to utopianism of the most imperious variety. That there are other, more accommodating varieties is not disputed. At a symposium the evening the exhibition opened, for example, Bofill suggested that students of architecture should concentrate on drawing and redrawing "the ideal city." This, too, is utopian: it implies an ideal that we ever strive for but never attain. But a rather different ambition is at work in Krier's declaration that the criterion for his work is contained in the question, "If I had to design the whole world, what would I do?"—a contingency that Krier only half-jokingly described as "not improbable."



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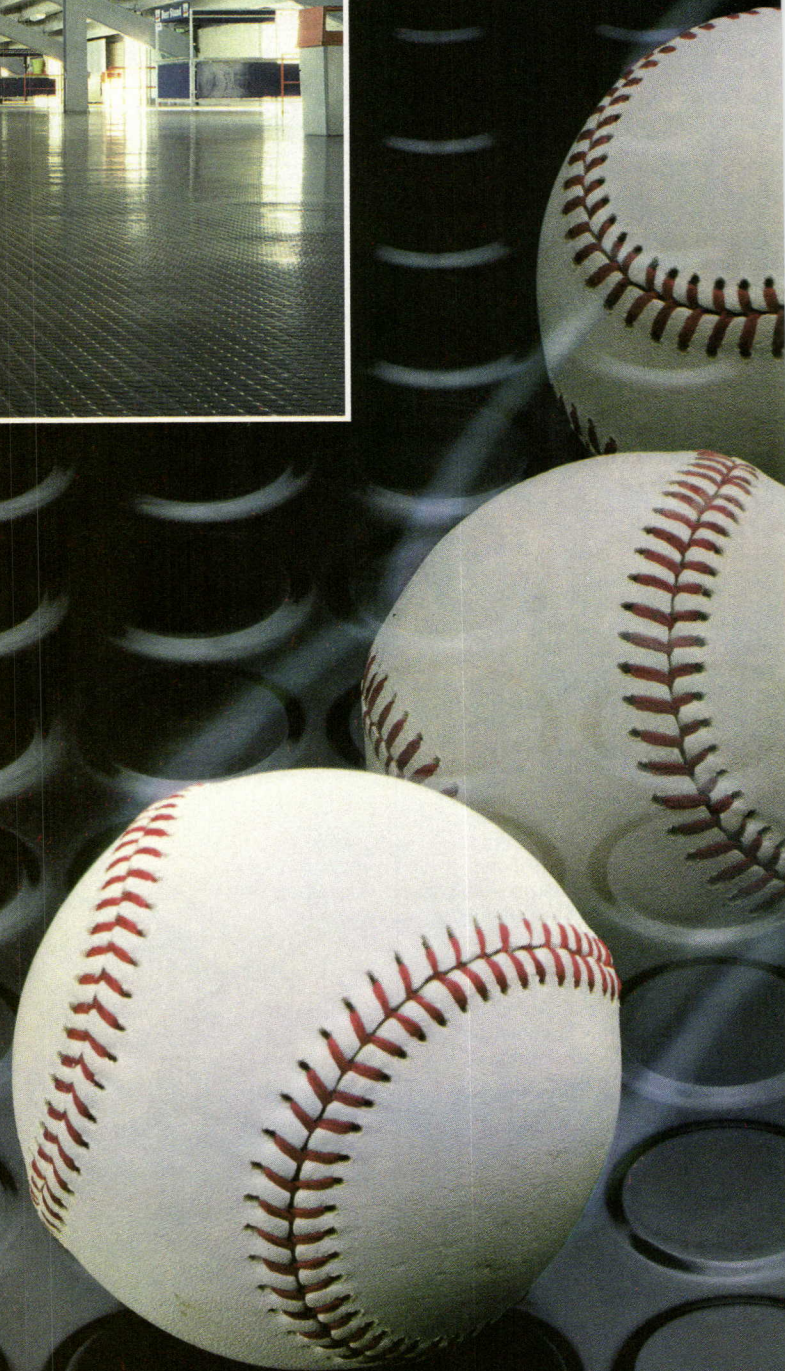
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An American point of view in London

By Leroy S. Heck, Jr.

In late May, eight leading architects from the United States took part in a lecture and critical round table series called "Cross Currents of American Architecture," part of London's *American Festival '85*. Held at the Royal Institute of British Architects and organized by Allen Cunningham, head of the School of Architecture at the Polytechnic of Central London, the symposium was funded by the British developer Peter Palumbo. *Architectural Design* published the symposium catalog.

At lunchtime and evening sessions, the eight Americans presented some of their most recent work to capacity British audiences. The interest for Americans lay in gaining a foreign, synthesizing perspective on domestic work. Without ever clearly distinguishing between them, the symposium broached two key concepts: Although the United States may enjoy a *pluralism* of competing styles, the consensus in London was that it also suffers a *fragmentation* of canonical typologies and systems of belief. As Charles Jencks pointed out in his catalog essay, the one concerns iconography—i.e., visual imagery—the other, iconology—symbolic content or meaning. In his essay, Demetri Porphyrios regretted the irony that in a highly secular, commercial society, "the architect no longer is the celebrant of human or technological order, but instead reaches for demythologizing parody." Kenneth Frampton underscored in a round-table discussion that the lack of a public realm in contemporary America, materially abetted by zoning and market forces, has resulted in a certain cultural deficiency.

Frampton also observed "a compulsive drive toward figuration" among many American architects—a tendency exemplified at the conference by Michael Graves, whose work is clearly the most lyrical of the current post-Modernists. His *Domaine Clos Pegasus* winery complex in northern California is both an architectural representation of the Pegasus myth and a personal reinterpretation of classical models. Graves stated his position unequivocally: "Modernism is not about character. I think architecture is."

At Seaside, a new retirement community in northern Florida, Andres Duany and Elizabeth Plater-Zyberk urbanistically reconstructed their developer's brief in terms resembling the morphology and civic amenities of a typical Southern

town. A master plan of empirically derived zoning and building codes was used to control diversity within the ensemble. The result is a regional neoclassicism—rational, vernacular, popular.

Thomas Beeby's headquarters for the American Academy of Pediatrics near Chicago and Robert Stern's Point West Place outside Boston are similar in a number of respects. Adjacent to highways, both consciously utilize classical imagery to prestigious effect. Said Beeby, "You take the pieces and use them in the way they're most symbolically expressive." Both buildings also utilize modernist construction to practical advantage. Noted Stern, "The architect is a person who translates other people's dreams, available materials, and money into physical reality." The passing motorist, however, might well need to stop and consult a bilingual dictionary before being able to read either of these architectural oxymorons. Perhaps one academic or another soon will write the theory needed to understand such classical/modern, utilitarian/high-art compilations.

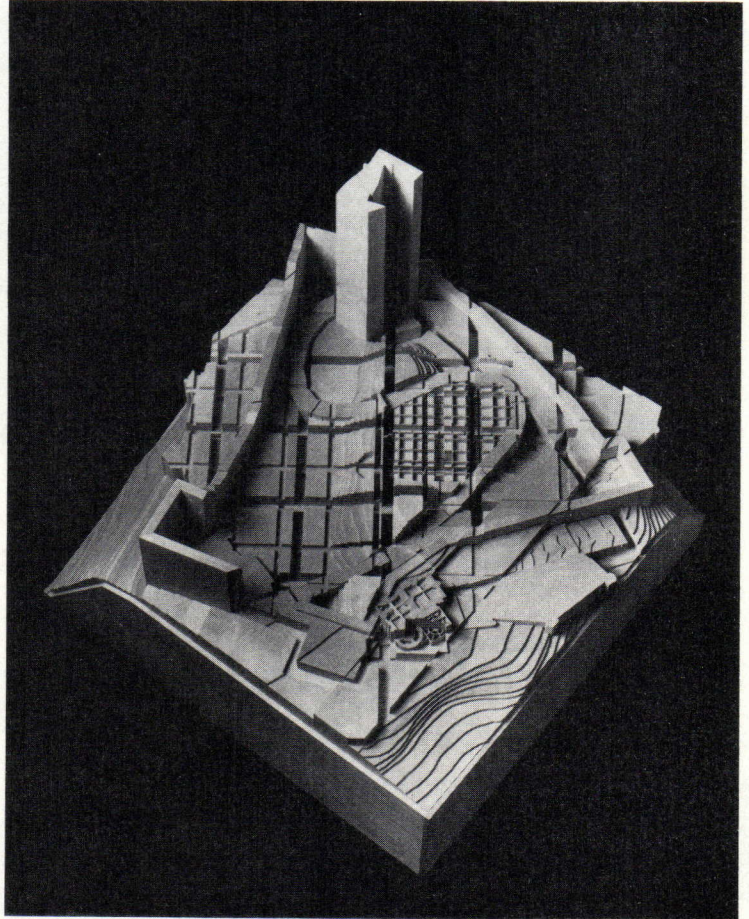
The erstwhile minimalist Cesar Pelli discussed the relationship between building construction and architectural design. His World Financial Center in lower Manhattan also attempts to be both modern and classical. The Center's four towers are contextually modern, their proportion of granite to glass incrementally decreasing as they rise and their mass segmentally diminishing in response to neighboring buildings; more historicist, however, are the base's grand entrances, where a layered skin is cut away to reveal classicized forms.

Diametrically opposite Graves, Richard Meier's unrelenting abstraction is no less poetic. "Fundamentally, my meditations are about space, form, and light and how to make them," he said in London. His Museum for the Decorative Arts in Frankfurt exhibits the architect's characteristic preoccupations: Borrowing the grid of an older building to which it forms an expansion, the plan of the new museum deflects that grid to appropriate its urban context of trees and paths and neighborhood; the grid also generates Meier's galleries and circulation. Mimetically, the building's porcelain-enamelled panels evince the material that forms a major feature of the Decorative Arts collection.

If Meier transcends the problem of iconology in a fragmented world, Frank Gehry responds to it openly, directly, eccentrically. "I relate heavily to the L. A. context," he

During his London lecture Peter Eisenman presented Eisenman Robertson's entry to the Venice Biennale, dubbed the Romeo and Juliet project because of its references to Shakespeare's Verona and its theatrical representation of allegorical themes. The project confronts fragmentation as a condition of the modern world.

Mark Darley



said. At the Loyola University Law School, a parti of separated buildings made perfectly good constructional and programmatic sense, and the subsequent "still life" of freestanding concrete columns, Finn ply chapel, and urban bungalows visually layered into the composition does hang together—but only by an individual thread that is intuitively Gehry's own.

Peter Eisenman's Romeo and Juliet project (above), designed for the Venice Biennale, confronts fragmentation—and instability—as ineluctable conditions of the modern world. Eisenman would "destabilize" the old order's generative assumptions of site, program, and anthropomorphic representation and would replace them with recursivity, self-similarity and discontinuity—the three basic principles of "an other architecture" intended to bring design to the critical edge of contemporary intellectual discourse.

A question that ultimately emerged from the symposium was whether there is an *American* architecture. Noting that fragmentation and technological momentum are global phenomena, Robert Maxwell suggested that in some ways the United States is a surrogate for all industrialized countries; in others, a continuation of European history. Graves

remarked on America's heightened perception of architecture over the past decade. Increased media coverage, new departments of architecture in museums, and—most important of all—creative architects winning more major commissions demonstrate the public's growing interest in better buildings. (The present situation is sadly different in Britain. Observed one transatlantic visitor, "I distinctly sense a loss of nerve over here.")

An American architecture? Vigorous, definitely. Pluralist, manifestly. Deficient in the public realm, inevitably. A "fragmented" society by definition lacks the shared values its architecture might otherwise express. The figures on the cultural amphora might be handsome indeed, but the vessel itself is empty; the body politic has pressed no wine.

A final note: Frampton proposed a way at least to have correctly shaped jars. He recommended "the formulation of an architectural culture," one predicated on "the poetics of revealed construction." Recalling that Mies differentiated among architecture, building art, and building, Frampton maintained the validity of such differentiation, remonstrating that the appropriate cultural significance be ascribed to each of its levels.

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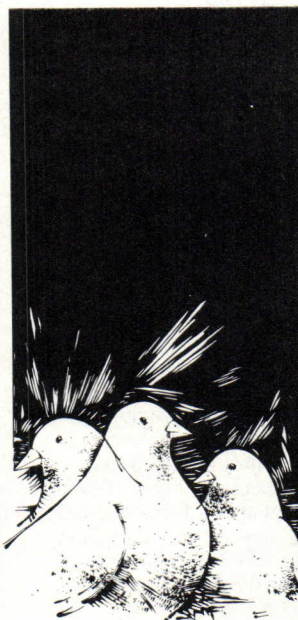
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The knowledge repositories now emerging, however, are neither the dry and dusty haunts of scholars, though they may serve an academic community, nor homey purveyors of the latest romance, though they may reach a broad public. Geared to the work of serious students of many provenances, the new research library seeks to be attractive (often in the literal sense); efficient in bringing together its clientele with its resources; and, in the jargon of the electronic helpers most incorporate, user-friendly.

That the architect is the natural enemy of the librarian is a cliché so hoary it may well have originated with the first keeper of scribed clay tablets and the first maker of a container to store them. But it maintains a currency that flies in the face of the compositional and organizational skills required to embody the large and complex organism that is the 21st-century library. As librarians enlarge on their curatorial role, striving to dissolve the once-rigid barrier between books and people and banish the library's once-fusty image while assuring the security of its holdings, their domains are opening out to encompass free-flowing spaces that demand architectonic discipline.

Open stacks interspersed with convenient work places are now the rule, with their attendant functional and environmental conflicts between the conservation of books and the comfort of readers. Immense floor expanses contribute flexibility but raise the issues of convenient access and visual orientation. New technologies, though far from having the revolutionary impact first predicted, must be accommodated and comfortably integrated with more traditional library operations. Centralizing in quasi-public areas such related first-stop services as circulation, catalogs, and general reference collections implies a tight rein on potentially overlapping traffic patterns.

For all their individuality, the exemplary research libraries shown in this study address these common problems in common ways. It can be no accident that all employ as a unifying device, which not incidentally also clarifies the building organization and aids orientation within, some variant on the atrium. These great windows on the surrounding spaces, though now alive with movement, are a latter-day referent to the grand (if sometimes forbidding) entrance halls that once ushered the seeker of knowledge to its source. *Margaret Gaskie*

Walter Royal Davis Library
The University of North Carolina
Chapel Hill, North Carolina
Mitchell/Giurgola Architects, Architects;
Boney Architects, Architects of Record





Domesticating a behemoth



Take stacks for two million books, add seating for 3,500 people, and mix well. The recipe for the new central research library at the University of North Carolina, which calls for an unusually generous helping of study space, derived primarily from university librarian James F. Govan's decided penchant for bringing readers and collections together and secondarily from the catalytic ingredients that season the mix: clarity of organization to orient users and ease access to resources, and flexible open planning to banish bookish must with light and views.

This admixture, however, required some ten acres of floor space on a three-acre site, a dictate at odds with the modest scale and porous texture of the library's surround. Although the plot, a former football field latterly used for parking, is at the campus fringe, it lies close to the heart of student life, having as near neighbors enclaves of neo-Georgian red-brick dormitories to the north and east, and on the west a large dining hall in like idiom which fronts on a paved sunken plaza known locally as The Pit. Across the plaza is a string of flat limestone and concrete boxes—the student union just south of the library, a book exchange, the undergraduate library—most notable for their air of mild bemusement at having strayed so far afield of 1960s Florida.

That the cumbrous new library at their juncture slides so smoothly among buildings so ill-assorted, and even moves toward reconciling their differences, is above all a triumph of massing: Instead of compromising with an attempt to disguise the library's bulk in relation to the surround by sandwiching its 400,000-plus square feet into a mid-rise mass layered evenly over the site, the architects chose to articulate and disperse the several forms suggested by its varied functions.

Accordingly, stacks for the major collections and individual work spaces for users are concentrated on the southern half of the site, in the turreted upper floors of a strongly sculpted eight-story tower. The two lower levels, which house a variety of reader services as well as back-office processes, establish a pedestal that carries the roof line of adjacent activities buildings northward to conjoin with discrete "public areas" closely tuned to the scale and demeanor of nearby dormitories.

The long, slim reading/reference room at the far end of the building (far left in lower photo left), for example, borrows from the dormitories its low profile and dormer-spiked pitched roof—though the close-spaced, squared-off dormers as aptly recall distinctly non-Georgian crenelation. This hint at the paired barrel vaults within is confirmed at the end walls, where full glazing that traces the twin arcs is screened by a freestanding brick wall shaping a single keyhole arch.

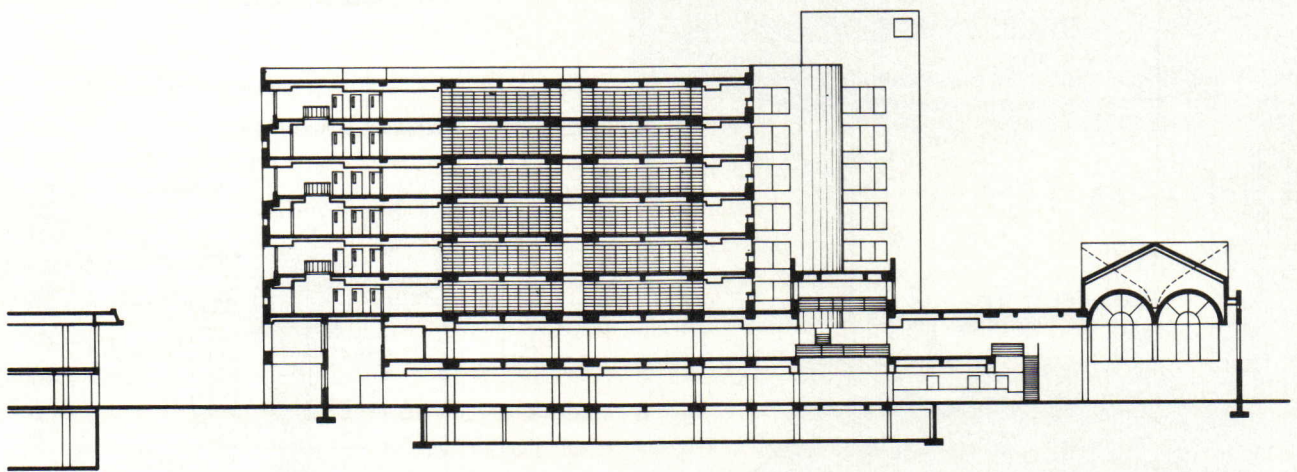
Between the reading room and the tower base is the main circulation area, which is dominated by a clerestory-lit gallery that rises above the second-floor mezzanine and stretches the length of the main floor. Encountered immediately on entry, this airy, light-drenched Great Hall exemplifies the spatial qualities sought throughout the building and, by making the library's central services and resources both visible and accessible, serves also as its key point of orientation.

The anteroom to this focal space is a robust two-story arcade that stretches along the plaza from the entry to the building's south side, where it turns, partnered by a similar arcade edging the next-door student union, to define a pedestrian walk. The arcade also shelters the glass wall of a hospitable double-height periodicals reading lounge prominently and conveniently placed to advertise the library as an attractive "drop-in" adjunct to the busy student activities complex.

Despite its formidable floorplate, the tower's perimeter was too small to provide large components of windowed study space closely allied with the central stacks. So open carrels were ranged on two sides of the tower and its south wall expanded by angular turrets that provide light and views to closed carrels within. Articulated faculty studies on the east and lounges stacked in two outriding corner turrets similarly interrupt, and so decrease, the tower mass, exemplifying the interlocking schema by which the architects worked from inside out as well as outside in to tame the library's daunting bulk.



©Timothy Hursley/The Arkansas Office photos



SECTION LOOKING WEST

10

Sized to conform with the low roof line of adjacent activities buildings and the small scale of nearby dormitories, the two-story base of the Walter Royal Davis Library encompasses the site with those public and quasi-public areas that best lend themselves to formal definition, notably the clerestoried central gallery and the barrel-vaulted main reading/reference room. The six-story stack tower

above, which occupies fully half the site, brings together users and collections in an inescapably Brobdingnagian mass replete with contrivances to reduce its apparent bulk. Frequent vertical breaks, for example, are amplified by limestone insets that recall the cladding of the adjoining activities complex and, by reflecting the bi-level organization of the projecting carrel modules (photo top left), cause the facade to read as

three stories instead of six. Limestone ribbons carry the deception to other tower facades, where it is reinforced by the placement of strips of limestone-framed punched windows.

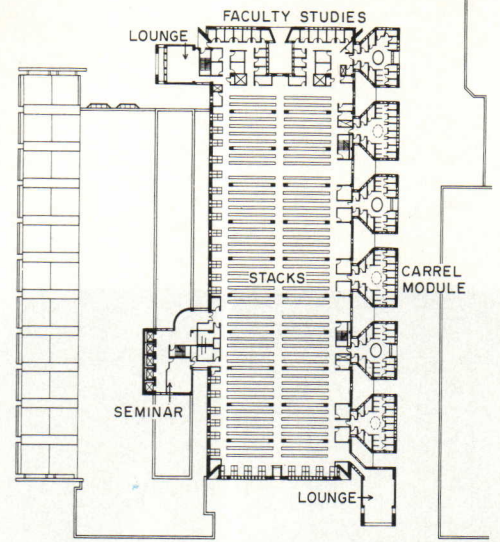
Freed from the functional and structural constraints of the surmounting six-story tower, the "people" spaces in its pedestal flow freely together through clearly organized circulation routes. At the same time, their separation allows each to take an appropriate and distinctive form. In the two-story reading/reference room (photo below), long paired barrel vaults are relieved by lighted arcs that

supplement natural light from carefully placed north windows. The periodicals reading lounge (bottom photo) is a crisply detailed glass-walled enclosure open to the outdoor plaza. And the dominant space is the clerestory-lit central gallery (photo opposite) brightened by banners depicting colophons from the library's rare book collections.

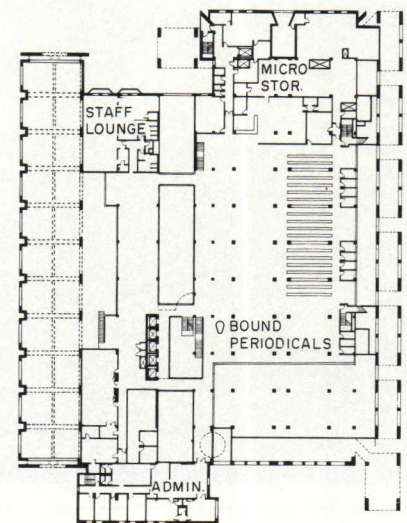


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 Chapel Hill, North Carolina
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Architect:
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 Harrington, Ted Chapin, Edward
 Agoos, project team
Architect of record:

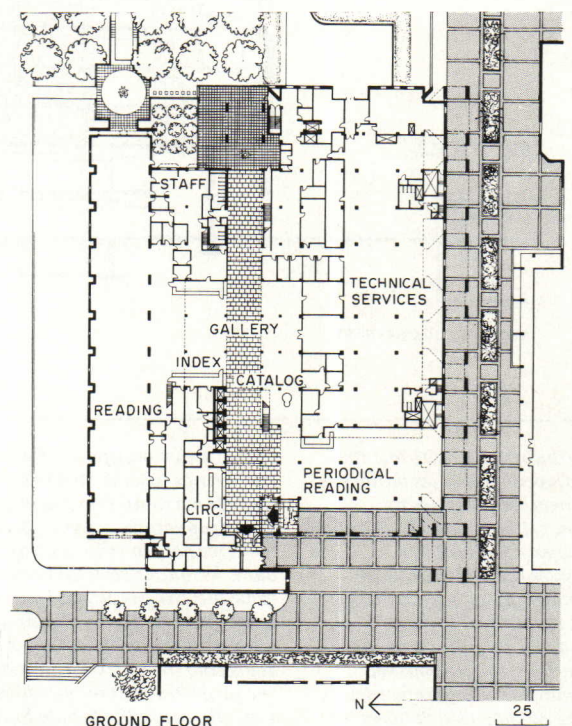
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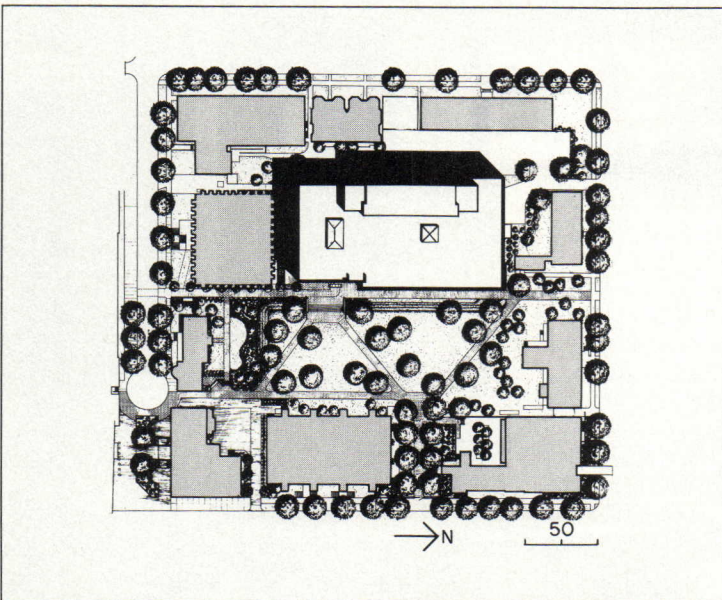
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GROUND FLOOR



A question of context



Although the site for the University of Chicago's recently completed science library and the new quadrangle it anchors lay tantalizingly near the lush quadrangles and English-Gothic buildings of the original campus, it was far removed in time, walled off by later accretions that had paid them little heed. Nonetheless, the architects were given a dual brief. In the immediate context, the charge was to frame a quadrangle already sketched by existing buildings—a medley ranging from turn-of-the-century Romanesque to two near-New-Brutalist laboratory towers—with a structure that would unify their disparate forms and scales. But underlying this was the yet more problematic requirement that the library also acknowledge the university's neo-Gothic heritage.

The 160,000-square-foot library, which consolidates the university's pure science holdings with the respected John Crerar applied-science collection for a total of 1.3 million volumes, bounds the western edge of the quadrangle with a four-story, 40 - by 100 -foot envelope derived after site studies ruled out alternate building placements and profiles. To add eminence to the long, low building mass (and avoid a high water table), the basement is set seven feet above grade, but the corresponding fall from main floor to quadrangle level is cushioned by a landscaped berm whose rise preserves the visual link between first-floor perimeter reading areas and the expansive outdoor room beyond.

1e John Crerar Library
1e University of Chicago
Chicago, Illinois
1e Stubbins Associates, Inc./ Loeb Schlossman & Hackl, Inc.,
Associated Architects

Sadin-Schnair



As the proportion of people space to book space diminishes on the upper floors, so does the generosity of the fenestration. The first floor's full glazing, framed by transomed limestone sunscreens that hint at neo-Gothic tracery, is reprised in smaller, off-rhythm second-floor windows but reduced on the cantilevered third floor to vision slits more Medieval than Gothic. Played against the modulated overhangs and the strong beat of the revealed two-story columns, the staccato window patterns vitalize the building's long ground-hugging silhouette while maintaining its continuity as the rear "wall" of the quadrangle.

In answer to the need for flexible, contiguous stack areas as well as access control for security, stacks are concentrated on the upper floors, and more public ground-floor areas are grouped around the focal point of a three-story atrium at the library's north end. To give the resulting off-center entrance the prominence denied by its position, the architects marked it with a freestanding Tudor arch that is meant to recall the old campus but as readily signals the reticence of their reply to the university's call for neo-Gothic nostalgia.

Nor does the Crerar Library "unify" its heterogeneous neighbors. But as the linchpin of the welcome new open space, it forges from them a convincing ensemble, while itself standing as a strong and handsome response to its time, its collections, and its users.



Hedrich-Blessing photos except as noted

On the library interiors the soft buff of the limestone cladding is translated to putty-colored background surfaces warmed by the natural oak of finish details and architect-designed furnishings, a rich russet carpet, and occasional splashes of color in perimeter seating areas (photo below). The focal space of the atrium lobby is dominated by a handsome switchback stair (photo left opposite),

one of two that communicate between the upper stack floors, and an out-sized light-refracting aluminum-and-crystal sculpture (photo right opposite) that hangs from the skylight above.

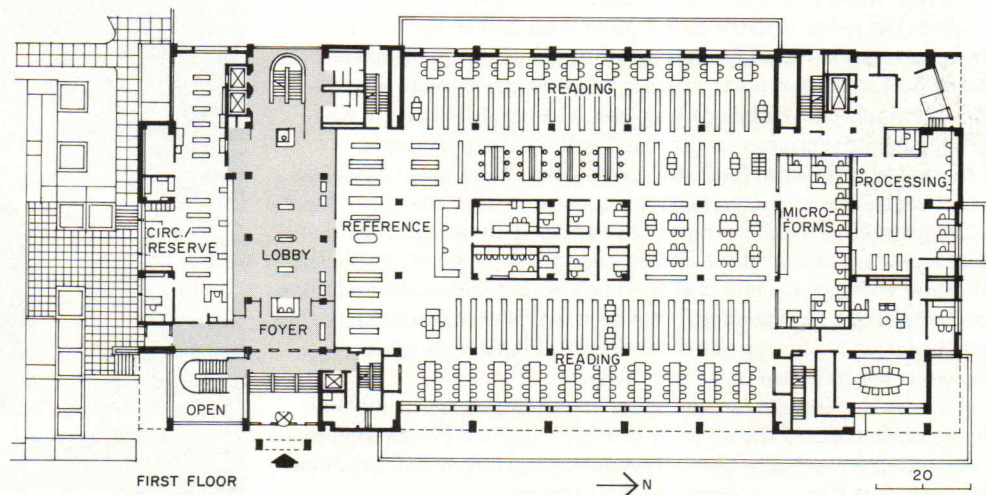
The John Crerar Library
The University of Chicago
Chicago, Illinois

Owner:

The University of Chicago

Associated architects:

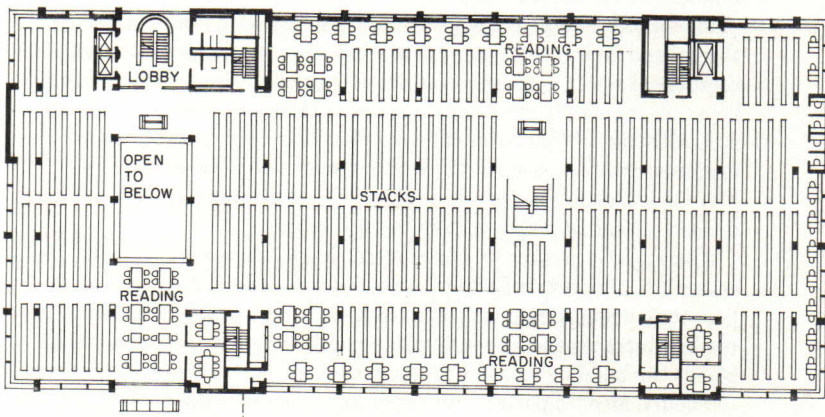
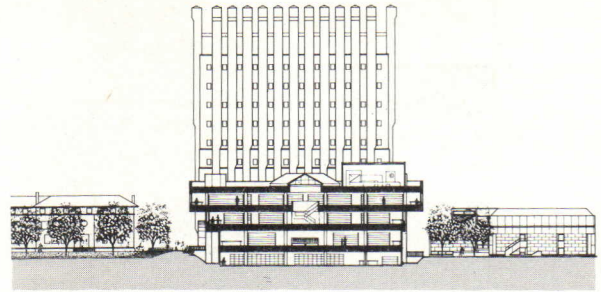
The Stubbins Associates, Inc.—Merl T. Westlake, principal-in-charge; Richard Green, principal-in-charge of design; William E. Ralston, project manager; Philip Seibert, interior designer; Michael Gilligan,



andscape architect
 oehl Schlossman & Hackl, Inc.—
 ohn I. Schlossman, principal-in-
 charge; Joseph F. Pappalardo,
 project manager; Raj Desai, project
 architect; Caryn A. Hoeft, interior
 designer

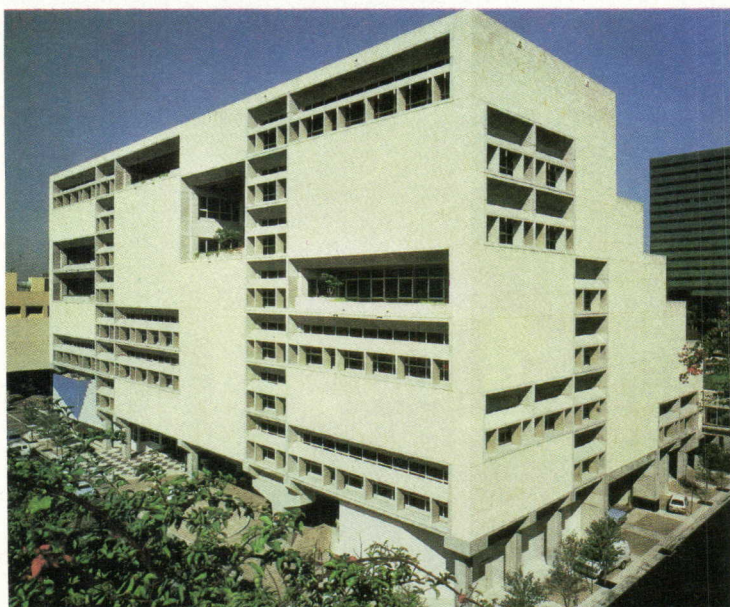
Engineers:
 LeMessurier Associates/SCI
 structural; Environmental
 Systems Design, Inc. (mechanical/
 electrical)

Consultants:
 Lyle F. Yerges (acoustics); STS
 Consultants, Ltd. (soils); John David
 Mooney (sculptor)
Construction manager:
 Schal Associates, Inc.



SECOND FLOOR

Taking the library public



Over a structure of precast double-Ts, the Broward Main Library wears on its sun-vulnerable south, east, and west elevations a sheath of local keystone sparingly incised with view-framing windows sheltered behind sunscreens or deep planted terraces. The base of the building is also punctuated by varied openings and by the expressed volume of the auditorium (far left in photo above), accented with a glazed-tile mural. On the north, a taut gray-glass membrane stretched across a terraced structure softened by greenery opens the library to a more benevolent sun and its most enticing views. (The sheer wall on the northwest anticipates expansion.)

The vision of the public library as a community cultural center has not been new since Andrew Carnegie pressed on the nation his beneficent dream, but the Broward County Main Library advances it a step, pulled and prodded and politicked by county library director Cecil Beach, who sees his latest brainchild as a “tour guide for the information age.”

When the library was first proposed, many local leaders argued for a site at the demographic center of the county, or, failing that, at its geographic center. But Beach prevailed with the counter-argument that Fort Lauderdale, the area’s economic and transportation hub, was the logical seat for a research and reference resource oriented to the business, scientific, and educational communities concentrated there. As a result the new institution is positioned as both core and catalyst for development in the lately resurgent downtown district.

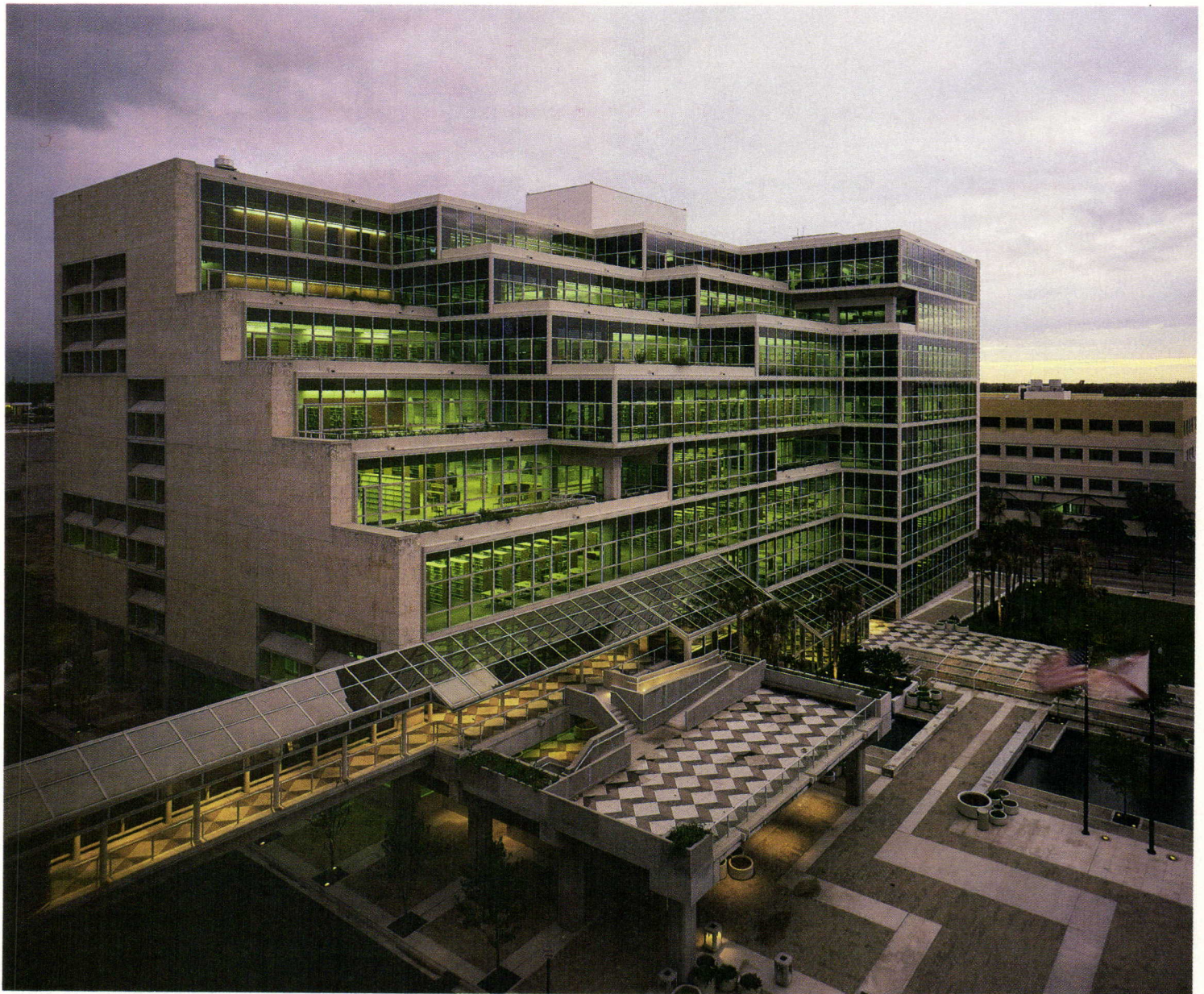
Its location could hardly be more strategic. Bordered by a municipal parking garage, the soon-to-be-completed art museum, and a major avenue, the block faces north to Stranahan Park, a historic but neglected green once chiefly noted as the home of the Women’s Club and of a bleacher-lined tournament shuffleboard court but now resurrected as a popular urban oasis. And for lagniappe, the library lies athwart the city’s principal pedestrian routes, present and planned.

This enviable setting much abetted Beach’s percept that a serious research and reference facility could also be a truly public institution were its dusty and distancing image overcome by energetic merchandising. So he conceived the library as an emporium of readily accessible bookish and not-so-bookish attractions—popular library, library for the handicapped, bookstore and gift shop, auditorium, café—to lure an unaccustomed public to sample its wares and return for more mind-nourishing fare. His shopping list, however, brought the space program up to 250,000 square feet, which meshed ill with a 1.78-acre plot, allowance for 50 per cent future expansion, and a water table that precluded building below grade. Coupling the emporium with necessary main-floor library operations would have blanketed the entire site.

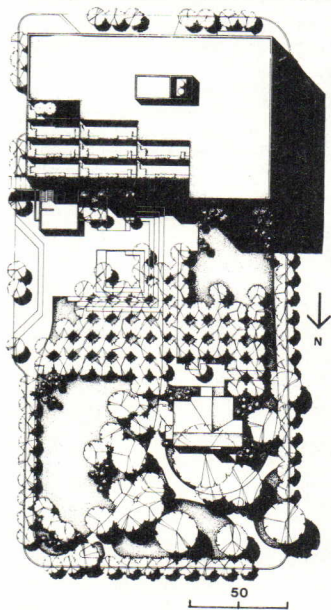
Undaunted, the joint venture team of Gatje Papachristou Smith and Miller & Meier & Associates resolved the impasse by providing two “main” floors. Pushing the building tight to the lot-line on three sides freed half the site for a reserved expansion plot as well as a spacious plaza whose landscape segues to a two-story interior greenhouse that announces the pedestrian passage wending through the street-level “shops.” For all its inviting openness, however, this vestibule also secures the library above, channeling visitors to the second-level reference floor, its only point of entry. From the circulation lobby, a soaring south-telescoping light well edged by a cascading open stair steps diagonally to a two-story solarium window, displaying the four stack levels that flow around it. In contrast to its expansion, the library floors retreat in size as they rise to two compact administrative areas.

The building’s exterior treatment was influenced from the outset by design architect Robert Gatje’s desire “to make a Florida building” redolent of the natural elements of the clime: native materials, exuberant greenery, and over all the friendly enemy, the sun. Above the ground-floor entries and “shop windows,” the library’s precast concrete skeleton is sheathed on three sides with sheer walls of local keystone minimally pierced by windows shielded to tame the insistent sun. Although their placement follows a clear interior logic, these openings create a pattern that from without seems random, even playful—an attitude given full rein on the north elevation, which bursts open in a 255-foot-long, eight-story-high prism.

Although Gatje says its facets were “chipped away intuitively,” the crystalline ziggurat reflects the gradually diminishing building floorplate while adding welcome (and, in Florida, usable) outdoor reading terraces and highlighting the beckoning entry sequence that blends the building’s base with the plantings and water features of the forecourt. Most important, it exuberantly embodies the Cecil Beach theory of knowledge-selling: “Put the whole library on display.”



Steven Brooke photos

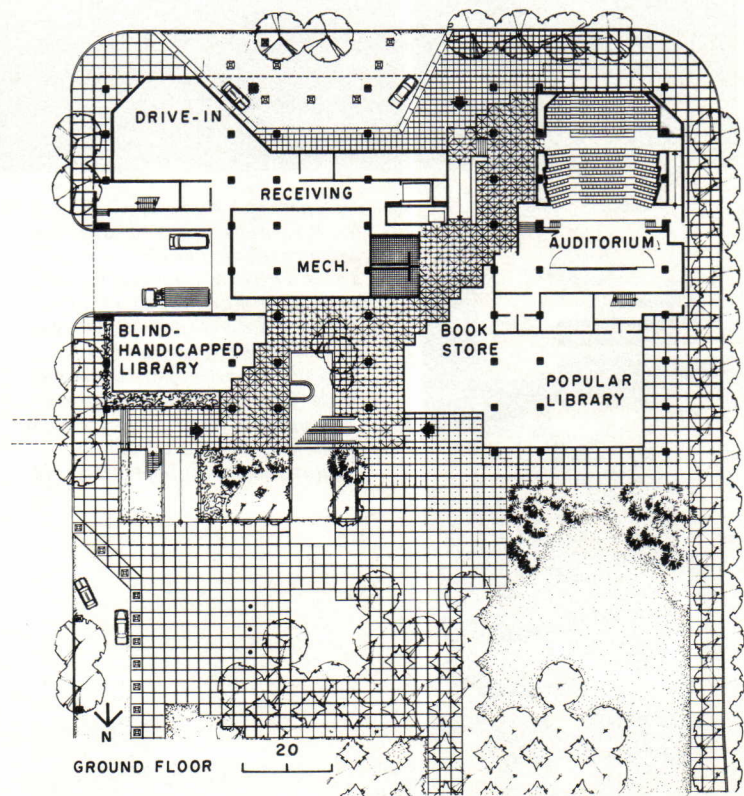
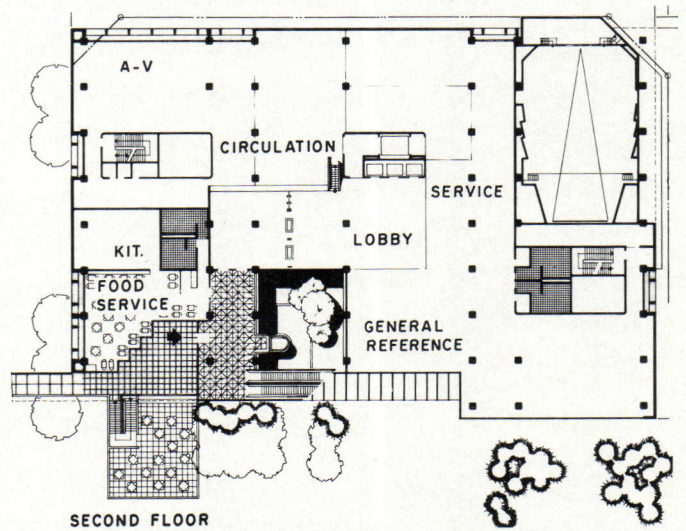
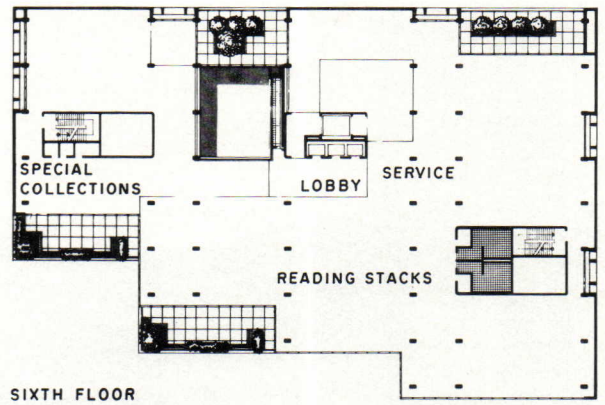
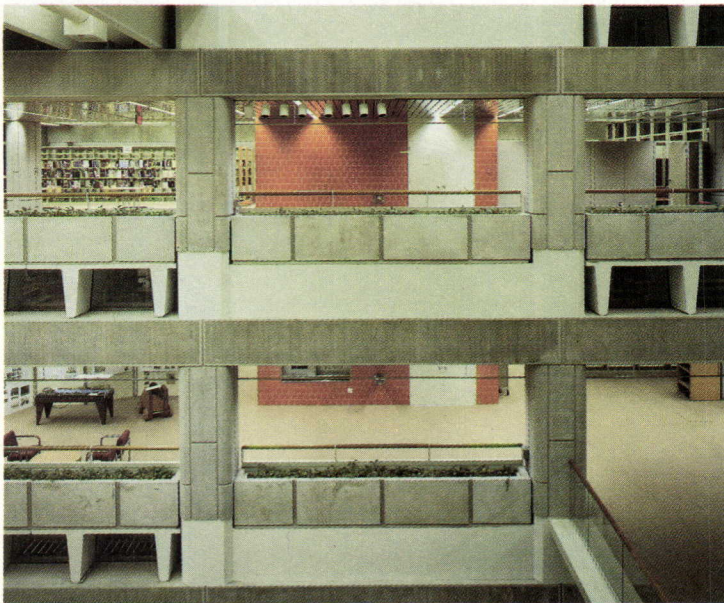
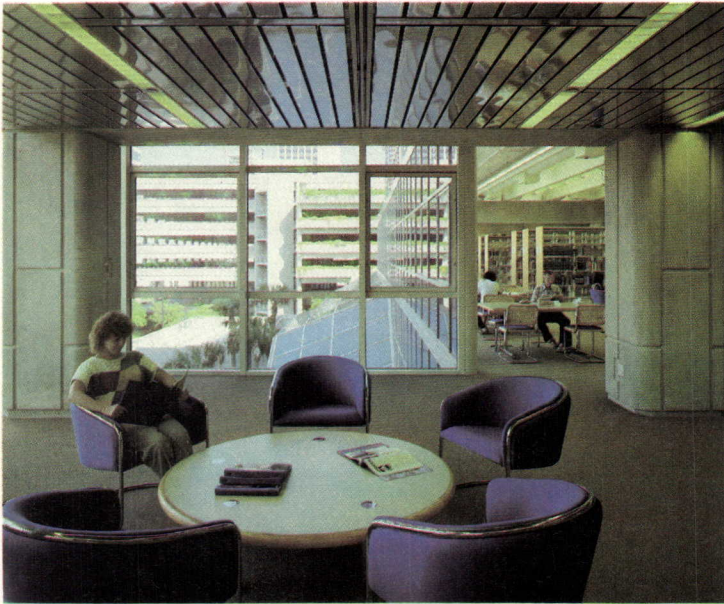


A beckoning lantern by night and no less lurking by day, the library holds a welcome solidly founded in ease of access. Three conveniently located entries (see plan next page) to the pedestrian street encourage its use even when the library and its ground-floor attractions are closed, while visitors to the library proper can approach its controlled second-floor entry (or the adjacent restaurant and dining terrace) via

escalator or glass-caged elevator from the base of the two-story greenhouse, covered bridge from the next-door parking garage, or outdoor stair and ramp from the plaza. Marked by glass awnings that trace the incline of the escalator between bridge and "front door," the entry network is introduced by a plaza generously furnished with rich plantings, stepped paths, variegated paving, and still and plashing pools.

Foreshadowed by the pool and palms of the ground-floor vestibule, the stepped light well (opposite) rising from the second-level entrance is both the library's organizational focus and its primary source of visual orientation, assisted by fixed color-keyed elevator and utility cores (bottom photo below) that anchor the flexible stack floors. The user-friendly open stacks are liberally dotted with workstations and

comfortable reading areas (photo below) placed to exploit light and views. Throughout, the rough elegance of the exposed concrete structure, with mechanical systems lining the coffers of the double-Ts, is set off by the warmth of sleek wood fittings and flashes of marine-blue and orange furnishings against a neutral background palette.



Broward County Main Library
Fort Lauderdale, Florida

Owner: Broward County Board of Commissioners
Architects: Gatje Papachristou Smith/ Miller & Meier & Associates/ A Joint Venture—Robert F. Gatje, design architect; Jordan A. Miller, executive architect; James E. Miller, Craig W. Kenyon, project architects; Robert Cooper, Marcelo Gatica, project designers; Frank Sedmak, construction administrator

Engineers: Weidinger & Associates (structural concept); H. J. Ross Associates (structural/mechanical/electrical/civil)
Consultants: Edward D. Stone, Jr. & Associates (landscape); Aaron Cohen (interior consultant); Vern Currie Design Associates, Inc. (interior design); Peter George Associates Inc. (acoustics); Claude R. Engle (lighting); Feeding Facilities International Ltd. (food service); Ivan Chermayeff (mural)



a place for
all reasons

a place for
all reasons

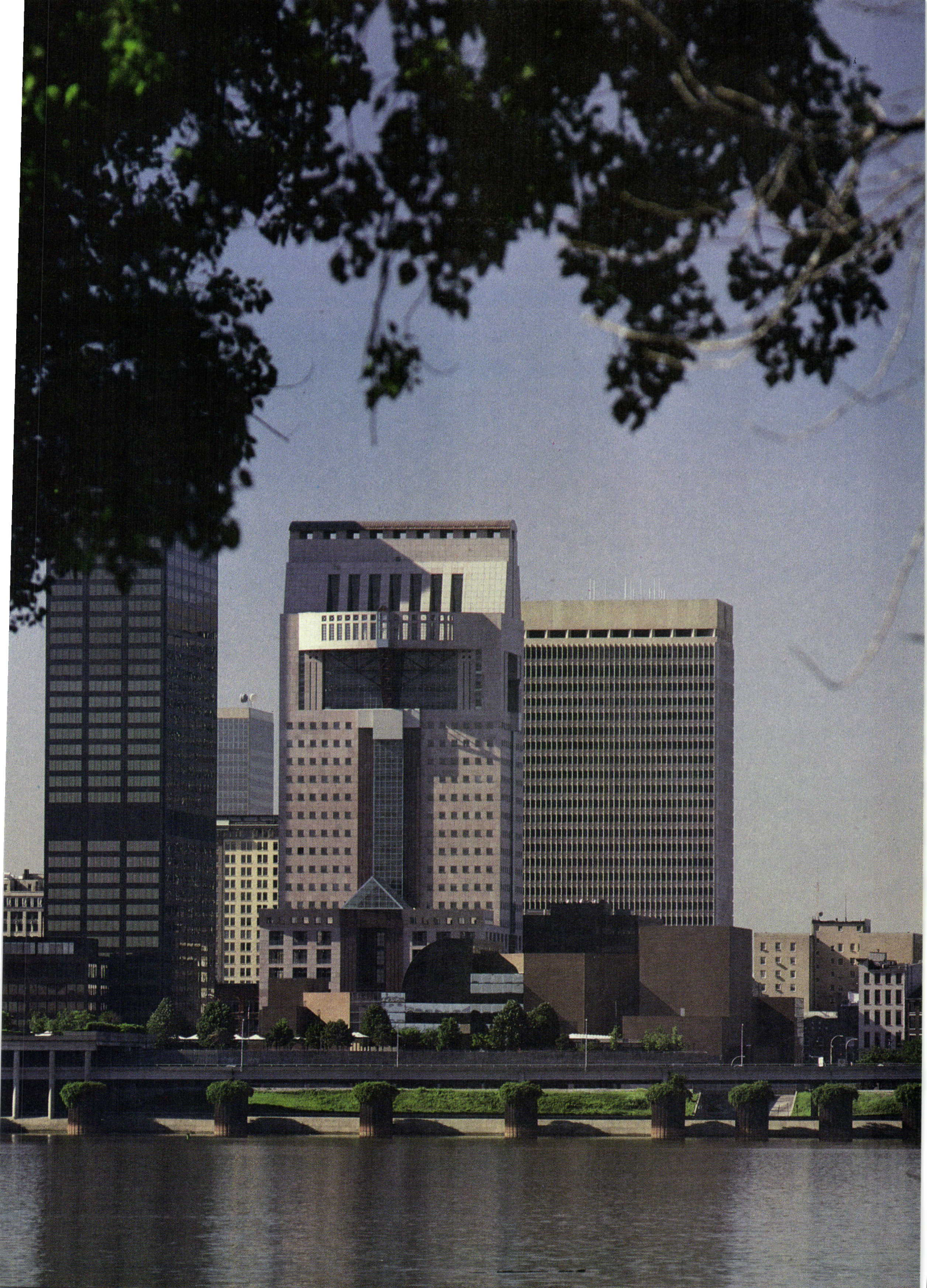
Five years ago this month, Michael Graves publicly unveiled his Prismacolor drawing of the Portland Building, and three generations of architects took their battle stations. The war was officially on; Graves had dropped the bomb. While the competition-winning design rose, the fighting raged, and though new heights of rancor were scaled weekly, it wasn't until the eve of the building's dedication that the final, hysterical summit was reached: "The Portland Building is dangerous," screamed *TIME* magazine, "Graves would replace Satan with Beelzebub" (August 23, 1982). If such shoot-to-kill rhetoric served any purpose, it was to offer a gauge by which to measure not only how seriously Graves's challenge to Modernism was received, but how vulnerable the challenged were feeling at the time, i.e., you don't deplete your arsenal until you've determined the threat to be real. Though the Princeton architect had been chipping away at the foundations of Modernism since the '70s, New Jersey kitchen additions and contract furniture show rooms do not a serious threat make. With Portland, however, the threat became immediate—a national competition for a government office building was effectively hitting the beach of establishment architecture. Retaliation was no less swift than strong. The winner in the bloody "Battle of Portland," of course, was Graves. We know that now, not because a chubby \$51-per-square-foot office building currently stands—in all its polychromatic glory or shame—in Portland, but because Graves's second foray into large-scale urban construction, the Humana Building, will be spared the vitriolic melodrama that attended his first. For the context in which we receive Humana is an appreciably more sympathetic one, since it is largely a context of, if not Graves's own devising, at least influence. That first image of Portland may have been picked up in the summer of 1980 as an urgent call to arms, but according to a significant body of work since produced, it was an image not soon put down. One has only to compare the pre- and post-Portland work of Kohn Pedersen Fox (to name but one extraordinarily productive firm from an extraordinarily long list of candidates) to calibrate the impact of that not-so-long-ago war in Oregon. Our eyes, in 1985, are acclimated, and that is Graves's victory.

For those who prefer the storm of war to the calm of peace, the Humana Building will surely disappoint. Its design and construction were fraught with nothing more controversial than a loss of control for interior office space planning, which is regrettable but not irreparable. Setting the tone for Humana's calm are Wendell Cherry and David Jones, co-founders of the for-profit health-care giant that last year treated some 570,000 patients in the 87 hospitals it owns and operates. Not unlike most presidents and chairmen of major corporations, Cherry and Jones consider their company in the vanguard of its field: no vain boast in their case, however, considering recent headlines on Humana's pioneering work in heart surgery. If Cherry is quick to point out that a commitment to "quality health care" is foremost on the company agenda, when it came time to rein in the staff from rental office space in 1982, he and Jones nonetheless sought a comparably prominent position architecturally: "We wanted to operate on a higher plateau than 'business-as-usual.'" In preparation for the ascent, Humana's design department supplied a list of likely guides. Though Richard Meier ultimately withdrew, Norman Foster, Ulrich Franzen, Graves, Helmut Jahn, and Cesar Pelli responded to the call from Louisville with detailed drawings and models of the almost 600,000-square-foot building specified in the program. To underscore Humana's commitment to create "a piece of architecture of national significance," the company enshrined the entries in a Rizzoli monograph, featuring Graves's winning scheme on the cover. The "decisive factor" in the selection, according to the jury of Cherry and Jones, was "esthetic."

Of all the questions that have plagued Graves's career, none has been so oft-repeated, or quite so troubling, as the damning "Can he build?" The source of the problem, of course, lies in the seductive allure of his exquisite drawings, which, for many, serve to arouse architectonic

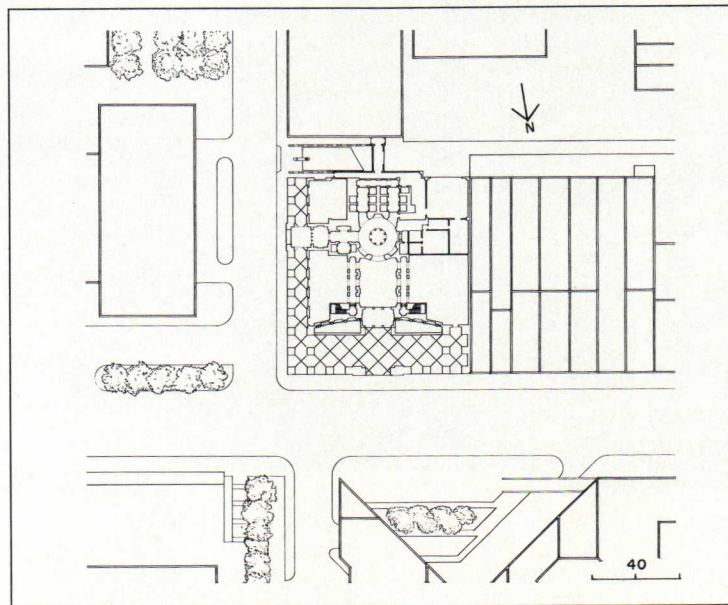
desires not easily satisfied this side of Rome. The classical forms and grand gestures, the intricate details and flights of whimsy so lovingly rendered in the former painter's idiosyncratic compositions have tended to lose their powers of seduction when taken out of their museum frames and viewed in the cold, naked light of gypboard and paint. Though Graves rightly maintains that a drawing is one thing, a building quite another, his audience has consistently failed to draw the same conclusion from that fact—choosing, instead, to indict him on a charge of promising more than he could deliver. The Humana Building is Graves's appeal to that indictment, and it is a successful one. Not only does the building fulfill the promise of its drawings, it goes them one better. The shades-of-mustard elevations Graves express-mailed to Louisville in 1982 inadequately prepare us for the 417-foot vertical expanse of marble and granite, glass and steel dedicated this June on the east bank of the Ohio River. From the gold leaf fluting in the columns of its massive base to the patinaed copper crown snugly fitted to its barrel-vaulted brow, the Humana Building is eloquent testimony to the much-debated merits of "post-Modern classicism." Ironically (and inadvertently) assisting in the cause are the building's "modern" neighbors—Graves and company could have devised no more favorable a polemical frame for their graphic counterargument than the one presented by the black curtain-wall "box" and the gray concrete "slab" deferentially standing—like a pair of expressionless footmen—to either side. Graves's alternative is grand but not intimidating, engaging but not aggressive, contextual but not mawkish; it is rich in its forms and materials, but not a flamboyant consumer of either; and while it may be a powerful addition to the Louisville skyline, it doesn't steal the show. If a \$60-million budget provided the means by which to make what has been, to date, Graves's two-dimensional dream into three-dimensional reality, then perhaps there's a lesson for post-Modernists lodged here somewhere. The "glory that was" doesn't come cheap. Graves himself confesses that "twice the budget for roughly the same square footage [as the Portland Building] allowed for more 'push and pull,'" which gives the building not only its vitality, but its very life. If there are those moments when the architect pulled and should have pushed (for example, the rather too-cute temples set into each facade look more than a little lonely hanging way up there in the air), the in-out action nonetheless contributes to Humana's over-all visual richness, which is then sustained, at closer inspection, by "real" materials. As always, Graves has attended to the throngs of enraptured architecture students, who will undoubtedly burn the midnight oil arguing whether the steel truss supporting the bowed "porch" on the 25th floor is a reference to the tracery of Louisville's bridges, or a flagrant act of theft ("borrowing" in the current lexicon) from Leon Krier's 1974 "House for G. Mayer in Bagnano." No less hotly debated, of course, will be the building's base: on permanent loan from Josef Hoffmann's 1914 Werkbund Exhibition in Cologne? Perhaps. More critical than tracing the distant source of the base's inspiration, however, is tracing the wisdom of its seven-story presence. Projected 60 feet in front of the 27-story tower it supports, the granite base succeeds not only in maintaining the street wall established by the cast-iron buildings adjoining it, but holds the scale, if not the cadence, of those well-preserved remnants of Louisville's past. In urbanistic terms, the base is brilliant, especially after you consider the spectacular loggia and shopping arcade etched into the great "foot"—Graves's insurance against having his grand gesture experienced as a grandiose one.

"Architecture is not a 'problem'; therefore there are no 'solutions.' It's an exploration, and there are many ways. . . ." Michael Graves's theory may run antithetical to others we are more familiar with, but until now we have not had a sufficient Michael Graves practice to draw more than tentative conclusions. Until now. If the Portland Building will be remembered for what it stood for, the Humana Building will be remembered for how well it stood for it. *Charles K. Gandee*





©Peter Aaron/ESTO photos



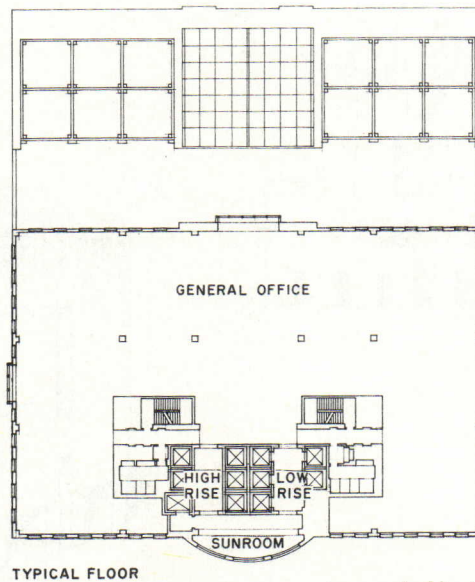
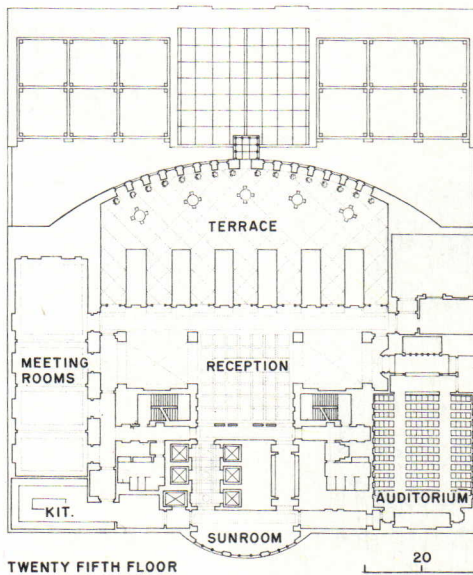
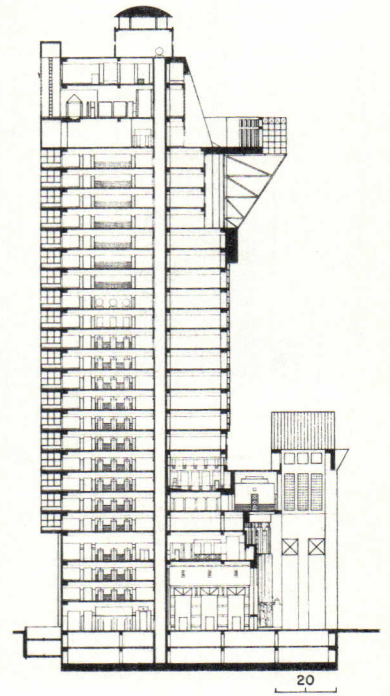
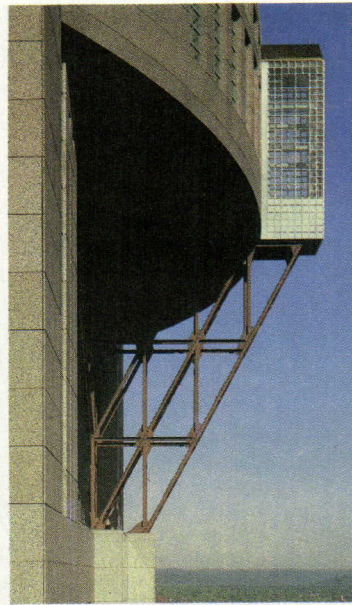
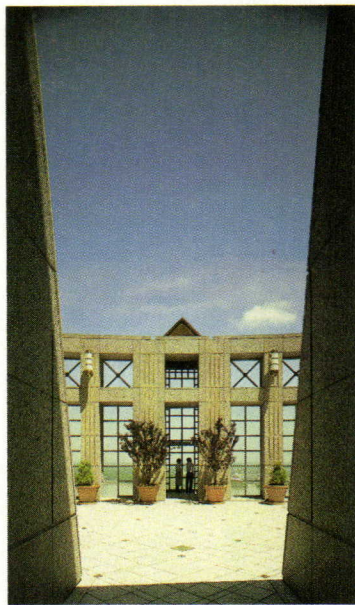
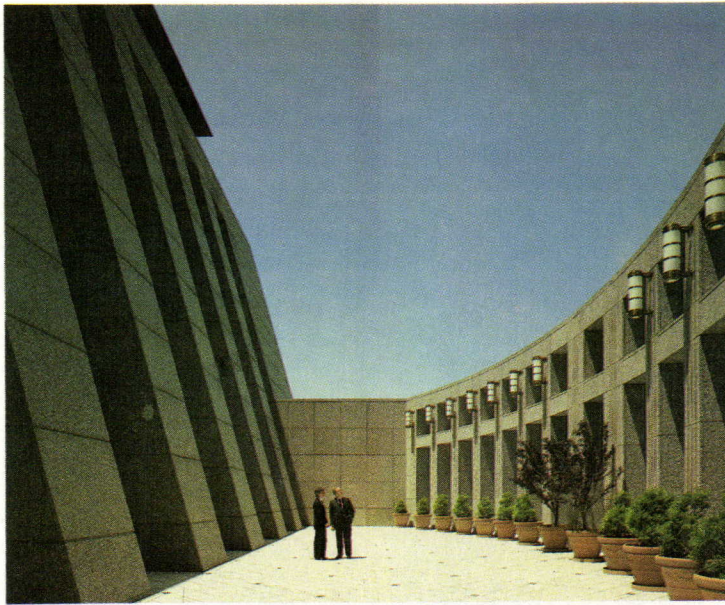
The corner of Fifth and Main in Louisville, Kentucky, may not be the most obvious stage on which to hold the Great Debate between Modernism and post-Modernism, but a fluke of history has nonetheless designated it as the very spot. Standing in the concrete plaza separating Mies van der Rohe's American Life Building (at right in photo facing page) from Main Street, one looks diagonally across to Michael Graves's impassioned counterargument, the Humana Building. Though the jury may

deliberate for decades to come, Mies's adversary puts forth persuasive evidence for filling his 0.81-acre site ("to re-establish the street edge as an essential urban form"), and for setting back the 27-story tower from its great base ("to mediate the scale between the small townhouses on one side and the many-story office tower on the other"). Graves picks up additional points for showing esthetic compassion to his cast-iron neighbors, from which he drew the Humana Building's beveled cornice line (facing page).



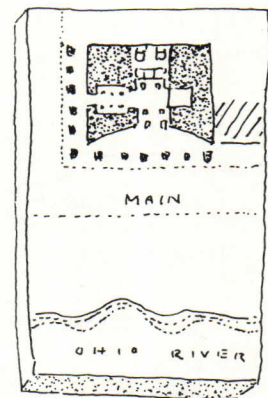
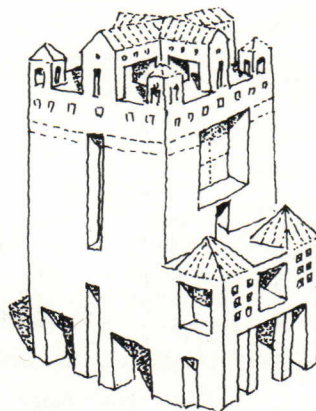
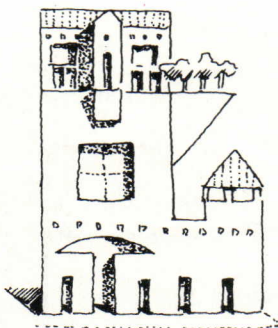
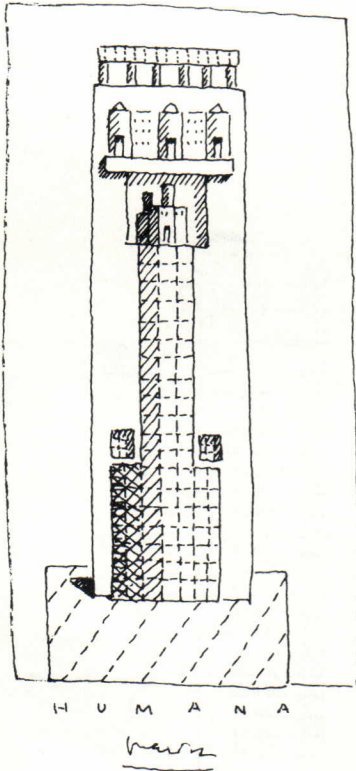
Though reaction to the steel truss supporting the sweeping porch projected from Humana's 25th floor has been mixed, the taut web constitutes Graves's attempt to honor the city's many bridges. Unfortunately—for those prone to vertigo—the gesture is best appreciated from a cage perched at the very precipice of the truss (facing page and bottom right). Once recoiled to the relative safety of the

relatively solid ground of the great "porch," one is confronted with a second honorific gesture (photo below). The monumental buttresses may appear to suggest a recent cruise up the Nile by Graves; however, the architect is quick to report that the Ohio River once again was the source of inspiration for his aerial, and waterless, dam . . . through which flow visitors to the company's conference rooms.



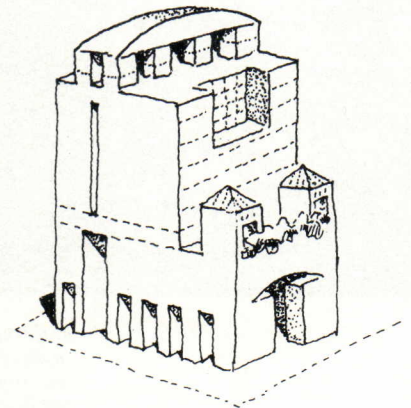
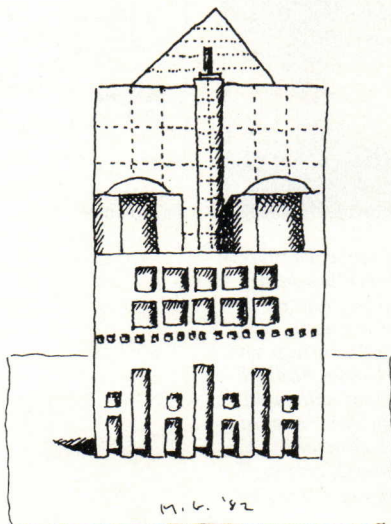
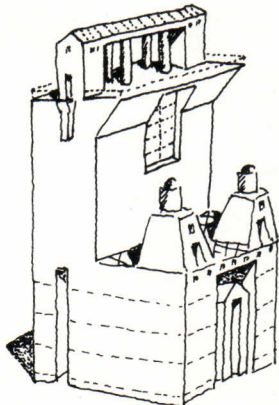
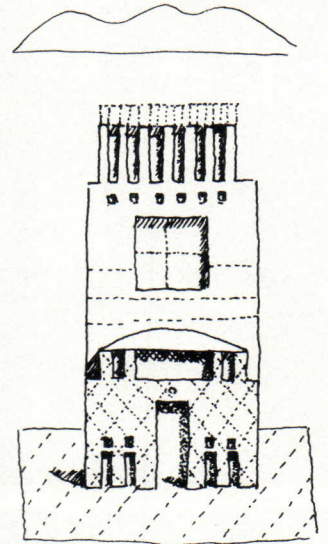
If the site dictated the Humana Building's orientation to the Ohio River (to the north), the company was concerned that its new headquarters not turn a cold, south shoulder to the city behind it. Graves assuaged the concern by bisecting the south facade with a heavily glazed, polished granite column, crowned with a tiny temple (photo below). In addition to its compositional value, the "light column," as Graves refers

to it, provides the building's typical office floor with a welcome amenity—employees have dubbed the spaces contained within the column "sun rooms." Though not especially grand in either their proportions or their furnishings, the sun rooms provide a much-appreciated place for Humana's 1,000-member staff to abandon their open-office workstations, if only for a moment.

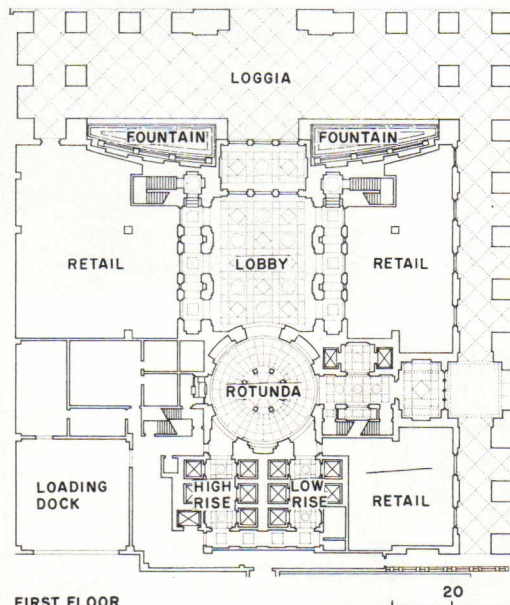
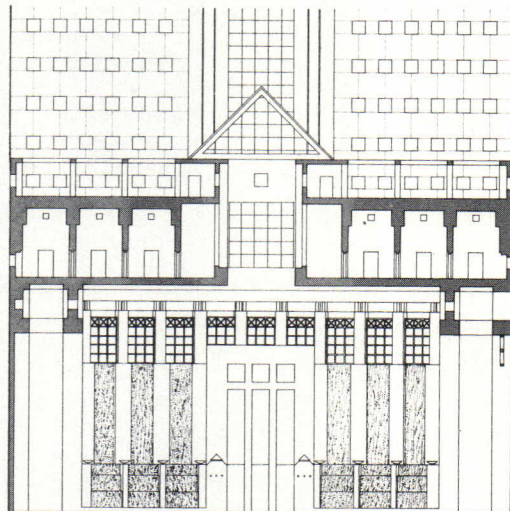
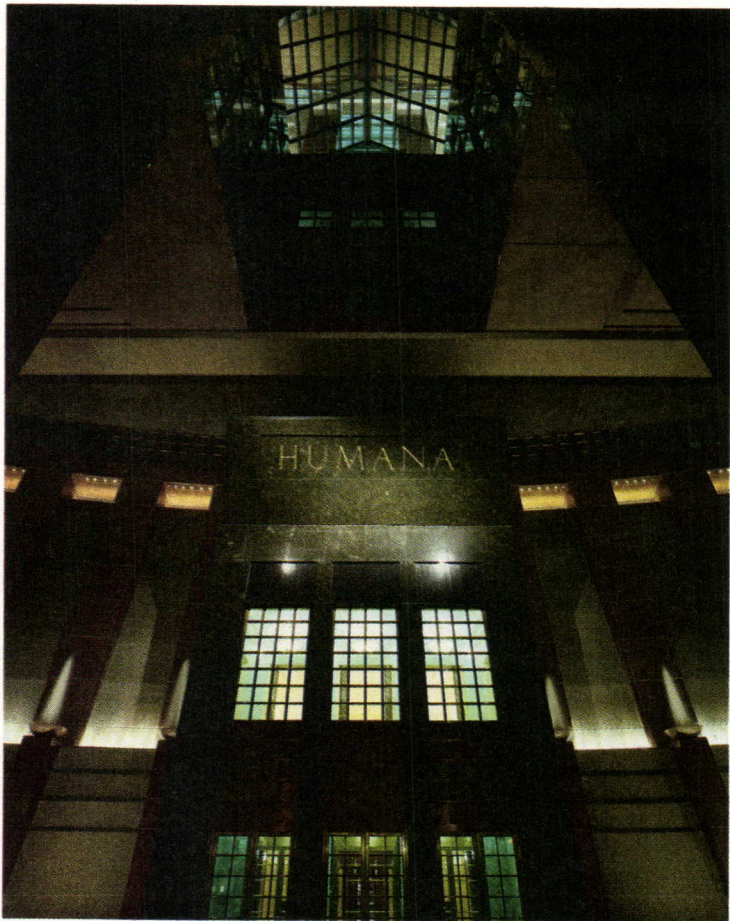


When viewed from the west (photo below), Humana presents an enticing profile—the elements of which might be traced to such disparate locales as Mexico, Rome, Greece and, of course, the Ohio River. Though the idiosyncratic assemblage is pure Graves, the impulses behind it are not quite so quirky. Like many of his contemporaries, the Princeton architect felt strongly that his tower should have a proper “head.” After

early sketches suggested a gable to be too domestic, he arrived at a quasi-Aztec temple form with a copper-clad barrel-vault crown—which is surely not (domestic). And because he feels that ascending in “the machine” (the elevator) is “disorienting,” Graves attached pavilions above the glass “zipper” bisecting each facade; the look-outs offer a chance to re-establish connection with the ground plane.



Though not compelled by any mandate other than their own, Humana executives felt it essential to incorporate public space into their private building. The results are a great shopping arcade along the east side of the building and a loggia along the north (below) that are nothing short of spectacular. Graves assembled an extraordinary palette of materials that gives these public areas a presence not felt in



buildings for many years. The subtly shifting textures and colors ensure that these grand public "rooms" do not escape the eye of the most distracted passer-by. To enliven and activate the loggia, Graves flanked the company front door with eight giant bowls spouting water toward the gabled skylight before taking the 50-foot plunge to collecting pools. The arcade shops supply the vitality for their domain.







Perhaps the best description of Graves's interiors portfolio, to date, comes from Graves—"gypboard city." But the sobriquet must now be abandoned, thanks to the Humana Building. Some 45,000-square-feet of white, green, and beige marble was shipped over from Italy and France to clad the 40-foot-high walls of the public lobby, where ten shops (situated on two floors) now swing open their bronze doors to welcome the commercial bustle that the architect feels "should almost be an act of legislation" in urban high-rise construction. The 53- by 45-foot room is reminiscent of other rooms built in other times, perhaps grander than our own (facing page). On axis with the lobby is a marble rotunda that directs the eye 47 feet upward to a sky-blue dome before directing the eye onward to the burnished glow of the elevators (below).

*The Humana Building
Louisville, Kentucky*

Owner:

Humana, Inc.

Architect:

Michael Graves, Architect—Michael Graves, designer; Terence W. Smith, associate-in-charge (design and construction); Juliet Richardson-Smith, job captain (design); Peter Hague Neilson, job captain (interiors); David R. Teeters, project manager; Susan Butcher, Yossi Friedman, Nicholas Gonser, Alexey Grigorieff, Thomas Hanrahan, Robert Harris, Victoria Meyers, Suzanne Strum, Keat Tan, Barbara Van der Wee, design assistants (post-competition)

Associate architect:

Graves/Warnecke, a joint venture of Michael Graves, Architect, and John Carl Warnecke & Associates—Lee Hamptian, director; William Collins, project manager

Engineers:

DeSimone, Chaplin & Associates (structural); Caretsky & Associates (mechanical/electrical)

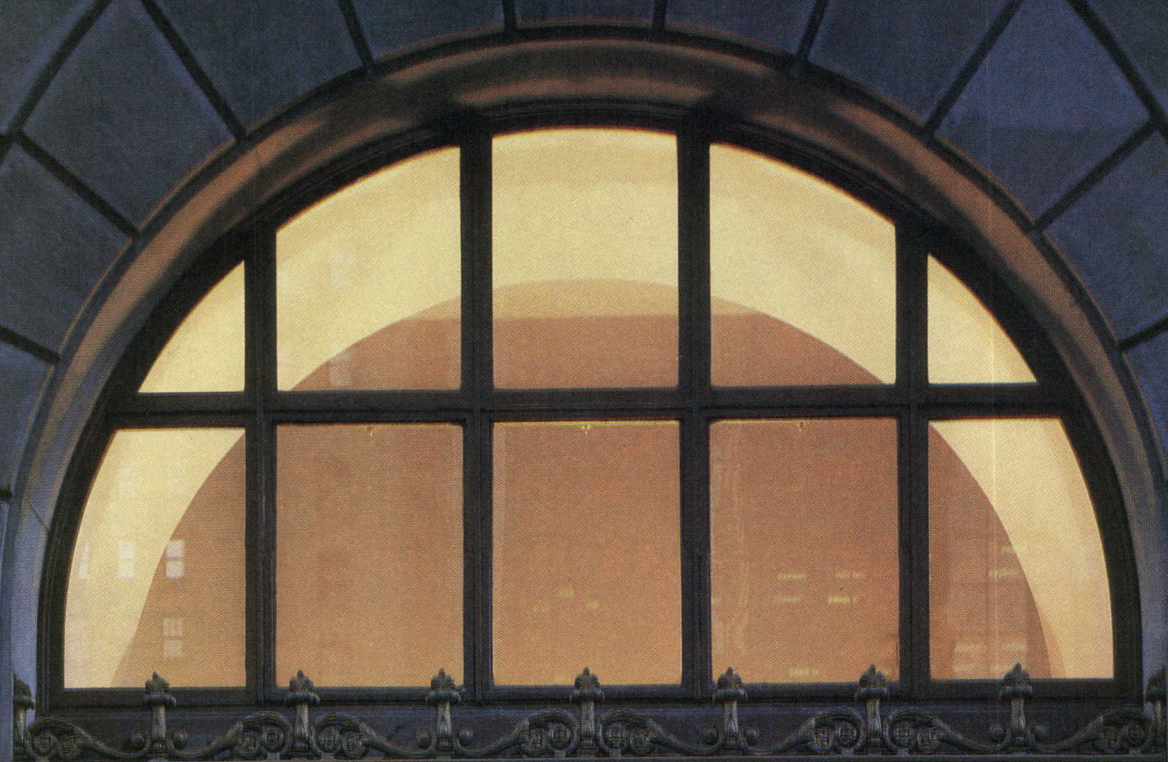
Consultants:

Douglass Baker (lighting); Cerami & Associates, Jaffee Acoustics (acoustical); Boyce Nemege Designs (theater); John A. Van Deusen & Associates (elevator)

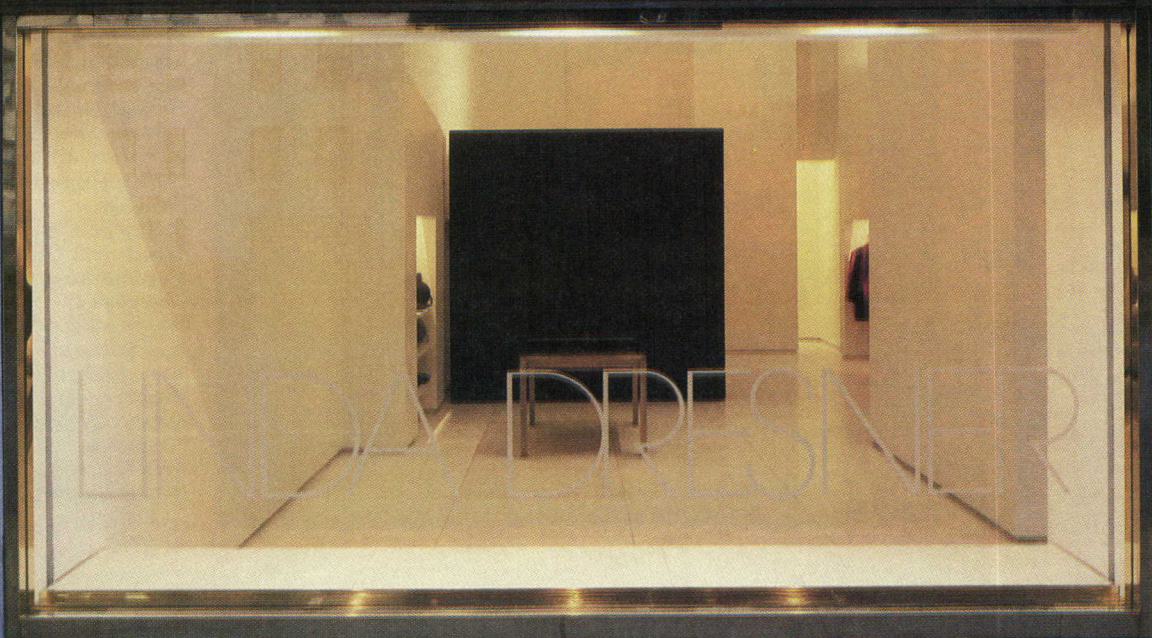
Contractors:

Wehr Constructors, Inc. (general); Hughes Masonry Company (masonry)





LINDA DRESNER



FIGRENTINA



The right look for now

Linda Dresner
New York City
JW Fred Smith, Designer

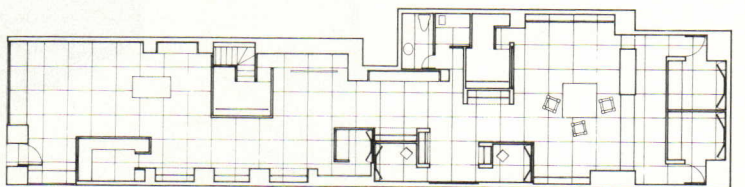
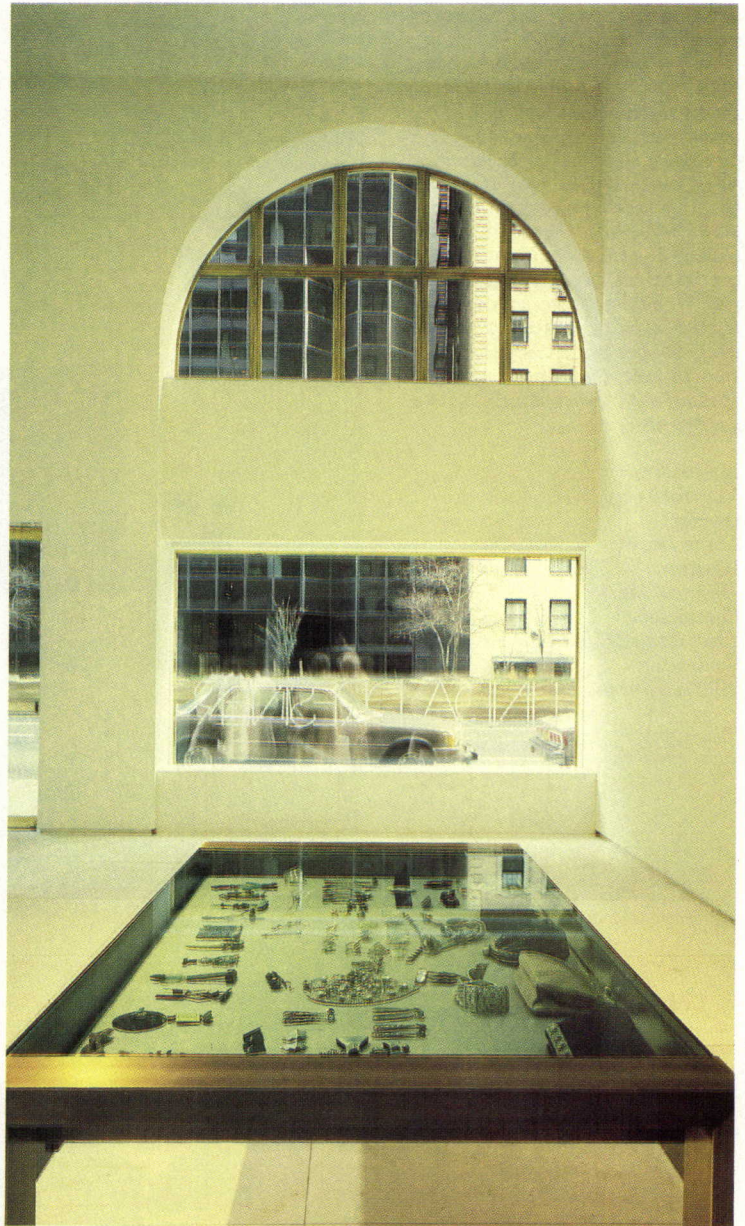
For a woman deeply interested in her appearance, clothes are a serious rather than a frivolous subject, particularly if the dress she is considering costs as much as an automobile or almost the year's salary of the Italian seamstress who made it. Fashion entrepreneur Linda Dresner and JW Fred Smith, the designer of her newly opened Park Avenue salon, believe that such a customer, immersed in intense calculation—esthetic, emotional and fiscal—should not be distracted by visual motifs unrelated to pure couture. In most expensive dress shops, she is. Decor in such places consists of a medley of references to status, contemporaneity and individuality—metaphors of success and fulfillment. Buoyed by dreams, she buys.

In developing their own minimalist decor, Dresner and Smith focus upon the couture itself. Their model is the art gallery where traditionally no extraneous color or decor is allowed to compete with the paintings and sculpture on display. In this shop, the second that Smith has designed for Dresner, the walls, ceilings and floors are white, all ductwork is hidden, and white quartz spotlights display fabrics in their true colors. For Dresner and Smith, mannequins and window displays are a form of clutter to be dispensed with.

Beyond the sandblasted logo, elegantly scaled and positioned within the display window (facing page), the passer-by sees only beautifully lit, high-ceilinged space, a rectangular bronze-finished table in the foreground, a mysterious black box just behind it, and in the distance a few enticing wisps of color—chiffon perhaps, or crêpe de Chine? Drawn in, she finds that the table is an elegant showcase for jewelry (photo right), spotlighted by Kleig lights on the ceiling. For the customer, the black box must remain a mystery since it conceals hvac supply ducts, stereo speakers, a 1,000-watt photo light bulb to illuminate the ceiling, and the stair to the basement stockroom. As the plan (right) indicates, a second private space directly opposite the front door contains a small office for writing up sales. Beyond the black box is the low-ceilinged, more private part of the store which contains what may be the five largest, best lit and most chastely luxurious fitting rooms in New York City. "In order to set ourselves off as special," acknowledges designer Smith, "we have to do things that are special. Selling is done in the fitting room. Even in most good shops, the fitting rooms are jammed into leftover space. Here we designed the shop around the fitting rooms. We separated them from each other where possible and made them soundproof. If you are deciding whether or not to buy an expensive dress, you don't want to overhear another woman's problems." The store keeps less than three-quarters of its merchandise on display, partly to avoid wear and tear, but also to contribute to the uncluttered serene look to which the store aspires. Every item, whether it costs \$200 or \$4,000, is carefully protected and brought to the fitting room as needed. The store, indeed, exhibits a respect for clothes as works of art and craft that seems to have vanished from today's boutiques. Dresses are hung at shoulder height on uncrowded single-tiered hang rods and a few sweaters are piled on shelves of white marble.

If minimalist architecture is to succeed, the execution must be meticulous, and at Linda Dresner it is. Designer Smith, acting as his own contractor, watched the details. Except for two piers covered in white marble and the floor in the same material, all interior surfaces are skinned with drywall sanded and painted to a flawless finish. All metal surfaces are finished in white auto lacquer dried by heat lamps. There are no baseboards, moldings, door jambs or visible ducts. Except for phone jacks in the fitting rooms, walls are free of light switches, outlets and other distracting paraphernalia. The lighting, designed by Cris Howard, illuminates most merchandise from invisible sources and casts subtle shadows that enhance the architectural quality of the space. "Light bounced off the ceiling makes the customers look prettier," notes Smith. In a dress salon, what could be more important than that? *Mildred F. Schmertz*

© Paul Warchol photos



The long and narrow shop has been asymmetrically divided into a variety of spaces, the most generous at the rear in front of the two largest fitting rooms. Wardrobe building may begin at the marble table (facing page), as the customer and saleswomen, seated upon Robsjohn-Gibbings stools, ponder which basic pieces will best get her through the season. The black box (photos right) completes the monochromatic spectrum of the store, which ranges from deep black, through gray and white to pure white. Surfaces are smooth, except for the box which is sprayed with textured paint with a suede finish.

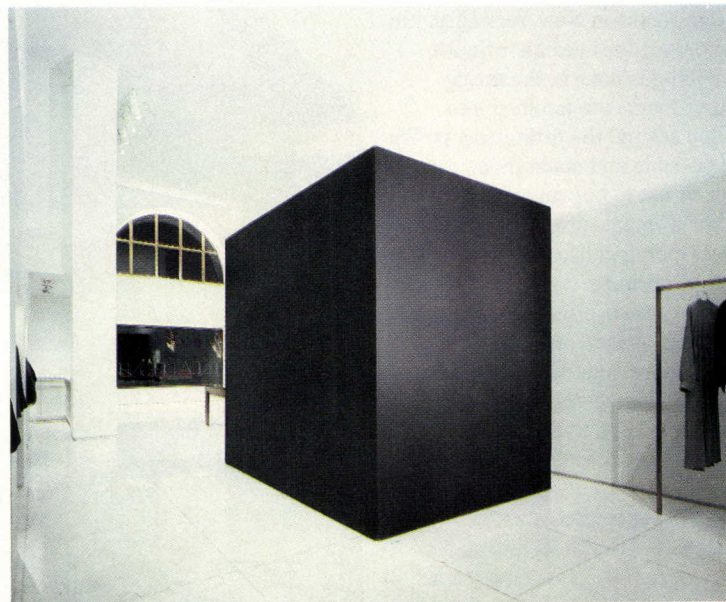
*Linda Dresner
New York City*

Owner:
Linda Dresner

Designer:
JW Fred Smith

Consultant:
Cris Howard (lighting)

Contractor:
JW Fred Smith





All the way home

A portfolio of projects
by Turner Brooks, Architect

Among the architectural books that crowd his three-man office in Starksboro, Vermont, Turner Brooks gives pride of place to a slim volume he has treasured since his boyhood in Manhattan, *The Little House* by Virginia Lee Burton. Brooks is now in his early 40s, a burly, ruddy-faced man with a rolling laugh, who would look at home milking the Holsteins that graze outside his window; but when he takes Miss Burton's storybook down from the shelf and opens it for a visitor, he sighs with the exquisite anticipation of Proust dipping a madeleine in tea. Long before he acquired Scully's *The Earth, the Temple, and the Gods*, Venturi's *Complexity and Contradiction in Architecture*, or Anthony Blunt on the Baroque, Brooks remembers having his parents read him *The Little House*: "That's when I began scanning the landscape," he recalls, and the vivid images he saw in that two-dimensional terrain continue to shape his own architecture. Through illustrations in the folk-art-deco style of WPA murals, Virginia Lee Burton created a graphic parable of urbanization and America's sometimes conflicting desires for restless dynamism and the rootedness of home—themes that Turner Brooks still grapples with. The anthropomorphic heroine of Burton's story is the kind of house any child might draw, a simple gabled cottage whose window-eyed face smiles contentedly over open fields and shady lanes. Decades pass as each page turns, and rural tranquility gives way to smokestacks, railroad trestles, skyscrapers, and crowded streets that jostle the bewildered house on every side. At last shabby, abandoned, and seemingly doomed, the little frame building is saved by a descendant of her original owners, who lifts her off her foundations, trucks her out of the city to a patch of as-yet-unspoiled countryside, and lovingly restores her charms. It is an ambiguous happy ending, and for Turner Brooks, the vision of a house propelled through time and space remains as poignant as ever (see his own rendering of a little house in the city, opposite). This virtually animistic empathy with buildings pervades his designs, though it is perhaps most obvious in his charcoal drawings, moody capriccios charged with drama.

Rummaging through the toy-box of imagination came naturally to Brooks at an early age, yet he was exceptionally fortunate in having architectural mentors who encouraged his delight in serious play. As a student of Charles Moore and Kent Bloomer at Yale in the late 1960s, Brooks warmed to his teachers' intuitive, sensory approach to built form, their grasp of space through movement, and their enthusiasm for regional vernacular and communal iconography (concepts that Bloomer and Moore expounded later in their book *Body, Memory, and Architecture*). Like many Moore disciples of that period, Brooks graduated from apprenticeship in the jutting sheds and rough-sawn vertical boards of the master's Sea Ranch idiom to a personal synthesis of other traditions. After making his own move from the big city to rural Vermont, Brooks understandably consulted local precedent to get his bearings. He particularly cherishes the pristine clarity of homemade Federal and Greek Revival structures as well as the denser palette of the more ambitious Shingle Style. Recent projects by Brooks in Idaho and Pennsylvania

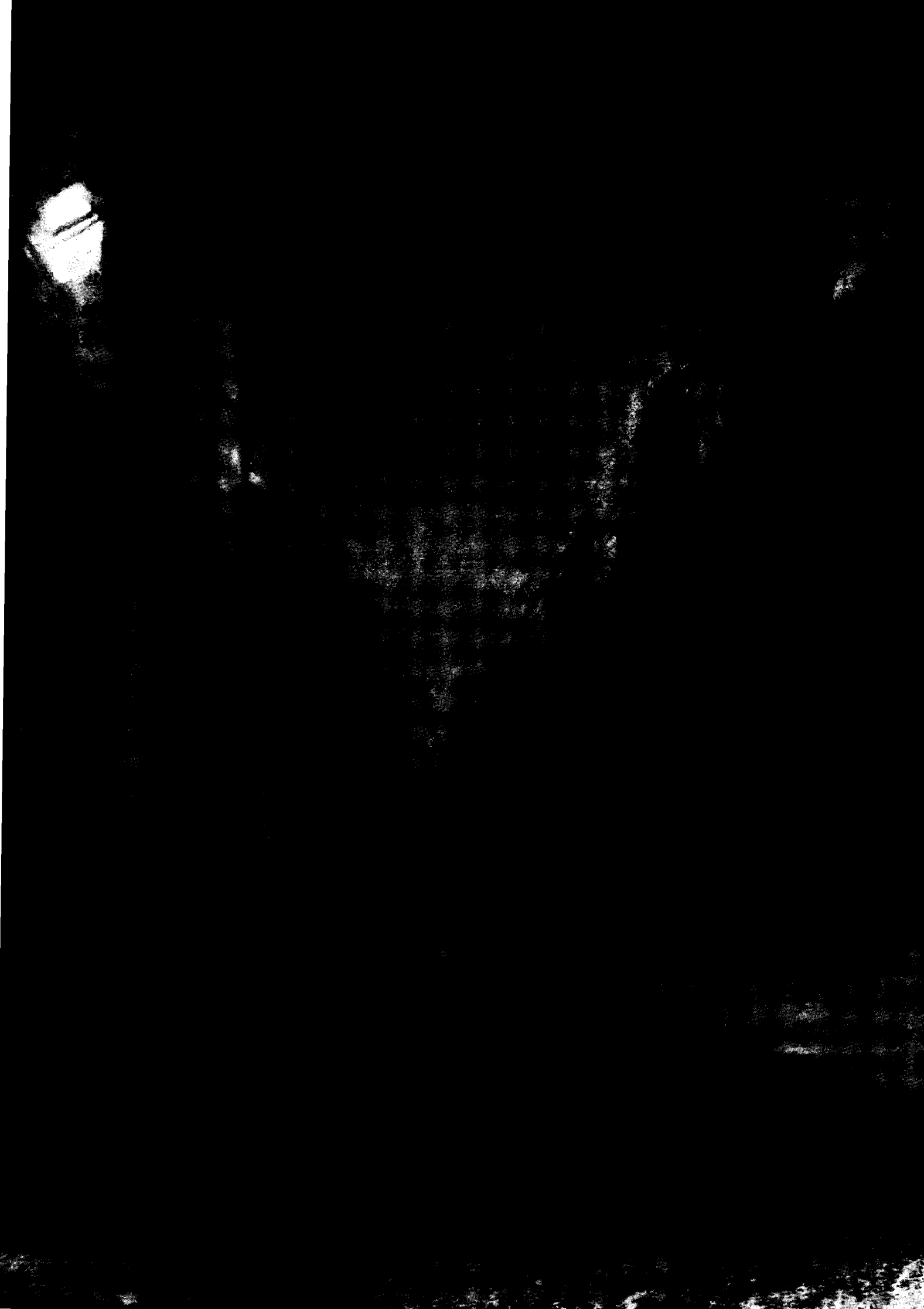
(see pages 128-129) demonstrate the adaptability of his sense of place, but he bristles at being labeled a vernacular architect. "I'm sick of having people tell me my buildings look like farmhouses added onto over time. I am vernacular in my vocabulary of materials because it's the cheap, easy mode of construction in the country. But what's really important to me are the shapes and interior volumes and the way they lead your eye around the building on a continuous journey."

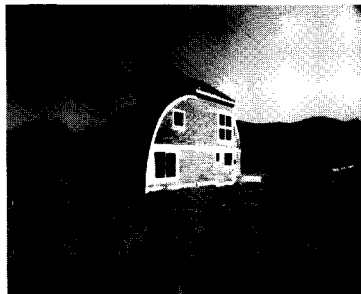
Driving through the foothills of Vermont's Green Mountains, Brooks is as likely to slam on the brakes for an Italianate cupola as he is to point admiringly at an Airstream trailer adrift in a field of wildflowers. And while his own buildings sport clapboards, porches, dormers, and other conventional details, their massing and profiles are just as apt to suggest a boat, a car, a train, or an animal crouched on the horizon. Brooks explains: "My houses have a nervous, skittering relationship to the landscape. They are not relaxed and spread out like the old farmhouses, which create their own man-made landscape with outbuildings and fences. Rather, my buildings are objects plunked down on the edge of some abandoned meadow." Unlike the little house in the storybook, carted back to the country on a flatbed truck, these dwelling places possess their own power: "taut and somewhat streamlined, they must make their own way through the landscape." Turner Brooks started exploring the notion of buildings as vehicles at Yale with his classmate Daniel Scully, but whereas Scully went on to glorify high velocity in such projects as his Doric Temple to Speed (housing a 1966 dragster), Brooks was inspired by cozier nostalgia for a 1952 pickup in which he and his wife drove cross-country, and his parents' first car, a 1949 Ford he remembers as "dignified and voluptuous. I would curl up on the back seat under the rotund roof and feel secure, watching the instrument panel reflect off my father's head like a glowing brain. In my houses there are also points where it's like sitting behind the wheel of a car, standing at the helm of an ocean liner, or inside a locomotive—places where you feel you control the destiny of a space that's larger than yourself. The house becomes an extension of your body."

The metaphors are deliberately mixed, just as Brooks refuses to separate childhood longings from adult capabilities, and indulges exuberantly in what Ruskin called the pathetic fallacy, ascribing the sensations of living organisms to inanimate objects. Brooks compares a toy truck (below), one of his beloved totems, to "a ferocious bumblebee or a great beast with a head, shoulders, and haunches." Or he asserts that "all great buildings are essentially bestial; Richardson's libraries, for instance, are like great somnolent lions ready to leap up if you wake them." He describes the volumes of man-made structures as swelling and contracting, as though inhaling and exhaling, or stretching their limbs. Intellectually, Brooks's likening of architectural elements to anatomy evokes the schematic analogies of Renaissance humanism, even if temperamentally his allegiance is to the Baroque, with its flowing spaces converging irresistibly on a single climactic goal. The architectural passion is genuine—but Brooks is quick to guffaw if he or anyone else begins to cram one of his buildings with more "referential" furniture than it can hold. Then it's time to read *The Little House* again. *Douglas Brenner*



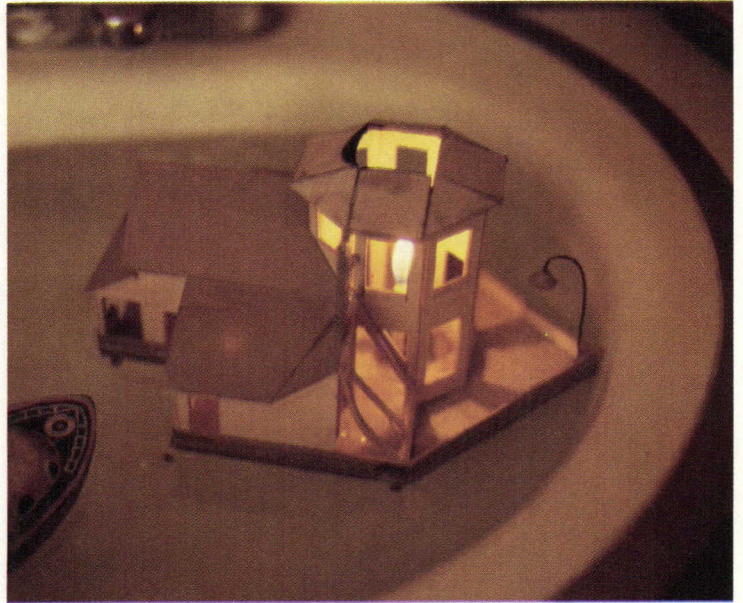
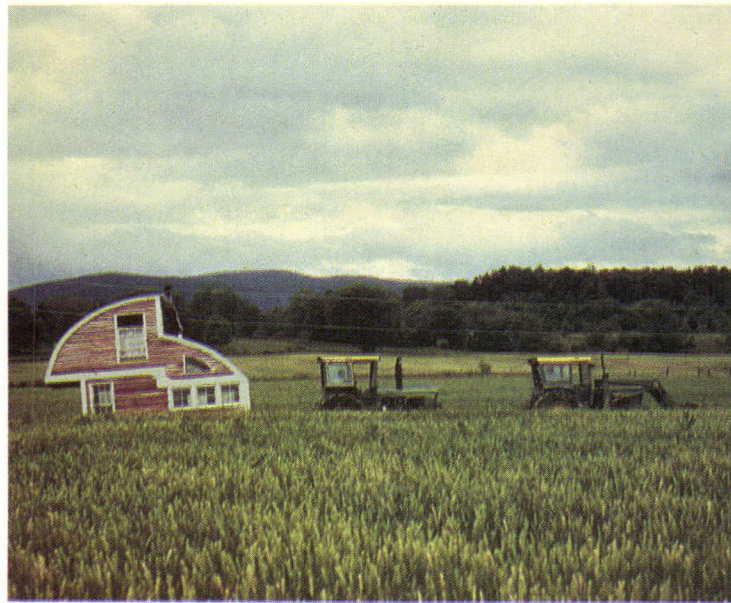
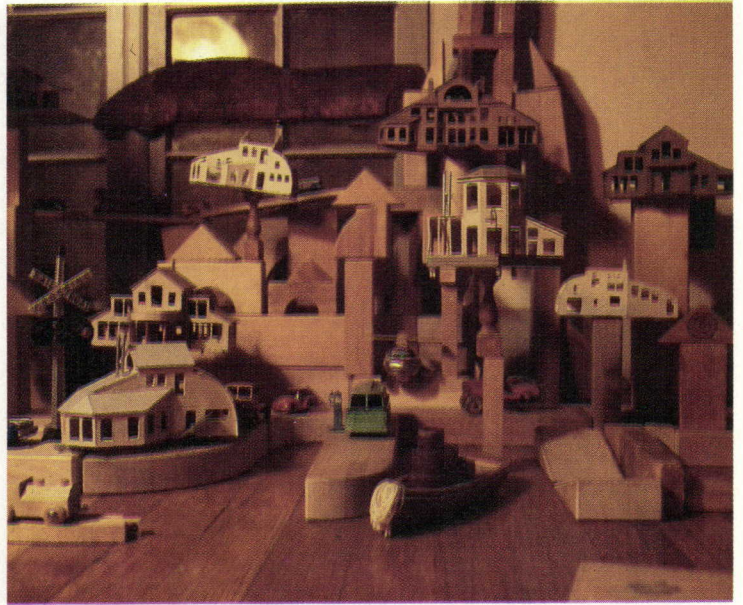
Toy engines prowl and houses cruise through the poetic realm of Turner Brooks's architecture.





The Brooks-McLane House in Starksboro, Vermont (this page), designed in the mid-1970s for relatives of the architect, epitomizes the ambivalent metaphors in Turner Brooks's formal language. Boldly curved at one end and tapered at the other, the two-story frame structure simultaneously resembles a torpedo-back car from a bygone World of Tomorrow, a giant cat resting on its haunches, or a locomotive steaming across an open field. Brooks has emphasized the last in the charcoal drawing above, which might be entitled "Blues in the Night for the Little Engine that Could." It is an emblematic portrait of American self-sufficiency tinged with the loneliness of an Edward Hopper tableau. Using familiar ingredients of rural building, Brooks has assembled a sculptural composition that pushes and pulls at our fixed ideas of home and the place of

*architecture in the landscape. His dislocation of well-tried prototypes is sometimes remarkably literal and playful. The Laffin House (opposite, bottom left) is an 8-by-14-foot hut mounted on steel runners. A cross between a gypsy wagon, a New England shed, and a sleigh, and alternatively used as a short-term residence, gazebo, or guest quarters, the house has traveled a total of 25 miles from its original site. "It works especially well on frozen ground," says Brooks, "though it is lovely swishing through summer grass." Last year, on a six-month fellowship at the American Academy in Rome, Brooks erected a portable, winged version of a Baroque obelisk-cum-pyramid, christened *Il Risorgimento*, which he wheeled around the Eternal City (bottom right; see RECORD, January 1985, pages 74-75). In a typical conflation of references Brooks also conceived*



the peripatetic monument as a souvenir of harbor buoys remembered from childhood summers in Maine; of the firehouse cupola in Starksboro, Vermont; and a factory engine he once admired in Connecticut. The toylike character of the Laffin House and Il Risorgimento is typical of Brooks's buildings, which he designs primarily through models. A maquette for the Solworth House (bottom right above; see pages 126-127), was set afloat to visualize the evocative power of its nautical imagery. Clustered models for various projects compose a genial cityscape in Brooks's office (top right), harking back to the urban sprawl that engulfed the Little House in his favorite storybook. The architect's own most faithful rendition of the archetypal Little House at home in the country is the recently completed Hurd House, also

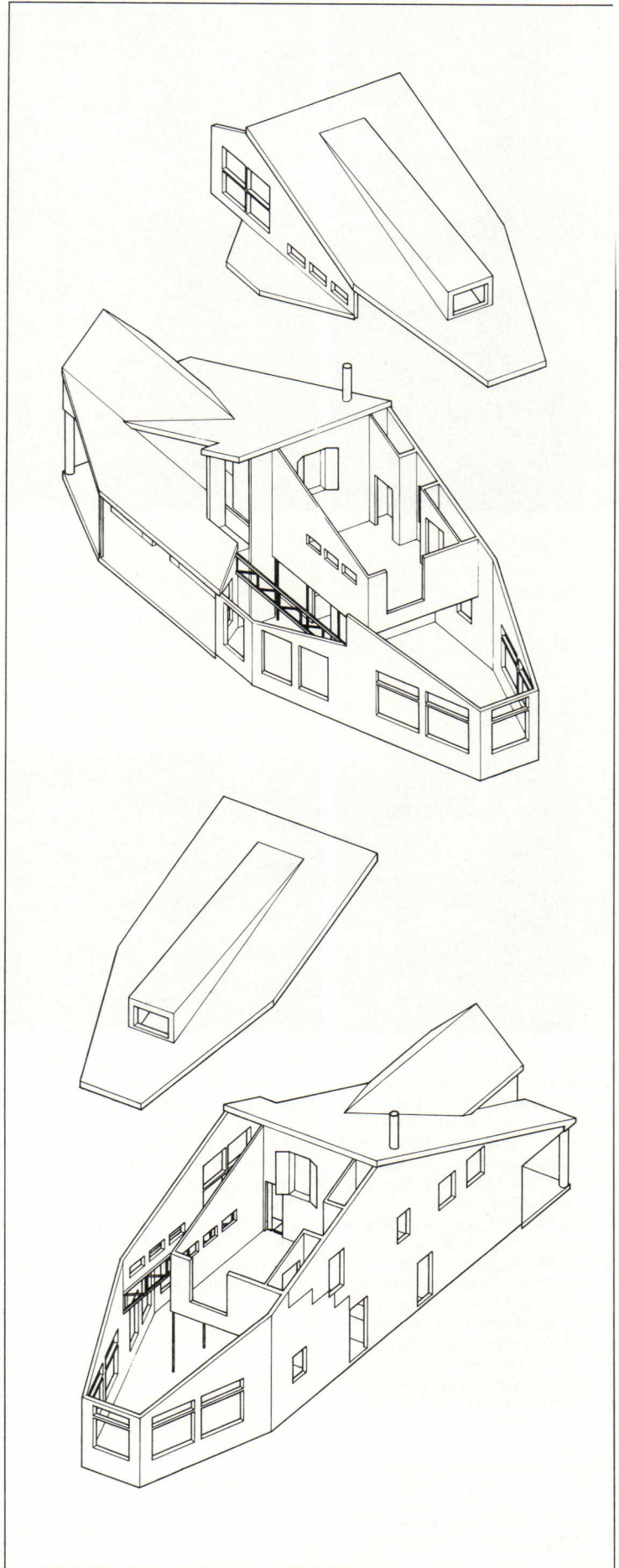
in Starksboro (top left). In spite of robust columns that echo the homespun monumentality of local Greek Revival facades, the building seems lightly perched on the slope, as if ready to take flight should the creeping metropolis draw nigh. The hint of potential mobility in this and other houses reflects the nature of their inhabitants, many of whom are transplants from city or suburbia, or only part-time country folk.



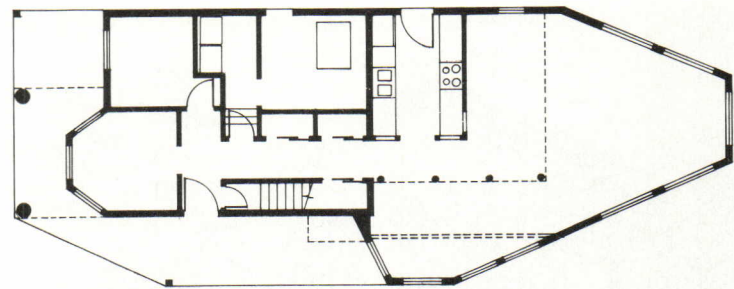
Turner Brooks built his own house (this page and opposite) in a valley between the foothills of the Green Mountains and the Adirondacks (Brooks's office occupies a separate, earlier pavilion, visible at far left in top photo below). Though not uniformly symmetrical in plan, the 1,600-square-foot structure forcibly traces an axis linking the two mountain ranges. With a self-deprecatory smile, Brooks likens this

orientation to the topographic correspondences cited by Vincent Scully in his symbolic analysis of ancient Greek temple sites: "We have our own Horns of Hymettos here on one side and a great mother-goddess shape on the other." Seen in relation to these landmarks, Brooks's sweeping roof planes, angled walls, and thrusting dormers seem to respond to invisible lines of force.

©Paul Ferrino photos



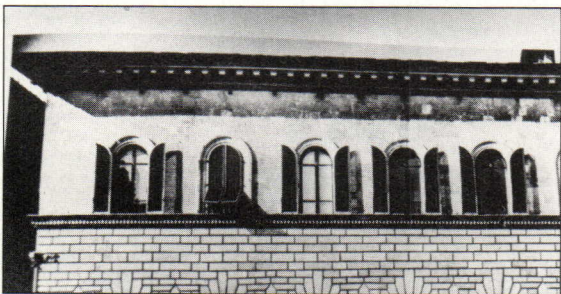
Brooks House
 Starksboro, Vermont
 Owners:
 Turner and Pebble Brooks
 Architect:
 Turner Brooks
 General contractor:
 Michael Burgess



The clapboard- and asphalt-shingle-sided enclosure appears almost to swell from within, an impression that intensifies inside the non-orthogonal enclosure of the living room (opposite below, above right). Listening to Brooks explain his personal Baroque ideal of a palpable spatial dynamic, one begins to see how walls "converge" about one's body, "stretch" around oversize windows, or "pull away" from a wooden truss. Because the space eludes regular geometric formulas, says the architect, "You can't take it for granted. You're always measuring it, like a bat sending out radar signals and having them bounce back from the perimeter. The space is loose, expansive, and relaxed, but at the same time you always come back to a central focus." Here the focus—both visual and symbolic—is a shuttered niche at the back of the master bedroom-loft that

overlooks the living room (top center, photo above right). Brooks calls the alcove his ancestral reliquary. "It ought to display my grandfather's thigh bone, but for the moment it holds some shrunken-headlike puppets my kids made." Lighted from within, the reliquary reminds Brooks of an illuminated dashboard or control panel; and gazing down the long dormer (above left), he says, the living room could be the inside of a vessel cruising toward the mountains, "and you're in the driver's seat." Conversely, viewing the space from ground level, "your eye takes a journey, starting low, then shooting up the dormer and over the head of our bed, till it comes to rest at the ancestral relics." Shades of Borromini amid the cow pastures of Vermont. . .

Turner Brooks photos except as noted



Michael Wisniewski

Beyond paying homage to roadside Americana, the stucco and clapboard facades of the Brown House intentionally recall the articulation of a classic Renaissance palazzo (above center). The level above Brooks's "rusticated" basement might be called the piano mobile.

Measuring 45 by 400 feet and overlooking a major highway, the site for the Brown House in New Canaan, Connecticut, conjured up another icon of American mobility. Says Brooks: "I saw the house as a huge Winnebago that missed the turn into Garibaldi Lane and ground to a halt in the shrubbery halfway uphill." Characteristically, Brooks has turned to a variety of sources, finding inspiration not only

in actual mobile homes (e.g., photo upper left), but in formally analogous vernacular buildings (far left bottom) and "high style" precedent (far left center). At the same time, an anthropomorphic sensibility emerges beneath the lofty forehead of the sloping cornice, implying that the 3,500-square-foot building's acceleration is an act of will (sketch far right). It is probably just as well that Brooks has not

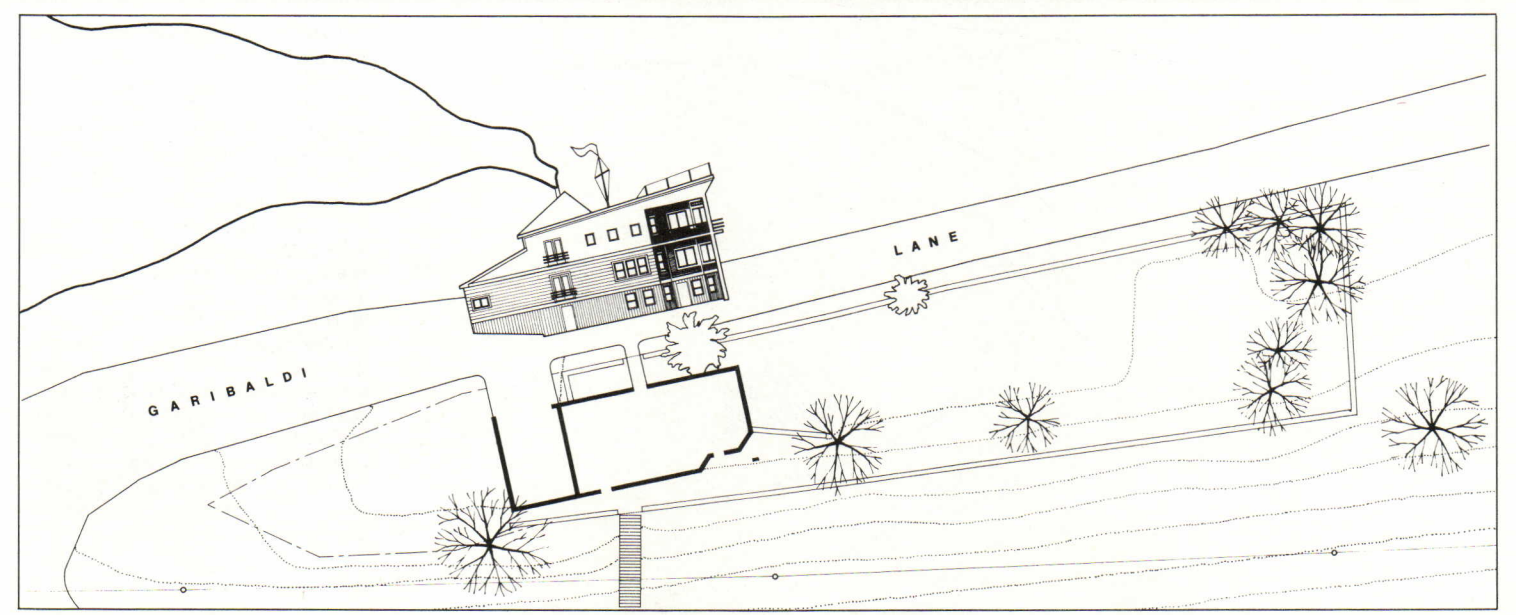
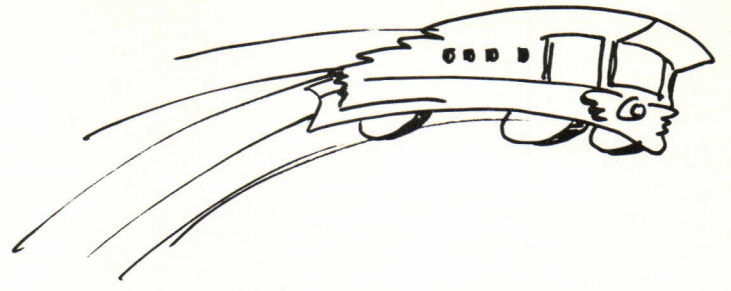


© Paul Ferrino

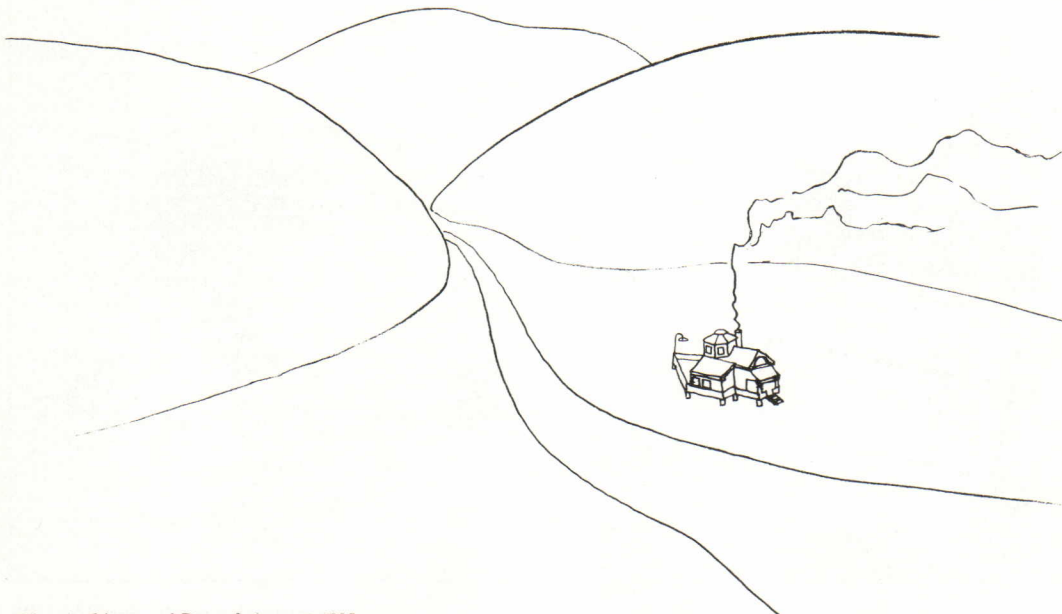
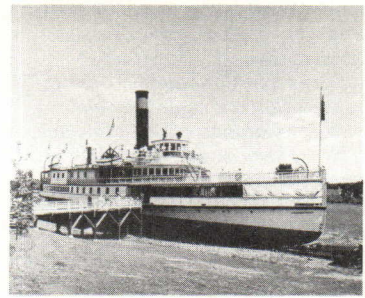


made the allusions to mobile shelter any more explicit, given the conservative esthetic values of affluent New Canaan. The architect reports that one eight-year-old visitor to the house told the owners, who are keen sailors, that their new home looks just like the Martha's Vineyard ferryboat. "This made my clients very happy."

Brown House
New Canaan, Connecticut
Owners:
Mr. and Mrs. David Brown
Architect:
Turner Brooks—Stewart Hamilton, associate
General contractor:
Robert Hemingway



Eric Borg

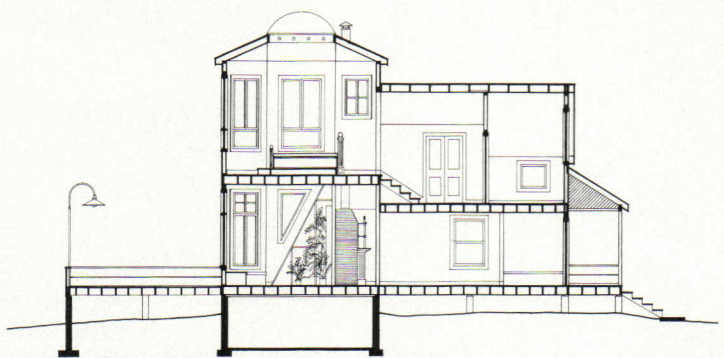
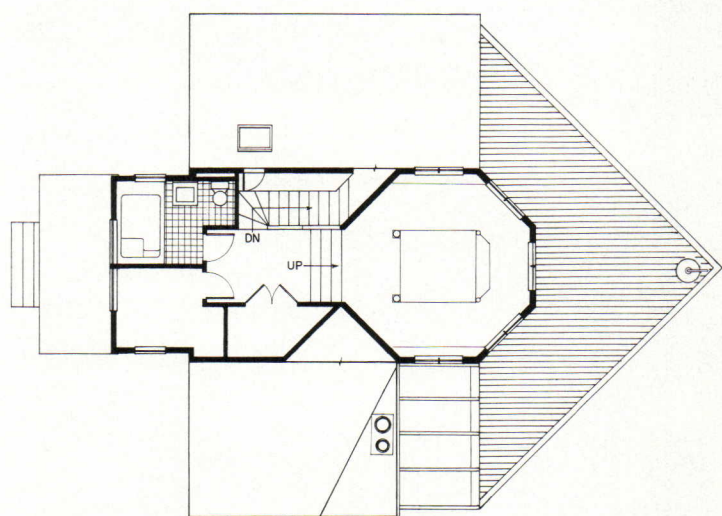
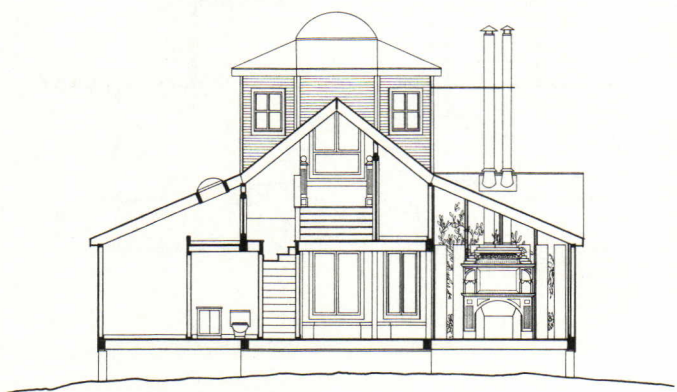
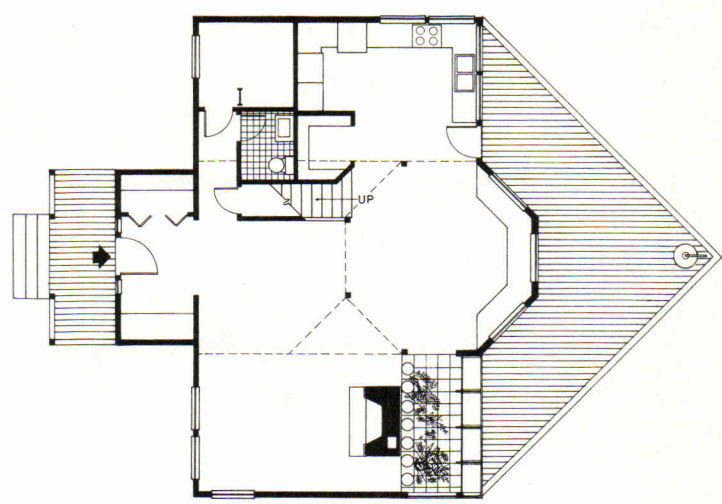


Approached on axis with the quasi-Palladian entrance facade (above), the Solworth House seems anchored in the traditions of terra firma, though seen from port or starboard (opposite), the building's triangular deck, bowsprit lamppost, and pilothouse tower betoken an imminent departure upriver. The pilings that lift the ground floor well above grade are not thematic decor, as the Solworth House stands directly in a 100-year flood plain. Brooks hopes one day to see the river flow under the house. Whatever the unpredictable waters hold in store outdoors, the house is well prepared to deal with the elements inside. A greenhouse, water storage tubes, and the masonry of floor and fireplace form an effective solar sink. The mantel is a Kentucky antique.

the client for the Solworth House, in South Lincoln, Vermont, brought memories of her own for Turner Brooks to embody in architecture. A native of Louisville, Kentucky, Shelley Solworth looked back fondly to romantic jaunts on paddle-wheelers such as the Delta Queen that plied the river near her girlhood home. Having acquired a site for her own, much humbler, residence on the bank of another river, she

welcomed Brooks's proposal that the house be at least partially nautical in form. It was unnecessary to haul precedents across the Mason-Dixon line since architect and client already shared a fondness for steamboats on Lake Champlain (small photo) and the Victorian mansions built by prosperous captains in neighboring Burlington, Vermont.

Solworth House
 South Lincoln, Vermont
Owner:
 Shelley Solworth
Architect:
 Turner Brooks
General contractor:
 Michael Burgess

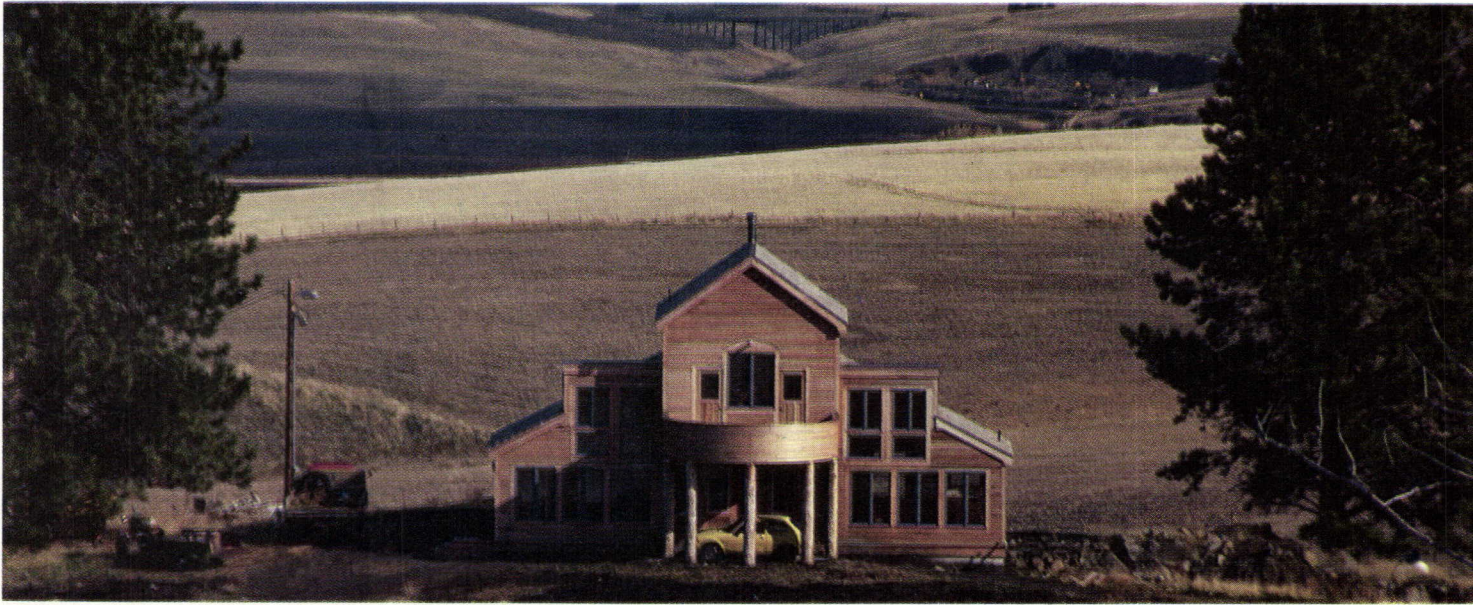
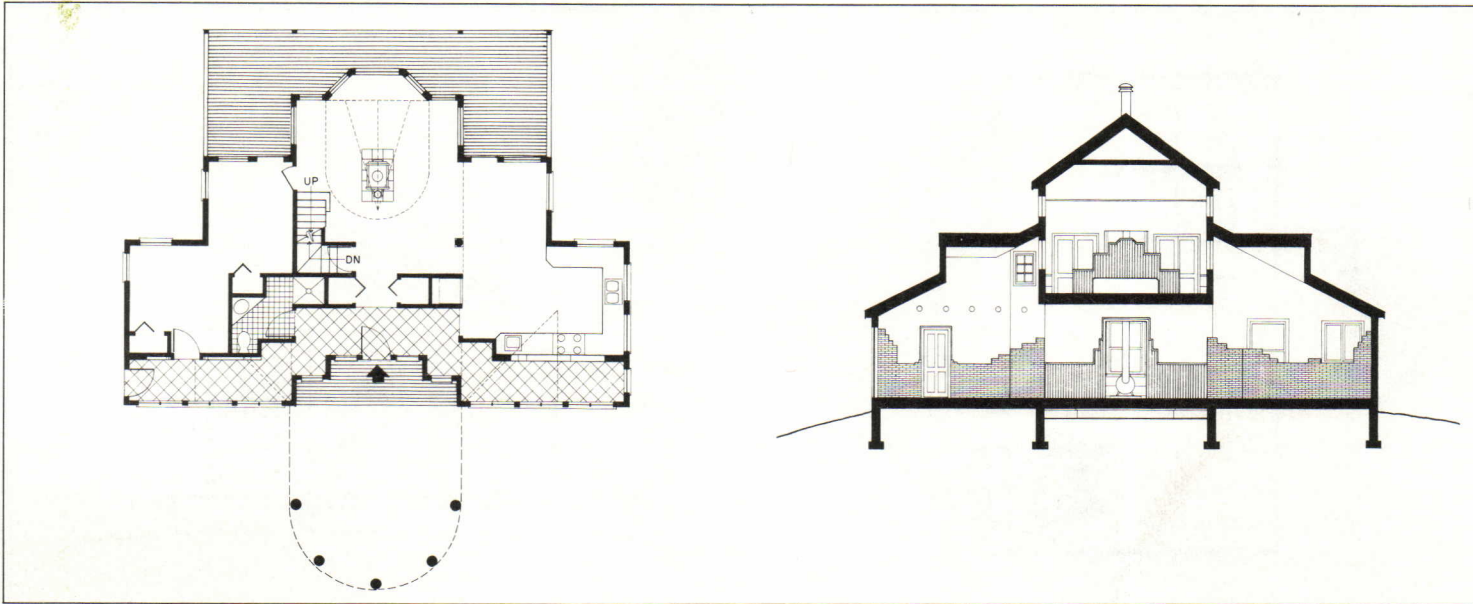


"The Baroque shack" is Brooks's nickname for the Chapman House (below), a 1,650-square-foot structure on a 600-acre ranch. Reflecting the dual career of the owner, who practices medicine in California when he is not farming in Idaho, the house is both urbane and rustic—like Palladio's agricultural villas. A curved classical porte-cochère modeled on the colonnade of Santa Maria della Pace is only Volkswagen-

scale, and its pillars are rough-cut tree trunks. The remainder of the building follows the traditional massing of Idaho barns, many of which are similarly burrowed into hillsides. Using the owner's rifle sight, the main axis of the house was aligned with a railroad trestle 16 miles to the north. Brooks and associate architect Ross Anderson designed the house to look as if its staggered northern bays pull away

downhill from the formal south facade toward the view: "the bay window bows out in front of you like your expanding chest." The site is the last of a series of hills that break like waves over the prairie, and Brooks envisions the little house bravely surfing off the last knoll.

Chapman House
Ferdinand, Idaho
Owners:
 John and Nadine Chapman
Architect:
 Turner Brooks
Associated architect:
 Ross Anderson
General contractor:
 Willis Frei & Sons



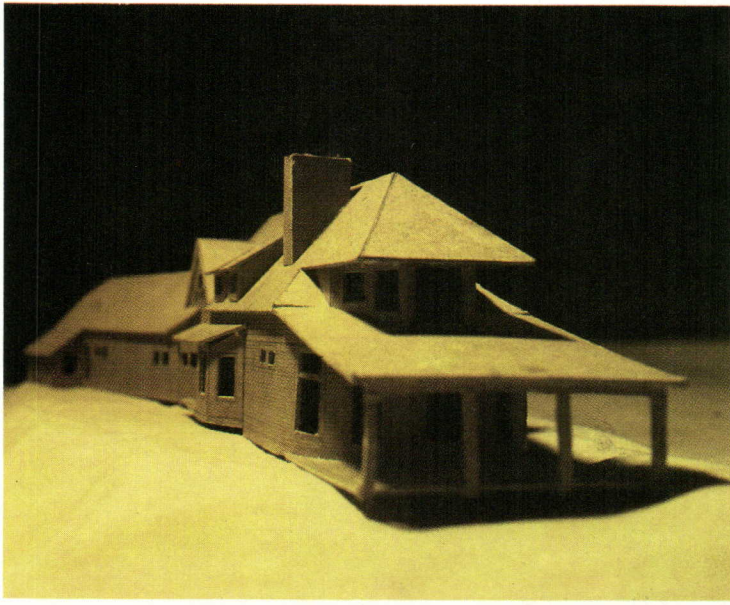
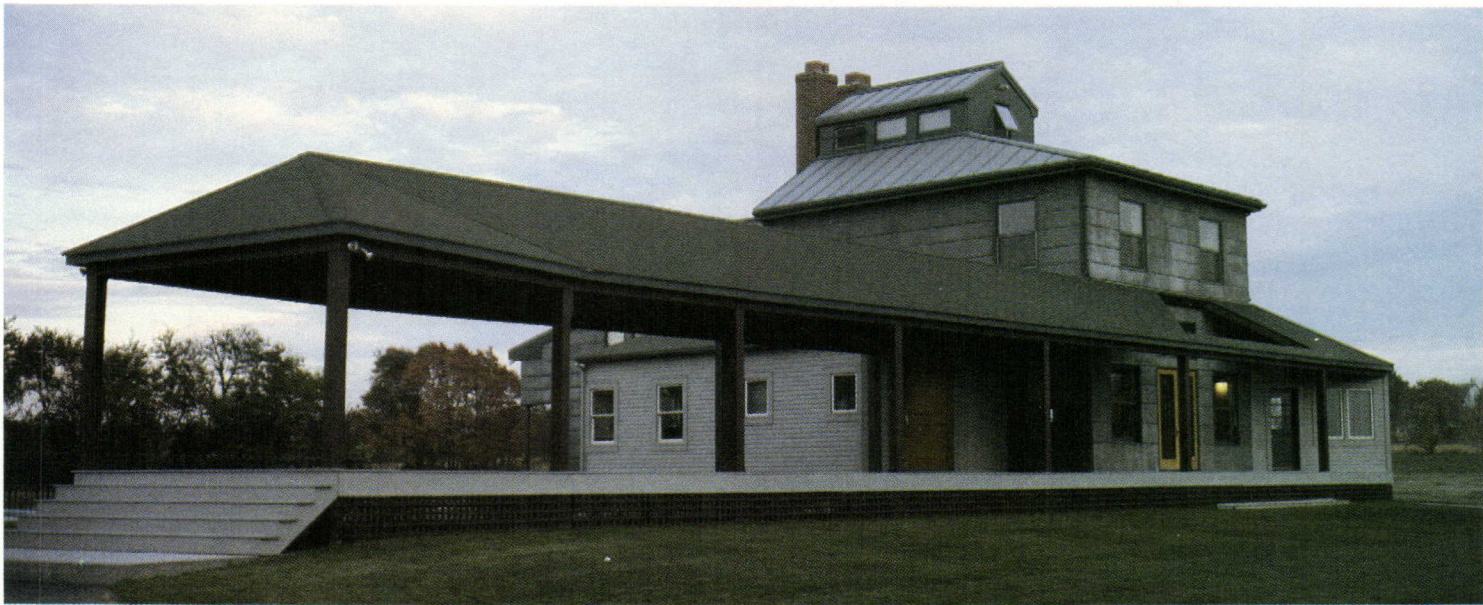
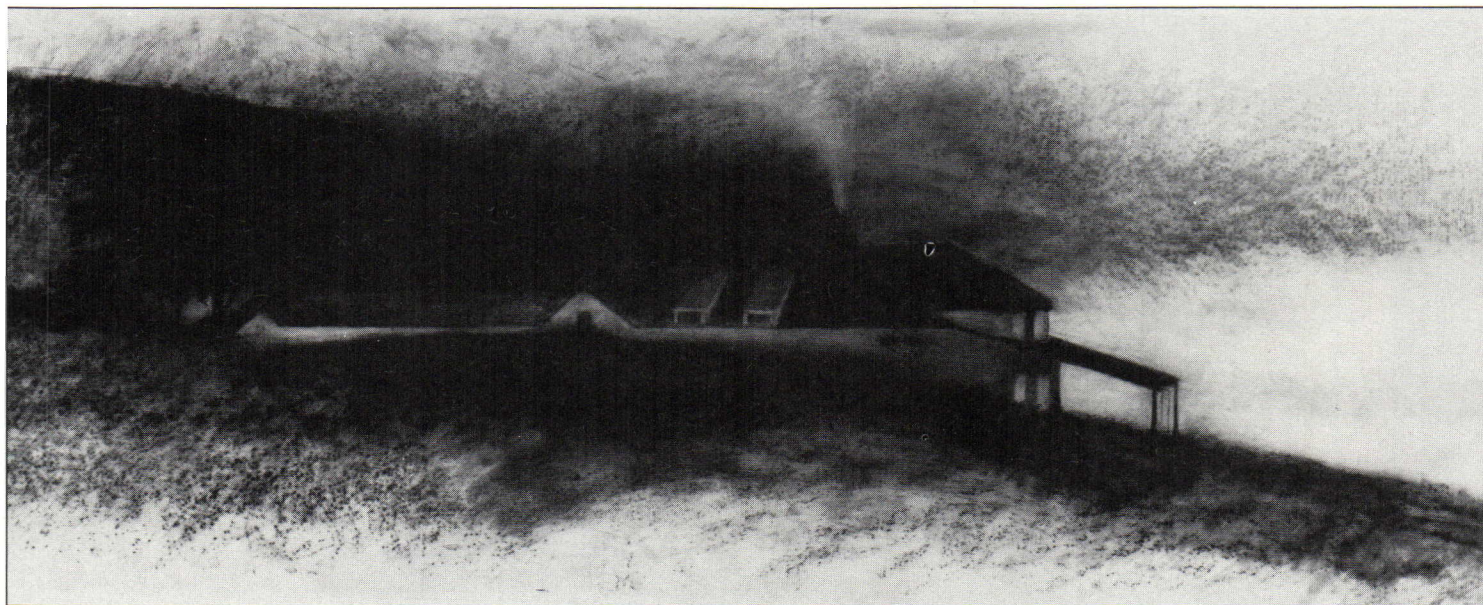
Turner Brooks photos



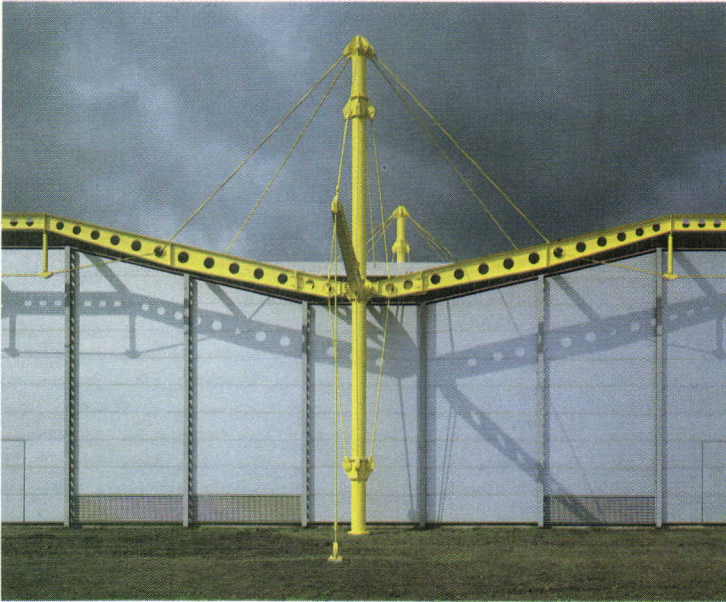
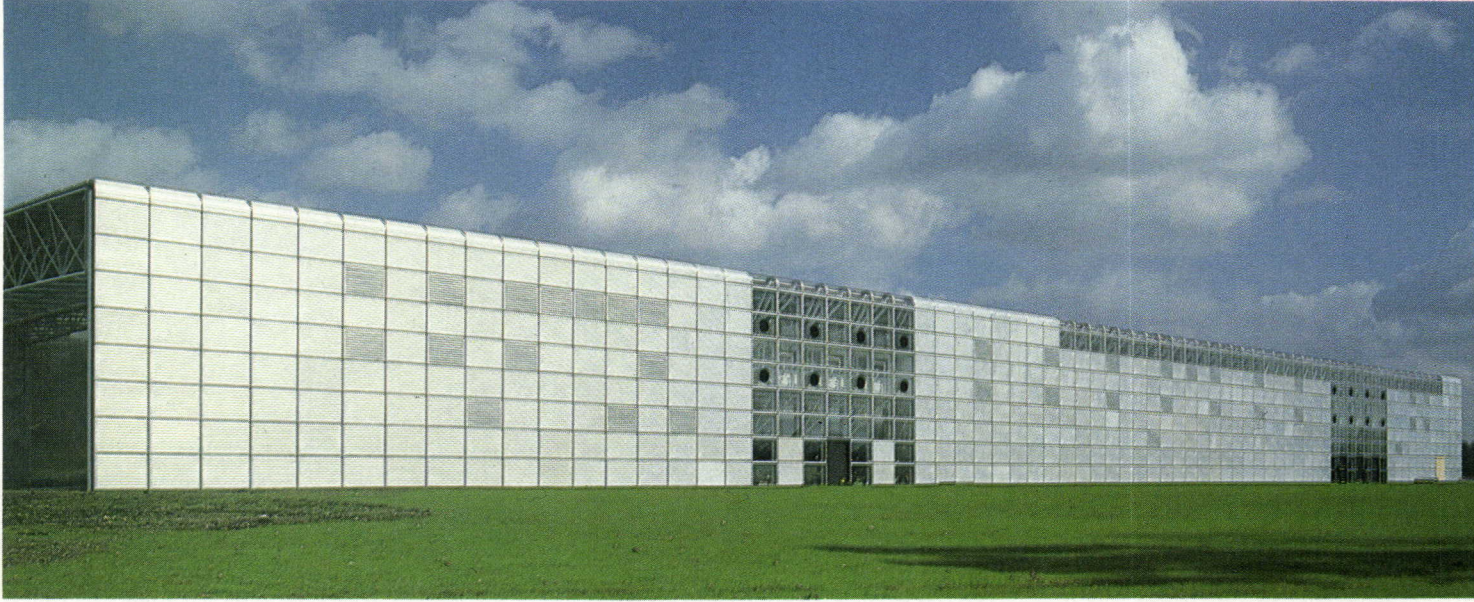
It is a long way from Virginia Lee Burton's Little House to Turner Brooks's Sheldon House, now under construction on a Vermont sheep farm (top and bottom this page). Many details of the 4,200-square-foot structure attest to Brooks's close study of elaborate Shingle Style barns built on the shore of Lake Champlain. The architect compares the low, extended mass of the house to "a reptile with a beady-eyed,

shaded head, pulling itself out of the woods," or to a train hurtling along. The Fuisz House, in Nazareth, Pennsylvania (center this page), is strikingly like a railroad station. Power lines that cross the site on their way to New York are (in the eyes of Brooks and associate Greg Clawson) an exhilarating backdrop to the drama of the building. The image could come from a 1940s storybook scene of happy tractor

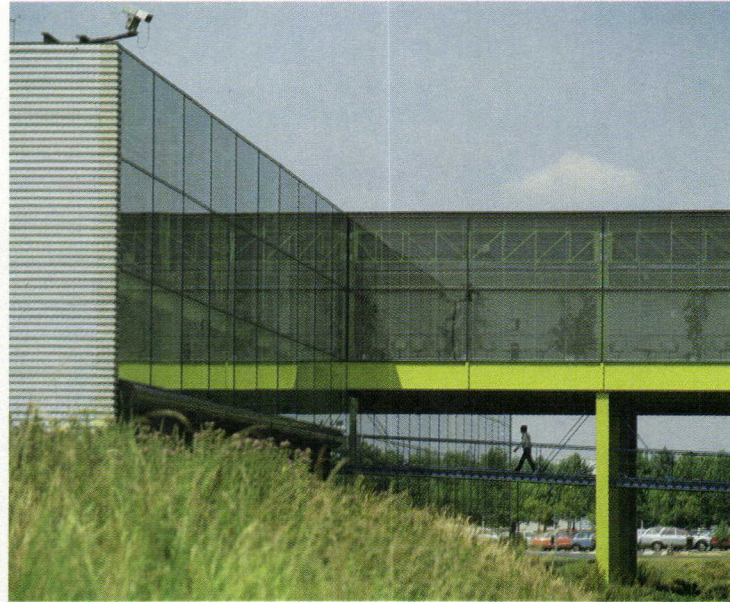
drivers waving to locomotives as telegraph wires hum overhead. The house has stucco walls painted glossy anthracite black: "It's like a machine that's shot out of the distant murk of the city and wrapped itself in a country porch." Brooks sums up his fondness for this unfinished project with a quote from his friend Dan Scully: "When a building isn't going somewhere, I feel there's something wrong with it."



Ken Kirkwood photos except as noted



Richard Davies



Three buildings in England by Foster Associates (the Sainsbury Centre for the Visual Arts, top; Renault Parts Distribution Centre, lower left; and the IBM Technical Park in Greenford, lower right) represent rigorous exercises in fine-tuned technology. A closer look at

each of their metal skins bears this out. Different in profile, performance and cost, each cladding system resulted from the architects' involvement in the design of building pieces. These pieces serve as essential creative increments in an architectural whole.

The metal-skin technology of Foster Associates

In his speech accepting the Royal Gold Medal in 1983, Norman Foster told the RIBA that his design owes much to *pragmatism* and *intuition*—two words well-chosen to encapsulate the creative force behind his work. Intuition most certainly inspires that part of the work that imparts an uplifted sense of balance, volume, light, and space to the architecture. Intuition also plays no less a role in the technological approach to building that is one of the hallmarks of his work. Norman Foster and his associates have a *feel* for the right use of materials, a feel that is made to work within the pragmatic boundaries of current building.

Foster Associates' involvement with material technology is fundamental to its practice, making the firm somewhat atypical among architectural firms. Because the buildings are assemblages of well-understood, clearly articulated construction pieces, to design better, the firm has cultivated a thorough grasp of mechanized production—a command of the industrial process and materials has served it well. Whether the need is for an insulated metal panel, an interior window shade, or an office table, when no existing architectural component fulfills an established design criterion, the architects are able to invent, or at least innovate, one with relative ease. As Foster has said, "Much of our work centers around a deep concern with how a building is made, with craftsmanship and tender loving care." Design collaboration between the architect and industry is one way in which that concern is realized.

Three projects in England by Foster Associates follow—the much publicized Sainsbury Centre for the Visual Arts, the Renault Parts Distribution Centre, and IBM's Technical Park at Greenford—offering a closer look at how their metal panel systems were conceived and executed. As with most buildings, long-range performance and construction economics were key factors in the design formula. Economics dictated the extent to which the architects could be directly involved with product design from within industry. These three projects show a range of involvement—from specifying stock items, to product design per se.

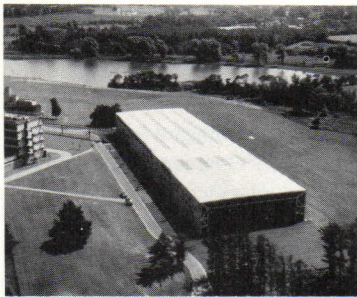
At the IBM installation (facing page, lower right) a standard, flat-ribbed sheathing was used for the planar expanse of the wall. The architects paid attention to the modular character of the sheets, placement of bolted attachments, and surface color, but otherwise had no hand in the product. (The ribbed corners at IBM are another matter, see pages 136-137.) The panel system devised for the Renault Centre (lower left) is a unique assembly, but is comprised of standard components. The perforated mullions, neoprene gaskets, and metal

panels sandwiching rigid insulation were assembled on site. The one nonstandard member in the cladding system is the exterior sheet metal. The tooled ribs were profiled especially for the project by the architects for the sake of the surface esthetic.

Work on the Sainsbury Centre (top) entailed significant involvement in product design. The metal-panel system's development had much to do with concerns for the building's stringent interior requirements. First, the space was to be top-lit. Second, the building was to be capable of maintaining a controlled air quality without relying on elaborate mechanization. The roof represented a major concern too, as it would be no less visible on the site than the walls and, therefore, should be attractive. And of course, it shouldn't leak—no roof should, but any leakage directly above priceless artifacts could result in irreparable damage. Since leaks most often occur at penetrations, the architects designed out all penetrations with a series of modular panels set into a continuous grid of gasketing that rises from grade across the roof, and back down to grade. (Using such panels for the roof is, quite possibly, a one-of-a-kind application.) Too, there was a desire for interchangeability that led to the design of its noninterlocking panel in metal or glass. The ingenious web of neoprene gasketry that visually functions as a shadow joint ties the system together in bas relief. Finally, there was no metal product on the architectural market that could smoothly turn the face of a thin metal sheet to make the deep reveal determined by the requisite thickness of insulation. Although the firm often turns to the automotive and aviation industries when backed into a technological corner, the solution to this metal panel came from the sector of the aluminum industry that works with super-plastic alloys for the manufacture of complex machine parts and (of all things) fireplace screens.

In the end, the cladding system at the Sainsbury Centre generated innovations in gasketry, panel fabrication, and attachment. Credit for these innovations and those in other projects owes much to the teamwork among varied manufacturers, contractors, engineers, and architects, all willing to experiment with well-defined practical ends as a goal. Results are as dazzling as they are pragmatic; and they stand as compelling testimony to the ongoing strength of the modern movement with its concern for pushing at the progressive boundaries of appropriate craftsmanship and engineering. Although a building will never be a work of architecture solely on the basis of its technology, the projects of Foster Associates serve as reminders that without continuously evolving technique, there can be no contemporary architecture at all. *Darl Rastorfer*

Sainsbury Centre



Foster Associates select or develop building components by first considering performance. If a suitable proprietary product does not exist—as often happens—the firm investigates manufacturing methods and materials to develop an innovative component.

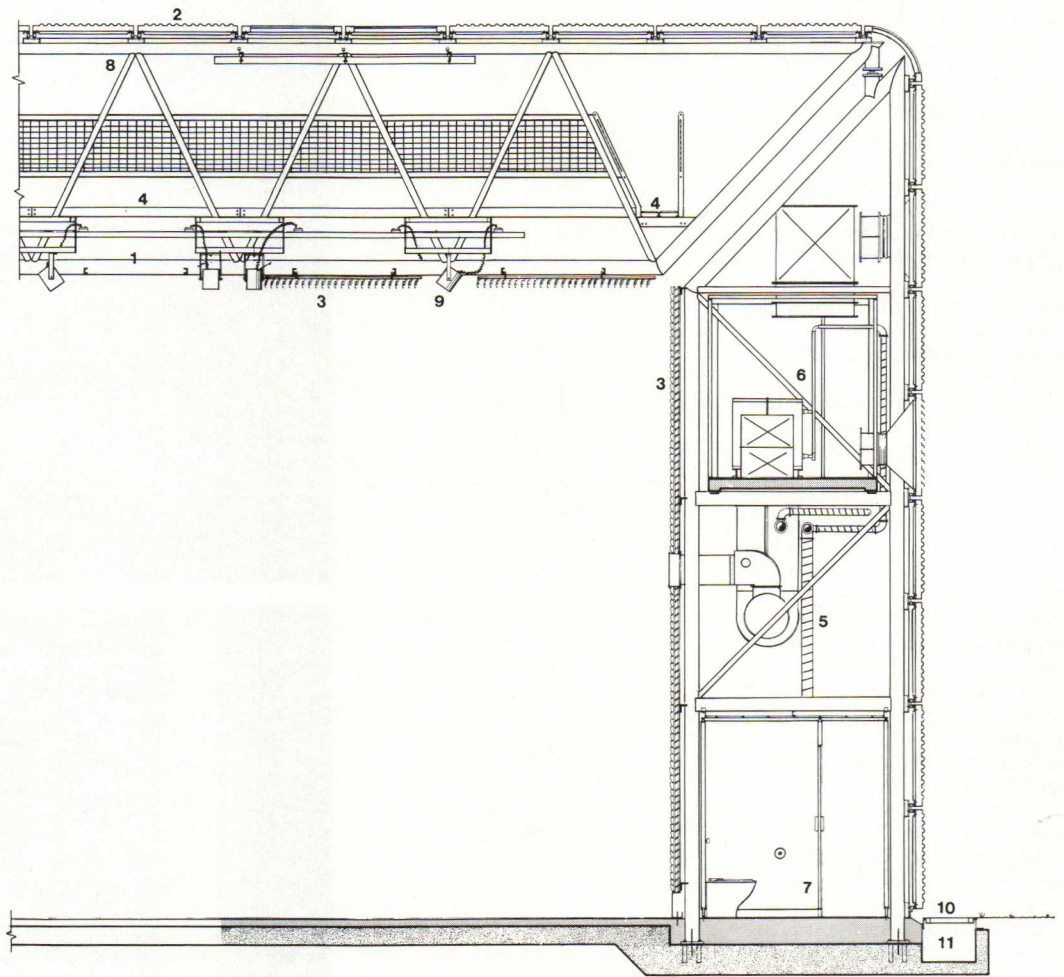
Such was the case at the Sainsbury Centre (RECORD, mid-August 1979). There are three typical panels: one unvented metal, one vented for air exchange, and one glazed (see top photo, page 130). Special curved panels turn the wall at the roof. The genius of the system is in the gasketry. The black neoprene gasket that serves as gutters (see detail, top opposite) is a single, jointless web from grade, over the building, to grade. After the welded steel “prismatic” trusses were erected and the aluminum subframe positioned, sections of the web were delivered to site, laid on the subframe, and joined in the field with a vulcanizing tool.

Panels were then torque-bolted to the frame, compressing the gasket on all panel edges for an airtight seal (lower drawing opposite). With only six bolts per panel, the panels are easily removed and interchanged, allowing flexibility in the arrangement of natural lighting. Integrated into the space frame is a catwalk that is used for adjusting the electrical lighting and that also facilitates the rearrangement of roof panels (see photo center right).

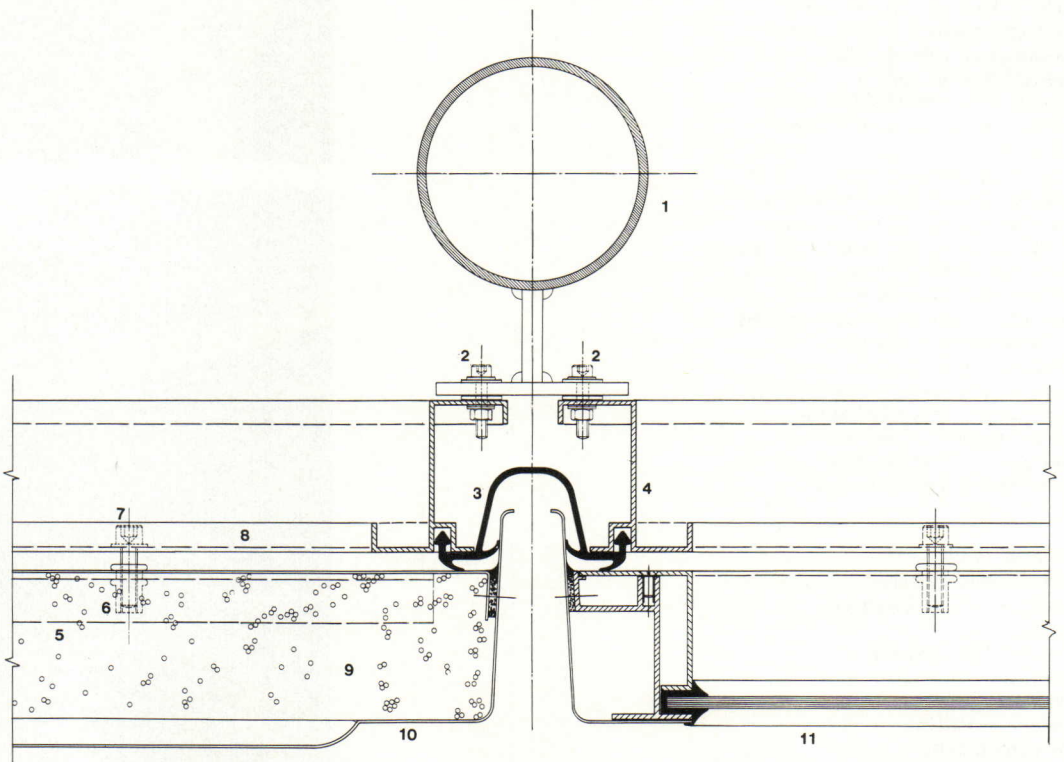
The foam material laminated to the panel provides structural stability. Metal ribbing backs up the strength of the sandwich. The panel metal is a highly plastic aluminum alloy that could be formed, under heat and pressure, to the deep contours of the mold. The panel's neutral finish reflects summertime heat gain.

Sainsbury Centre for the Visual Arts
The University of East Anglia
Norwich, England
Client:
Sir Robert and Lady Sainsbury,
and the University of East Anglia
Architect:
Norman Foster,
Foster Associates
Completion date:
1978





1. Tubular-steel structure, clear span 33 m
2. Interchangeable vacuum-formed aluminum panels, glazed, solid and lowered
3. Turnable aluminum louvers
4. Access walkway
5. Air distribution zone
6. Plant
7. All services: plant, darkrooms, toilets, stores
8. Solar-controlled aluminum louvers
9. Combined artificial and natural top light
10. Cast-aluminum grill
11. Gutter



1. Tubular steel frame
2. Stainless-steel nuts and bolts
3. Web of neoprene ladder gasket
4. Enameled extruded aluminum subframe
5. Aluminum channel stiffener
6. Nut-and-bolt fixing
7. Stainless-steel screws
8. Aluminum inner skin
9. Insulation core
10. Aluminum outer skin
11. Laminated glass

Renault Parts Distribution Centre

The metal cladding of the Renault Parts Distribution Centre at Swindon entailed a design problem quite different from that at the Sainsbury Centre. The client presented the architects with the task of designing a facility primarily for warehousing, but also to include a show room, classroom, offices, and dining area; and to execute that design within a conventional budget. The development of a masted structure with a lightweight roof offered a large-span module with the potential of random growth.

For the structurally independent infill walls, Foster Associates detailed a very simple panel that deviates only slightly from a stock item. The panel was to span the perforated mullions (see photo, center right) set 4 meters on center, with no intermediary supports. To accomplish this, steel sheet metal of a stock dimension was used with rigid insulation. To make each panel, two sheets of steel were set in forms that held them 10 cm apart. The cavity was then pumped with expanded polyurethane foam insulation, finished to be flat at the sides (see plan detail, opposite, lower right), tongue-and-grooved at the top and bottom. As at the Sainsbury Centre, the panel's strength comes solely from the simple metal/foam sandwich.

The particular pattern of ribbing that most distinguishes this component from standard panels owes much to the designers' concern for the appearance of the surface. However, ribbing does serve the mechanics of the panel in two ways. It adds structural strength and it keeps the metal flat, therefore maintaining the bonding between metal and insulation.

To install, the panels were fitted together at the horizontal tongue-and-groove of the foam insulation, and attached from the outboard side with bolts that fasten into the posts. A continuous bead of black silicone (see detail photos) was then applied to the horizontal joint as a finish and water sealant. A concave neoprene gasket runs between the outer edge of the panel at the mullion to prevent water penetration along that line (see again plan detail, lower right facing page).

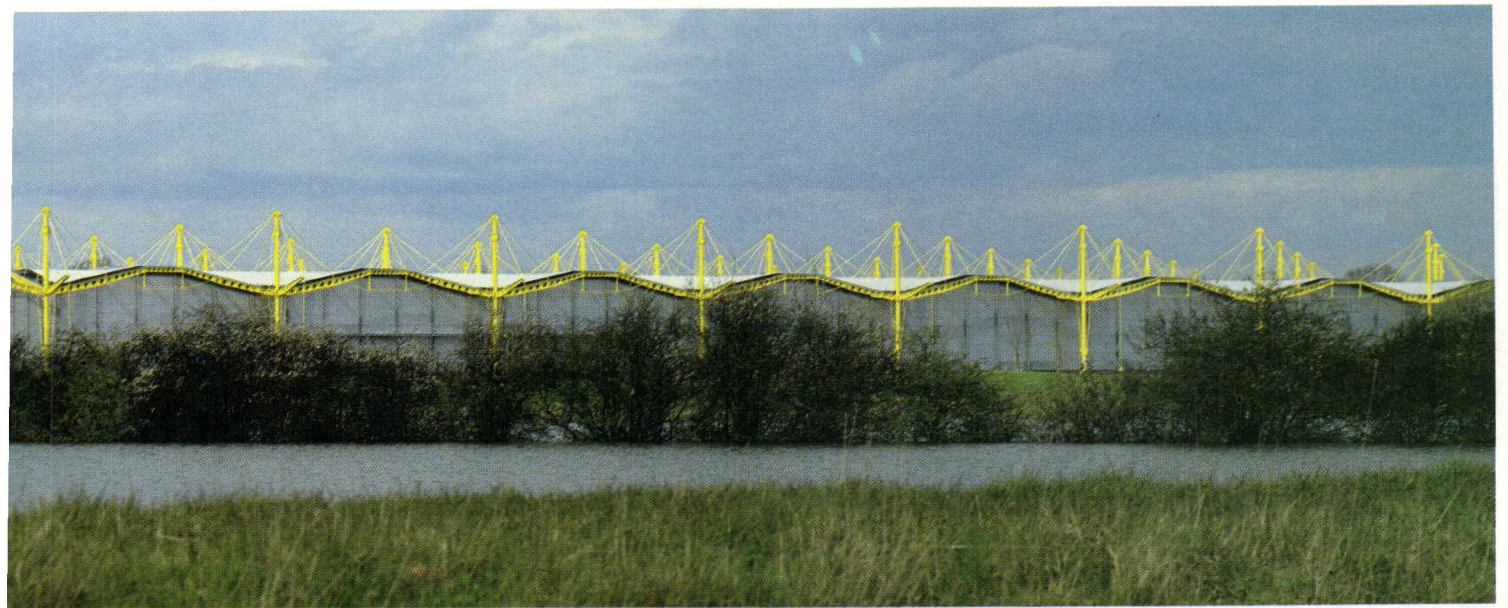
*Renault Parts
Distribution Centre
Swindon, Wilts, England*

Owner:
Renault UK Limited

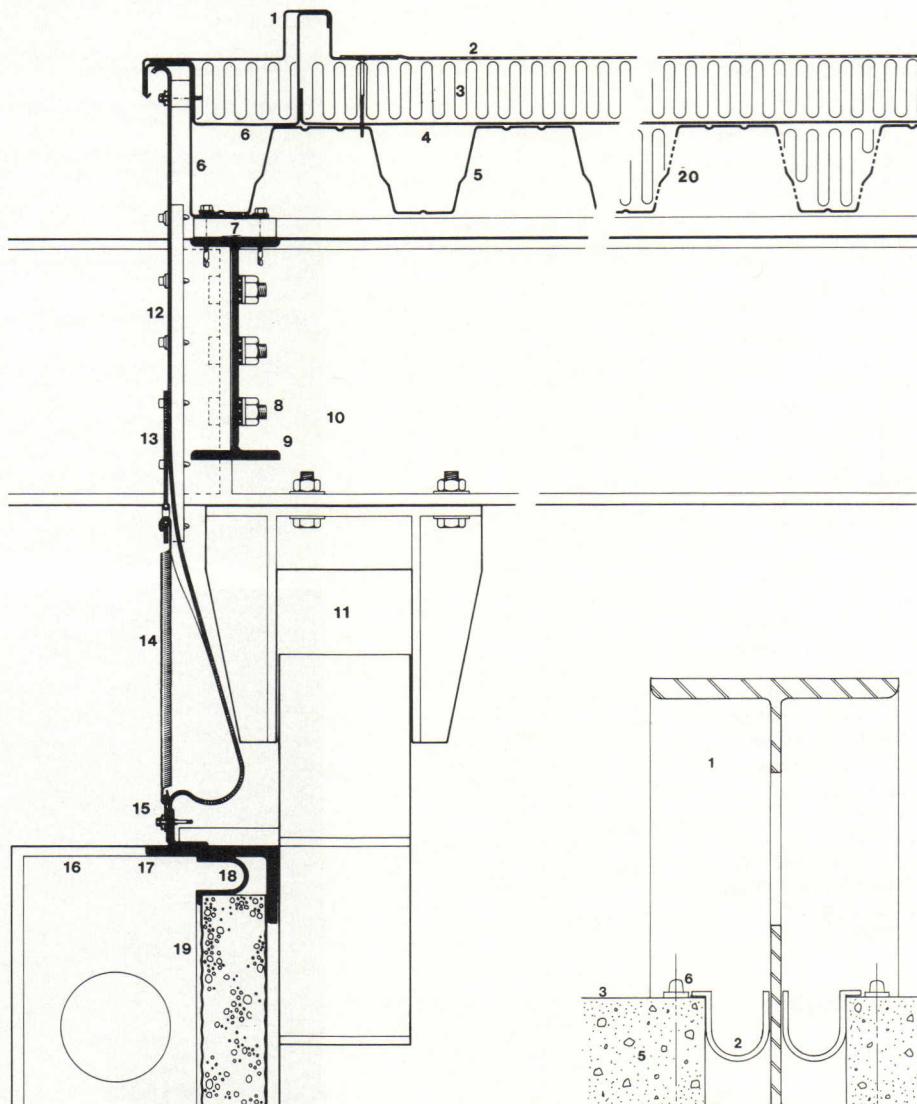
Architect:
*Norman Foster,
Foster Associates*

Completion date:
1983



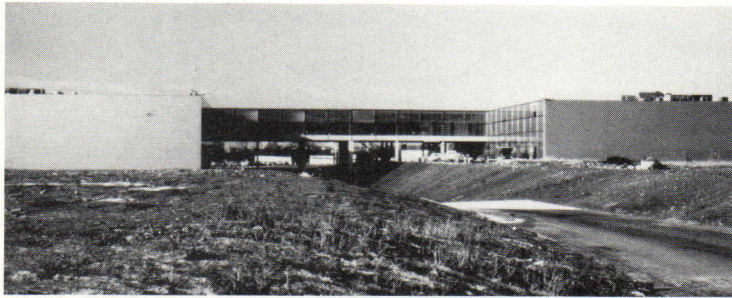


1. Pressed-metal edge trim
2. PVC membrane, solvent-welded to (1)
3. 75-mm batt insulation
4. Vapor barrier
5. 100- x 0.7-mm profiled metal decking
6. 10-gauge galvanized pressed metal upstand
7. Hardwood furring
8. High-strength bolts connecting edge beam to purlin
9. 254- x 102-mm rolled-steel joist (RSJ) edge beam
10. 305- x 152-mm RSJ purlin
11. Movement joint; allows roof structure to move independently of mullion, except perpendicular to plane of external wall
12. Flexible fascia, neoprene-coated nylon
13. Eyeletted "teardrop" patch-bond to flexible fascia
14. Tensioning spring
15. Self-drill/tap fixings
16. 305- x 152-mm RSJ mullion
17. 152- x 90-mm rolled-steel angle (RSA) linking tops of mullions
18. Neoprene edge gasket, silicone-glued to RSA and cladding
19. Cladding panel; two skins of profiled steel, bonded by polyurethane foam core
20. Metal decking in office areas perforated for acoustic absorbency



1. Perforated mullions
2. Neoprene seal glued to steelwork
3. 0.6-mm external steel skin
4. 0.6-mm internal steel skin, galvanized finish
5. Polyurethane
6. Stainless-steel self-tapping fastener
7. Flexible impregnated sealing strip

IBM Greenford



The metal skin of IBM's installation at Greenford has much in common with the Renault Distribution Centre. Both, constrained by a conventional budget, achieved extraordinarily refined surfaces with pristine joints.

The ribbed-steel outer panel at the IBM facility is a standard stock item, as is the flat-profiled interior sheet. The design challenge was in detailing this standard industrial system. The architects were attentive in placing the vertical joints and partially exposed bolts that attach, organize, and subtly articulate the broad plane of metal sheathing. The tour de force of this system's detailing occurs at the corners (see photos and drawings at right).

The walls of the facility are either all glass or all metal. How then to resolve the geometry between flat-ribbed sheet metal and planar glass? Foster Associates continued the corrugated profile of the metal around each corner and flattened it out to a simple profile that meets a neoprene strip serving as the connecting link between transparent and opaque materials (see drawings, opposite page, lower right). The corner piece, slightly different in color from the rest of the metal wall, is not, however, metal. That would have required a complicated, and therefore prohibitively expensive, pressing process to fabricate metal into the ribbed, curvilinear profile. Instead, molded fiberglass was used to turn the facility's eight corners.

The corners at IBM Greenford illustrate Foster's ability to identify critical points of detail, place them within a programmatic hierarchy, and budget resources accordingly. They also demonstrate ingenuity in solving building problems. Fiberglass corners, not as yet in the regular service of architecture, play an integral role in the esthetic character of the facility.

*Technical Park
Greenford, Middlesex, England*

Owner:

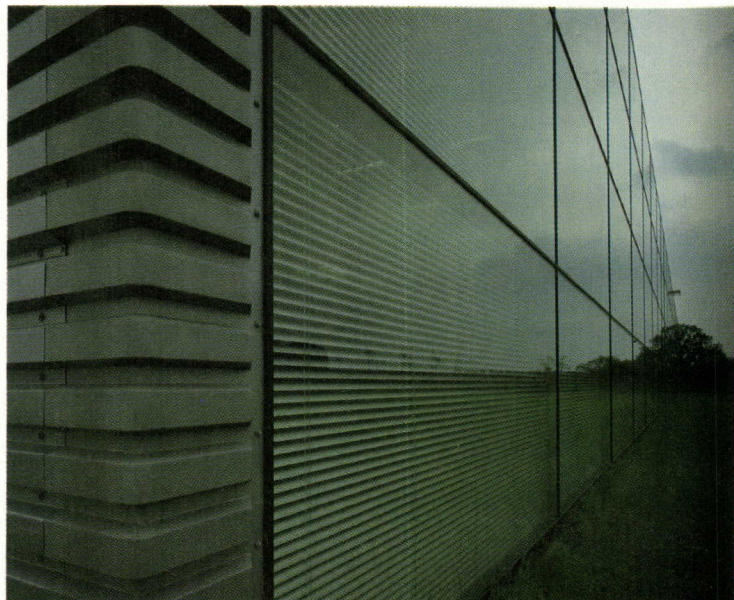
IBM (United Kingdom) Limited

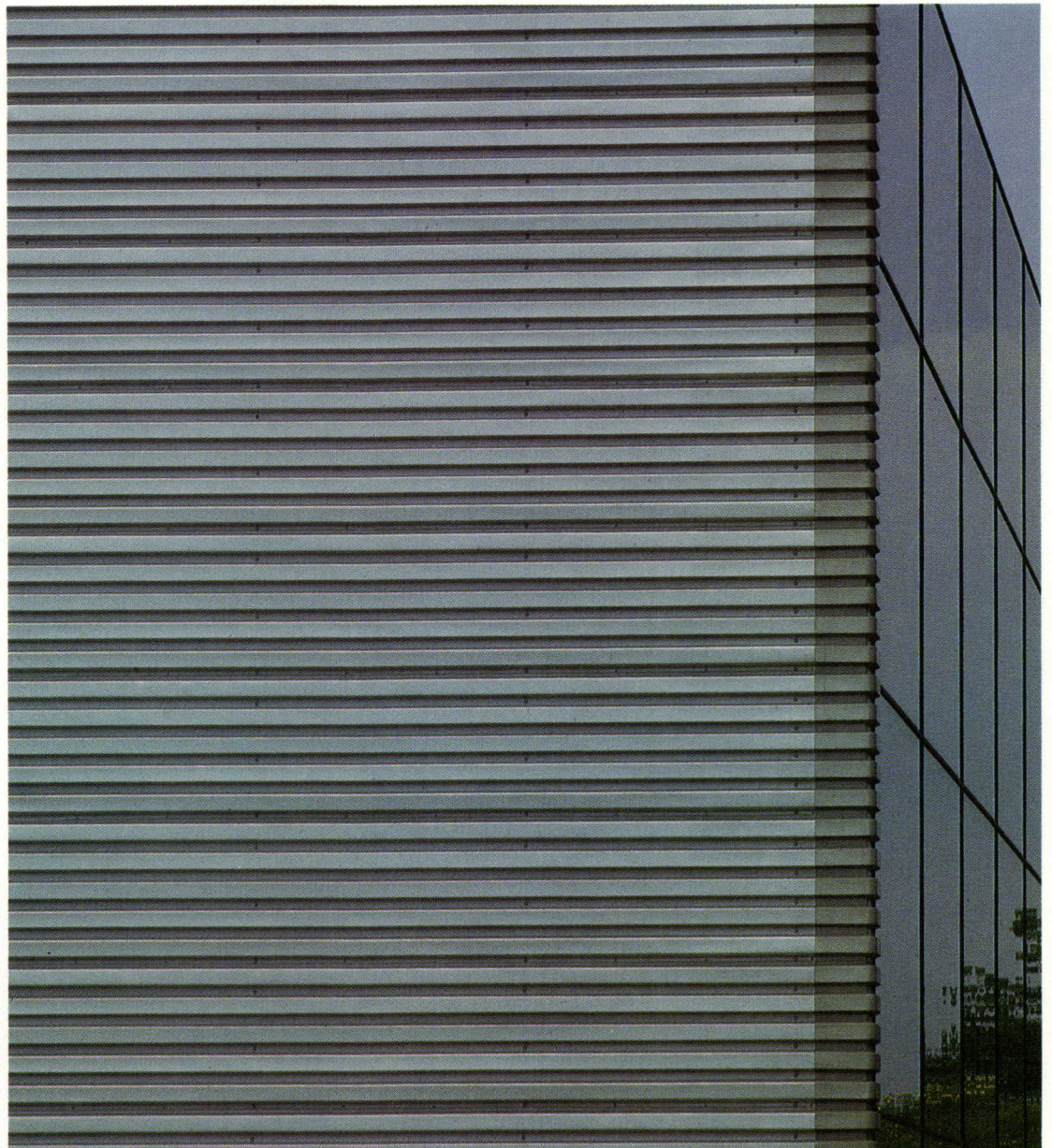
Architect:

*Norman Foster,
Foster Associates*

Completion date:

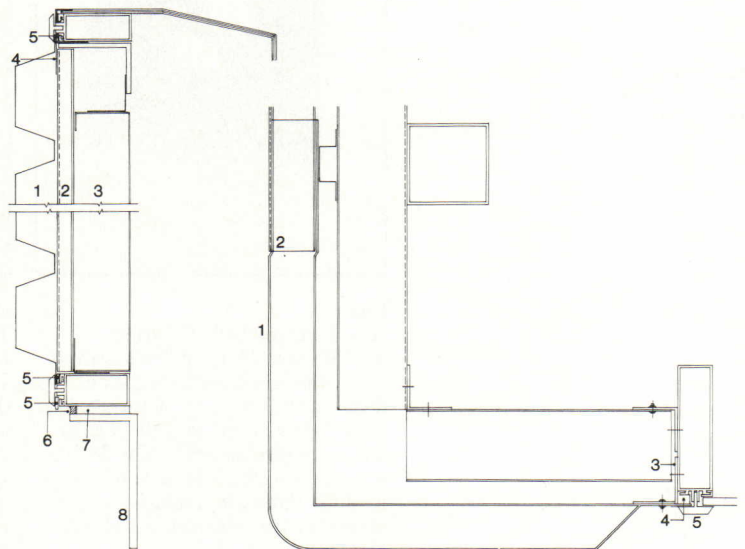
1980





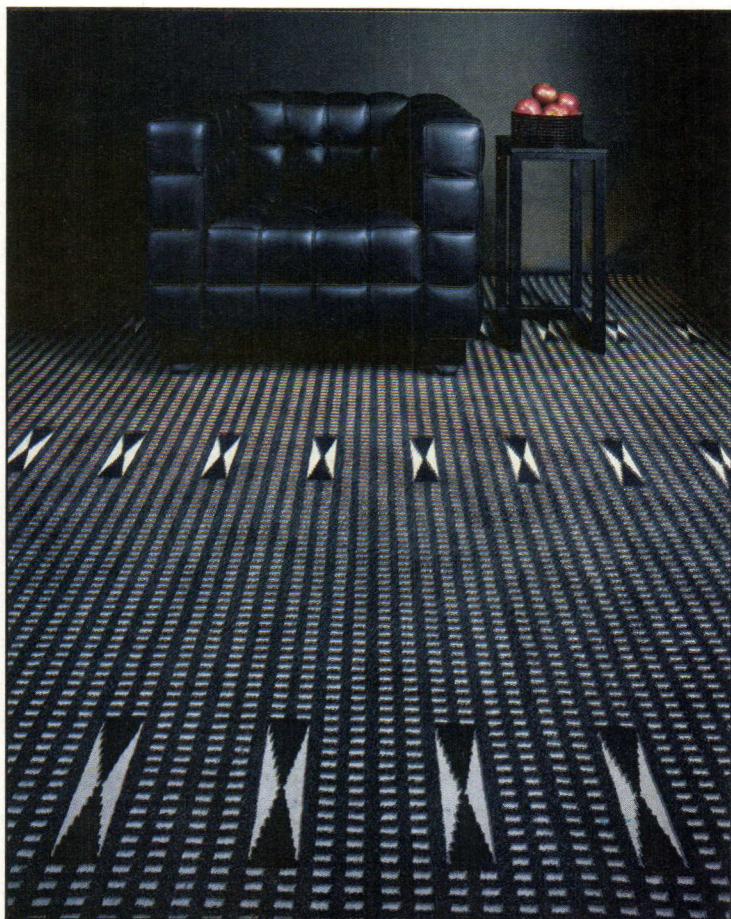
1. Flat-ribbed steel, exterior sheet-metal profile
2. Sub girt
3. Liner tray
4. Flashing
5. Neoprene packing
6. Polysulphide gun-grade mastic
7. 10-mm hardwood packer
8. Angle support

1. Fiberglass reinforced plastic (GAP) corner sheathing
2. 1-mm joggle in GAP to accept steel cladding
3. Steel angle
4. Neoprene packer
5. Neoprene lap strip



New products: NEOCON 17

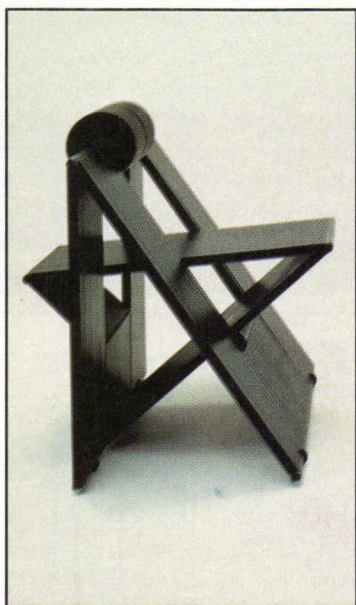
From June 11 to 14, the hallways of The Merchandise Mart were once again crowded with architects, designers, contract furnishing manufacturers, and other interested participants who gathered in Chicago for NEOCON 17. In addition to a program of lectures and seminars, the event featured product introductions in many of the several hundred tenant showrooms. A selection of these is shown here and on the following pages.



Carpet

Prompted by the success of the ever-expanding *Archives Collection* of Viennese fabrics (RECORD, February 1985, pages 164-65), Unika-Vaev has introduced its first re-edition Wiener Werkstätte carpet. Designed by Josef Hoffmann in 1911, the black-and-white *Sanduhr* (hourglass) pattern has been put back into production by the same mill that manufactured the original Werkstätte designs. The wool-blend carpet comes in custom sizes and is suitable for heavy-duty contract use. Unika-Vaev, Div. of ICF, Inc., New York City.

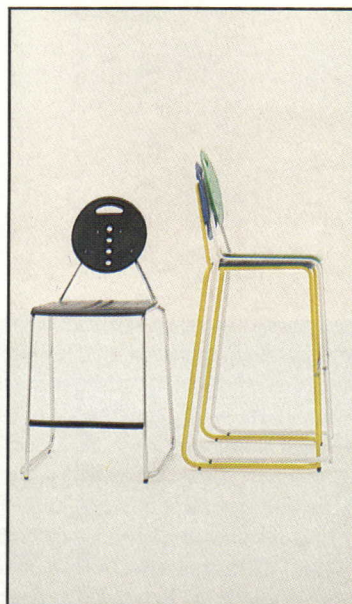
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Chair

Also featured at ICF during NEOCON was Mario Botto's *Quarta* chair, the latest addition to the Swiss architect's line of furniture which already includes two chairs and a conference table. The 38 1/2-in.-wide, 25 1/2-in.-deep, and 26 1/2-in.-high aluminum frame can be epoxy-coated or chromium-plated. ICF, Inc., New York City.

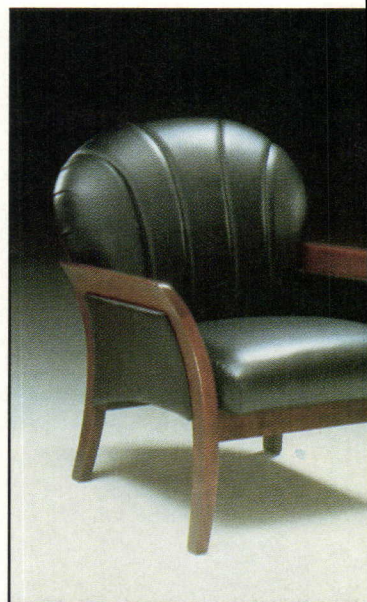
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Stacking chair

Loewenstein introduced several new chairs intended for residential and commercial use, including the stackable *Charlie*. The chair has a steel frame that can be chrome-plated for indoor use or PVC-coated for either indoor or outdoor use. The seat and back are made of polypropylene and come in white, black, red, and blue. Bar and counter stool versions are also available. Loewenstein, Fort Lauderdale, Fla.

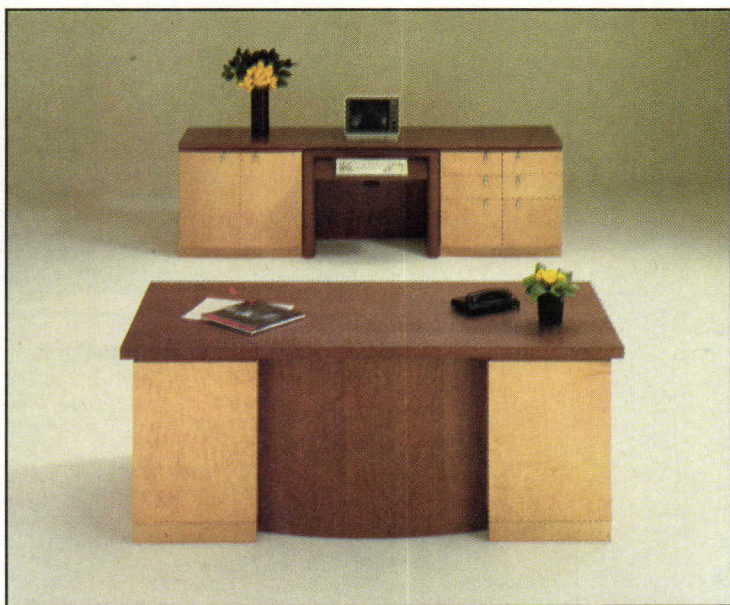
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Lounge chair

The *Stellans Collection* designed by Dewey Hodgdon includes a two-seat sofa and a lounge chair (shown). Intended as reception seating, the line comes in mahogany and walnut, with a choice of finishes. A selection of fabric and leather upholstery is available. Kimball Office Furniture Co., Jasper, Ind.

Circle 303 on reader service card



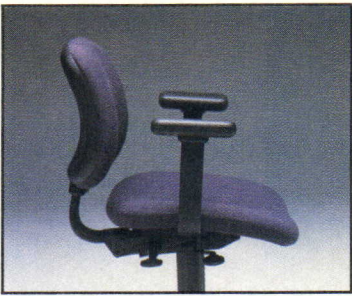
Office furniture

The *Canto Collection* of office furniture designed by Norman Diekman includes a double-pedestal desk, table-desk, secretarial desk, and two different-width credenzas, all said to accommodate several types of office automation equipment. The collection comes in maple, sapeli, walnut, and mahogany veneers, with bases in chrome, bronze, or marble. The

table-desk surface can be specified with a leather or contrasting veneer insert. Stow/Davis, Div. of Steelcase, Inc., Grand Rapids, Mich.

Circle 304 on reader service card

For more information,
circle item numbers on
Reader Service Card



Bookcase
The manufacturer's new bookcases and storage cabinets are additions to their *Intèrics* line of workstations and freestanding office furniture. The casegoods are available in five wood finishes and come with rounded or square edges. Conwed Corp., St. Paul, Minn.
Circle 307 on reader service card

Chair
The *Anthro Group* of ergonomic chairs with forward tilt control and contoured seat front edges allow users to maintain a forward slope of up to 10 deg and a backward tilt of up to 5 deg. The task chairs and manager chairs have gas-lift seat height adjusters. All models have a five-star base. Harter Corp., Sturgis, Mich.
Circle 310 on reader service card



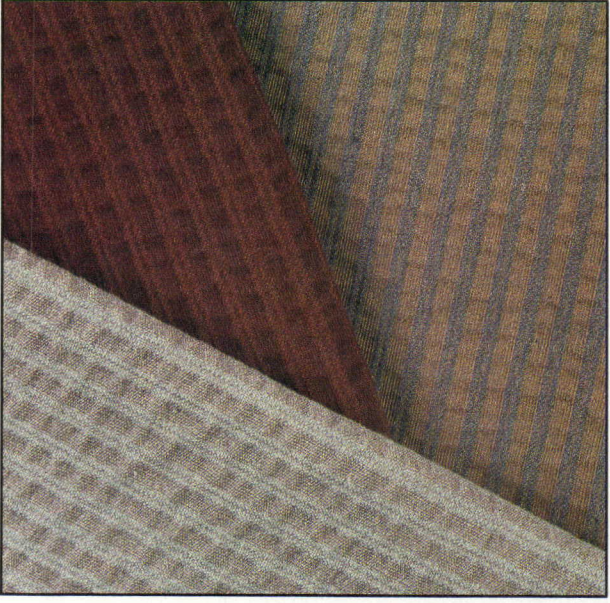
Table
The manufacturer's new *Esprit* tables come in round, rectangular, square, oval, and racetrack shapes and in 20 different sizes up to 8 ft long. Designed by William Raftery, the tables have conical feet—available in mirror chrome and fuse-bronze finishes or in a selection of 15 colors—that conceal casters. The

1 1/4-in.-thick table tops come in five wood veneers and 12 laminate patterns. VectaContract, Grand Prairie, Tex.
Circle 305 on reader service card



Chairs
The new *Versa* chair is an addition to Krueger's collection of commercial seating and tables. The chair comes in stackable arm- and armless models and can be specified with a ganging device for row alignment. The chairs are available in a selection of finishes and can be covered with the

manufacturer's vinyl and fabric upholstery, or in the customer's own material. Krueger, Green Bay, Wis.
Circle 308 on reader service card



Fabric
During NEOCON designer Ward Bennett introduced his new *Wool Seersucker* collection, describing the fabric as "genre cloth—an ethnic American textile full of vigorous associations." Made of 90 per cent wool and 10 per cent nylon-reinforced yarns, the fabric comes in 24 color combinations. Brickel Associates, Inc., New York City.
Circle 306 on reader service card



Desk
The *Big* executive desk designed by G. Falschini comes with two- or three-drawer pedestals and a three-drawer desk return. The black glass top has black saddle leather accents and bull-nosed edges and is supported by black laminate sides. Several table-top sizes are available. The Pace Collection Inc., Long Island City, N. Y.
Circle 309 on reader service card

New products: NEOCON 17 *continued*

Furniture collection

The *Peter Miles Furniture* collection by English designer Ronald Carter is being introduced to the United States by Interna Designs. The line includes the *Haarlem II* chairs (top) and trestle table (middle) and the *Liverpool* bench (bottom), constructed of solid timber and available in a selection of finishes. Carter's detailing—the chairs' diagonal spindles and the

funneled holes through the top and bottom of the bench's slats, for example—are a personalized interpretation of his homeland's tradition of craftsmanship. Interna Designs, Ltd., Chicago.

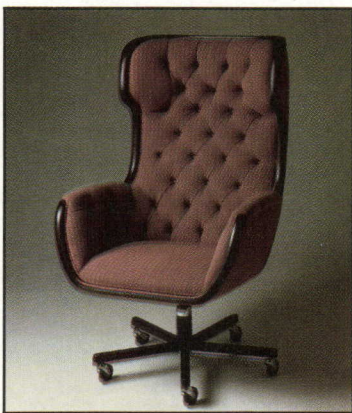
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Chair
The lopsided backrest of James Geier's *Eier* chair slopes at a 17-degree angle, and the lacquered maple legs bow outward in mock propriety. One of the manufacturer's seven NEOCON introductions, the chair is intended for both residential and commercial applications. A selection of

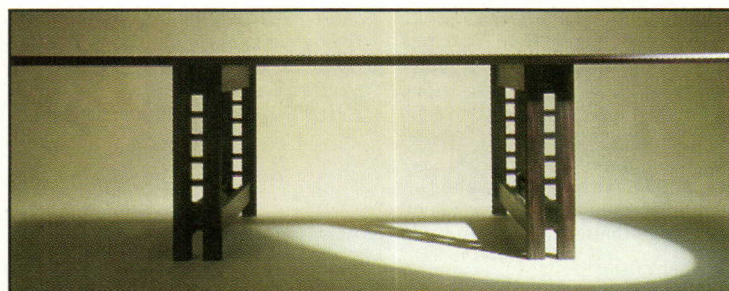
upholstery is available, including pinstriped wool, canvas, pink wool flannel, and red leather (shown). Niedermaier, Chicago.

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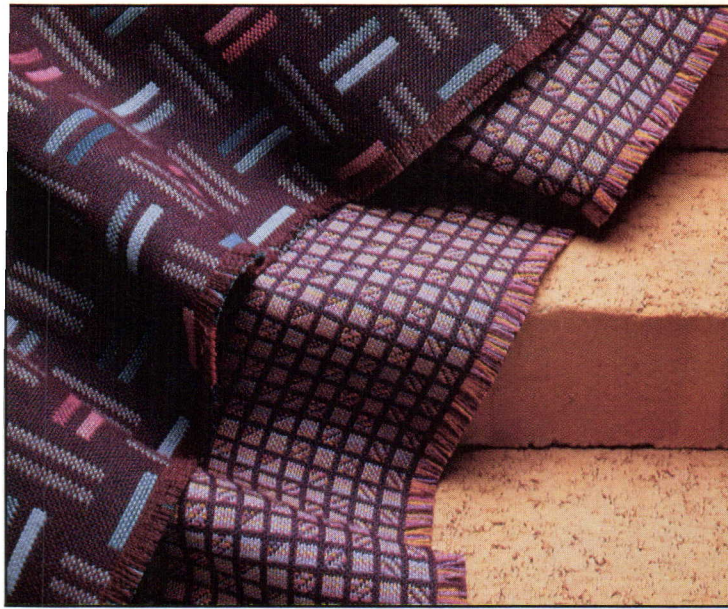


Chair
The large size, padded wing-back, tufted upholstery, and tilt mechanism of Ward Bennett's *Chairman* chair are said to provide the necessary lumbar support to someone who, as the designer describes it, "lives at his desk and suffers from it." The chair has a solid-steel five-caster base, a kiln-dried ash frame, and comes upholstered in a selection of the manufacturer's textiles and leathers. Brickel Associates, Inc., New York City.

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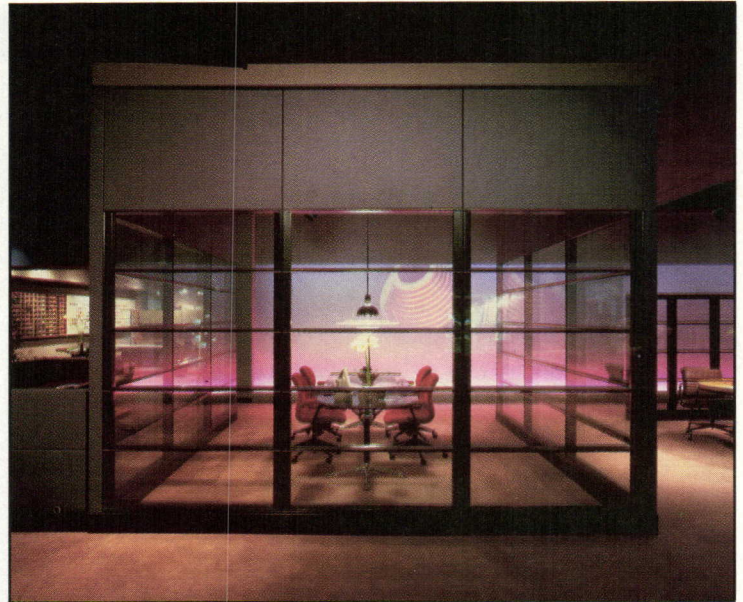
For more information,
circle item numbers on
Reader Service Card



Fabrics

The *Elements* collection of fabrics includes *Harmony*, *Melody*, *Tonal*, and *Rhythm* and is one of the manufacturer's new four-part line of contract upholsteries. Designed by Laura Deubler Mercurio, the jacquards are made of modacrylic and nylon blends and are said to be flame-retardant. Each

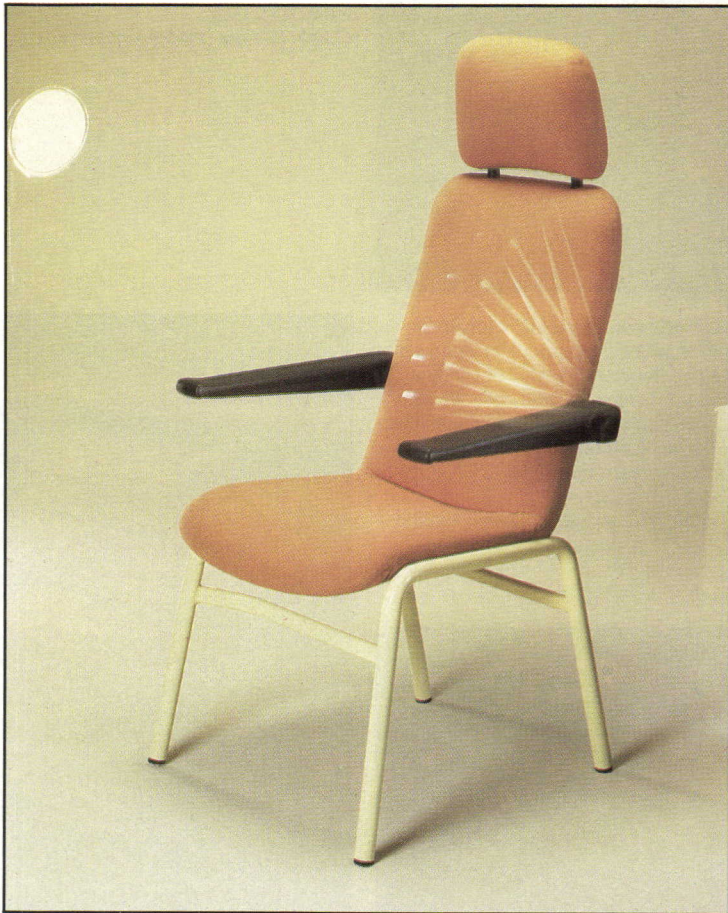
pattern is available in a variety of color and weave combinations. Adam James Textiles, Inc., Hauppauge, N. Y.
Circle 314 on reader service card



Open office system

During NEOCON, Bill Stumpf and Jack Kelley's *Ethospace* open office system was displayed in Herman Miller's new Chicago show room, designed by Margaret McCurry—a partner in the local firm of Tigerman Fugman McCurry. The architect used concrete block, wood, steel, and brick as a way of looking "back to the beginning when men first started to enclose space" and,

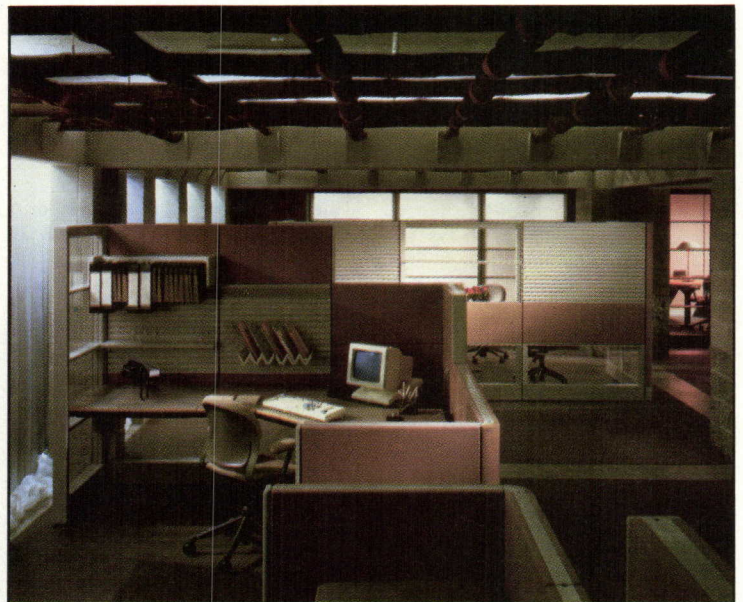
primarily, as a manner of reinforcing the tactile and elemental nature of *Ethospace* itself. The system features work surfaces with sloping, curved edges and modular panels (translucent or covered in a selection of fabrics, vinyls, and veneers) that snap onto full- and partial-height steel-frame walls. Herman Miller, Inc., Zeeland, Mich.
Circle 316 on reader service card



Patient chair

Kinetics has developed the *Kineticare* line of seating and tables designed for use in hospital lobbies, waiting rooms, lounges, nurses' stations, and patients' rooms. The new patient chair (above) has a contoured seat and back, an adjustable headrest, and an optional gel-bag seat insert for additional comfort. The chair's arms swing away from the steel frame to

facilitate user access. A selection of stain-resistant fabric upholstery is available. Kinetics, Rexdale, Ontario.
Circle 315 on reader service card





Office system

The steel-framed, full-height *KnollOffice* system is designed to define private office spaces. Modular straight and curved panels can be finished in baked enamel; covered with vinyl, fabric, the manufacturer's *Furrows* wallcovering, or wood veneers; or constructed of glass. The panels

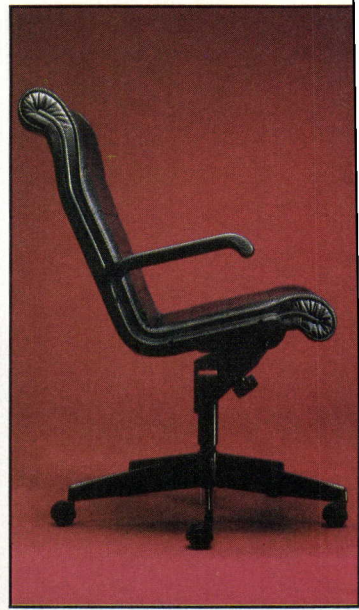
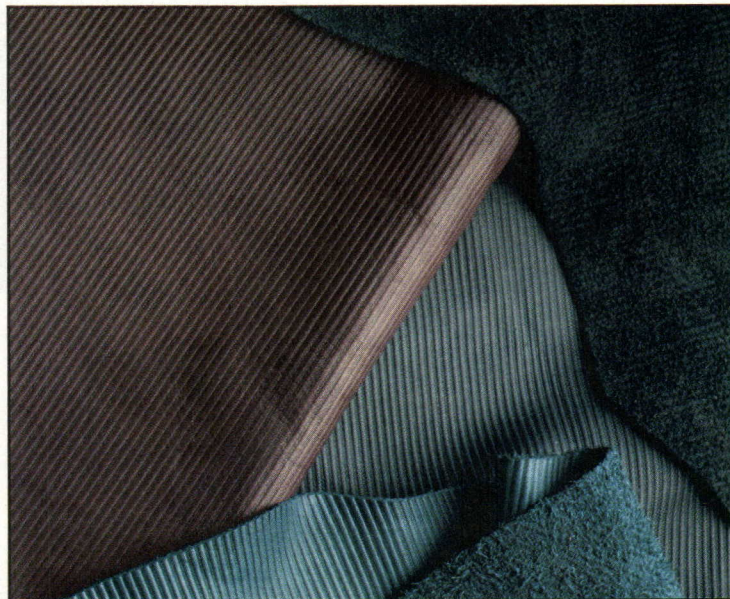
rest on base channels, thereby eliminating permanent attachments to the floor and facilitating office reconfiguration. Solid-core wood doors can be specified in a selection of veneer and laminate surfaces. Knoll International, Inc., New York City.

Circle 317 on reader service card

Leathers

The *Chamfered Calf* leathers are part of designer Jack Lenor Larsen's new *Terra Nova* collection, which also includes printed and woven fabrics and carpets. The corded calfskin hide is aniline-dyed for greater durability and stain resistance. A selection of colors intended to convey the style of native American art and culture is available. Jack Lenor Larsen, New York City.

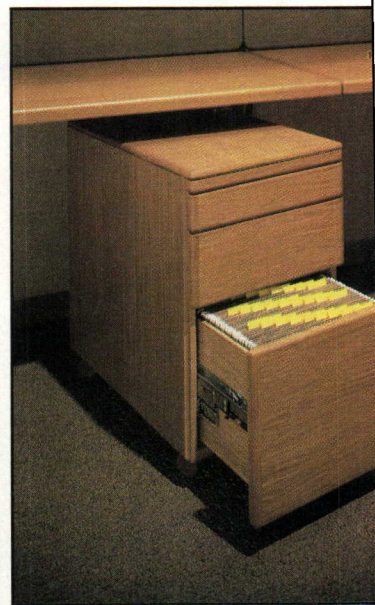
Circle 318 on reader service card



Office seating

Previously available only in Europe, the manufacturer's *Richard Sapper Seating Collection*—named for its designer—has been introduced in the United States. The high-back executive chair (shown) has a forward tilt-lock mechanism and pneumatic height control and comes in black Vitello leather. Low-back executive chairs and sled-style visitors' chairs are also available. Knoll International, Inc., New York City.

Circle 319 on reader service card



Pedestal drawers

Pedestal drawers are part of the manufacturer's new *Cygnia* collection of wood office furniture. The drawers operate on steel ball-bearing glides with a stop mechanism. The drawer pulls are recessed to ease access. The drawer units can be used freestanding or suspended from a work surface. Haworth, Inc., Holland, Mich.

Circle 320 on reader service card

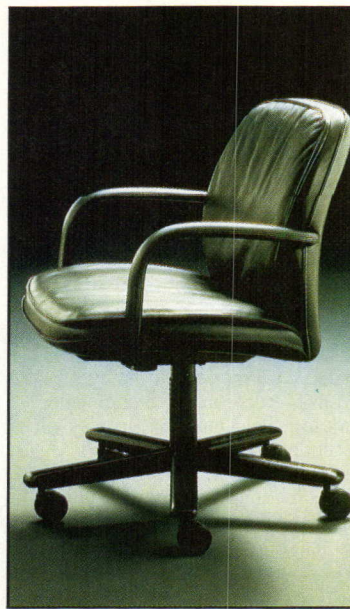
For more information,
circle item numbers on
Reader Service Card



Office system

New additions to the manufacturer's freestanding *Syntrax System* were introduced during NEOCON. An accessory console (shown) with built-in channels to accommodate paper or telephone trays and task light brackets is now available. The console can be specified with a

tackboard for increased privacy. Adjustable terminal trays that attach to the work surfaces and articulating keyboards that can be stored beneath desk tops are intended to facilitate computer use. All-Steel, Inc., Aurora, Ill.
Circle 321 on reader service card



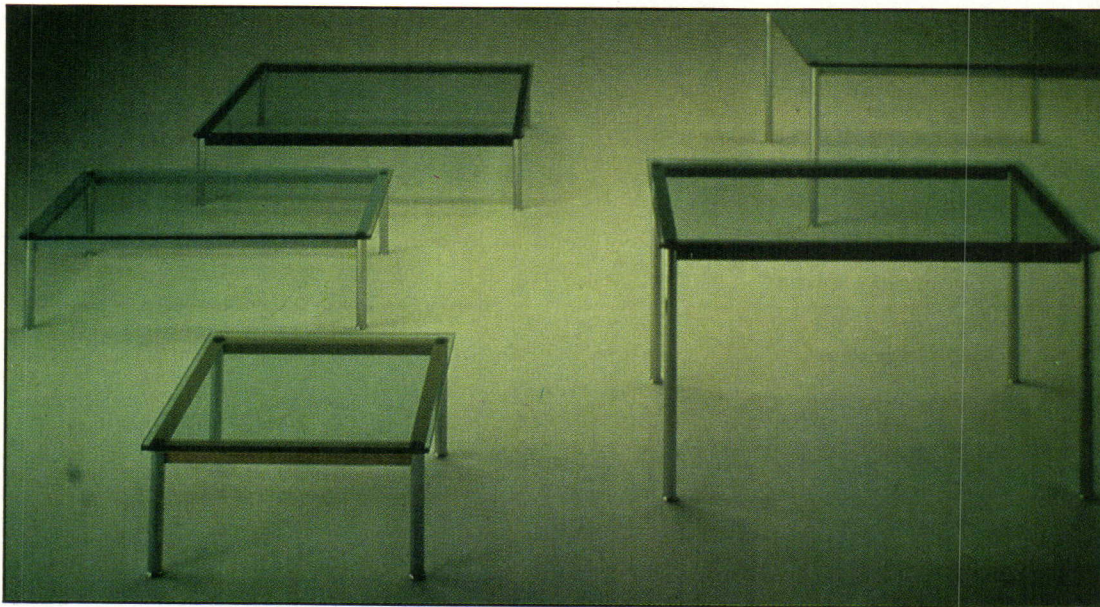
Chairs

The manufacturer's new *Savant* chairs have maple frames with oak or walnut steambent arms or open or closed upholstered arms. The chairs have a swivel-tilt mechanism said to improve lumbar support. The five-star base is available in walnut or oak and can be specified in a selection of finishes. The Gunlocke Co., Wayland, N. Y.
Circle 323 on reader service card



Fabric

The manufacturer's new *Festival* upholstery and wallcovering fabric is space-dyed and then woven into a random pattern. Constructed of 50 per cent wool, 25 per cent nylon, and 25 per cent polyester, the fabric is available in a selection of 16 colors. Ben Rose, Inc., Chicago.
Circle 324 on reader service card



Table

Twenty years after the death of Le Corbusier, his associate Charlotte Perriand has completed a table based on the architect's designs of 50 years ago. The table, which has been named *Model LC/10-P*, comes in square and rectangular shapes. Clear glass table tops are attached to the steel legs and frame by a threaded rod located inside each chrome-finished leg. The frame can

be coated in black, gray, light blue, green, bordeaux, or beige enamel. Atelier International, Ltd., New York City.
Circle 322 on reader service card

More products on page 154



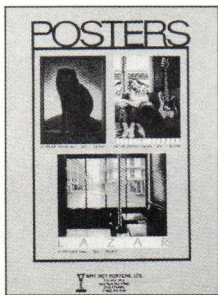
Quarry tile

Four textures, 26 colors, and 11 sizes of quarry tile are shown in the manufacturer's new 8-page color catalog. The semivitreous clay tile is intended for commercial and residential applications. Specifications are included in the literature. American Olean Tile Co., Lansdale, Pa.
Circle 400 on reader service card



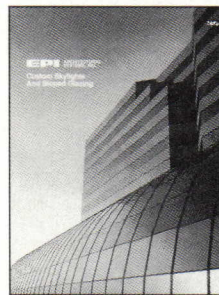
Door frames

Adjustable steel door frames designed for residential and commercial applications are shown in an 8-page color brochure. Framing instructions for steel- and wood-stud partitions are included in the literature. The Kewanee Corp., Kewanee, Ill.
Circle 406 on reader service card



Posters

A new 24-page color catalog illustrates posters designed by well-known masters and contemporary artists, including Lautree, Renoir, Whistler, and Lichtenstein. Hand-signed limited editions are also shown. The sizes and prices of each poster are listed. Why Not Posters, Ltd., New York City.
Circle 401 on reader service card



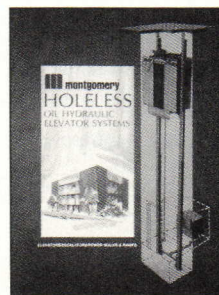
Skylights

A 16-page color brochure illustrates the manufacturer's custom-designed skylights and sloped glazing, including standard cap, two-sided structural silicone, and four-sided structural systems. A variety of applications is shown. EPI Architectural Systems, Inc., Pittsburgh.
Circle 407 on reader service card



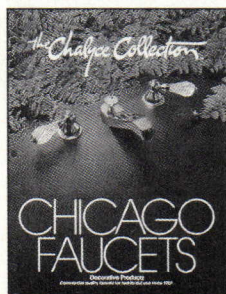
Construction cost estimating

The 1985 Dodge Construction Cost Information System is described in a 4-page brochure. The 4-volume edition provides information on construction systems cost, pricing and scheduling, building costs and specifications, and public works and heavy construction costs. McGraw-Hill Information Systems Co., Princeton, N. J.
Circle 402 on reader service card



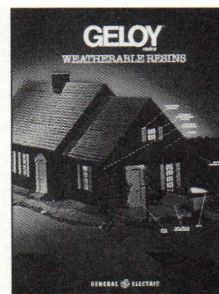
Elevators

Features of the manufacturer's line of holeless oil hydraulic elevators are reviewed in a 4-page color brochure. The elevators can be added to existing buildings or installed in new buildings where adverse sub-soil conditions preclude jack hole excavation. Montgomery Elevator Co., Moline, Ill.
Circle 408 on reader service card



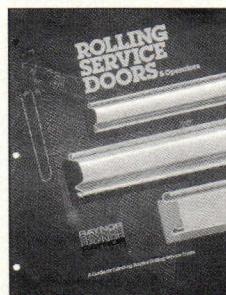
Faucets

The Chalyce Collection of decorative bathroom faucets is featured in a 12-page color brochure. The faucets come in polished brass, hard gold, chrome-plate, or the manufacturer's Midnight Pearl finish. Handles come in marble, onyx, cut crystal, and clear acrylic. The Chicago Faucet Co., Des Plaines, Ill.
Circle 403 on reader service card



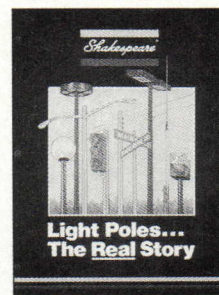
Resins

An 8-page color brochure describes Gelyol resins. Designed for use in outdoor siding applications and said to retain their color after prolonged exposure, the resins are made from acrylic-styrene-acrylonitrile and are suitable for general extrusion and blow-molding. General Electric Co., Plastics Group, Pittsfield, Mass.
Circle 409 on reader service card



Rolling doors

The manufacturer's line of rolling service doors, which have roll-formed galvanized steel curtain hoods and guide assemblies, is featured in an 8-page color brochure. Slat details and options, standard specifications, and the clearance height of each model are reviewed in the literature. Raynor Manufacturing Co., Dixon, Ill.
Circle 404 on reader service card



Light poles

An 8-page color brochure features the manufacturer's line of fiberglass outdoor lighting poles. Direct burial and anchor base installation are reviewed. Seven standard colors and two finishes are shown in the literature. Shakespeare, Newberry, S. C.
Circle 410 on reader service card



Vinyl and rubber flooring

The manufacturer's line of vinyl and rubber flooring products, including cove base corners, stair treads and nosings, tread accessories, matting, and corner bumper guards, is featured in a 12-page color brochure. The sizes and colors of each product are listed in the literature. Johnsonite, Middlefield, Ohio.
Circle 405 on reader service card



HVAC control

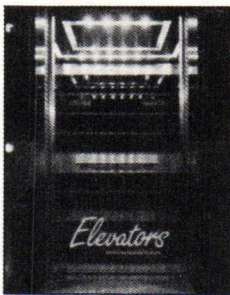
The manufacturer's digital control systems for commercial and industrial hvac systems are reviewed in a 4-page color brochure. Each system is said to control setpoints within 0.25 per cent. Additional performance data are also included in the literature. Voltec Inc., McMurray, Pa.
Circle 411 on reader service card continued



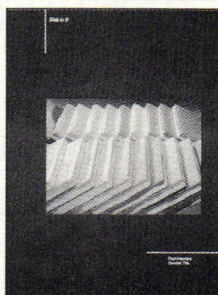
Wood veneer
A 6-page color catalog illustrates a selection of natural and tinted wood veneer laminates designed for bathroom or kitchen cabinet surfaces and counter tops. Information on the conditioning, gluing, and pressing of the veneer is included in the literature. Ober/Stenersen, High Point, N. C. Circle 412 on reader service card



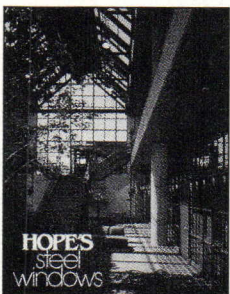
Flooring
The manufacturer's line of rubber flooring is reviewed in a 6-page color brochure. The soil- and abrasion-resistance and load-bearing capabilities of the flooring are described. A variety of colors and textures is shown in the literature. Der-Tex Corp., Lawrence, Mass. Circle 418 on reader service card



Elevator interiors
A variety of elevator interiors is shown in a 4-page color brochure. Custom-designed cabins finished in the manufacturer's line of veneers, solid woods, metals, mirror, and fabrics are described and illustrated. National Products, Inc., Louisville, Ky. Circle 413 on reader service card



Tile
A 4-page brochure describes a line of hand-painted decorative tile intended for residential and commercial use. In addition to the patterns and colors shown in the literature, custom colors are also available. Dish Is It, San Francisco. Circle 419 on reader service card



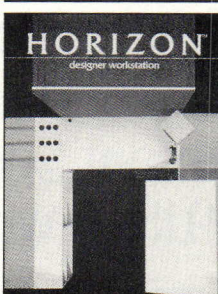
Steel windows
Features of the manufacturer's line of steel windows, including fusion-welded corners and the use of urethane, PVC, and acrylic-enamel finishes, are reviewed in a 20-page color brochure. A variety of commercial applications is illustrated. Hope's Architectural Products Inc., Jamestown, N. Y. Circle 414 on reader service card



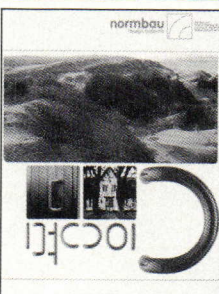
Plywood siding
The *Southwoods* line of pine and cypress plywood siding is illustrated in an 8-page color brochure. A variety of surface finishes, sizes, edge treatments, face grades, and groove patterns is shown in the literature. Georgia-Pacific Corp., Atlanta. Circle 420 on reader service card



Acoustical system
The *StretchWall+* acoustical fabric installation system for wall and ceiling panels is described in an 8-page color brochure. Guidelines on fabric selection and information on necessary maintenance and cleaning are included in the literature. StretchWall+, Long Island City, N. Y. Circle 415 on reader service card



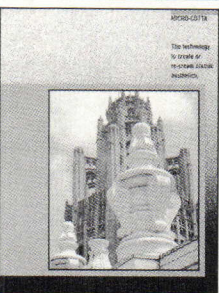
Drafting workstation
Horizon workstations are featured in an 8-page color brochure. Photographs show the drafting tables, desks, computer-support shelves, and bookcases arranged in side-to-side and back-to-back configurations. Dimensions and available colors are listed. Hunt Manufacturing Co., Statesville, N. C. Circle 421 on reader service card



Rails and cabinet hardware
A 10-page color brochure illustrates a line of cabinet hardware, door pulls, locks, knobs, bathroom accessories, and wall rails constructed of nylon. Each product is available in a selection of 10 colors. Dimensions are listed in the literature. Normbau, Inc., Addison, Ill. Circle 416 on reader service card



Office system
A 6-page brochure features the newest additions to the *NEO 7 System* designed by Don Albinson. Color photographs show typewriter tables that can be adjusted forward or backward without clearing off the work surface, and drawer pedestals that can be easily moved from one workstation to another. Domore Corp., Elkhart, Ind. Circle 422 on reader service card



Composite concrete
Micro-cotta polymer-based composite concrete is described in a 4-page color brochure. The product can be used to reproduce terra cotta, brownstone, slate, and concrete in restoration projects, or as architectural ornament in new construction. Simplex Products Div., Adrian, Mich. Circle 417 on reader service card



Gas boiler
The new *AHE* wall-mounted gas boiler is described in a 4-page color brochure. Features of the boiler, including cast-iron construction, direct venting, and sealed combustion, are reviewed in the literature. Technical data and dimensions are given. Weil-McLain, Michigan City, Ind. Circle 423 on reader service card

The heavy traffic look like it's already

More often than not, heavy-duty commercial tile is cold, ugly and devoid of character.

Grand Prix is a notable exception. An extruded natural clay product, Grand Prix has a beautiful glaze, yet it's skid-resistant. And its distinctive fumé, or shading, makes it warm and pretty.

With all this going for it, there's little wonder that Grand Prix is one of the hottest sellers in the country today.

If you want to add character to a heavy-traffic area, we suggest you give it the Grand Prix treatment. See our catalog in Sweet's No. 9.18, or write us.

Grand Prix. The pretty commercial tile.

Mid-State Tile Company, Box 1777, Lexington, NC 27292.

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WE DO IT ALL FOR U.

THE ENERGY MISER® SYSTEM FROM OWENS-CORNING GIVES YOU A RECORD LOW THERMAL RATING.

.023 U, to be exact. It's the lowest tested U-value in the industry. And that can save you money.

It's all in the design. You see, with the Energy Miser system, there's a space between the insulation and the roof. You can add more insulation at the top, which can upgrade your U-value to .023!

On top of that, the insulation hangs *below* the purlins, so you don't lose energy here, either.

We've also designed the Energy Miser to be a vapor barrier. Each system comes with a reinforced facing laminated to our Certified-R metal building insulation.

And since the Energy

Miser system is such an energy miser, you may be able to specify smaller heating and cooling units.

Best of all, the unique hardware makes all this possible while providing interior comfort, soft looks, and system flexibility.

So call an Owens-Corning representative today for an estimate of how much the Energy Miser system can save you. With the

help of TECON®, our talking computer, we'll calculate your potential energy savings.

At Owens-Corning we do it all for U. And you.

For further information, write B.W.T. Meeks, Owens-Corning Fiberglas Corporation, Fiberglas Tower, Toledo, Ohio 43659.

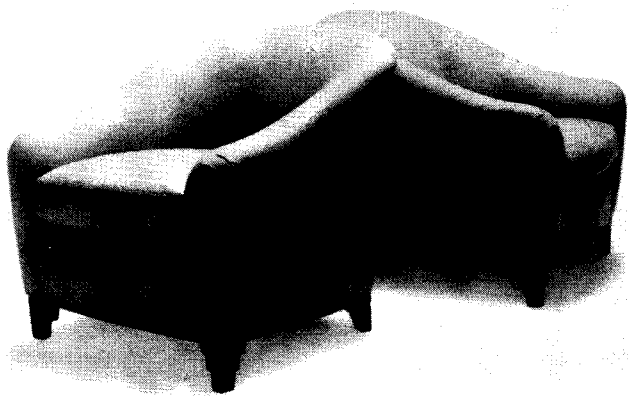


The Energy Miser system at work—St. Petersburg Beverage Company, Largo, Florida.

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Chair
The *New York Tub Chair*—so named because its wood legs are said to have been inspired by the profile of the Empire State Building—is offered in large and

small sizes. The chair is available with legs in bleached oak, brown or red mahogany, and an ebonized finish; with brass casters; or with a swivel base. Donghia Furniture, New York City.
Circle 325 on reader service card

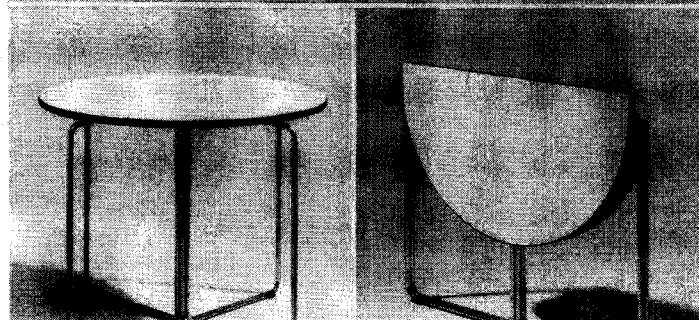
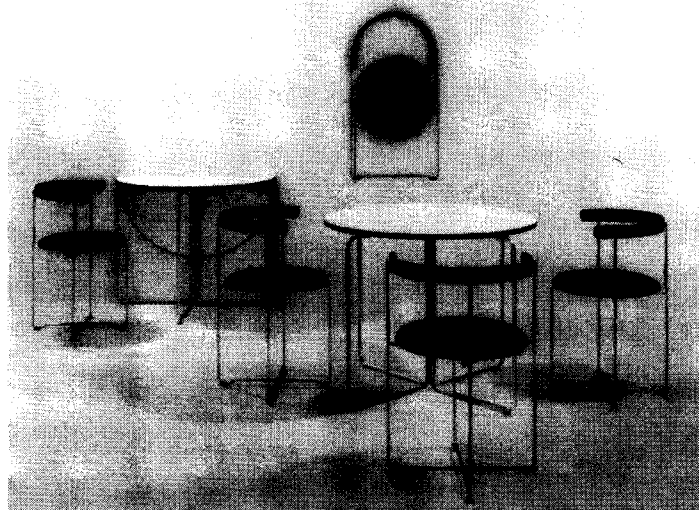
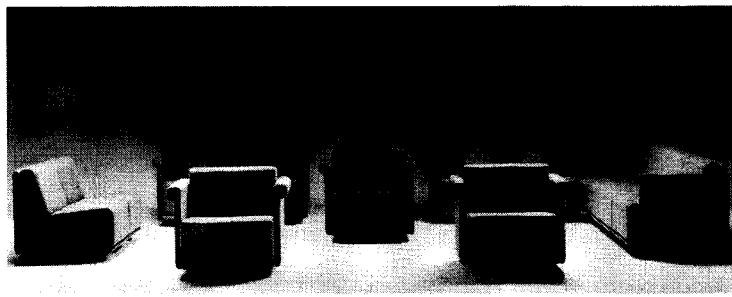


Table
The laminate or beechwood tops of the new *Soley Table* can fold over the tubular steel base for storage. Designed by Icelandic architect Valdimar Hardarson, the

table comes in a variety of powder-coat-enamel or polished-chrome finishes. Matching chairs are available. Harvey Probbler, Inc., New York City.
Circle 327 on reader service card



Seating
The *Princeton Seating Group* includes arm- and armless chairs and corner units that can be grouped into loveseats and sofas. Designed by Brian Kane, the

seating is available with five different arm types. Metropolitan Furniture Corp., South San Francisco, Calif.
Circle 326 on reader service card

For interior wiring installation specifie



It happens all the time: specifiers choose a Wiremold raceway as the *only* practical way to handle their renovation jobs. (A lot of their new construction jobs, too.) More than 80 years ago, Wiremold conceived the idea of organizing electrical wiring—simply and easily—within a metal raceway. You install it along a wall, across a ceiling, around a room's perimeter, on the surface, without tearing the building apart. If you have a solid wall building, it's the only way to go. The raceway can even be painted to match the decor.

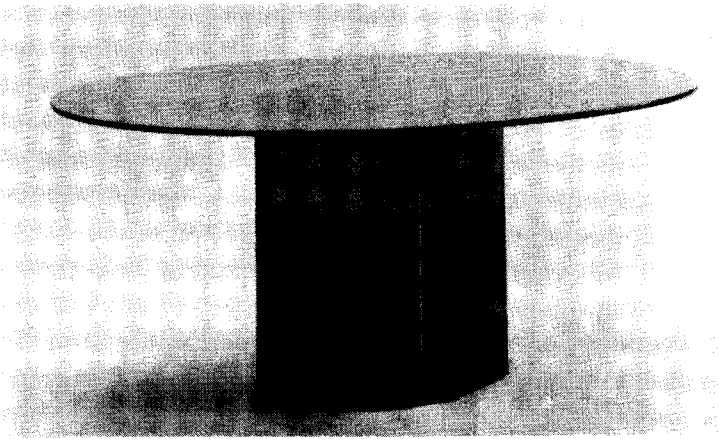
Wiremold makes more different kinds of raceways than any other company, along with fittings to solve even the most complex installation problems. Wiremold makes the only one-piece surface metal raceway in the business (the 700 raceway pictured above). The divided raceway handles both power and communications. (This raceway is pictured at right. Also shown is the Wiremold pre-wired Plugmold® raceway that eliminates outlet wiring in the field.) Want a few more facts that help make a Wiremold raceway a specifier's



Workstation

The manufacturer's new *WorkCenter* is designed to accommodate personal computers with detachable and nondetachable keyboards. The 4.4-sq-ft unit has a self-storing tambour door, a rear panel that provides cable access and necessary ventilation, an adjustable storage shelf, and a roll-out printer shelf. Wright Line, Inc., Worcester, Mass.

Circle 328 on reader service card

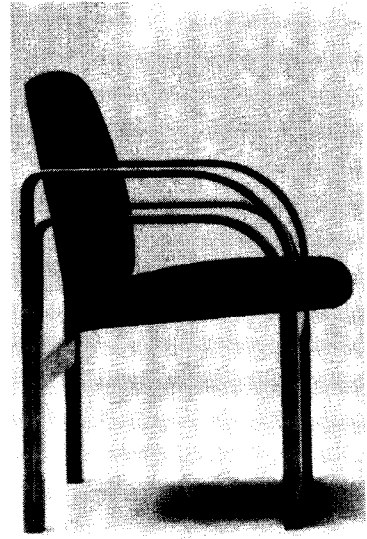


Tables

The *Polygon* table series designed by Afra and Tobia Scarpa is now available in the United States. The stainless steel bases have an iridescent finish and are

embellished with brass studs. Square, round, oval, and rectangular tops are available in clear or cobalt glass and marble. Stendig, Inc., New York City.

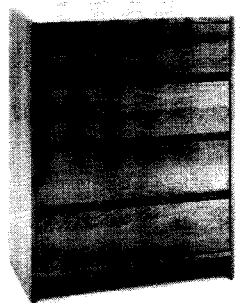
Circle 329 on reader service card



Chair

Art Deco furniture of the 1920s and '30s inspired the double-curved, laminated wood frame of the new *Strada* chair, designed by Robert DeFuccio. The chair's cushions can be covered in a selection of the manufacturer's leather or fabric upholstery. Domore Corp., Elkhart, Ind.

Circle 331 on reader service card
continued on page 157



Bedside tables and drawers

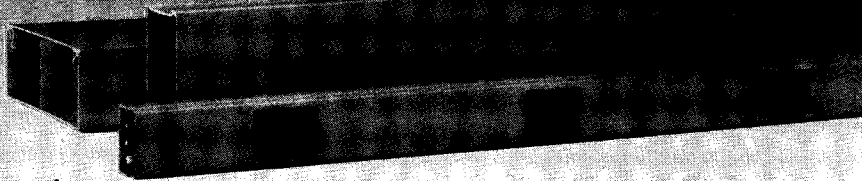
The manufacturer's line of furniture for health-care facilities includes high- and low-back patient chairs, a convertible chair/bed, a one-drawer, one-door bedside table, and a three-drawer unit (shown) constructed of solid oak with an off-white laminate top surface.

The drawers are made of molded plastic. Adden Furniture, Inc., Lowell, Mass.

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The Wiremold raceway is still a light arm.

Quality has always been number one. Dependable every, from a nationwide system of stocking electrical distributors, is another. And the Wiremold field sales representatives, on the job when you need them, are still another. When it comes right down to it, raceways are Wiremold.

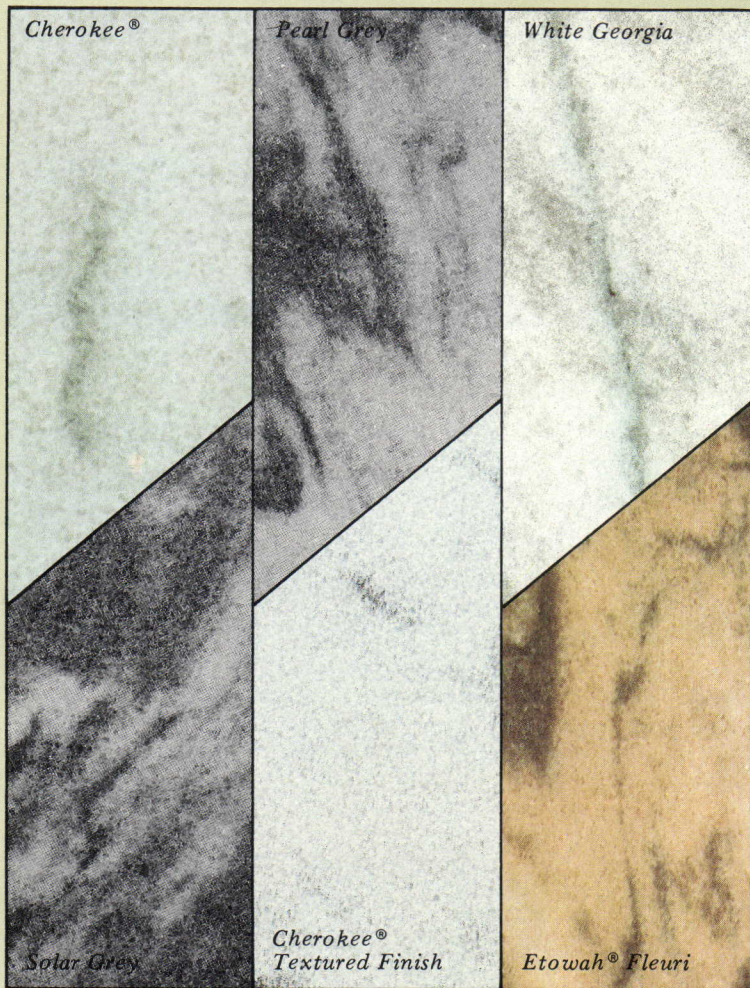


Circle 74 on inquiry card

*Wiremold is a registered trademark of The Wiremold Company, West Hartford, CT 06110. (203) 233-6251.



The Atlanta Hilton Hotel, Atlanta, GA. Architect: Toombs, Amisano & Wells, Atlanta, GA.



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Chair

The *Wilkhahn Ohl 180* line of chairs and tables was designed by Herbert Ohl. The seat and back of the swivel chair (shown) are made of black mesh and are framed in leather. Two different chair heights are available. VectaContract, Grand Prairie, Tex.
Circle 332 on reader service card



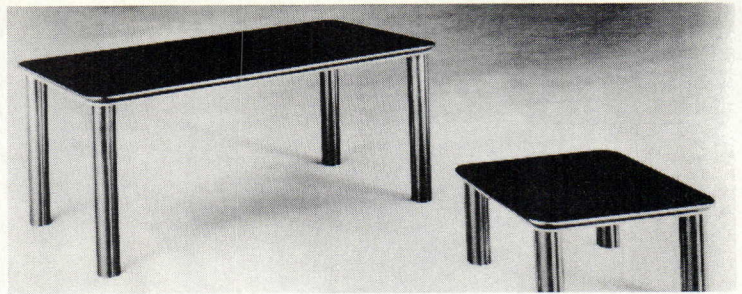
Chairs

Capri side- and armchairs (with steambent arms that are carved at the armrest) were designed by Paul Tuttle and are intended for commercial applications. The seat rest has a hardwood frame, rubber webbing, and a polyurethane and dacron seat pad. Natural beech and lacquer finishes are available. Monel Contract Furniture, Inc., Oakland Gardens, N.Y.
Circle 333 on reader service card



Seating

The *Angulus* seating series includes armchairs and two- and three-seat sofas. The upholstered units are intended for use in waiting rooms and reception areas, and are available with leather-covered or wooden legs. Beylerian, New York City.
Circle 334 on reader service card



Table

The *Donahue Table* designed by Paul Donahue is available with rectangular and square beveled and beaded tabletops in a selection of sizes and heights. The tables can be

specified with rounded columnlike legs or pedestal bases. Five wood finishes are available. Howe Furniture Corp., Trumbull, Conn.
Circle 335 on reader service card continued on page 159



Erie County Community College Cannon Design, Architect

“Kalwall, the most highly insulating light transmitting material.”

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

Kalwall
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Design Without Compromise!

The Mult- Δ -Cell[®] in-floor wire management system is unmatched for aesthetics, flexibility, strength and capacity.

It's the ideal solution for design problems you'll face now — or in the future. And it lets you design your buildings and systems exactly the way you want them — without compromise.

Why is the Mult- Δ -Cell System so superior? First, it's the only system with the *installed* capacity and flexibility to easily expand to serve a variety of future needs such as changing technologies and work station relocation. It permits in-line or staggered grid delivery points resulting in unrestricted placement of furniture and equipment.

Consider the easy access through our unique activating module. The module fits flush with the floor, eliminating tombstones and other service fittings and provides all the power, CRT and communications needs for an individual work station. It can also serve as a transition box for *flat cable* with no reduction in capacity at each distribution point. This hybrid adds yet another dimension to the flexibility of the system and substantially lowers up-front costs. What's more, since the Mult- Δ -Cell System is a single, three-compartment duct system, installation is quick



and simple. It's designed for use in a variety of floor systems and the completed installation results in an attractive, obstruction-free floor area.

Learn more about the most complete

wire management system on the market. Write for our complete brochure or call us today. 800-MID-ROSS. Don't compromise!



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Electrical Products Division
PO Box 1548
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4	Ford Motor
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6	Texaco
7	E.I. du Pont
8	Standard Oil (Ind.)
9	Standard Oil of Cal.
10	General Electric
11	Gulf Oil
12	Atlantic Richfield
13	Shell Oil
14	Occidental Petroleum
15	U.S. Steel
16	Phillips Petroleum
17	Sun

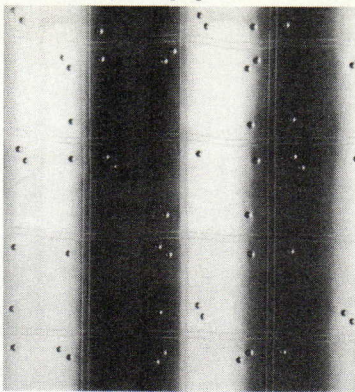
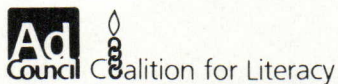
27 million Americans can't read. And guess who pays the price.

Every year, functional illiteracy costs American business billions.

But your company can fight back...by joining your local community's fight against illiteracy. Call the Coalition for Literacy at toll-free **1-800-228-8813** and find out how.

You may find it's the greatest cost-saving measure your company has ever taken.

A literate America is a good investment.



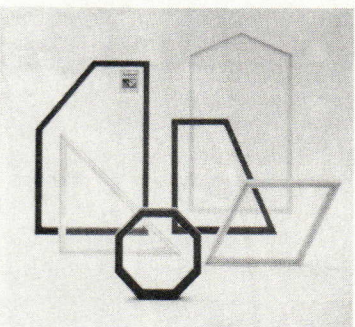
Fabric

Diva is a new addition to the *Window/Wall* fabric collection. Intended for ceiling, stretched-wall, and window applications, the 100 per cent silk fabric comes with rhinestone or pearl studs attached in a 17- by 17-in. repeat pattern. It can be specified in white, champagne, or gray. Gretchen Bellinger, Inc., New York City. *Circle 336 on reader service card*



Sinks

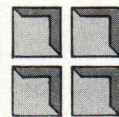
The *Gourmet Collection* of stainless-steel sinks includes 11 different models. The 10-in.-deep bowls are 3 in. deeper than standard models and have an undercoated satin finish that is said to resist chipping and cracking. Elkay Manufacturing Co., Oak Brook, Ill. *Circle 337 on reader service card*



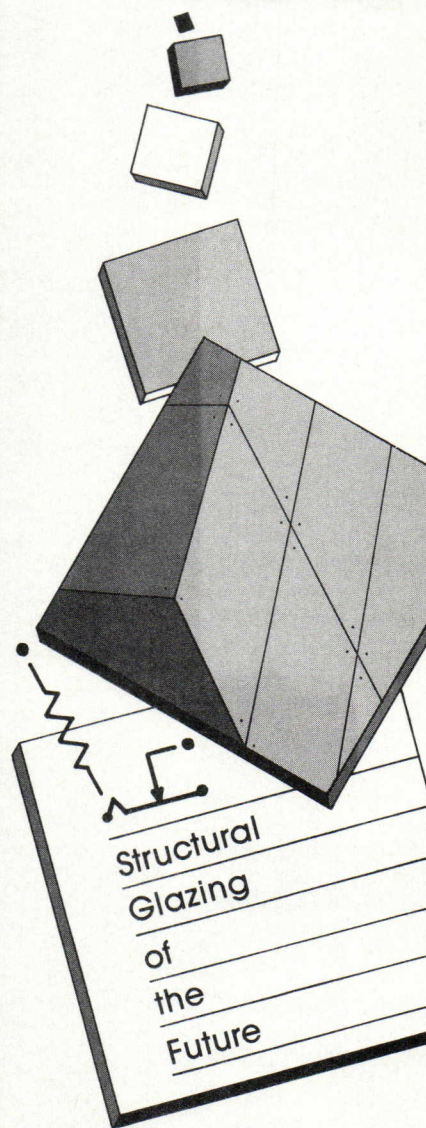
Windows

The manufacturer's *Perma-Shield Flexiframe* components for irregular-shaped windows are now available in 74- and 150-in. lengths. The longer lengths are said to eliminate the need for butt-joining frame components in windows of up to 60 sq ft. The *Flexiframe* can hold glazing that is 1/8- to 1/4-in. thick. Andersen Corp., Bayport, Minn. *Circle 338 on reader service card*

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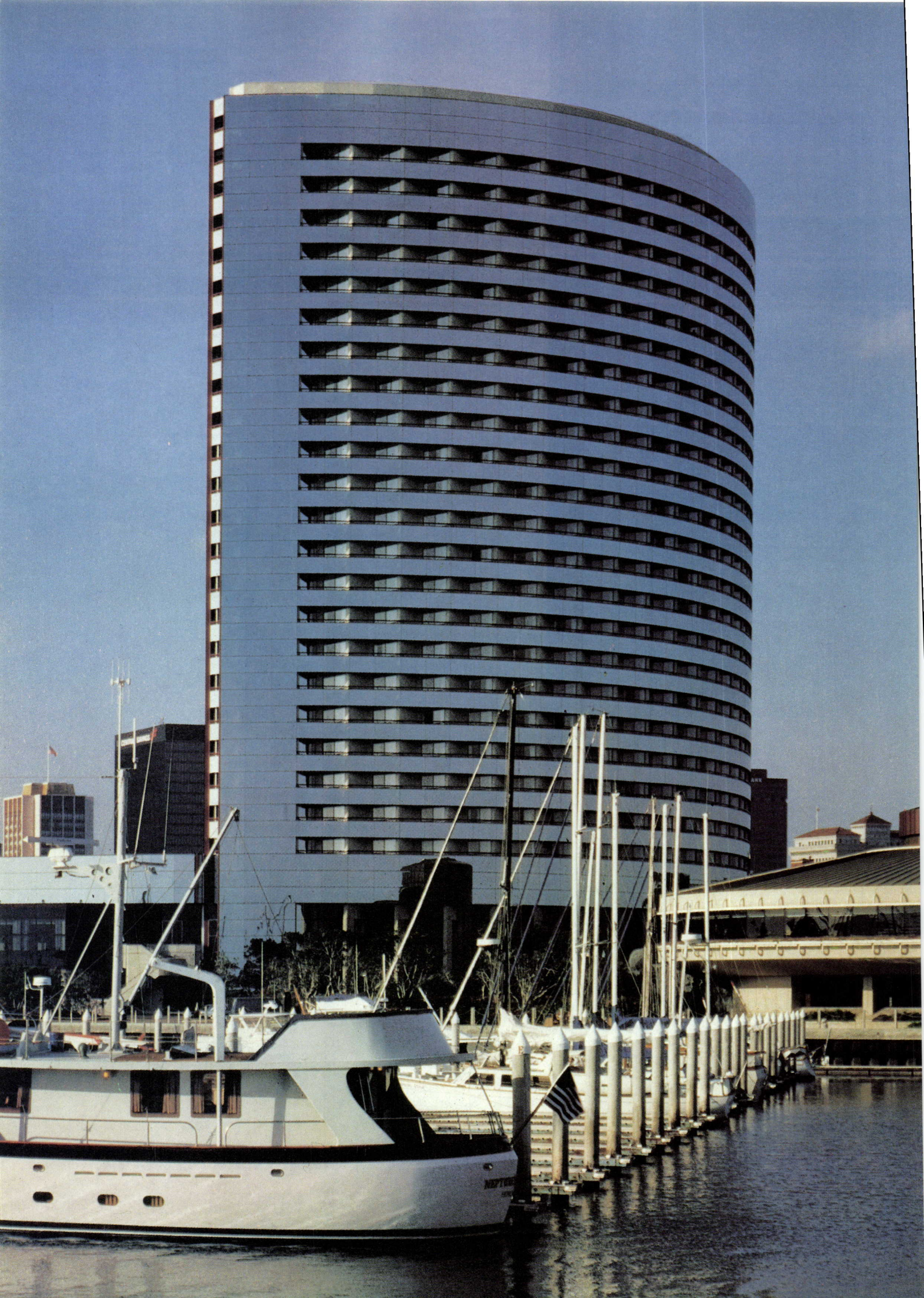
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Manufacturer sources

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

Pages 88-93

Walter Royal Davis Library by Mitchell/Giurgola Architects
Pages 88-91—Brick: Cherokee. Limestone: Indiana Limestone. Slate: Buckingham Virginia. Fixed and bay windows and entrance: Kawneer. Glazing: C-E Glass. Tempered glass: Hordis Brothers. Sliding and pivoting windows: Southern GF.
Page 92—(top) Drywall (throughout): U. S. G. Downlights: Lightolier. Paints: Baltimore. Steel book shelving: Aetneastak; Art Metal; Andrew Wilson. Furnishings (throughout): Blanton and Moore; Boling Chair; Alma Desk; Pridgen Cabinet Works; Thonet; Monarch; Gregson; Barrier; Young Originals. (bottom) Acoustical ceiling: Armstrong; Chicago Metallic. Carpeting: Lee. Laminate: Formica. Vinyl wallcovering: Columbus. Linear slot air diffusers: Metal Aire. Blinds: Levelor.
Page 93—Banners: Designed by D. J. Beam and Kathleen Moretto Spencer; fabricated by Kraus & Sons. Chandelier fixture: Lightolier. Vinyl tile: GAF Textile Rubber. Signage: Andco. Book depository: Mosler.

Pages 94-97

The John Crerar Library by The Stubbins Associates, Inc.
Pages 94-95—Limestone: McShain Quarry; fabricated by Harding & Cogswell. Glazing: Marmet. Pole fixtures: Kim Lighting. Concrete pavers: Sunny Brook.
Page 96—Study tables: Custom by architects; fabricated by Library Bureau. Chairs: Thonet. Upholstery: Boris Kroll Fabric. Carpeting: Patrick Carpet Mills. Strip and recessed fixtures: Garcy Lighting. Ceiling tile: Celotex (Safetone and Accent Panels); Armstrong (Sanseri). Smoke alarms: National Time & Signal. Sprinkler heads: Gemco Aquamatic. Radiation heat units: Vulcan Fin Tube.
Page 97—(left) Railings: Pratt and Lambert. Heaters: Trane. (Force-Flo). Drywall: U. S. G. (right) Skylight: IBG. Paneling and custom millwork (throughout): Woodwork Corp. of America. Book detector: 3M. Elevator: Montgomery. Paints: Pratt and Lambert; Benjamin Moore. Aluminum and Waterford crystal hanging sculpture: "Crystara" by John David Mooney.

Pages 98-101

Broward County Main Library by Gatje Papachristou Smith/Miller & Meier & Associates/A Joint Venture
Pages 98-99—Aluminum-framed curtain walls: Bruce Engineering for Harmon Glass. Glazing: Viracon. Masonry panels: Keystone Products. Skylights: Bohem. Sliding entrance doors: Horton Automatics. Pavers: Lok-Blok (Uni-stone).
Page 100—Metal plank ceiling: Hunter-Douglas. Tables and chairs: Thonet. Carpeting: Bigelow. Light strips: Edison Price. Book stacks: Andrew Wilson. Paints: PPG. Wallcoverings: Borden. Laminate surfaces: Formica. Elevator: Dover.

Page 101—Railing system: Ampat. Downlights: Edison-Price. Wall tile: Gail. Escalator: Montgomery.

Pages 102-113

The Humana Building by Michael Graves, Architect
Pages 103-109—Polished granite: Supplied by Formai & Mariana & Carrara. Curtain wall and skylight: Penco. Glazing: PPG. (Solex). Aluminum-framed doors and windows: Penco; Wassau Metals.
Pages 110-113—Bronze doors: Michael's Art Bronze. Special light fixtures: Louis B. Baldiners & Sons. Marble walls and flooring: Industria Del Marmi Vincentini. Paints: Pittsburgh Paints. Carbon dioxide system: Kentuckiana Sprinkler. Wood ceilings: Winebrenner. Elevator: Armor Elevator. Wood paneling: Kister Wood.

Pages 114-117

Linda Dresner by JW Fred Smith, Designer

Page 114—Storefront and entrance glazing: Spohrglas.

Pages 115-117—Custom woodwork and lacquer finishes: S. J. Mould. Flooring: Domestic Marble & Stone (Thasos marble). Special coatings: Red Spot Paint & Varnish (Nextel). Spotlights: Kleig. Recessed downlights: LSI. Wall fixture: Artemide. Jewelry display table: Beacon Artisans. Floating table: Domestic Marble and Stone. Webbed seating: T. H. Robsjohn-Gibbings. Drywall: Delta Construction. Etched glass: Spohrglas.

Page 121

Hurd House by Turner Brooks
 Stain: Olympic. Sliding doors: Andersen. Windows: Marvin; Iroquois. Chimney: Metlebestos.

Pages 122-123

Brooks House by Turner Brooks
 Exterior stains: Benjamin Moore. Windows:

Andersen; Marvin. Chimney: Metlebestos.

Pages 124-125

Brown House by Turner Brooks
 Exterior paint: Sto-System. Stains: Cabot's. Sliding doors, windows: Andersen. Skylights: Acrylite. Chimney stack: Metlebestos.

Pages 126-127

Solworth House by Turner Brooks
 Fixed and operable windows: Andersen. Entry door: Custom. Skylight: Wasco. Clapboard stain: Olympic. Solar glazing: Countryside Glass.

Page 128

Chapman House by Turner Brooks
 Windows: Caradco; Andersen; Custom.

Page 129

Fuisz House by Turner Brooks
 Exterior paints and stains: Benjamin Moore. Roofing: Microzinc. Windows: Pella.

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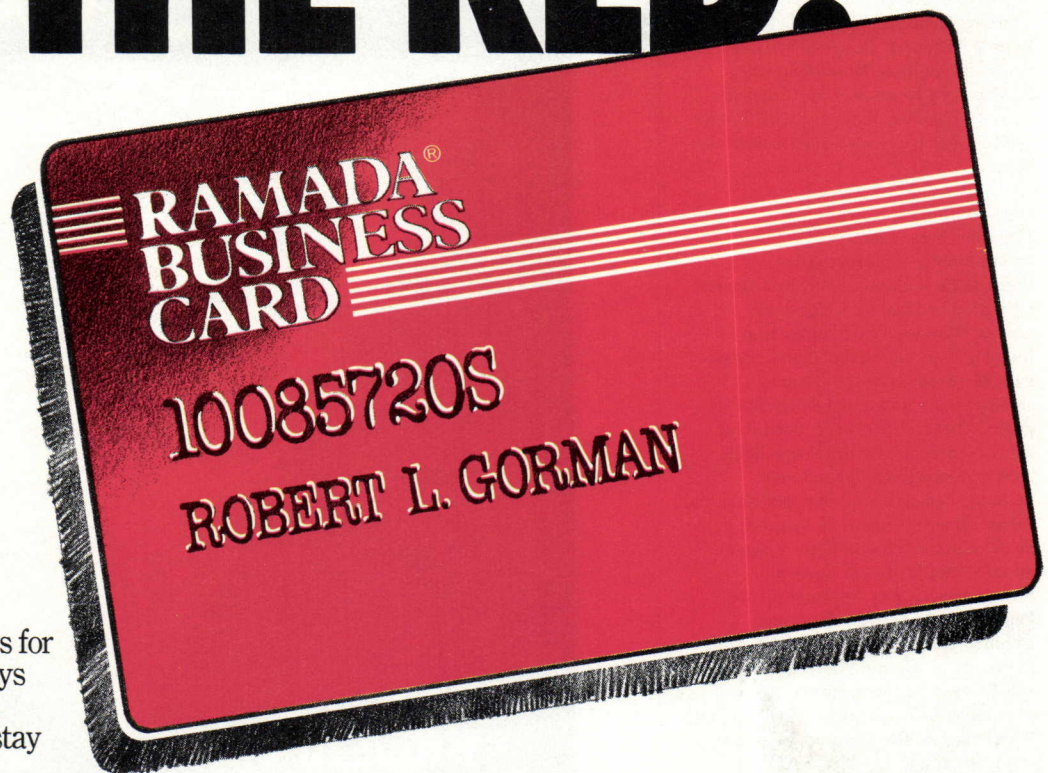
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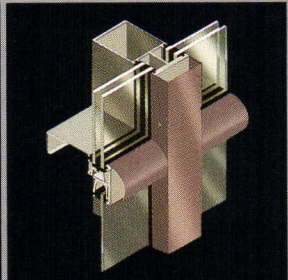
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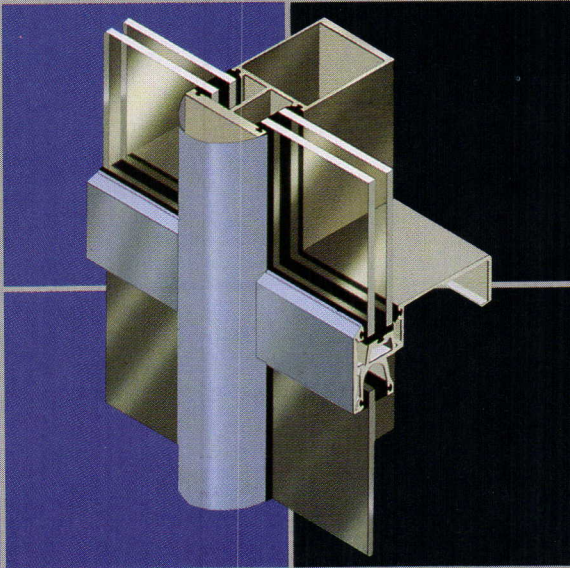
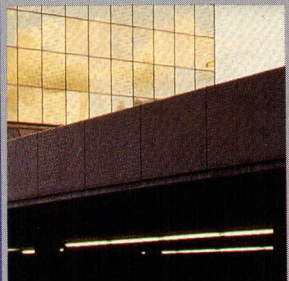
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