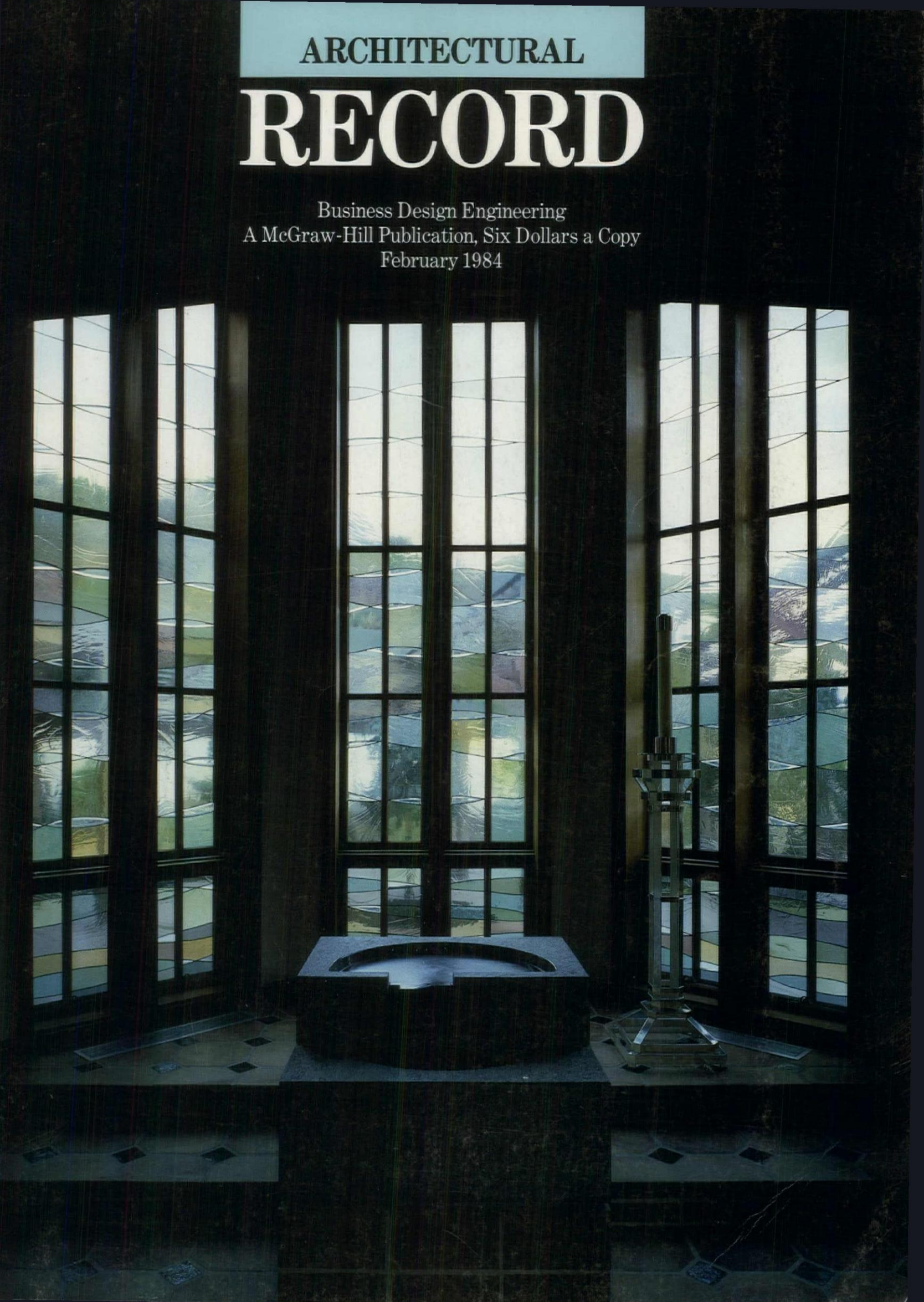


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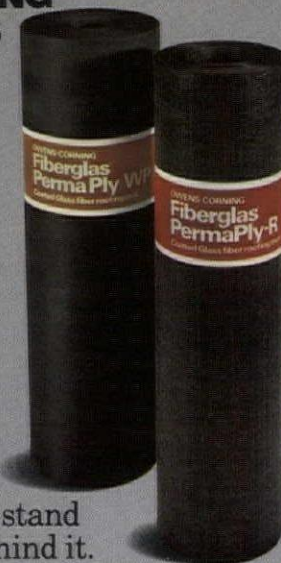
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Circle 1 on inquiry card

Just a note to let you know how much I enjoy the look of RECORD now that its new format has had a chance to settle in.

It's too bad that the people in a magazine's art department are rarely recognized for the important work they do in making the magazine's substance sit comfortably on the printed page. Without casting any aspersions on the architect, photographer, journalist or editor, I have a hunch RECORD's architecture would never feel anywhere as good without your art department's talents and skills.

*Elliot Willensky, Architect
New York City*

If I was invited to the home of Robert Venturi and Denise Scott Brown [RECORD, September 1983-I, pages 108-113], I would say, "Wow! This is a wonderful place to live—warm, elegant and humane." These interiors will look almost as attractive after the photographer leaves and the inhabitants begin to move things around and pile "a bit more stuff" here and there.

I would hope that someday we could develop an esthetic that did not require faked interiors as a requirement for publication, an esthetic allowing messy children, dogs, cats and hamsters, pieces of homely furniture, laughter, sensuality and beauty, too.
*Fred L. Osmon, AIA
Carefree, Arizona*

I found Margaret Gaskie's article "Growing In" [RECORD, November 1983, page 89] both interesting and thought-provoking. It seems especially applicable to our Southwestern campuses and the region's propensity for urban sprawl. I couldn't agree more—it's about time we concentrated on reuse and what Mrs. Gaskie referred to as "lost amenities," rather than to continue the haphazard and often inferior growth pattern we have followed.

The pictures accompanying the article are spectacular—a reminder that good photographs are the key to good architectural reporting.

*Meredith Disney
Marketing Manager
Anderson DeBartolo Pan Inc.
Architecture & Engineering
Tucson*

As a Muslim I was disturbed by the visage of Sherefudin's White Mosque in Visoko, Yugoslavia, shown in the September 1983-II issue of ARCHITECTURAL RECORD.

Architect Zlatko Ugljen has created an impregnable prison for the soul, which is guarded by

a sinister-looking cobra-headed fork-tongued green creature perched atop the watchtower. The exterior is so brutal and devoid of humanizing detail, in addition to the discontinuity in the massing, which is nothing but a collection of random contorted shapes. Your reference to the mosque's "undeniable indebtedness to Ronchamp" is to me like attributing the jerky convulsions of an epileptic person to the elegant dance of Nureyev.

In the interior, the minbar is located too far to the right of the mihrab; this will result in actual pains in the neck for worshippers because they must sit in rows facing the mihrab. Furthermore, by allowing different levels in the prayer hall, the architect has denied the worshippers the most significant experience in a mosque: the humbling yet elevating experience of worshipping, shoulders physically touching shoulders of other Muslims of any nationality, race or financial status as they bow down and prostrate themselves in unison, thus manifesting their equality and brotherhood before God.

The small rectangular mihrab doesn't help acoustically in reinforcing the reverberation of the Imam's recital as he leads the prayer. The absence of windows makes me wonder how the mosque is ventilated on a hot summer day during a crowded Friday congregational prayer in Ramadan when the breath odors of the fasting worshippers are very pronounced. Since the five daily prayers are reckoned by the sun's position, the absence of windows also denies the worshippers who may not own watches their most natural chronometer.

To be fair, the architect's use of skylights is innovative.
*Abdelweli A. Elmi
Milwaukee, Wisconsin*

Corrections

F. Douglas Adams should have been included as a member of Architectural Resources Cambridge Inc.'s project team for the design of the Albany Campus Center at Russell Sage College (RECORD, November 1983, pages 102-103).

The interior of the Merck, Sharp & Dohme offices (RECORD, September 1983-II, pages 102-107) were designed by ISD, Inc., and MBS/Architects & Planners, with Herbert Beckhard as partner-in-charge.

Through April 15

Exhibit, *The Architect's Design: Drawings, Models and Manuscripts from the Architectural Archives* of the University of Pennsylvania; at the Arthur Ross Gallery, University of Pennsylvania, Furness Building, South 34th St., Philadelphia.

February 13 to March 30

Architectural Exhibit: Photographs, Drawings, Models of work by Marquis Associates, Architects/Planners/Interior Designers, in celebration of the firm's 30 years in practice; at the American Institute of Architects, 790 Market St., San Francisco.

February 17-27

Solar Tour to Israel, a tour of Israeli solar technology and manufacturer operations. For information: Jordan College Energy Institute, 1557 Mile Rd., Comstock Park, Mich. 49321 (616/784-7595).

March 6-31

Exhibit, *Green Architecture*, with 36 drawings depicting 16th- and 17th-century French and Italian gardens, sponsored by The Architectural League; at the Urban Center, 457 Madison Ave., New York, N. Y. 10022.

March 18-20

National Kitchen & Bath Conference and Kitchen/Bath Industry Show, sponsored by the National Kitchen & Bath Association; at Orange County Convention/Civic Center, Orlando, Fla. For information: Ray Afferbach, NKBA, 124 Main St., Hackettstown, N.J. 07840 (201/852-0033).

March 18 to May 27

Exhibit, *The Product of Design: An Exploration of the Industrial Design Process*, funded by the New York State Council on the Arts, Westchester Arts Fund of the Council for the Arts, the Heckscher Foundation for Children, and Exxon; at the Katonah Gallery, 28 Bedford St., Katonah, N. Y.

April 14-18

Computer Graphics '85, a conference and exposition sponsored by the National Computer Graphics Association; at the Dallas Convention Center, Dallas. For information: Christine A. Radiske, NCGA, 8401 Arlington Blvd., Fairfax, Va. 22031 (703/698-9600).

April 27-29

Conference, "Legacy and Change: Caring for Historic Religious Properties," sponsored by the Preservation League of New York State, 307 Hamilton St., Albany, N. Y. 12210 (518/462-5658).

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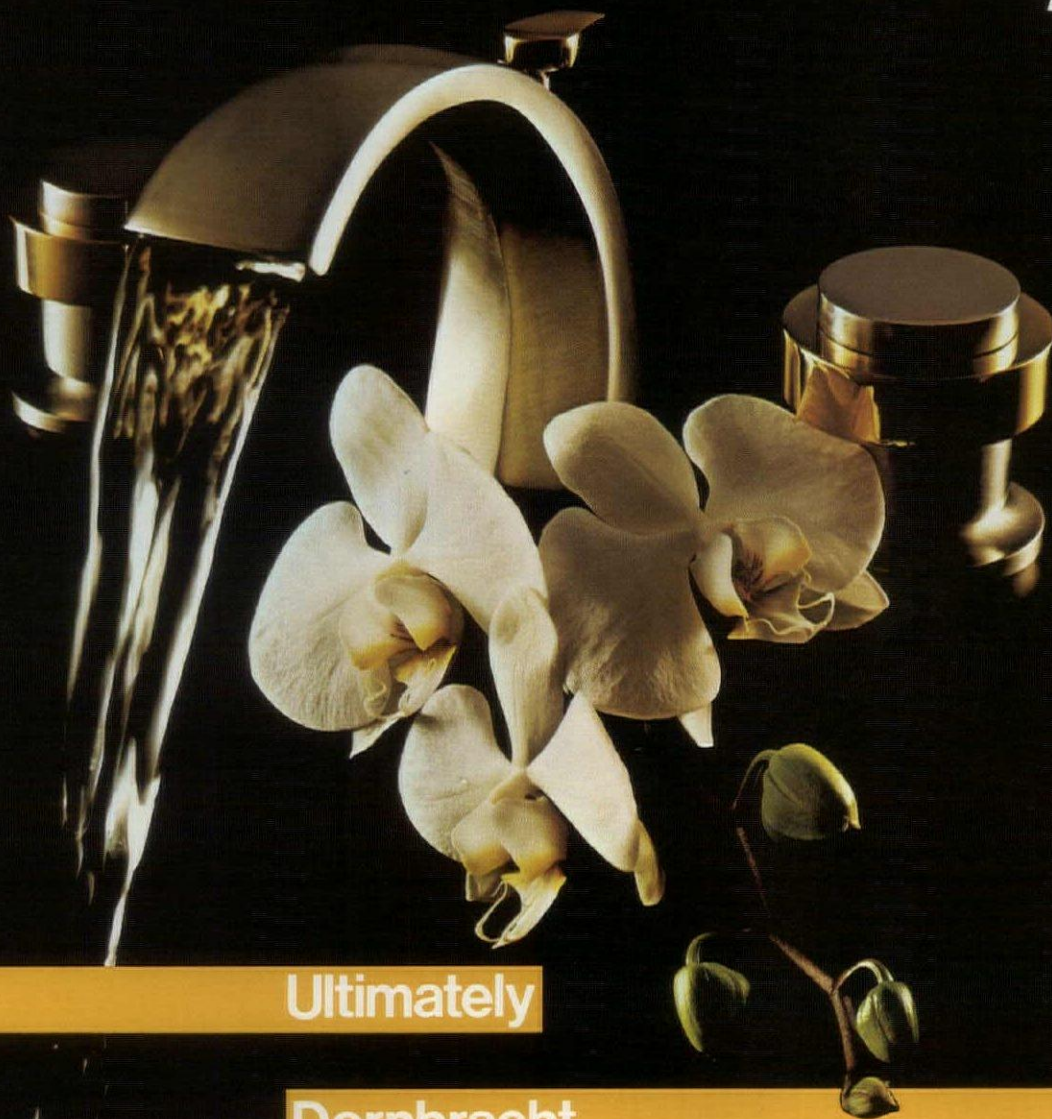
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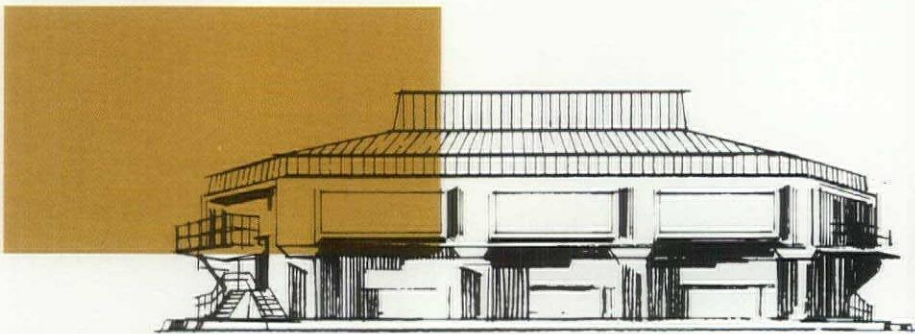
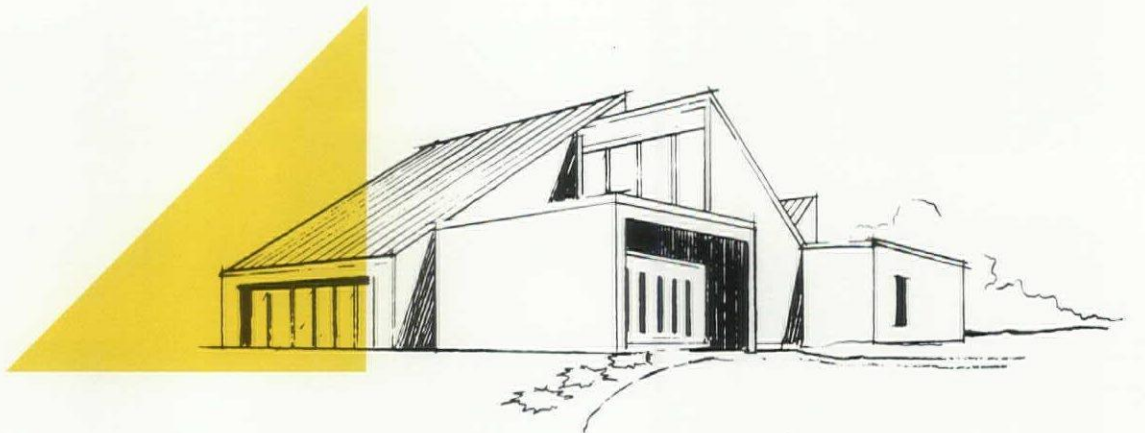
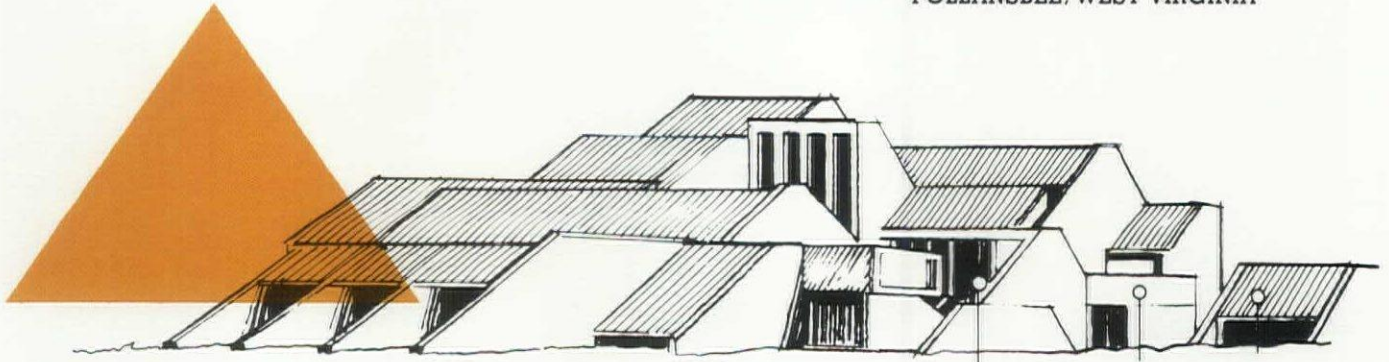
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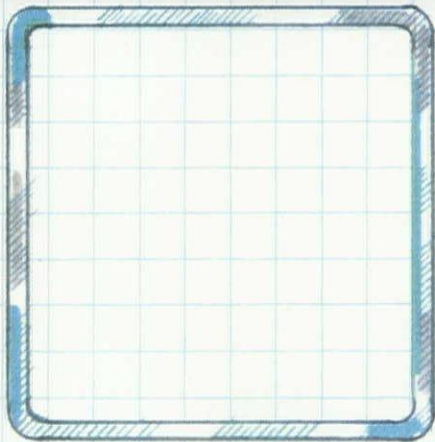
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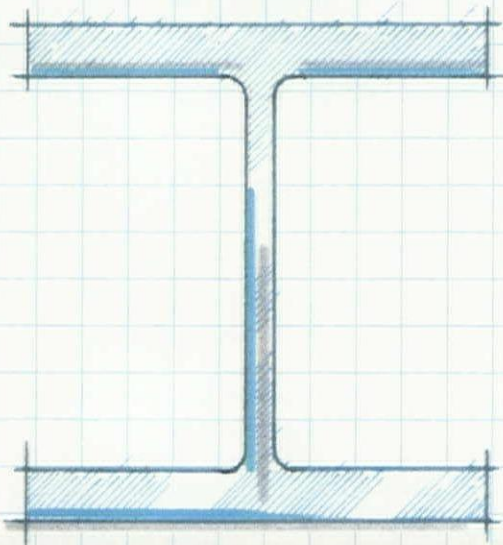
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Searching for software: A request for information

Less than a year ago, in an editorial admitting that I was one of those who had secretly hoped to make it to early retirement without actually understanding much about computers, I confessed it was clear that simply was not possible; indeed that every professional (specifically including those in small firms) really did need to take the time now to understand what the computer can do for the business of creating architecture. The question is how.

There are of course a plethora of meetings, seminars, conferences, and conventions related to computer use; an increasing number of books being published, at least some of which recognize the fact that the reader is not a computer expert coming in; an increasing number of consultants, and service bureaus, and training programs put on by the manufacturers; and a major growth in newsletters and in the number of organizations relating to computer use by architects and engineers. They are all good ways to help you get started.

But...I want to explore the how-do-you-get-started question from a specific point of view. While I'm still not much of a computer expert, I have learned the fundamental fact that the computer can't do a thing for an architect (or anyone else) without the right software to program the computer—that is, tell the computer what to do, how to do it, and when to do it. To my simple mind, a good listing of software programs that are available specifically for architects and the engineers who work with architects, together with a brief and concise description of the tasks that can be accomplished with each specific program, would form an excellent way for architects to gain a clearer understanding of just what they can and should expect from a computer.

Therefore...Herewith a request for letters from any and all sources of software specifically programmed for architects: software suppliers, computer (hardware) manufacturers, service bureaus, systems vendors, time-sharing services, service bureaus, architectural firms interested in selling the software they have developed in-house, consultants, and, indeed any other source.

I'd like to know about sources for three kinds of software:

1. Software performing nondrafting or drawing functions specifically related to architectural firms—for example: spec writing, energy audits, simple structural calculations, costing, construction management, facilities management, code management, solar studies, cost control, programming, project-control management, materials takeoffs...and what else?
2. Software specifically programmed for CAD—software useful in working drawings, or in design and exploration of design alternatives.
3. Software (and this may prove too long a list to publish completely) programmed for uses that are not necessarily specific to an architectural firm but related to similar small-office operations—such as word processing, accounting, cash flow.

If you would write to me—Walter F. Wagner, Jr., ARCHITECTURAL RECORD, 1221 Avenue of the Americas, New York, N.Y. 10020—Attention: Software survey—we'll follow up with a detailed questionnaire, asking among other things for:

1. Specific descriptions of the capabilities of each piece of software you have available;
2. Whether it is provided only with a hardware system; is available for sale or lease; or available only through a time-sharing or service bureau;
3. What specific hardware it is compatible with, and
4. Some idea of cost.

Harry Mileaf, McGraw-Hill's resident expert in computer use for architects, wrote in an article for us: "The soft spot is software." Our hope for the survey that will grow out of this request for information is to provide architects with a meaningful way to search for the software (and then the computer system) to best meet their needs. I think it will be a useful way (among other things) for small firms to get started—to understand just what they can do with the tools of the computer revolution. Please let me hear from you. You'll hear back. *W.W.*

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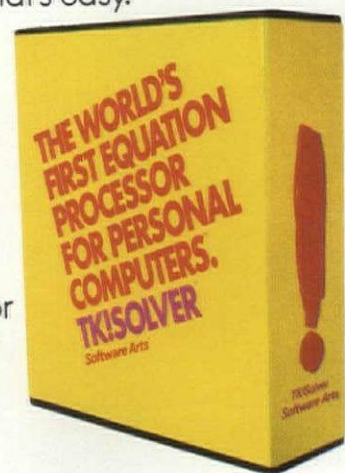
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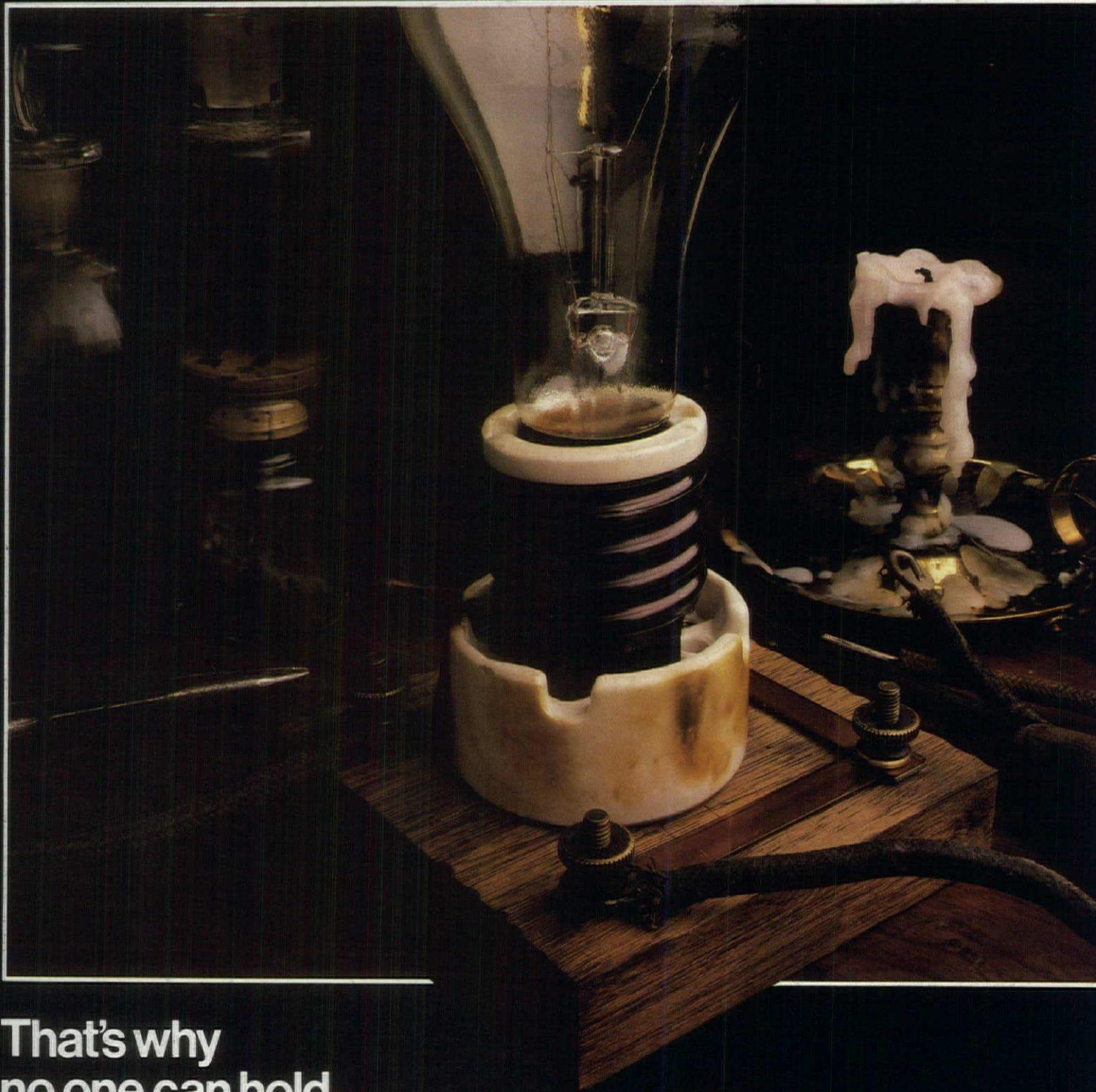
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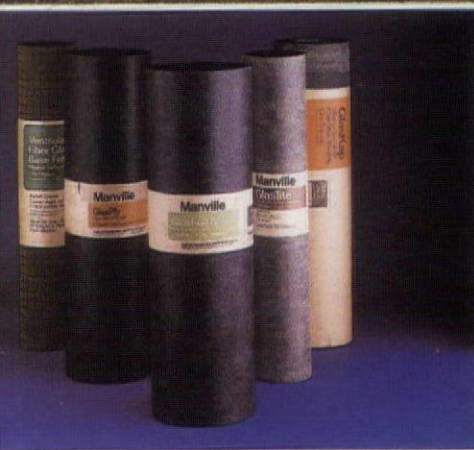
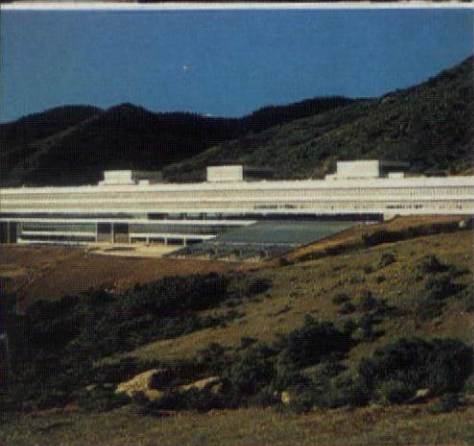
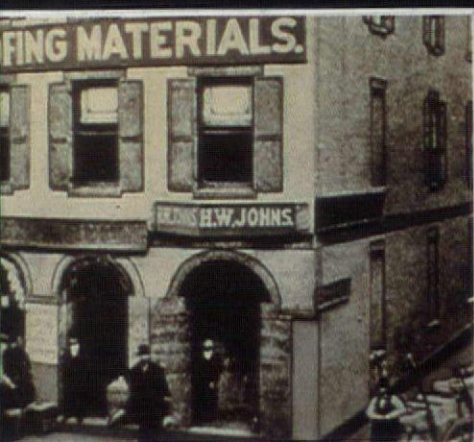
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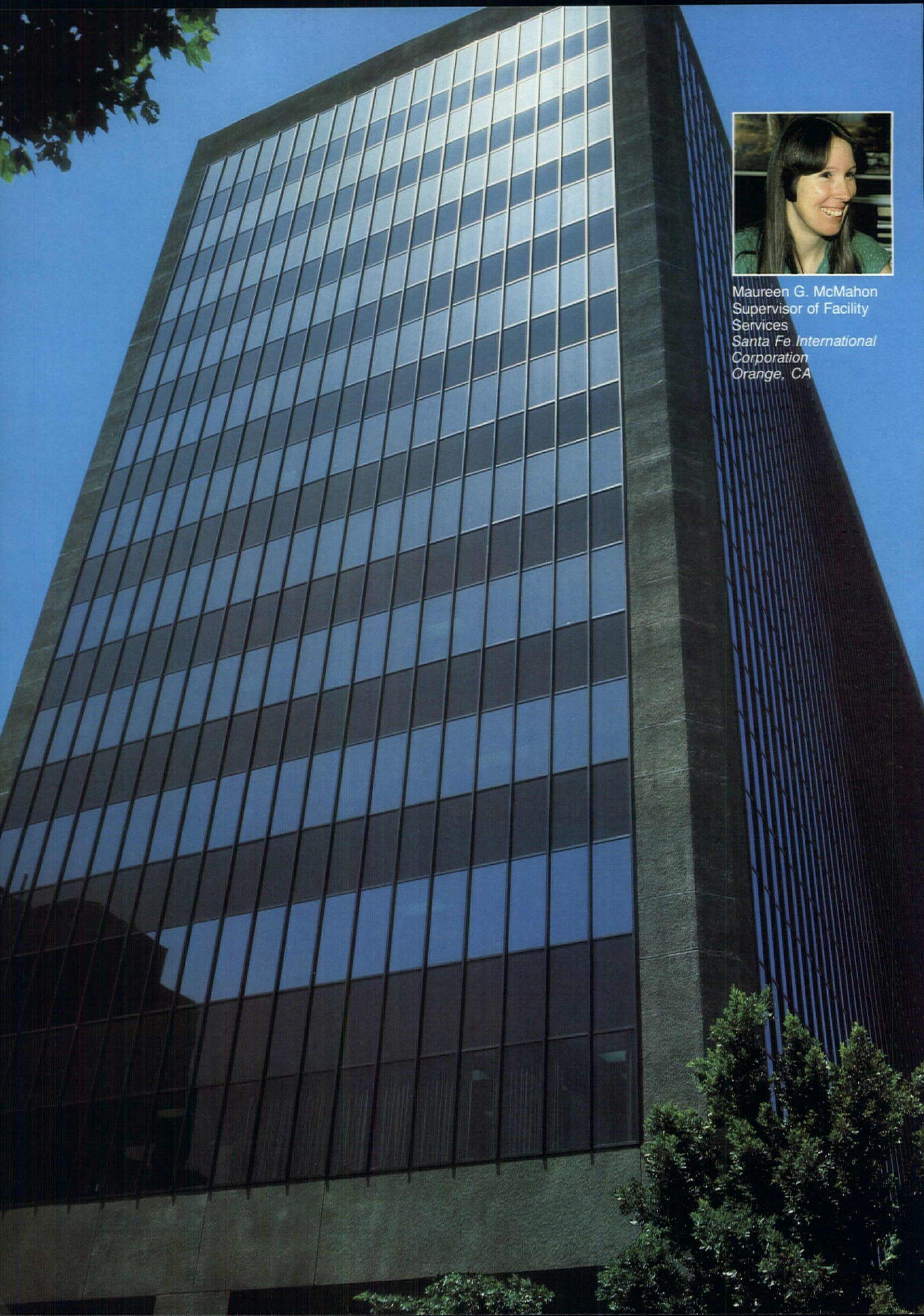
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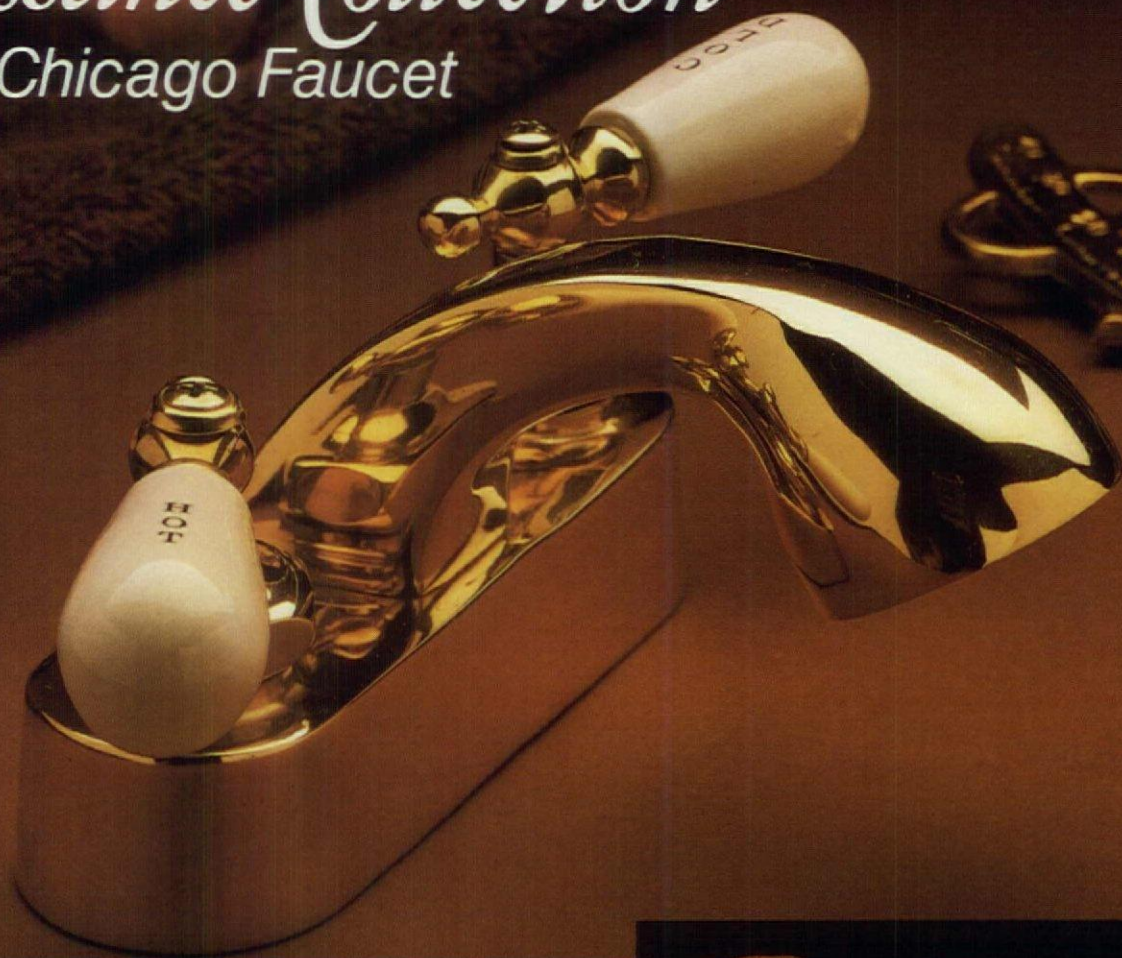
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Legislation to protect industrial designs pending

A design registration bill, H.R. 2985, is pending in the House of Representatives that would make for better protection of product designs by recognizing the esthetic properties of the design separate from its functional ones. Proponents of the bill use the telephone receiver as an example of current practice in which a better-appearing receiver could not be protected because the function was in public domain. What they hope to achieve is protection of the visual design, similar to that given to painters and greeting-card designers.

They emphasize the urgency of broad support during this month and March to assure the bill's passage. For information, contact William Fryer, Professor of Law, University of Baltimore, 1420 N. Charles St., Baltimore Md. 20814 (301/625-3396).

The National Trust announces grants and requests nominations for awards

The Travelers Corporation is investing \$1 million with the National Trust for Historic Preservation for the purpose of creating a joint mortgage program providing low-cost loans to upgrade existing low- and moderate-income housing in selected cities throughout the United States.

The Department of Agriculture has announced that it will fund a trust program to educate small-town leaders on the value of historic resources in their communities. The amount of the grant is \$250,000.

The trust is also requesting nominations for Preservation Honor Awards to be given out at the annual membership meeting in May. Awards will go to individuals and organizations making significant contributions to preservation. The trust also announces the creation of "Preservation Week" to "focus attention on preservation in the United States."

More help for services abroad on the way

The new mandate by Congress for the Export-Import Bank—go out and push American exports and never mind Bank profitability—is music to the ears of the building industry, which has long complained about the Bank's cavalier attitude toward helping sell American construction and design services.

Riding on the coattails of new International Monetary Fund legislation providing an additional \$8.4 billion for IMF and a \$15.6 billion housing authorization bill just before recess last December, Congress extended the Bank's charter for another three years. Congress told the Bank in no uncertain terms that promoting the export of goods and services by offering fully competitive financing came first, and that operating the Bank in the black was a distant second. The Bank was told to set up a program of mixed financing, using both their own credits and lower-interest money from the Agency for International Development to meet similar foreign funding head-on. Congress also requested the Bank to re-establish a 12-member advisory committee, including representatives from service industries such as the building professions, as well as small business, and to treat service industry exports on an equal basis with manufactured goods.

All of this had long been sought by builders, architects and engineers. Bank officials say it encourages full competition now. But a certain measure of mistrust still prevails—more so among contractors than among architects and engineers. Construction industry sources say the Bank's chairman, William H. Draper, a Reagan appointee, throughout the last year or so had insisted the Bank was in there competing efficiently with the rest of the world for international orders when in fact it wasn't. "The bottom line was that we're supposed to be the people to be helped, but we weren't," says a staffer for the National Construction Association, an organization of big American firms heavily involved in foreign work. While the Bank did modify its approach somewhat during 1983 and did become attuned to industry needs, the feeling was that this wasn't enough and the Bank was not sufficiently competitive and cooperative.

Architectural and engineering sources are more restrained in their assessment. While they agree that the Bank did not do enough in recent years in

funding feasibility studies of major foreign infrastructure projects—winning a feasibility study is often the first step for a nation to win a big piece of the final contract—they are more inclined to give the Bank the benefit of the doubt for the time being. A staffer for the American Consulting Engineering Council, which worked with the American Institute of Architects on the issue, says one of the litmus tests will be what the Bank will in fact do about mixed credits, for instance. "Let's see what happens before we throw stones," he says.

Robert Djerejian, managing partner of Haines, Lundberg, Waehler in New York, acknowledges that getting the Bank's support for design services "has always been a difficult issue. Its financing has always been much more important to builders," he says, but there are some ramifications for architects and engineers as well. Basically, he is happy that the new legislation recognizes "the fact that exports of services are important per se, but so far it's a little late and not that important to make us jump up and down."

Nevertheless, Djerejian thinks the new language could be of some help to bring in architects early as part of the team designing foreign projects—for feasibility studies, for instance. Early involvement of architects would be useful because "we could give a little bit more direction" in high-tech areas; Djerejian says the requirements of high-tech equipment influence the design of telecommunication, medical and research facilities, for instance. Since most American firms specify American equipment and are familiar with what's available, they could play a significant role not only in the design itself, but also in the export of American-made equipment.

James R. Sharpe, the Bank's senior vice president for direct credit and financial assistance, believes the Bank has already turned around. Sharpe, a former construction executive who moved over from the Commerce Department a little more than a year ago, admits the Bank was not a big help in export promotion when the cost of money was much higher and when foreign competitors just about totally subsidized their exports. But new financing ground rules based on market interest rates within the Organization of Economic Cooperation and Development (of which the United States is a

member) plus the new legislation, which is "more of a confirmation" rather than anything basically new, according to Sharpe, "represents a measure of change." Part of the Bank's problem has been "not to communicate sufficiently to the export community what it has to offer," he says.

Still, the industry is not totally convinced. The Bank "has improved," says a construction industry executive. If there was a communication failure, it was the Bank's failure to listen. "Their failure to react to messages from the industry is the reason why industry went to Congress," he says. Peter Hoffmann, *World News, Washington, D.C.*

Income/expense statistics show marketing trends in real estate

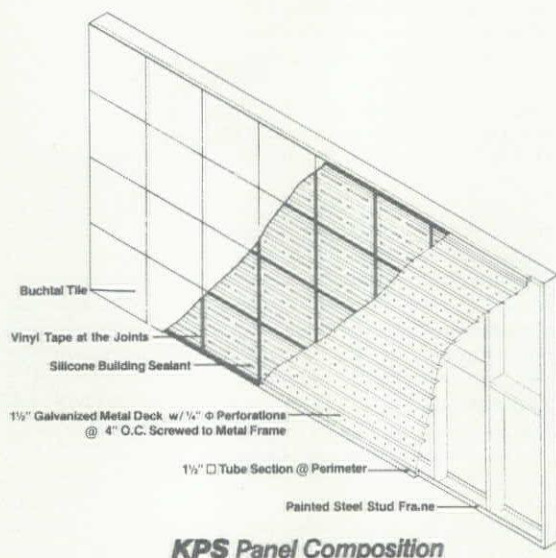
Studies available from the Institute of Real Estate Management (a division of the National Association of Realtors) report statistics useful in figuring the profitability of projects in planning. The 1983 *Income/Expense Analysis: Apartments*, for instance, shows current operating costs (up between seven and 14 per cent in 1982) compared to rents (up between seven and 10 per cent). It also shows median rents for various areas with highs of \$475 to \$419 for an 850-square-foot unit (found in Boston, New York, San Francisco and Orange County, in that order) and lows of \$247 to \$263.

1983 *Income/Expense Analysis: Office Buildings* compares rents (up 11.2 per cent and 9.4 per cent respectively in downtown and suburban projects) and operating costs (up 7.3 and eight per cent respectively) and shows where these costs are likely to go: 34 per cent for utilities, 27 per cent for maintenance and repair and 18.4 per cent for taxes. These studies, along with *Expense Analysis: Condominiums, Cooperatives and Planned-unit Developments* are available from the Institute at 430 North Michigan Avenue, Chicago, Ill., 60611 (312/661-1930).

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Computers: The need for graphic standards

The experienced authors offer helpful directions on where we may go

By Jon H. Pittman and John C. Dill

Design is an information-intensive process. The architect is constantly engaged in collecting, refining, organizing, and presenting information. In fact, architecture can be viewed as information management.

Architects collect information from clients in the form of programmatic data and generate information in the form of design and production documents. In addition, they must provide information to other parties, collect information from other parties, and attempt to organize and filter information from other parties (see Figure A).

Information is exchanged between many different parties in many different forms

The individuals and groups who must exchange information during the design and construction process include (as shown in Figure A) the architect, client, building user(s), consultants, engineers, planning agencies, construction managers, contractors, subcontractors, suppliers, community organizations and regulatory agencies. In addition, the client may request additional information such as "as-built" drawings or data to be used for facility management after the project has been completed. It is also common for architects to enter into joint ventures with other architects for specific projects. The joint firms must, obviously, exchange information throughout the design process.

Traditionally, architectural information has been transferred in a variety of forms, including sketches, working drawings, written specifications, telephone conversations, change orders, shop drawings, correspondence, photographs, physical models, renderings, computer printouts, building codes, product catalogs and supplier quotations. Using these forms and others, individuals and groups involved in the design process compiled information in the form most convenient for their own needs. Others who had to use information prepared by one group had to extract the information they needed and perhaps organize it into a different format.

Although the process of differentiating, extracting, integrating and organizing information is slow by traditional method, it is a task for which humans are very well suited. People are very adept at picking a meaningful pattern out of an extremely ambiguous field of information.

With computers, the need becomes finding a way to exchange information among various systems

Now, with the increased use of computers in the design and construction process, the opportunity to exchange data through computers has presented itself. However, new problems have emerged with this opportunity. Although computers can handle raw data at much faster rates than humans, they are not as adept at extracting useful information from varied sources and integrating it into a meaningful form.

Each computer manufacturer and computer software developer, as well as each group of users, has his own conceptual model of the way data is organized and related in the computer. The type of data that is stored and the

develop a standard for information exchange between computer systems. It is important that architects be aware of these efforts so they may provide input to the formation of these standards and so they will be aware of the need for the products that they purchase to support them.

To help make architects aware of these efforts and some of the issues surrounding them, let's explore information exchange in more detail, the ways in which computers exchange information, the concept of an information standard, and finally some examples of information exchange specifications.

How information is exchanged between computer systems affects their usefulness

For purposes of this discussion,

many times in the past, even in production systems in very large companies.

A much more effective means is to copy the data onto some electronic storage medium that can be carried between systems, such as a floppy disk or magnetic tape. Here, of course, we must ensure that a compatible format is used. In other words, if the sending system uses a 1600 bpi, 9-track unlabeled tape with 80 character records, the receiving system must be able to read such records. Further, both systems must use the same encoding scheme, either ASCII (e.g. the number 142 represented as the character string '142') or binary (142 represented as '10001110').

A still more effective scheme is a data link, transmitting the data over a communications link, such as a telephone line or a direct wire. Similar incompatibility issues occur here, too. Economic issues are important. For example, using a dial telephone network to transmit a 4-million-byte file from Chicago to Los Angeles at 1200 bits per second would take well over 10 hours, even assuming no errors, and be considerably more expensive than mailing a tape, even using an overnight service. Using a high-speed data link (e.g. ARPANET) would reduce the time but increase the cost. If file transfers occur often, on the other hand, the network may be economical.

The subject of networking and data transmission is too large and complex to be more than mentioned here. For further reading see any standard introductory text.

What is an information exchange standard, and why do we need one?

In architectural practice, each firm has its own standards and methods. The ways in which architects describe building details, lay out a drawing, and relate various drawings to each other and to contract documents may be quite similar from firm to firm, but with subtle differences. The standards for a given firm have evolved over time and have been shaped by a variety of factors to fit the needs of architects and their clients.

In a similar way, the developers of computer-aided design systems have evolved unique ways of organizing information influenced by the type of hardware, the software, the type of data used by the system, the needs of the users of the system, the methods used for generating data used by the

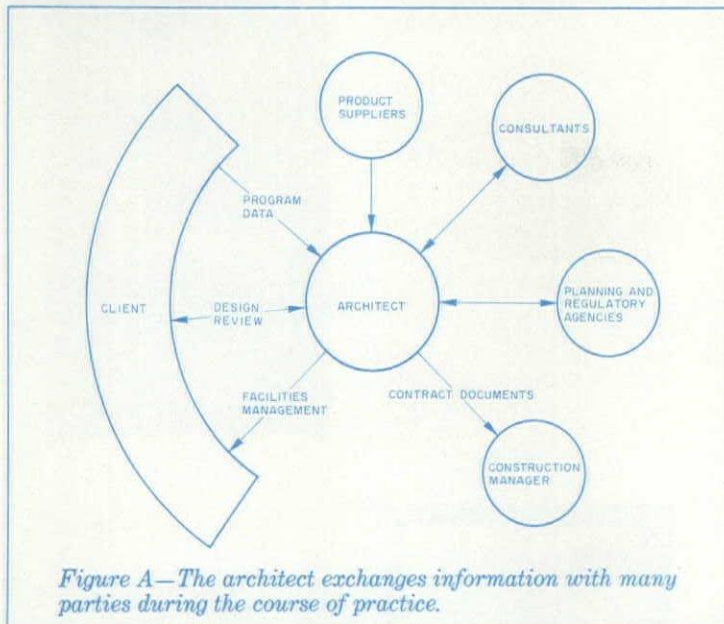


Figure A—The architect exchanges information with many parties during the course of practice.

ways in which data is stored in one computer or software system is invariably different from other systems. This poses a "Tower of Babel" problem. Many individuals are trying to use computers to work toward a common goal without having common communication.

As the architecture profession begins to use computers more and more in architectural practice (and as our clients and colleagues increase their use of and understanding of computers), the need to exchange information in digital form will increase. This will require that some standard be established to ensure that information produced by one group and computer system is meaningful to other groups and systems.

To address this issue, several attempts have been made to

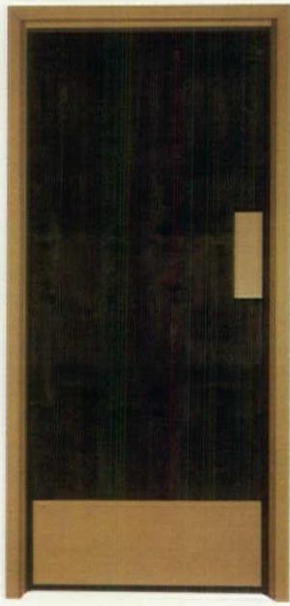
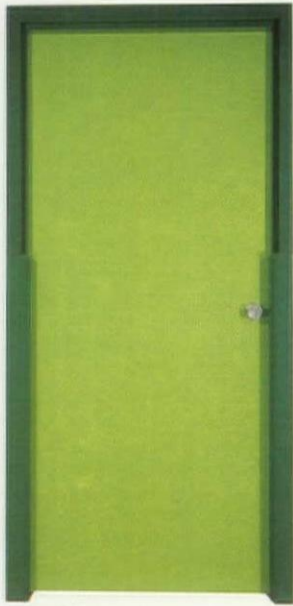
our goal is somehow to transmit a drawing and associated information from one system to another. Since this information will be in a computer file of some kind, the task becomes one of:

- transmitting a file from one system to another, and
- ensuring that the contents of the file can be "understood" by the application program in the receiving system.

Though the thrust of this article is the latter and might be called "information transfer," the former, which we could call "data transfer," is certainly a necessary component. How do we do data transfer?

One way, certainly, is to copy the data onto paper, as a printout, or digitizing in a drawing. Although highly inefficient and error-prone, this scheme has actually been used

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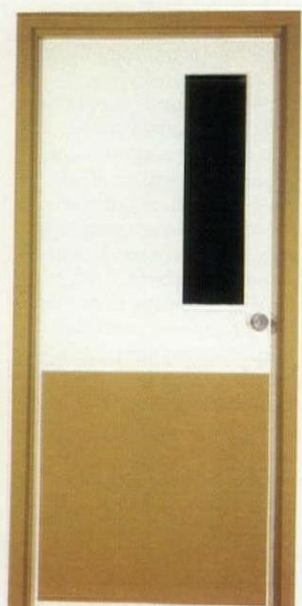
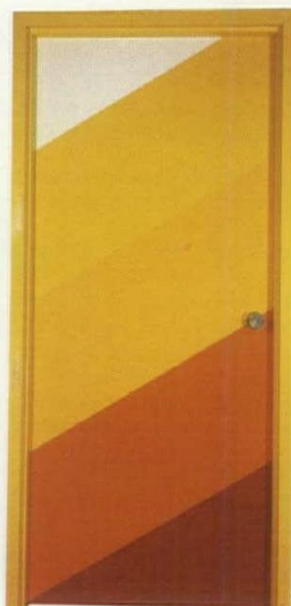
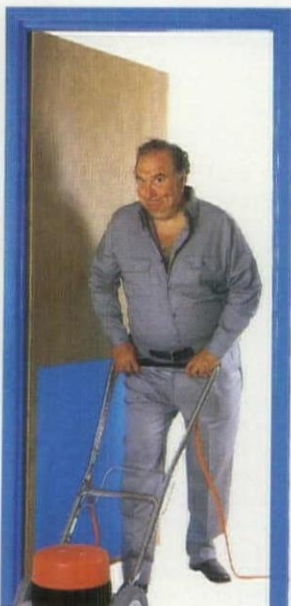
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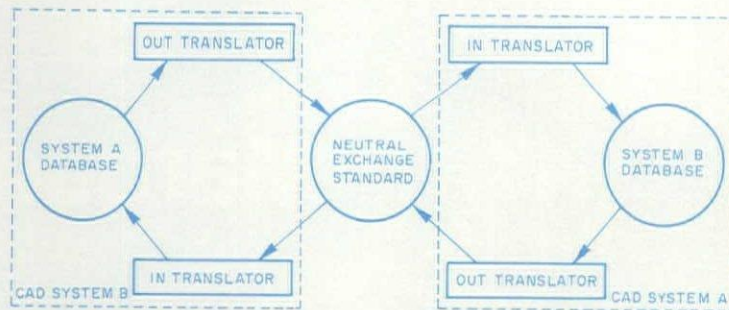
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Figure B—A neutral information exchange standard allows two CAD systems to transfer information even though they may have different internal representations of that information.



system, and the developers' concept of what information is necessary for a particular task and how it is collected, generated, analyzed, and displayed.

As with architects, there may be considerable variation between one standard and another. However, since the factors affecting the formation of a standard in the computer-aided design community are more diverse, it is likely that the standards vary significantly from one system to another.

To communicate information stored in one system to another system, some format for the exchange of this information must be agreed upon by the developers of the two systems. This agreed-upon means of data transfer is an information exchange standard. Such a standard defines the form of information exchange from one system to another. If one has some information in system "A" and wishes to transfer it to system "B," one must first translate the information on "A" into a neutral form.

The neutral form is, in effect, the form described by the information exchange specification. One must then translate the information to system "B." With each translation some information may be lost. If one wishes to then transfer the information back to system "A" even more information may be lost.

Let's look at some problems involved in defining an information exchange standard

Let's use the analogy of a Russian scientist who wishes to send a document to a Japanese colleague. Suppose that the Russian did not have a Russian-Japanese translator available, but that a Russian-English and an English-Japanese translator were available. The Russian would have to have the document translated from Russian to English and then from English to Japanese. With each translation, some information would be lost. Each language has a particular set of concepts that can be expressed, but there is not necessarily a one-to-one correspondence in translation. The general meaning of the document can probably remain intact through the translation but subtle nuances may be lost.

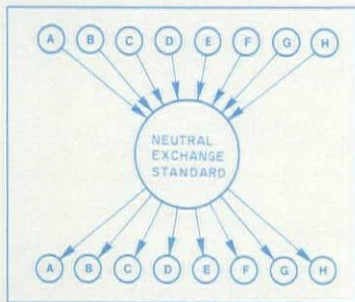
In trying to exchange information between two computers, one encounters the same problems as the Russian

scientist. However, the problem is likely to be worse since human languages are very rich and complex and can express one concept in a variety of ways whereas the computer may not have such a wide range of alternatives available to represent information.

Architectural design is an iterative process. An architect generates a design solution, evaluates that solution, and successively refines it until it "fits" the design criteria. Many people, including the client, consultants, engineers, other architects, planning boards, etc., may be a part of this process. If the parties involved in the design process have computer systems, it is probable that they will wish to use them. Thus design information may go through many translations, potentially losing information through each.

It is clear that, if care is not taken, the original meaning of the design information could be lost in much the same way that information is lost or distorted beyond recognition in the old party game in which a sentence is passed around a circle of people by having each person

Figure C—A neutral exchange standard only requires $2 \times n$ translators (n "in translators" and n "out translators").



whisper to the next in the circle.

One may ask why a single such standard is necessary. Why not write a translator between each pair of CAD systems? There are two reasons why this is impractical. First, there are a large number of CAD systems on the market. To allow each system to exchange data with any other system would require a large number of translators. If we know that there are " n " CAD systems on the market, $n \times (n-1)$ translators would be needed to ensure that data could be exchanged between the systems.

Each time a new system came on the market, a new set of translators would have to be developed. In addition, as each

CAD system developer upgraded his products, the translators would have to be upgraded as well. It is clear that this would be a monumental task! With one information exchange standard, each manufacturer would be responsible for maintaining a translator to and from the standard format, thus resulting in only $2 \times n$ translators (see Figure C).

The second reason for a single, neutral standard is that manufacturers of various CAD systems are competitors. They, in all probability, view their internal information structures as proprietary. To write a translator between any two CAD systems, it is necessary to have a detailed knowledge of each system's data storage structures and mechanisms. CAD system developers might understandably be hesitant to divulge such information to their competitors. With a single standard in the public domain, CAD-system developers could develop their own translators, thus providing data transfer capability while ensuring that knowledge of the internal workings of their system remains confidential. Thus, it is clear that a single information exchange standard is the most reasonable approach to exchange of architectural CAD data.

An information exchange standard should allow one to transfer as much information as possible between computers. Obviously, the more information that can be described by a standard, the more that can be transferred. Care must be taken to ensure that information stored implicitly in the structure or arrangement of information as well as the information that is explicitly defined is transferred.

To summarize, an information exchange standard is a format upon which architects have agreed to transfer information from one CAD system to another. There is currently no information exchange standard for architectural CAD data, but several potential standards are evolving. It will be to the architect's long-term benefit to participate in their formation.

What efforts are under way to develop an information exchange standard?

Several attempts have been made to develop information exchange standards. Some are important to the architect. Let's look at IGES, perhaps the most advanced of these standards used to transfer CAD data, the data

transfer capabilities of two commonly used standards for computer graphics, and finally a data transfer specification for microcomputers.

• **IGES—Initial Graphics Exchange Specification.** IGES is specifically tailored to the exchange of CAD data. Development of IGES began in January 1980 by a technical committee composed of CAD/CAM industry representatives and coordinated by the National Bureau of Standards. IGES Version 1.0 was adopted by ANSI (the American National Standards Institute) in September 1981. The original goal of IGES was to provide "a data format for product design and manufacturing information created and stored in a CAD/CAM system in computer-readable form."

IGES allows CAD data to be stored in neutral form (a generic format not specific to any given CAD system) and to be translated from one CAD system to another. Initial users of IGES were large companies that had developed special-purpose software in-house and who wished to create integrated CAD systems with that software and/or to use that software in conjunction with a turnkey system. In addition, CAD system developers began to implement IGES translators for their systems. Currently, 32 CAD-system suppliers have committed themselves to supplying IGES translators for their products. These suppliers include several major CAD system developers for the architectural market.

Version 1.0 of IGES was primarily aimed at the general CAD/CAM community and allowed for the representation of geometric data such as size, shape, and position. Version 2.0 of IGES included extensions to accommodate printed circuit board technology and description of finite elements.

IGES tries to provide a very general format for the storage and transmission of computer-aided-design data. Each piece of data in an IGES file is represented by an entity. An entity may be one of three types: geometric, annotation, or structure. A geometric entity describes the physical shape and size of the object being represented. Geometric entities include points, lines, curves, surfaces, and planes. Annotation entities allow notations to be given for the object being described. They provide further

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information on the object. Annotation entities include textural notes that might appear on a drawing and dimensioning entities. Structure entities allow relationships between other entities to be expressed. Thus entities may be placed into groups or notations may be placed into groups or notations may be tied to geometric entities. In addition, a general purpose entity called a property may be attached to other entities to provide other information.

As IGES currently stands, it could be used to transfer architectural drawings from one CAD system to another. It is not, however, adequate to describe a building in detail. It is difficult to use and has grown up as a definition standard for industrial products. Thus, it may not yet be suited for architectural use.

There is currently interest, however, in extending IGES so that it meets the needs of the architecture, engineering, and construction communities.

Although IGES may need some work, it provides a good foundation for architecture, engineering, and construction data exchange. It would benefit the architectural profession to become involved in the development of this specification.

• **SIGGRAPH CORE** and **GKS**. These systems have arisen through efforts at defining graphics standards—i.e. standards for computer graphics. Work in this area has been under way since 1974 at both the national and international levels. Among the better known of these efforts are those of the ACM (Association for Computing Machinery), SIGGRAPH (Special Interest Group on Graphics), Graphics Planning Committee's "Core" proposal and the German standards group (DIN) GKS (Graphical Kernel System).

The thrust of these efforts is specification of a device-independent computer graphics system. A major benefit is portability of graphics applications programs, i.e. an application such as a CAD system need not be rewritten for each new graphics device in which it is installed.

An additional component of these efforts is the specification of a so-called "metafile," a file format for device independent graphical information. The basic purposes of the metafile are to transport graphics information between systems, to transport it between applications, and archival storage.

An important aspect is the ability also to store nongraphic information. While the 1979 CORE specification did not allow this, later efforts by the ANSI X3H3, the formal standards body for graphics in the United States do support this. Version 7.0 of the GKS also specifically provides a means for application programs to read that information back. Though this provides a basic mechanism for

exchanging data, it does not specify the format or type of nongraphic information, and is therefore of less interest than the IGES specification for this purpose.

• **DTS**. Readers with microcomputer systems may already have run into the problem of interchanging data between systems or programs. Suppose one wishes to look at the results of running a spreadsheet analysis (i.e. VisiCalc) with a plotting package. Unless the plotting program can read the file output by the spreadsheet program, one must print the spreadsheet and re-enter all the relevant data by hand into the plotting program. This may be a time-consuming and error-prone task. To solve this kind of problem, the DIF (Data Interchange Format) file specification was defined. The DIF file is simply an application-independent format for storing certain types of information. Thus programs able to read DIF files can be used to process the output of any program that creates a DIF file.

The need to transfer data between computers is clear in many applications

As architects increasingly rely on computers for drafting, engineering analysis, inventory, and other computer-aided design functions, the need to transfer architectural information between computers will be felt. Technological decisions being made now will have far-reaching implications. An awareness of such issues as information exchange standards will make today's architects more intelligent consumers in the CAD marketplace and will increase the probability that future CAD systems will meet the needs of architectural practice in years to come.

Mr. Dill is on the Cornell University staff as manager of the Computer-Aided Design Instructional Facility. He has been involved in interactive computer graphics since 1964, and has an extensive industrial background, having been involved with computer-graphics research and development at General Motors Research Laboratories since 1969. At General Motors he was active in the design of graphic systems for computer-aided design applications. Among his continuing research interests are device-independent graphics, man-machine communications, color graphics in computer-aided design, and business graphics systems.

Mr. Pittman is a member of the computer group at Hellmuth, Obata, and Kassabaum. Prior to that he was an assistant professor in the Department of Architecture at Cornell University, working with the Program of Computer Graphics on the development of computer-aided design applications for architects. In the past, he has worked on the development of computer-aided design and architectural computer applications for Skidmore, Owings, & Merrill; Structural Dynamics Research Corporation; Harvard.

A report on the latest efforts to upgrade the Initial Graphics Exchange Specification

At the end of 1983, a group of those interested in developing extensions to IGES for architecture, engineering, and construction applications met in Gaithersburg, Maryland. The group consisted of some 35 representatives from architecture and engineering firms, CAD system suppliers, government agencies, construction firms, and the academic community.

The group discussed the existing IGES specification and how it might meet the data transfer needs of the architecture, engineering, and construction communities, and how that function might be extended. The issues discussed included: the reasons for transferring information between CAD systems; the type of information to be transferred, ways in which CAD data is generated and the "model" of a building that is or should be described in a computer system.

Although no conclusive recommendations were formulated, the group agreed that IGES use for architecture, engineering, and construction warrants further discussion. They plan to meet again this month as a subcommittee of the IGES committee.

Although some suppliers of CAD systems were present at the meeting, several heavily involved with the architectural and engineering market were not. This seeming lack of interest leads to three possible conclusions: CAD-system suppliers are not supporting IGES; they are trying to lock their customers into using their own systems by discouraging transfer of data to others; and/or they view architecture, engineering, and construction as an insignificant part of their market.

What designers can do to help the cause and themselves

The process of defining a standard for information exchange deals with technical issues outside the area of expertise of most architects. The standard that results from such a process, however, has far-reaching implications for the architectural profession. With this in mind, what can members of the architectural profession do to ensure that a data exchange standard will meet their needs? The steps one can take include the following:

• Define one's current and future needs for information exchange. What type of data is now on your computer system? What type of

data do you foresee having on your computer system in the near future? With whom might you wish to exchange information? What will be done with the information once it is exchanged? Attempting to answer these questions may help clarify one's own needs for data exchange capabilities between two or more computers.

• Ask your computer suppliers if their system supports IGES. If the answer is yes, ask how far along they are in implementing their IGES interface. If no, ask why IGES is not being supported. If your suppliers do not support IGES or some other common information exchange standard, they may be trying to "lock" you in to using only their products. While this may be good for them, it is certainly not in your best interests. Many architects have been disappointed by CAD systems that have not performed to their satisfaction. The capability to transfer information to another system can give one more flexibility in upgrading CAD systems and will provide an incentive for CAD suppliers to continue striving to improve their systems.

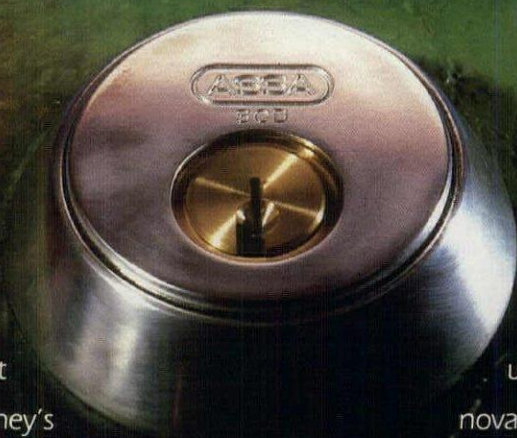
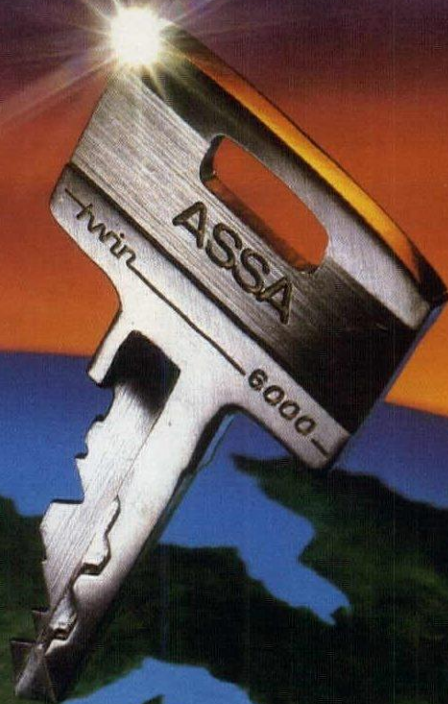
• Find out more about IGES. The National Bureau of Standards has several publications on IGES, which are available through the National Technical Information Service. In addition, they publish an IGES newsletter. For more information, contact Fred Stahl at the Center for Building Technology, National Bureau of Standards, Washington, D.C. 20234.

• Encourage the American Institute of Architects to have a voice in the definition of computer data exchange specifications.

• Make your data exchange needs and concerns known to the IGES AEC working group. To do this you may contact: the author at Hellmuth, Obata, and Kassabaum, 100 North Broadway, St. Louis, Mo. 63102 or Dave Jordani, Ellerbe Associates, One Appletree Square, Minneapolis, Minn. 55420.

It is encouraging that an AEC working group on IGES is being formed. It will certainly benefit the architectural profession to be involved in the development of a standard that is gaining widespread acceptance by other professionals who are using computer-aided design techniques. *Jon H. Pittman*

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Management: Don't think becoming a preservationist relieves liability perils

By Robert Steven Anderson

As curators of our architectural heritage, preservationists render a broad range of conservation, design and planning services. Some preservationists are also architects; many are not. All face increased exposure to malpractice liability as their nascent profession gains visibility and influence.

Architectural preservationists are endeavoring to persuade clients and potential clients that they are professionals, and to distinguish the service they offer from what can be obtained from an architect, architectural historian or restoration contractor without special training in preservation. Preservationists' increasing success in that effort is cheering news, for they have worked hard for that recognition and stand to gain from it, financially and spiritually. But there is a down side too: To the degree preservationists succeed in establishing themselves as a distinct profession, they are also increasing their exposure to malpractice liability.

Thirty years ago, the terms "architectural conservator" or "preservationist" called to mind the few architects, archaeologists, historians and classicists who studied, catalogued and, occasionally, restored old structures—as well as public advocates (blue-haired ladies in tennis shoes included) who campaigned to save specific buildings and neighborhoods and to awaken the rest of us.

Today, the core of what is often referred to as the "Preservation Mafia" is increasingly composed of people who have completed an extended, formal course of study in historic preservation at one of the 50-plus American colleges and universities now offering such programs.

While some are licensed architects who use new knowledge in their practice, others join municipal, state and Federal agencies, where they care for publicly owned properties and administer regulatory tax and grant programs that promote preservation. Many, however, have simply hung out their shingles as preservation consultants, offering their expertise to such private and public clients as will retain them.

There have been no reported court decisions of cases in which the negligence liability of a preservationist has been adjudicated by professional liability standards. But as their influence and responsibilities

expand, so also grows their capacity to cause harm to persons or property.

Ours is a litigious society, and the courts are increasingly prone to hold all professionals accountable for injuries caused by their mistakes. The extraordinary growth in law suits and judgments against architects and engineers is in point, as reported in the June 1983 issue of ARCHITECTURAL RECORD, page 37.

Therefore preservationists would do well to consider the following questions: 1. Am I a professional in a legal sense? 2. If I am, how is my liability exposure changed by that status? 3. To what extent can I protect myself with insurance?

Have preservationists achieved professional status in the eyes of the law?

Many preservationists assume that they are not "professionals" in any legal sense, because the states do not license preservation consultants as they do doctors, architects, lawyers, etc. The assumption is based on a misconception of state licensing statutes. Those statutes draw no crisp line between what is, and what is not, a profession in any absolute sense but reflect merely the legislatures' regulatory schemes and objectives. Witness New York's Education Law which omits university professors from its list of licensed professionals but includes the "profession of massage."

There is, in fact, no clear and consistently applied legal test for distinguishing professions from nonprofessional occupations. But the courts have applied common sense criteria in defining "profession" and "professional services" in a variety of contexts, and it is reasonable to assume that those same criteria will be applied to the negligence liability question.

New York, for example, levies no unincorporated business tax on professionals. Construing that exemption, New York's highest court has held that an occupation is a "profession" if the service rendered "requires knowledge of an advanced type in a given field of science or learning gained by a prolonged course of specialized instruction and study." Do preservation tasks require such knowledge? Increasingly, the marketplace is answering yes.

Certainly, preservationists are exhibiting the caste marks of professional status. They write and publish articles. They subscribe to the journals in

which such articles appear. They attend conferences of their peers, where they present and debate papers. They form societies and other nonprofit organizations that include in their stated purposes the expansion and dissemination of knowledge on architectural preservation. They are endeavoring to develop consensus on fundamental principles and standards of their craft and on appropriate curricula for graduate preservation programs. There is an aura of public service, even mission, about their craft.

Certainly it would be unwise for a preservation consultant to base his risk management planning on the assumption that his liability *cannot* be adjudicated by professional standards. Architects for new construction, after all, were first treated as professionals for liability purposes at the end of the last century, when that profession was at a comparable stage of development and self-definition.

How, in particular, are preservationists opening themselves to liability?

Various intangible factors, including greater visibility, will increase the likelihood of preservationists being sued. Achievement of professional status by preservationists may also bring into play less favorable statutes of limitation and broader exposure toward third parties. Most importantly, the performance of preservationists, *qua* professionals, will be judged against higher standards. There are two reasons for this.

First, the work product of preservationists will be judged against the standards set by their peers, i.e. other university-trained preservationists, rather than against the work product of contractors, architects or others engaged in the same or similar tasks but not holding themselves out as having had specialized preservation training.

The principle can be illustrated by the following analogy: Assume that I ask my friend, who is not a barber, to cut my hair. If he undertakes this task, I expect still to have my ears when the job is done. But I should also expect my hair to show a few tufts. If I go to a barber, I expect not only that there will be no loss of blood, but also that there will be no peaks and valleys. If I go to a hair stylist, I expect the result will be stylish, and that a particularly stubborn cowlick will be rendered invisible.

Although all three undertook the same basic task, i.e. giving me a haircut, I expected different levels of competence of the three. The law protects those expectations. When a person holds himself out to the public as a practitioner of a particular occupation, he implicitly warrants that he is competent to perform the specialized services ordinarily associated with that occupation. He is required to exercise in his work the degree of skill and knowledge commonly possessed by members of that occupation. If harm results because he does not have, or does not exercise, that degree of skill and knowledge, he will be liable, even if his work is comparable to that of other persons, not of his particular occupation, doing the same basic tasks.

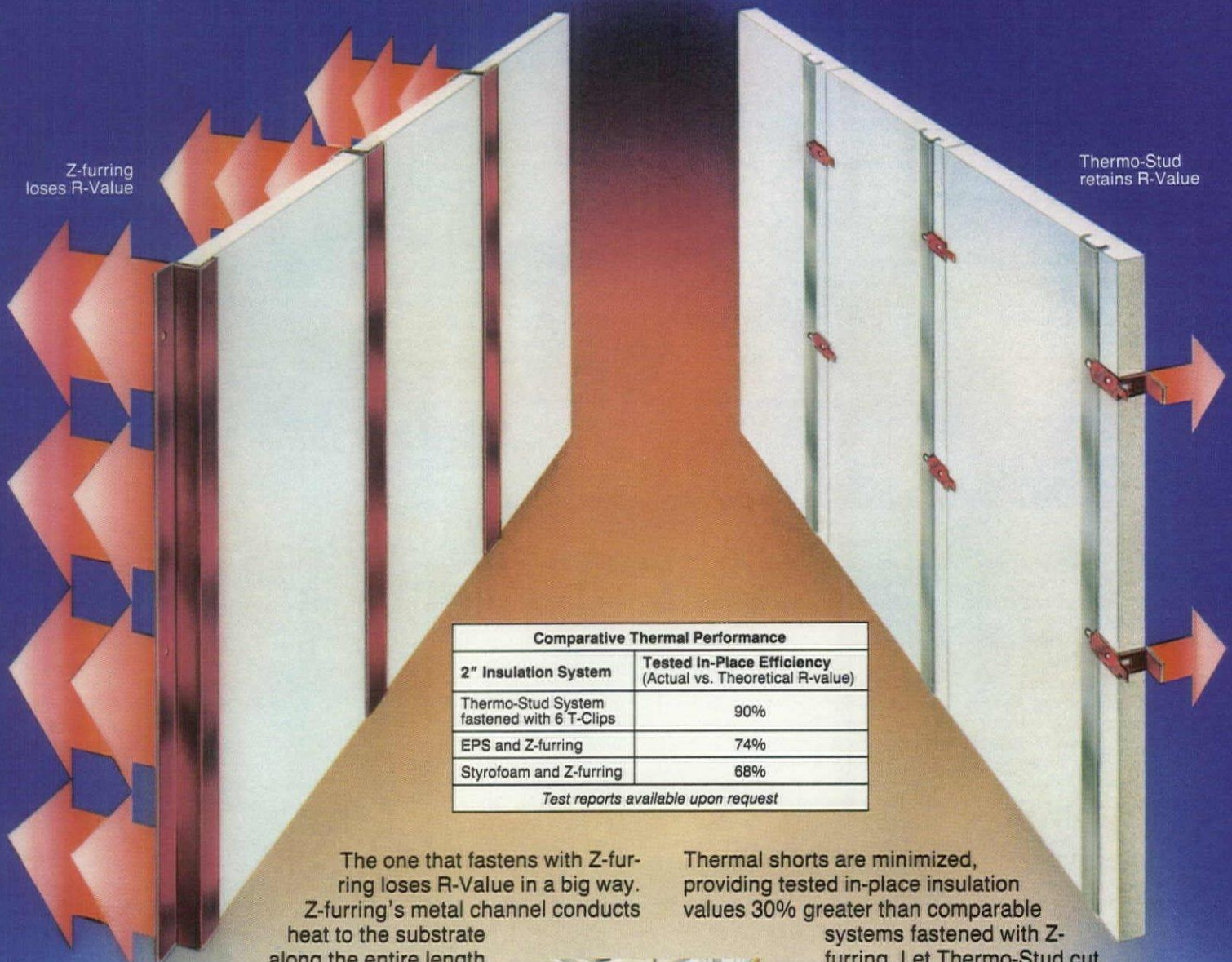
The second reason that attainment of professional status is likely to increase preservationists' liability is that professional status *per se* excites higher expectations. "Profession" is defined in *Webster's Third New International Dictionary* as: "A calling requiring specialized knowledge and often long and intensive preparation, including instruction in skills and methods as well in the scientific, historical, or scholarly principle underlying such skills and methods, maintaining by force of organization or concerted action high standards of achievement and conduct, and committing its members to continued study and to a kind of work which has for its prime purpose the rendering of a public service."

The public expects, and is legally entitled to expect, that the services of a professional will measure up to *Webster's* definition. I expect of my daughter's pediatrician not only that he met his qualifications 20 years ago, but that he has kept abreast of developments in his field. If I retain another lawyer to render an opinion, I expect his opinion will be based not only on experience, but also on whatever research is necessary or appropriate.

The demands made of professionals can be illustrated by a hypothetical case

A recent owner of a 19th-century apartment house finds the south facade developing large patches of a white crystalline powder, and selects two consultants with different credentials to diagnose the problem. Consultant 1 is a waterproofing contractor with experience in cleaning and restoring older buildings. Consultant 2 is a 1970 graduate

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of the historic preservation program of XYZ University's graduate school of architecture. His résumé shows his qualifications for the project, his postgraduate studies and the several articles he has authored on conservation subjects.

Both consultants give the same diagnosis: "Mister, you've got a water problem. Rain water is getting into the masonry and dissolving salts, is drawn to the surface by evaporation and deposits them. If you want to stop the efflorescence, you will have to keep water from entering the masonry. Clean it and apply a moisture barrier." End of diagnosis.

The owner thanks them both, pays them and hires a contractor, whom he tells to do whatever is necessary to keep water out of the building's walls. A lot of money is spent for cleaning and water-repellant coating. Next February, the efflorescence returns and the faces of some of the bricks are popping off. The owner sues his two consultants.

In the pretrial proceedings, it is established that the salts forming the original efflorescence came from a chemical cleaner the previous owner had used just before putting the building on the market. Neither consultant had conducted any investigation that might have disclosed the earlier cleaning, nor had either consultant made any laboratory analysis of the building's brick or mortar or of the surface deposits.

The trial begins. To prevail against either consultant, the owner must prove that the consultant was negligent, i.e. that he failed to identify the root cause of the building's efflorescence because he failed to exercise the care, skill and competence commonly exercised by members of his particular occupation.

The case against consultant 1, the waterproofing contractor, is a poor one. There may be difficulty in getting another waterproofing contractor qualified as an expert witness to testify about standard practices in that amorphous industry. Even if the owner gets over that hurdle, the testimony of his expert is likely to consist of the expert's own view of what investigative steps ought to have been taken, dressed up with unsupported assertions that such an investigation is a norm of the industry. Testimony of that kind, if admitted at all, is vulnerable to cross-examination and is not very persuasive. Consultant 1's defense is a simple one: He is a

waterproofing contractor; if the building owner wanted the services of a chemist or private eye, he should have hired one.

Consultant 2, on the other hand, presents a sharper target, likely to be judged against a higher and more readily ascertainable standard. The expert witness whom the owner uses in this case, let us assume, is a member of the faculty of the preservation program at XYZ University.

The witness opens his testimony by explaining to the court why it should conclude that university-trained architectural preservationists constitute a distinct profession, and—being able to back up that statement with specific criteria—concludes by stating that, had the consultant exercised the skill and learning common to members of his profession, he would have realized that the problem could likely have been cured by application of a poultice or, perhaps, by several good washings with a garden hose.

Whether the second consultant wins or loses the lawsuit is a toss-up. What is certain is that the claim against him for professional negligence has some real substance, and that he will incur heavy legal expenses if he chooses to contest the claim through trial. Consultant 2's predicament would be serious enough if he were adequately insured. Chances are, he isn't.

What liability insurance is available for preservation consultants?

Typically, a professional looks to insurance for two types of protection: (1) indemnification for a judgment against him or for a sum he must pay in settlement, and (2) defense in the legal proceedings against him, including payment of legal fees and expenses.

An architectural preservation consultant can purchase the same insurance policies that contractors rely on to protect them from claims of negligence. Such policies including comprehensive general liability will protect against claims for ordinary negligence, i.e. negligence of a nonprofessional nature. The rub comes when a claim is made alleging professional negligence. Most comprehensive *general* liability policies provide, in words or substance, that:

"This insurance does not apply to bodily injury or property damage arising out of any *professional services* performed by or for the named insured, including the

preparation or approval of maps, plans, opinions, reports, surveys, designs or specifications."

A preservation consultant insured by such a policy and sued for professional negligence, would likely receive from his insurance carrier a "Reservation of Rights" letter of the sort described in the June 1983 issue of RECORD (again, see page 37). The letter would state the insurance company's position that professional negligence is excluded from the coverage of the policy, and that the company will not indemnify the insured if professional negligence allegations are proven and the court enters judgment on those allegations. If the consultant disagrees with the insurer's position, he will probably have to sue the insurer, at his own expense, to obtain a declaratory judgment on the policy's coverage.

As yet, the route has not been tried, but all other things being equal, the preservationist has a better shot at being classed as nonprofessional in litigation with the insurance company than he does in litigation with an injured plaintiff.

General rules of contract construction required that any ambiguity in the term "professional," as it is used in an exclusion clause of an insurance contract, be resolved against the insurer. The insurer drafted the contract and clauses of exclusion are construed narrowly. The insured can argue with some force that the casualness with which "professional" is used in common parlance has eroded any certainty of meaning the term might once have had.

Our defendant-preservationist is not likely to find much solace, however, in having a "good shot" at establishing coverage under his policy. When he bought the policy and paid his premiums, he thought he was buying a measure of certainty, not simply the right to litigate with his carrier over the scope of the policy's coverage. A comprehensive general liability policy with a "professional services" exclusion clause does not provide that certainty.

Architects, including architects with a preservation component to their practice, can solve the problem by buying a professional liability policy, often referred to as "errors and omissions" insurance. A nonarchitect preservationist working within an architectural firm is likely to be covered by the firm's professional liability policy. The insurance industry, however, has not yet developed such a policy

for the preservationist conducting his or her own consulting practice. Indeed, the industry is only beginning to awaken to his or her existence.

The insurance industry may be unlikely to invest time and effort in designing a professional liability policy for preservationists, including doing the necessary actuarial workups, until two developments occur: there is broad market demand for such insurance, and clear lines are drawn around the profession, so that insurers can ascertain *easily* who is within the profession and who is not. State licensing or, perhaps, a national organization with restrictive membership qualifications could satisfy that second requirement.

Licensing and professional organizations with restricted membership are hot topics of debate among preservationists and are not likely to come for several years. What is the consulting preservationist to do now to achieve some measure of protection? There are quite a number of things, many of which are discussed in the August 1983 issue of RECORD (see page 39).

Consulting contracts must be carefully drawn, especially as they define responsibilities and the service to be rendered. Projects with high potential for producing lawsuits should be avoided, as should litigation-prone clients. Thought should be given to incorporation to protect personal assets from judgments based on theories of derivative liability. On the insurance front, consideration should be given to asking the carrier to agree in advance on a definition of "professional services," perhaps one limiting its meaning to services that legally can be rendered only by a *licensed* professional in the jurisdiction of the preservationist's practice. Most importantly, however, preservationists must become aware of the dimensions of their negligence liability exposure so that their risk management planning can proceed on a realistic basis.

Mr. Anderson is an attorney practicing in New York City. He is associated with preservation through a number of activities, including representation of the Center for Building Conservation and affiliation with RESTORE, a skills-training program directed by his wife Jan.

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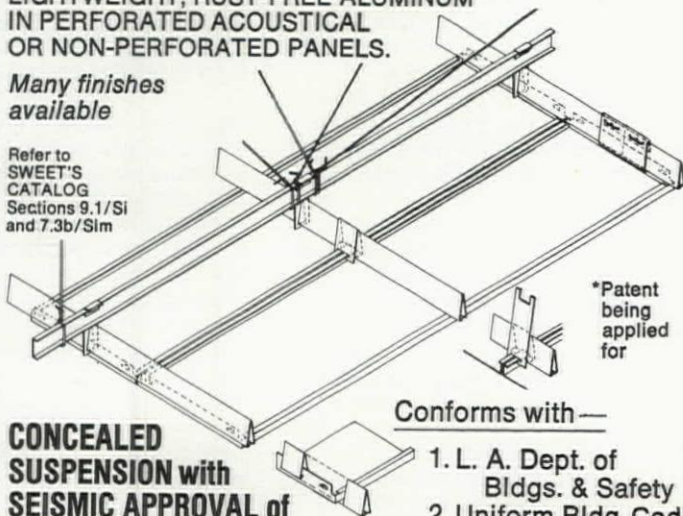
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Marketing: Clients' needs are the target

The Society of Marketing Professional Services celebrates ten years of progress with the recent awards for excellence in marketing techniques

By Ernest Burden

At the tenth anniversary convention of the Society for Marketing Professional Services held in Dallas late last year, 40 awards were presented to representatives of architectural, engineering, interior-design, construction management and landscape architecture firms.

Over the decade, the society's competition has developed from a single category contest for newsletters only, to the 11 category competition of today. It is now the major vehicle in which design firms can pit their marketing tools against the standards being set within their own industry.

Chaired for the third year by Nadene Barna of The Falick/Klein Partnership Inc. and Ernest Burden, New York marketing communications consultant and author of this article, the program drew 300 entries from the current 2,800 members.

Of the 300 design firms that submitted their marketing materials for judging, 40 firms received awards.

The emphasis is finally being placed on the message rather than the medium. This year's winners demonstrated the growing use of client testimonials and client-targeted messages. This could be the result of a change in the way design firms perceive what clients want to see, the result of several years of a buyers' market, or both.

In any case, recognizing the client was the focus of most winning programs. And rightly so.

In the print categories, well-targeted and client-oriented pieces were favored by all juries. In the two audio-visual categories, five of the seven winners featured client testimonials or natural dialogue from members of the firm rather than the traditional canned approach using narrators.

The audio-visual entries were straightforward rather than the "razzle-dazzle" of previous years. As a result, the entries were less spectacular from a media point of view, but more direct in purpose.

Broad criteria made the awards most selective

The entries were judged in 10 cities nationwide, and jurors were more selective than in previous years in designating winners. One reason for this greater selectivity was the inclusion in the juries of

communication experts from other industries, who brought with them their own high standards. As a result, awards were not given in all categories.

Outside jurors who participated in print media judging included Andrew Sparks, editor of the *Atlanta Journal & Construction*; Jo Ann Truffelman, manager for print and production services, Coca-Cola USA; and John Berry, director of corporate communications, Herman Miller Inc.

Jurors in the audio-visual category included William Raczko, director of design, Department of General Services, New York City; Paul Rozsypal, chief of project operations branch of GSA; and Douglas Brenner, senior editor, ARCHITECTURAL RECORD.

Advertising is a prime example

fellow jurors felt that only one brochure of the 65 entries should be awarded a major prize. That winner was the brochure of Anshen & Allen Architects of San Francisco.

It was the only entry with that very necessary characteristic, a strong marketing and design concept. It also exhibited a sense of humor and whimsy that appealed to the jury. Said Huttie, "They didn't use the standard design industry approach of showing all their work and hoping the client sees something he likes."

Category 2: Special market brochures

The most successful entries in this judging, chaired by Robert Skunda of Dewberry & Davis, were those that had a strong theme and were directed at a

Many of the brochures still read as though written for peers, with technical descriptions of capabilities and services.

Category 3: Annual reports

Despite the apparent large investments in time and money on annual reports, there was a notable seesaw effect in the finished products. Example: some used expensive paper, but used canned, trite or poor-quality photography.

Jury chair Michael J. Riordan, of Welton Becket Associates, believes that design firms, no matter how talented with building design, should not be afraid to hire outside graphic consultants when moving from drafting table to typewriter.

Layouts and organization of material were overly complex and entries were judged as "too wordy," given that the intended recipient is a busy professional with no time to wade through quite that plethora of text.

The jury liked the use of quotes from employees because it involved the reader in a group of interested people and definitely expressed a personal touch.

Category 4: Newsletters and magazines

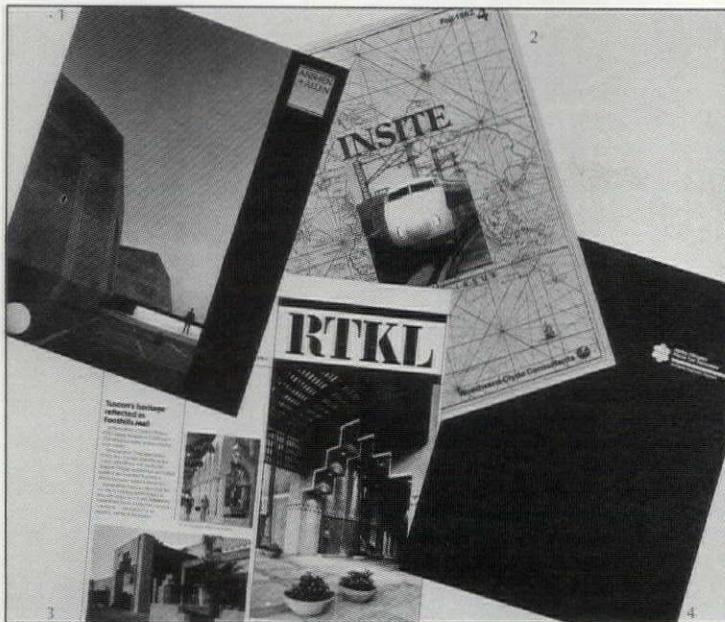
Ten of the 32 submittals contained articles of real interest to the readers and had high quality graphics and photography. Many firms are now including general interest articles relevant to their particular fields to gain the attention of the target audience. There is also a trend to theme issues oriented to a specific market segment and away from the all-purpose newsletter.

The jury, chaired by Sally Rasmussen of Jova/Daniels/Busby, found that even the many fine technically competent pieces all began to look alike after the first dozen, which is the same reaction one can expect from clients. "What impressed us, then," noted Rasmussen, "was the competitive edge, the pieces that stood out by using a creative concept, outstanding photography or a well-targeted message."

Category 5: Corporate identity programs

Few design firms are using corporate identity programs to project their unique character and distinguish themselves from their competition.

Jerry Corbin of Corbin Design believes that few design firms are willing to make the necessary commitment to carry out a complete corporate identity



Examples of First Place winners: 1. Anshen & Allen, company brochure; 2. Woodward-Clyde consultants, magazine; 3. RTKL,

newsletter; 4. Harley Ellington Pierce Yee Associates, communications program.

of where an outside perspective is needed. "Our industry is only pioneering in advertising and should be judged each year by those with broad experience," stated competition chair Nadene Barna.

"After all," said Barna, "when we send a brochure to a prospective client, we compete with all the mail he receives. The same is true in advertising space. Our material must meet the standards of major advertisers if we are to favorably compete."

Category 1: Company brochures

Jury chairman Joseph Huttie Jr. of Ellerbe Associates Inc. and his

highly specialized market. While considering graphics and writing excellence, the jury was more concerned with the over-all concept and creativity of carrying it out.

Most firms designed their special market brochures as a spin-off or extension of a general capabilities brochure rather than clearly identifying the special market and creatively zeroing in on it.

"The writing," reported Skunda, "was in general misdirected. Many firms are still taking the passive approach to selling themselves rather than explaining how their services will benefit the client."

Trilogy called for intelligent flexibility.



Interior Design by Gensler and Associates/Architects

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program where consistency and completeness become major criteria.

Category 6: Direct mail

Most entries were brochures and one-time mailings rather than actual mailing campaigns, and ranged from brochures and promotion announcements through *Rolodex* cards, *Form 254s*, and a book pop-up. They tended more to the self-promotion of the design firm than to the interests of the prospective clients, an indication of the need for greater attention among design firms to their market planning.

The jury, chaired by Darlene Weidert of Gensler and Associates/Architects, applied strict state-of-the-art criteria to entrants, knowing that mailing pieces have heavy competition every day in the client's mail.

Category 7: Special events

As unsolicited communications, special-events pieces begin in a weak position among all the other competing appeals for the client's attention. As in the other categories, the entries that spoke to the client's interest were more effective than those simply stating a self-oriented message.

The jury, chaired by Ellen Flynn-Heapes of C.W. Fentress and Associates, P.C., reacted far more positively to the person-to-person effort than the spare minimalist style or cool abstractions. Also, the highly designed pieces did not inspire the confidence that the slightly more conservative, yet attractive, pieces did.

As with most printed promotional material, the jury (as is the case with clients) preferred limited use of text. Chances of getting your message to the client are much higher with less of his time and commitment required to read a short, clear piece.

Formats were creative and ranged from posters, cards and puzzles to jars of jam.

Category 8: Corporate advertising programs

Advertising continues to be an area of inexperience among design firms. The trouble begins early with failure to be specific in the objective of the advertising. Without a well-defined objective, it simply isn't possible to create effective advertising.

With a well-defined objective, the next essential is to have a creative strategy to support it. This combination was difficult, if not impossible, to find in this

awards competition. Jury chair Joann Stone of Boswell Byers & Stone also noted an "excessive amount of noncredible chest-thumping."

Category 9: Communications programs

The winner in this category, Harley Ellington Pierce Yee Associates, was the smallest firm entering—indicating that big bucks are not required to do quality communications material. The winning program involved well-targeted plans for finding and reaching the audience with excellent implementation and follow-through, all major criteria of a program that works—as this one did with five new commissions resulting from the program.

One encouraging note from jury chair Rolf A. Fuessler of Camp Dresser & McKee was the better quality of the targeted pieces over last year.

Categories 10 and 11: Audio-visual presentations

Audio-visual entries this year reflected greater professionalism and more attention to techniques, a sign that the industry is becoming comfortable with this medium as a marketing tool. Jury chair Rose Reichman, of Parsons Brinckerhoff stated, "The programs were more targeted to specific client groups. This clearly indicates the importance of knowing your audience and developing presentations that meet their needs."

There is a continuing trend toward the use of personalized messages with natural dialogue spoken by key executives and/or testimonials by satisfied clients. Most of the winners successfully used this technique.

The summary of ten years' progress is effective communication

This year's award winners truly reflected some of the significant changes that have happened over the last decade in marketing trends and techniques. These changes are definitely in the client's favor, but in turn make for better communication between design firms and clients. For example, brochures are no longer voluminous "picture books" of a firm's work, or a company catalog of every service the firm offers. Rather, they are sleek in graphic design, have fewer pages, much less text, better photography and are targeted to specific markets and audiences.

Newsletters are no longer

typewritten tabloids where the only focus is internal. They are now periodic extensions of the firm's promotional activities, second only to the brochure.

A brochure or print piece may only command 15 or 20 seconds of the client's attention before it is filed away, whereas an audio-visual program usually lasts five minutes or longer. Therefore, an AV program with good visual and narrative information remains an excellent method of communicating with clients, when you get your foot through the door. The big change has been the dramatic shift from slide shows to video format among entrants in the competition.

Although only a few firms have reached the level of full corporate identity programs, many are viewing that as the next logical step, as design firms take on more of the traditional customs of corporate businesses.

The award winners in the various categories are:

Company brochures:

1st: Anshen & Allen, Architects
Honorable Mention:
Clark Tribble Harris and Li Architects, P.A.
Haines Lundberg Waehler Harbert Corporation
Harley Ellington Pierce Yee Associates
Hope Consulting Group
Woodward-Clyde Consultants

Special market brochures:

1st: Sverdrup Corporation
2nd: Thompson, Ventulett, Stainback & Associates
3rd: Skidmore, Owings & Merrill
3rd: Sverdrup Corporation (tie)

Annual reports

1st: The CRS Group
3rd: Camp Dresser & McKee Inc

Newsletters

1st: RTKL Associates Inc.
2nd: The Ratcliff Architects
3rd: Al Cohen Construction Company

Magazines

1st: Woodward-Clyde Consultants
2nd: Gensler and Associates/Architects
3rd: J. A. Jones Construction Company

Corporate identity programs

2nd: Gensler and Associates/Architects
2nd: The NBBJ Group (tie)
Honorable Mention:
Walker Associates Inc.
Rampart Group, Inc.
HMBH Architects Planners
Interior Designers

Direct mail

3rd: R.G. Vanderweil Engineers, Inc.
Honorable Mention:
Yearwood & Johnson Architects, Inc.
LEA Group

Special events

1st: Rosser White Hobbs Davidson McClellan Kelly, Inc.
2nd: Modjeski and Masters
3rd: Thompson, Ventulett, Stainback & Associates
Honorable Mention:
Bobrow/Thomas and Associates

Corporate advertising programs

3rd: Gilbert-Commonwealth

Communications programs

2nd: Harley Ellington Pierce Yee Associates

Corporate services presentations

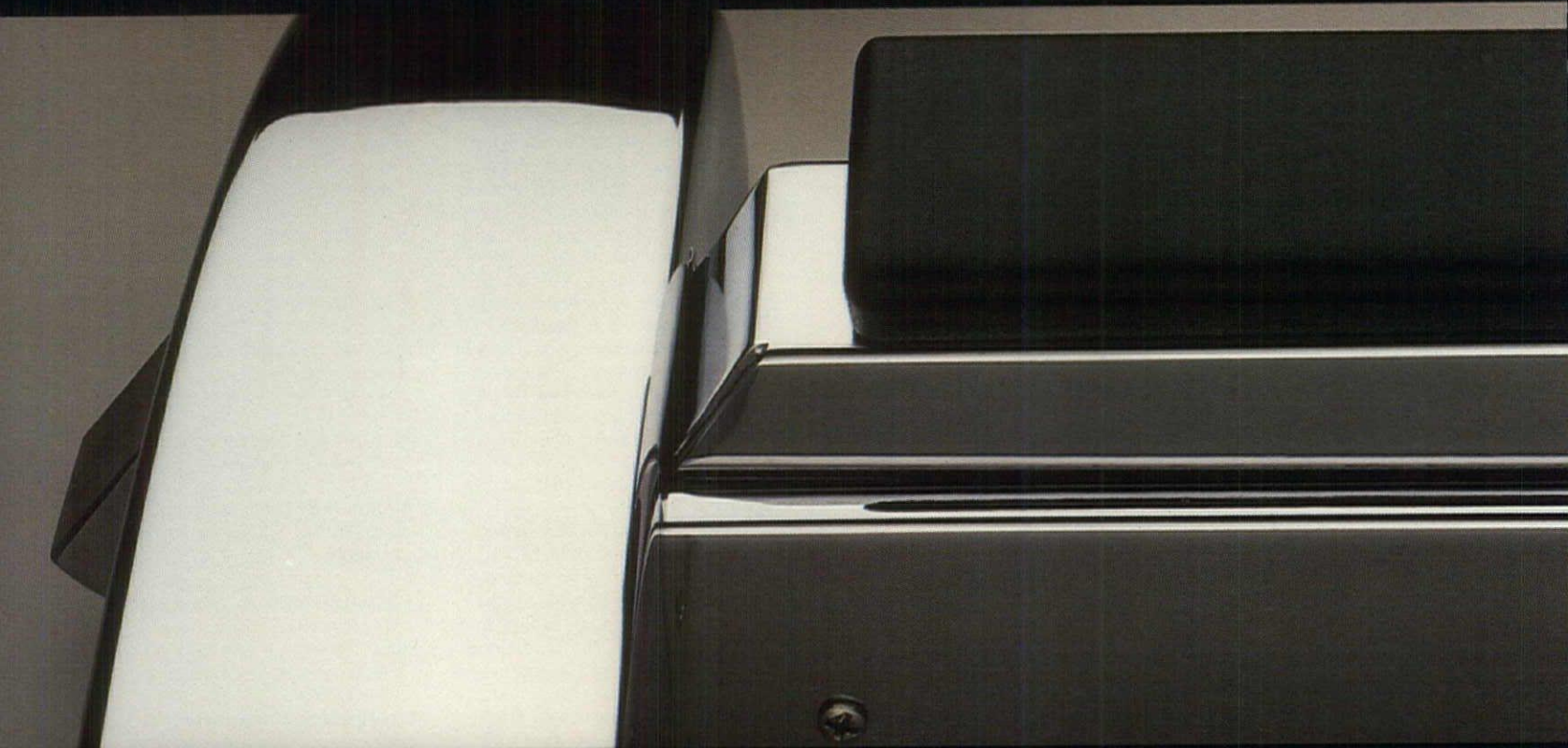
1st: Harvey Construction Co., Inc.
2nd: Ferebee Walters
3rd: Kirkham Michael & Associates
3rd: EDI Architects (tie)

Project presentations

1st: Stevens & Wilkenson
2nd: Camp, Dresser, McKee
3rd: Sverdrup Corporation

For more information on the society, contact: Jeanne Murphy, The Society for Marketing Professional Services, 1437 Powhattan, Alexandria, Va., 22314, 703/749-6117.

Mr. Burden heads the firm of Burden Associates, in New York, and is an architect who specializes in design-communications consultation. He is an author and publisher of *The Communicator's ADVISOR*, a newsletter on interview strategies, client criteria, presentation techniques and print media. Burden is a member of the SMPS and author of several books, including *Architectural Delineation and Design Presentation*, both published by McGraw-Hill.

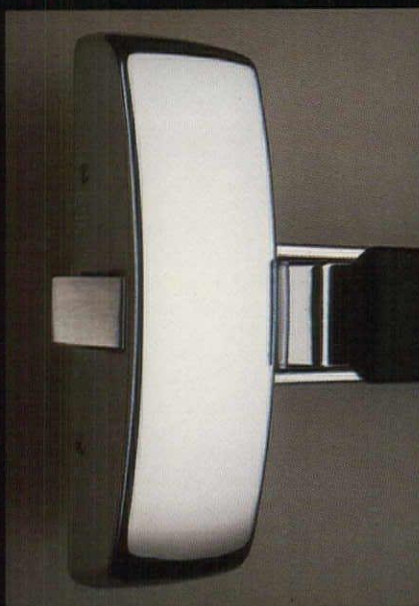
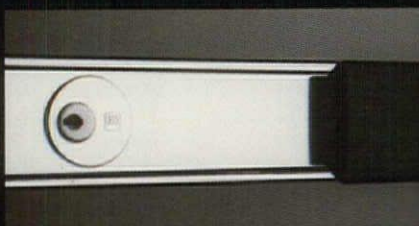


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NCARB: Who we are, what we do

By Robert E. Oringdulph

As names go, let us agree that ours—"the National Council of Architectural Registration Boards"—lacks the catchiness ever to win instant recognition among the American public. Yet by the same token it deserves credit for describing precisely what the organization is: namely, a council of the legally constituted architectural registration boards of all 50 states, plus those of the District of Columbia, Guam, Puerto Rico, and the Virgin Islands.

NCARB, known to many as simply "the Council," is unique among the several collateral organizations of the architectural profession in two notable respects. Though it has by far the fewest numbers, it serves the largest constituency. Its 54 member registration boards are its only members, and its most important constituency is the entire American public.

How, you may wonder, is it that so few presume to serve so many? A ready answer can be found in the Council's bylaws, which state its purpose in these few words: "The mission of the Council shall be to work together as a council of member boards to safeguard the health, safety and welfare of the public, and to assist member boards in carrying out their duties." It is important to remind ourselves as architects that under the Constitution of the United States, the police power "to guard the health, safety and welfare is reserved to the individual States." This language makes it clear that, as with other professions, the regulation of architecture and the registration of practitioners *cannot be done nationally*. Each state issues its own licenses.

But this legal constraint has not prevented the appropriate state agencies from joining forces to achieve common aims through a national organization. In NCARB's case, the great idea for such an umbrella body took shape in 1919, when 15 architects from 14 states met, in response to a call from an Illinois architect-educator named Emory Stanford Hall. The main thrust of this meeting was to weigh the feasibility of forming an organization of examining committees in those states that had licensing or registration laws. (Interestingly, although the year 1919 hardly takes us back to dim antiquity, there were only 19



states with such laws when Mr. Hall's pioneering handful met.)

The following year in the month of May, a second meeting took place at the Octagon in Washington, D.C. There, in the American architects' symbol-building, a development committee's recommendations were accepted and an organization called the "Council of Architectural Registration Boards" was founded. A little later that year, the founders, sensing more fully what they had wrought, added "National" to the title.

What are NCARB's key objectives? Reciprocity is first Then, as today, NCARB's key objectives included reciprocal registration, uniformity of examination, interchange of information among the member boards and, as the founders wrote, "other matters of interest to the various committees and improving the general educational standards of the architectural profession in the United States."

Of these objectives, none exceeds reciprocal registration in importance. In his report to the 1983 NCARB annual meeting, the Council's executive director, Sam Balen, reported that beginning in fiscal year 1984, there will be approximately 22,815 NCARB certificate holders in the United States. He estimated that this figure represents roughly 35 per cent of all registered architects in active practice.

Why are so many architects certificate holders and what does it mean? The main reason is that the certificate now enables an architect to gain registration, quickly and without further examination, in all but a few states. The instrument that makes this possible is the Council Record, sometimes called "the Blue Cover." When a person is issued a certificate, this is done with the understanding that NCARB will act in confidence as a recordkeeper in compiling and maintaining the ongoing documentation of the certificate holder's professional activities. This compilation, the Council

Success now looms nearer for NCARB, after its many years of effort to achieve nationwide reciprocity of architectural registration by developing acceptable standards in the "four E's" of the professional path: education, experience, examination and enforcement

Record, is transmitted on request by the certificate holder to a particular state in which he or she seeks registration. For more than a decade, NCARB has also been a party to "interrecognition agreements" with both the United Kingdom and Australia; these have appreciably facilitated the practice of American architects in each of these countries.

It is, in fact, a recognition by the member boards of this need to move across state borders that explains why NCARB concerns itself with each of the profession's so-called four E's: *education, experience, examination, and enforcement.*

There have been times when these concerns were not well understood by the profession at large. Until recently, for example, we have heard the view expressed occasionally by an architectural educator that NCARB was trying to tell the schools what to teach; or by the professional societies that NCARB was encroaching on their turf. And, indeed, those of us within the Council can remember periods when the most significant news we ourselves were generating had to do with our fiercely contested internal disagreements about the same issues. But I hope that those days of intraprofessional squabbling are largely behind us. A turnabout has occurred in a short time, and it can be attributed for the most part to two major developments.

An accredited professional degree is now required

The first new development is the apparent reconciliation by NCARB of its oldest and most divisive issue: namely, the question of whether or not a person seeking an NCARB certificate must hold a professional degree from an accredited architectural education program. One needs to know that before the Council voted to adopt the degree requirement at its 1980 annual meeting, similar resolutions previously had been twice adopted—and twice rescinded. Thus the real challenge facing the Council was figuring out how to make the latest degree requirement stick. The Council, by the nature of its mission, must strive for a substantial consensus. Though each member board has a single vote, the full membership is sensitive to the fact that a change in the standards for NCARB certification effectively changes the rules by which a registered

architect is free to practice in another state; thus if a single state refuses, as a result of the change, to accept the NCARB certificate, the entire structure of interstate registration is impinged.

The degree requirement is at last being made to stick—and in a way that reinforces the Council's mission to safeguard the public interest. Effective July 1, the educational standard for certification will be an NAAB-accredited first professional degree in architecture. We anticipate that all but a small fraction of applicants for the certificate in the years just ahead will be professional degree-holders.

But an alternate is being developed for special cases

What about those who make up this small fraction who don't have the right degree? They, too, will be provided an opportunity to satisfy the new NCARB educational standard. At the 1983 annual meeting, the member boards voted to grant the Council certificate after July 1, 1984, to those applicants "without an accredited degree but meeting all other Council criteria, whose education is deemed by an Education Evaluation Committee to meet the Education Criteria."

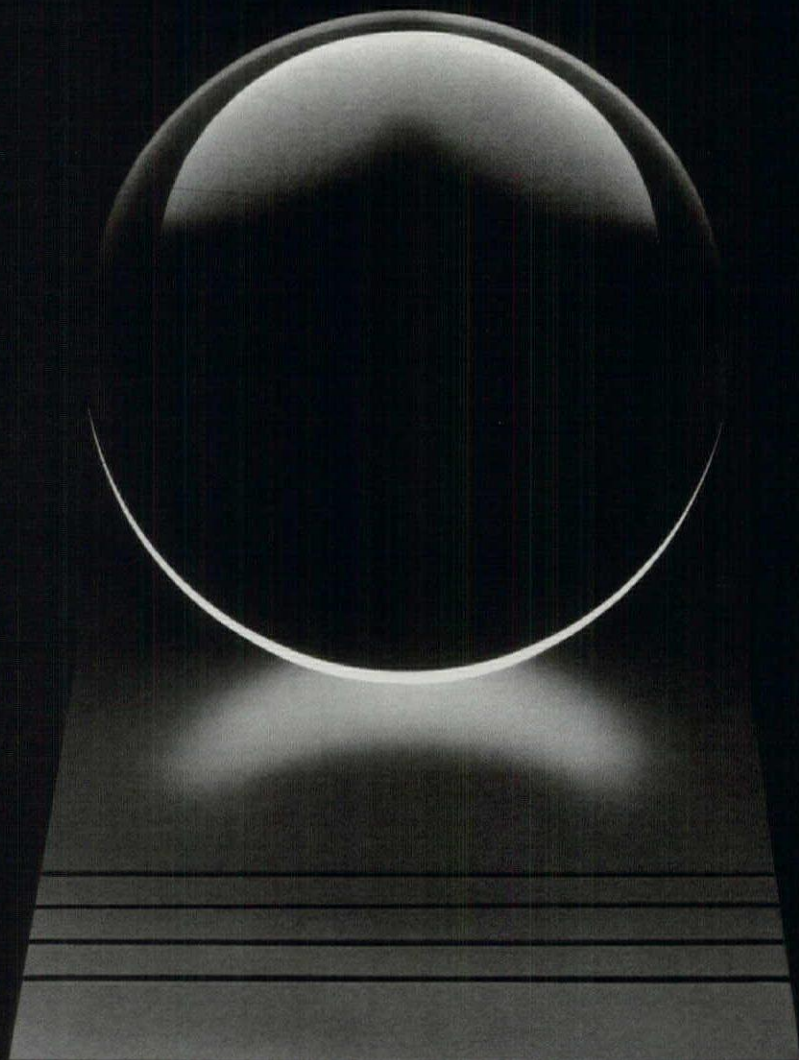
Since last July, the very considerable responsibility for developing such "education criteria" has been in the hands of a committee chaired by NCARB's immediate past president, Sid Frier. The committee is composed of architects and educators who were appointed on the strength of their demonstrated expertise in architectural education, as well as their notable services in this area to NCARB and the other collateral organizations. It is charged with presenting a comprehensive set of recommendations for the member boards to discuss and debate at the six NCARB regional meetings this spring. The committee will then prepare resolutions for all key aspects of the non-degree-holder's process for member board action at the 1984 annual meeting.

Though Sid Frier cannot tip his committee's hand, he has made two promises. "We are not putting NCARB in the education business, and we are not doing anything that would jeopardize our hard-won educational standard for certification—and that's an architectural education received in an accredited program."

I anticipate that the Education

Robert E. Oringdulph, AIA, is president-elect of the National Council of Architectural Registration Boards, and a partner of Broome/Oringdulph/O'Toole/Rudolph, Architects, Portland, Oregon.

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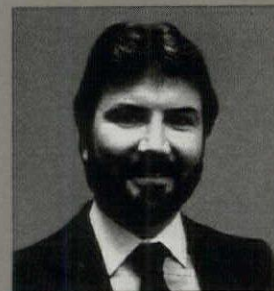
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Evaluation Committee's recommendations will be seriously considered as proposed at next June's annual meeting in Portland, Oregon. Should these recommendations be adopted, NCARB will have arrived at a goal that a long succession of Council leaders have hoped to reach. For it is the professional degree that will give us the uniformity we have worked for. It will strengthen our national system of reciprocal registration and therefore assist the member boards in serving the certificate holders and, of course, the public.

A new exam is now accepted by all for registration

Along with the new education standard, NCARB has also created a new single examination. As many architects well remember, various jurisdictions have until recently required all registration candidates to sit for a *qualifying* test, regardless of their educational background; others, of course, administered this test for candidates who lacked an accredited professional degree. Such disparities further complicated the Council's mission to maintain reciprocal registration.

But now, after a prodigious effort undertaken in a short time frame, we have a single, universal examination. Its title, the Architect Registration Examination, or A.R.E., describes exactly what it is. It was first given in June 1983. Reporting on the new exam's development to the NCARB annual meeting, A.R.E. Chairman Edgar Beery, a former member of the Virginia Board, said, "Over 50 dedicated architects, together with NCARB staff and a very active group from Educational Testing Services, devoted thousands of hours in developing the nine divisions of the new exam."

Beery characterized the A.R.E. in this way: "We believe it meets each of the demands expressed over the recent years by the individual state boards. These include a requirement for a single examination, one more closely related to practice, a test in design, including graphic communication, an exam testing the knowledge and skills that should be required from a period of learning in a school of architecture. It will be an exam for architects, not engineers, not graphic designers, not historians; it will be an entry-level exam to the profession; it will determine the candidate's ability to design and to act as a generalist-

coordinator; and lastly, and perhaps most important, it will test the candidate's competence to protect the public health, safety and welfare."

Has the new exam done all of these things? We believe so. A statistical analysis of the '83 edition, correlated with performance data covering previous years, confirms that A.R.E. results are generally consistent with those established during the decade of the Professional Examination—Part B and later, the Design Exam. But telling ourselves the A.R.E. is a good exam is not enough; critics might very well charge us with self-serving bias. So President Kirk this year appointed a "validation panel" of 12 registered architects to evaluate all nine divisions of the 1983 edition of the A.R.E., as well as the 1984 exam specification. The specific criteria for selecting the "validators" is significant. The panel comprised two members each from NCARB's six regions. They are associated with firms ranging in office size from two to over 200, and they range in experience from one person who has practiced for only two years to a senior partner in one of the older firms in the United States. The single most important criterion is that the validators "are not now, nor have been, members of the National Council of Architectural Registration Boards." The NCARB Validation Committee, chaired by Robert Tessier, a current architect member of the Massachusetts Board, has as its primary duty the recording of the panel's commentary. Tessier notes that the results of the validation will be entirely and exclusively those of the panel. It is expected that these results will be presented to the Council's spring regionals.

Cooperation spurs the intern program—but more is needed

Another major development is the progress the profession's collateral organizations have achieved recently in working together. These are, of course, the organizations comprising the Five Presidents Council: namely, NCARB, AIA, the Associated Student Chapters/AIA, the Associated Collegiate Schools of Architecture, and the National Architectural Accrediting Board.

What has happened, essentially, is that all five bodies have learned through a kind of collaborative on-the-job training regimen where their mutual interests generally superimpose themselves and, equally

important, where their vested interests tend to dovetail. It has taken two factors to make this spirit of cooperation a reality: one has been a notably enlightened leadership over the last several years, and the other has been the recognition of tasks that not only needed doing but could only be done by everyone's pitching in. Among the numerous collaborative enterprises of recent days, two are particularly worth citing: They are the Intern-Architect Development Program (IDP), and the Special Committee of the NAAB.

Before a pilot IDP was launched in the early 1970s, so little was known about the nature and quality of internship that Charles Blondheim, NCARB's president in 1976-77 and doubtless the IDP's prime instigator, called it "the gap." Typically, young people were lost track of for several years after earning their degree; they reappeared again only when they applied to their state board to take the exam. What they had been doing, or not doing, to gain the experience required of them as candidates for licensing was a matter of serious concern to NCARB and AIA. In the past two or three years—since students beyond the third year have been allowed to earn and gain credit for IDP "value units"—both the schools and the students have also recognized the IDP's relevance.

As an architect and a spokesman for NCARB, I am a believer in the IDP. I have seen that the program's requirements, having been tested and refined through nearly a decade of nurturing by the IDP Coordinating Committee, are producing better-qualified young architects. My firm is convinced that IDP participation is so advantageous to the development of intern-architects that we make it a condition of employment. The program is strongly endorsed by all of our collateral organizations, and I urge that registered architects give it the support it deserves. Far from "costing" you time and money, as we sometimes hear from the ill-informed, the IDP-affiliated intern represents a solid long-term investment in professional talent.

New school accreditation criteria is another development

Less well known than the IDP but no less significant is the Special Committee of the NAAB which was appointed to evaluate the entire architectural school accreditation process. The

committee's makeup was prestigious and broad-based. Its members were presidents or past presidents of AIA, NCARB, ACSA, and NAAB, with the exception of an ASC/AIA person who also served on the NAAB board.

The Special Committee's major recommendation, which was subsequently adopted by the NAAB board, calls for the implementation by NAAB of the committee's "achievement-oriented performance criteria" which would be applied "for the purposes of evaluating the performance of students and thereby the effectiveness of the (school) program." This marks the first time ever that the accrediting process has been structured to evaluate the academic program on the basis of its graduating students' performance.

But the public interest always comes first with NCARB

From NCARB's point of view, the public interest is accommodated to a far greater degree through an internship program that is firmly based on training criteria that can be uniformly applied by all 54 member boards. Similarly, it is well within the Council's responsibility to concern ourselves with the quality of architectural education. It is a major part of our work to prepare a national examination for all registration candidates. To accomplish this important task, we must be able to interact with the educators and other collateral organizations.

While the public may be our largest constituency, we have other constituencies, too, within the profession. And we prize our good relations with all of them. Most of the men and women who serve on their state registration boards—NCARB's member boards—are registered architects. The remaining members are public members. We are all sworn to safeguard the public health, safety and welfare. It is perhaps unclear to some in the architectural profession that when we are doing the Council's work, we are public servants first and architects second. We may belong to the AIA, we may be architectural educators, practitioners, or salaried workers in the public or private sectors. And we are proud of our profession and wish it well. But when the issues are clear and the public interest is paramount, NCARB is bound to resolve them to the public's benefit.

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Architectural education: A practitioner's personal view

By James J. Foley

Most architects have opinions about politics, art or any other subject including the state of architectural education in the United States. Consistent with that broad statement, the following are my views on the state of architectural education in general—with emphasis on Ohio in particular. During my tenure as a member of the board of directors of the American Institute of Architects, followed by a term as a member of the board and then as president of the National Architectural Accrediting Board, for U. S. schools of architecture, I watched with interest the slow but sure change in architectural education and the relationship of the profession with academia. I feel that this change is positive and is still under way. My opinions are personal. However, they are the result of some experience in the academic arena and are influenced by 30 years of private practice—which is about to come to a planned termination.

Today's students are clever, quick—and serious

In Ohio, we are experiencing a phenomenal improvement in the knowledge of the incoming students. They are clever, quick, worldly and are well informed about architectural affairs across the land—at least compared to the students of, say, 15 years ago. Fortunately, most have abandoned the view that the super architect (which some want to be) drives around in a Ferrari, has seven different "dates" (one for each night of the week) in a personal penthouse on the top floor of the most expensive building in town. This is the TV syndrome, and while still popular, is not why the average student of today is studying architecture. Actually, the students are more interested in improving the lot of fellow citizens while engaging in a profession which is creative, exciting and on the cutting edge of tomorrow. If lucky, or unlucky perhaps, this TV architectural personality may evolve. However, that is not the goal.

I believe that the profession can be thankful and look forward to a positive future because of these students. The days of de-emphasizing architecture in favor of social rhetoric are also fortunately over, at least in middle America. Our



contemporary student is very much interested in the social and political issues of the day and has chosen to improve our society, not by talking about it, but by participating as a professional using architectural craft in this real life situation.

Unfortunately, some of the instructors of today were deeply influenced by the burning sixties, and I believe that they are out of tune with the goals and aspirations of today's student. The student of today is aware of the problem of the inner city and the other social ills of our time, but feels that one can serve better by being a better trained professional.

If the student of today is indeed this serious-minded seeker of education and training, we should look at the schools that provide it. How well are they equipped, both physically and mentally, to do the job? What commitment do they have to architecture in both the narrowest and broadest sense? Are the schools up-to-speed, so to speak, with the demands of today's practice? I can only generalize about my geographical area and obviously my views may or may not coincide with other parts of the country. Just what is happening in architectural education in Ohio?

What kind of school should one choose

Ohio has four accredited schools of architecture and I believe that they tend to serve four very different constituencies—and this is indeed fortunate. It is possible in Ohio to pick and choose, within limits, the kind of architectural exposure you want, assuming that you know the difference. That in itself is a problem; many cannot differentiate among the various academic thrusts because they have no basis for evaluation. They have no single source for

What are today's architectural students like? Are schools teaching what they should? Using Ohio's four schools—which offer varied ways to teach—and a long background in practice and education, James Foley presents some strong opinions on what's right and what's wrong

this information. There is a need for someone to make available to that vast consuming public a reference that will help guide the student in the choice of school. Which school is practice oriented; which is strictly design; which emphasizes physical planning versus social planning and the like? It would be difficult and possibly unfair to grade or categorize the different schools; but it may be a real service to guide students in terms of interest, and aim them toward the institution that parallels their interest.

I have tried here to do this for the four schools of architecture in Ohio—Kent State University, the Ohio State University, the University of Cincinnati, and Miami University. A few short years ago Ohio University in Athens also had an architectural program; however, when they had accreditation problems they dropped it.

At the expense of offending some and pleasing others, the following views are mine alone, but I believe that they are shared by a majority of practitioners in Ohio. I have not intentionally set out to discredit any of the fine schools or their faculties.

The University of Cincinnati combines study with work

What kind of school is the University of Cincinnati? On balance, I think it is a very good school with an innovative work-study program. UC has no problem placing its graduates, who are well trained for entry in the profession when they complete the fundamental educational program. All students go to school for a given period of months, followed by a similar period of actual on-the-job experience in an office. UC has done a good job of placing the students for on-the-job experience. Last year I had in my office a student by the name of Larry Cunningham, and I can report from actual experience that he will one day be an asset to an architectural firm—maybe his own. After he finished here he went back to school for another term, and I understand that he then went with The Architects Collaborative in Cambridge for additional experience. The point of noting this is that I feel that Larry is getting a good, broad-based education and he will enter the profession on a higher plane than the average graduate. The problem (if indeed it is a problem) with this type of program is that it does take more time and money to complete—but

many argue that it is time and money well spent. I feel the program is well balanced between design and practice, and produces a well-rounded architect within the capability limits of each student.

Miami University stresses design

Miami University, located in Oxford, Ohio (which is between Cincinnati and Dayton), is physically well positioned. Many natives think of the idyllic setting of this quiet, serene college town (most of the time) as the perfect setting for transition into adulthood. But, what about the architectural program?

I believe that Miami marches to a different drummer—and there certainly is room within the profession for that. In my opinion, they tend to overemphasize the design studio aspect at the expense of more fundamental values. They seem to engage in a design frenzy without the benefit of a design guru. (There, I have said it.) As I stated earlier, these views are subjective and I am sure that I will hear from Dean Hayden May, who can and, I hope, will challenge my statements. In any event, I feel that Miami turns out a middle-of-the-road graduate who needs some honing and shaping, in terms of understanding that a building has to stand up and not leak—and that building codes, whether or not you like them (and who does?), are indeed a constraint upon the design effort. You may argue that this part of the educational experience can be acquired on-the-job in an office—which is true—but it means that this type of graduate starts at a different threshold within the profession.

Kent State University offers a no-nonsense balance

Some of you may remember Kent State, in Kent, Ohio, for another reason that is part of its past. You should also know that the architectural program, founded and nurtured for many years by Joe Morbito, is a fundamentally sound program based on the fact that Joe was a practitioner in good standing, who knew what the student had to know to succeed. From the time Western Reserve gave up its architectural program, Kent State has serviced the northeastern part of our state as the training ground for architects.

In my view, the program integrates the constraints of design with the real world of

James J. Foley, FAIA, heads his own architectural firm in Columbus, Ohio, and is a past member of the AIA Board of Directors, as well as past board member and president of NAAB.

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practice and, while essentially continuing the basic philosophy of Joe Morbito, is now under the leadership of Foster Armstrong. It seems to be the consensus of the architectural community that Kent State is a good, solid school with a no-nonsense program. What more is there to say?

Ohio State University integrates building techniques with design

The fourth architectural program in Ohio is in Columbus, at the Ohio State University. The school of architecture there is part of the college of engineering. This organizational structure has meant many things to the architectural program, both good and not so good. When you consider the power politics of a university setting, this structure has given the school of architecture much clout which it would not have had if it were standing alone. At Ohio State, the engineering college is outstanding and has a world-wide reputation that is highly respected within the university. Dean Glower of the college of engineering is sympathetic to the needs of architecture and lends his support. This has meant a great deal in terms of faculty salaries and other day-to-day operational needs of the school. On the other hand, within the architectural community there is the ongoing concern that architecture may succumb to an engineering emphasis at the expense of design. As a matter of fact, such is not the case. The college administration wants the school of architecture to be the very best, and has given it every support and academic freedom to reach this goal; architecture has total control over all of its curriculum matters, but can and does draw upon the great resources at the disposal of the college of engineering.

Historically, the architectural program at Ohio State has been a fundamentally sound one, although it has not yet attained the status of excellence consistent with university and college goals. A number of years ago, in an attempt to remedy this situation, the program was restructured, and numerous changes were made within the faculty and curriculum—which re-oriented the program toward urbanism as a main thrust. In so doing, too much emphasis was placed on the rhetorical side of architecture, at the expense of the practical aspects. For example, courses such as “the political determinants of architecture,” plus “the social

determinants of architecture” were over-emphasized. While important, they did not further the students’ education in basic architectural terms—given the limited amount of time available. To accommodate these courses, “structures” (other than a basic introductory course) was made an elective, which gave the students an opportunity to avoid rigorous courses—which naturally they elected to do at the expense of their well-rounded education.

This narrow emphasis on urban design, at the expense of the fundamental skills required in architectural practice, led to the decision that the program required another new direction. The school of architecture, under the directorship of Jerrold Voss, now has three departments: architecture, landscape architecture and city and regional planning. This seems to be an ideal composition whereby each department can draw on the strengths of others and in fact, such is the case.

After redirecting the emphasis that the architectural program at Ohio should take, Robert S. Livesey was appointed chairman of the Department of Architecture. His credentials are impressive, with a balance between professional practice and teaching that gives me reason to believe Ohio State is in good hands.

Livesey believes that architecture is multidisciplinary, and he will concentrate on a balanced program. There is a basic body of knowledge which must be studied and not dabbled with. In the past, teaching assistants assumed a major teaching load in the design studios. Livesey plans to get the faculty back into the studios. He plans to use the design studios to apply the information from the other disciplines and synthesize design with this practical knowledge. Space planning and arrangements are not enough; the student must know that buildings are a product, so to speak, and must serve the needs of the client and public in general. In addition to this, the student must be exposed to management considerations, including time and resources. The student must have knowledge of history to avoid re-inventing the architectural wheel. This new program will integrate the technique of building with the art of design. The student will be taught how to put it all together, with the ultimate goal being that elusive commodity called architecture. How can you argue

with that goal?

We all recognize that the practice of architecture involves art, science and business, which can be defined many different ways by different people. This new program at Ohio State will give carefully measured quantities of each, in a matrix that synthesizes the total. Good design is the goal, nurtured and supported by technology, blended with knowledge of the workings of our free enterprise system.

Ohio State was also fortunate to receive a large grant from IBM to further an innovative program in computers and their application to architecture. The computer is viewed here as a tool and not an end unto itself. If a student is interested in the high-tech use of computers in architecture, this facet of the program is very strong.

What should schools teach

In terms of architectural education in general, I hold that there are three levels of attainment. They are *skill*, *understanding* and *knowledge*. The dictionary defines *skill* as “the ability to use one’s knowledge effectively and readily in execution and performance; distinction, mastery.” That says it all. While a suitable goal, I am not sure that the university should be charged with this assignment. This level of attainment will probably be realized by native ability or practice, without university input—assuming that the basic ingredients are there.

On the other hand, *understanding* is the responsibility of the university and the student, with particular emphasis on the student. Again, Webster says that this is “to have thorough or technical acquaintance with, or expertness, in the practice of” and further states “a mental grasp, comprehension, and the power of comprehending.” In my view, understanding is the keystone of any educational process.

My definition of *knowledge* is quite narrow and is not totally in agreement with the broad scope of the dictionary. I prefer the specific definition of Webster, which states “the fact or condition of being aware of something.” The student should have an awareness of finance and its impact upon design without necessarily understanding the inner working of the free enterprise system. The same for other support disciplines.

No one ever said that it is easy to teach architecture. There is

just too much to do and learn—and so little time to do it. The architect of today is expected to be an artist, demonstrate the expertise of a scientist and operate as a businessman. This is a formidable assignment to accomplish in a few short years, during which the student is also infused with social sciences, language, and all of the other things which an architectural student is expected to appreciate. Maybe it just cannot be done in a structured way. Perhaps the student should be given a palette of tools, left to choose those which are comfortable and which can be mastered, then turned loose to develop the skills of the craft through experience and actual use. But this method may be a little hazardous, and in our litigious society could completely inundate the courts. It also may be expensive tuition.

What conclusions can one assume

I cannot speak for architectural education across the land, but in Ohio it is alive and healthy. Enrollment is up and support for higher education at the government level is improving. There is a healthy diversification of programs available, and there is a continuing dialogue between the schools and the practicing profession. I don’t think we can relax, but speaking for this practitioner, we can feel comfortable.

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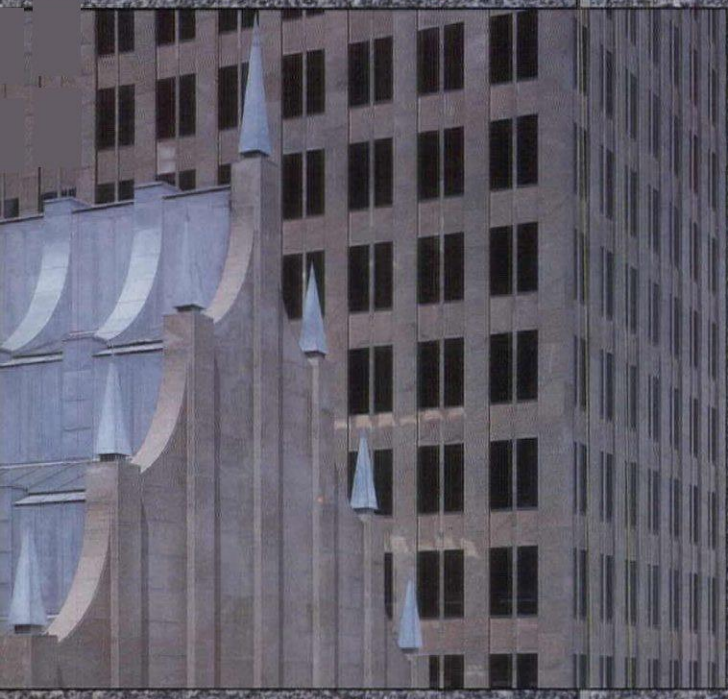
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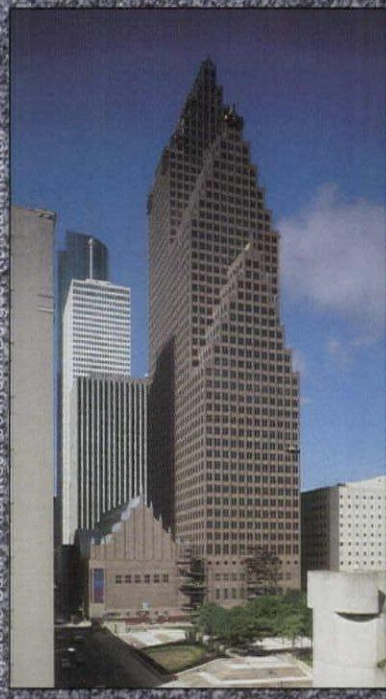
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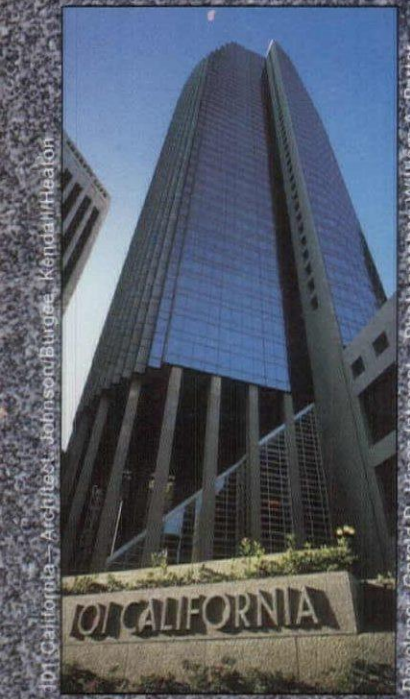
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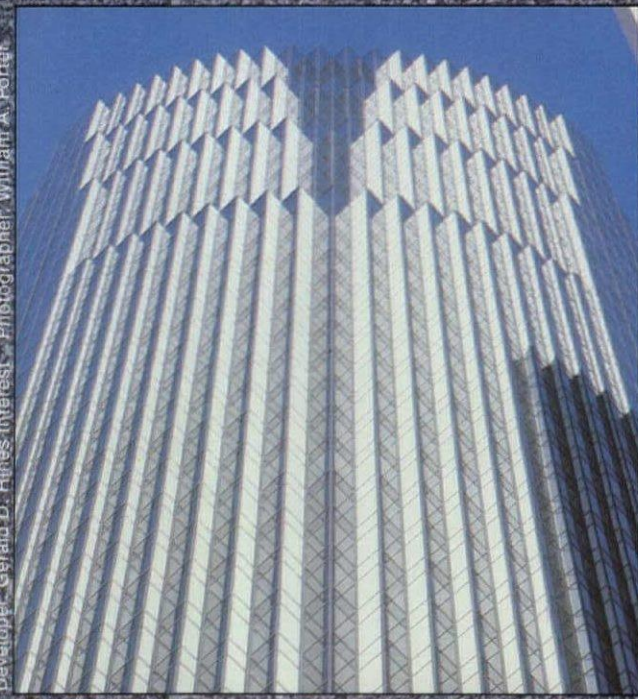
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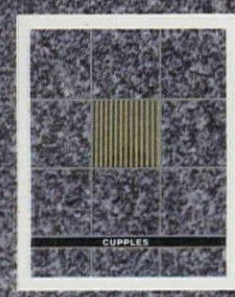
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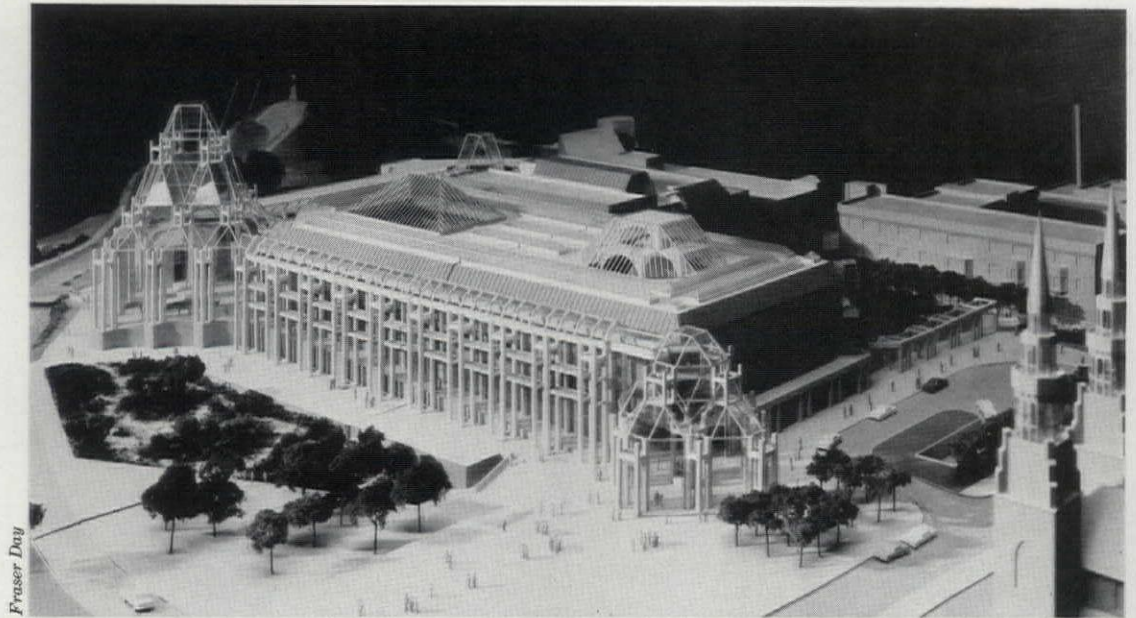
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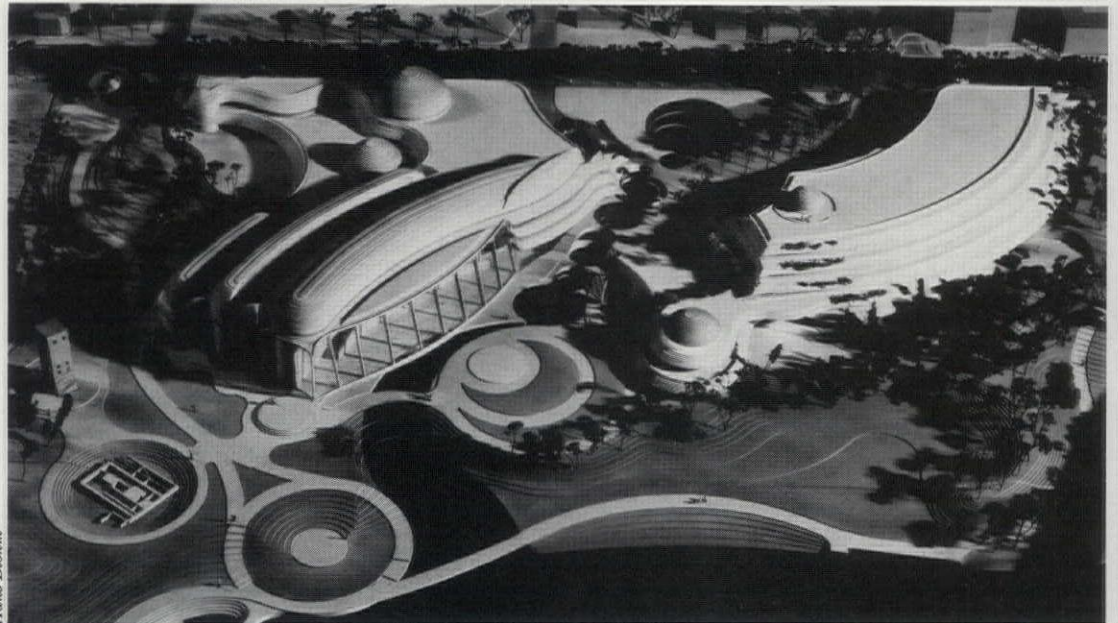
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Canada announces plans for two major museum projects



Fraser Day



Hans Blohm

The Canadian government recently unveiled models of two new buildings for the National Gallery of Canada and the National Museum of Man. Designed by Moshe Safdie & Associates in collaboration with the Parkin Partnership, the National Gallery in Ottawa (photo top) will house 323,000 square feet of space for the display of the country's largest collection of Canadian, American, and European art. The sandstone and glass museum will be located across the street from the Gothic Revival Notre-Dame Basilica on a promontory in the Ottawa River overlooking Parliament Hill. An entrance pavilion near the Basilica opens onto a glazed ramp leading to the Great Hall—a contemporary glass version of Canada's Parliamentary Library which serves as an entry foyer to



two floors of galleries grouped around three courts (photo left).

The 420,000-square-foot National Museum of Man (photo above) will be situated directly across the river from the Safdie complex in Hull, Quebec. Designed by Douglas Cardinal, Ltd., in joint venture with Tétreault, Parent, Languedoc & Associates, the striking new museum of Canadian anthropology, history, and folk art will be, according to Cardinal, "a symbolic form [that] will speak of the emergence of this continent, its features sculpted by the winds, the rivers, the glaciers." Within the structure's undulating masonry shell the architects have designed vast, flexible halls of varying heights where museum curators will fabricate contextual settings for the collections.



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West Week '84 to examine the design world according to California



Continuing the pattern developed over the past few years, West Week 1984 will combine a contract market of the 30 member firms housed at the Pacific Design Center with a major symposium on current design ideas and philosophies. The theme of this year's event, scheduled for March 22-24 at the landmark West Hollywood center, is "Gateway to the World," a reference to Los Angeles' role as host to the 1984 Olympic Games. The conference will feature a series of programs called *International Stature: Products, Places and Reputations*—developed by PDC2, the West Coast contract furniture manufacturers association—that will highlight work by important architects and designers with special emphasis on California's influence on the design world.

Most West Week programming will be held at the Blue Whale or at the West Hollywood Auditorium. On Thursday, March 22 at 11:30 Stanley Abercrombie will moderate a panel discussion on the California difference in painting, design, light, and living; at 2:30 Charles Gandee will chair a general discussion on the international stature of California architecture and

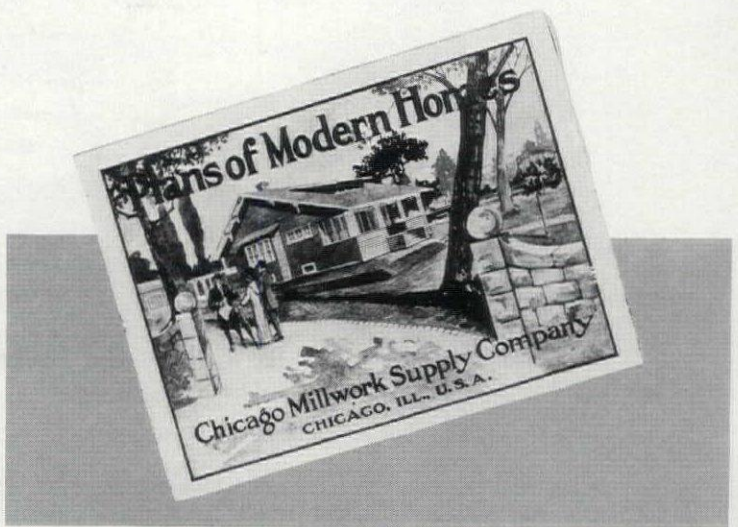
design; at 4:00 Lella Vignelli will introduce Joseph D'Urso and his work while at 5:00 Pilar Viladas will do the same for Robert A.M. Stern; and at 6:00 an historical review moderated by Charles Jencks will include D'Urso, Vignelli, Bruce Graham, Hans Hollein, and Wolf Von Eckardt.

On Friday at 1:00 Hollein will chair a charette of California design including participants Andrew Batey, Eric Moss, Rob Quigley, and Johannes Van Tilburg; at 2:45 Carol and Roy Doumani will present their Venice beach house by Robert Graham; at 4:00 Von Eckardt and Bruce Graham will discuss the recent work of Skidmore, Owings & Merrill; and at 5:00 Abercrombie and Robert Siegel will review the architecture of Gwathmey Siegel & Associates.

On Saturday at 12:00 Stern will discuss the work of Hans Hollein with the Viennese architect. Later that afternoon there will be two multi-image audio-visual presentations—the first an exploration of Los Angeles' emerging identity between 1932 and 1984, and the second a preview of the architectural, interior, and graphic designs created for this year's Olympics. At 7:00 that evening the Los Angeles Museum of Contemporary Art will host a reception at the museum's new temporary headquarters.

For fuller details on dates and times of these and other programs, write to the Office of Public Relations, Pacific Design Center, 8687 Melrose Avenue, Los Angeles, Calif. 90069, or call 213/657-0800. RECORD will feature complete coverage of West Week activities in the *New products* section of the May issue.

Modern living, Chicago style

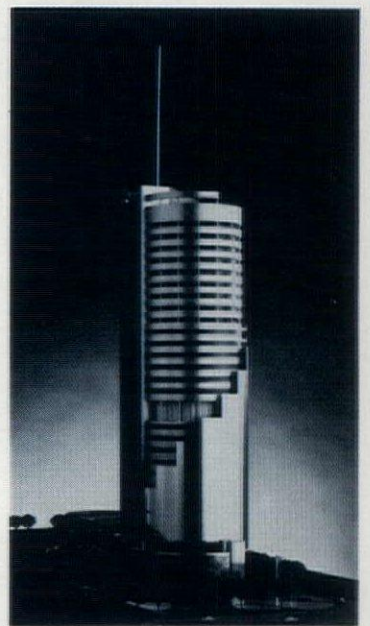


The origins of modern Chicago are examined in "Compact Comfort: Apartments and Bungalows in Chicago, 1890-1940," currently on view through April 17 at the Chicago Historical Society. Organized by Society curators Wim de Wit and Sabra Clark, the exhibit features models, drawings, historic photographs, period real-estate brochures, and advertisements

that illustrate how a wave of new residential construction in the early 20th century transformed Chicago from a city of mansions and row houses into a community dominated by smaller, more efficient apartments, flats, and bungalows. A central theme of the exhibit is the influence of the Arts & Crafts and Domestic Science movements on residential architecture of the period.

East meets west

The Shen Zhen Development Center in southeastern China (People's Republic) is a 35-story mixed-use facility consisting of a 200-room hotel and ten floors of office space for international oil companies and other foreign firms. The competition-winning tower of aluminum and silver reflective glass was designed by Caudill Rowlett Scott.



A riverfront park for New York is proposed

Three conceptual alternatives for Westway State Park, a 93-acre public waterfront greenspace that will extend along the Hudson River from the edge of Battery Park City in lower Manhattan northward to 34th Street, were recently unveiled by New York Governor Mario Cuomo. The park is an integral part of the controversial Westway project, a proposal to



build on Hudson River landfill a depressed and covered interstate motor route that would replace the razed West Side Highway. Designed by Clarke & Rapuano in joint venture with Venturi, Rauch and Scott Brown, the three alternatives all feature a linear configuration of continuous waterfront esplanades over the highway combined with open play areas, plazas for public events, and recreational facilities. Because the entire Westway proposal must still face a variety of review processes and impact studies, work on the park is not expected to begin until 1989. In the meantime the architects' drawings are available for public viewing during business hours at the offices of the Westway Management Group, 5 Penn Plaza, New York City.

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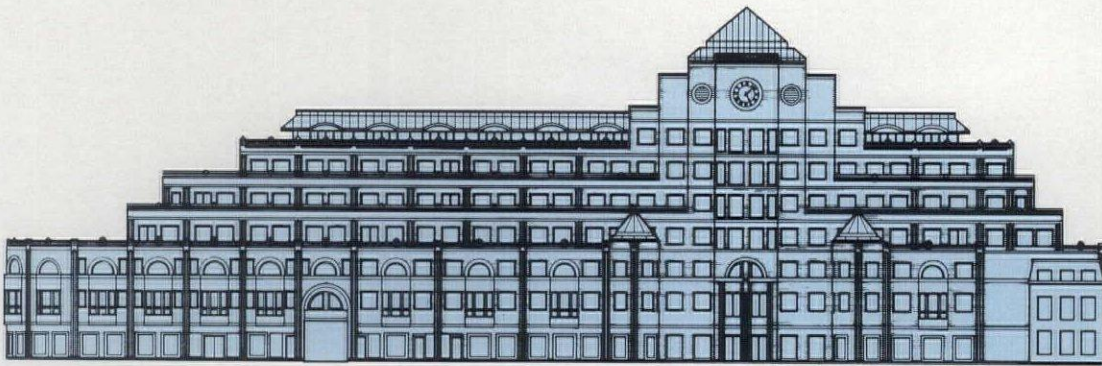
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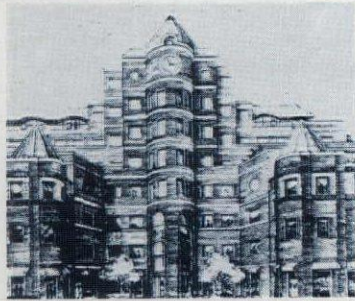
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Alexandria: commercial contextualism

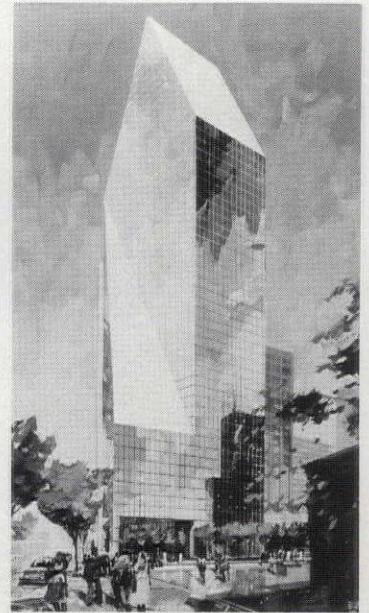


Located on a prominent corner site in the Old Town section of Alexandria, 1101 King Street is a seven-story office and retail condominium complex designed by Zinser & Dunn Associates to blend in with the brick architecture of this historic Washington suburb. Although the architects have dubbed the 200,000-square-foot structure "Edwardian," the building



exhibits a variety of details that, in truth, defy any specific stylistic classification. No matter: 1011 King Street represents a continuing trend by architects and developers working in older urban and suburban areas to plan projects that defer to their surroundings. The question of style in this case is less critical than the issue of compatibility.

Dallas: ever bigger, ever higher



Allied Bank Tower is the first phase of a development project located on the northern edge of downtown Dallas that eventually will consist of three office buildings and a luxury hotel. For the proposal's initial stages two sculpted 60-story towers sheathed in reflective glass will be set at right angles to each other on a landscaped plaza. Each building will house 1.2 million square feet of office space and will be, at 720 feet tall, among the city's loftiest skyscrapers. Architects for the project are I.M. Pei & Partners in joint venture with Harry Weese & Associates and the landscape architecture firm of Kiley-Walker.

Boston: common sense

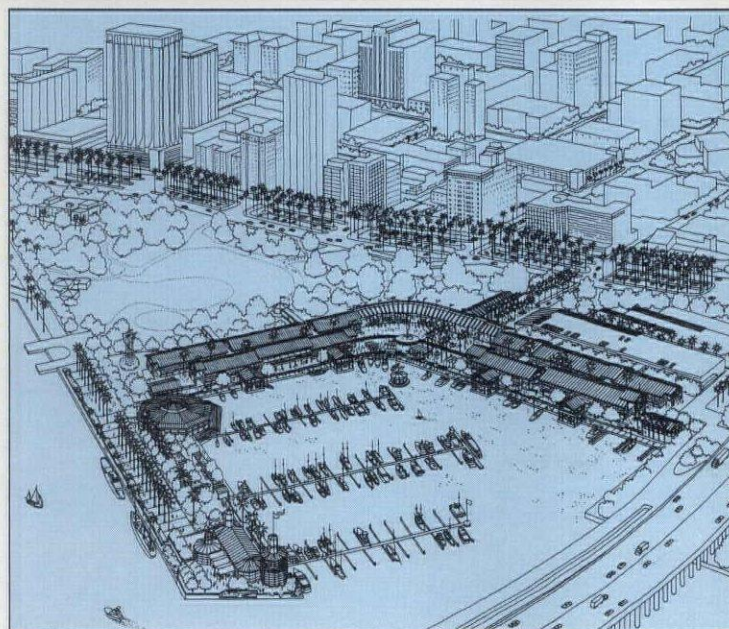
The Boston Redevelopment Authority has announced plans for a mixed-use residential and commercial complex on the last developable parcel fronting the Boston Public Garden. The 493,000-square-foot, red-brick and stone structure by The Architects Collaborative features a seven-story office and retail block along the Garden backed by a 12-story condominium wing.

Sam Szecezy



Miami: reclaiming the waterfront

Although the commercial rejuvenation of Miami over the last ten years has enhanced the city's reputation as an international business center, little has been done to help a declining downtown shopping district compete with the retail malls that dot this sprawling metropolitan area. That situation may soon change if a proposal by the Rouse Company, the people



who brought you Harborplace in Baltimore, Faneuil Hall Marketplace in Boston, and South Street Seaport in New York, sees the light of day. Working with architects Benjamin Thompson & Associates and Spillis Candela & Partners, Rouse seeks to redevelop verdant, but rundown Bayfront Park into a retail market known as the Bayside Specialty Center. The 225,000-square-foot, C-shaped complex on Biscayne Bay will include two-story north and south pavilions housing space for 200 small merchants; a central market square; a landscaped pier/park sheltering a marina; and a terraced garage for 1,200 cars. There are provisions to link the center to the rest of downtown via an extension of the city's elevated rapid transit system.



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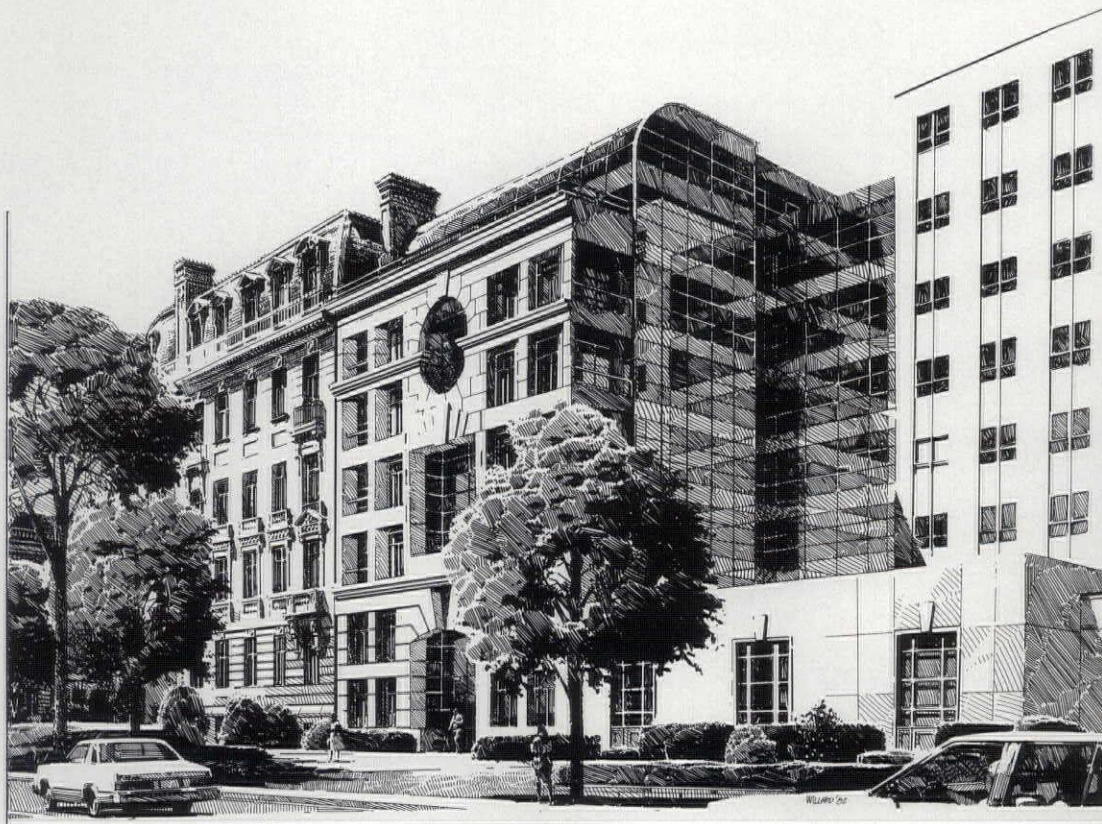
AIA honors ten

Ten men and women have been elected honorary members of the American Institute of Architects in recognition of their contributions to the architectural profession or related fields. The individuals are James Marston Fitch, founder of the country's first graduate program in historic preservation at Columbia University; Mildred Friedman, design curator at the Walker Art Center in Minneapolis; Gerald D. Hines, owner of a Houston-based development firm known for its architecturally distinguished projects; Lee Edward Koppelman, executive director of the Long Island Regional Planning Board; U.S. Sen. Daniel Patrick Moynihan (D.-N.Y.), author and chief sponsor of the Public Buildings Act of 1979; Michael J. Pittas, director of the Design Arts Program at the National Endowment for the Arts; John F. Robin, chairman of Pittsburgh's Urban Redevelopment Authority; Leon R. Strauss, founder and head of Pantheon Corporation, a St. Louis development firm; U.S. Rep. Sidney R. Yates (D.-Ill.), a major supporter in Congress of Federal grants for historic preservation; and Kathleen Davis, executive director of the Orange County Chapter/AIA.

Raymond Hood is focus of Whitney show

The skyscrapers of Raymond Hood, one of America's best-known architects of the 1920s and 1930s, are the subject of an exhibition currently on view through March 7 at the midtown branch of the Whitney Museum of American Art in New York. Curated by Carol Willis, "Raymond Hood: City of Towers" is a collection of 24 drawings and photographs that illustrate how five of the architect's most distinguished buildings—the Tribune Tower in Chicago and the American Radiator, Daily News, McGraw-Hill, and RCA buildings in New York—exemplified the ornamented vertical tower as the ideal skyscraper form versus the setback structures advocated by many of Hood's contemporaries. The show also includes sketches of Hood's visionary proposals.

A matter of semantics



When is citizen participation in the design of a new building too much of a good thing? When the review process jeopardizes a carefully thought-out architectural conception in the name of neighborhood preservation. The building in question is a commercial/residential addition to the Brookings Institution proposed for an irregular site located in Washington's smart Dupont Circle area—a context that includes both the historically significant, turn-of-the-century Beaux-Arts mansions of Massachusetts Avenue (including the headquarters of the National Trust for Historic Preservation) and the more modestly scaled brick row houses and small apartment buildings of P Street.

One might assume that the parcel's proximity to the national

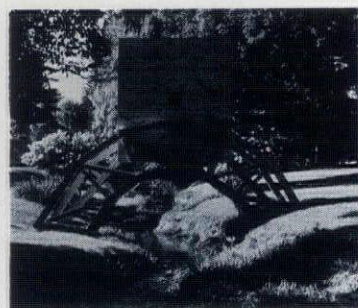
watchdog for architectural preservation would raise problems for project architects Keyes Condon Florence. Not so: The Trust has expressed general satisfaction with the architects' scheme for 100,000 square feet of office space and 68 condominium units housed in two architecturally distinct wings separated by a landscaped courtyard. Along Massachusetts Avenue a limestone-and-glass office block relates to both the classicism of the Trust headquarters and the spareness of the existing Brookings Institution, an unornamented stone building of the 1960s (photo above). The P Street elevation, by contrast, is primarily brick with stone trim; its series of setbacks and projecting bays represent an effort by the architects to contribute to that street's more

domestic character.

Apparently, however, they did not go far enough. A number of area residents, fearing creeping commercialization in the neighborhood, object to the fact that some office space in the development faces P Street, and they have convinced the city's Zoning Commission to rule that the building must be modified so that only residential quarters front P. The architects are currently adjusting their plans to suit the commission's directive with the hope that their design, which appears highly sympathetic on paper, will not be sacrificed to a well-intentioned, if narrow, interpretation of Washington's building codes.

One man's follies

Although the bucolic Berkshire foothills of northwestern Connecticut have inspired many artistic creations over the years, few are as evocative as the pair of wood constructions recently erected by Mike Cadwell, a young architect from New Haven. Cadwell calls his structures lyrics, and he has named them according to the seasons. The spring lyric (photo left) is a "bridge-box" that contains two rooftop banquettes and a tall ladderback chair from which a waterfall is visible; the fall lyric (photo right) is an "ark-tower" housing a fold-down desk in its prow and cabinets within thick walls. As contemporary adaptations of the historic architectural folly, the lyrics are "buildings without a program but with an emotive or imaginative intent," according to Cadwell.



Charles Erickson photos



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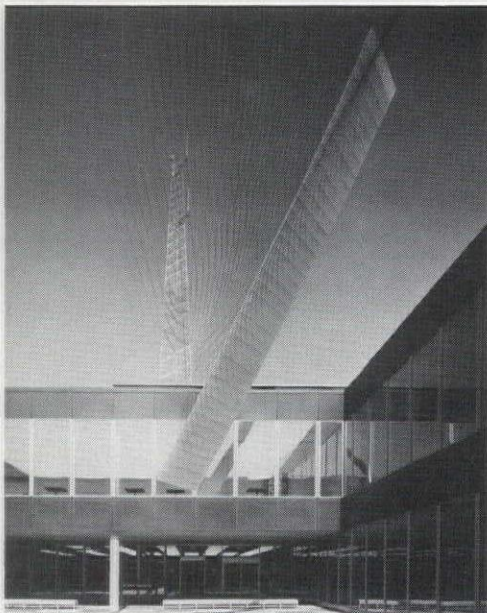
GLASS DIVISION

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**Design awards/competitions:
Chicago Chapter/AIA
1983 Distinguished Building Awards**



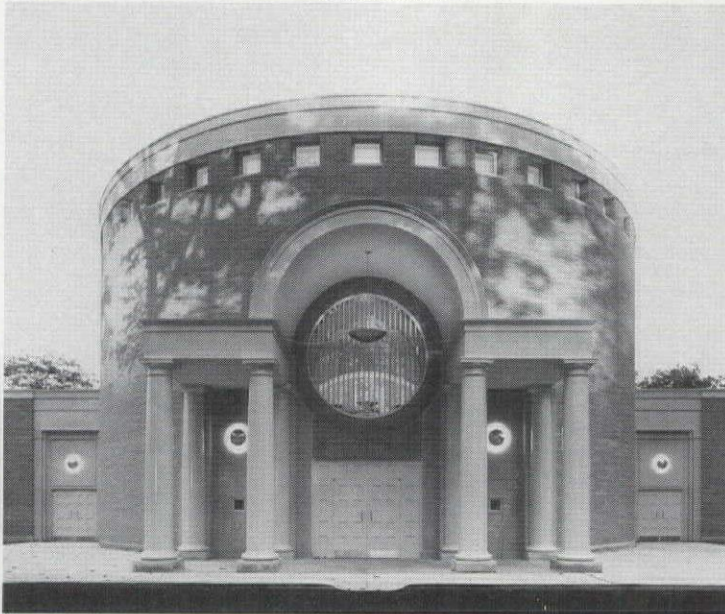
1 ©Peter Aaron/ESTO



2 Keith Palmer/James Steinkamp



3 Hedrich-Blessing



4 Timothy Hursley



5 ©Howard N. Kaplan/HNK

1. Orchard Lofts Unit #2, Chicago, Illinois; Schroeder/Guerts Associates, Architects. The problem facing the architects was how to convert a freestanding, two-story masonry and timber factory building and an adjoining 45-foot-wide lot into six town houses and two apartments. The solution, exemplified by the winning design pictured above, was to place a three-story "house" into the interior that defines a central lightwell, provides vertical circulation, and divides the living space from the kitchen and the master bedroom from the study.

2. Area 2 Police Center, Chicago, Illinois; City of Chicago, Bureau of Architecture, with Murphy/Jahn, Architects (see RECORD, January 1983, pages 105-107). Located near the industrial warehouses of the

city's Pullman district, this low-slung facility consolidates several interrelated police and court functions. Public entry into the complex is through a courtyard adorned by a suspended acrylic sculpture. In order to create a feeling of openness not generally associated with buildings of this type, the architects made extensive use of glass blocks and bands of clear glass that alternate with blue insulated metal panels.

3. Private Residence, Winnetka, Illinois; David Hovey, Architect. An industrial esthetic inspired both the interior and exterior of a 3,400-square-foot residence for the architect and his family. Clad in 3/8-inch-thick cement

fiberboard sheets, the structure is entered through a landscaped courtyard enclosed by a high corrugated metal wall. In order to provide an open living area uninterrupted by load-bearing elements, the architect utilized exposed, punched steel joists that were painted red to contrast with the silver color of a galvanized steel deck.

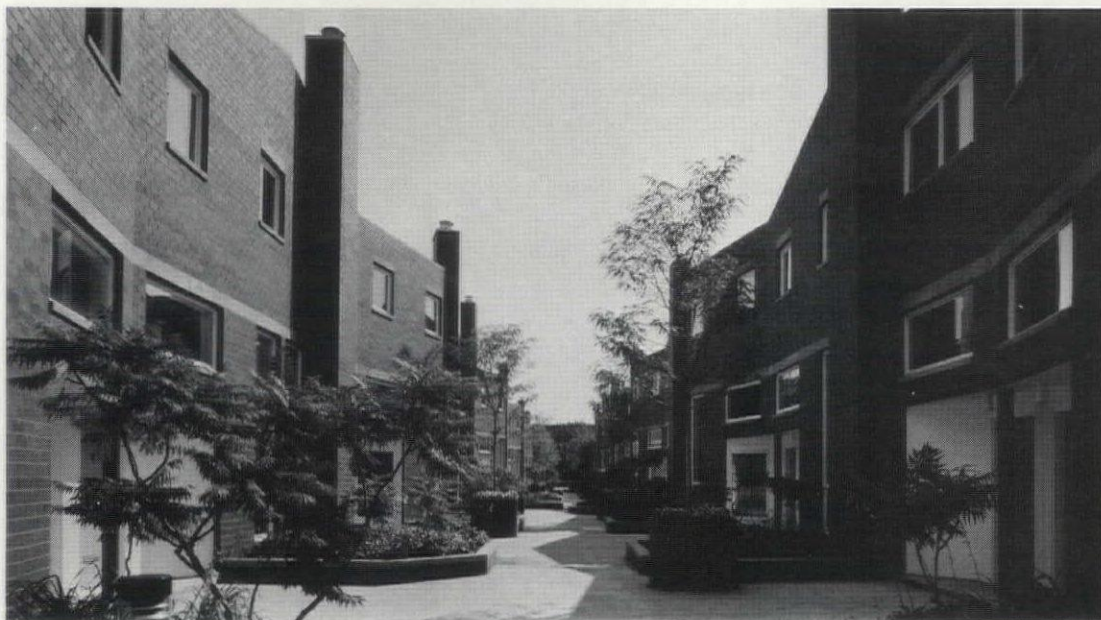
4. North Shore Congregation Israel Addition, Glencoe, Illinois; Hammond Beeby and Babka, Architects (see RECORD, June 1983, pages 104-113). The existing synagogue by Minoru Yamasaki is situated on a bluff overlooking Lake Michigan and consists of a 1,000-seat sanctuary and administrative and school space. The new addition houses a circular 300-seat sanctuary, social hall, study, reception room, and kitchen. Its volume balances

that of the earlier school wing, while its dignified dark brown brick facade matches the masonry of the existing structure.

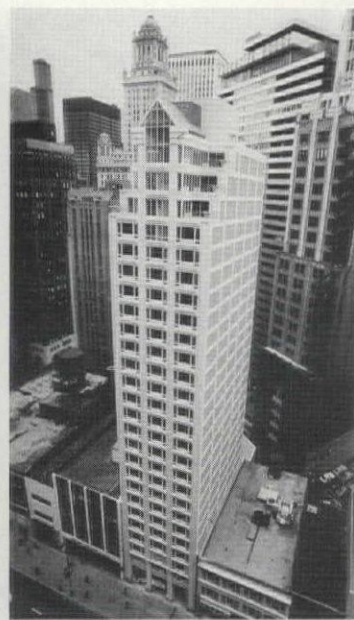
5. Pinewood Farm Addition, Shields Township, Illinois; Frederick Phillips & Associates, Architects. Although this one-and-one-half-story wing exhibits a strongly individual architectural presence, its sympathetic forms and materials harmonize well with an existing farmhouse. High windows and narrow openings allow light to penetrate the structure but ensure privacy near the front door. A circular drum housing a stair to the basement was inspired by silos and other storage facilities on the property.

A housing complex for the elderly in Arlington Heights, a public works maintenance center in Evanston, and an addition to a synagogue in Glencoe were among the winning entries in the 1983 Distinguished Building Awards program of the Chicago Chapter, AIA. Jurors Gunnar Birkerts, FAIA, Malcolm Holzman, FAIA, and Robert A.M. Stern, AIA, chose the ten designs illustrated below from 80 submitted projects that had been completed between January 1, 1980 and May 31, 1983. Although this year's Chicago winners exemplify the city's continuing importance as a

center for architectural thought and practice, the 1983 awards programs sponsored by the San Francisco, Georgia, and Gulf States AIA chapters, covered on pages 60-63, reveal the strength of regional architecture both in new and adaptive reuse projects.



Hedrich-Blessing



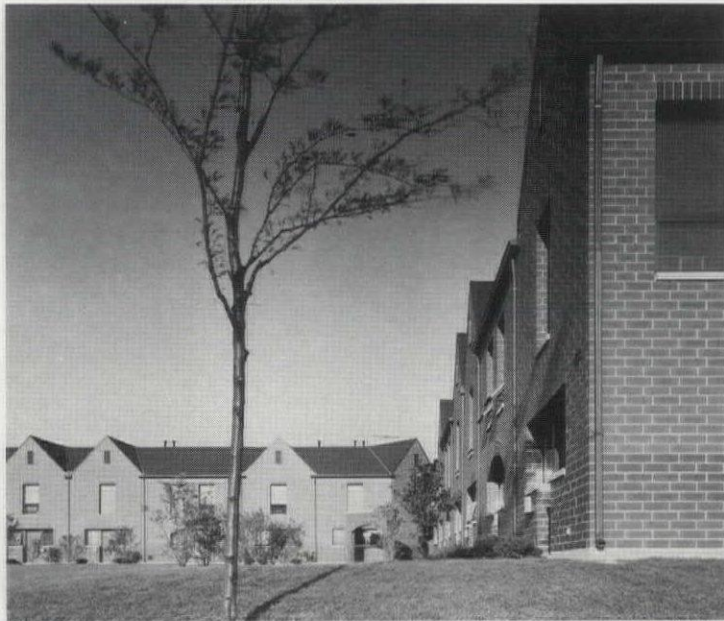
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Barbara Karant



Howard Mock



David Clifton

6. Evanston Terrace, Evanston, Illinois; Booth/Hansen & Associates, Architects. English terrace housing inspired the design of a residential development that fills a long narrow site on a busy Evanston street. The complex comprises 43 units, each 16 feet wide, grouped around a central mews. The architects sought to distinguish the individual units by varying facade colors, wall planes, and planting beds. Face brick, stone trim, and wood windows were selected to harmonize with nearby 1920s-vintage apartment buildings.

7. 320 North Michigan Avenue, Chicago, Illinois; Booth/Hansen & Associates, Architects. Tripartite Chicago-style fenestration and strongly molded masonry ornamentation link this slender 48-foot-wide residential

tower to the city's distinguished architectural past. The 70-unit structure terminates in terraced penthouses and a peak-roofed glass dormer—elements that help establish the appropriate domestic character of garden and house. The architects avoided blank side walls by replicating the modular grid of the street-facing windows in patterned concrete.

8. Evanston Public Works Service Center, Evanston, Illinois; Sisco/Lubotsky Associates and Consoer/Morgan, Architects. This 140,000-square-foot complex consolidates Evanston's parks, forestry, streets, sanitation, and building

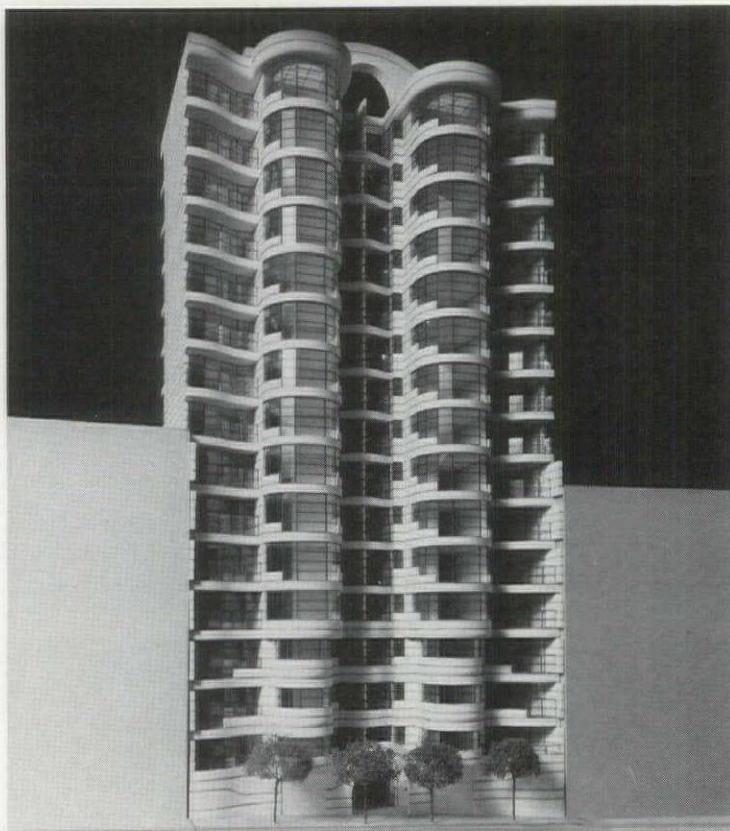
maintenance departments. The architects selected red brick and limestone to harmonize with the building's immediate neighbors. By framing the large vehicular portals with decorative concrete, they sought to soften the severe lines of the utilitarian facility.

9. Edgewood Homes, Highland Park, Illinois; Booth/Hansen & Associates, Architects. This privately developed housing complex consists of 43 single-story attached and detached residences strung out along a winding suburban street. Clustered around automobile courtyards, the buildings have brick and limestone-trimmed exteriors with wood frame and drywall interiors left unfinished for customizing by the owners. Although two different floor plans respond to particular relationships of entry and view,

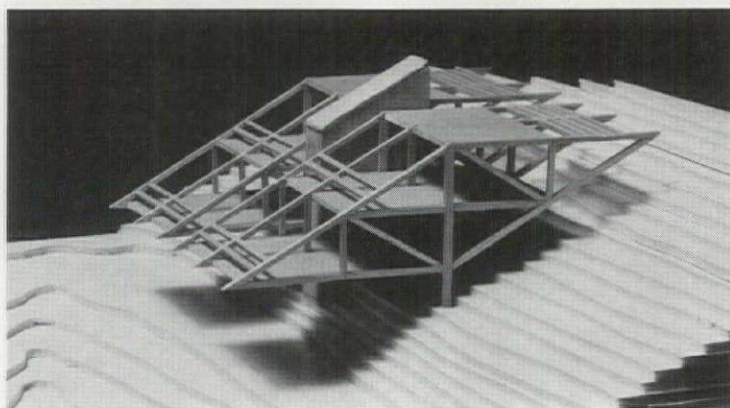
all units share a common planning, construction, and proportional module.

10. Linden Place, Arlington Heights, Illinois; Nagle Hartray & Associates, Ltd., Architects. A four-foot by 12-foot module was used in the design of a subsidized residential development consisting of a four-story, 110-unit structure for housing the elderly and 80 two-story town houses. Working within a tight budget that averaged \$44 per square foot, the architects sought to enliven the complex by modestly varying the brickwork, both in color and detailing, and by employing cut stone trim.

San Francisco Chapter/AIA 1983 Honor Awards



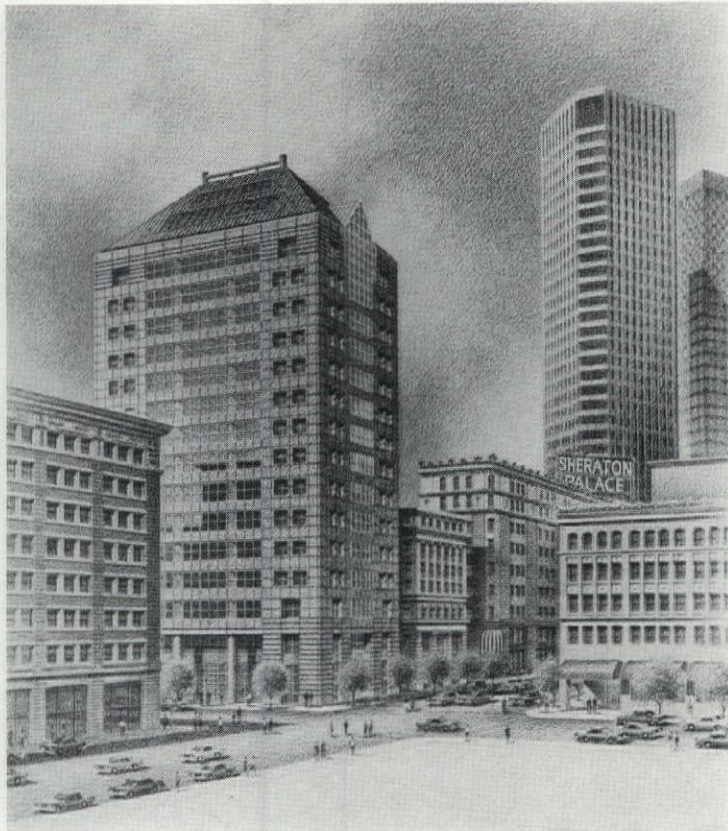
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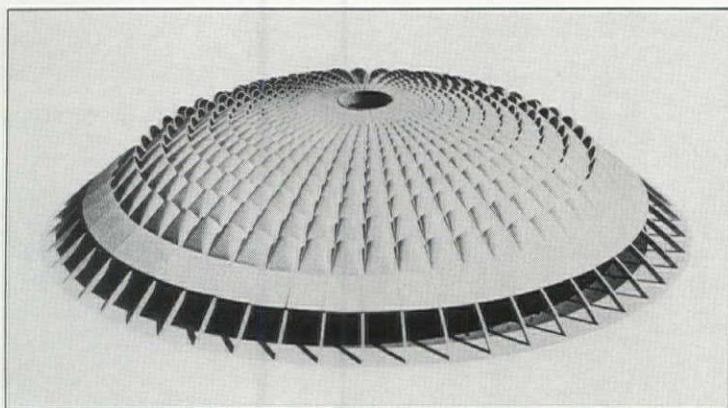
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1. 750 Bush Street Condominiums, San Francisco, California; Donald MacDonald, Architect. Located on a steep hill near downtown, this 16-story, 60-unit condominium tower is extensively glazed to take full advantage of its south-facing site. The architect placed apartment living areas in the building's brightly lit front, while bedrooms are at the rear, away from traffic noise. The jury's verdict: "A stylish fit for the Nob Hill apartment house district that exploits the view potential of its location."

2. 90 New Montgomery Street, San Francisco, California; Gensler & Associates, Architects. A 15-story office building was planned for one of the few remaining areas of the city's financial district still characterized by low- and mid-rise structures of the early 20th century. The design objective was to create a contemporary building that deferred to the traditional architecture of its surroundings. Although the jurors felt that a glazed dormer atop the structure seemed somewhat unrelated to the overall design, they called the project "a successful effort to fit a new office tower into an historic context by [using] the scale and detail of its older neighbors."



2



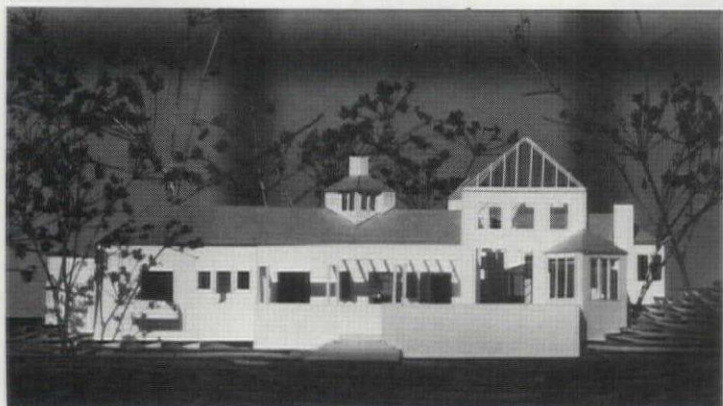
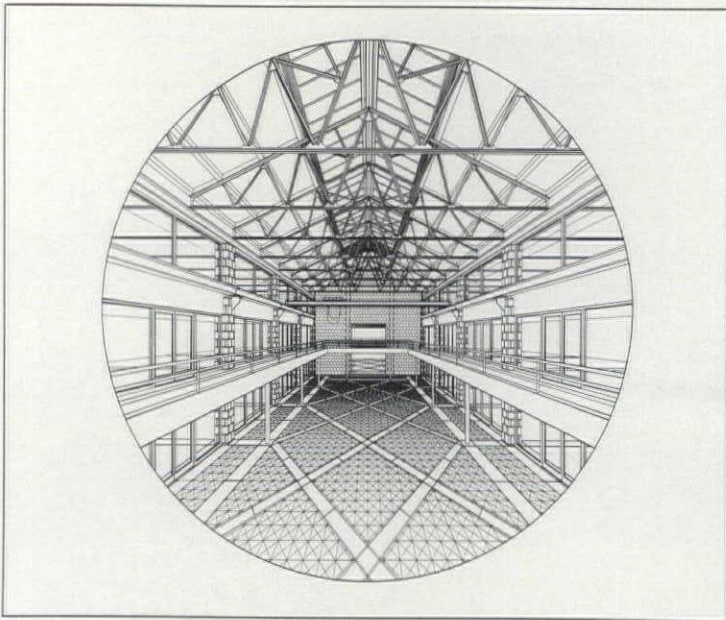
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3. Hall House, Blue Lake Springs, California; Donald MacDonald, Architect. A mountainous site in northern California is minimally disturbed by a three-bedroom, two-bath vacation house that employs the technology commonly used to erect ski-lift towers—i.e. a simple system of prefabricated *Cor-ten* steel members transported to the site and set into six concrete footings. The jurors called the project "a strong constructivist solution designed for easy erection in a remote area."

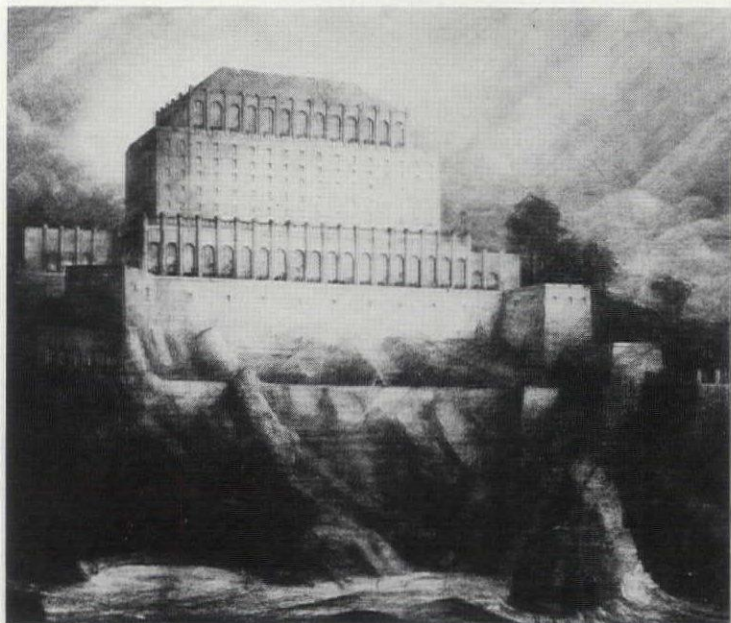
4. Sundome, San Francisco, California; Reid & Tarics Associates, Architects. This proposal for a solid-dome stadium cover addresses the city's need for an all-weather athletic facility to replace windswept, fog-bound Candlestick Park. The architects' solution is a fixed roof with clerestory windows that are calculated to emit no direct sunlight onto the playing field. The jurors found the idea "striking," but questioned the effect that patterns of light might have on the players' performance.

Taking its cue from a similar event held in Iowa, the San Francisco Chapter, AIA selected the theme of "Unbuilt Architecture" for its annual Honor Awards program in 1983. Illustrated here are nine of the 15 winning designs by Bay Area architects that were chosen from 96 entries. "The chief criterion for premiating these projects," noted juror Sally B. Woodbridge, "was our feeling that they would have contributed positively to the environment if they were built. Although we had no prior intention to choose a range of projects, we found that our final

selection reflected the variety of building types submitted, from residential to commercial and mixed-use, and from large-scale urban design to adaptive reuse of historic structures." In addition to Woodbridge, an architectural writer, the jury consisted of Donn Logan, FAIA, of Elbasani, Logan & Severin, and Harold P. Stump, professor emeritus at the University of California, Berkeley.



5



6

5. Jessie Street Substation Renovation, San Francisco, California; Werner & Sullivan, Architects. This project was a proposal for the adaptive reuse of the former Pacific Gas & Electric substation, built in 1905. Conceived as a gateway linking downtown's refurbished Market Street to the Yerba Buena urban renewal area, the building was to be developed with a central pedestrian atrium flanked by ground-floor retail space and upper-story offices. The jury commended the project as a "respectful 'retrofitting' of a city landmark."

6. Pacific Edgewater Club, San Francisco, California; Pflueger Architects. Designed by Timothy Pflueger in 1927 for a spectacular site overlooking Point Lobos, this dramatic scheme for a private

club died when the developer fled the country with money he had collected from proposed members. The jury applauded the entry as "unique among the submissions, a genuine period piece. This project's colorful history and fine free-hand drawings [by Hugh Ferriss] made us long for more."

7. 600 Harrison Street, San Francisco, California; Tai Associates, Architects. The towerlike forms that articulate the street facades of this block-long office and retail complex are based on the profile of an existing corner structure. The

architects achieved additional contextual harmony by breaking up the building's volume into four separate units and by varying colors and materials. The jury praised the design for its "rhythmic form and merciful scale."

8. Columbia Plaza Headquarters Branch, Denver, Colorado; Robbins & Ream, Architects. The San Francisco jurors were intrigued by the opportunities, as well as the problems, involved in utilizing a sloping glazed roof under the intense Colorado sun. They admired the strong formalism of the building's cylindrical concrete shell—an especially novel design solution, they observed, for a financial institution in a city where most banks are housed in rectilinear office towers.

9. Budrow House, Santa Cruz County, California; Lyndon/Buchanan Associates, Architects. The house was designed for a small projecting ledge in the coastal mountains south of San Francisco to take advantage of dramatic views of oak-forested valleys and Monterey Bay. The focal point of the dwelling is a tall, glass-roofed orangerie that mediates between the tight rectangular forms of the house and the more loosely arrayed terraces, courtyards, and slopes of the landscape. The jury called the project "a distinguished villa which, while drawing on many sources, reveals the vitality of Bay Area traditions."

Georgia Association/AIA 1983 Awards

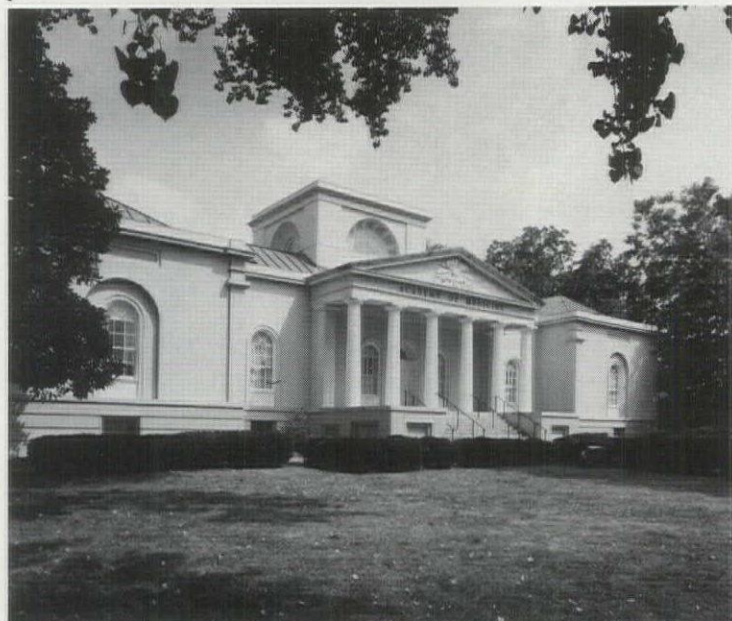


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©E. Alan McGee



3



4

Gabriel Benzur

Five projects by four Atlanta firms were cited in the 1983 awards program of the Georgia Association, AIA. Jurors for the eleventh annual event were Jaquelin T. Robertson, FAIA, dean of the University of Virginia School of Architecture; Andres Duany, AIA, of Andres Duany & Elizabeth Plater-Zyberk, Architects; W.G. Clark, AIA; Harry C. Wolf, of Wolf Associates; Peter Eisenman, FAIA, of Eisenman/Robertson, Architects; and Robert Duppi, chairman of the graduate program at the University of Virginia School of Architecture.

1. MARTA Peachtree Center Station, Atlanta, Georgia; Toombs, Amisano & Wells, Architects. The jury praised the granite-walled rapid-transit facility for its "technological sophistication combined with an overpowering idea of place, history, and archaeology. The juxtaposition of the manmade and natural order of things makes poetry of all the rest. Clearly a project of national significance."
2. Edison Mall Renovation, Ft. Myers, Florida; Cooper, Carry & Associates, Architects. In order to upgrade an existing 18-year-old strip shopping center into a regional mall, the architects placed a new two-story top-lit arcade along the building's western facade that unifies small store frontages and shades shoppers from the Florida sun.



5

Timothy Hursley

3. The Mall at Green Hills Renovation, Nashville, Tennessee; Cooper, Carry & Associates, Architects. The architects converted a postwar linear shopping center into an enclosed mall by capping an existing open-air service alley with pyramidal skylights and furnishing new courtyards with trees, seasonal plantings, fountains, and seating.
4. Academy of Medicine Expansion, Atlanta, Georgia; Surber Barber Mooney, Architects. The jury called the architects' expansion scheme "a restrained reworking of an extraordinarily refined building.

Their hand is best seen as it reinforces the original qualities—a sublimation of ego that represents a cultural maturity rarely encountered in adaptive reuse projects."
5. Tallahassee City Hall, Tallahassee, Florida; Heery & Heery, Architects. The jurors lauded the "inherent urbanism" of a brick-clad structure that is intended to serve as a link between Tallahassee's small-scale central business district and the adjacent State Capitol complex. A two-story screen relates to the established facades of the historic downtown and serves as a public door at the end of the city's Jefferson Street axis. "A handsome product," noted the jury.

Gulf States 1983 Regional Design Awards



1



2

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3

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4

Thomas Joynt



5

Thomas Joynt

Two honor awards and three citations were given in the 1983 Gulf States Regional Design Awards program for architects practicing in Mississippi, Alabama, Arkansas, Louisiana, and Tennessee. The jury consisted of Washingtonians Warren Cox, FAIA, chairman of Hartman-Cox Architects; Michael Pittas, director of the Design Arts Program at the National Endowment for the Arts; and Donald Canty, editor-in-chief of *Architecture*.

1. Raceland Bank & Trust Company, Thibodaux, Louisiana; Ernest E. Verges & Associates, Architects (Honor Award). The jury praised the architect for his restraint in the conversion of a late Victorian-style house into a branch bank. The exterior of the residence was left largely intact, with the exception of a drive-in motor facility and vault added at the rear that exhibit the wood architectural details of the original structure.

2. Private Residence, Hogeye, Arkansas; Fay Jones & Associates, Architects (Honor Award). This year-round rural retreat was designed to harmonize with the surrounding landscape and require minimal energy usage. A red-cedar and fieldstone exterior satisfies the former requirement, while ceiling

fans, skylights, strategically placed windows and seasonal shading mechanisms sharply reduce the building's dependence on artificial heating and cooling systems.

3. Fire Station No. 25, Jackson, Mississippi; Canizaro-Trigiani, Architects (Citation). The architects' use of red-painted metal panels impressed the jury as particularly appropriate for this building type: "It looks like a fire station," they observed. The sloping shed roof over the living quarters is meant to recall the forms of barns found in this semirural area of Jackson.

4. The Guest House in Natchez, Natchez, Mississippi; David Peabody, Architect (Citation). The program called for the

conversion of a former Elks Club building into an 18-room annex to a nearby hotel. While most of the original building was preserved, the architect added a copper-roofed glass dining wing that the jury praised for its "discerning use of material and sensitive detailing."

5. Jefferson Davis County Jail, Prentiss, Mississippi; Dean/Dale & Dean, Architects (Citation). An addition to an existing early 20th-century county courthouse and jail, this 22-space detention facility exhibits the simplified classical detailing and materials of its adjacent architectural predecessors. The jury lauded the complex for contributing "something of quality to the street"—unusual, they felt, for a county-owned structure.

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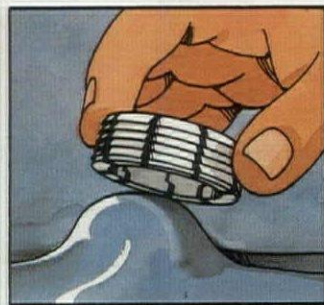
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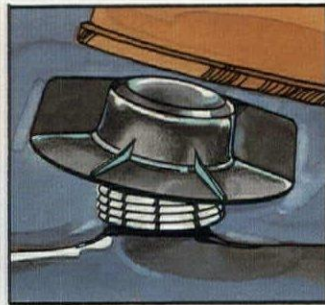
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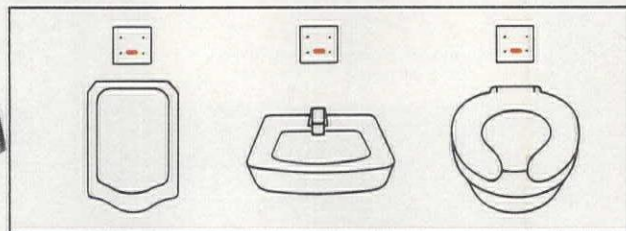


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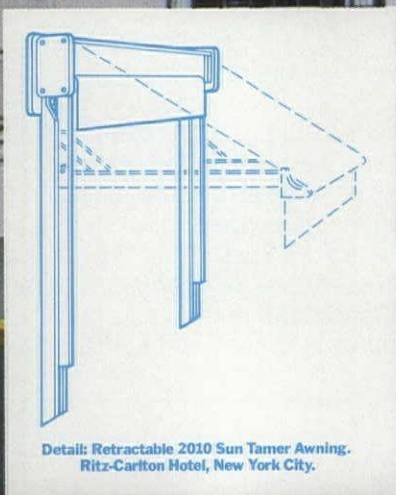
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"A worm's eye view of recent architectural history"

By Denise Scott Brown

An account has been recently published of the archaeological excavation of a North American motel.¹ The time is the year 4022; the motel was obliterated in 1985 by an inundation of junk mail. We are shown sketches of the site when discovered and hypothetical reconstructions of its artifacts in use. A lady of vaguely Minoan (or is it merely suburban?) mien is depicted wearing a toilet seat around her neck. Suspended above it is a bath stopper on its chain. From her ears hang toothbrushes. The text refers to the toilet seat as an item of ancient ritual, the bath plug as "an exquisite silver chain and pendant," and the toothbrushes as "magnificent plastic ear ornaments."

Things are rarely what they seem and history is almost always written wrong. Part of the humor in the fake account of the motel excavation lies in the narrator's certainty of his historical facts and in the pompousness with which the wrong assumptions are delivered. We should thank David Macaulay for his hilarious contribution to architectural historiography but we should not take his lessons too seriously, for his misrepresentation of 1980s motel history is wrong in the wrong way. Although set in the distant future, this reconstruction cannot be wrong in the way that future reconstructions will be wrong, because Macaulay cannot know how future conditions will influence future historians' perceptions of the present. His point of departure is, in fact, historical rather than futurist. He describes today from the viewpoint of the fairly recent past, deriving inspiration from the excavation of the tomb of Tutankhamen in the 1920s. There are references to this expedition. Names of participants are the same. The motel is called the 'Toot 'n' C'mon.² The book is a spoof on archaeology as much as on architectural history. It is also

¹David Macaulay, *Motel of the Mysteries*, Boston: Houghton Mifflin Company, 1979.

²The title of the book appears to be a reference to the *Villa of the Mysteries Motel*, in Pompeii.

³I am grateful to Professor Thomas Hughes, Professor Geoffrey Steere, and Robert Venturi for helping to true my sight-lines through commenting on my early texts.

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a cautionary tale for architectural historians.

All historical writing is revisionist. Historians' views are refracted through the social, political, and professional lenses of their time and are colored by their own unperceived conditioning. This is especially true of architectural historians because many function additionally as chroniclers and critics. They endeavor to set out and interpret the present as well as the past for today's practitioners. Sigfried Giedion was the foremost historian of this type in our time. His *Space, Time and Architecture*, although primarily a history of architecture, was also a contemporary chronicle of the early Modern Movement. Through his influential interpretations Giedion made the movement in his image. The historical sections of the book are history rewritten as preamble to Modern architecture. As the movement itself developed, Giedion revised his history. Changes he made in successive editions of *Space, Time and Architecture* (for example, the inclusion of Alvar Aalto in the second edition) show the process of revision at work, altering historical interpretation as perceptions of the Modern Movement changed.

It is difficult to discern how our own preconceptions bias our understanding of history and our view of today, and there is no way to avoid such distortions (remember the 1920s hair styles in historical films made in the 1920s). Even eyewitness accounts of actual happenings are so conditioned, and mine will be no different. However, I have watched architectural events unfold over a long life and a broad range of fields, on both sides of the Atlantic. Having read interpretations of the history in which I participated that were as spectacularly wrong as the lady decked in a toilet seat, I would like now to set down what I have seen.

Mine is a worm's eye perspective because much of the time I have been quite near the ground. Close to the source one perhaps sees and hears more. Architects prefer worm's eye perspectives because at ground level, the nearest edifices look most monumental. If the resulting distortions warp my view, another worm, turned differently, can offer an alternative vision; and there may eventually be some highflier to correct us all with the bird's eye perspective of hindsight.³

The sociology of architectural ideas

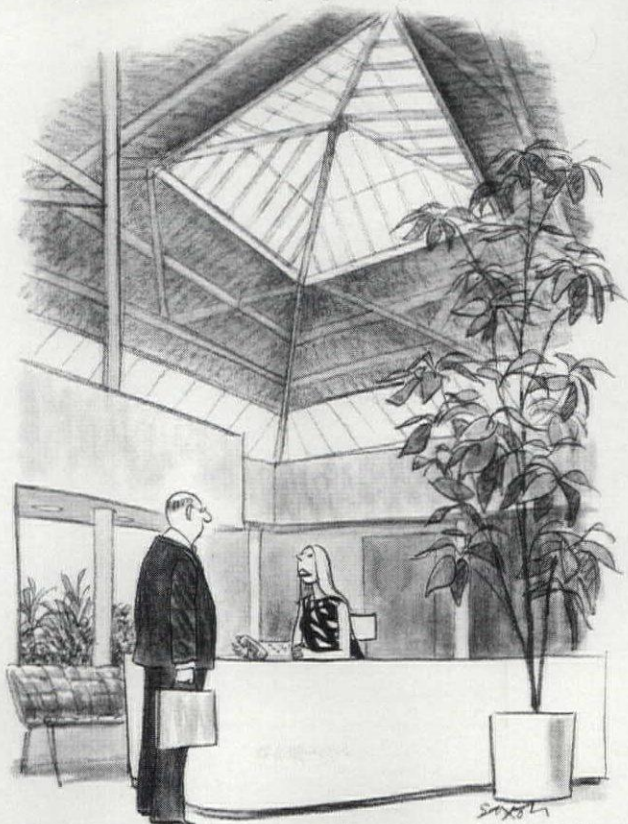
For architectural thought to receive approval in America, it must come from, or at least proceed via, Europe and preferably Great Britain. The reverse is not true. European architects have traditionally believed that not much can come out of America, and English architects have expressed this opinion with vehemence; American architects are still colonial to be treated as upstairs treats downstairs, with *noblesse oblige*. Philip Johnson may not realize how little he did for James Stirling's reputation in England, when he told an English audience that the English architect was more admired in America than he was at home. There is one exception to this rule: When a respected English architect or critic goes "out there" to America and picks up something interesting that the natives have not noticed, the English will listen and admire. Therefore, Cedric Price was allowed to have discovered Los Angeles in 1961 and Reyner Banham felt able to add the Santa Monica pier to the seven wonders of the world, particularly as most of his compatriots had not seen it. Actually, Melvin Webber discovered Los Angeles before Cedric Price, and Esther McCoy

discovered the Santa Monica pier, before that.

American architects who want to achieve success in America must somehow contrive to have their work discovered in Europe, preferably in England. It was certainly necessary to invent Charles Jencks. There was genius in the added touch that he was an expatriate, a sort of an architectural Henry James, steeped in the small change of architecture.

Limping or swooping, architectural thought has crossed the Atlantic, both ways, many times. One of the most famous crossings was of the International Style via Johnson and Hitchcock, in 1932. An interesting double crossing, so to speak, was of American transportation planning of the 1950s. Unimpressive to American architects *in situ* in Chicago or Detroit, it was accorded a civil reception when it returned from London in the form of the Buchanan study. In this case, the American architects were right the first time. American transportation planning of the 1950s died a well-deserved death in the 1960s. (Yes, of course I am oversimplifying.)

There have been more cross-fertilizations between Europe and America than those documented by the historians, probably because most



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architectural historians are less peripatetic intellectually than some architects. This is an unfortunate gap, as the architectural history of neither continent can be completely understood without reference to the other.

Whichever way they crossed, transatlantic architectural ideas were not fully applicable when they landed. American and European cultures were never the same—the Americans left Europe because they were different in the first place and the societies have been diverging for more than 300 years. The vision of *Ville Radieuse* did harm in Europe but much more harm in America. The schlock of Las Vegas looks urbane and luscious when translated into a Milanese supermarket; it has lost the animus of its aggressive ancestor.

Brutalists and others

The New Brutalism was a more diversified movement than is generally realized, and Brutalist thought influenced more architectural groups than is generally known. The early 1950s was a time of currents and eddies in English architecture. The rigors of war were over but so was the reaction to them in the folderol of the Festival of Britain. A great generation of ex-servicemen had passed through the architectural schools, and the social concern that they brought with them had left with them. Flurries of intellectual fog furled through architectural London much as they do through New York today. In 1953, I first heard rumors that something strong and good had come out of an architecture school near Newcastle. It was strong, good, working class, socially concerned, and lively. It was an architectural preview of what the Beatles did later out of Liverpool. Newcastle, in the persons of Alison and Peter Smithson, emerged shortly thereafter in London and settled in as a center of architectural crosscurrents that were soon defined as a new school of thought.

Many people appeared to be involved in the New Brutalism, even in the early stages before the formation of Team 10. Not only architects, but architectural historians, some engineers, some artists, and an intense group of students at the Architectural Association, joined the debate. However, the Brutalists had a talent for architectural executions surpassing even that of the other architects around them. Members of the group

continually defined each other as in or not in, or accused each other of selling out or of not being completely up to snuff. It was difficult to know who was a paid-up Brutalist.

Brutalist architecture was modest, enigmatic, intriguing and ugly (hence "Brutalist"). Brutalist writings and the writings on Brutalism by others, were obscure and added to the problem. However, it became clear that we were to go back to the late 1920s and early 1930s, to a period when architects were social revolutionaries and "humanism" was not a code word for going soft. Young architects became scholars of the early Modern Movement. Peter Land tried to photograph every early Modern house in Paris; Donald Appleyard left for Holland and De Stijl architecture. In England, architects sought out the work of Connell and Ward and made pilgrimages to the chemical factory of Sir Owen Williams, in Beeston. I persuaded the South African Modernist, Norman Hanson, to lend photographs of his early work for exhibition at the AA. I was sadly surprised to find he was an architectural recidivist.

The International Style crossed the Atlantic twice

In England, the love affair with Cubist Modern architecture lasted a long while and some still love it. Its influence on Brutalist architecture waned, however, when Jim Stirling brought back slides of the *Maison Jaoul* from Paris and showed them in London in late 1953. Thereafter, Brutalists' interest shifted to the postwar architecture of Le Corbusier and the 19th century, brick buildings of the English industrial midlands. But by this time Colin Rowe had left for America. Had he waited, the New York Whites might have been the New York Browns instead.

As it was, through Rowe, we had a second coming of the International Style to the New World. This reincarnation was no more tied to the social reality or symbolic meaning of early European functionalist architecture than was the first coming, and for the same reasons.

Colin Rowe, from his outpost of Empire at Cornell, kept his particular mannerist, Cubist, collagist version of the early Brutalist flag flying in America long after it was down in England. His influence radiated southward to architectural enclaves in New York and Connecticut, reaching as far as

Princeton, till at last a third generation of architects tired of white walls as their parents had before them, and the Whites joined the Multi-coloreds, the Postmodernists, and the Radical Eclectics. One of the last American Whites has recently designed and built a Bauhauslike building in Germany.

Now that the second coming of the style is almost history, architectural historians should compare the first and the second International Styles. I think they would find that the American, East Coast version of the 1970s is both larger and more loose-limbed than the poised, taut town houses of the 1920s that the Whites learned from in Paris, Rotterdam, and Siemenstadt; and their symbolic meanings are quite different. Some White architecture looks like International Style architecture with glandular problems.

The many borrowed dimensions of Louis I. Kahn

In the mid-1950s, in London, I saw an article on a surprising and beautiful American building. It was a Brutalist building. Given our view of America, we had not expected to see such sympathetic architecture there and we had never heard of the architect, although he appeared to be quite old, 56. (We were, of course, in our early 20s.) The architect was Louis I. Kahn and the building was the Trenton Bath House. I don't know when Kahn first met Team 10, but when I talked with him in 1958, Kahn knew the work of the Smithsons. Through the Smithsons and Team 10 he probably saw the Open Air School by Johannes Duiker in Amsterdam before he designed the Richards Medical Research Building. This school was an icon of the Brutalists.

Influences upon the work of Louis Kahn were many and shifting. Because they span two continents and several fields they are difficult to trace. The importance of Buckminster Fuller, Robert Le Ricolais, and Anne Tyng to his early work is well known, although Tyng's contribution to the design of the Philadelphia Municipal Building project was probably greater than has been acknowledged. Mies's influence, I feel, is strong in the Richards medical laboratories. Kahn's "master spaces," with their uninterrupted floors, nondirectional shapes, and perimeter columns, seem closely related to Mies's "generalized spaces," which have similar perimeter supports and nonstructural internal walls. But

beyond this, "God is in the details" as much in Kahn's concrete, brick, and glass as in Mies's steel and glass. The detailing of the Richards laboratories is loving and careful. Although its dimensions are broader, it is reminiscent of jewelry design in the same constructivist way that Mies's detailing is.

Kahn's urban projects for Philadelphia should be understood against the background of the Liberal Democratic reform movement in Philadelphia in the 1940s and 1950s. Reform government brought idealistic public servants to the city. They put Philadelphia at the forefront of city planning in America and helped to renew the architecture school at the University of Pennsylvania by promoting the appointment of an eager young dean out of Harvard. Urban questions were debated among city agencies and private groups and in the University. Kahn was a member of the Citizens' Council on City Planning and of the advisory board for the Penn Center project. So was Robert B. Mitchell, director of the City Planning Commission and later chairman of the City Planning Department at Penn. When I studied urban transportation with Mitchell at Penn, I realized that Kahn's beautiful plan for Philadelphia, where expressways were called "rivers" and the grid of streets became "harbors, canals, and docks," was in fact a metaphor for policies recommended by Mitchell and the Citizen's Council, for separating traffic according to type on Philadelphia streets.

Kahn's other Philadelphia projects, the Municipal Building, Independence Mall, and the later plans for parking and streets, were mostly real projects and some of them came to fruition, although not designed by Kahn. He must have ardently wished to be their designer. Unfortunately the reformers, even at the height of their power, did not list architectural patronage among their priorities. Kahn did not receive honor commensurate with his talent in Philadelphia. Social and architectural historians should assess how much of the blame for this lay with the character of Philadelphia, the ambitions of Edmund Bacon, and the working methods of Louis Kahn.

When I reached Penn in late 1958, the medical labs were about to start construction and Kahn was deeply involved in historical architecture. His students would

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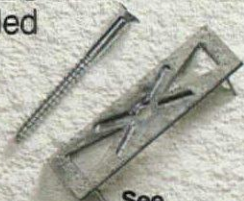
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sit around him in the library looking at Roman plans from the rare book collection. Kahn's eye seemed to be particularly attracted to those where a complex geometric grid allowed an orderly means for its own interruption. He was fascinated by the bastions of Carcassone and by plans of Scottish castles with thick walls, slits for windows, and small, unevenly shaped rooms. The English Brutalists complained that Kahn's Beaux-Arts education was catching up with him, but his drawings demonstrate that his interest in Classicism ran at least parallel with his interest in Brutalism. Those Roman books could well have been another source for the plan of the Richards Building and for the subtle grid of spaces and structure that was evolved by Lou. This grid, unlike those of his followers, seemed drawn out of rather than imposed upon the functional program; it allowed, when necessary, for a seemingly breaking of its own system by the introduction of a foreign geometry.

Although Kahn's work was illustrated in *Team 10 Primer* and despite their meeting of minds in the 1950s, Kahn and the Brutalists did not really join forces. In the early 1960s he firmly disassociated himself from the Brutalist let-it-all-hang-out esthetic, averring that he hated exposed ductwork. By the time the Salk Center was designed Kahn had vanquished pipes and his concrete had become more archaic than Brutalist; the building is more like Paestum than Hunstanton. There was also a difference of personal style. The Smithsons formed their own out-group. Kahn, despite the rubric "Philadelphia School," formed no group. He remained a reluctant member of the prevailing group. At Penn, Kahn came, grumbling, to faculty meetings. I don't believe the Smithsons would have come.

There was at this time another influence on Kahn that, in his late years, would prove to be stronger than the Brutalists, Kahn's Beaux-Arts training, or his experience in Rome, although it was linked to the latter. This was the ideas of Robert Venturi. Bob was 22 and working for the summer for the architect Robert Montgomery Brown when he first met Lou Kahn. Brown and Kahn had offices in the same building; Bob saw Lou in the elevator, he says Lou was the only architect in his firm to notice a quiet college grad. That was in 1947. In 1950 Bob invited

Kahn to be on his thesis jury at Princeton. Each was impressed with the performance of the other and Kahn bore the younger architect in mind. After Bob had worked for Oscar Stonorov for a year, Kahn recommended him to Eero Saarinen and Bob spent the next two and a half years in Saarinen's office. Kahn was on the jury when Bob won the Rome Prize. On his return in 1956, Bob worked for Kahn for nine months. At the same time he was Lou's teaching assistant at Penn. In 1957 Bob left Kahn's office to start his own practice. He and Kahn were on the faculty at Penn and maintained the friendship that was cemented when Bob returned from Rome. They talked a great deal. Bob was often in Lou's office to give crits. He shared his recent experience in Rome with the older architect and it is probably from these talks that Lou's real interest in history as source material dates, despite the earlier and beautiful historical sketches that he made while in Europe. Bob's ideas and the source buildings he discussed with Lou were later to have circulation in *Complexity and Contradiction in Architecture*. Bob's admiration for Lou was ungrudging.

Kahn had a need to use colleagues, often younger architects, as a sounding board for his ideas. Visiting students would be accorded precious time in his office while frustrated draftspeople waited. As a young faculty member, I was, on occasion, the recipient of long, one-sided telephone calls from Lou. A Philadelphia architect, Santo Lipari, seems to have been another friend for late evening conversations. Philadelphia taxi drivers, who were his local conveyance, tell of Lou's extended monologues while riding home at night. His two afternoons a week at Penn probably provided the most creative outlet for this need. Studio was an important buttress of Lou's emotional life. I met him at Penn on the day President Kennedy was killed. This was a Friday and not Kahn's regular studio day, but he came to Penn when he heard the news because that was where he wanted to be.

The communication did not go only one way. Although Lou appeared to do most of the talking, he got ideas from his students and young colleagues, just as he had earlier from Fuller, Le Ricolais, and Tyng. I know this personally to be true as I was surprised (and flattered) to hear Lou deliver as his own,

thoughts that I had shared with him. Two that come to mind are, "campus architecture should be kickable," and "every architect puts a chapel somewhere in each building." I noticed too that my suggestions were included in a revised version of the site plan for the Salk Center.

Therefore I believe Bob's claim that, despite his initial position as disciple and protégé of Lou, the architectural influences went in both directions; that is, that Bob taught Lou as much as he learned from him and that the last phase of Kahn's architectural career should be seen as under the influence of Venturi. This influence was not so much upon the vocabulary as upon the relationship of forms. In particular, Lou learned from Bob about Mannerist exception, distortion, and inflection in form. He learned "his" philosophy of light in buildings, as well as the notion of a "thing in a thing." Through Bob, he investigated the layering of enclosed spaces and the layered juxtaposition of walls and openings, and he discovered that windows could be holes in the wall again. He played on these themes in his important late buildings, particularly those in Dacca.

The borrowings were never acknowledged. Kahn acknowledged the collaboration of Tyng in print. The only influence I ever heard him acknowledge verbally was Le Corbusier's. During the Depression Kahn was among the many unemployed architects who were sustained by Federal projects. His assignment involved library research which led him to read and examine all the works of Le Corbusier. He said this was his starting point as a Modern architect.

Lou was a great artist. The influences I have described probably account for the changes that were visible in his architecture over the years, but they were well incorporated. The work is one and it is his. Nevertheless, the sources and influences should be known and understood by architectural historians and architects. The Solitary Genius theory of architecture is usually a distortion that does violence to the facts and harms the profession, particularly the students and young architects.

The fact that Lou acknowledged few of his borrowings and probably not the most important ones, finally clouded the friendship between Bob and Lou. Their work had already diverged. Although Bob's

modest practice limited his opportunities to use the ideas he had shared with Lou, when such opportunities came, Bob proved that he was not merely "squashed Kahn." When Bob and I took the road to symbolism by turning to Las Vegas, there was no way for Kahn to follow. The older architect was perplexed at the younger's disaffection. He tried to discover its cause. He sent a message to Bob that there was "truth" in Las Vegas. When Lou died, Bob cried. I think he felt he had lost an architectural mother.

A great Kahn idea for which I see no obvious source is "serving" and "served" spaces. Lou said the idea came to him suddenly and unexpectedly while working on a problem. He said he wished that he had thought of it before designing the Yale art gallery, and that if he had, the gallery would have been a different building.

The Philadelphia School

The Philadelphia School that I knew in the late 1950s and early 1960s as a student and professor at Penn, was different from the one that has been described in publications by architects and journalists. Its genesis in city reform gave it a broader scope than has been recognized by most architectural historians, linking it to the New Deal and social thought of the Old Left at the one end, and to the initiation of the Civil Rights Movement and the New Left at the other.

In the late 1940s, Mayor Joseph Clark invited G. Holmes Perkins, an architect and professor at Harvard, to head the School of Fine Arts at the University of Pennsylvania. The new dean brought with him and built around him an interdisciplinary team of architects, planners, and landscape architects. Perkins was himself a link between architectural thought on both sides of the Atlantic, owing to his connections with Walter Gropius and with the English new town planners of the early postwar period. Through him, the CIAM social-housing approach to architecture and urbanism, current in Europe and at Harvard, made contact with a New Deal, social-administration approach that was introduced into Penn's School of Fine Arts by professors William L.C. Wheaton and Robert Mitchell. These two founding members of Penn's City Planning Department had their early professional experience in the administration of Federal programs that they helped to



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evolve during the Depression. Lewis Mumford, who taught at Penn in the 1950s, strengthened the social-housing-New Deal combination, which included the English Garden City Movement and American reactions to it in the work of Clarence Stein and Henry Wright.

Perkins's new school resembled the Harvard school upon which it was based. However, the seeds of the dissolution of such schools were within it, even as it was first founded, and the further addition of faculty members from different backgrounds eventually exploded the Harvard model. In that explosion originated some of the most important trends of thought in architecture and planning in the 1960s and 1970s.

The first major deviation was Kahn. He was too great a giant and is still too close for us to have a clear understanding of his role within architecture in general and in Philadelphia in particular. The tides of his work and thought washed over the whole School of Fine Arts. Immediate results on the students' drawing boards were grids of servant and served spaces and, later, strange and mannered geometries, more imposed upon than evolved from the problem, more heavy-handed than Kahn would have countenanced in his own work, and somewhat disturbing to him.

Kahn taught only in the master's class. He served on juries in the regular architecture program as well as in civic design and landscape architecture, but his influence was felt mainly through his followers who taught in other studios in the school. Kept away from the mainstream of the accredited program, and in some uneasy balance with the CIAM-New Deal axis of the rest of the school, Lou formed one strong corner of Penn's unsteady, oscillating triangle. His ideas affected everything at Penn from social planning to doorknob design, but it was difficult for students to resolve what he stood for with what they learned elsewhere in the school. I think the resolution can be seen in their subsequent careers. Those who left with Lou's formal vocabulary in their portfolios modified their ideas, as do all disciples, to accord with their later experience as practitioners. Many abandoned his extreme articulation of structure and space as realities of budget were imposed upon them. An interesting study could be made of work of members of Kahn's master's class to see the

influence of his teaching 20 years later.

Kahn's contribution to the School of Fine Arts was perhaps too rich to digest or too broad and shifting to focus criticism upon, because when the change came, it did not start with an attack on Kahn. Rather, Penn's critics targeted the original, Harvard-derived view of Modern architecture that Perkins had brought with him and that formed the basis of architectural practice in America. This was the architecture of the Federally supported urban renewal programs of the 1950s and 1960s. It was called "third generation Modern," or "Late Modern," and in its more flamboyant forms, "Modern Baroque."

Late Modern architecture (to use Jencks's term) was outflanked and routed by a pincer movement, but most architectural historians have dwelt on only one side of the pincer, the esthetic (with a passing obeisance to the socio-esthetic of Jane Jacobs). Although news of the death of Modern architecture is premature, this worm would not blame students for interpreting the events that led to its supposed demise in purely architectural and esthetic terms, in the following manner: Saint George Venturi wrote a book about history and one about Pop Art and slew Gordon B. Dragon entirely. We all, except Venturi, know that Pop Art is dead, so this leaves history. Anyway, history is fun and not taxing like sociology. Now we can design like Ledoux in New Jersey and build Mount Vernon in Connecticut. Given present economic conditions what can we architects do but fiddle?

Social movements in planning and architecture

The other arm of the pincer attack on Modern architecture came out of the City Planning Department at Penn, but how did it get there? Since its inception, the planning profession has been held in tension between esthetic and moral-reformist impulses. The sweatshops and their muckrakers, the City Beautiful Movement, the progressive programs of the New Deal, and the CIAM-*Ville Radieuse* vision have, since the turn of the century, provided the polarities between which planning thought was suspended. Sometimes planners oscillated between these concerns. At other times they proceeded with several in parallel. Urban renewal was initiated in Philadelphia and

Perkins formed his new planning department at Penn at a time when *Ville Radieuse* and New Deal visions, in tandem, directed planning toward what David Crane called the City Procedural. A philosophical statement of the City Procedural might read like this: We have a vision of the City of Social Justice and we have the funds out of Washington to fight for it. Uncle Sam [as he was then called] must help the cities, using acronyms backed by money. Perhaps the great future can be achieved.

In the mid 1950s, something brewed in Chicago began to change this view. Immediately after World War II, at the University of Chicago under Robert Hutchins, there was a school of planning whose graduates caused waves and ripples in most of the planning schools of America. They were "social planners" before the term was coined. Trained more in criticism than in creativity, they operated as brilliant gadflies. They were churlish in the extreme about architects and skeptical of the architectural profession's aim to do good in cities. They were dogmatic about the need to be pragmatic and were sure that all professionals, except themselves, allowed their upper-middle-class value systems to affect their professional judgment. (Again, I oversimplify, as I crunch whitened bones on an old battlefield.)

The University of Chicago sent John Dyckman, Britton Harris, Herbert Gans and Martin Meyerson to Penn. To Penn's professional, action-oriented planning department, they added an academic component, one that stressed urban studies with a social sciences bias. The first result was to raise the intellectual level of the school of planning far above that of the school of architecture. Other nonarchitect planners were added and the department of planning was poised for a takeover by the social sciences. The architects in planning were outnumbered, co-opted, or young. The imperialism of the social scientist faculty was expressed as criticism of the architectural and physical bias of the planning profession. Although the orientation of the planning department under their influence became more academic than professional, that changed once again when an instructor, Paul Davidoff, a law student and graduate from the planning department, directed planning thought at Penn toward social action. This was 1958-59 and, in

an otherwise quiescent campus, something unusual was buzzing around the planning department. I think it was the New Left. Here, long before it was visible in other places, was the elation that comes with the discovery and definition of a problem: poverty. The continued existence of poor people in America was a real discovery for students and faculty in the late 1950s.

The social planning movement engulfed Penn's planning department. It spread to the civic design program, but was held at bay by the architects who went about their business as usual. At faculty meetings, planners accused architects of being arrogant, but even the most churlish social planners didn't know where to put Lou Kahn. Although he called a pox on all their houses, he seemed to have everyone's respect. In the midst of this argument, computers moved in, bewitching the planners but not yet the architects. The battle shifted from one between architects and humanists to one between humanists and technocrats, with architects in both camps.

I sat in the middle between architects and planners, pulled and buffeted. Each side seemed so right except when it was all wrong. How could the protagonists be so one-sided? My New Brutalist background tied in equally well with Kahn and Gans. The esthetic impulse that the social planners went to lengths to negate did not seem inadmissible, or indeed deniable, to me, nor was it necessarily elitist and undemocratic. On the other hand, how could the faculty in the architecture department turn their backs on what the planners were saying? If for no other reason than to keep their esthetic eyes fresh, the architects needed their systems broken by the social reality the planners represented.

All that has changed in planning today. The schools are again teaching "traditional skills" and "generalist planning"; "physical bias" has returned to the programs. Robert B. Mitchell, now retired, recently said, "Maybe Lou Kahn had a point. I think his artistic vision was needed." But despite a brief and faddish fling in the 1960s with radical chic, few architects and fewer historians heard the message of the social planners. We did.

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broader intellectual context than is usual in architectural discussion today. This context spans architectural philosophies on both sides of the Atlantic, including but also antedating those of the Modern Movement, and it encompasses areas of history and social thought that lie beyond the purview of most architectural critics.

This is not the time, and I am not qualified, to attempt a definitive hagiography of influences upon us. Such a project should be undertaken *a posteriori* by historians. However, our perception of the matter is source material for future historians; the more so as our views on the subject probably differ from those of today's scribes and critics. Our personal and provisional list would embrace several major categories. First, are historical sources.

Learning from history

Bob's passion for history started in his early childhood, as an interest in clothing styles and in local Philadelphia architecture. Bob's ability to date both is almost year perfect from 1750 onward. At Princeton, he steeped himself in the lectures of Donald Drew Egbert, who was a social as well as an architectural historian and a scholar rather than a critic. The early history of the Modern Movement was important to Bob as a young architect, and so were the historical sources referred to in *Space, Time and Architecture*. Travel in Europe and residence in Rome enlarged this vision of history and brought into question some Modern interpretations. At the same time new interpretations preceding and surrounding the Brutalists introduced other reaches of history, including Ledoux and the Mannerists. Bob had a special penchant for the latter. Reading Wittkower in 1957, he found the analysis of Palladio's Mannerism fascinating. Wittkower supplied, as well, signposts to the Baroque and to an appreciation of complexity in the work of Borromini. Other early favorites were Soane, Hawkesmore, Vanbrugh, and, for all time, Michelangelo.

The Modern architects who most influenced Bob, I would say, are Le Corbusier and Aalto, despite all his other loves. The most important historical influence is Palladio, again despite all his other loves and partly because Palladio plays a central role in American architecture. Sullivan and

Furness are enduring early friends and Lutyens is an important source for the last 20 years. Jean Labatut, Bob's critic at Princeton, introduced him to methods of architectural analysis that Bob used in his theory of architecture course and later applied with wit in Las Vegas. Bob credits Labatut with the invention of the phrase "Postmodern architecture," in the mid 1940s.

When *Complexity and Contradiction in Architecture* appeared in 1966⁴, it illustrated almost all the historical sources that were important to Bob. It showed new ways of appreciating historical architecture, questioned some aspects of Modern revisionist architectural history, and introduced architects to sources not previously known to them; for example, the works of Brasini and Lutyens, architects who have been reassessed as part of the historical revision that serves today's Postmodern Movement.

My historical interests paralleled Bob's. Early Modern and Brutalist historical interpretations that I encountered at the Architectural Association were mediated by John Summerson's lectures there and by travel in Europe. My study route through architectural history proceeded via Rome, the Italian and English Mannerists, some 19th-century eclectics and the early Modernists. Thanks to Summerson, it spanned the English Classicists from Jones to Lutyens. I joined in the Brutalist reassessment of the early Modern Movement and its antecedents, developing thereby a fascination with Mannerist rule-breaking and an intention to examine open-mindedly that which (as Kahn would have said) architects consider ugly.

At Penn in the late 1950s, I found among social planners such as Gans and Davidoff an intention, similar to mine, to study questions open-mindedly—in their case, social questions, but also architectural phenomena termed ugly by architects, for example, Levittown and Los Angeles. When Bob and I met, as Penn faculty members in 1960, our shared historical interests, parallel study travels, and similar early professional experience caused us to form a friendship and a professional collaboration. While I struggled, as a young professor, with the

⁴*Complexity and Contradiction* was written in 1961-62. Its publication took almost five years.

threatening but challenging implications of social planning theory for architecture, I found Bob was the only member of the architecture faculty who sympathized. I moved to California in 1965, primarily to experience an evolving urbanism that was under discussion among planners long before Tom Wolfe or Reyner Banham drew attention to it. From UCLA I invited Bob Venturi to come and learn from Las Vegas with me.

Learning from the cultural landscape

Another important piece in my personal mosaic is my childhood and youth in Africa. The cultural cross influences that I have described on two sides of the Atlantic had their counterpart between southern Africa and England; however, in Africa, the English influence tended to be overwhelming. A few great teachers in my youth suggested that the real challenge to creativity lay at home and that we would be better artists if we would look around us at the African landscape and learn. At the same time, the clash of cultures in southern Africa, which is everywhere known by its terrible side, had another face. Interactions between artistic cultures, black and white or overseas and local, produced an exciting art. African indigenous art inspired high-culture artists, white and black. But to me, an influence that went the other way produced an art that was more important and more moving: this was the African folk artists' response to imported industrial culture. Paintings on the houses of the Mapoch tribe at the outskirts of cities incorporate motifs derived from the shapes of razor blades, as well as almost Surrealist line drawings of bicycles with all wheel spokes shown. Trains, railroad stations, and office buildings figure in African folk painting and sculpture. Leftovers of industrial society, such as wire and tin cans, are used by Africans to fashion musical instruments and toys. The alteration of African art as it meets white urban culture is sad for purists and symbolizes a political reality no one wants; but it is probably the liveliest artistic reaction that has come out of southern Africa. It opened my eyes to the vitality and poignance of "impure" art. Mine is an African view of Las Vegas.

Our involvement with the everyday landscape precedes that of the Pop artists. I had been photographing items of popular

and impure folk culture in Africa and Europe and continued to do so in America. This was another interest Bob and I shared. I saw it as following in the tradition started by early Modern architects with the celebration of grain elevators and industrial objects. When Pop Art first appeared, I thought that at last the artists were catching up. When that movement ended, I felt we, as architects and urbanists, must continue to find creative strength in sources immediately around us.

Pop Art was not merely a fashion for us, nor was it ever our sole source of inspiration. However, there is no doubt that the Pop Art movement strongly influenced us. In particular, Ed Ruscha, the artist, and Tom Wolfe, inventor of spurious definitions of bogus styles, helped us to derive techniques for examining the artifacts of mass society and relating them to our professional task as designers. The Pop artists and Herb Gans led us to Las Vegas and Levittown.

When we got there, we used the tools of our trade and all our previous interests and experience to learn with. It was amusing, but also deeply edifying, to apply academic, historical-architectural analysis, as Jean Labatut would have performed it, to the imitation history of Las Vegas. In a similar vein, we attempted to take Gans's analysis of suburbia into architectural areas that he himself would not penetrate. Through these studies, we incorporated a large sector of the American environment into the vocabulary of American architectural discourse, where it had never been before and, in so doing, found our way back to symbolism in architecture.

Architectural friends and relatives

Although individuals are included among the artistic and intellectual influences listed above, some should be mentioned separately. Another enduring friend from Princeton is Philip Finkelpearl, Bob's classmate there. Phil, a professor of English, helped Bob to focus his emerging ideas by defining them: "What you're interested in, essentially," he said, "is complexity and contradiction in architecture." Phil introduced Bob to Elizabethan Mannerist literature and to literary criticism that acknowledged the Mannerist principles of ambiguity and uncertainty. Parallels from this other medium provided illumination to both the

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content and method of Bob's study of architecture. Phil continues to provide a font of help and advice to both of us and sympathetic criticism of Bob's writing style. He shares as well, our interest in pop culture.

Vincent Scully has been a good friend to Bob and was the first member of the architectural establishment to recognize and proclaim his ability. With an eye for architecture, a nose for the new, a trained intuition, and no failure of nerve, Scully comes as near as one can, in the unclear currents of postwar America and Postmodern architecture, to inheriting Giedion's role. Bob first read Scully's *The Shingle Style* in Rome and found it a revelation. Its documentation of mannerly Mannerism, of orderly houses that allowed for exceptions and contradictions, of buildings that were not—but were almost—symmetrical, provided early and most meaningful lessons in the handling of complexity.

Robin Middleton was my professional mentor when we were both 17, and has continued as an architectural friend. His fund of historical sources of special interest to Bob and me is unending. Arthur Korn had a profoundly personal influence on my professional life, and so did Charles Seeger, an ethnomusicologist. David Crane was important to me in the same way that Martin Wagner was to him. Bob and I both gratefully acknowledge help from J.B. Jackson in understanding the cultural and social meaning of the everyday landscape.

For both of us, parental relationships were artistically important. Bob's parents' wish that their prenatal child become an architect was echoed postnatally by Bob by the time he was four. He imbibed his father's interest in architecture and also, surely, Robert Senior's unfulfilled desire to be an architect. Vanna Venturi's sophisticated taste in furnishing, clothes, and literature profoundly affected Bob's stance in architecture; her socialism probably lay behind his unusual sympathy with the ideas of the social planners.

My mother studied architecture so I grew up thinking architecture was women's work. In 1933 my parents built an International Style house, designed by Norman Hanson. My childhood home memories are of spiral balcony stairs, mild steel Lally columns, and the little space between the partition wall and the strip

window. I can recall playing on the flat roof and the sound of my grandmother's heels clacking on the treads of our staircase, which was of black-and-white tile and had tubular steel balustrades and a half-round half landing. It is just as possible to be sentimental about these as about oak paneling and attic stairs.

The house that Bob and I bought in 1972 has shifted the direction of our work, turning us toward the Arts and Crafts, Art Nouveau, and Sezessionist styles from which it derives. The interior of our house has become our laboratory, used for testing furnishings and decoration for other buildings and never completed in itself. Our child has influenced our drawing style, through the children's books we bought for him that he did not read. In a deeper sense, the breaking of systems and deflection that a child represents repay in our professional lives, through the emotional growth and enlarging of self that parenthood has meant. As parents we wear to a frazzle yet grow into our full stride.

If we lead an intellectual group life at all today, it is with our colleagues in our office. They are an important source of ideas and information and our chief sounding board. This unusual community of labor and philosophy consolidates our endeavor. Bob and I would be abstract indeed without their contribution. They are among the most talented young architects of their time. On their own, their reputations would rival those of their contemporaries whose work is now regularly published.

Clients too have exerted a strong influence on our thinking. Most have become friends and colleagues as we have worked together. This is too brief a lexicon of half a century of sources and influences and more are added constantly. All are abiding, but, like books in a library, some are more dog-eared than others and some are more dusty.

Book learning

A stroll through our library, actual and metaphorical, would disclose worn copies of the writings of Frank Lloyd Wright and Le Corbusier and marked-up chapters of *Space, Time and Architecture*. There are all manner of histories, architectural and otherwise, travel books, biographies, and diaries (those by Santayana are well thumbed). Early picture books of famous cities and places, particularly in Italy, were

inherited from Bob's parents. Our *Team 10 Primer* and the Aldo van Eyck issues of *Dutch Forum* are worn but dusty, and so are Reyner Banham's *Theory and Design of the First Machine Age* and the townscape series in *The Architectural Review*. A few rows of planning and sociology texts are neither dusty nor dog-eared, and the J.B. Jackson years of *Landscape* show signs of recent use. They share a shelf with several books by Herbert Gans, some early essays by Tom Wolfe, and Philip Wagner's *The Human Use of the Earth*. Architectural journals pile up in our office but few are more than skimmed.

Herb Gans introduced me to *The New Republic* in 1960 and I have continued to take it through all its vicissitudes. It sits beside the bed together with *New York Review of Books*, *W*, *Antiques*, and always rising piles of books which, at the moment, include *The English House* by Muthesius, *Wallpaper in America* by Katherine Lynn, *The Power Broker* by Robert A. Caro, *Futurism and the International Avantgarde* by Anne d'Harnoncourt, *The Life and Work of John Nash, Architect* by John Summerson, and *The Utopian Craftsman* by Lionel Lambourne. Also there are *Consumer Reports*, *David Copperfield* (in hopes that our child will read it), and the puzzle pages of *The Philadelphia Inquirer*. Picture books that stay open in the studio now are on Schinkel, English country houses, Georgian silver, American Colonial interiors, Arts and Crafts furniture and objects, Robert and James Adam, and Josef Frank. There are several issues of *Modo*, three well-thumbed volumes of the architecture of Sir Edwin Lutyens, and Burnham's *Plan of Chicago*.

The letterboxes at our office are a source of cross-fertilization as people put in clippings and photocopies for others to see. The topics range from headlines on Westway to political analyses by the War Resisters League. They may include a Martin Pawley arrowshaft from the *RIBA Journal* or something from *Domus*.

This worm believes that our contemporaries in the profession, apart from those in our own office, have exerted virtually no influence upon us, and also that attribution of influence to the poetry of T.S. Eliot is misplaced. Though we have quoted Eliot on criticism and on the lack of relevance of some (in our case,

architectural) poetry, I think it is difficult to detect in our work or thought the cold, gray, paper-thinness that the critics who make this connection find in Eliot's verse or person. To say that Bob resembles this Eliot is like saying he wears a bath stopper and toothbrush earrings.

Learning from...

Bob and I have used the prefix "Learning from..." to formulate theoretical positions based on many sources. We even have a book called *Learning from Everything*. As they are for most people, our sources are a rich mix, richer than I have been able to document. From our viewpoint it is difficult to assign relative weights to the various influences, just as it is difficult to label present-day architects or place them in schools of thought. Such activities are better left to the future; if the work is rich, each architectural generation will interpret it differently.

Granted these temporal limitations, I feel, nevertheless, that today's critics and historians have been particularly unsuccessful at defining our intellectual and artistic coordinates. This is partly because most architectural critics know little about the social sciences and care even less. Although it is 20 years since the social movements of the 1960s, I have yet to see a serious attempt by an architectural critic to gauge the impact of social planning thought on the work of architects, ourselves or others. Yet subsequent currents, particularly the historical nostalgia of the 1970s, found early champions ready to proclaim schools and invent names, *vide* Radical Eclecticism.

Gaps in social insight are responsible, too, for a lack of critical evaluation of the cultural relevance of today's historical borrowings. Cultural interpretations of taste and behavior are decry by some social scientists and ignored by most architects, and the word "relevance" has a quaint, old-fashioned, 1960s ring. Yet cultural relevance, Bob and I believe, is an important attribute of good architecture. Criteria of relevance guide our choice of historical references in design: no Ledoux in New Jersey suburbia; Mount Vernon mediated by Levittown in Connecticut. (Again, I oversimplify. The Ledolcian symbolism might be suitable if you were designing a house for a European professor of architectural history on the outskirts of Princeton.)

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Critics who ignore the social and cultural dimension in our thought see only historical sources in our symbolism. However, the ideas that led to the decorated shed were derived from a wider panoply of events than those that generated Radical Eclecticism. Failure to depict the full scope of our context leads to misinterpretation of our content.

Our work should be seen whole. Our research should be matched to our design. Our planning and urban design should be compared with our architecture. The social comment in *Learning from Las Vegas* should be related to the architectural prescriptions. Such an overview would suggest a reinterpretation of our architecture and would support our claim that we are not Postmodernists, except perhaps in the theological sense.

...Each other

Finally, although this is not the way history has been written, Bob and I have probably learned as much from each other as from anyone else. And those influences go both ways. Historians who ignore this fact will miss the point of our work and will write not history but *plasticus*.

Intuitions about the distant past

Although history will always be written "wrong," in the sense that it will be revised to suit the needs of different generations, it may also be inaccurate, and pompously so at that. I have on occasion found myself questioning architectural history as I have read it, sensing false bias merely because new perspectives have changed old preoccupations.

In the case of Charles Rennie and Margaret Macdonald Mackintosh, a feminist perspective and changing ideas on the value of decoration have rendered suspect the judgment of historians. Charles Rennie is reported to have said Margaret Macdonald was a more talented artist than he was. Some of his drawings have both names on them. Architectural historians have been defensive about both these facts. They attribute his remark to the blindness of love and claim that everyone can perceive that he was a much better artist than she was. The drawings may indeed have been by his hand alone. Apparently, on some drawings six or seven names are listed and assuredly this cannot mean that they were drawn by six or seven people;

rather, six or seven people were present on the trip when the sketches were made. Consequently, it can be assumed that Margaret's name on Charles's drawings represents merely her presence with him at the time. However, a revisionist view of history gives new dignity to arts and crafts (often women's work and therefore not "Fine Arts"). Since decoration is again admitted to be a valid part of architecture and design, the fact that Margaret Macdonald Mackintosh was an excellent designer of decoration is no longer scorned. Architectural historians should now look carefully at the work of Charles Rennie and Margaret Macdonald Mackintosh. They should assay a rigorous formal analysis of their parallel artistic development. It looks to me as if Margaret may have designed some of Charles's decoration.

The myth of Frank Lloyd Wright as a lonely genius has already been exploded. Through documentation of the work of other contemporary architects, particularly in California, and more recently through the rediscovery of the American Arts and Crafts movement, we are building a picture of a great artist set within his intellectual and artistic context. I sense that there are missing pieces concerning influences across the Atlantic. The *Wasmuth Portfolio* of Wright's work that appeared in Germany in 1910 has been generally claimed by historians (and, I would guess, first by Wright) to have "irrevocably altered the course of European architecture from that moment onward." However, the *Wasmuth Portfolio* was not the first nor the only information published in Germany on an emerging American school that included, but was not limited to, Frank Lloyd Wright. A 1907 bound volume of *Innendekoration*, brought to our attention by Robin Middleton, contained several examples of American Mission Style interiors. (It also contained illustrations of a Neoclassical house by a young architect, "Mr. Mies.") This 1907 volume may well have provided source material for our house in Philadelphia, which was built by an immigrant German family. It has a large, "Wrightian" roof with extended eaves, common in Germany at the time, and a Charles Rennie Mackintoshlike dining room and staircase. It was constructed in 1910. It is unlikely that the German sources from which it was derived could have included the *Wasmuth Portfolio*.

While on the subject of FLW, we should reassess our attitude toward Olgivanna, as the feminists have done with Mrs. Portnoy. We should ask why brilliant women of her generation shone through their husbands rather than in their own light. What more was open to her than to rule that particular roost? In what way did she provide the counterform to Wright? And why did he and his work demand the services and ambience she offered? Olgivanna has probably been unfairly treated by history.

Gaudi should now be reassessed, not as an outrider of European Art Nouveau but against his own background, which included great architects and designers of the Catalan school, such as Domenech i Montaner and Gaspar Homar. Architects who visit only the work of Gaudi in Barcelona will miss other architecture that is particularly interesting today. We should explore further the symbolism of these architects' decoration and understand it in relation to the awakening Catalan nationalism of their time.

Finally, Lewis Mumford. He is too famous to be considered a forgotten hero but his influence on current thought, particularly on the ecology movement, has been insufficiently acknowledged. His scope is broad and diverse. He has written upon an unbelievably wide number of subjects. He lies at the root of more of today's social and architectural thinking than we can comprehend. History praises the great specialists but omits the great generalists because their comings and goings are often too complex to document. This is perhaps the reason for the silence around Mumford in architecture and planning today. He is another link across the Atlantic. His discipleship of Patrick Geddes and his involvement with the English Garden City movement brought these ideas to America, influencing the work of Clarence Stein and Henry Wright and the urban programs of the New Deal. When I was a student, his humanism was scorned by technocrats, both architectural and social. They may think better of him now. Mumford has told the sad tale of his first meeting with Patrick Geddes. After reading and admiring his works, the 27-year-old disciple was disappointed in how little he was able to communicate with the elderly master. He said he wished he had met Geddes when

Geddes was 27 years old. I feel somewhat the same way about Mumford—although I am sure he returns the compliment and would rather not meet us again until we have gotten Las Vegas out of our system. This is sad because I sense his presence behind some architects and planners who have influenced us most.

The present state of architectural theory and the need for a revisionist history

If what I have written is partial history seen through a complex lens, the view becomes even less clear when we reach today. A worm can have no perspective on the present as it passes over her, except to note some ironies of architectural aging. Our once-outrageous architecture is now general currency. We have the new experience of seeing other architects do what we would have done. Yet in finding work, we remain largely on the outside. Our ideas but not ourselves have been co-opted.

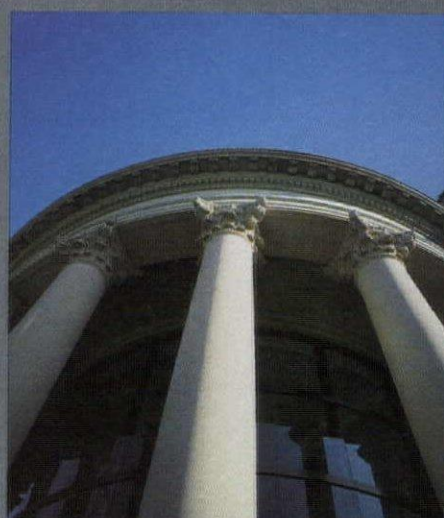
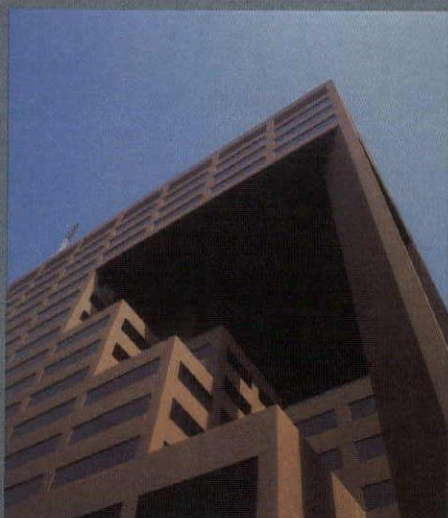
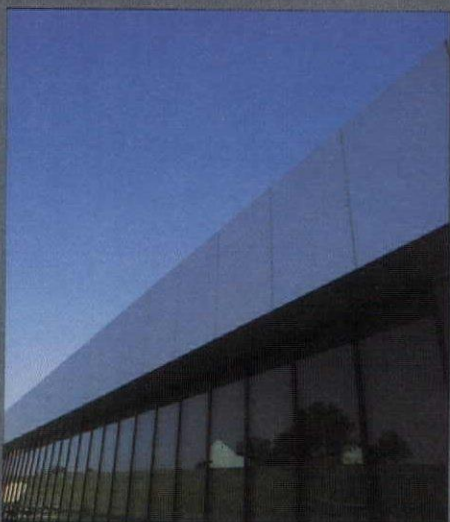
It seems to me that there are at the moment in Europe and America no schools of thought, but rather flurries and eddies of thought. Though each may flourish in its own locality, their crosscurrents negate each other; the result is a lack of direction. Some architectural historians and critics have become scribes. They name movements almost before they are formed, using the group they promote to head toward the Giedion position; preparing to crown kings. Few are at work on the revision of history that is needed to give direction to today's crosscurrents and thereby help to form real schools of thought. I have suggested several areas where revision of historical opinion and reassessment of the findings of earlier critics may prove fruitful. The scribes should put their heads together at their next conference and come up with others.

For the most part, I have tried to set down some happenings as I saw them, recording the minutes of the meeting, so to speak, so that future architects need not deal in *plasticus*. But history is much more than writing the minutes of the meetings. Defining names and schools of thought from the present eddies should be left to future historians; today's historians should get out of that business and back to their proper task of re-interpreting the past to help us find direction for the present and prepare for the unknown future.

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A roof window that is not just weathertight but virtually weatherproof, and opens three different ways. It even installs easier.

Introducing the new Andersen® roof window. A roof window design with features so far above and beyond all others, you'll decide it's the only roof window worth looking up to.

Here's why.

Opens three ways, not just one. Our roof window operating hardware is so advanced, it holds over 200 patents. Sounds complicated? Not so, because all three positions—awning, pivoting, and cleaning—operate simply, with a spring counter-balanced system that allows smooth, worry-free operation. Plus some exciting extras.

For instance, a weathertight design lets you leave the window open during light rain in the awning position. Our sash also pivots higher in the frame,



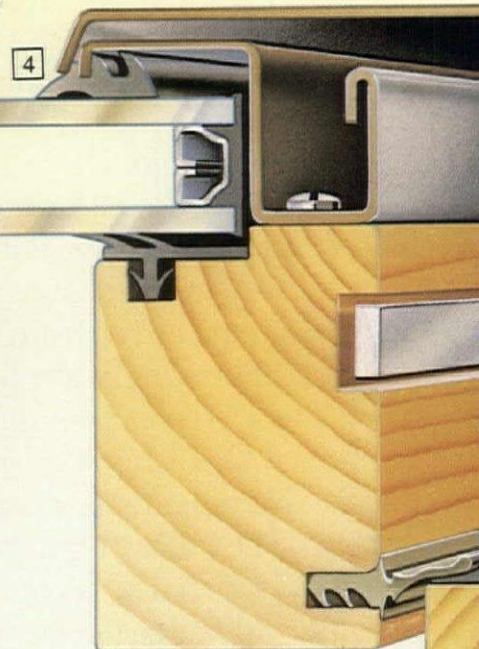
AWNING



PIVOTING



CLEANING



1

4

allowing increased headroom in low ceilings. Spring tension holds the sash open on windy days and locks it in place for easy cleaning.

You can even adjust window balance and operating tension to match roof slopes from 9° to 80°. So you're assured smooth, perfect handling no matter where you install.

The Andersen roof window also locks with a key for security. And can be locked in a minimum ventilation position for a fourth opening possibility. Ask for a demonstration.

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worth looking up to.

In winter, the glass helps keep radiant heat in. In summer, it helps keep radiant heat out. So you can install our roof window with energy-minded confidence in homes or commercial buildings in any climate.

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And see how our special step flashing [6] integrates the window with the roof itself, making it truly as weathertight as a roof*.

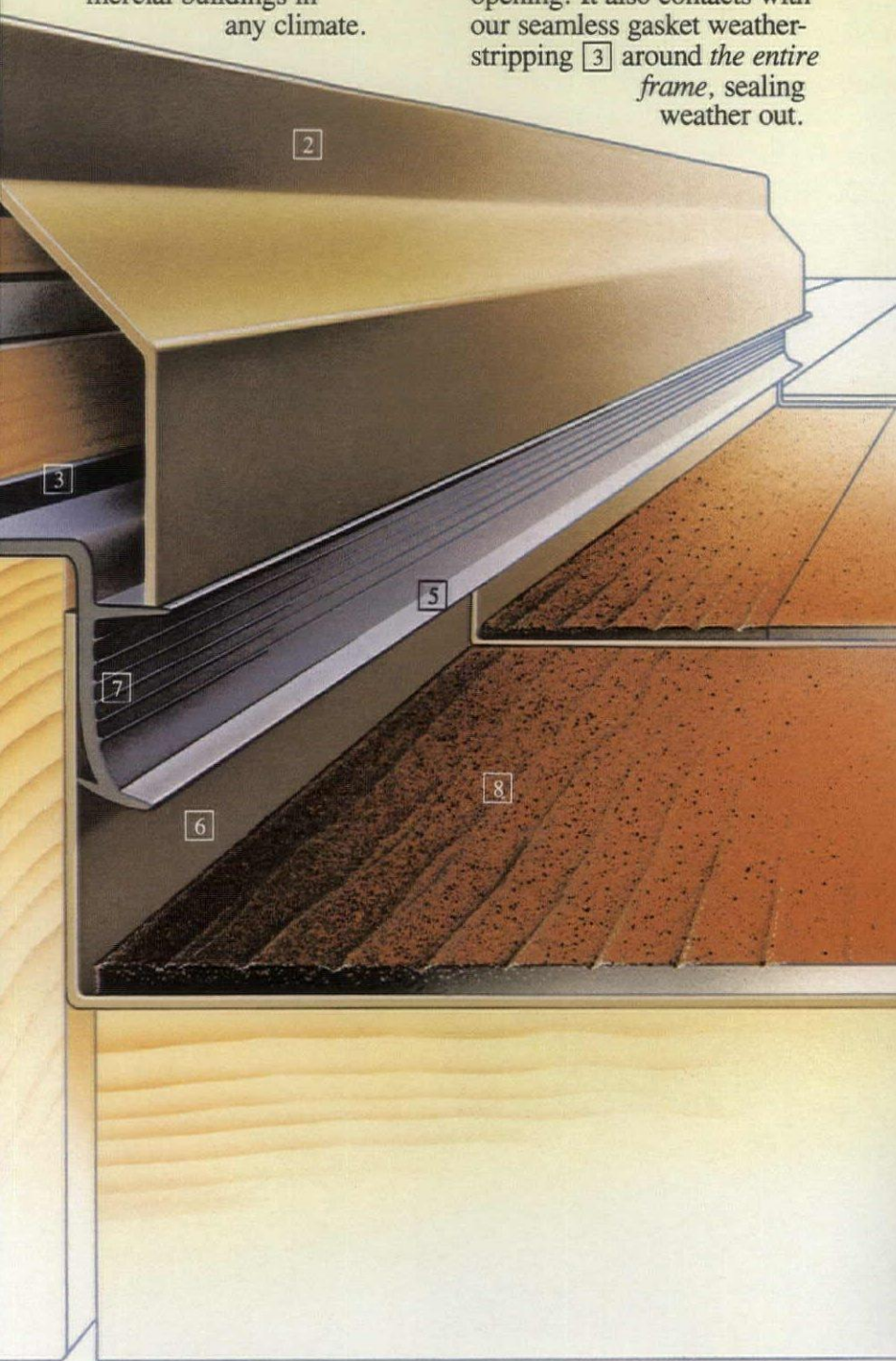
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*Weathertightness claims are based upon proper installation performed by a qualified professional.



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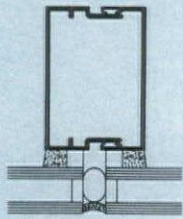
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*Test results available on request.

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The Architect is: Anthony Langford, AIA
Huntington Beach, CA
Dealer: Long Beach Builders Glass
Long Beach, CA
General Contractor: Continental Construction Corporation
El Segundo, CA

RECORD INTERIORS 1984

The editors of ARCHITECTURAL RECORD announce the 15th Annual RECORD INTERIORS Awards. Architects and interior designers are invited to submit recently completed interior design projects in all categories: work previously published in other national design magazines is disqualified. There are no entry forms or fees; however, submissions must include photographs (transparencies), floor plans, and a project description—bound firmly in an 8½- by 11-in. folder—and be postmarked no later than April 15, 1984. The winning entries will be featured in the 1984 September RECORD INTERIORS. Other submissions will be either returned or scheduled for publication in a future issue.

Submissions should be mailed to:
Charles K. Gandee
ARCHITECTURAL RECORD
1221 Avenue of the Americas
New York, New York 10020

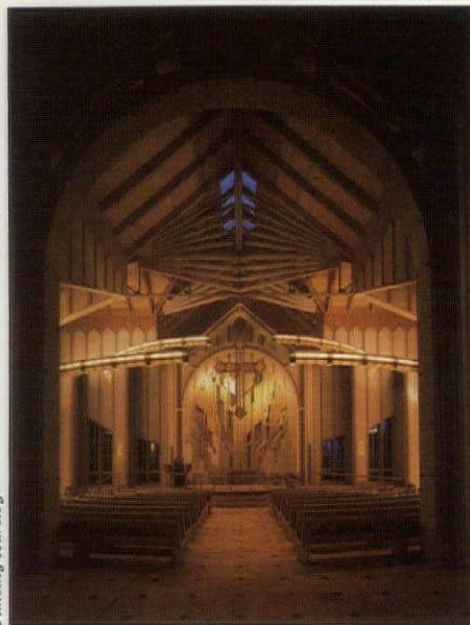
Return to tradition

Design

When asked to comment on what *Newsweek* magazine recently termed a “counterrevolution” in ecclesiastical architecture, the Reverend Arnold A. Fenton, rector of St. Matthew’s Parish Church (cover and below), simply noted: “I haven’t been asked to do a wedding in a bowling alley for a long time.” While Father Fenton’s response is oblique, it nonetheless captures the essence of the change in attitude between the American religious community of the ’60s and ’70s, and the American religious community of the ’80s. The secular trend that swept churches and synagogues during the last two decades (inspiring congregations to seek social and political “relevance” in nontraditional religious practices) has ended. Not surprisingly, the nontraditional ecclesiastical architecture spawned during the period has also gone the way of the folk mass and the “Peace” and “Love” banners. In short, people once again want to be married in a church, not in a bowling alley; and people once again want said churches to *look* like churches.

Though the three churches included in this portfolio are unique responses to their place, the circumstances of their construction, and the aspirations of the congregations who built them, they all bespeak a return to traditional religious imagery. Father Fenton’s St. Matthew’s Parish Church, for example, is a contemporary California hybrid of the classic nave-and-transept model, designed by architects Moore Ruble Yudell in “collaboration” with 200 members of the Pacific Palisades parish. Immanuel Episcopal Church in old New Castle, Delaware, on the other hand, is a meticulous, if not-quite-faithful reconstruction of an 18th-century church destroyed by fire. And Charles Tapley & Associates’ sanctuary addition to Christ the King Lutheran Church in Houston was designed not only to accommodate that inner-city congregation’s modest expansion, but also the “Normanesque, proto-Gothic” building it adjoins.

Happily, none of the three look “counterrevolutionary.” They look like churches. *Charles K. Gandee*



Timothy Hursley

Design by congregation

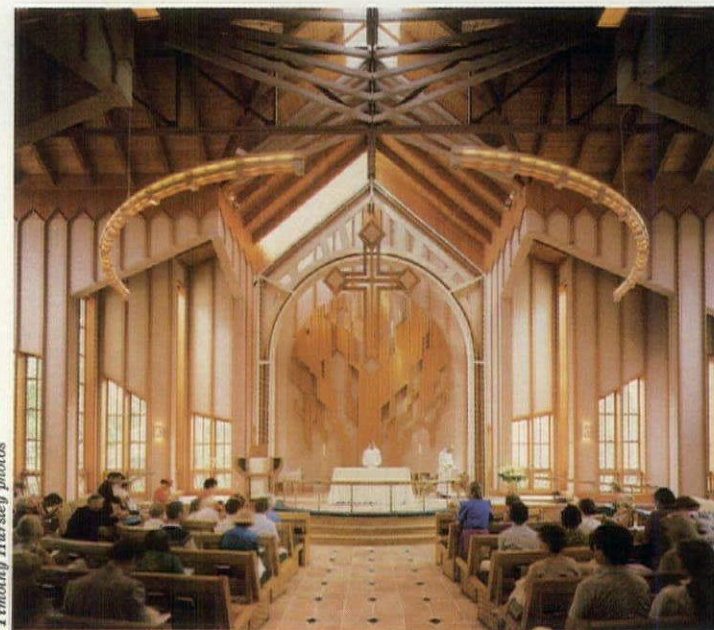
St. Matthew's Parish Church
Pacific Palisades, California
Moore Ruble Yudell,
Architects & Planners

When the vestry of St. Matthew's Parish Church drew up a contract for Charles Moore to design their new, \$2.2-million sanctuary, they included a proviso stipulating that construction would not begin until two-thirds of St. Matthew's 350 parishioners approved the schematic design. Though many of his colleagues would have balked, Moore signed without flinching. He knew he'd get the vote. He'd let the parishioners design the building.

Some 200 members of the Pacific Palisades parish eagerly participated in the four design workshops Moore and partners John Ruble and Buzz Yudell conducted in the St. Matthew's Parish School gymnasium. The agenda included every conceivable planning and design issue, from siting and seating to finances and finishes. While the mixture of three architects, a full retinue of consultants, and 200 end-users is surely a volatile one, in his article recounting the Sunday-afternoon workshops (pages 102-103) Moore fails to mention a single explosion. We can attribute this omission either to Moore's selective recall, or to his insistence on a clear definition of roles: it was the parishioners' responsibility to "define"; the architects', to "refine." Moore cautions would-be participatory designers: "The secret of making all this work is not to be committed beforehand to some scheme you feel obliged to defend. . . otherwise, [the architect] is just going to be in constant conflict with the people who are forming their own minds."

Not surprisingly, the parishioners were divided in their "definition" of a new sanctuary: one faction argued for a lofty, symmetrical church with a minimum of glass and wood; another, for a rustic, informal building with generous views to the southern California landscape. The solution these two factions and the architects finally arrived at mingles contemporary and traditional forms: intimate amphitheater seating and a hybrid nave-and-transept enclosure. Although Father Arnold A. Fenton, rector of St. Matthew's, is generous in his praise of the new church, the process by which it was conceived is, in his opinion, not without its price: "Four years, and we're not done yet!" Thinking it over, however, Father Fenton adds, "If it lasts 300 years, who cares?"

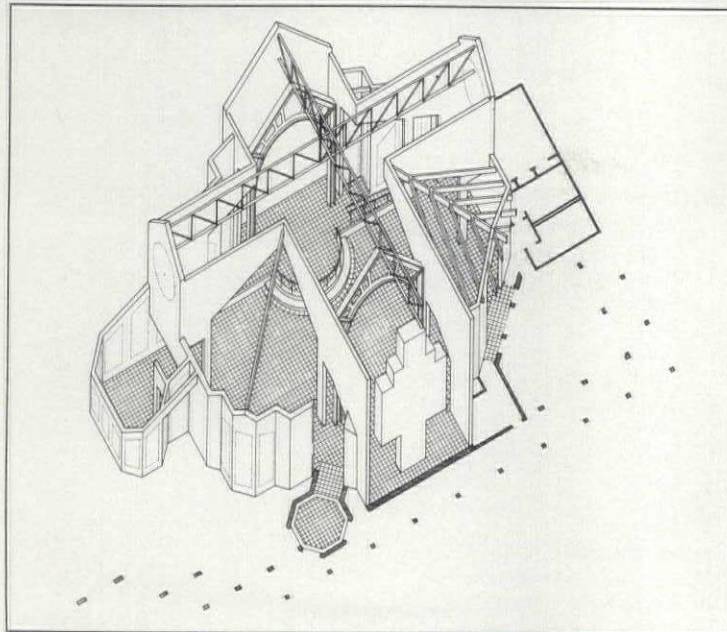
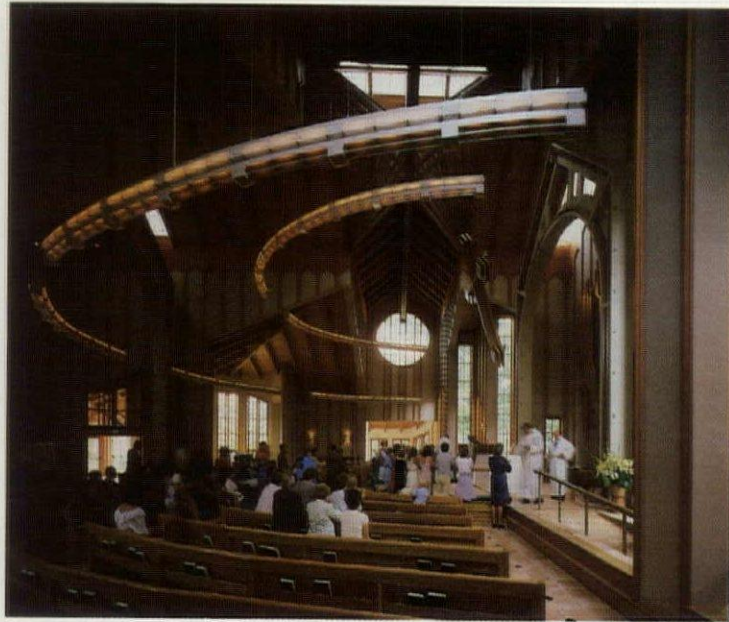
There is a happy postscript to the vestry's original contract with the architects. When Moore Ruble Yudell presented the schematic design to their constituency, they didn't receive 66 per cent of the vote, they received 83 per cent. *C.K.G.*



Timothy Hursley photos

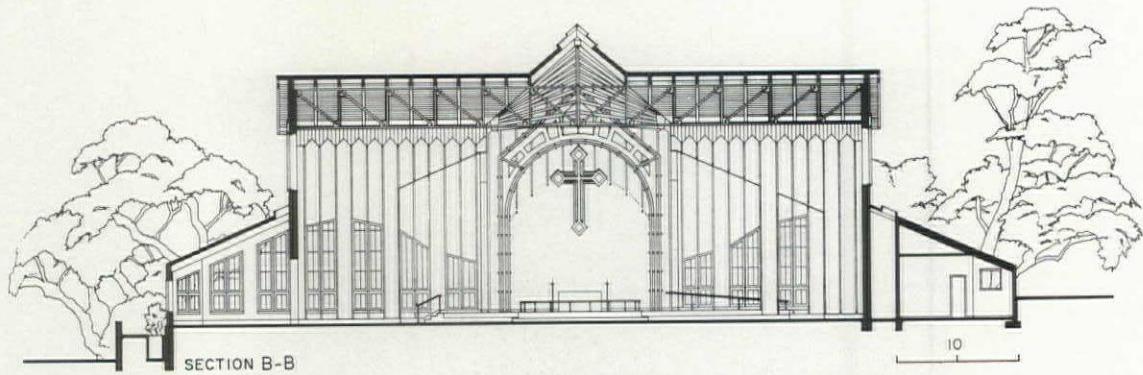




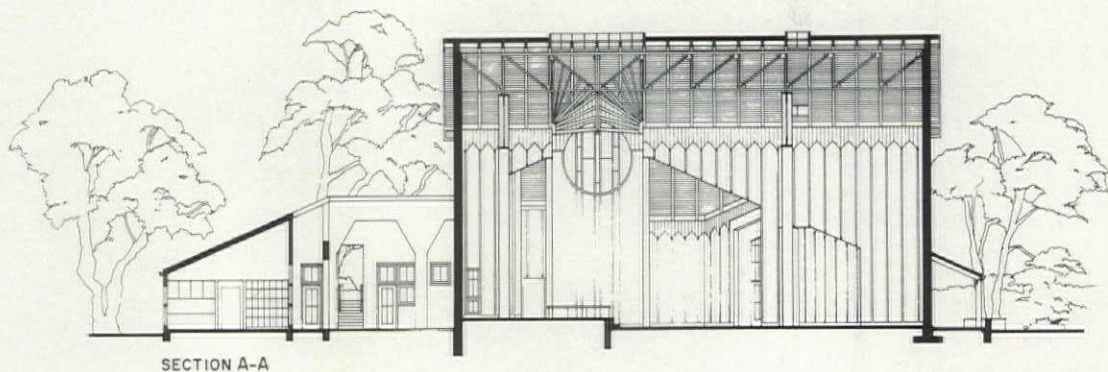
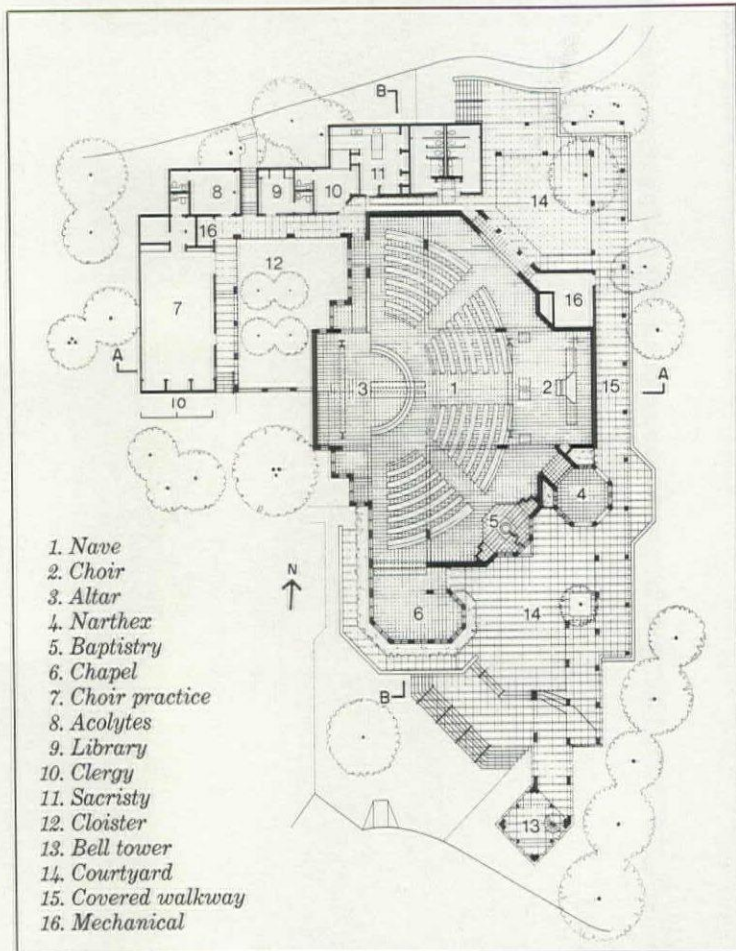


Unless you're looking at the roof or the axonometric, you won't know there is a cruciform at the heart of St. Matthew's Parish Church, for the classic ecclesiastical shape is carefully hidden behind a series of low, hipped-roof additions to its base. According to the architects, this "modified Latin cross" parti (emphasis on the modified) is a direct response to the client's request for semicircular seating in

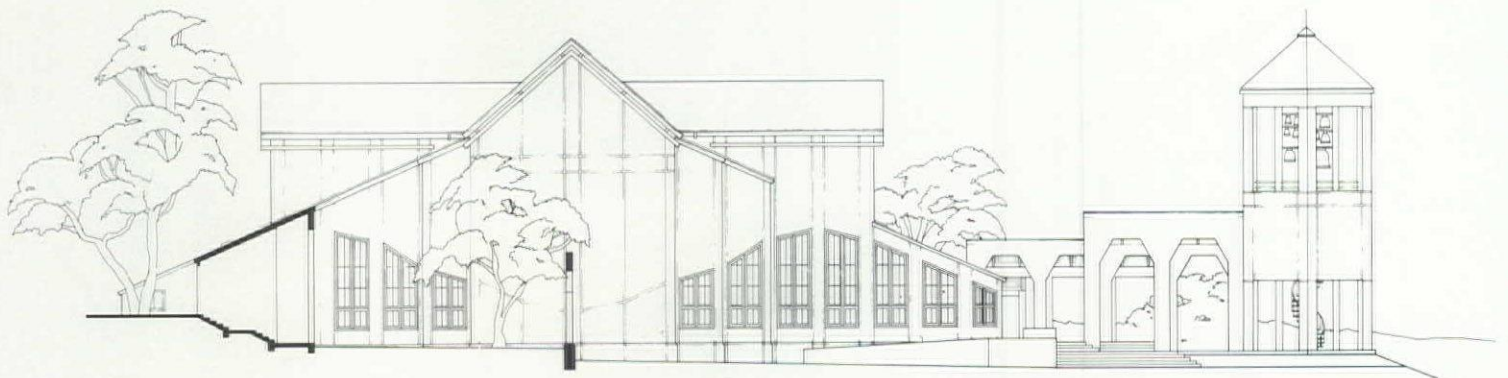
a traditionally configured sanctuary. But not only do the heavily glazed additions neatly accommodate the preferred plan, they also introduce a domestic scale to the otherwise grandly scaled sanctuary, a fact not unwelcome to a congregation divided between the desire for intimacy and the desire for awe-inspiring grandeur.



Rather than point out to the congregation that their request for a primarily wood interior was incompatible with their request for superb acoustics, the architects devised a battens-and-wainscotting system—applied to four-inch-thick plaster walls—which creates the desired appearance without compromising the desired acoustics (photo right). Because St. Matthew's choir serves not to perform but to help the congregation sing the liturgy, they (and a 36-foot-high pipe organ) have been situated at the rear of the nave, on axis with the altar (plan right). Both altar and choir are grandly framed by ornamented steel "triumphal arches" that also carry the sanctuary's major structural support—a crossing of two steel trusses (sections right). Although there are few windows in the nave, the west (altar) elevation is nearly transparent. The heavy glazing responds not only to the view of a cloister, but to the fact that St. Matthew's has no air conditioning: operable windows work in conjunction with operable ridge skylights to cross-ventilate the church. Though the rector, Father Arnold A. Fenton, appreciates the energy savings, he does report: "The congregation is easily distracted by the view during sermons."







WEST ELEVATION

10



SOUTHWEST ELEVATION



EAST ELEVATION

Though there is little overtly ecclesiastical about the exterior of St. Matthew's, (at least from Bienvenida Avenue), the congregation doesn't mind—for they preferred their church to be as unobtrusive as possible in its primarily residential environs. Assisting in the cause is consultant Tina Beebe's monochromatic green palette: as time goes by, and the landscaping matures, St. Matthew's will further meld with the verdant southern California landscape.

**St. Matthew's Parish Church
Pacific Palisades, California**

Owner:

Parish of St. Matthew

Architects:

Moore Ruble Yudell, Architects & Planners—Charles W. Moore, John Ruble, Buzz Yudell, project designers; John Ruble, project manager; J. Timothy Felchlin, associate project manager; Robert Flock, Andra Georges, Shinji Isozaki, Peter Zingg, project staff

Engineers:

Kurily & Szymanski (structural); Sullivan & Associates (mechanical); Amelect, Inc. (electrical)

Consultants:

Jim Burns (planning); Tina Beebe (colors/interiors); Campbell and Campbell (landscape); Richard C. Peters (lighting); Jane Marquis (stained glass)

General contractor:

Meskill and Sons



Working together to make something

By Charles W. Moore, FAIA

Charles Moore would have us believe that he and partners John Ruble and Buzz Yudell did not design St. Matthew's Parish Church. And though we may be suspicious of the claim (could 200 parishioners possibly have designed the \$2.2-million sanctuary?), we are nonetheless intrigued by the argument. C.K.G.



The Episcopal Church encompasses a broad variety of theological views—generally classified as high church and low church. In addition to differences in the formality of service, there are differences in matters affecting design—for example, whether a crucifix or a cross is used, whether Stations of the Cross are included, and whether a reredos or rood screen is provided.

The members of the Parish of St. Matthew in Pacific Palisades, an elegant section of the Los Angeles basin on the way to Malibu, embrace a particularly wide variety of views about theology (and every other subject). So when their old A-frame church, designed by Quincy Jones, was consumed in a forest fire, there were a great many opinions about what the new church should be like: how big it should be; where on a beautiful 37-acre site it should be located; how much reference it should have to a prayer garden that was an important part of the earlier building... indeed what the whole should look like.

The committee formed to search for an architect wrote into its rules that the new building—its siting, its detail, and its plan—would have to have a two-thirds positive vote of the congregation. We were selected (partly because we were among the few architects willing to accept in our contract the two-thirds mandate, but we were sufficiently excited about doing the church to accept that challenge). It seemed to us that the only hope for getting a two-thirds agreement was that the building should be designed not by a group of architects and then “sold” to the parish, but rather that it should be designed by all the members of the parish who were interested in participating.

We went about setting up four, all-day Sunday workshops, spaced about a month apart. Between 150 and 200 people from a parish of 350 or so came each time. To lead the workshops, we invited our friend Jim Burns, who, with Lawrence Halprin, had invented the “Take-Part” workshop process with which we were familiar.

The first workshop, on a sunny Sunday, was devoted to what we call in our California mellowspeak an “awareness walk,” in which everybody who participated filled up a workbook with observations about the many places on the property where a new church might be sited.

Later on that day, people were provided with a set of sixth-grade materials that we had assembled—*Fruit-Loops*, parsley, cellophane, and the like, to make models of the church they wanted.

A month later, we returned with a model kit of parts, including groups of pews, altar, bell tower, choir and other elements, interior and exterior, that had been mentioned by them in the models that constituted the churches of their images. That was the magic day. There were seven tables of 15 to 20 parishioners each; each table went away with the pieces that we had made of their images, and each table came back with (miraculously) the same plan—a half-circle or half-ellipse of pews around the altar to put the parishioners as close to the altar as possible in order to share in a service that all wanted to share in. But the pews did not go more than half-way around, since by that time the people were quite vocal that they did not wish to look at the altar and see fellow parishioners beyond. Some wanted to see the prayer garden beyond, others were anxious to see the rector and others officiating without the distraction of the beautiful southern

California morning outside. This was the first of a series of issues that needed to be resolved.

But the magic of that day was that all seven tables had basically the same plan. They differed in their location of the choir and in numbers of other details, but those were all things the architects could be counted on to help work out. That was the same day that we made what has now become almost a standard with us, a kind of Rorschach test of 80 slides of churches around the world with a chance for everybody to say "I do or do not like this" (that gets that off their chests), and second to say "I do or do not regard this as appropriate for St. Matthew's." There were curious results. Most of the older members of the parish had been asking for a natural wood church, as their old church had been wood and they loved it. But the church that got the most votes as being suitable for St. Matthew's was Alvar Aalto's Vuoksenniska Church at Imatra, Finland, which is white [masonry] but has trees just outside. The church least highly regarded as a model for St. Matthew's was St. Peter's in Rome, for reasons perhaps doctrinal as well as architectural. We used these results at the next workshop, partly to show the group what they liked, and partly to guide us in developing the building.

The third meeting, a month later, involved our arriving with a series of similar half-elliptical plans, and a set of large-scale models of buildings that would fit over those plans. In the course of that day the parishioners present were asked to develop the plan they wanted, the roof shape they wanted, and a set of instructions to the architects. We were excited that five of the six tables that were present picked the same roof, a modified Latin cross with long dormers for transepts, and a gabled nave. That presented us with the very interesting task of putting a Latin cross roof on a half-elliptical floor plan—which is exactly what we proceeded to do, adding chapel, baptistry, ancillary rooms, and an outdoor patio for social events.

The fourth session was mostly for us to describe the penultimate scheme to the parish to get suggestions in detail. The comments were particularly interesting since they had to satisfy people who wanted a simple parish church, as well as other people who wanted a noble, almost cathedral-like space. The church, therefore, had to seem intimate on the outside. We sought to achieve that with a broad hip roof, low eaves and courtyards around the existing trees. Superimposed on the hip roof, the cruciform roof of the nave has its transepts extended as large dormers. The dormer windows are round, as rose windows in a transept are expected to be, but their tracery consists of simple orthogonal mullions like the industrial sash that Bernard Maybeck used on his famous Christian Science church in Berkeley, built early in the century. Inside, which needed to be high to accommodate the 36-foot-high pipe organ, we sought grandeur with two giant triumphal arches in the nave.

The floor was another case in point. A rough terra-cotta tile floor is a favorite in southern California, a very practical and economical solution for a church. But it appeared to have overtones too Mexican, therefore too Roman Catholic, for an Episcopal church. The solution (more immaculate collision than compromise) was to clip off the corners of the tile and to insert for the small diagonal squares something that started out to be gray slate so as to help make the journey across the Bay of Biscay to Devon, and home.

There was a very strong desire from a sizable number of the parishioners to have a really fine organ, and early on a renowned organ maker, the late Charles Fisk of Massachusetts, began to make recommendations about the space he would need to build an instrument. The acoustics of the space therefore became an

extremely important issue. Jack Purcell was retained as acoustic consultant, and the people particularly interested in the organ argued for a set of surfaces inside the church that would be heavy and hard, to make the proper acoustical background. This meant walls of plaster, not too much glass, and a debate with several older members of the parish who remembered with great fondness the wooden church they had had before. Our response (again we would like to think satisfying to both sides without losing anything in the compromise) was to make a pattern of natural wood battens about two feet apart on the plaster walls. The battens are quite deep, so that from any acute angle you see a great deal of wood. The plaster between the battens was painted in soft shades that would not contrast in value or even in hue with the wood itself.

The early schemes for the church included a reredos behind the altar, which we showed at first as an Advent calendar with doors revealing saints standing in niches. There was something about our first drawing of it that reminded the rector of the *Laugh-In* wall on television, so that scheme didn't get very far. Subsequent designs for the reredos included everything from a blank wall (which nobody felt good about) to a set of 15-foot-high figures of the four evangelists, in the style of the medieval Irish manuscript, *The Book of Kells*. (We were assuming that the St. Matthew for which this parish is named was the evangelist, though no one seems to be sure.)

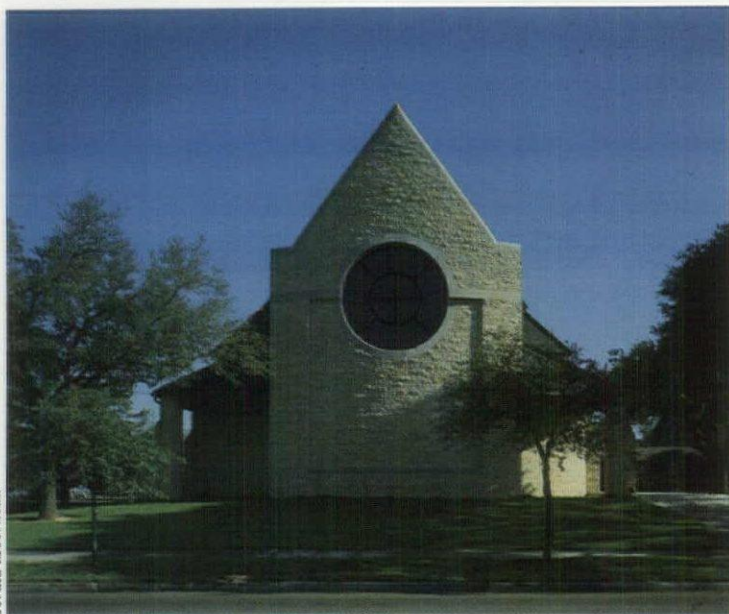
We thought the four evangelists were striking and splendid, but to a sizable portion of the parish they seemed simply weird. We now have, at the suggestion of the rector, a Tree of Life that is, we think, handsome, suitably intricate to occupy the space behind the altar, and *not* freaky.

After the four workshops came a vote about the design, the siting, and the details. Thanks, we believe, to what we regard as the most important aspect of the church, the involvement of so many people in its design, 83 per cent of the votes cast were in favor. This started then a process of well over a year of design development and working drawings, and another almost two years of building with continuing strong participation from the parish. Two excitements of that time that had profound effects on the final design were the lighting, developed by Richard C. Peters in close touch with the building committee, and the color by Tina Beebe, painstakingly studied with the interior committee.

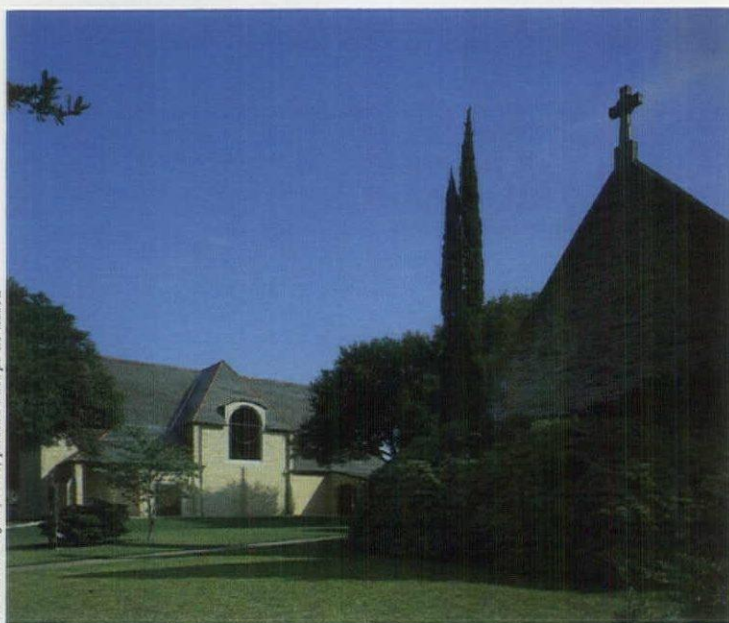
The committees worked long and hard to make the endless decisions about precisely what would go where, and what could be afforded within a budget that was dependent not only upon financial realism, but on the level of enthusiasm of everybody, since the money for things people really wanted would come from the people themselves. Very serious effort went into this and the results seem to be rewarding to the people involved. But it certainly was the case, and we thought it dramatically so at St. Matthew's, that people creating something, working together to make something, have a much easier time working with each other and find the experience far more exciting and positive than people on committees, who are cast automatically into a kind of critical role of wondering whether what's already in front of them is all right or not. We haven't learned yet how to make use of this dramatic difference in people's levels of creativity or production, but, for us at least, this rewarding experience of working with people has given us some insights.

Perhaps it's curious that as the church was finished and consecrated, the biggest thrill for us was the sound of the music that has, as someone said after our first concert, a medieval quality. We knew what the church was going to look like, but the magic of the sound was a great surprise.

The vitality of the familiar



Gerald Moorhead



Richard Payne, AIA, photos except as noted

The most immediate physical fact to influence the design of the new Christ the King Lutheran Church in Houston was the presence of the existing church, an outgrown building described by the architect as “a small, Normanesque, proto-Gothic stone structure with considerable visual quality.” In deference to the older building, which remains as the parish hall, the new stone walls echo the old, composed of rock-faced gray Texas limestone flecked with fossilized shells.

Stylistically, the new church incorporates an assortment of remembered religious buildings: the ceiling of the nave suggests the hammer-beam roofs of English Gothic, the curved north front with its oeil-de-boeuf recalls the English Renaissance. This stylistic mixture of chronologically progressive styles was deliberately effected to reflect the progressive growth and change of the congregation.

The unusual plan of the sanctuary—a rectangular Romanesque basilica with rounded corners at the floor, a Gothic cruciform with dormered transepts at the roof—derived from liturgical usages developed by the congregation in its old church. To foster a sense of intimate community, worshipers sit on all four sides of the altar, which occupies a place directly below the rooftop crossing. Pews brought from the old church seat most of the communicants along the long walls, while chairs at the ends of the nave accommodate overflow and the choir; the musicians thus become, literally as well as symbolically, part of the congregation. Chairs and liturgical furniture can be moved to create an aisle for special occasions.

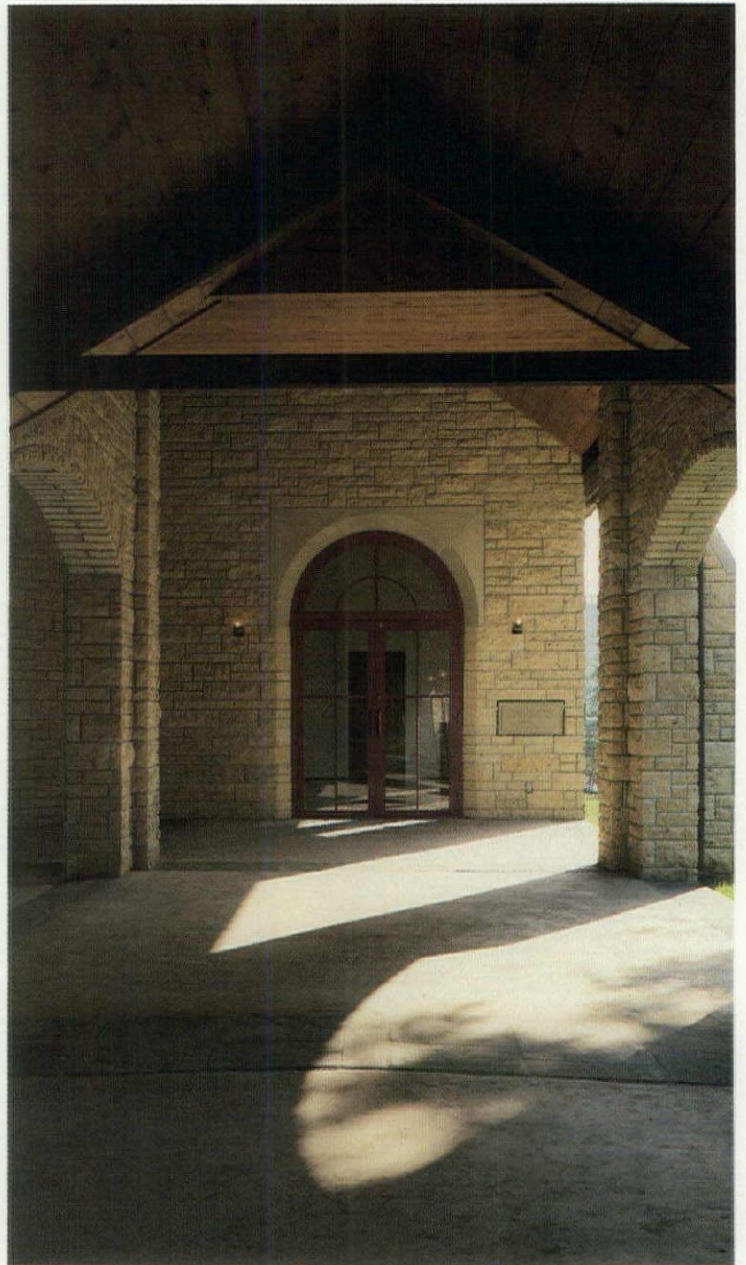
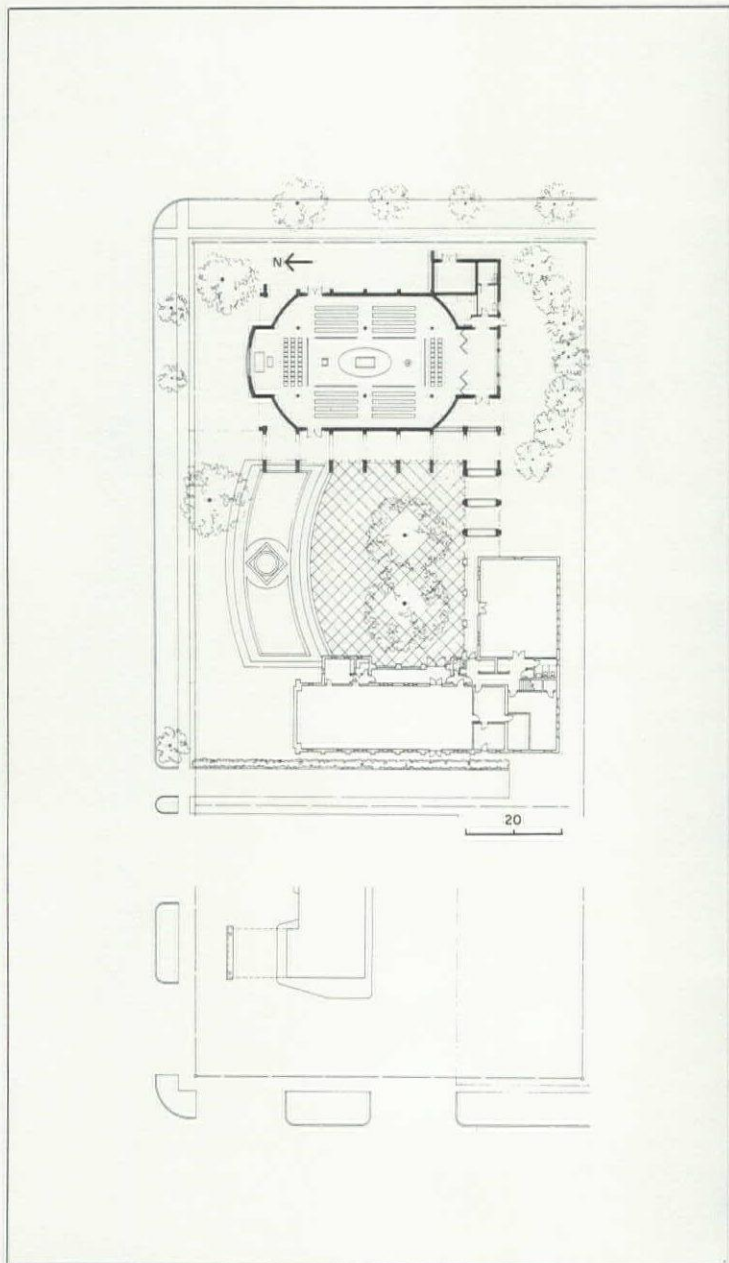
While the form of the church roof owes its steep pitch and high ridge to the trussed ceiling and dormered transepts, the low flaring eaves take their scale from the parish hall. Acoustical concerns also figured largely in shaping the church. Not only do the choir and organist take their music seriously; the congregation actively seeks outside groups to perform in the church. The relative narrowness and height of the nave thence emerged from a need to put the hard plaster walls in close opposition so that music rises to the wood ceiling deck and trusses and then from all directions to the listeners' ears.

A new arcade ties the two buildings together and gives covered access to the narthex. The arcade also composes one side of a three-sided courtyard, which offers the surrounding residential neighborhood a quiet view and at the same time imposes a quiet distance between congregants and worldly traffic. *G. A.*



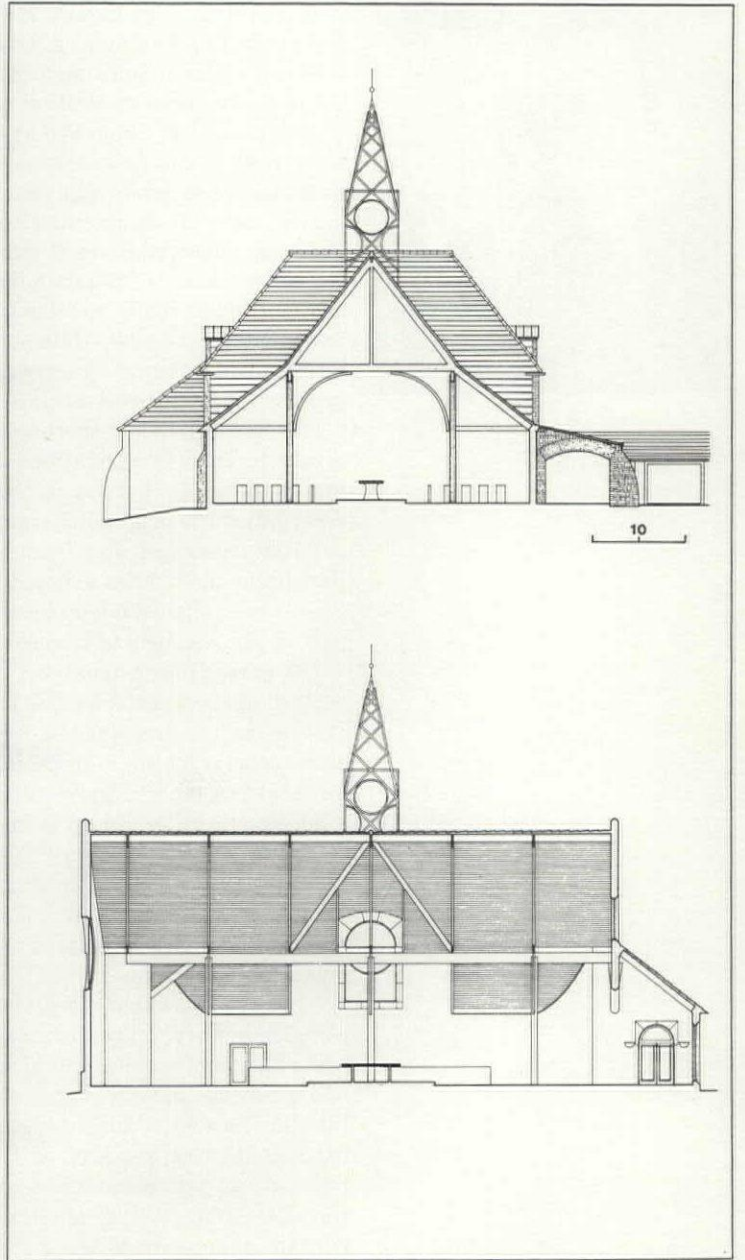
With small-town scale and familiar materials, architect Charles Tapley reasserted the importance of religious building in a residential neighborhood at Christ the King Lutheran Church in Houston. The complex combines old and new buildings as well as old and new styles: in the photograph at bottom opposite, the new church is seen at left and the old church, now the parish hall, is seen at right. Though

more stately in size and demeanor, the new building extends the character of the old with Texas fossil limestone masonry and steeply sloped tiled roofs and hip capping. (The congregation has had to delay construction of the open metalwork steeple.)



A buttressed arcade (above) leads from the old church to a new entrance door with beveled limestone surround. The narthex within houses a small chapel for daily services during the week. The interior of the nave (opposite) is less modest than its plain white walls and wood decked ceiling at first suggest: wood arches and tie beams overhead evoke the antiquity and importance of Gothic hammer-

beam roofs, and the intarsia and brass liturgical furniture—altar, communion railing, pulpit and baptismal font—were designed by the architects to assume a similarly contrasting grandeur. (The small building next door, as shown in the plan, belongs to the church, which currently leases it to a florist.)



*Christ the King Lutheran Church
Houston*

Owner:

Christ the King Lutheran Church

Architects:

*Charles Tapley Associates, Inc.—
Charles Tapley, partner-in-charge;
Gerald Moorhead, project architect*

Engineers:

*Walter P. Moore & Associates
(structural); Howard Pieper &
Associates (mechanical/electrical);
Boner Associates (acoustics)*

Interiors:

Charles Tapley Associates, Inc.

Landscape:

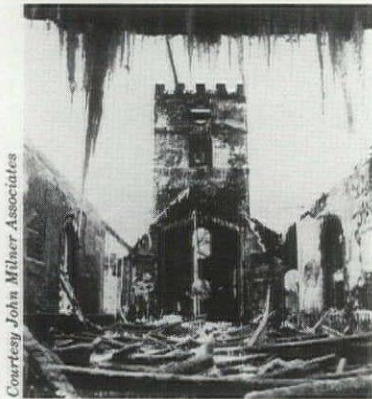
Charles Tapley Associates, Inc.

General contractor:

W. J. Hessert Construction Co., Inc.

Risen from the ashes

Immanuel Episcopal Church
New Castle, Delaware
John Milner Associates,
Architects

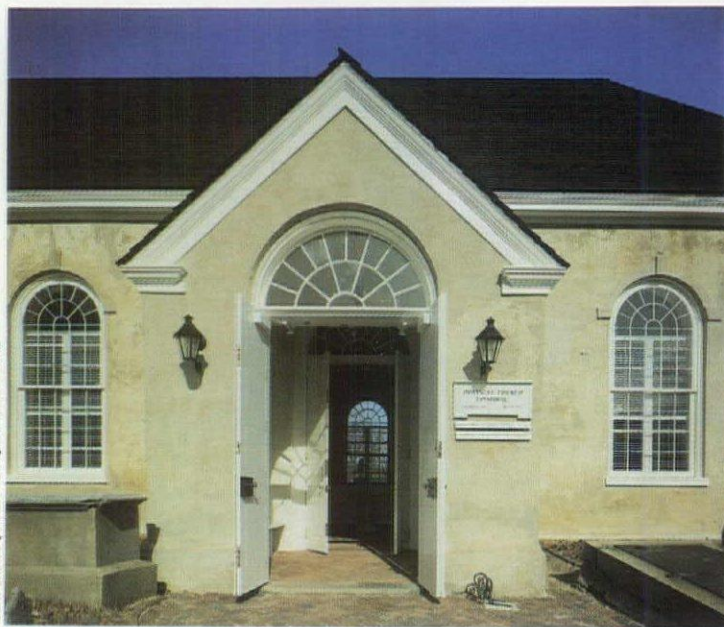


Courtesy John Milner Associates

Four years ago this month, sparks from a marsh fire blew onto the wooden roof shingles of Immanuel Episcopal Church in New Castle, Delaware, igniting a blaze that rapidly consumed all but the exterior masonry walls of nave, chancel, transept, and bell tower (photo left). Founded at the turn of the 18th century, Immanuel is said to be this country's oldest Episcopal church in continuous use, a heritage that steeled the emotional resolve of parishioners to salvage the charred shell, even though firemen and local authorities urged immediate demolition.

The instability of the ruin made the task of rebuilding particularly arduous, requiring the architect to piece together fragments of the past while upgrading the entire structure and mechanical systems to current standards. As groundwork for this process, John Milner Associates measured, drew, and labeled all debris, and conducted thorough archaeological and documentary research. Their investigations yielded detailed accounts of three major phases of church construction, in 1703, 1820 and 1860, and determined the original character of vanished elements such as oak roof trusses, steeple framing, and Georgian pew layouts. Fortuitous discoveries exposed by fire damage included gravestones that had long been hidden under raised floors, and a pew end buried behind chancel paneling.

The parish Reconstruction Committee and Milner Associates decided against restoring the building to its exact appearance just before the fire, since by 1980 some of the most distinguished architectural features—especially in the interior—had been destroyed or marred by Victorian and 20th-century alterations. If a pure restoration were possible, it was agreed, the ideal period to recreate would be circa 1820-22, when William Strickland substantially expanded the church. However, because modern liturgical procedure, optimum seating capacity, and organ and choir placement necessitated the retention of a polygonal apse and other extensions dating from 1860 and later, the architects arrived at a workable compromise that manifests the building's complex history. The exterior of the church nearly reproduces its prefire state, with new stucco matched to surviving wall surfaces and a clay tile nave roof that simulates wood shingles. Behind the familiar facades, a hodgepodge of mismatched millwork and fixtures has been replaced with a pristine interior—part restoration, part adaptation—that evokes the neoclassical spirit of the 1820s (photos overleaf). From on high, bells recast in England ring the changes once again. *D.B.*



Otto Baitz photos except where noted

As originally constructed in 1703, the church was a simple box facing the public green; 19th-century expansions produced a cruciform layout. The present image of untouched antiquity belies the massive reconstruction that followed a fire in 1980. Tower walls were stabilized with a steel frame, weak joints at the intersection of nave and transepts were reinforced with structural ties, and a full complement of mechanical services was inserted. Owing to concern over the increased weight of new clay roof tiles (10 times heavier than the wood shingles they replaced), John Milner Associates installed steel rafters and a four-foot-deep steel box truss along the nave roof ridge to relieve unstable walls. Steeple shingles, which could not be simulated in tile, are wood with a fireproof asbestos felt backing.







The most obvious modifications to the interior are a new semidomed chancel (opposite) and an organ case (below), both designed by John Milner Associates. The chancel of 1820-22 had a flat rear wall flush with the transepts that did not conform to present-day liturgical usage. Similarly, historic organ cases could not accommodate a new instrument acquired by the church. Other architectural details were based on remnants found in the church, or on similar elements in contemporary buildings. Furnishings are antiques or exact reproductions of period models. Dick Armstrong, project manager for contractor J.E. Healy & Sons, describes the hand-wrought millwork as "once-in-a-lifetime."

*Immanuel Episcopal Church
New Castle, Delaware*

Owner:

Vestry of Immanuel Church

Architects:

John Milner Associates, Inc.—Allan H. Steenhusen, project manager; David Hollenberg, project architect; Alice Kent Schooler, architectural historian; Daniel G. Roberts, project archaeologist

Engineers:

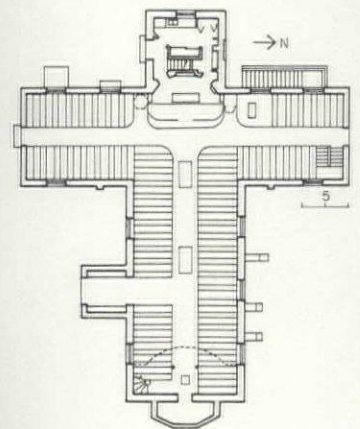
Keast & Hood (structural); Richard C. Sokoloski, P.E., Consulting Engineer (mechanical)

Consultant:

Planning Systems Incorporated (change-ringing bells; acoustical control)

General contractor:

J.E. Healy & Sons



Buried treasure

Albert Lane drawing



Construction is now under way for the Smithsonian Institution's Center for African, Near Eastern and Asian Culture. Known as the Quadrangle Project, it will provide 368,000 square feet for the National Museum of African Art, presently housed in a series of row houses on Capitol Hill; the Arthur M. Sackler Gallery, which will be a repository of Oriental and Near Eastern art placed adjacent to the collection of Eastern art in the Freer Gallery; and space for conferences, major traveling exhibitions, classrooms and offices.

To be completed by early 1986, 96 per cent of the space is to be built underground. The center will have only three elements visible in light and air—two pavilions and a kiosk which will ornament a handsome garden in a space already partially framed by the original Smithsonian Building, the Arts and Industries Building and the Freer Gallery of Art.

The fact that the Smithsonian's two new major museums are for the most part to be hidden underneath a garden is a victory for the various national and local watchdog organizations determined that the quadrangle behind the Smithsonian should remain predominately as open space. This group comprises a formidable list: The Sierra Club, Don't Tear It Down Committee, The Victorian Society in America, Committee of One Hundred on the Federal City, National Advisory Council on Historic Preservation, Joint Committee on Landmarks for the District of Columbia, National Capital Planning Commission and the United States Commission of Fine Arts. The botanical solution is a victory as well for the Smithsonian and its secretary S. Dillon Ripley, who were willing to preserve as much of the open space as possible but not at the expense of a properly functioning museum.

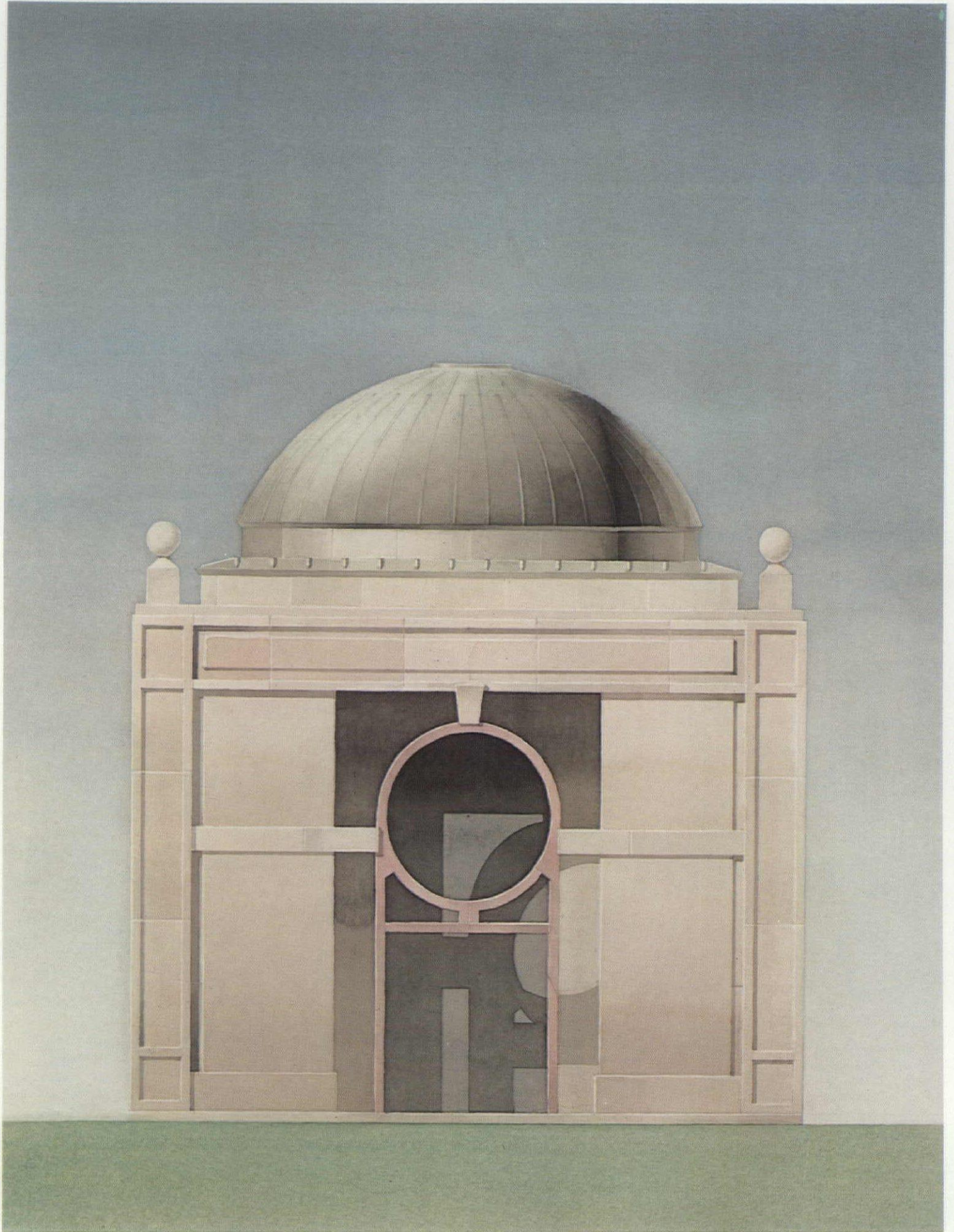
The triumph was handed to the advisory and regulatory bodies and to the Smithsonian by the latter's architects, Shepley Bulfinch Richardson and Abbott, and specifically by the design team headed by Jean Paul Carlhian, Richard Potter and Robert Holloran. After many trips back to the drafting board and model shop to refine the concept, the architects have achieved what appears to be a highly successful solution to the immensely complex problem of making a major museum work underground. Additionally they have invented three elegant garden structures (sketch at left and detail opposite), which by possessing their own enchantment should successfully lure the museum public downward to the subterranean treasure trove.

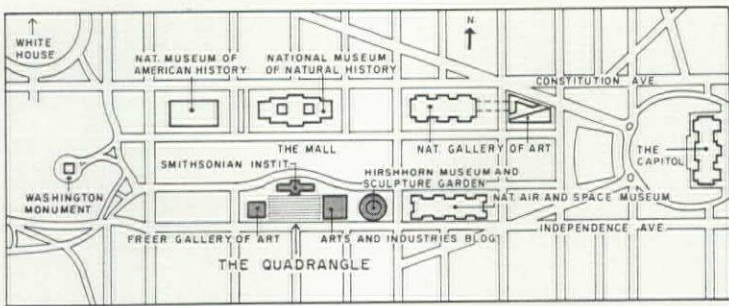
And the garden itself will be marvelous. In the words of design partner Carlhian: "We have tried to encompass, within a unified whole, three basic aspects of the history of landscape architecture—the western half representing the Oriental approach, the center parterre embodying Victorian concepts, and the eastern half alluding to Islamic thoughts. We think we have resolved the conflict between the NCP's desire to see the garden remain open and unified, the Smithsonian's desire to maintain the east and west theme gardens as appropriate settings for the pavilions, and the Fine Arts Commission's concern that the 19th-century-style parterre, similar to the one that had existed in the Victorian Garden before construction began, be effectively contained by appropriate plant material."

A \$3-million pledge from Enid A. Haupt will finance the design and construction of the garden, which will also serve as an interlink with the Mall and Independence Avenue by means of a system of winding walkways. The project itself will cost \$75 million and Congress has agreed in principle to sharing this cost equally with the Smithsonian, which has secured commitments of almost \$35 million from foreign governments and the private sector. *Mildred F. Schmertz*

Two new museums for the Smithsonian Institution
Washington, D.C.
Shepley Bulfinch Richardson and Abbott, Architects

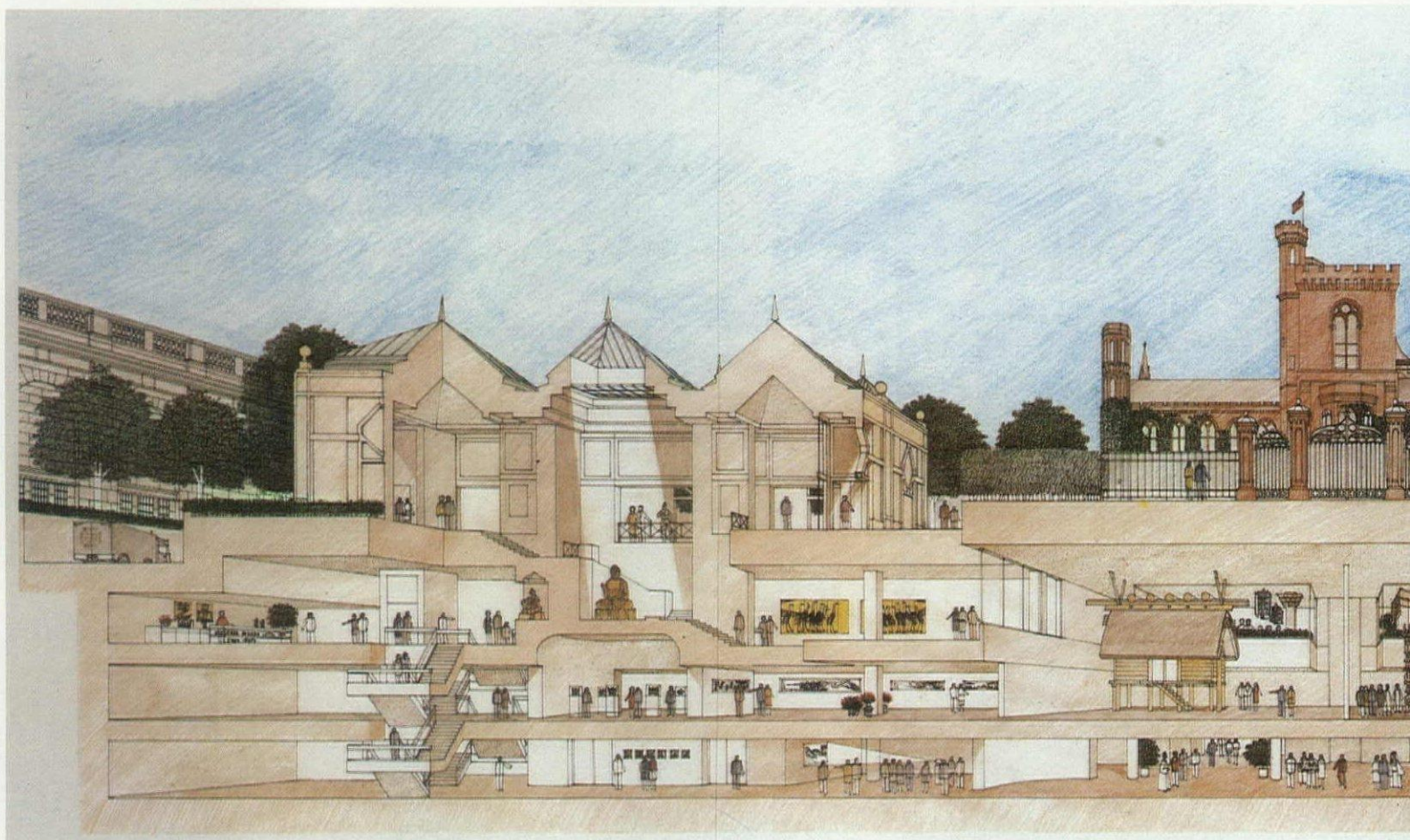
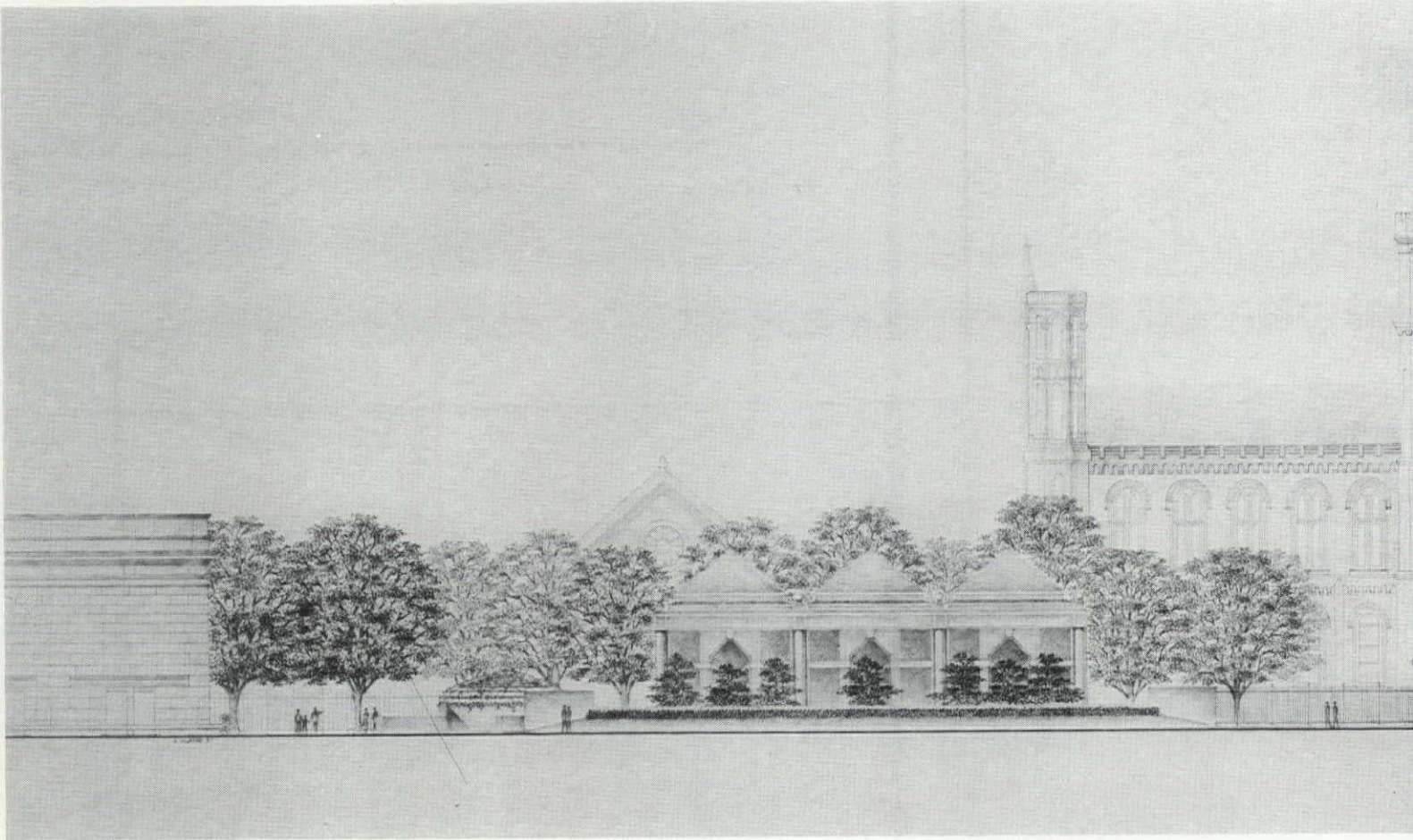
All drawings by SBRA except as noted





The 4.2-acre quadrangular site is defined by three registered landmarks: on the north by the original Smithsonian Building (the "Castle") designed by James Renwick (1849), on the east by the Arts and Industries Building (1881) designed by Cluss and Schulze, and on the west by the Freer Gallery of Art (1923) designed by Charles A. Platt. To the south, on the opposite

spanning Tenth Street, is the Forrester Building (1970) by Curtis and Davis, Fordyce and Hamby Associates, and Frank Grad & Sons. The scheme consists of a pair of small pavilions, symmetrically disposed on either side of the north-south axis of Tenth Street along the north side of Independence Avenue. The pavilions serve as entrances to three stories of underground facilities while respecting the

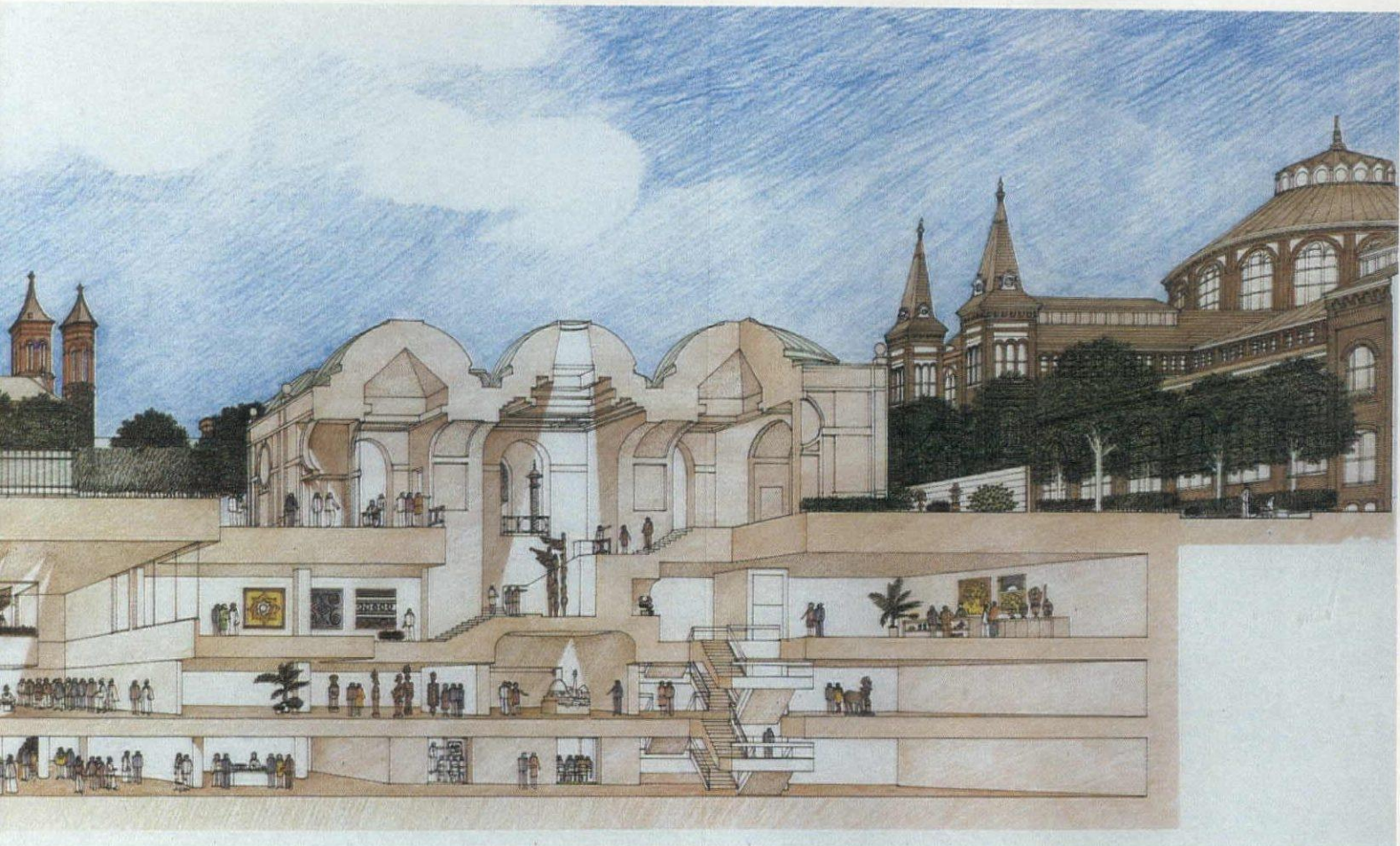
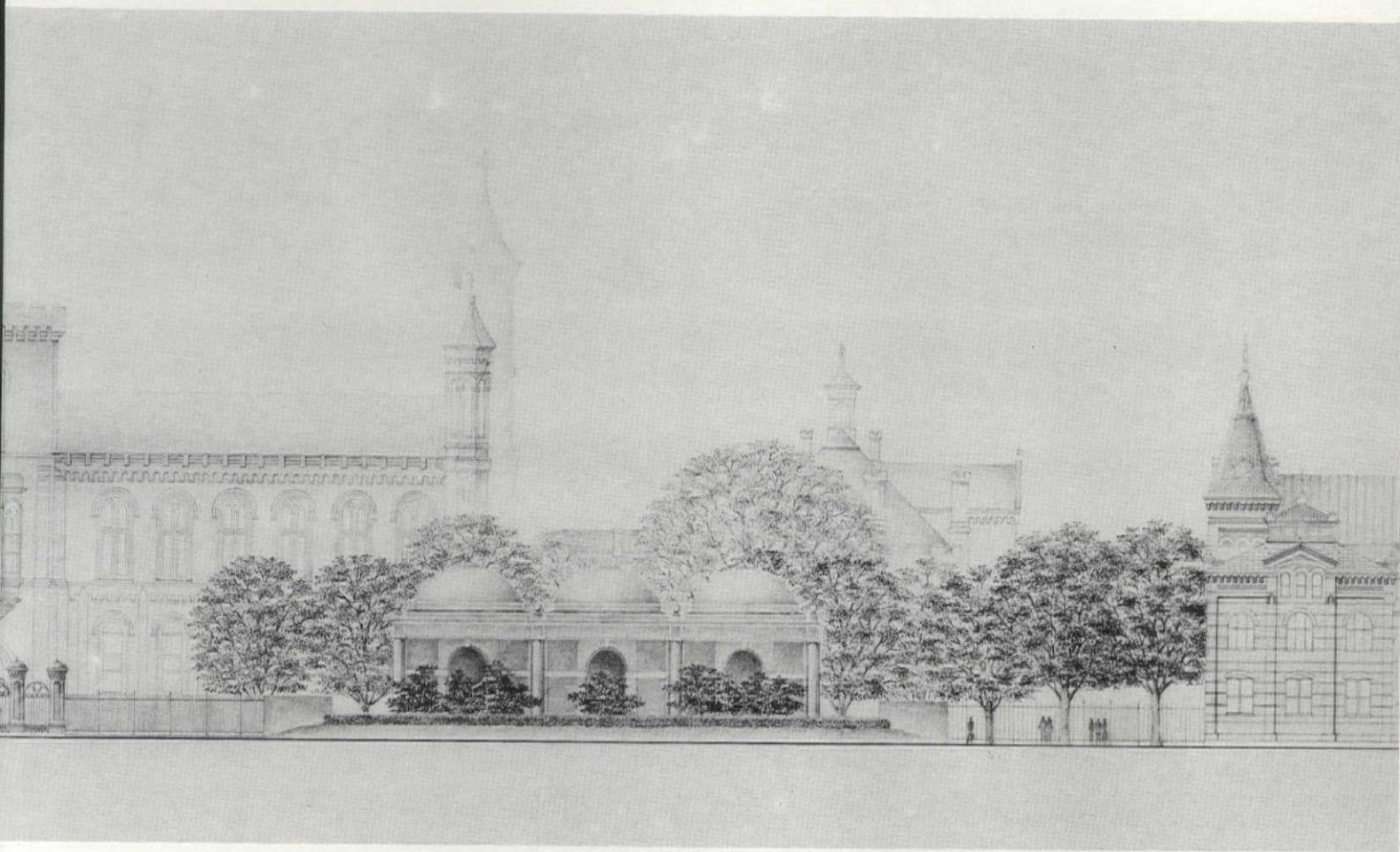


presence of a majestic European linden towards the northeast corner of the site. The pavilion to the west announces the presence below grade of the Arthur M. Sackler Gallery of Near Eastern and Asian art. Its opposite to the east welcomes visitors to the National Museum of African Art. The pavilions are referred to as the Oriental and the African. An open gap of approximately 175 feet offers an

uninterrupted view of the Castle, from the center line of Independence Avenue. In an earlier scheme, the above-grade structures consisted of a set of exhibition galleries and ancillary structures. Opposition from the various review committees wishing to keep the quadrangle as an uninterrupted garden caused SBR&A to transform these facilities into a pair of grand vestibules, serving as an

appropriate monumental introduction to the treasures below grade. Said Carlhian: "We saw this as a basic and unprecedented challenge. It is not an easy architectural problem to lead uninitiated visitors in a downward procession—traditionally identified with visits to bargain basements. Ceremonial introductions to hallowed destinations are traditionally upward—achieved

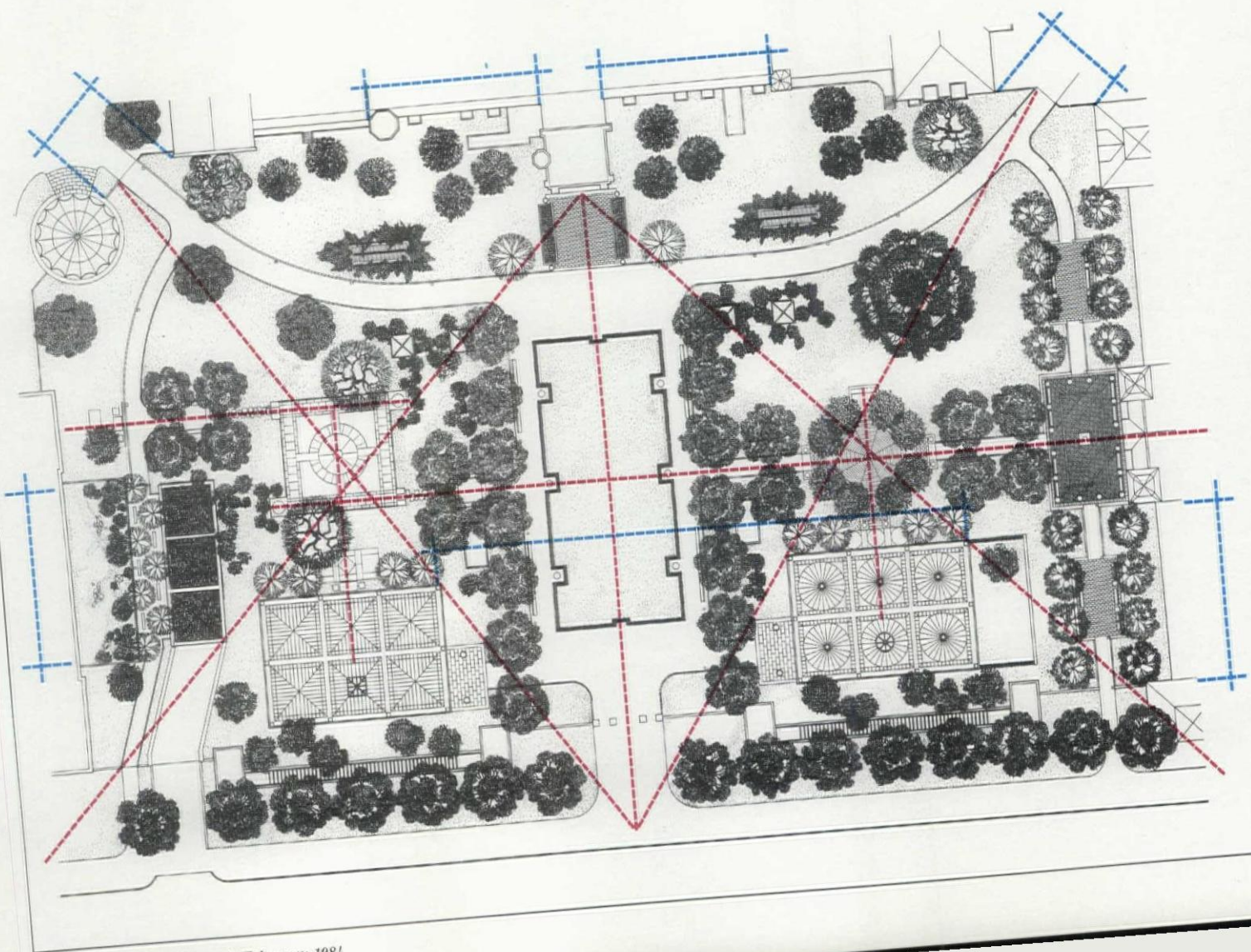
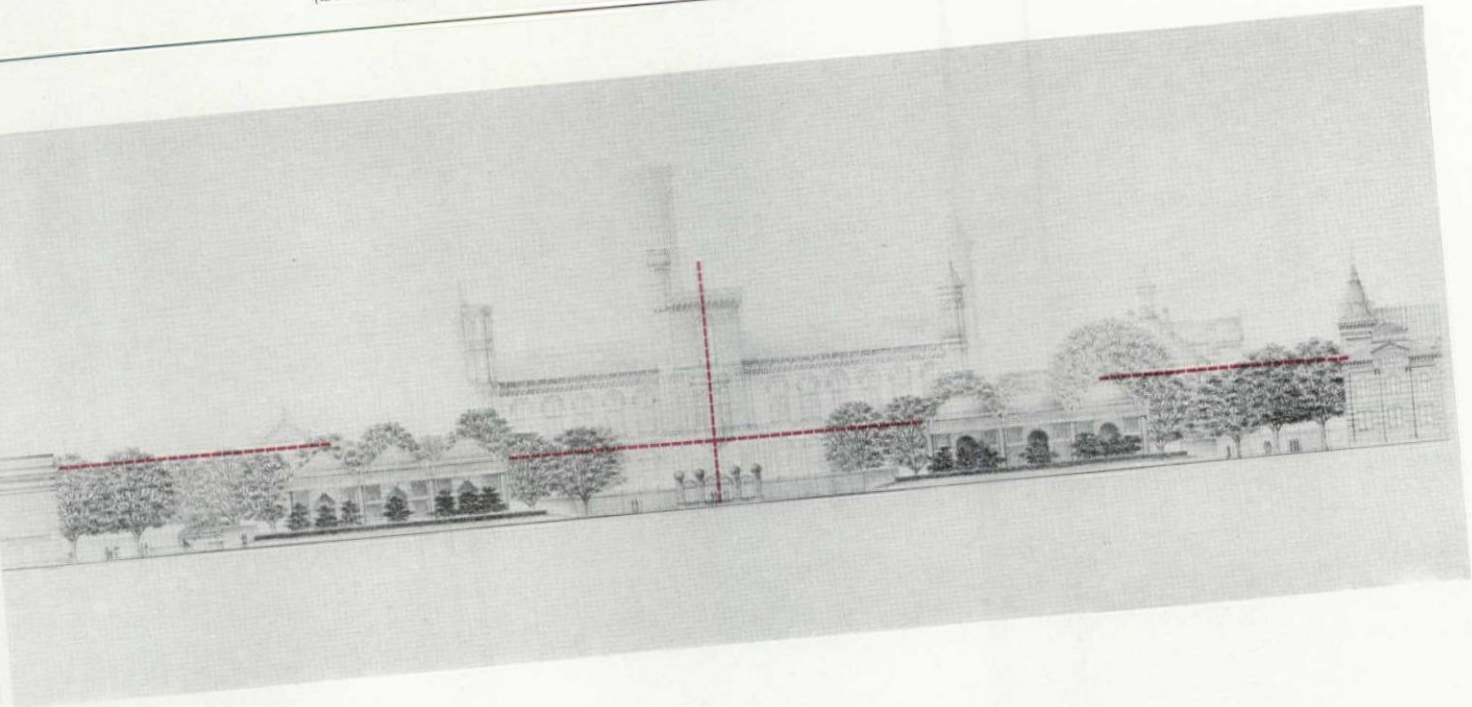
through the awe-inspiring thrust of a splendid indoor staircase or a vast outdoor flight of steps." As the drawings on the following pages will reveal, the spaces that comprise the entrance sequences within and below each pavilion are the most deliberately complicated and skillfully elaborated elements of the design.



The two small pavilions, 64 by 94 feet in plan, are relatively low (averaging 37 feet high), yet will screen the lower levels of the Forrester Building as viewed from the gardens to the east and west of the principal axial vista, reducing as Carlhian puts it, "the adverse effect of such an overbearing structure whose north facade remains always ominously dark." (See section at the middle of the

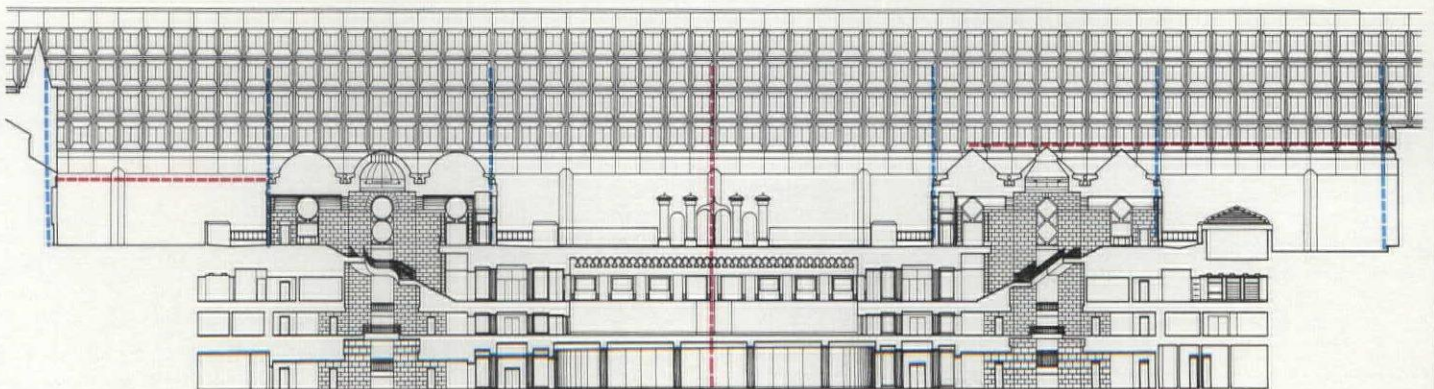
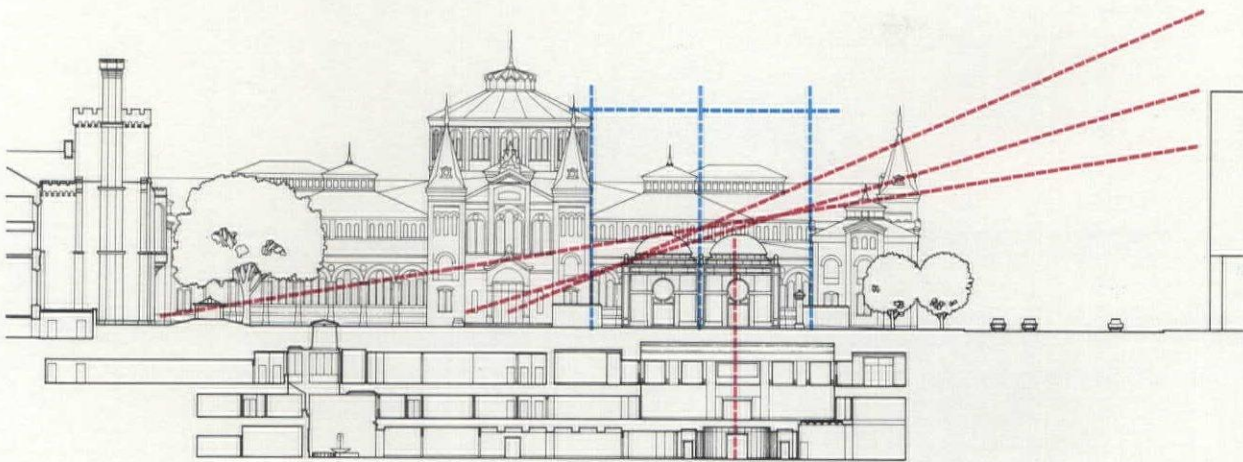
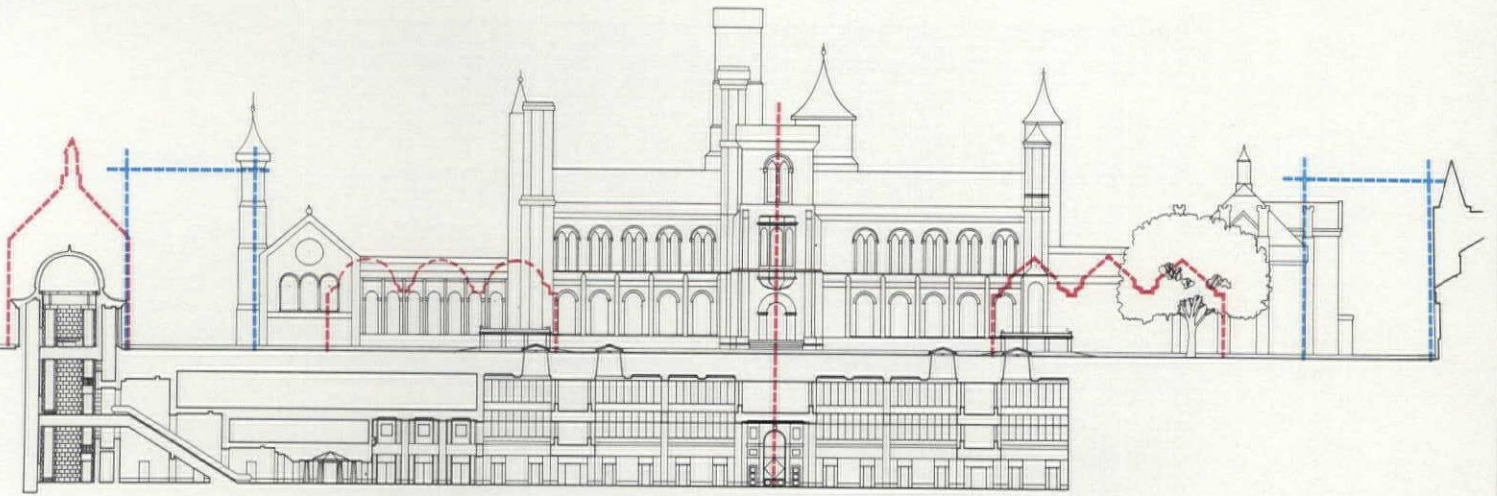
opposite page.) The pavilions carry out their architectural obligation to bring about a happy reconciliation between the Victorian styles of the Castle and the Arts and Industries Building on the one hand and the Neoclassic Freer on the other. Extensive analysis of the three surrounding landmarks and studious scrutiny of their proportions led to delicate adjustments in the positioning of

the pavilions and to subtle refinements in their architectural expression. Because 96 per cent of the total space required by the program will be located below ground within a three-story building called upon to bear the unusually heavy load of a tree-planted garden, a construction system of relatively short spans was called for. A 30-foot-square grid, having proved to be the most



rational and economical answer, became the generating factor in the over-all dimensioning of the pavilions and of their internal organization. The next decision was how best to locate this grid within a space boasting two nonparallel facades, a tree whose root formation had to be protected, and the fragile footings of the two Victorian landmarks. Consistent with the demands of a large

mechanical room, the grid was positioned so as to allow an exact alignment of the east-west center line of the African pavilion with the middle of the center bay of the southwest wing of the Arts and Industries Building in a precise 90-degree relationship with its facade. The two pavilions, thus positioned in the quadrangle, allow an unimpeded view of the Castle's south facade.

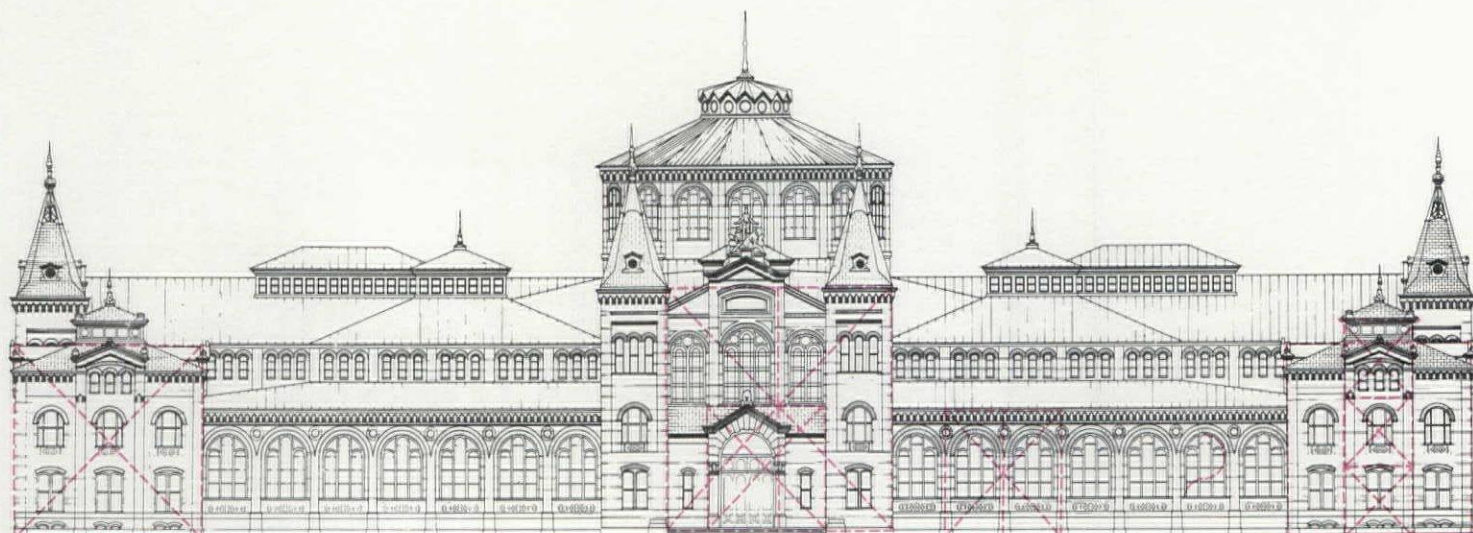
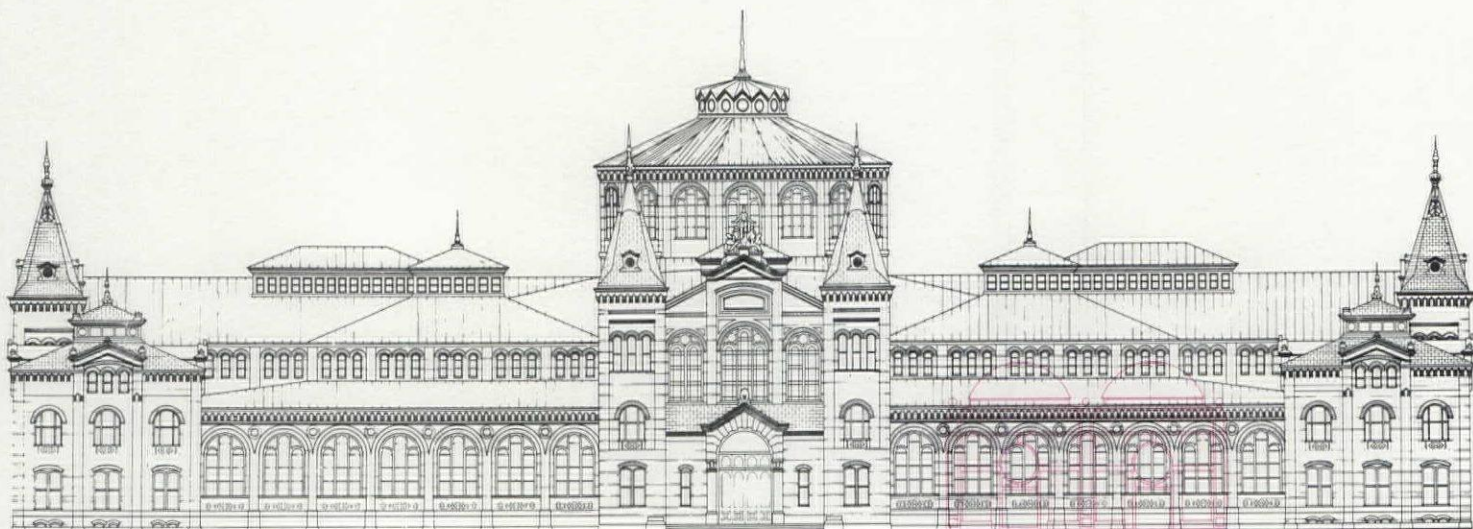
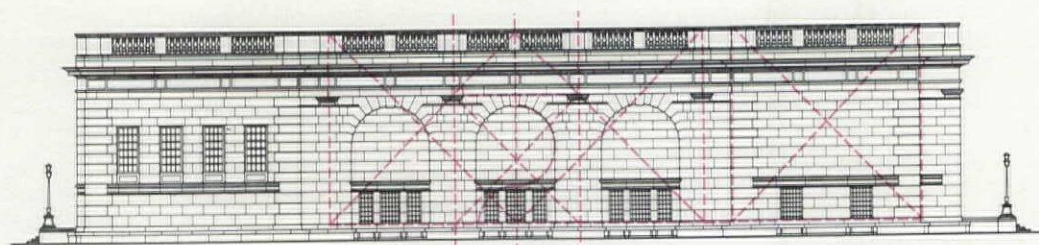
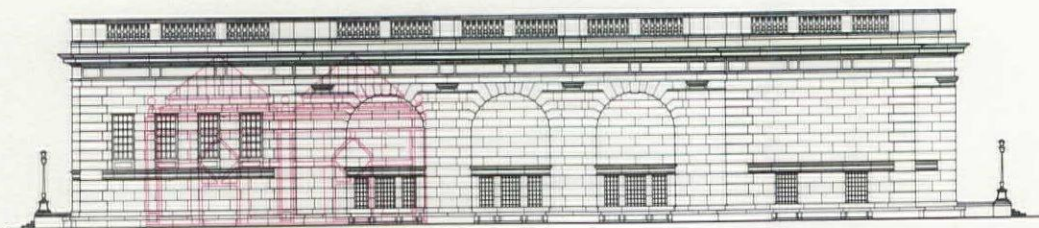


According to Carlhian, a principal clue to the discovery of a correct proportional system and an appropriate architectural expression for the pavilions was to be found in the roof lines of the landmark structures: "The Arts and Industries Building features a series of asserting pyramidal roof forms while the Freer sits contentedly within the confines of a Renaissance palazzo flat-roof

container. We decided on a series of cupolas for the roof of one of the pavilions as a gesture to the Freer. The cupola, as everyone knows, is a feature often identified with Italian Renaissance and Baroque masterpieces. Furthermore, the Freer's facade, based upon a module of circular arches, provides additional justification for the dome treatment." The other pavilion will be roofed by six

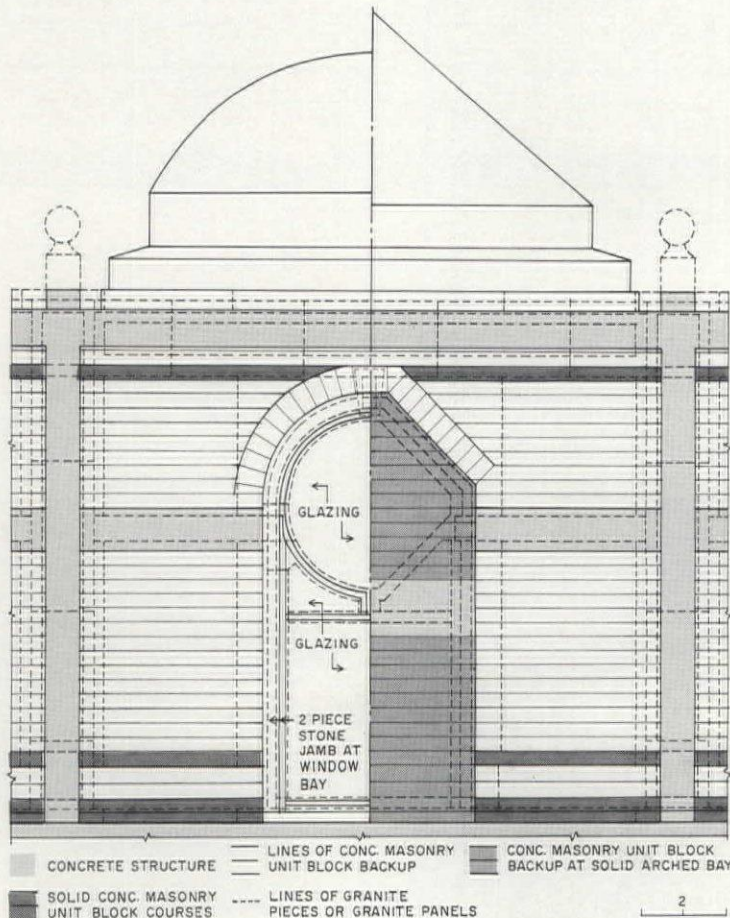
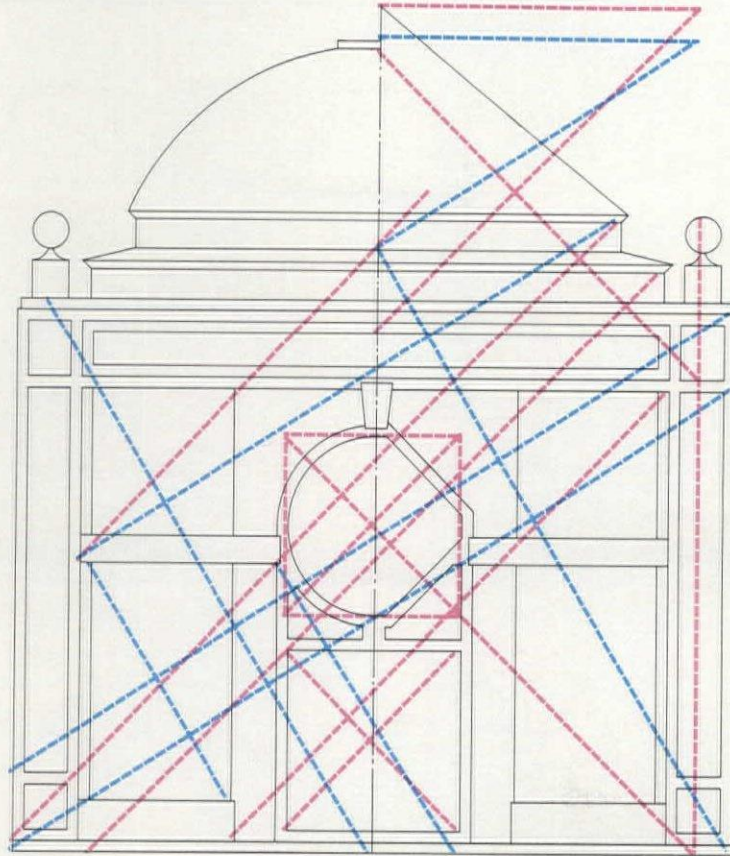
pyramids as a gesture to the Arts and Industries Building. Curiously, SBR&A have put the domes on the pavilion next to the Arts and Industries Building and the pyramids on the pavilion that neighbors the Freer. The architects are apparently saying that since Charles Platt in 1923 could juxtapose a cream-colored granite Florentine palazzo against red-brick Victoriana and get away with

it, a little juxtaposing of their own would be more truly contextual. As seen in the drawings below, the center portion of the east facade of the Freer relates to the pavilion modules, as do the seven-arch proportions of the southwest wing of the Arts and Industries Building. The cornice line of both pavilions is 24 feet above grade, roughly in alignment with significant bandings on the adjoining landmarks.



The scale of the pavilions, despite their small size, is monumental. The facades were proportioned after the 30-foot structural grid, the over-all footprint, and the average height of 37 feet had been chosen. The cornice height for both pavilions was determined by the desirable hemispherical shape for the domes on the African pavilion. A set of proportional relationships, based on the golden mean, was

applied to the module using the square and its diagonals as a generator. The arched openings are based on the classical doctrines of the 17th-century French mathematician and engineer Nicolas-Francois Blondel. The proportions of the Oriental pavilion are similar, except that the openings were given a pyramidal configuration in deference to the pyramidal outline of the roof.

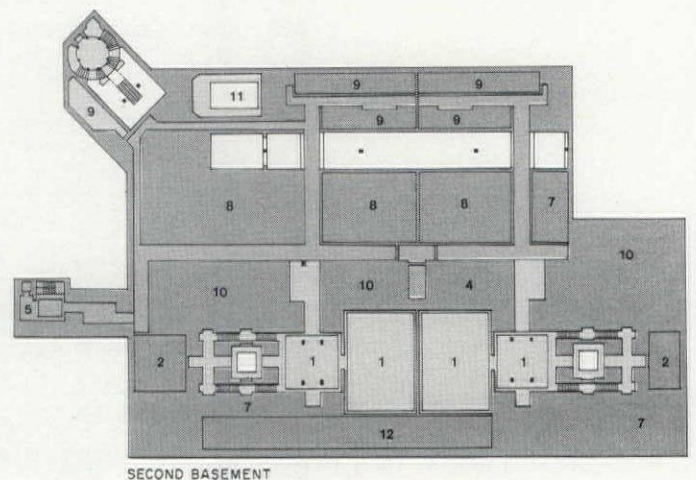
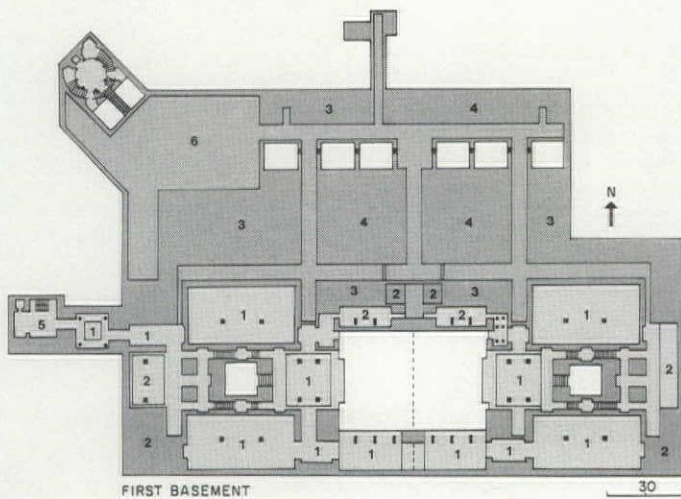
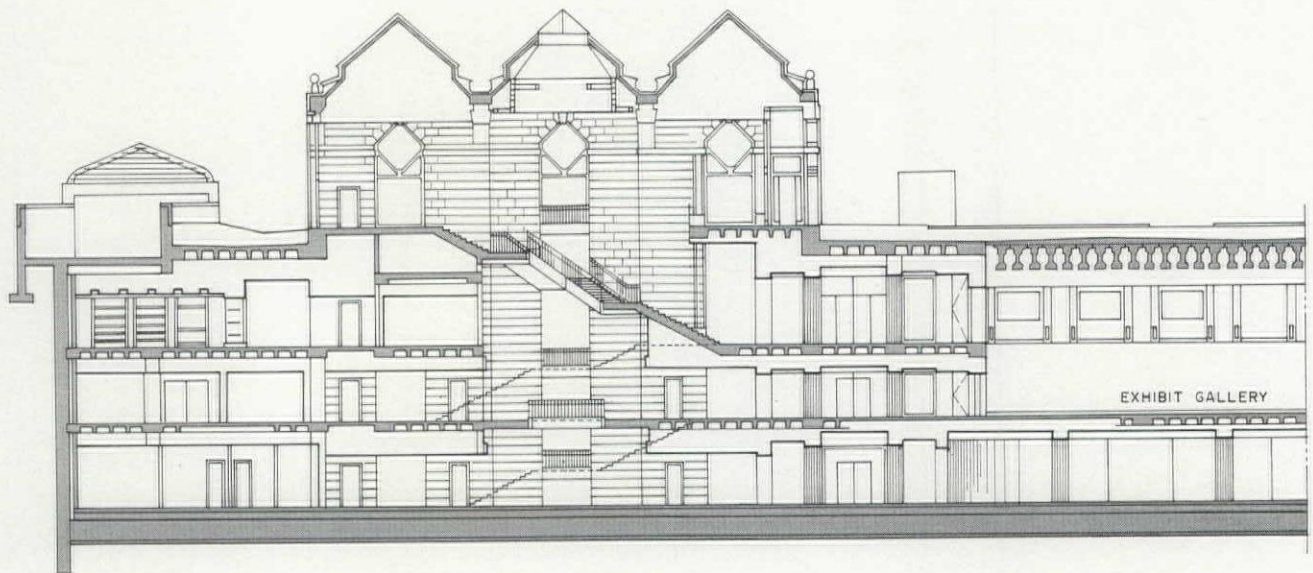
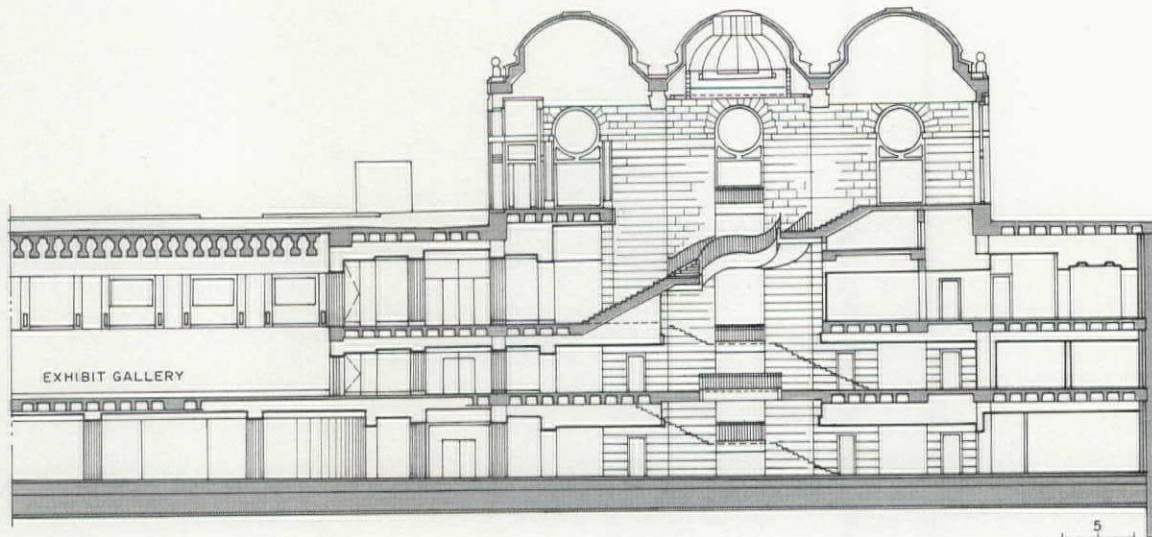


The sections below and the pavilion floor plans opposite indicate the configurations of two of the three grand staircases within the quadrangle development. For both pavilions, descent starts in a straight run framed in limestone. The stairs then split into a pair of smaller runs which form a monumental descent within a central skylit shaft sheathed in limestone. The steps follow a

diagonal pattern within the Oriental portion of the museum and a circular one within the African. The skylight surmounting each staircase will be reinforced along its periphery by a battery of powerful incandescent downlights, which will bathe the limestone facing with such a level of brilliant intensity as to turn it into a rallying point of light. As can be seen in the ceiling plans (opposite

page top) the shelled and pyramidal ceilings will be coffered. At the northwest corner of the garden will be a kiosk to serve as the public entrance to the third basement level, which will often function as an education and conference center during hours when the rest of the museum is closed. Its stair (opposite page bottom right) will be located within a solid limestone cylinder around which the columns and

steps uncoil, serpentine fashion. Carlhian acknowledges that Donato Bramante's Tempietto of St. Peter as well as a sketch for a garden pavilion by Humphry Repton were much in his mind when he designed the kiosk and stair.



The Quadrangle: A Center for African, Near Eastern and Asian Cultures at the Smithsonian Institution Washington, D.C.

Architects:
Shepley Bulfinch Richardson and Abbott—Jean Paul Carlhian, design partner; Richard Potter, partner-in-charge; Robert Holloran, project architect

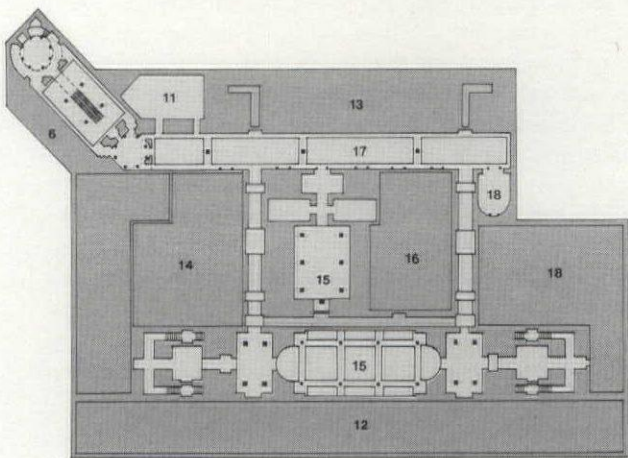
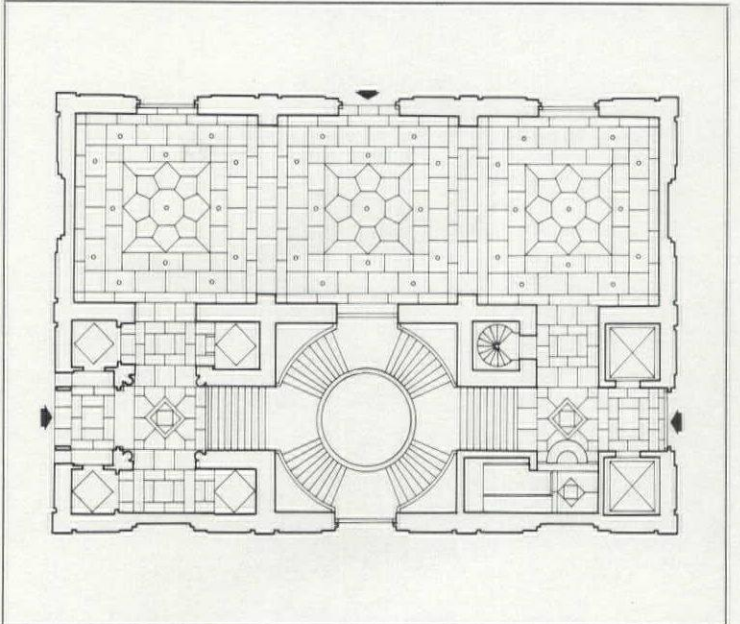
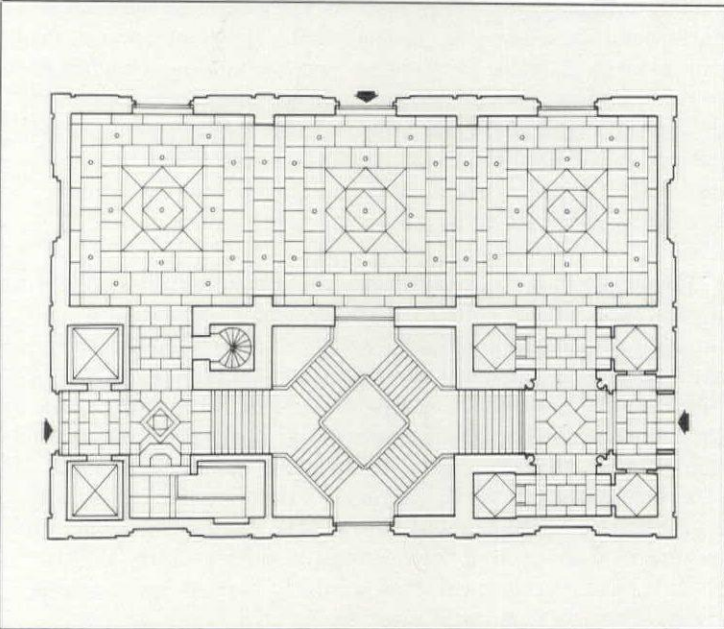
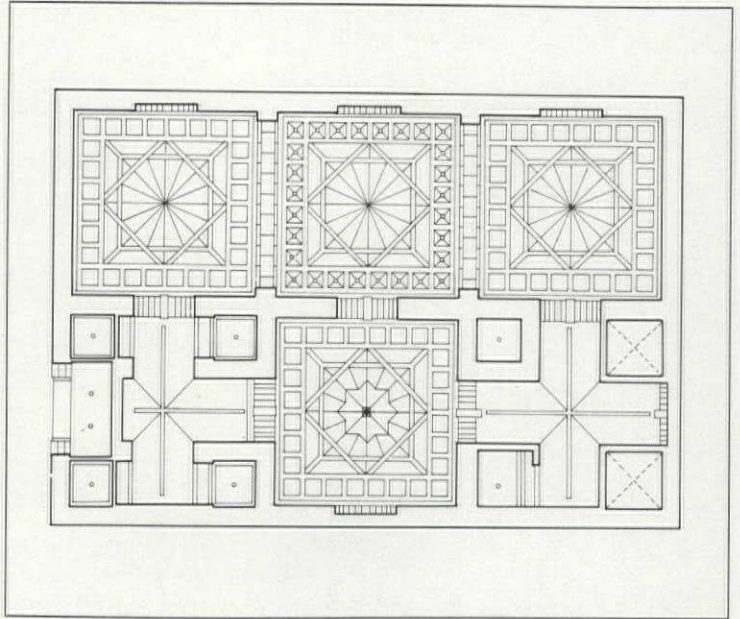
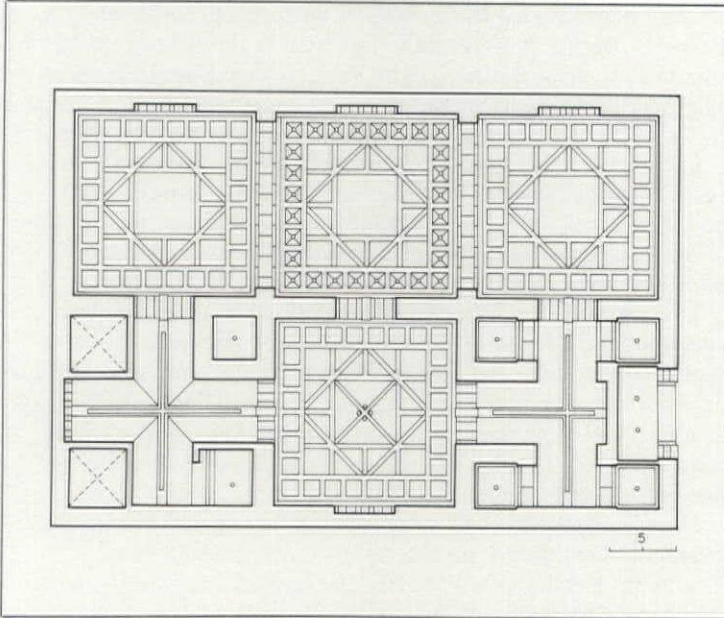
Design concept:
Junzo Yoshimura, Tokyo, Japan, HAIA

Engineers:
Ewell W. Finley, P.C. (structural); Mueser, Rutledge, Johnston & DeSimone (geotechnical); Shooshanian Engineering Associates, Inc. (mechanical/electrical)

Consultants:
E. Verner Johnson & Associates (program); Lester Collins (landscape)

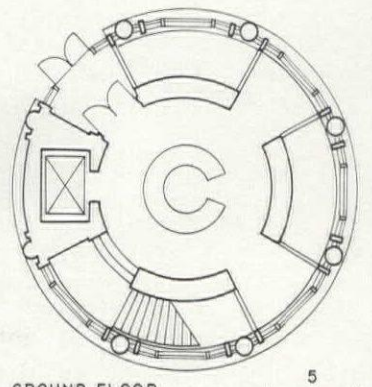
Landscape architect:
Sasaki Associates

Contractor:
Blake Construction Company



THIRD BASEMENT

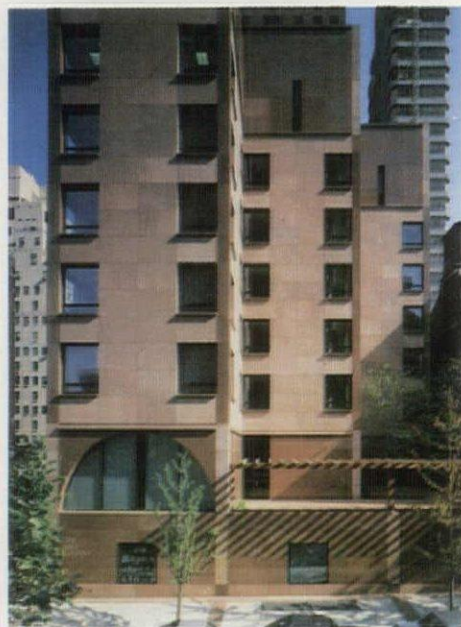
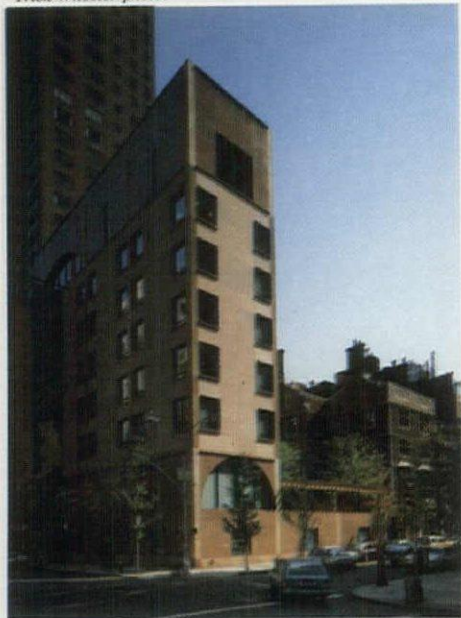
1. Exhibition
2. Visitor service
3. Exhibition support
4. Collection support
5. Freer connection
6. General support
7. Education
8. Research
9. Administration
10. Collection storage
11. Education center auditorium
12. Mechanical
13. Education center
14. Membership
15. International center
16. Visitor information
17. Mall
18. Smithsonian Institution
Traveling Exhibits Service



GROUND FLOOR

Bowing to the East

©Nick Wheeler photos



Though never among the cultists of modernism, architect Edward Larrabee Barnes has certainly been among the convinced. So his comment that his design for the Park Avenue headquarters of The Asia Society was shaped by its "subject matter" as much as by formal and functional considerations commands attention.

Founded by the late John D. Rockefeller III, The Asia Society seeks to heighten American consciousness of Asian life and culture. Its new building is both the administrative focus of the society's informational programs and the locus of its cultural offerings, most notably a stunning collection of Asian art.

This multiplicity of function is expressed in a building that combines three lower floors of public space, including a below-grade auditorium as well as galleries for the society's permanent art holdings and visiting exhibitions, with five floors of office space and an upper level given over to meeting rooms—a triad reflected in the facade's division into the classical formation of base, shaft, and capital.

More importantly (and more subtly), though, the facade also reflects the building's broader subject matter: Asia itself. Traveling in India shortly before the project was commissioned, Barnes was struck by the pervasive use in Muslim architecture of surface ornament formed by contrasting materials set flush and patterned in reverses and checkerboards. His reinterpretation of this decorative device for the Asia Society building, which is clad in reversed fields and columns of polished and thermal-finished granite, is strikingly effective not only for its Eastern overtones but because it simultaneously emphasizes and refutes the classical triad of the principal facade through the far-from-classical tension set up by the visual discontinuity of the columns.

The timely influence of Barnes's Eastern sojourn is also felt in the entrance gallery (photos overleaf), which announces immediately the building's character—at once a repository for art and a hub for cultural and informational exchange. Functionally, this quality is reflected in the introductory space by the presence of both a bookshop offering works on Asian art and affairs and a mezzanine gallery displaying monumental stone sculptures. But it is the display aspect that dominates spatially.

Giving rein to the impulse to evoke the settings for which such sculptures were created, Barnes fashioned here a lofty vaulted room that purposely recalls the similarly vaulted rock tombs of India. (The ceiling curve is also very much a formal element, however, as is evident from its repetition in the curve of the cantilevered mezzanine and in the recurring lunar windows that punctuate the building facade.) To the same end the sculptures are bathed in a warm but subdued light and surrounded by the rich, almost rosy, sand tones that characterize all the building's public areas, as well as its quintessentially public facades.

Nor did Barnes slight the Western component of his "subject matter"—a corner site on a still-cohesive stretch of upper Park Avenue—though in this case the structure pays its respects to its various neighbors through its massing and composition. On Park Avenue, which Barnes sees as "a major hallway," the building presents a strong formal facade that maintains the street line and reasserts the height of older buildings nearby. On the side street, however, the mass fades away, stepping back to create a second-level garden terrace that complements the handsome old houses on the tree-lined block.

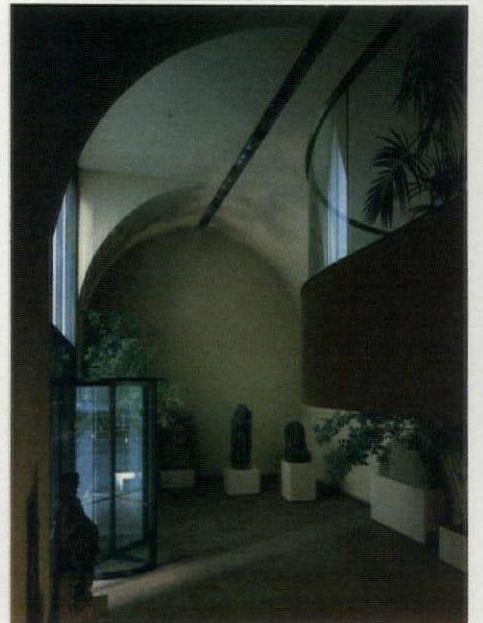
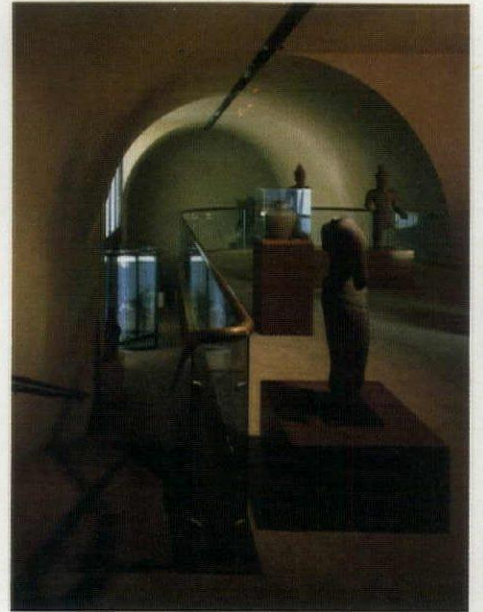
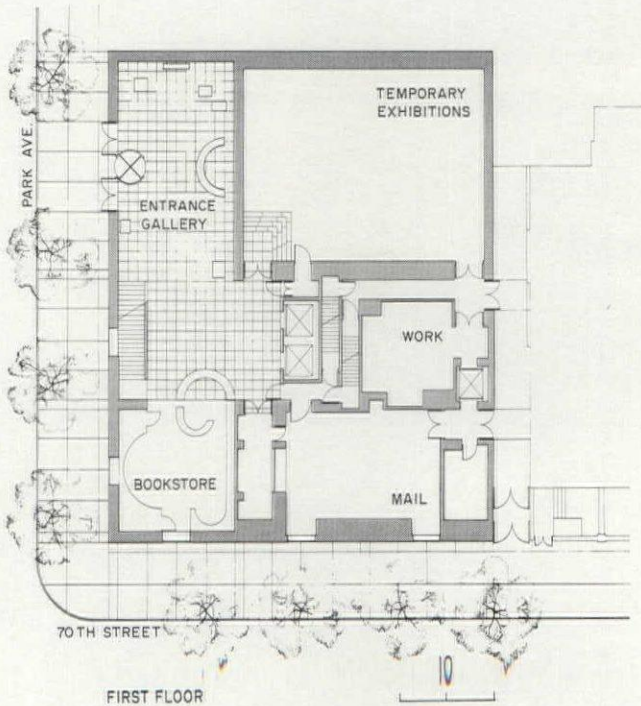
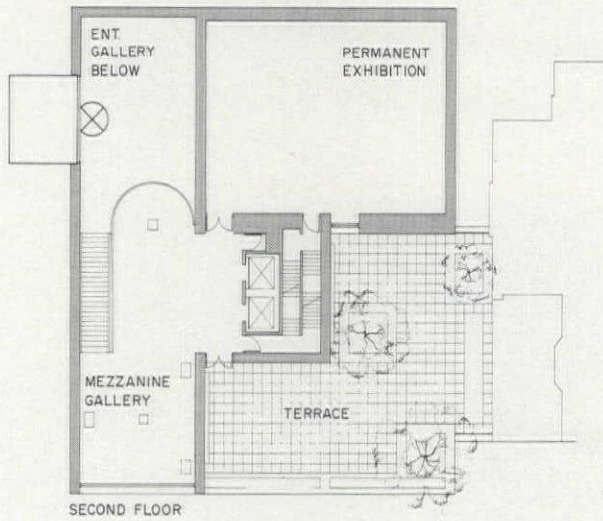
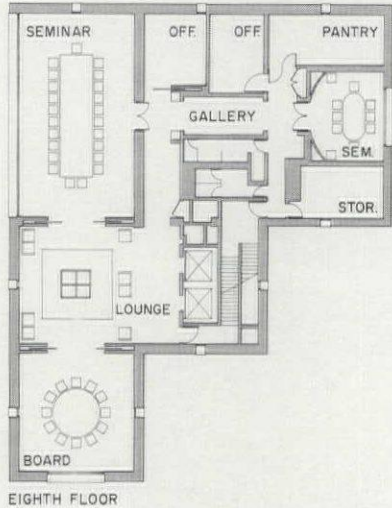
The sycamores that, along with a wisteria-laden trellis, shade the terrace are in fact indicative of the grace with which the Asia Society headquarters makes its bow to the East while remaining firmly rooted in its surround: no exotic Asiatic specimens these, but common New York street trees. *Margaret Gaskie*





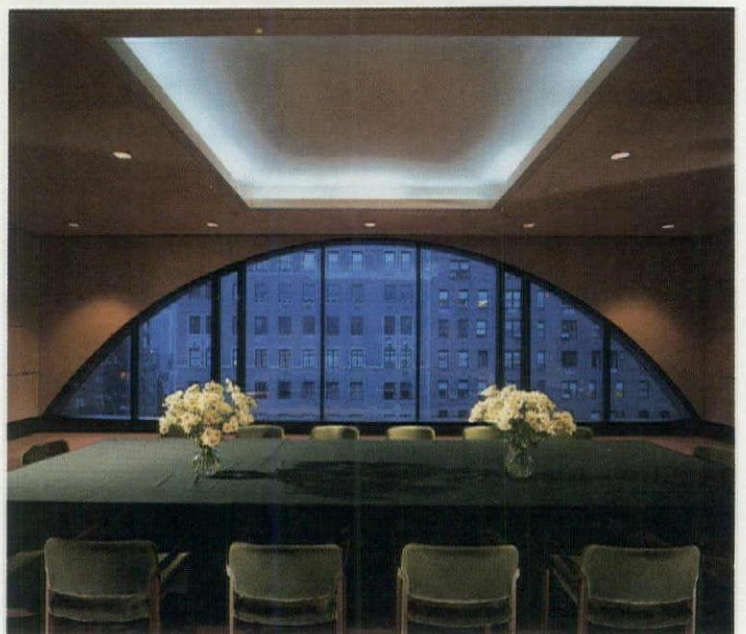
In the entrance gallery, large sculptures, most of Indian origin, are displayed beneath a vaulted ceiling that combines with soft lighting and an earthy background (including floors, stairs, and elevator-bank walls of red Indian sandstone) to recall their native settings. The vault also deletes the sharp juncture between wall and ceiling and with it the irritating seam that might otherwise appear

to slice through the figures as glimpsed from below—much as a photographer poses a model against a curving white-paper ground. The other ground-floor gallery, devoted to temporary exhibits, is by contrast the more usual neutral “white-on-white” box, while the second-level gallery that houses the bulk of the society’s holdings was rendered by gallery director Allen Wardwell in rich settings of wood and suede.



To host the busy round of lectures, seminars, and conferences that are a key component of The Asia Society's mission of information exchange, the new headquarters boasts in addition to a below-grade 260-seat auditorium—suitable for lectures and films as well as performances of music, dance, and drama—a top-floor suite dedicated to meeting rooms for groups of all sizes. At the core of the suite is a

members' lounge (below) guarded by two pedestaled leogriffs, the totem of the society. In a variation on the palette established in Barnes's public areas, interior design consultant Todd Williams, who also executed the interiors of the office floors, has here set a rug woven in China to an antique pattern against an elegant floor of rosewood inlaid with brass strips. Silk wall coverings are carried



through from the lounge to the adjoining board room on the south (below) and the larger conference-seminar room on the north (bottom opposite), both of which can be set off by sliding doors. Although the dominant feature of the conference room is the curve of the lunar window, additional accents are the grace notes of incidental jade-green lacquer wall panels and chair seats set against the rosy apricot of walls

and carpets. In the wing off the main meeting area are offices, storage spaces, a serving pantry, and a small seminar room whose curving inner wall repeats the arc of yet another lunar window.



The Asia Society
New York City

Owner:
The Asia Society

Architects:
Edward Larrabee Barnes Associates—John M. Y. Lee, partner-in-charge; Richard M. Ridge, project architect

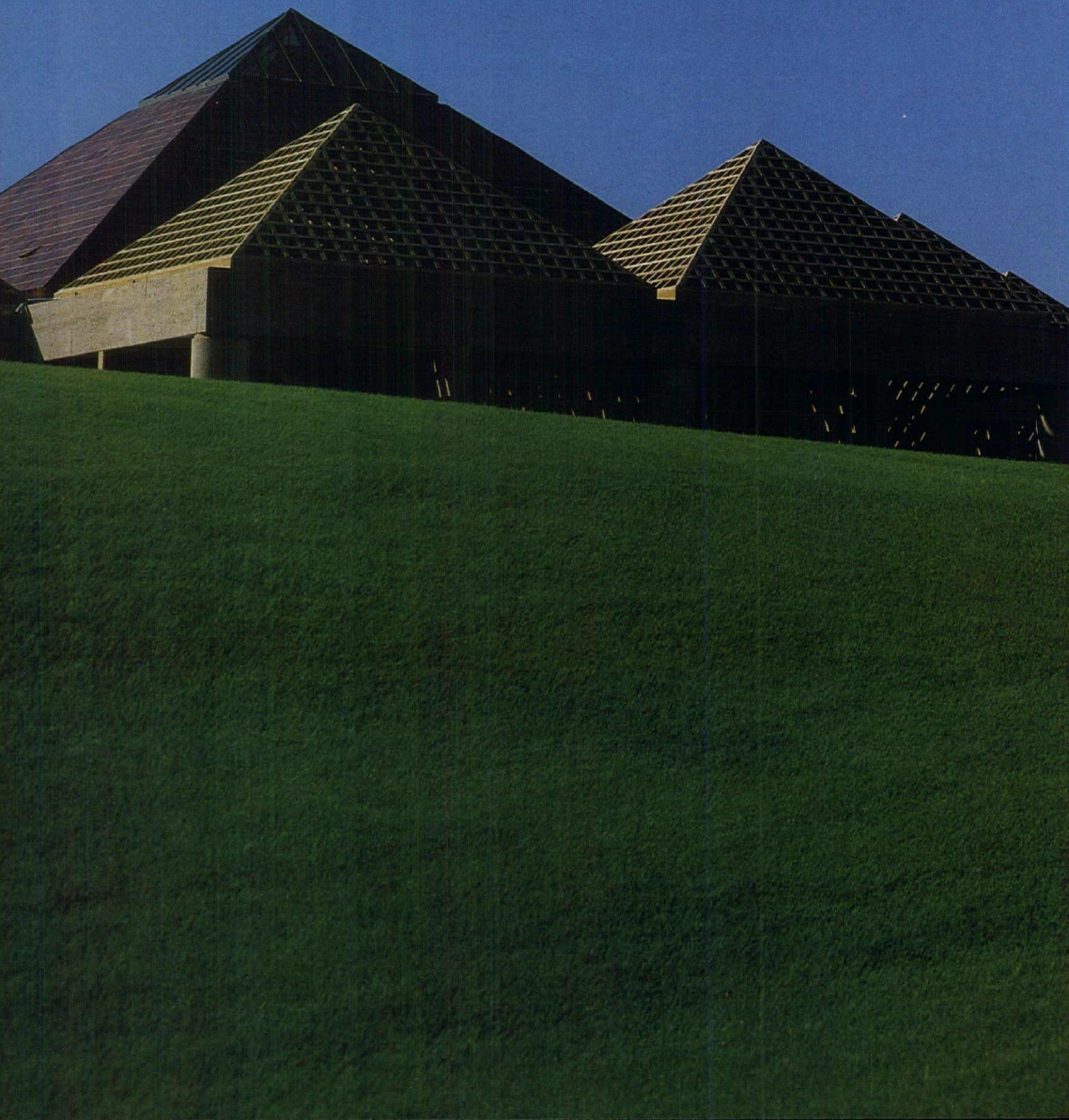
Engineers:
Severud-Perrone-Szegezdy-Sturm (structural); Lehr Associates

(mechanical); Cerami Associates (acoustical)

Consultants:
Todd Williams (interiors); Donald L. Bliss (lighting); Will Szabo Associates (audiovisual); Joseph M. Chapman (security); Kiyoshi Kanai (graphics); Brannigan-Lorelli Associates (theater); Zion & Breen Associates (landscape)

Contractor:
Morse/Diesel, Inc.

Desert fantasy



The Vintage Club
Indian Wells, California
Fisher-Friedman Associates,
Architects

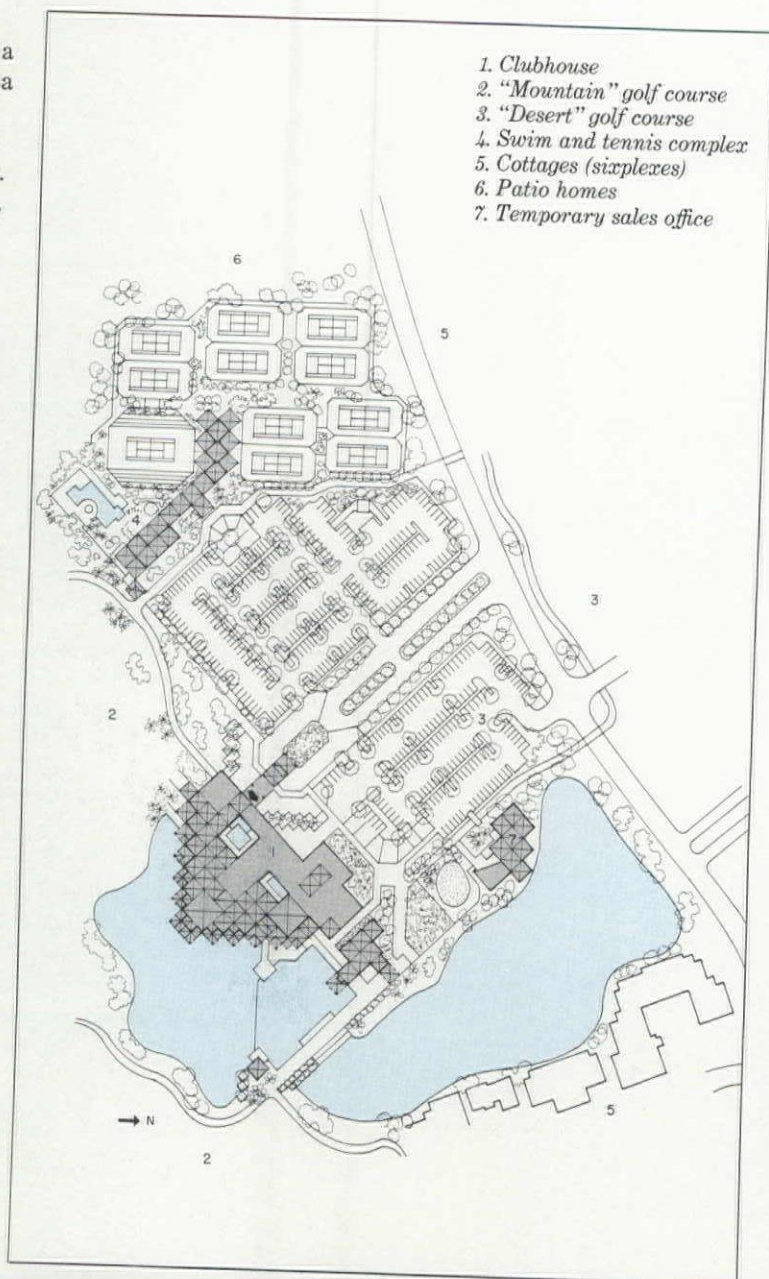


It could almost be a mirage. From one angle, it's a cluster of pyramids rising incongruously from an expanse of green. From a distance, it's a line of peaks nestled at the foot of the Santa Rosa Mountains. And close up, it dissolves into an airy pavilion floating on a shimmering lake. It's no accident that the Vintage Club combines elements of desert, mountain and seaside resorts. As the focal point of a golf-oriented community in Indian Wells, California, a few miles southeast of Palm Springs, it is the playground of those who are wealthy enough or influential enough to expect to be spared such choices.

From the moment a visitor arrives, he hears the sound of water—cascading down the facades of gatehouse and clubhouse, tumbling over weirs, rushing from fountains inside the building and out. He enters the clubhouse over one bridge (photo below) and leaves it on his golf cart over another (photo below right). For the clubhouse sits amidst seven acres of man-made lakes—the ultimate luxury in the desert, but in this instance a practicality as well: the lakes provide cooling for the air conditioning, serve as a reservoir for golf course irrigation, and as retention ponds for runoff from sudden downpours. But most important, the lakes turn the Vintage Club into an oasis—a fitting place to escape the rigors of everyday life.

The main public areas of the 84,000-square-foot clubhouse—including the dining room, the men's grill and the main lounge—have glass walls overlooking the lake (and, of course, the golf course beyond). To allow diners in all parts of the dining area to enjoy the views, five different levels—one of them so low that the water outside is at tabletop height—were created. Lattice screens slide to create intimate spaces without obstructing the views.

Despite its lacustrine setting, the clubhouse also celebrates its mountain and desert environs. The two-story concrete structure, with travertine infill, is organized on a 24-foot grid covered by a series of wood-framed pyramidal roofs that echo the nearby mountains, as do the surrounding smaller pyramids, of Douglas fir glulams and concrete, that act as trellises and sunscreens. All of the materials—from sun-bleached trellises to matching concrete structure; plum-colored slate floors; pale oak interior appointments; carpets custom-designed in mauves, pinks, beiges and taupes; and chairs of wicker and cane—were chosen to echo the desert and mountain colors. The effect is understated and serene, in contrast to the extravagant green golf course and glittering water just outside. *Natalie Gerardi*



1. Clubhouse
2. "Mountain" golf course
3. "Desert" golf course
4. Swim and tennis complex
5. Cottages (sixplexes)
6. Patio homes
7. Temporary sales office



Photos overlaid and this page by Russell MacMasters

Partial site plan (below left) shows clubhouse (1) oriented east-west with its main entrance on axis with Eisenhower Mountain (not shown) and set into an artificial lake system. From restaurant and lounge areas, visitors can view play on the 18-hole Scottish-style "mountain" course (2). To the south of the clubhouse complex is a second 18-hole course (3) with desert landscaping. Both were

designed by Tom Fazio. Now under construction is a swim and tennis complex (4) that will include an Olympic-size pool and a tournament court with stadium seating. Housing includes sixplexes (5) and patio homes (6) built by the developer and custom homes built on lots along the perimeter of both golf courses (not shown on plan). The entire development covers 712 acres and has 30 acres of lakes.

Charles Callister



Charles Callister

Sun shading posed a problem that was solved inside the building with movable lattice screens (visible in lounge area, photo 1), and outside with concrete-and-wood trellis pyramids (3, 5, 6 and 8). Additional shading will come when climbing plants (visible in photo 6) mature. Indoor-outdoor feeling of clubhouse is evident in dining room (4) and main lounge (7). Note the extensive butt glazing (set off by a spandrel painted in an auto body shop to achieve the desired BMW color) and the skylights, which were covered with latticework in keeping with outdoor trellises. Outdoor dining is available on shaded patios and on a peninsula that juts into the lake (8). Photos 2 and 3 show the golf starter's box, which extends over the lake from the pro shop. Lower floor of the building is used for administration offices, golf cart storage, maintenance, etc.

*The Vintage Club
Indian Wells, California*

Owner:

Vintage Properties

Architects:

Fisher Friedman Associates—A. Robert Fisher, Rodney Friedman—partners-in-charge; Robert J. Geering, principal-in-charge

Interior designer:

Environmental Planning & Research, Inc.

Engineers:

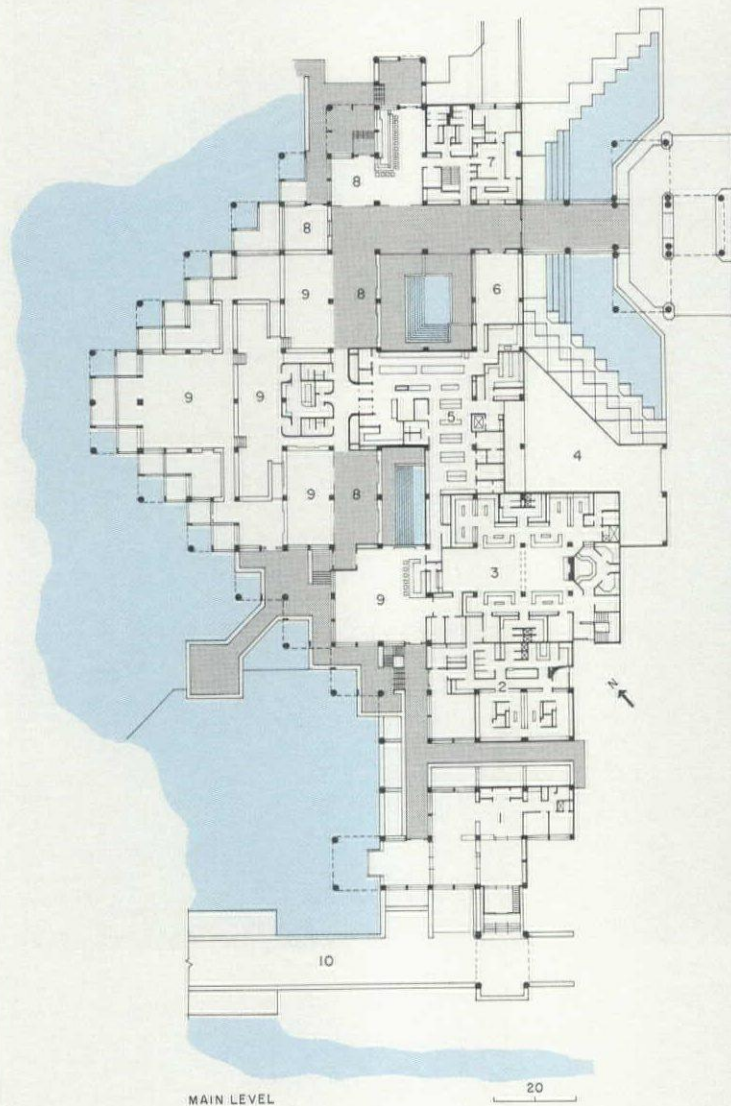
Glumac & Associates (mechanical/electrical); Robinson, Meier, Juilly & Associates (structural); Jones & Tillson (civil)

General contractor:

Emkay Development & Realty

Consultants:

Anthony M. Guzzardo & Associates (landscape); Richard Chair (fountain); Ralph Huizenga (kitchen)



MAIN LEVEL

20

1. Pro shop
2. Women's dressing room/lounge
3. Men's dressing room/lounge
4. Service court
5. Kitchen
6. Board room
7. Reception and manager's office
8. Lounges
9. Dining
10. Golf cart bridge

Photos 1, 4, 7, 8; Russell MacMasters;
photos 2, 3, 5, 6; F Stop Photo;
photo 9; Charles Callister



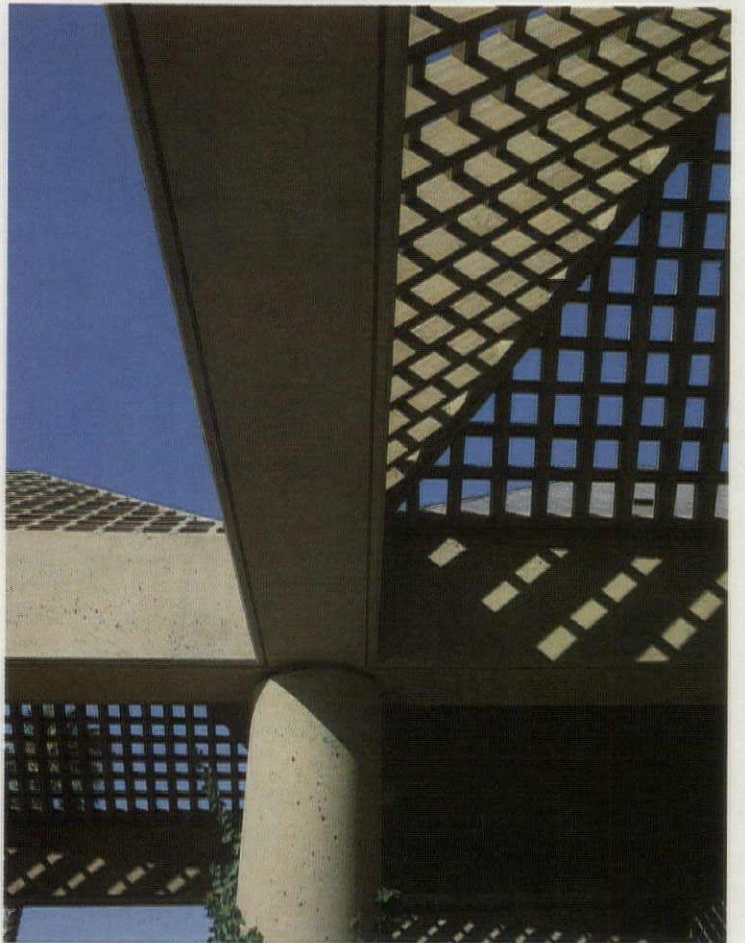
2



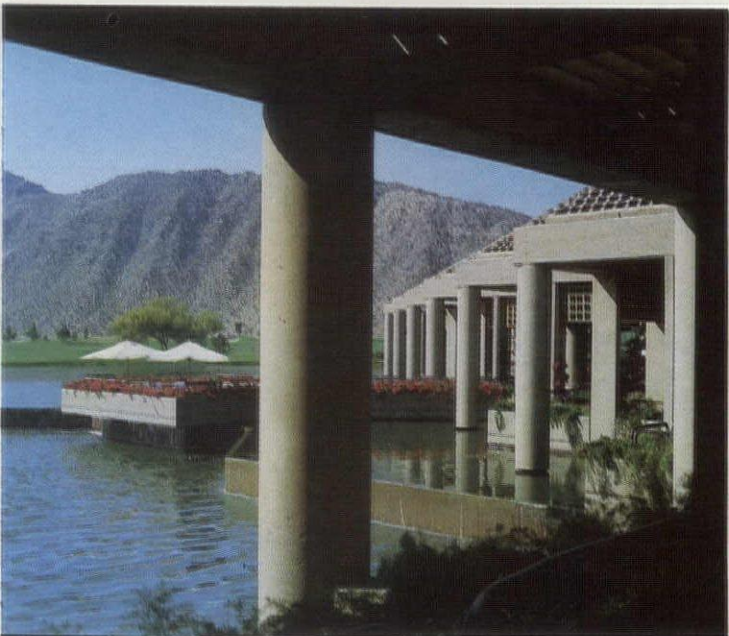
3



5



6

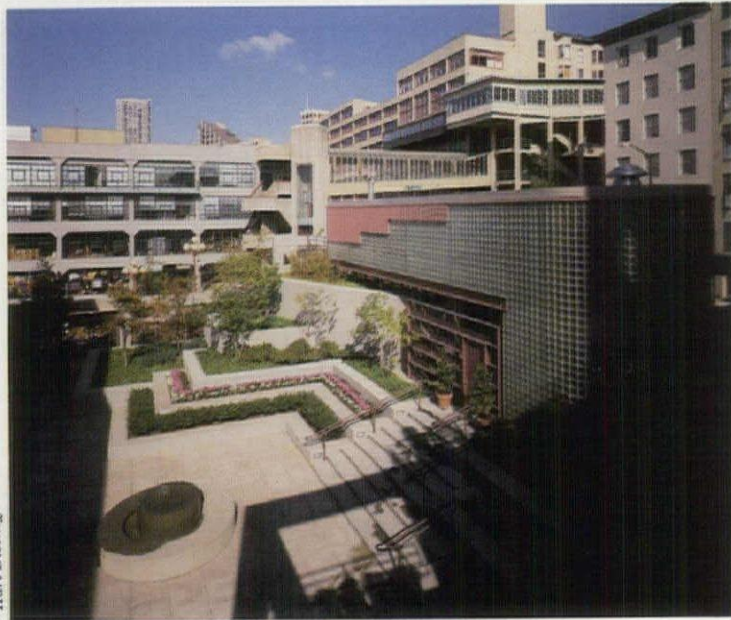


8

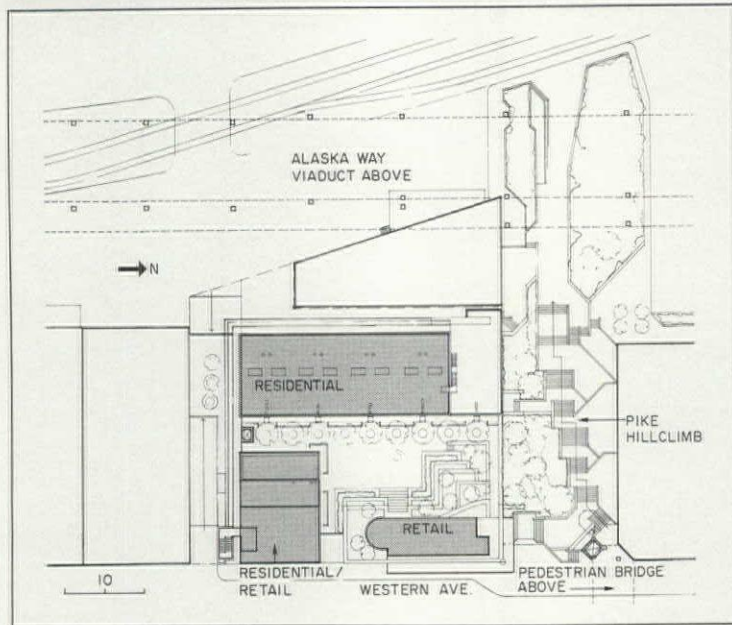


9

An uphill design for downtown housing



© Karl Bischoff



With excusable hyperbole, Rick Sundberg of Olson/Walker Architects once called the vacant lot where Hillclimb Court now stands “the world’s crummiest site to put a building on.” Few architects would disagree that this 27,000-square-foot plot of land near Seattle’s waterfront is indeed dauntingly steep, or that the noisy viaduct of the Alaska Way at its western boundary, a hulking eyesore that nearly blocks the view over Puget Sound, is a serious handicap. The City of Seattle, former owner of the property, programmed this location for a 200-car parking garage to serve the bustling Pike Place Market, a short walk uphill to the east via Pike Hillclimb, a public stairway linking marketplace and waterfront (see site plan). Municipal authorities welcomed development proposals that combined parking with other uses, so long as no structure would exceed prescribed height limits or disrupt the visual continuity of older buildings in the Pike Place Market Urban Renewal District.

The successful scheme advanced by Olson/Walker and the Cornerstone Development Company masses four stories of parking within the 45-foot grade-change as a podium, above which a roughly U-shaped complex of 35 condominium units and two street-level shops encloses a garden courtyard (plan and section overleaf). This introverted layout creates a quiet haven that turns its back on the roaring traffic of the viaduct. Because the courtyard is accessible only through the eastern gatehouse pavilion, yet visible from many levels of the Hillclimb steps (photos below and opposite), it is at once a private domain and an ornament to the city. Only the uppermost apartments are high enough for views over the highway towards the water (photo below), but everyone surveys the inner garden from balconies, terraces, or floor-to-ceiling windows. Though both structure and materials recall local industrial prototypes, the general effect of a low-rise domestic enclave with a fountain at its center was modeled on the squares of European hill towns.

A poured-in-place reinforced concrete frame—exposed indoors and out—strengthens the apparent continuity of individual living quarters and the communal garden, and relates Hillclimb Court to similarly constructed loft buildings nearby. Glass block walls afford privacy and muffle street noise, while storefront glazing sections (in both residential and retail areas), pipe railings, and corrugated metal enrich a palette of tough but comely materials. Olson/Walker accomplished its modest triumph over urban adversity at a cost of \$55 per square foot. *D.B.*



Olson/Walker Architects have modified the familiar structures and materials of Seattle's market district to shape a congenial setting for domestic and retail uses. Terraced plantings, stepped massing, and zigzag window bands reflect the form of the neighboring Pike Place Hillclimb stairs. Curved walls on the gatehouse, the rosy hue of corrugated metal panels, translucent screens of glass block,

and lush plantings relieve the hard-edged masonry grid. Olson/Walker also softened interior and exterior concrete surfaces by sandblasting and staining them. Like the rooftop flues (reminiscent of English row-house chimney pots) that echo industrial smokestacks on the downtown skyline, Hillclimb Court's oversize framing members and fenestration fit in with old loft buildings around Pike Place

Market. The vitality of the marketplace and extensive rehabilitation in adjoining blocks have made the Hillclimb one of Seattle's busiest pedestrian thoroughfares.

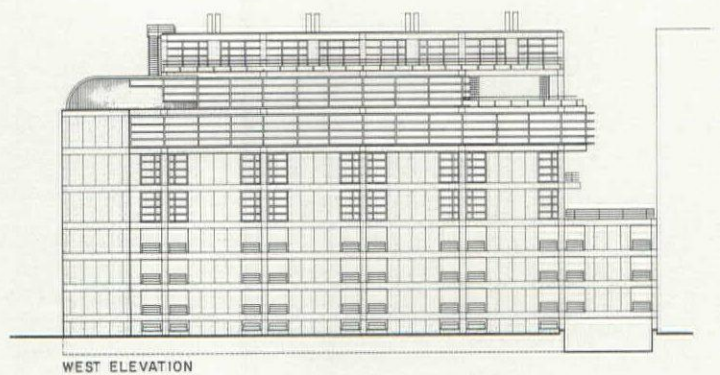
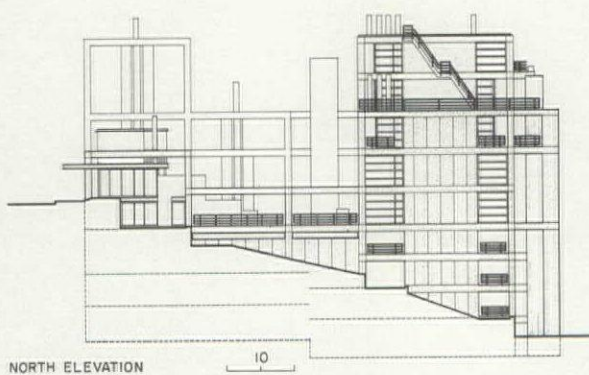


Victor Gardaya photos except where noted

The 35 condominium units range in size from 520 to 1,150 square feet, and offer seven options for single-level and duplex layouts. Fireplaces are standard equipment, and every apartment has at least one courtyard view (as seen from the living room of a ground-floor duplex, photo opposite right). No less distinctive are the spaces allocated for commercial use, such as the glass-walled winding

stairway in the entry pavilion (photo opposite left) that leads to a second-story office suite. Intent on avoiding the monotony and disorientation of many apartment complexes, Olson/Walker faced front doors onto the courtyard or balconies rather than into corridors. Where it was impossible to avoid exposure to the elevated highway, vine-clad trellises screen the view (below). Mechanical shafts

are encased in corrugated metal painted a shade of dusty pink that the architects selected through on-site experimentation.



Hillclimb Court Condominiums
Seattle, Washington

Owner:
Cornerstone Development Company

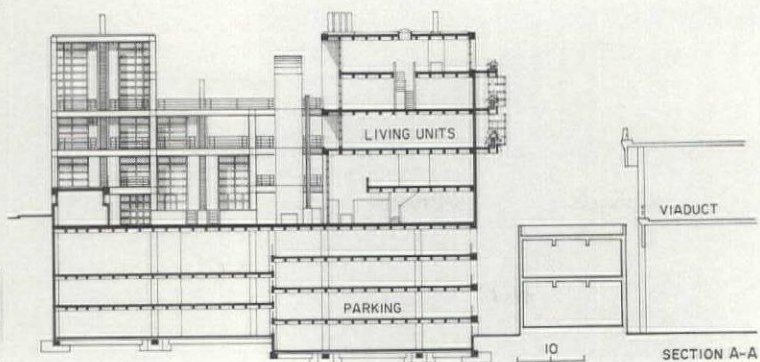
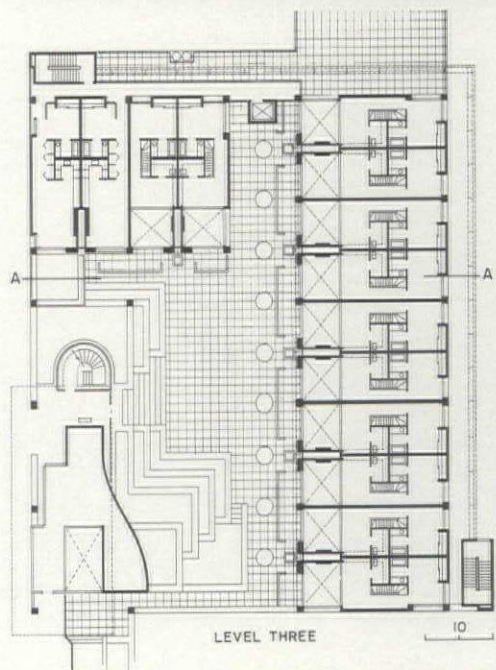
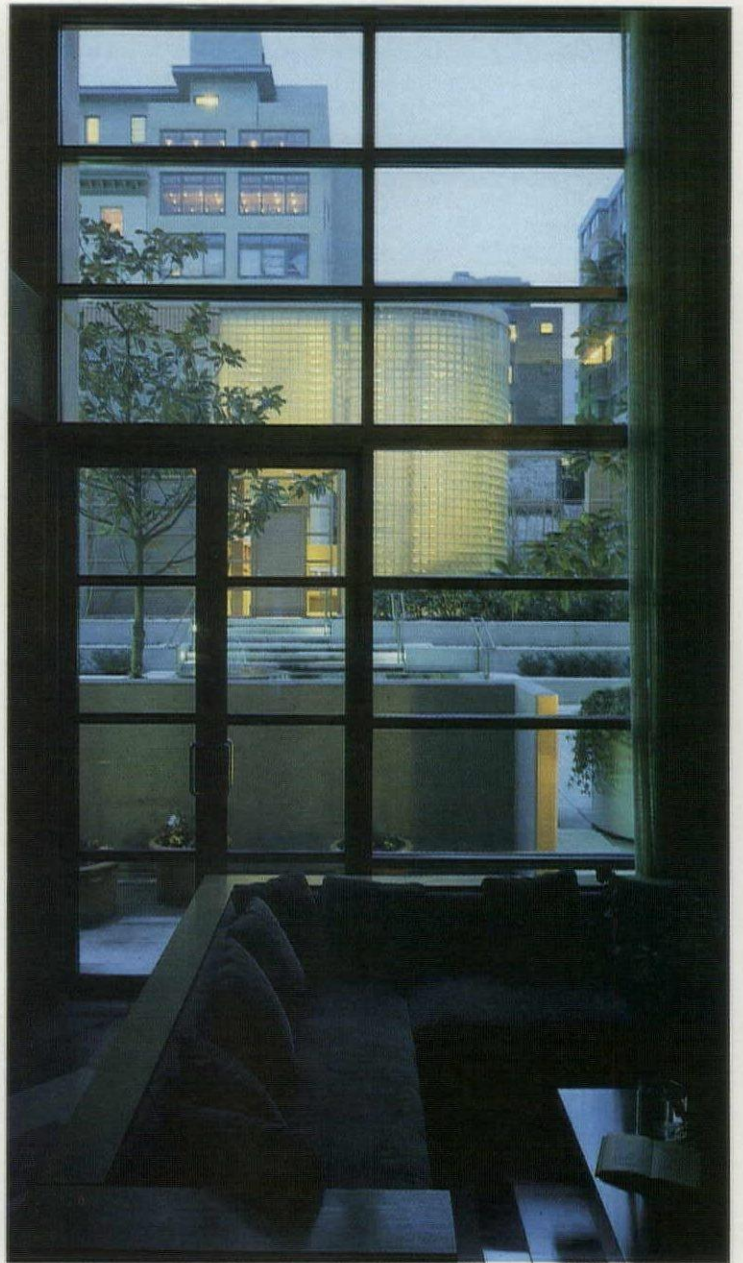
Architects:
Olson/Walker Architects P.S.—
Gordon Walker and James W. P.
Olson, principals; Richard
Sundberg, project architect;
Richard Wordell, Tom Rasnack,
Todd Heistuman, project team

Engineers:
Ratti/Fossatti Associates P. S.
(structural); Stern Associates
(mechanical); Sparling & Associates
(electrical); Towne Richards &
Chaudiere Inc. (acoustical)

Landscape architects:
Thomas L. Berger & Associates

Interior design/model units:
Jean Jongeward

General contractor:
Gall Landau Young



The telling detail, I: houses by Hugh Newell Jacobsen

For architecture as an art, the building is the medium. The art includes such weighty visual and conceptual concerns as form and context, to be sure, but the medium, like all other artistic media, requires technical expertness beyond the ordinary if the artist is to convince others of his mastery.

Hugh Newell Jacobsen spends much of his artistic vigor on such aspects of architecture as composition, massing, reference and jokes—remember the telescoping house with one modern side and one Colonial side? (If not, see *RECORD*, mid-May 1981, and below.) But he does not expect a first-rate building to take shape merely from a good idea and *joie de vivre*. Good detailing is equally important.

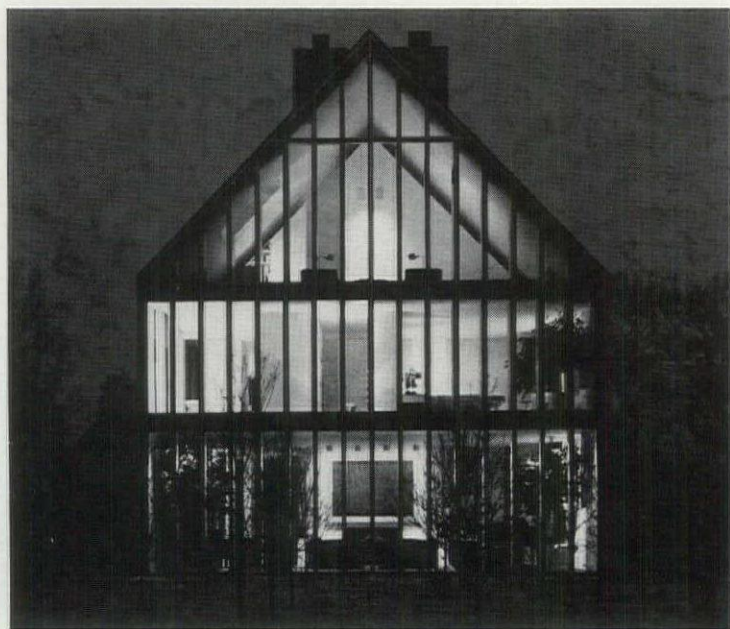
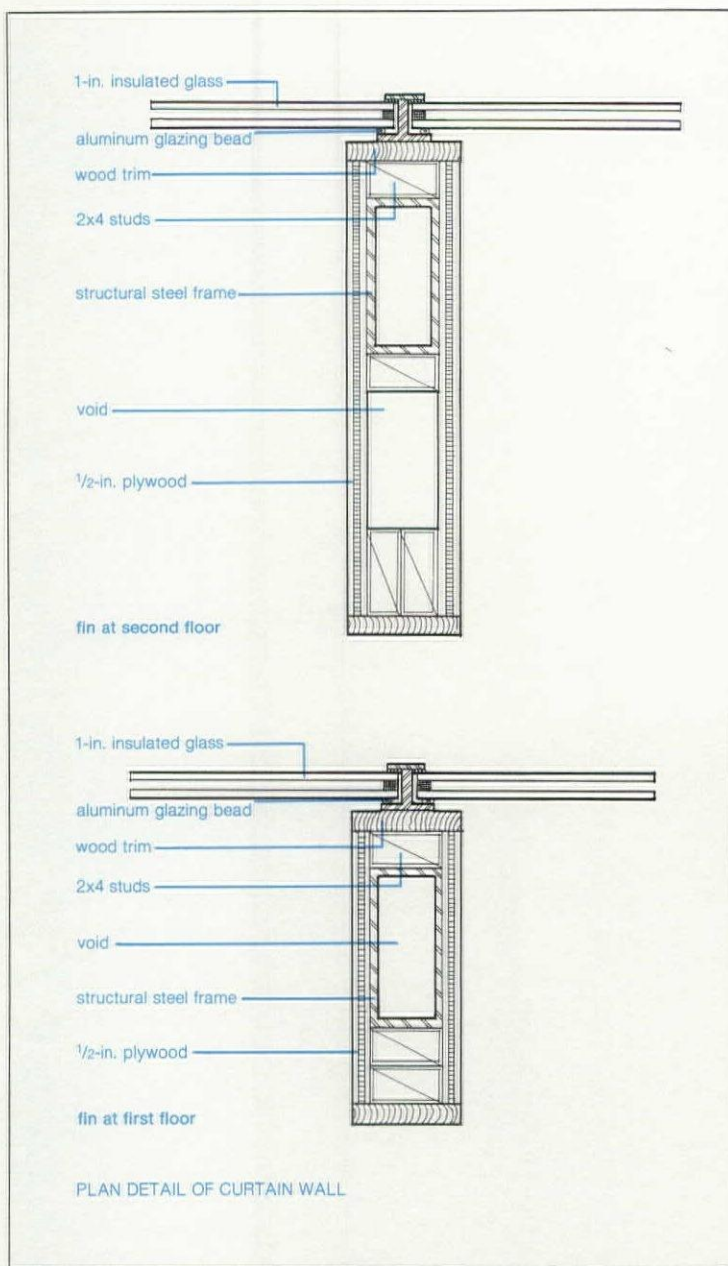
Thoughtful detailing may involve such grave issues as the design of an entire wall, where questions inevitably arise about the effective joining of disparate materials, about the admission of natural ventilation to combat condensation and the simultaneous exclusion of rainwater and bugs, about the incorporation of mechanical necessities like outdoor illumination and air-conditioning ducts. Details may even affect a building's physique: by day, a grid of metal mullions supporting a reflective glass curtain wall establishes one rhythm; by night, the lighted reveals of deep internal structural fins establish a far different rhythm (again, see below).

Jacobsen is not an architect who delights in the exposure of technical tricks. He wants them invisible, so that the building appears a seamless, slightly magical whole. Thus gutters hide within walls behind parapets, and venting slots seem to be scribed ornament below the eaves.

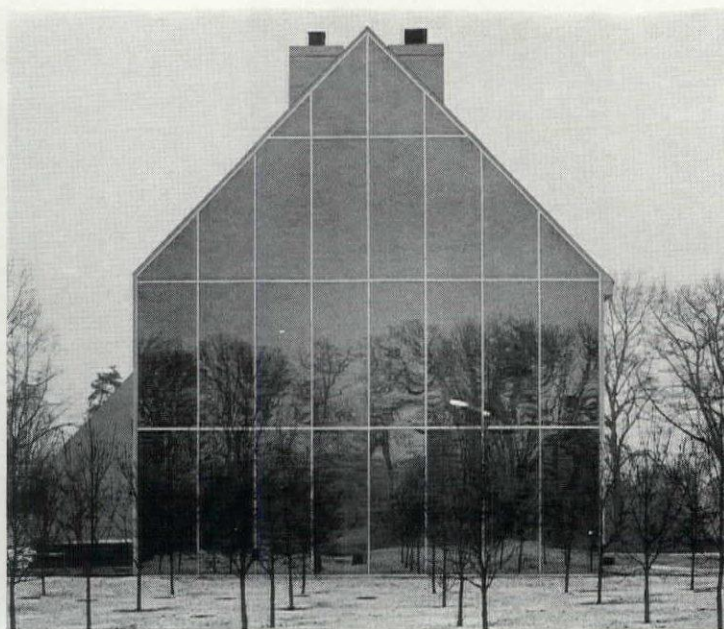
This passion for detailing—and invisibility—encompasses smaller, everyday elements as well. These devices often look deceptively artless. Typically, Jacobsen's tall doors have no bucks or visible tracks overhead—no disfiguring hardware on the smooth ceiling, please. If a return air plenum should be needed, evenly spaced wood strips can serve both air conditioning and esthetics at the same time.

Joie de vivre itself demands most careful detailing. A mirror-lined oriel is only a fetching notion until the designer figures out which materials to use and what dimensions to give them and how to turn the corners cleanly.

All of Jacobsen's details shown on these pages were designed for houses. In next month's issue, we shall publish still other details for nonresidential buildings. *Grace Anderson*

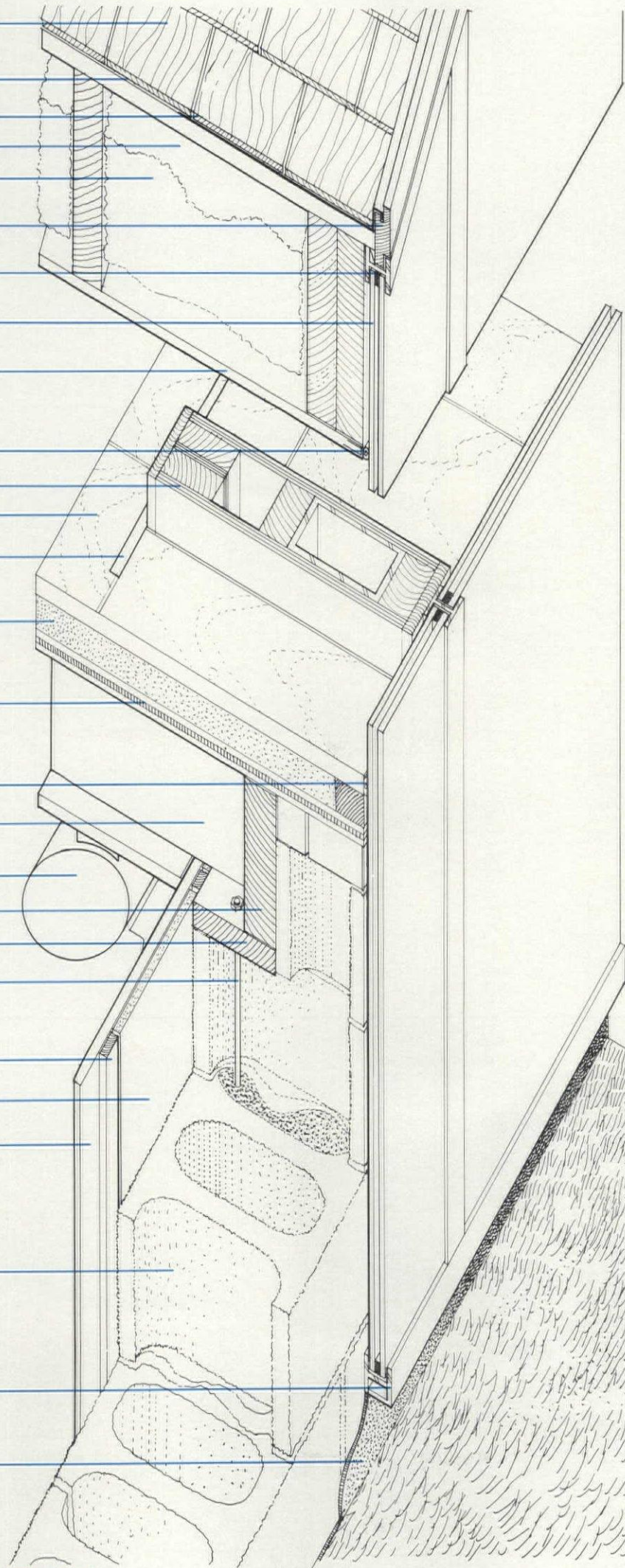


Glass wall with structural fins, night and day

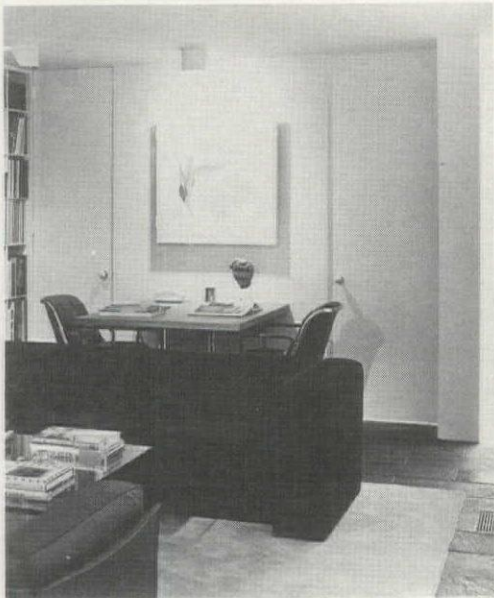


Robert Lautman photos except as noted

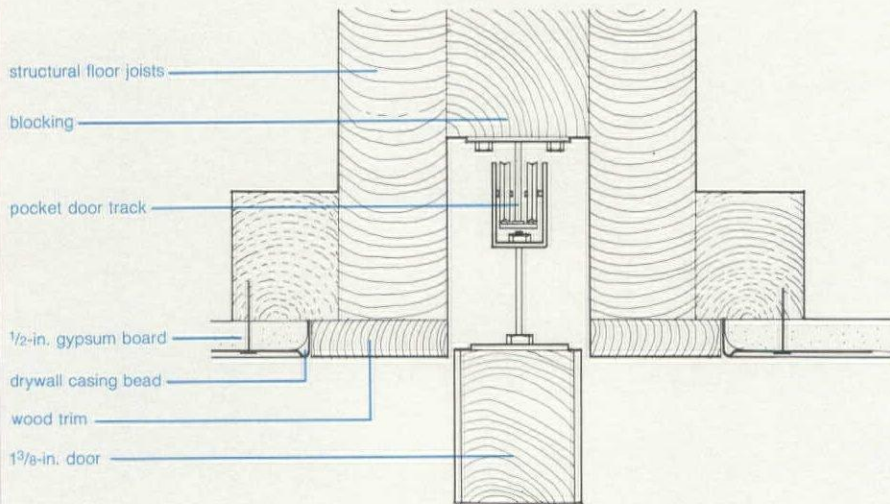
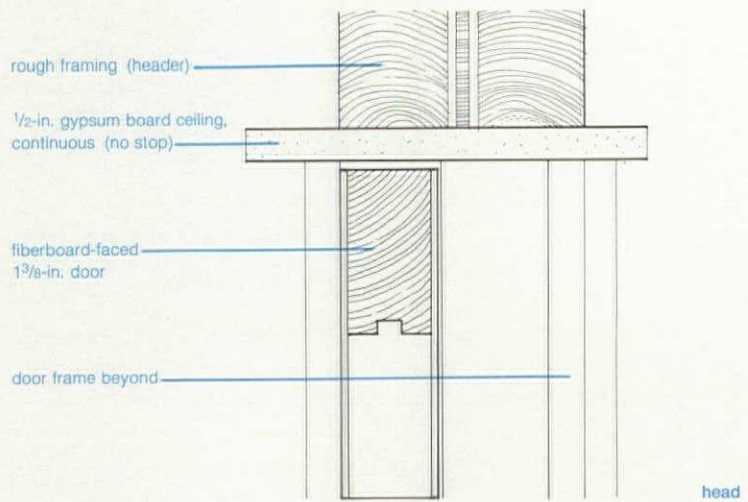
- cedar shingle
- stainless steel flashing
(extends 16 in. under shingle)
- 1x2 purlins
- ventilating space
- 9-in. foil-enclosed insulation
- 3/4-in. wood rake board with
flashing reglet and Thiokol caulk
- aluminum glazing bead
- 1-in. insulated glass
- 1/2-in. gypsum board ceiling
- rubber gasket
- structural fin
- bluestone
- air slot
- 1 1/2-in. setting bed
- 3/4-in. plywood
- rubber gasket
- 2x10 joist
- air-conditioning duct
- 2x10 header
- 2x6 plate
- steel anchor
- 1x2 furring
- rigid insulation
- 1/2-in. gypsum board wall
- 12-in. CMU foundation
- aluminum frame
- parging



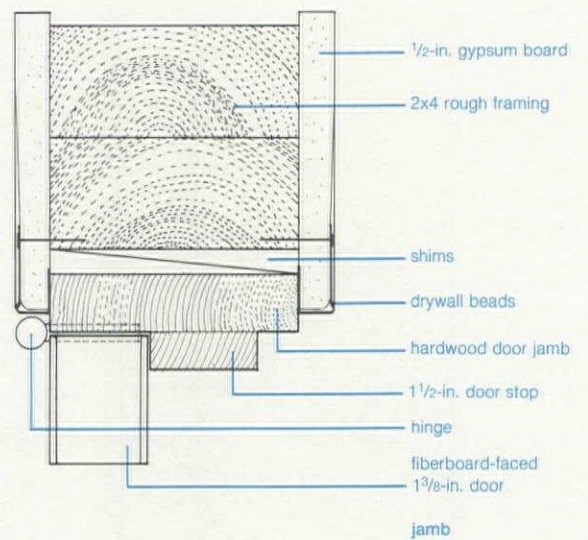
AXONOMETRIC SECTIONAL DETAIL OF HOUSE WALL



Typical hinged doors



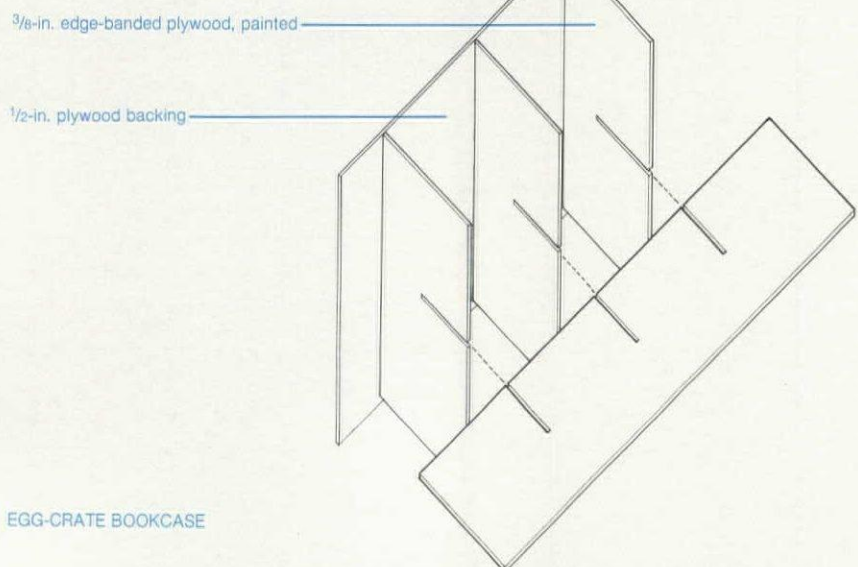
CONCEALED POCKET DOOR HEAD



TYPICAL INTERIOR DOOR

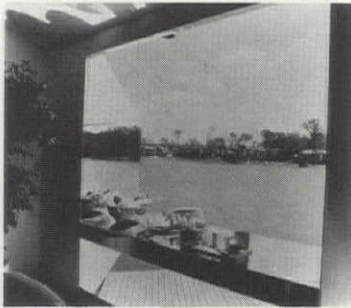


Egg-crate bookcase

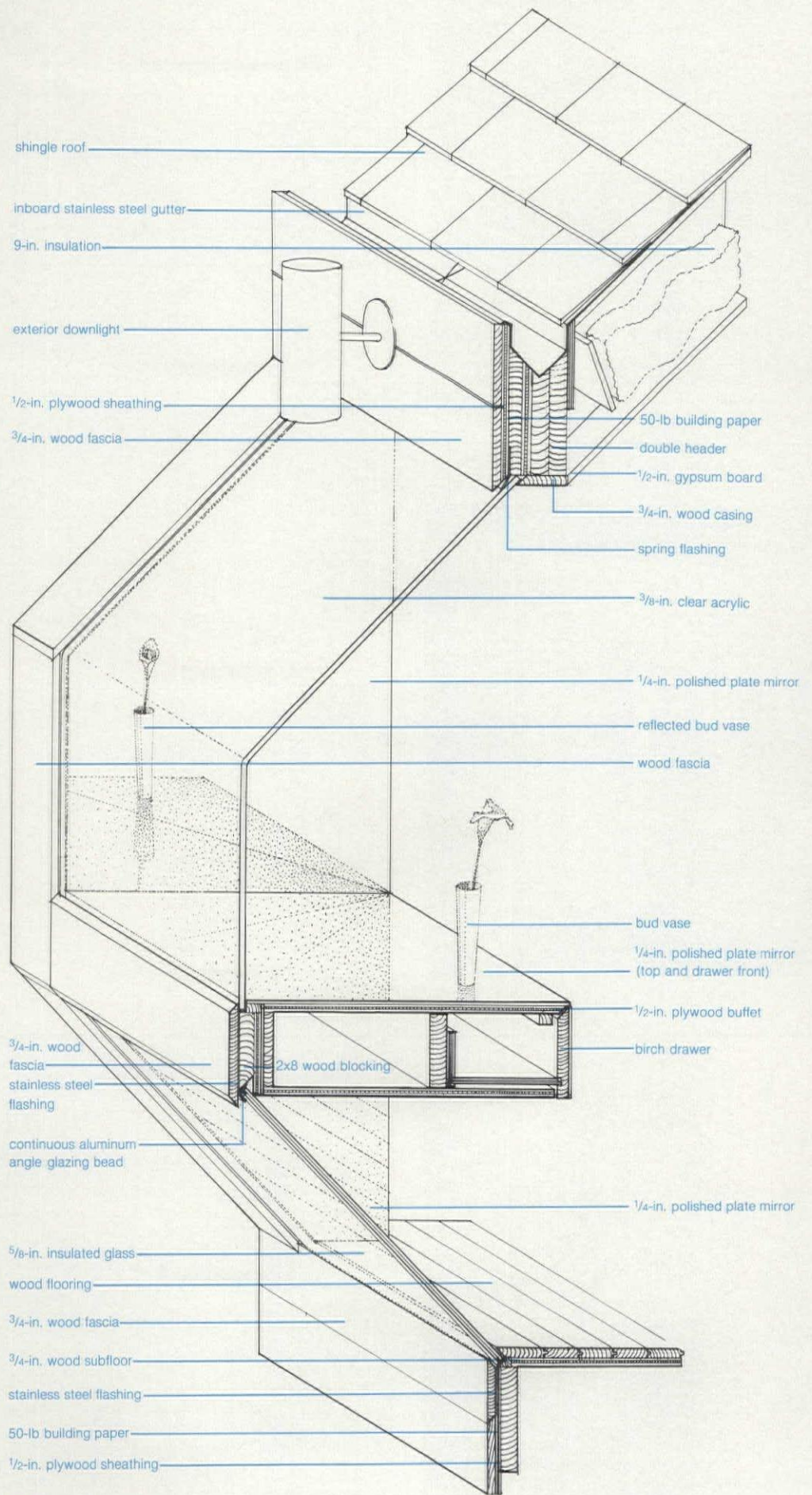


EGG-CRATE BOOKCASE

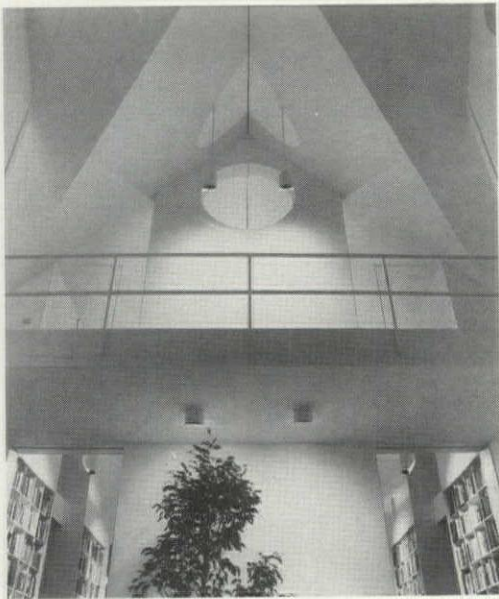
David Massey photo, courtesy House & Garden
©1978 by The Condé Nast Publications Inc.



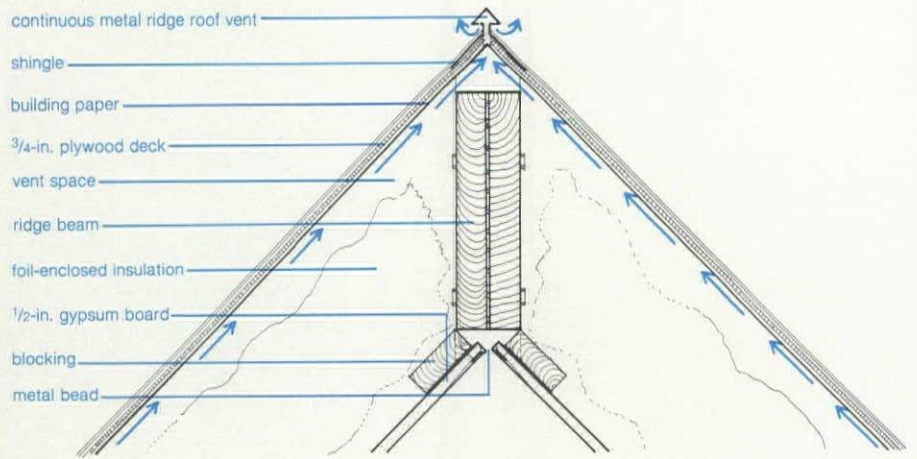
Mirror-lined oriel



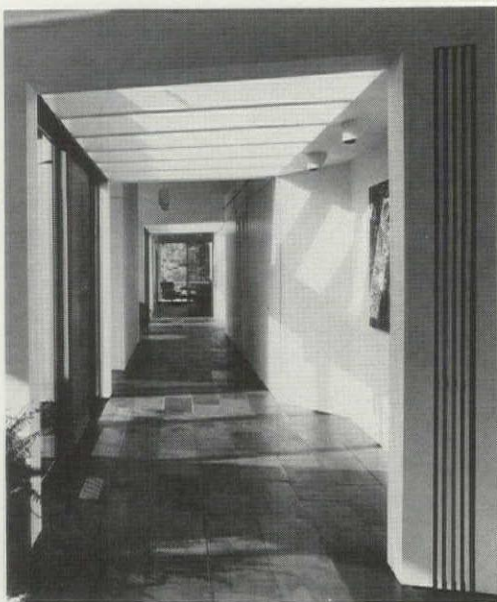
ORIEL



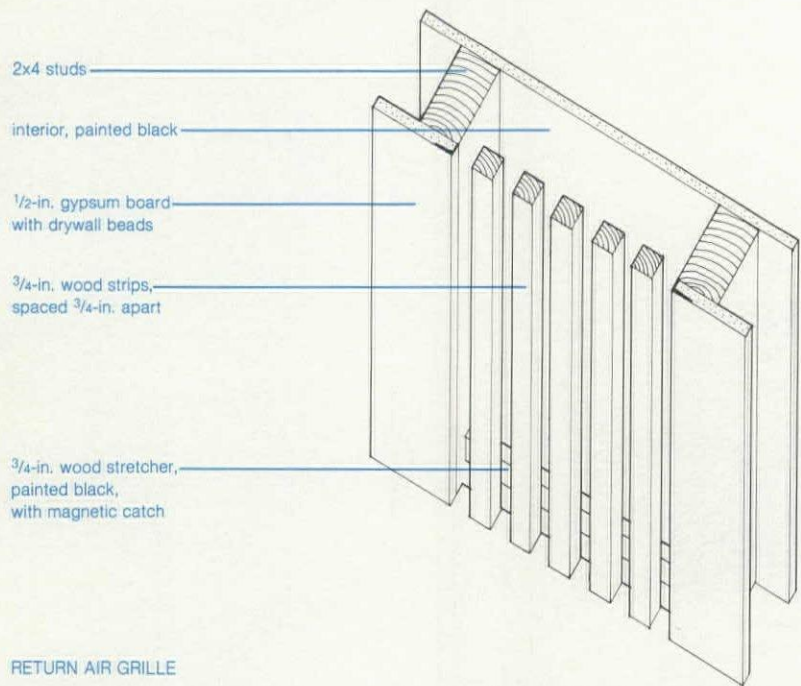
Ceiling ridge with open seam



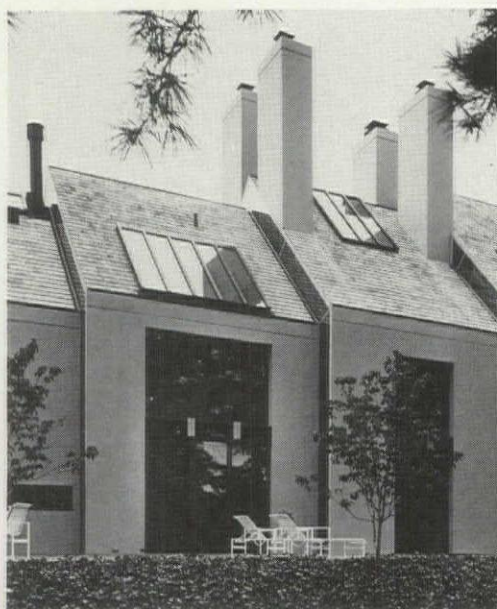
RIDGE VENT



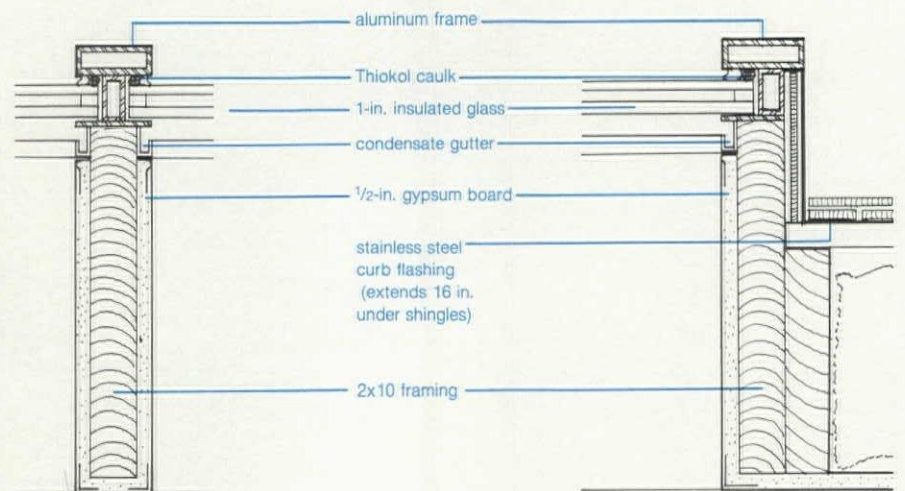
Vertical slats for air return



RETURN AIR GRILLE



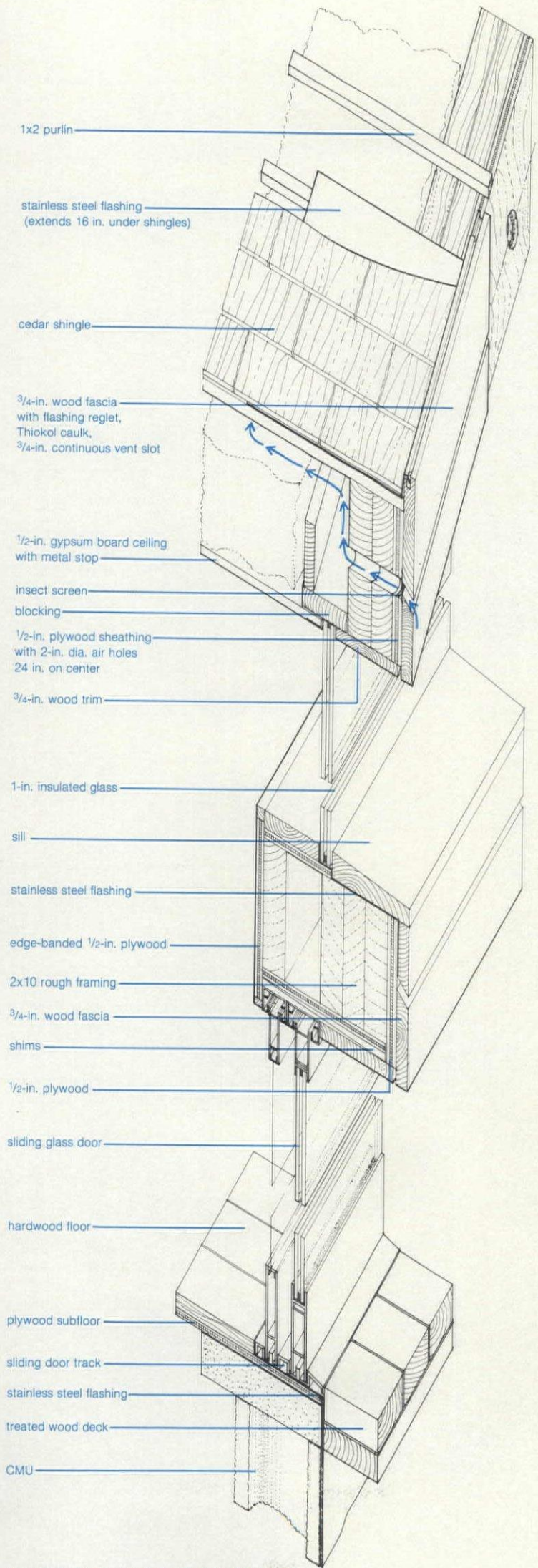
Skylights



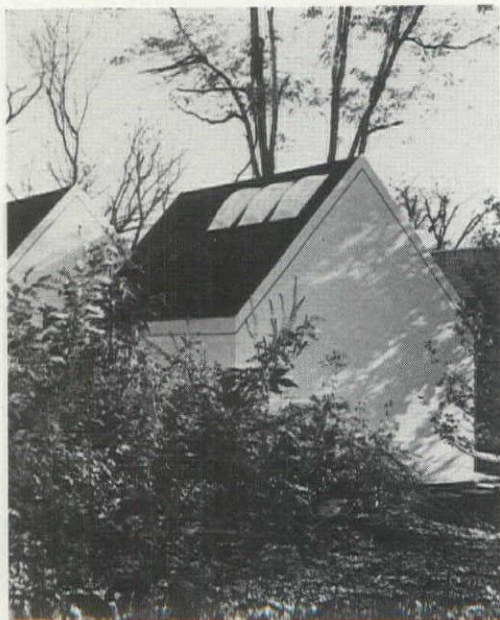
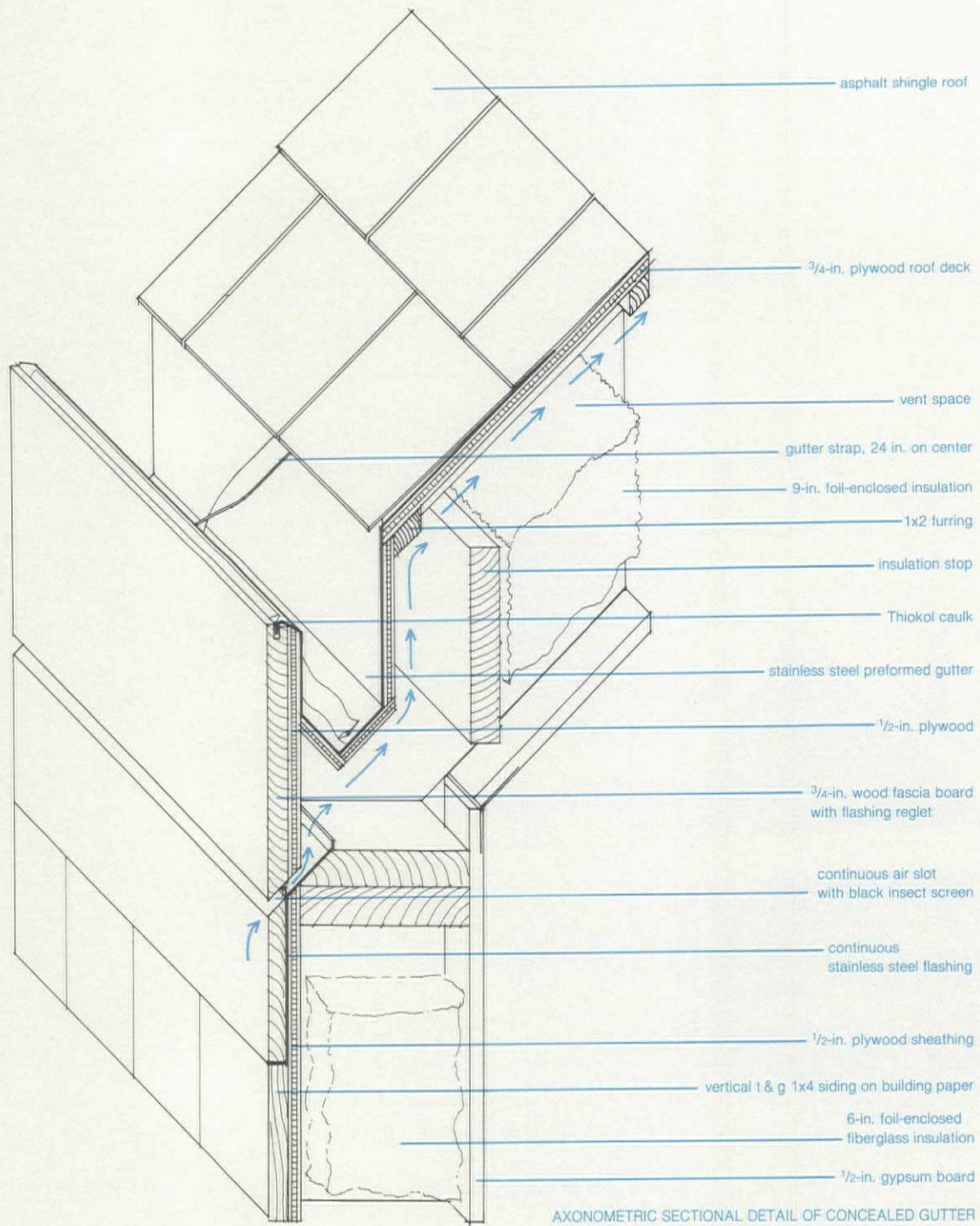
SKYLIGHT



Fascia with continuous vent slot



AXONOMETRIC SECTIONAL DETAIL OF HOUSE WALL



Wall with concealed gutter and vent slot

five-ply built-up roof

vent space

stainless steel flashing cap

5/8-in. plywood deck

9-in. foil-enclosed fiberglass

steel beam

3/4-in. plywood fascia

blocking

Venetian blind

1/2-in. gypsum board

stainless steel flashing

aluminum glazing frame

1-in. insulated glass

4-in. dia. steel column

3/4-in. steel stiffener

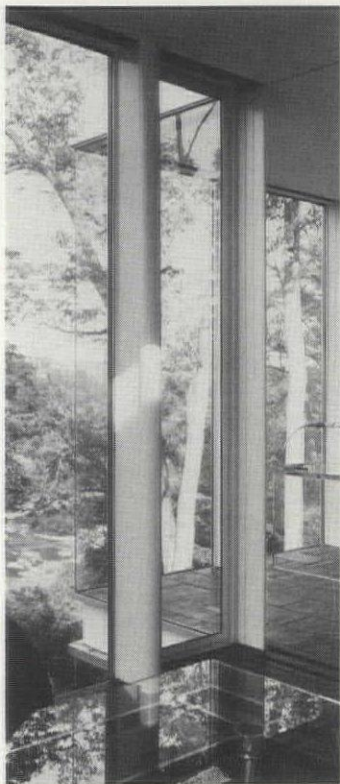
bluestone floor

1 1/2-in. setting bed

3/4-in. plywood subfloor

aluminum glazing frame

exterior downlight



Steel and glass wall

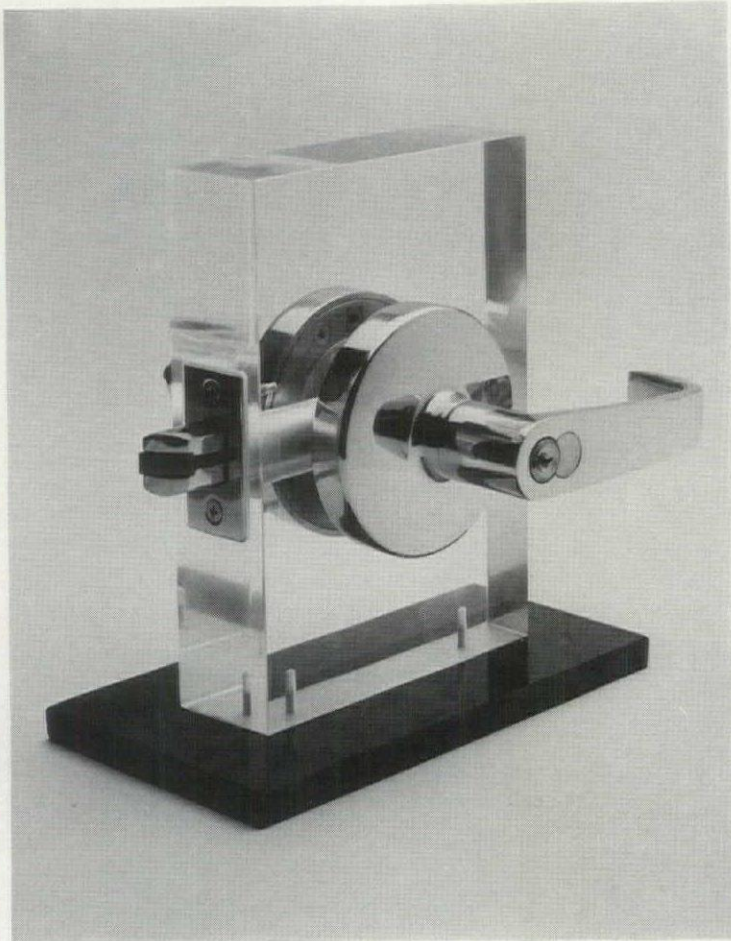
carpet

2x10 joist

CMU

bluestone terrace on 4-in. slab

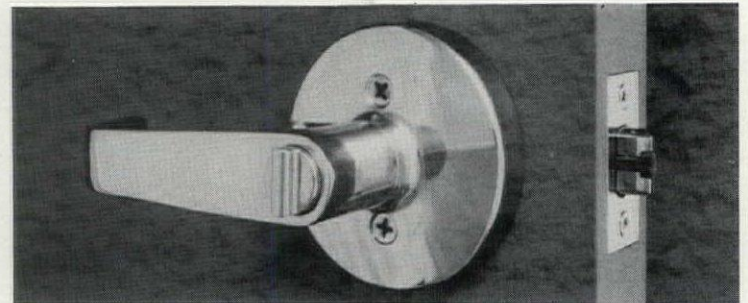
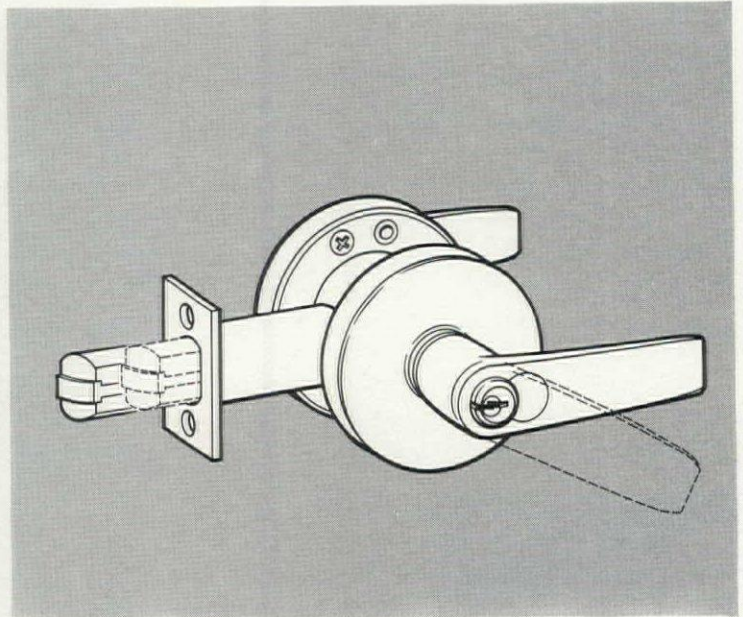
AXONOMETRIC SECTIONAL DETAIL OF HOUSE WALL



A new generation of high-security cylindrical locksets

Long regarded as one of the most conservative segments of the American building-supply industry, manufacturers of door hardware are being pushed to develop more technologically sophisticated products by the combined forces of a rising national crime rate and

increasingly stringent state codes for handicapped accessibility. The recently introduced Corbin 700 and Russwin 900 Series SecurityBolt locksets address these concerns. Designed for a variety of commercial, residential, and institutional installations, the cylindrical locksets feature a unique single-bolt mechanism that not only operates in a 1/2-in. throw latch



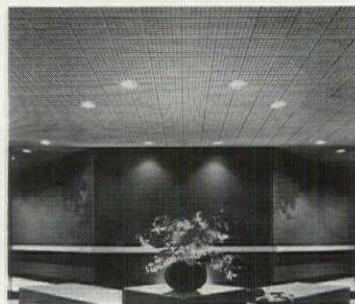
position, but also can be extended to a 1-in. deadbolt position by key or inside turnpiece. The units are manufactured of cast bronze and stainless steel and fit a standard 161 cylindrical door cutout. Their lever-handle mechanisms—available in either straight or return design—are said to withstand 1,000 lb of vertical torque, yet need only a 20-deg rotation to retract the

bolt. The lock meets the revised building requirements of the American National Standards Institute, which state a preference for lever, push-type, or U-shaped handles over knobs, as well as most Federal and state handicapped regulations. Russwin and Corbin Divs./Emhart Hardware Group, Berlin, Conn.

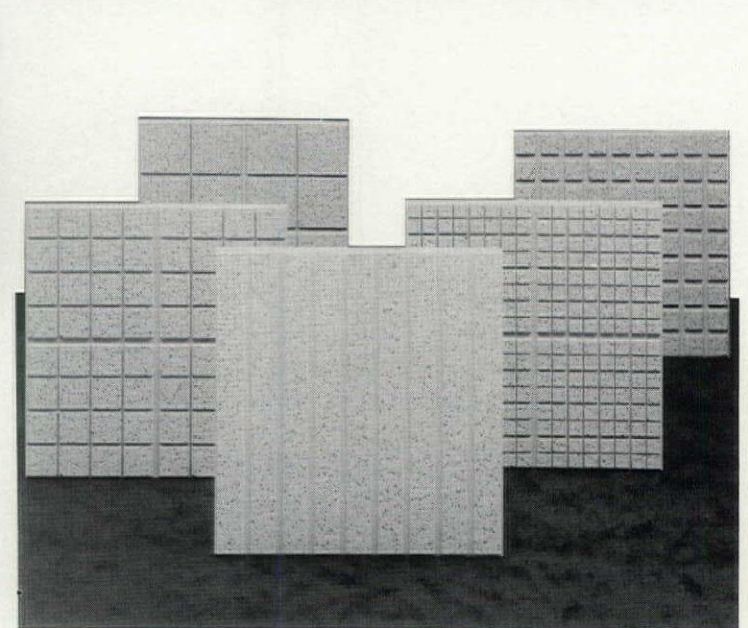
Circle 300 on reader service card

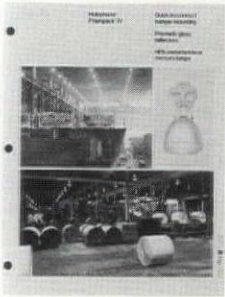
Reinterpreting the acoustical ceiling grid

Suprafine is the latest manifestation of manufacturers' persistent quest to combine the cost-effectiveness and flexibility of lay-in ceiling panels with an uninterrupted, monolithic appearance. The new commercial system by Armstrong incorporates intricately scored geometric patterns on 2-ft-square tegular panels that are supported by a narrow 9/16-in.-wide metal grid that virtually disappears into the score lines. The five available panel designs illustrated at right include *Suprafine 1100*, four 12-in. by 12-in. modules narrowly scored into 1-in. by 1-in. squares; *Suprafine 1300*, four 12-in. by 12-in. modules scored into 3-in. by 3-in. squares; *Suprafine 1600*, four 12-in. by 12-in. modules scored into



6-in. by 6-in. squares; *Suprafine 2000* panels scored into 2-in. linear strips; and *Suprafine 2200* panels scored into 2-in. squares. Panel and grid systems are offered in matching colors of white, adobe, and parchment. Armstrong World Industries, Inc., Lancaster, Pa. Circle 301 on reader service card More products on page 155





Industrial luminaire

A 12-page color brochure featuring the *Prispack IV* luminaire for industrial and commercial uses highlights a quick-disconnect hanger said to simplify installation and maintenance. Information on optional equipment is included. Manville Products Corp., Denver, Colo.

Circle 400 on reader service card



Roof windows and skylights

Both esthetic and practical uses of roof windows and skylights are illustrated and described in a 24-page color brochure. Photos of installations highlight options available in a variety of different models. Section details and tables of dimensions are included.

Velux-America, Inc., Greenwood, S.C.

Circle 406 on reader service card



Soft wiring

A 12-page color brochure features 1-in.-high connectors that provide up to a three-phase, five-wire power distribution system. Switching for the two-part system is achieved by adding three interlocking components only where needed. The Miller Co., Meriden, Conn.

Circle 401 on reader service card



Tiles

Glazed, ceramic and quarry tiles are featured in a 40-page color catalog. Detail and installation photos depict a variety of colors and patterns, while sizes are listed for both tiles and trim.

Among the new products shown are tiles designed to aid the visually impaired. American Olean Tile Co., Lansdale, Pa.

Circle 407 on reader service card



Circuit breakers

Solid state trip circuit breakers in 1600, 2000, 2500 and 3000 amp frames are described in a 20-page bulletin. Information on applications and selection of the UL-listed *SE* breakers, dimensions, and specifications are included. Charts show characteristic tripping curves. Square D Co., Lexington, Ky.

Circle 402 on reader service card

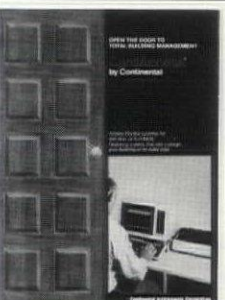


Outdoor luminaires

Installations of *Somerset* area luminaires in groupings of up to four units are shown in a 6-page color brochure. A diagram and detail photos illustrate weatherproof construction.

Schematics for mounting designs and spacing charts are included. Manville Service Center, Denver, Colo.

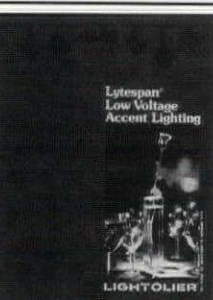
Circle 408 on reader service card



Security

Controlled access systems with infrared encoded cards are shown in an 8-page color brochure. Systems featured range from the *CardAccess 50* for a single door to the *CardAccess 300* with 250 card readers for up to 40,000 cards and 32 access levels. Continental Instruments Corp., Westbury, N.Y.

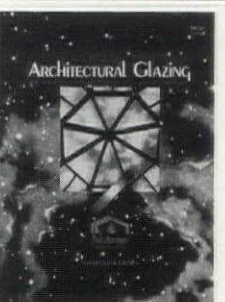
Circle 403 on reader service card



Accent lighting

Lytespan low-voltage fixtures are featured in a 16-page color brochure. Each model is shown in a selection of finishes while dimensions, available filters, and lens types are listed. Track selection and lighting design guides and performance data are included. Lightolier, Inc., Jersey City, N.J.

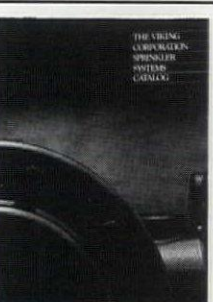
Circle 409 on reader service card



Glazing

An integrated glazing system for standard, custom, structural or light architectural applications is featured in a 12-page color brochure. Applications, including silicone systems, are shown in photos of installations. Services to architects are described. Lord & Burnham Co., Ltd., St. Catharines, Ontario.

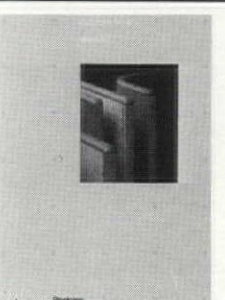
Circle 404 on reader service card



Fire protection

A 28-page color catalog describes and illustrates five basic sprinkler systems. Information on applications, operation, component requirements, and accessories is included. Photos show available components while diagrams illustrate valve constructions. The Viking Corp., Hastings, Mich.

Circle 410 on reader service card



Wood office system

Managerial and clerical settings of the *Valencia* line of shelves, credenzas, desks, and glass, wood and fabric panels are shown in photos in a 20-page color brochure. Drawings with dimensions and information on finishes and wire management are included. Steelcase, Inc., Grand Rapids, Mich.

Circle 405 on reader service card

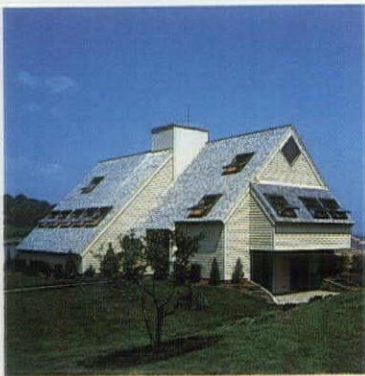


Lamps

Metalarc and *Super Metalarc* lamps for indoor and outdoor application are featured in an 8-page color brochure. Photos show typical installations and charts compare these lamps to mercury and incandescent lamps. GTE Lighting Products, Danvers, Mass.

Circle 411 on reader service card
More literature on page 153

For over 40 years, Velux has made only Roof Windows and Skylights.



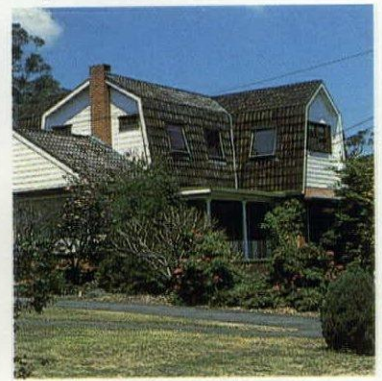
Maine



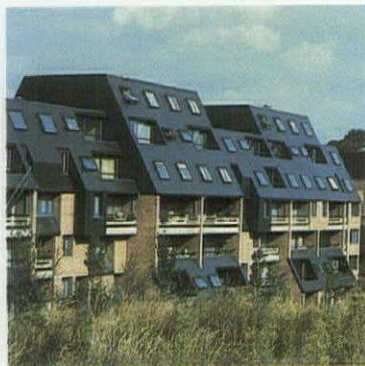
Colorado



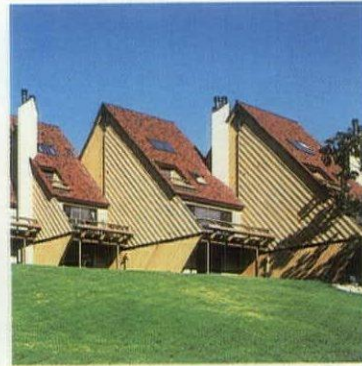
Michigan



Australia



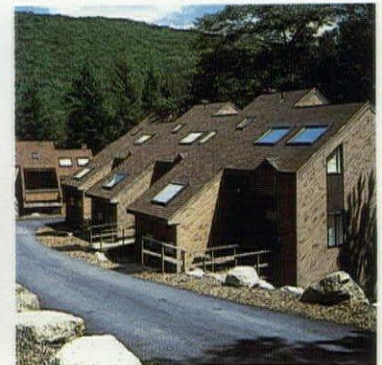
Belgium



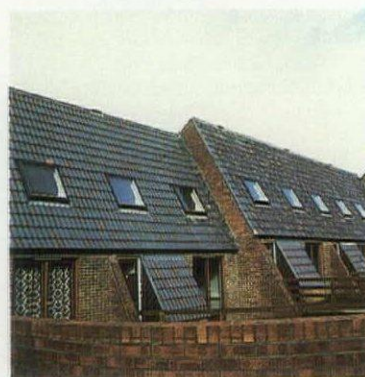
Minnesota



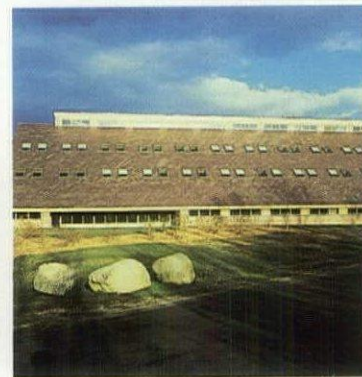
Switzerland



New Hampshire



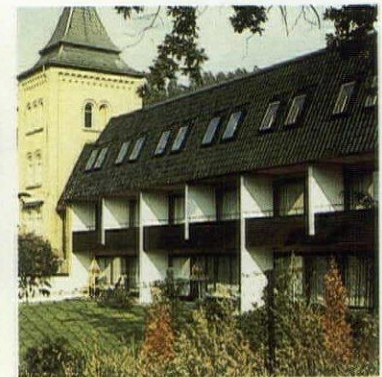
England



Massachusetts



Florida



Norway

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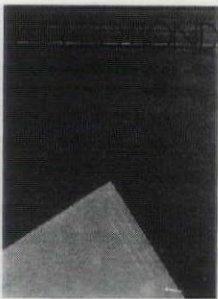
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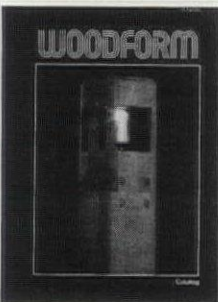
Accents and cladding

Steel-O-Bond, a composite of two thin sheets of stainless steel with a polyethylene core, is featured in photos and diagrams in an 8-page color brochure. As described, it can be shaped to specifications for exterior and interior use. Performance data are included. Consolidated Aluminum, St. Louis, Mo.
Circle 412 on reader service card



Automatic doors

Sliding and swinging doors, ICU/CCU manual hospital sliders and UL-rated fire door packages are featured in a 12-page color catalog. *VisionPulse*, an LED sensor-controlled door is highlighted. Photos and diagrams show installations and operation. Besam, Inc., East Windsor, N.J.
Circle 418 on reader service card



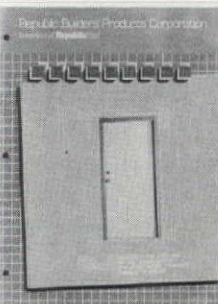
Redwood lighting fixtures

Incandescent, fluorescent and HPS fixtures in wall mount, post mount and bollard designs are shown in photos and diagrams in a 36-page catalog. Mounting details and light patterns are illustrated. Matching receptacles, planters and benches are included. Columbia Cascade Timber Co., Portland, Ore.
Circle 413 on reader service card



Victorian staircases

The *Barclay* 5-ft-diameter spiral and *Kensington* straight cast iron staircases are featured in a 24-page catalog, which also includes plaster moldings, brass rail fittings and shower kits for bathtubs. Photos, old drawings and dimensions are included. Steptoe and Wife Antiques, Ltd., Willowdale, Ontario.
Circle 419 on reader service card



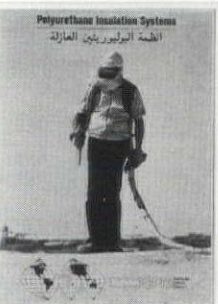
Door

The *CorriDoor*, designed for high volume interior use such as in hotels and offices, is featured in a 6-page color brochure. A diagram showing the door's steel construction and commercial weight hardware, frame details and specifications are included. Republic Builders Products Corp., McKenzie, Tenn.
Circle 414 on reader service card



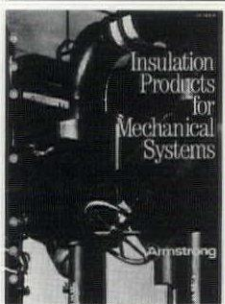
Insulation

Nailboard, a combination of foil-faced foam insulation and nailable waferboard for use in roofs, floors and walls, is covered in a 4-page color brochure. Composition, physical properties, code compliance and installation instructions are included, as well as sizes and thermal values. NRG Barriers, Inc., Sanford, Me.
Circle 420 on reader service card



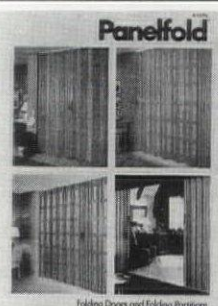
Insulation

A 4-page color brochure in Arabic and English covers three polyurethane insulation systems for use in the Middle East. Systems featured are rigid spray foam for roofs, walls and pipes; poured insulation for cavities in masonry walls; and sandwich panels for walls and roofs. The Upjohn Co., Kalamazoo, Mich.
Circle 415 on reader service card



Mechanical systems insulation

Armaflex insulation for pipes, tanks, vessels and equipment for air conditioning, refrigeration and plumbing is described and illustrated in an 8-page brochure. Photos show installations and tables list physical properties and thickness recommendations. Armstrong World Industries, Inc., Lancaster, Pa.
Circle 421 on reader service card



Folding doors

Folding doors and partitions in veneers, vinyls and laminates are shown in photos of installations in a 12-page color brochure. Specifications, mounting details, and available finishes and surfaces are included. Caned, mirrored and glazed panels are highlighted. Panelfold, Inc., Miami, Fla.
Circle 416 on reader service card



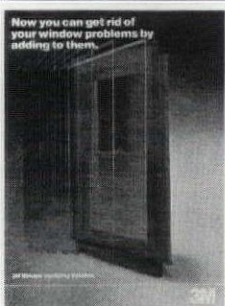
Interior wall treatments

Pre-finished hardboard planks and panels offering options in texture, scoring, and woodgrain designs are featured in a 12-page color brochure. Products are shown in both installation and close-up photos. Specifications are included. Masonite Corp., Dover, Ohio.
Circle 422 on reader service card



Acoustical walls

A 12-page color brochure features two fabric-covered glass fiber wall treatments designed to be both visually appealing and acoustically efficient. Information on installation and maintenance is included as well as a chart of fabric colors. Owens-Corning Fiberglas Corp., Toledo, Ohio.
Circle 417 on reader service card



Window insulation

Custom-fitted interior window insulating systems of hard, clear acrylic plastic with rigid vinyl frames are featured in a 4-page color brochure. A chart lists performance data for each system available. 3M Energy Control Products, St. Paul, Minn.
Circle 423 on reader service card

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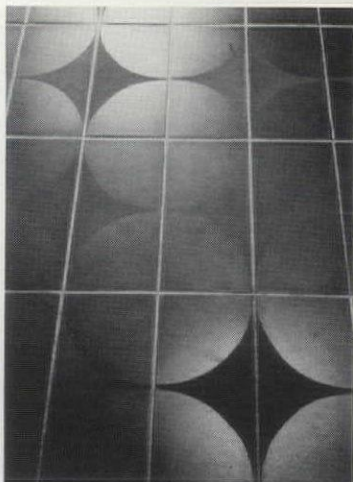
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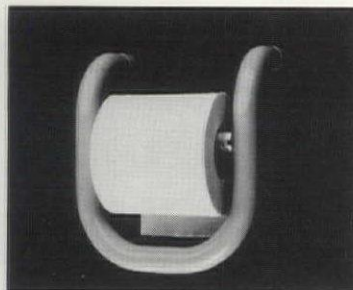
For full details on the new Omni product line contact Merillat today.



Merillat Industries, Inc., Adrian, Michigan 49221
Circle 50 on Reader Service Card.



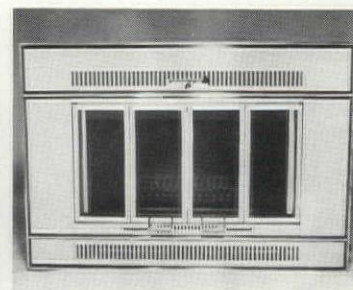
Glazed block
Spectra-Glaze Reflecto-Lite glazed concrete blocks feature images that change with the light and move as people pass by. Blocks come in 60 standard colors in all standard shapes. Corner and trim pieces are also available. The Burns & Russell Co., Baltimore, Md.
Circle 302 on reader service card



Tissue holder
A toilet tissue holder is made of steel tubing coated with baked enamel, polished chrome or polished brass. Other items in the *Be Bro* line include towel bars, shelves and hooks. Watercolors, Inc., Garrison-on-Hudson, N.Y.
Circle 305 on reader service card



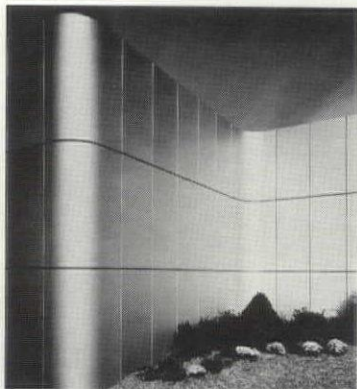
Roofing tiles
Mission S Class A-rated concrete roofing tiles measure 16½ by 13 in. and weigh approximately 10 lb each. A 100-sf installation, including trim, weighs approximately 900 lb. They feature a high barrel design and come in a variety of colors. Monier Co., Orange, Calif.
Circle 306 on reader service card



Fireplace insert
A UL-approved fireplace insert fits hearth openings from 24 to 29 in. high and from 28 to 42 in. wide with a minimum depth of 16¾ in. It features a 190 cfm rheostat-controlled blower, a 22-in. cast iron grate, and a 10-gauge steel firebox. Preway Inc., Wisconsin Rapids, Wis.
Circle 307 on reader service card



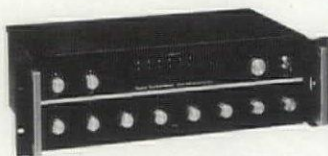
Panel-hung drafting board
A panel-hung drafting board is mounted on a track and may be adjusted to any angle. It has a white laminated surface and extruded pencil tray. The board comes in 2 sizes: 39 by 42 in., and 30 by 48 in. When not in use, it can be folded up against the wall. All-Steel, Inc., Aurora, Ill.
Circle 303 on reader service card



Wall cladding
TECH WALL panels are made of .120-in. aluminum and feature two joint sealing systems designed to ensure watertightness. A drainage system guides internal condensation to the outside. Panels come in a variety of finishes, including clear, anodized, and duranodic. Conspec Systems, Inc., Cranford, N.J.
Circle 304 on reader service card

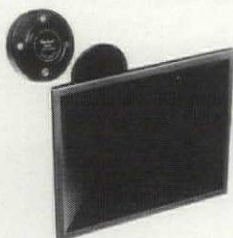
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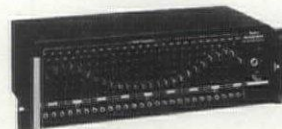
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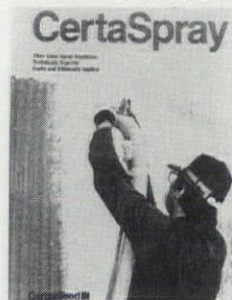
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Madison Plaza • Chicago, Illinois
Skidmore Owings & Merrill Chicago, Illinois
Window wall and curtain wall by Wausau Metals.





Fiberglass insulation

A 4-page color brochure features *CertaSpray*, a spray-on fiberglass insulation that has an R-value of R-4 per in. A series of charts covers fire resistance, sound transmission, and noise reduction coefficient ratings. Code compliances are also included. CertainTeed Corp., Valley Forge, Pa.
Circle 424 on reader service card



Lamps

A 4-page color brochure describes the *Tru-Aim* series of low-voltage tungsten halogen lamps for downlighting and spotlighting applications in stores, museums, galleries, and restaurants. A chart outlines specifications of the 10-lamp line, which includes spot, medium flood, and flood models. GTE Lighting, Danvers, Mass.
Circle 425 on reader service card



Acoustical ceilings

Acoustical ceiling panels with sound-control and thermal-insulation properties are featured in a 12-page color brochure. The literature illustrates available sizes, colors, and textures of five product series and includes a chart for each ceiling type that shows its light reflectance rating, sound absorption coefficients, and surface burning characteristics. Owens-Corning Fiberglas Corp., Toledo, Ohio.
Circle 426 on reader service card

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 94-101

St. Matthews Parish Church by Moore Ruble Yudell
Pages 94-99—Custom furniture and reredos: Woodservice Co. Paints: Dunn-Edwards. Ceramic tile flooring: CMPR-American, Inc. (Parafeuille). Pews: Marshall Co. Chapel chairs: Sauder. Custom wall sconces: Ron Rezek Lighting. Custom light rings: Bieber Lighting Co.
Page 101—Stucco: La Habra Stucco. Concrete tile roofing: Ro-Tile. Skylights: Lane-Aire Mfg. Co.

Pages 104-107

Christ the King Lutheran Church by Charles Tapley Associates, Inc.
Page 104—Limestone masonry: Leuders. Curtain walls: Alenco. Tile roofing: American Traditional, Supradure Mfg. Corp. Wood frame glass doors: PPG.
Pages 106-107—Ceiling wood decking: Pot Latch Mfg. Gypsum drywall: U.S. Gypsum. Paints, stains: Glidden, Cabots. Special chancel furnishings, hardwood inlays: Brochstein's, Inc. Lighting fixtures: Lightolier, Prescolite.

Pages 108-111

Immanuel Episcopal Church by John Milner Associates, Inc.
Page 109—Sheet metal, custom flashings, downspouts, gutters, leaders: Follansbee Steel Co. (Terne-coated

stainless). All exterior millwork: Custom by William Hammonds & Bro. Shingles: Handsplit red cedar supplied by Michelle-Puffer Co.
Pages 110-111—All interior millwork: Custom by Eisenhart Mills. Paints and stains: Pratt & Lambert Co. Chandeliers and carriage lamps: Custom by Ed Steinmetz.

Pages 134-137

Hillclimb Court, Seattle by Olson/Walker Partners
Pages 134-135—Concrete: Lone Star Mfg. Co. Corrugated metal: Widman. Steel handrails: United Iron Works. Glass: Kawneer Co.
Page 137 (left)—Glass block: PPG. Stenciled hardwood flooring: Larry Launceford.



VSLL Technology, Inc. John Davivier, Architect

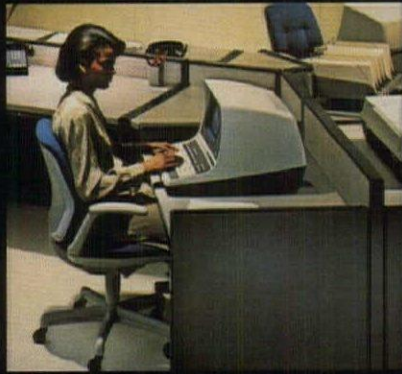
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Circle 55 on inquiry card



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Send for more information on CORIAN.

See Sweet's General Building Market 6.15/Du, or phone DuPont at 1-800-345-8601 (Ext. 26). In Pennsylvania, call 1-800-662-5180 (Ext. 26). For our 16-page book, "Designing with CORIAN," write DuPont Co., Room X39925, Wilmington, DE 19898. Telex: 83-5420.

Outside the U.S.A.: Canada: DuPont Co., Box 455, 55 McCaul St., Toronto, Canada, M572W7; Europe: DuPont de Nemours Int'l. S.A., 50-52 Route des Acacias, Geneva 24, Switzerland, Phone: 41-22-37-86-18; Australia: DuPont Australia Ltd., 168 Walker St., No. Sydney, N.S.W., 2060 Australia, Phone: 923-6111; Japan: DuPont Far East, Inc., Kowa No. 2, 11-39 Akasaka 1-Chome, Minato-Ku, Tokyo, Japan 107, Phone: 03-585-5511; Singapore: DuPont Far East, Inc., Suite 601, World Trade Ctr., 1 Maritime Sq., Singapore 0409, Phone: 273-2244.

*CORIAN is a registered DuPont trademark for its building products. Only DuPont makes CORIAN.



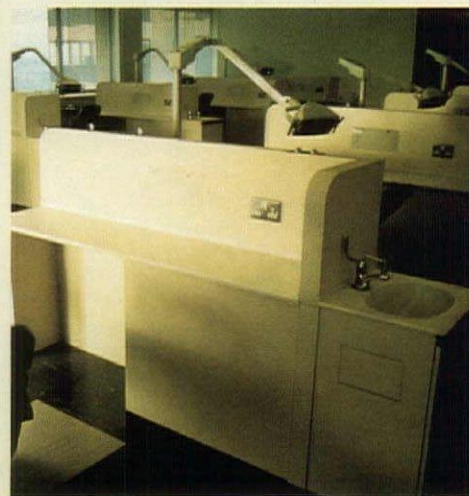
Fireman's Fund Employers Insurance Company, De Pere, WI, shows how CORIAN custom-fits a wide variety of creative designs. Champ Parish Raasch & Associates, architects.



CORIAN is solid. Its color and pattern go all the way through.

Laminates (with or without black edges) must be glued to a substrate.

"Cultured marble" is usually a porous substrate with a thin glossy surface.



CORIAN solidity and impermeable seams allow for maximum hygiene at Guy's Dental School, London. Derrick Graham, architect.

Circle 56 on inquiry card



Foam-filled weatherstripping—Prevents drafts. Our door has one of the best air infiltration ratings in the industry.

Optional true divided lites (available with single glazing or insulating glass).

Lexan® sill—Wears longer than wood or metal. Never needs maintenance. 1,400 times better insulating properties than aluminum.

2¾ inch backset—Accommodates most any style of lock.

THIS KIND OF PATIO DOOR ISN'T NEW THIS KIND OF QUALITY IS.

Admittedly, there are other swinging patio doors available. But none of them are made as well as a Marvin Terrace Door.

The wood is Ponderosa pine, chosen for its excellent insulating properties and the way in which it accepts a beautiful stain-and-varnish or paint finish.

Depending on the door size, we use four or five hinges. These hinges cost us more, but they make the door last longer and

operate more smoothly.

And instead of wood or aluminum, we make the sill of Lexan®. It never needs maintenance, its insulating properties are 1,400 times that of aluminum, and it's virtually indestructible.

MARVIN SLAMS THE DOOR ON RISING ENERGY COSTS.

The Marvin Terrace Door is one of the most energy efficient patio

doors you can buy. Open and close it once, and you'll see why. You almost have the feeling you're operating a refrigerator door.

The foam-filled weatherstripping all but eliminates drafts. In air infiltration tests, our door was found to be one of the best in the industry.

The wood frame is not only more attractive than metal it's still the best insulating material

for problem areas.



Because of its beauty and toughness, CORIAN was used for these stylish counters in an El Paso, Texas, bank.



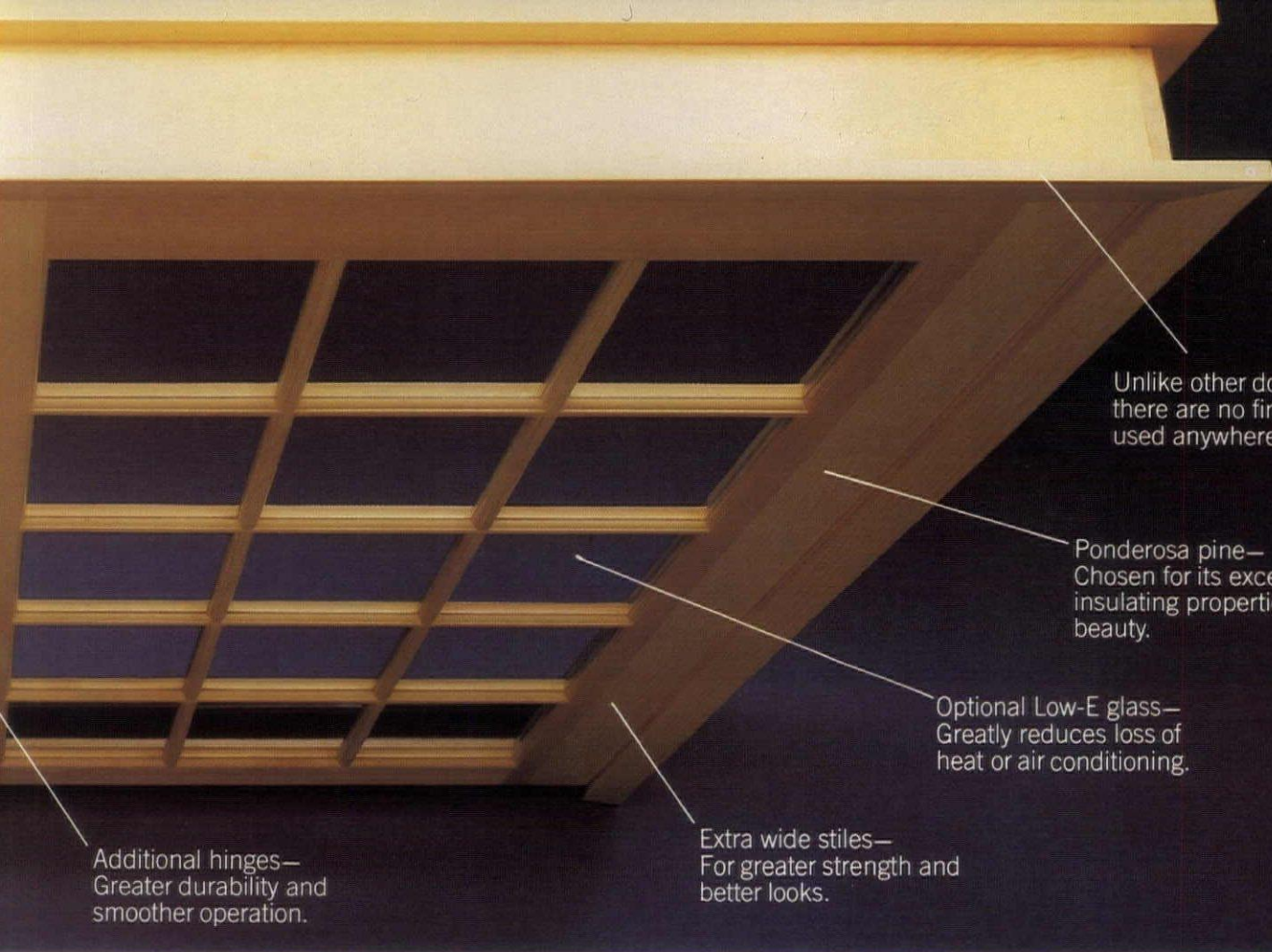
With CORIAN, stubborn stains and cigarette burns are removed with cleanser. Cuts and scratches can be sanded away.

Corian is solid all the way through. Combine it with other materials for unique edge treatments.

CORIAN

Solid Beauty That Lasts.





Additional hinges—
Greater durability and
smoother operation.

Extra wide stiles—
For greater strength and
better looks.

Optional Low-E glass—
Greatly reduces loss of
heat or air conditioning.

Ponderosa pine—
Chosen for its excellent
insulating properties and
beauty.

Unlike other doors,
there are no finger joints
used anywhere.

that can be used for doors.

Insulating glass is standard. And the new energy-saving Low-E glass is available as an option. It allows light to pass through it, but heat is reflected. So heating and cooling costs are significantly reduced.

OPTIONS. OPTIONS. AND MORE OPTIONS.

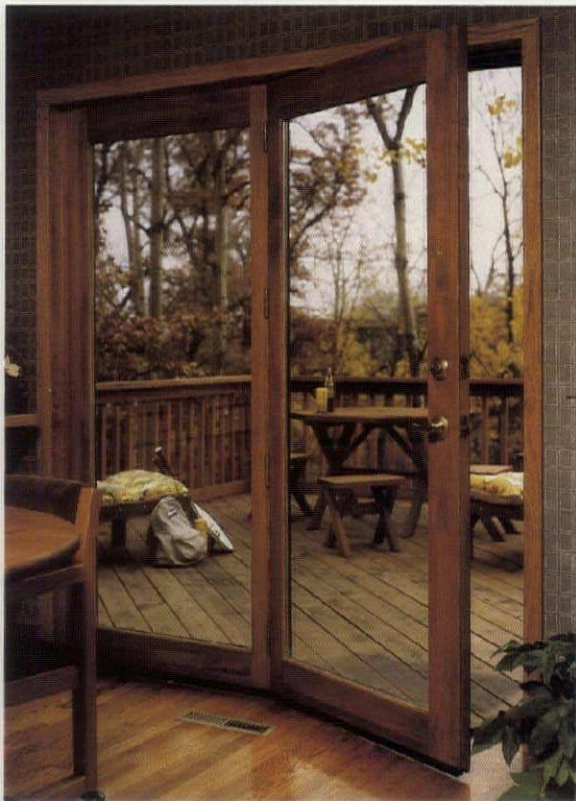
In addition to the option of Low-E glass, you can order your Marvin Terrace Door with true divided lites for a look of authenticity in renovated older homes or in certain styles of new homes. And you can add a storm panel for energy efficiency.

For an efficient modern look, you may want to choose solar bronze glazing.

And a Cathedral style is available for a very distinctive look in both new and old architecture.

Unlike some other doors, you also have a choice of hardware.

The Marvin Terrace Door is designed with a 2¾ inch backset that will accommodate most any style of lock. You can even order



the door unbored. So you can use any lockset you want to match the rest of the hardware in your home.

And since our screen or optional combination storm/screen is placed a reasonable distance from the door itself,

the handle doesn't have to be of the small "knuckle-busting" variety.

As for sizes, nobody offers you more to choose from. Our door is available in both 6'8" and 8' heights and a surprising variety of widths.

For more information, send us the coupon, or call 1-800-346-5128 toll-free. In Minnesota, call 1-800-552-1167.

AR4008

Send to: Marvin Doors
Warroad, MN 56763

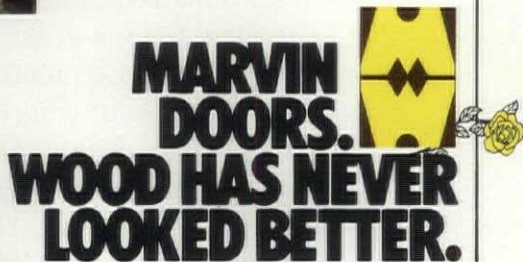
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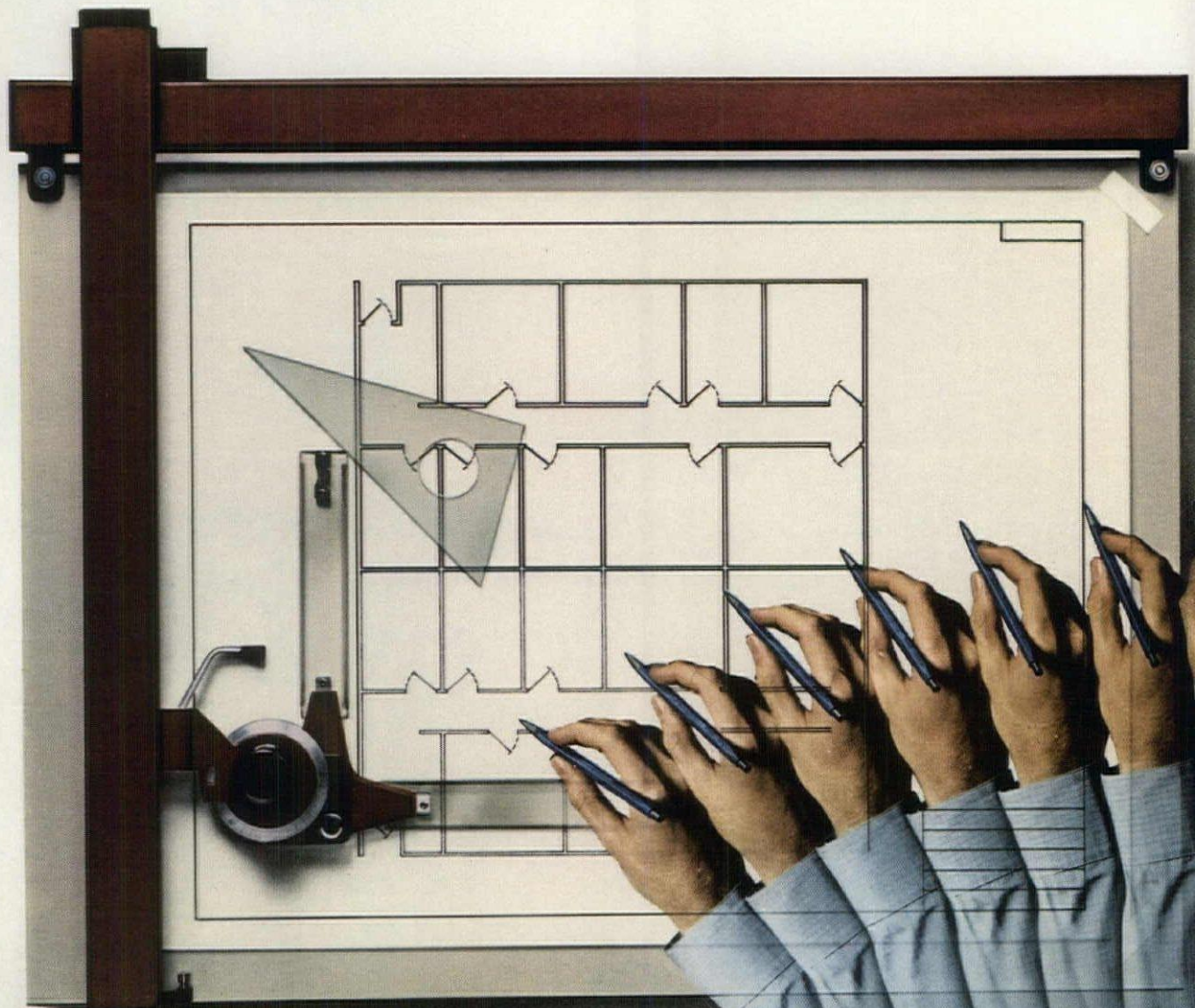
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Fast. Faster.



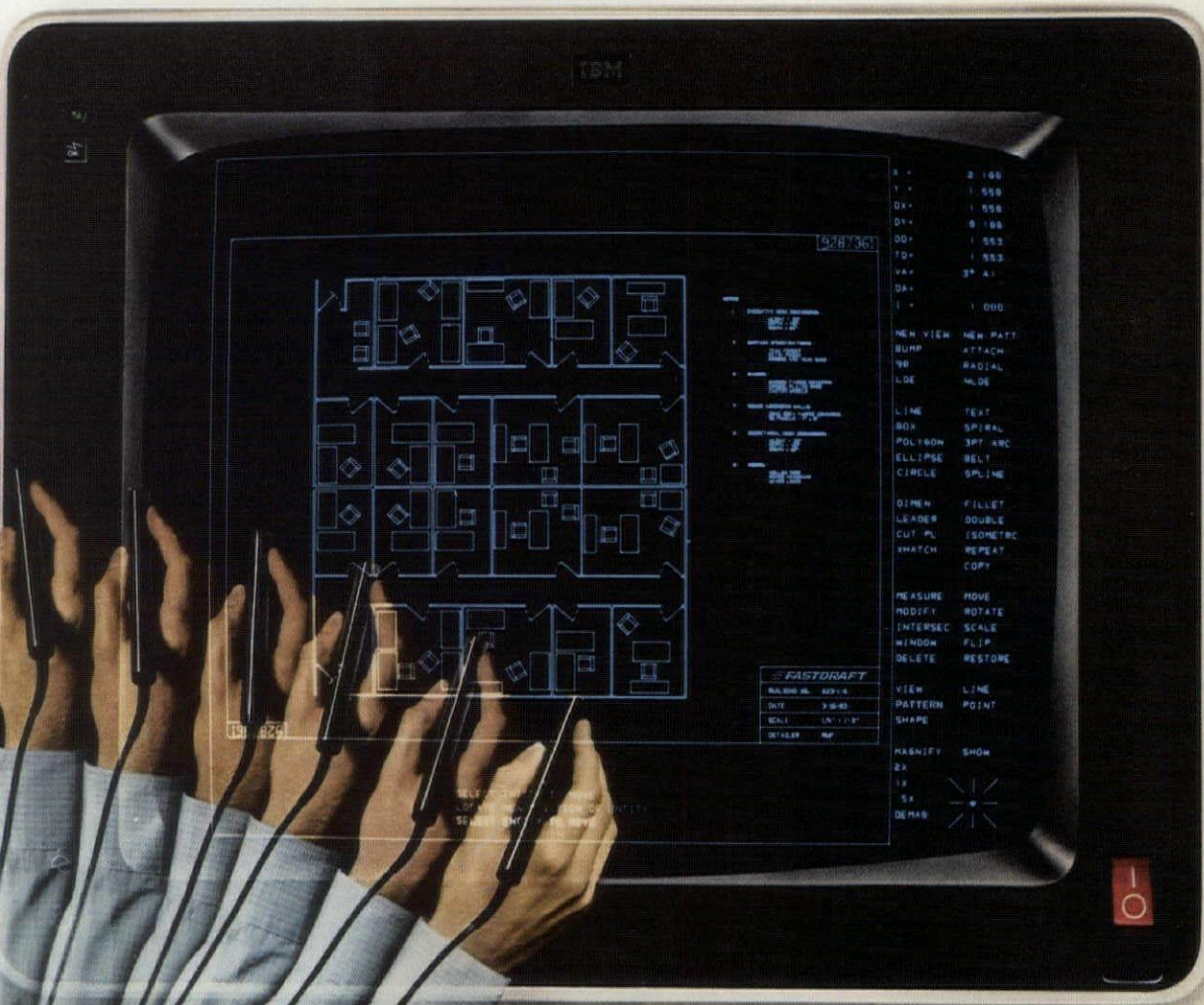
Fastdraft is the automated drawing system that doesn't slow you down in order to speed you up. Easy to learn and easy to use, the IBM's 7361 Fastdraft System was designed by drafting technicians for drafting technicians.

And this means productivity. Drafting technicians new to Fastdraft found that after three to four weeks of learning they exceeded their previous rates of output. And within two months, they were two to four times as fast as before. Some tasks, such as drawing changes, were completed many times faster.

Priced at under \$100,000 for two workstations, Fastdraft is a complete turnkey system with powerful drafting commands including the capability to generate isometric views.

The system uses a light pen, which functions as merely an extension of the drafting pencil. The entire system interacts with the technician, using ergonomics (the science

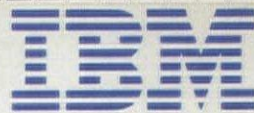
Fastdraft.



of making tools fit their human users) to keep functions simple and natural.

Fastdraft is a one-vendor system. IBM provides and services every component in it. And, if you know IBM, you know that means uniquely fast response, competent service, and full customer support.

For more information, or to arrange to see Fastdraft in action, return the coupon.



IBM® IBM
DRM, Dept. 1X3/102
400 Parson's Pond Drive
Franklin Lakes, N.J. 07417

Please send me more information on the IBM 7361 Fastdraft System.

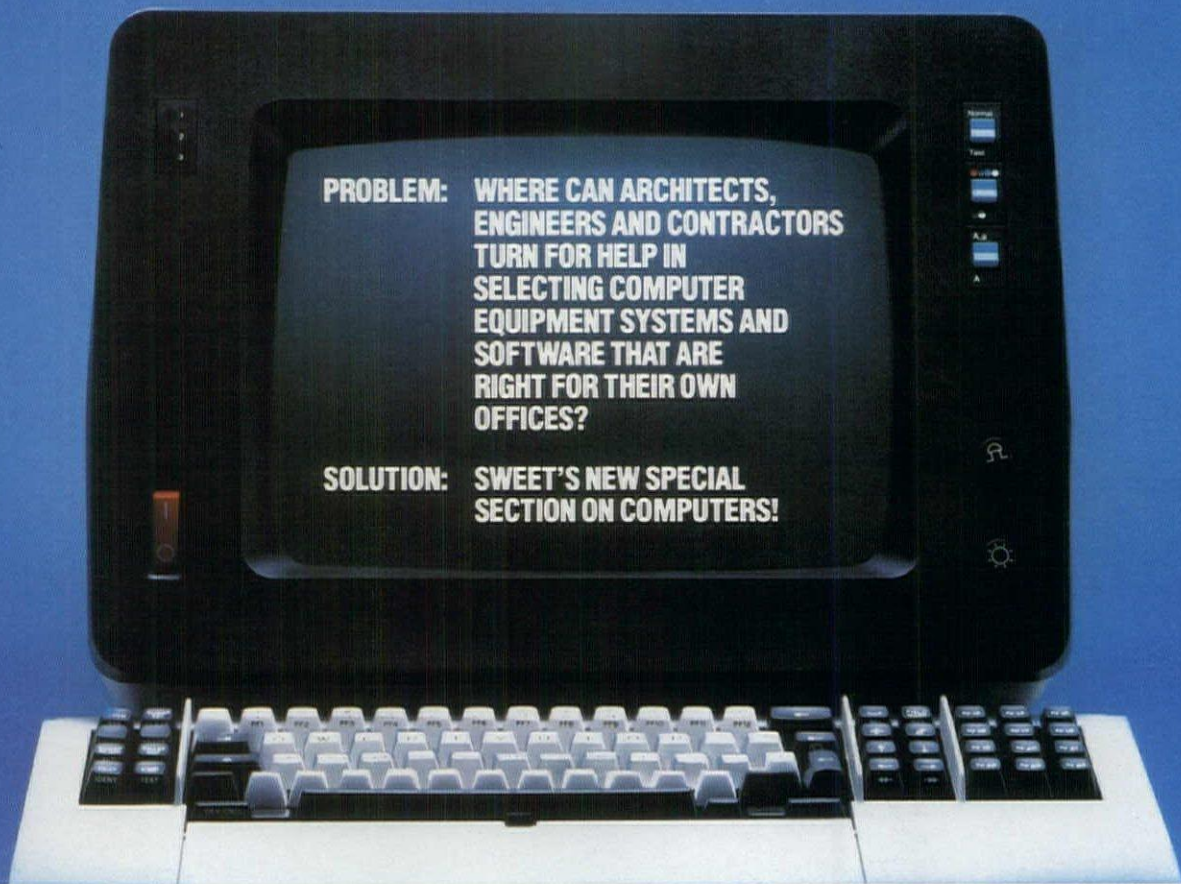
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Company _____

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City _____ State _____ Zip _____

Phone _____ 2-84



Sweet's new Section 1.9, "Computers in Design/Construction" — developed in conjunction with Datapro Research Corporation, and appearing in all 1984 Sweet's Editions — contains comprehensive information on:

everything necessary to choose the *right* equipment and software. Datapro Research Corporation is the most widely accepted and respected source of up-to-date information on data processing products and services, and their special expertise has been combined with Sweet's unmatched knowledge of the construction industry to provide 56 pages of

indispensable editorial information on all aspects of computer products selection and applications. In addition, this special Sweet's section contains detailed catalog information (on computer systems, CAD and software) from a variety of manufacturers.

The editorial content of Sweet's new Computer Section:

"Three Approaches to Using Computers." (In-house computers vs. computer service bureaus vs. remote computing services.)

"How to Select a Timesharing or Remote Computing Services Vendor." (The benefits that can be gained—and the pitfalls to watch out for.)

"Word Processing Systems." (Standalone equipment, multi-terminal word processors and wp/dp systems—from A to Z.)

"Personal Computers." (Their continuing evolution, their various office applications, and how-to-buy guidelines.)

"How to Evaluate a Personal Computer for Word Processing Applications." (The computer, the keyboard, the video display, the storage medium, the software, the documentation, and service and support.)

"All About CAD." (What computer-aided design systems consist of, and what they can do.)

"How to Buy Software Packages." (More than 25,000 packages are now available. This report explains how to go about selecting and buying the right ones.)

The manufacturers with 1984 catalogs in Sweet's new Computer Section*:

Bausch & Lomb¹...Carrier Air Conditioning Co²...Cost Information Systems Division, McGraw-Hill Information Systems Company³...Holguin and Associates, Inc³...IBM⁴...Summagraphics Corp⁵.

Products and services detailed in these manufacturers' catalogs make Sweet's new computer section even more valuable to construction industry professionals!

*Catalogs appear in following Sweet's editions:

- 1—General Building & Renovation, Engineering & Retrofit;
- 2—General Building & Renovation, Industrial Construction & Renovation, Mechanical Engineering & Retrofit;

- 3—All editions;
- 4—All editions except Contract Interiors;
- 5—General Building & Renovation, Mechanical Engineering & Retrofit.



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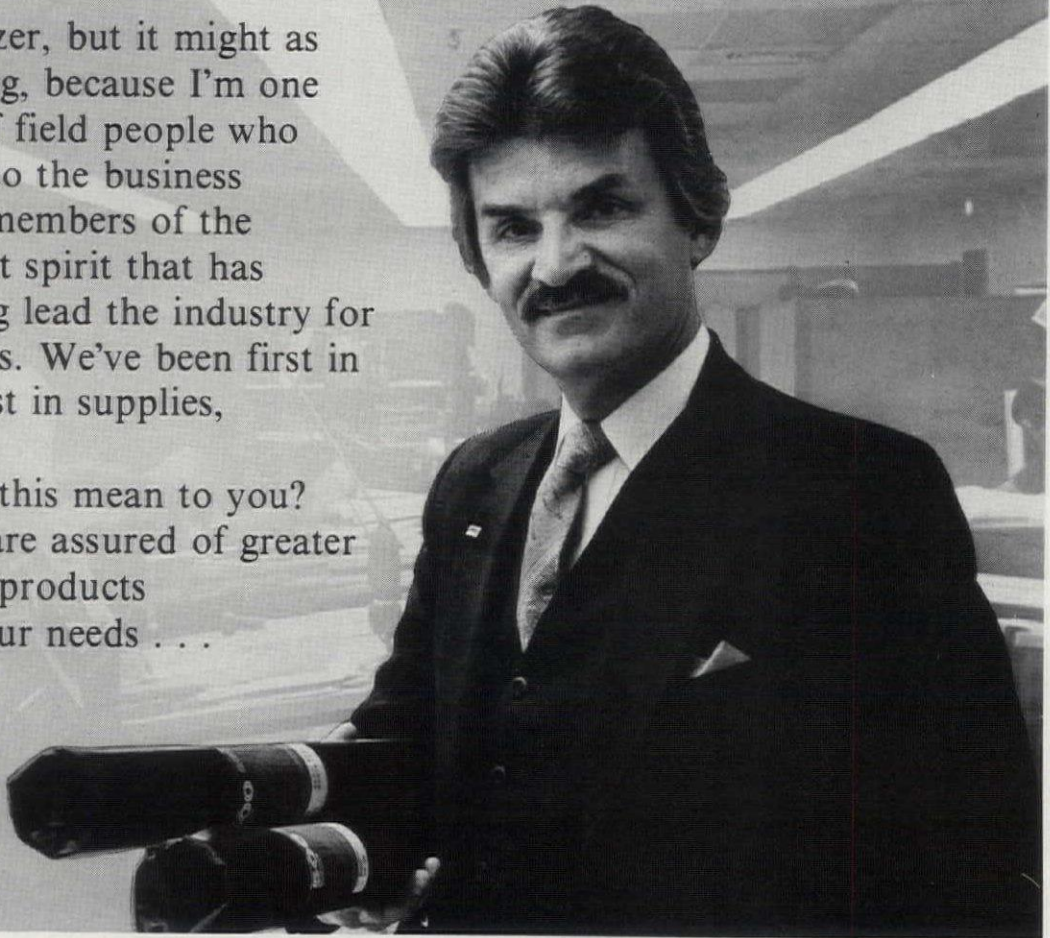
My name isn't Bruning . . .

It's Fred Deinzer, but it might as well be Bruning, because I'm one of hundreds of field people who are dedicated to the business as if we were members of the family. It's that spirit that has helped Bruning lead the industry for almost 90 years. We've been first in equipment, first in supplies, first in service.

What does all this mean to you? It means you are assured of greater satisfaction in products tailored for your needs . . .

12 different diazo machine models to choose from, 21 different

"sepia" intermediates, 38 different vellums and films, new "pin-bar" supplies . . . and many more. Why not get acquainted with our machine line? Send in the coupon today.



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Bruning and Sure Scale are registered trademarks of AM International, Inc.

Get a **FREE** perpetual calendar with a demonstration of a Bruning diazo machine. Printed on 24"x36" Sure Scale film, the calendar will be a handsome and useful addition to your office. You can even use it to make diazo copies.

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AR-2

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A-5154



Make it more receptive.

Why sacrifice form for function? Outdoors or indoors, specify naturally beautiful wood receptacles from Sitecraft. Your choice of round, square or custom designs, painstakingly built by craftsmen who really understand wood. Available in clear all heart California redwood or other select woods. Write or call for color catalog on planters, benches, receptacles, site accents. Sitecraft, 40-25 Crescent St., Long Island City, NY 11101 (212) 729-4900. Outside NY State call toll-free 800-221-1448.



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PREFABRICATED
SOLAR GREENHOUSES

for every Lifestyle, Building Style, and Budget.

Creating a building design that "works" demands harmony of form and function. SUN SYSTEM Prefabricated Solar Greenhouses complement any building style, enhance any decor, and can be tailored to fit any budget. SUN SYSTEM's state-of-the-art passive solar greenhouses combine elegant design and advanced technological know-how with superior construction—and the applications, both commercial and residential, are unlimited. **Call now for information or estimates on our standard or custom models.**

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- 100% Thermally Broken
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For our new color catalog and price list write to:

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Commack, New York 11725

See us in SWEET's Catalog
Section 13.2c Sty.

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GET TWICE THE INSULATION EFFECTIVENESS WITH ENERMMASTER™ ROLLING DOORS

Compare for yourself and get:

1. Twice the insulation
2. Insulation 1-1/2 inches deep
3. A 13/16" Thermal break
4. Insulation with the highest (R) resistance factor
5. No gaps or voids inside the slat
6. Two faces of galvanized steel to protect the insulation



Atlas Door Corp.
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TAKE A BITE OUT OF CONSTRUCTION COSTS.



APA systems can save you money on construction, from foundations to roofing. So, if you've got designs on cutting costs, start by cutting this coupon. And mail it to: **American Plywood Association, P.O. Box 11700, Tacoma, WA 98411.**

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3. Non-Residential Roof Systems
4. All-Weather Wood Foundations
5. Fire-Rated Systems
6. Noise-Rated Systems
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8. 303 Plywood Siding
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14. Publications Index

I'm eager to cut building costs. Please send me the booklets I have circled below:

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8 9 10 11 12 13 14

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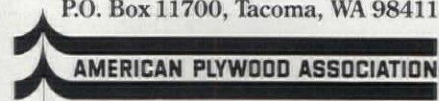
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AR-23

P.O. Box 11700, Tacoma, WA 98411



"18 years' service and still counting. That's the performance record of single-ply roofing of Hypalon.®"

—John Breitenstein, DuPont

"Single-ply roofing membranes of DuPont HYPALON synthetic rubber have been weathering everything under the sun for the past 18 years," says John Breitenstein, Programs Manager. "That's because HYPALON is a high-performance rubber with durability benefits that meet the most demanding roof requirements."

A single-ply membrane of HYPALON is installed quickly and easily. Since it is thermoplastic when put down, seams are as strong and reliable as the membrane. The mem-

brane gradually cures in place to produce an integral, tough, strong elastomeric roofing surface.

Roofing membranes of HYPALON also offer:

- Reflective white color for energy efficiency.
- Resistance to flame propagation.
- Excellent resistance to oils, chemicals and pollutants.
- Excellent resistance to ozone and UV rays.

- Serviceability over a temperature range from -40°C (-40°F) to 93°C (200°F).
- Colorability for a range of aesthetic designs.

Specify HYPALON—made only by DuPont*—for durable, low-maintenance roofing membranes. Call toll free, 800-441-7111, ext. 44, for further information. Or for free literature, write: DuPont Company, Room X-40097, Wilmington, DE 19898.

*DuPont manufactures HYPALON, not single-ply roofing membranes or systems.



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The Pepperdine University Plaza building was designed by Landau Partnership and is managed by Murdock Development Company.

At Pepperdine, Laminated Glass gets high marks for noise control.

The beautiful, all-glass skin of Pepperdine University Plaza was all that separated the university administrative offices from the roar of this busy LA freeway.

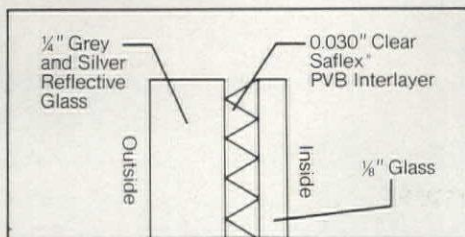


To meet STC requirements of 36-38 would have required 3/4-inch monolithic glass. How-

ever, that thickness exceeded weight limitations of the building design.

So 3/8-inch laminated glass, with a Saflex® interlayer by Monsanto, was proposed as a solution. Laminated glass achieved the STC requirements of 36-38 with half the thickness and weight.

The configuration for the all-glass building is detailed in the illustration:



And the Pepperdine University Plaza building went up quiet, beautiful...and *not* overweight.

If your building has a weighty sound control problem, write us for more information on laminated glass acoustical control. Monsanto Polymer Products Company, Dept. 804, 800 N. Lindbergh Blvd., St. Louis, Missouri 63167.

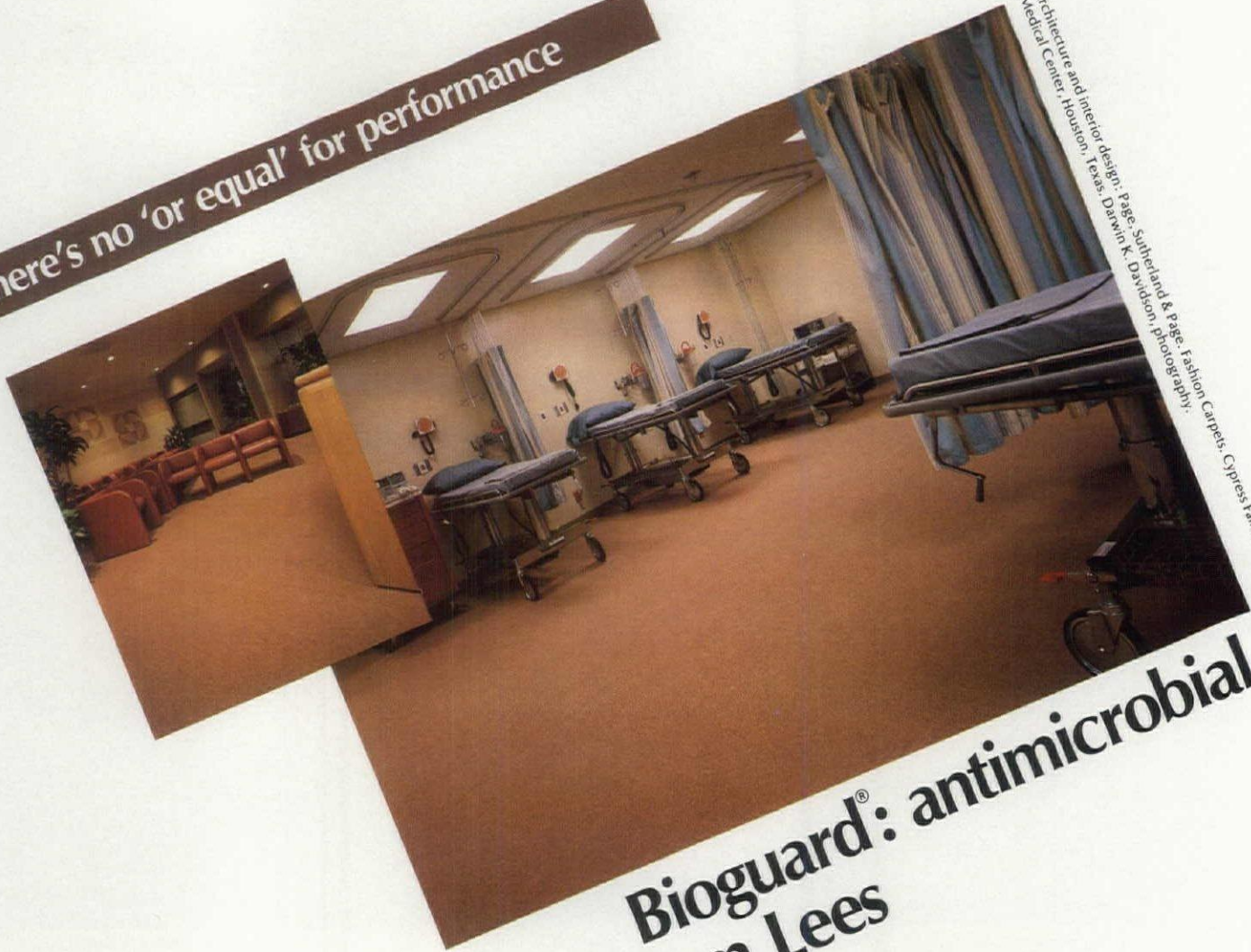
Saflex® is a registered trademark of Monsanto Company © Monsanto Company 1983

SAFLEX
PLASTIC INTERLAYER BY **Monsanto**

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MPP4-301

There's no 'or equal' for performance



Architecture and interior design: Page, Sutherland & Page, Fashion Carpets, Cypress Fairbanks Medical Center, Houston, Texas. Darwin K. Davidson, photography.

Bioguard[®]: antimicrobial carpet tech from Lees



The Cypress Fairbanks Medical Center provides patient care within a state-of-the-art health care environment. Bioguard antimicrobial carpets by Lees cover floors in patient rooms, corridors, lounges, and offices.

Permanent. Bioguard carpets have permanent antimicrobial, antibacterial, antifungal protection built-in. Systems technology

incorporates Dow Corning's Sylgard™ treatment. Protection is guaranteed for the life of the carpet.

Proven in use. Bioguard carpets have performed successfully in hospitals since 1977. Efficacy is documented in a 40-page book of laboratory and location test results.

Smells fresh. In schools, spas, food service areas, hotel rooms and corridors Bioguard carpets cut off undesirable odors at the source by controlling fungal and bacterial action.

Appearance. Dense construction in Antron[®] nylon by DuPont makes a durable, easily maintained wear surface. Antron resists dirt and also offers permanent static protection.

Modular systems. Antimicrobial protection is available in carpet tiles as well as broadloom.

Call toll-free. For illustrated brochure, test data, specification information, call 800/523-5647. From within Pennsylvania, call collect 215/666-9426.

Lees. The Contract Carpet Company.
Live the life of Lees at work and at home.

LEES carpets
Made better by Burlington
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Now the Intelligent Elevator™ puts you in command

You're in command at the planning stage

Our free Traffic Analysis will show you how the elevator system you've planned for your next building will perform before you build it. We'll compare your projected system with similar buildings, and make design recommendations for maximum efficiency and cost effectiveness.

You're in command during the design stage

U.S. Elevator's microprocessor-controlled Intelligent Elevators™ allow creative design solutions by reducing machine room space, creating a more effective elevator system that may require fewer elevators, less energy and lower operating costs.

You're in command at the post-construction stage

And now we've added an interactive brain to our Intelligent Elevator system. Our new FLITE COMMAND™ system allows you and your client to analyze and fine-tune your elevator system under actual building traffic conditions after the building is occupied.

Put your client in command for the life of his building

Your client will be glad you specified an elevator system that can be in constant touch with his building manager. Our unique Building Executive Elevator Position ("BEEP") display shows the position, direction and status of all elevators at all times. And it can provide up-to-date performance data to the building manager or directly to a U.S. Elevator service center via our Remote Performance Monitor.

Call your U.S. Elevator representative for a FREE traffic analysis!

Tell us about your next building project. We'll study your requirements and provide a complete, computerized traffic analysis that will ensure that your building has the Intelligent Elevator system it deserves.

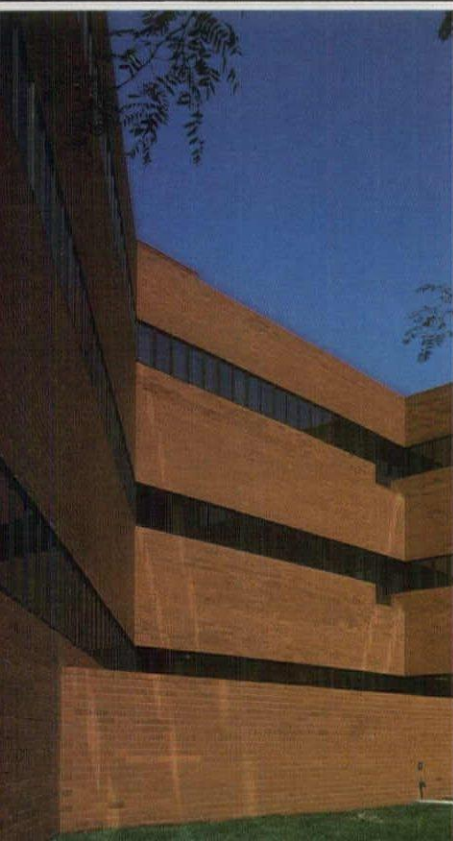
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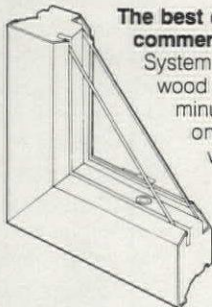
Partition walls may change to meet new needs.

A continuous band of Pella Clad Windows insures that new rooms won't be left in the dark.

Few buildings are as complex as health care facilities. Not only must they meet today's functional requirements as efficiently as possible, but ideally they should be able to adapt to new procedures in health care delivery. This need for versatility is especially true in ancillary services, and here at United and Children's Hospital, long, almost continuous bands of Pella Clad Windows assure that changes in partition walls will create new rooms that still meet code requirements for light and ventilation.

Part of the territory of design for complex functions is a complicated building form. The long horizontals of reflective glass wrap their way around corners visually uniting the various building shapes.

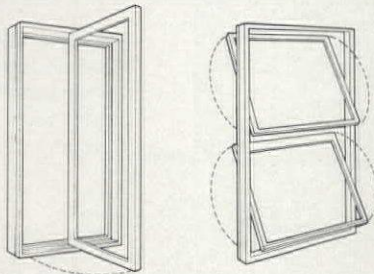
Pella Clad Windows were specified for a number of other reasons, too. The Clad System allows versatility in joining together fixed and venting windows. Solid wood construction offers energy efficiency without complicated thermal breaks. And maintenance costs will be lower because windows can be washed from the inside.



The best of wood and aluminum in a commercial window. The Pella Clad System combines the best features of wood with the best features of aluminum, asking each material to do only what it does best. Solid wood construction offers outstanding thermal performance, strength, and beauty. Aluminum cladding offers superior protection from the elements, and an efficient mullion system.

And now you can specify Pella Windows prefinished on the interior with two coats of acrylic and a top coat of urethane. This extra-cost option offers a window that's virtually complete the moment it's installed.

Easy washing. Just one reason why Pella is the window that's easy to live with. Pella Casement Windows feature a patented hinging arrangement



that allows the sash to rotate towards the middle of the frame. This gives more than ample room for maintenance staff to reach every corner of both sides without leaving the building. This same feature is found on Pella Awning Windows. Pella Traditional Double-Hung windows feature a sash that rotates all the way into the building. And because the sash pivots at the middle, the weight is counterbalanced for safe handling.

The Pella Slimshade.® An attractive option with energy saving benefits as well. These narrow-slat metal blinds are set between panes of glass in the Pella Double Glass Insulation System where they're protected from excessive dust and damage. They're easily adjusted with just a turn of a dial. When completely closed they offer considerable heat retaining benefits that can be even further improved if low-emissivity type blinds are specified.

Not only does this option offer attractive benefits, it's attractively priced as well.



See all that Pella offers for commercial installations. Contact your nearest Pella distributor for the latest information on Pella Products: Windows, Sliding Glass Doors, Sloped Glazing, Skylights, Wood Folding Doors, Traditional French Doors and Circlehead Windows. And the new Pella Clad Monumental Window that can fill openings on a scale from the modest to the magnificent.

Send for a free copy of the 1983 catalog. Call Sweet's Buylines Number or see Pella in Sweet's General Building File. You'll also find Pella listed in the Yellow Pages under "Windows".

Name _____
Firm _____
Address _____
City _____
State _____ Zip _____
Telephone _____

Mail to: Pella Windows & Doors, Dept. T31B4, 100 Main St., Pella, Iowa 50219. Also available throughout Canada. This coupon answered within 24 hours.
© Rolscreen Co. 1983

Pella. The significant difference in windows.

United and Children's Hospital, St. Paul, MN
Architects/Planners: Ellerbe Associates, Inc., Bloomington, MN
Contractor: FDC/M.A. Mortenson Const. Co., Minneapolis, MN

For your next office building...

consider the important benefits of ENVIROVAC'S vacuum column system...

95% water reduction is possible because the ENVIROVAC toilet uses only 3 pints per flush compared to the typical 5 gallons per flush gravity toilet. 95% less water dramatically reduces water charges, power cost for pumping water throughout a multi-story building and also sewage charges.

Reduced impact fee for sewer and water hook up is achieved by elimination of high volume flush toilets.

Small diameter piping (1-1/2") connects toilets to the system. Material costs and labor for installation are lowered.

Piping flexibility

- No-slope requirement reduces floor to floor ceiling height and allows flexible routing of pipe around obstructions.
- Vertical lift capability—allows convenient placement of sewer piping in ceiling and reduces need for floor penetration.

System operation

- ① **Vacuum reserve module** provides the vacuum for the system and is usually located on the roof of a multi-story building. It consists of a vacuum tank, duplex vacuum pumps, and control panel.
 - ② **3" vacuum column** receives all sewage from vacuum operated toilet.
 - ③ **Vacuum toilet** is made of vitreous china. Each time the toilet is flushed, 3.5 cu. ft. of air enters the system removing surrounding odors, air-borne bacteria and viruses.
 - ④ **Small diameter** vacuum line requires no slope.
 - ⑤ **3" barometric column** is maintained at a height of approximately 20 feet which is equivalent to the 18" Hg vacuum in the system.
 - ⑥ **Sewage trap** located in the basement is the interface between the vacuum system and the conventional sewer main outside the building. One flush into the vacuum system results in one flush out of the trap. There are no sewage pumps or other moving parts required to discharge sewage to the interceptor sewer.
- ENVIROVAC vacuum toilet systems have been in use worldwide for over 15 years.

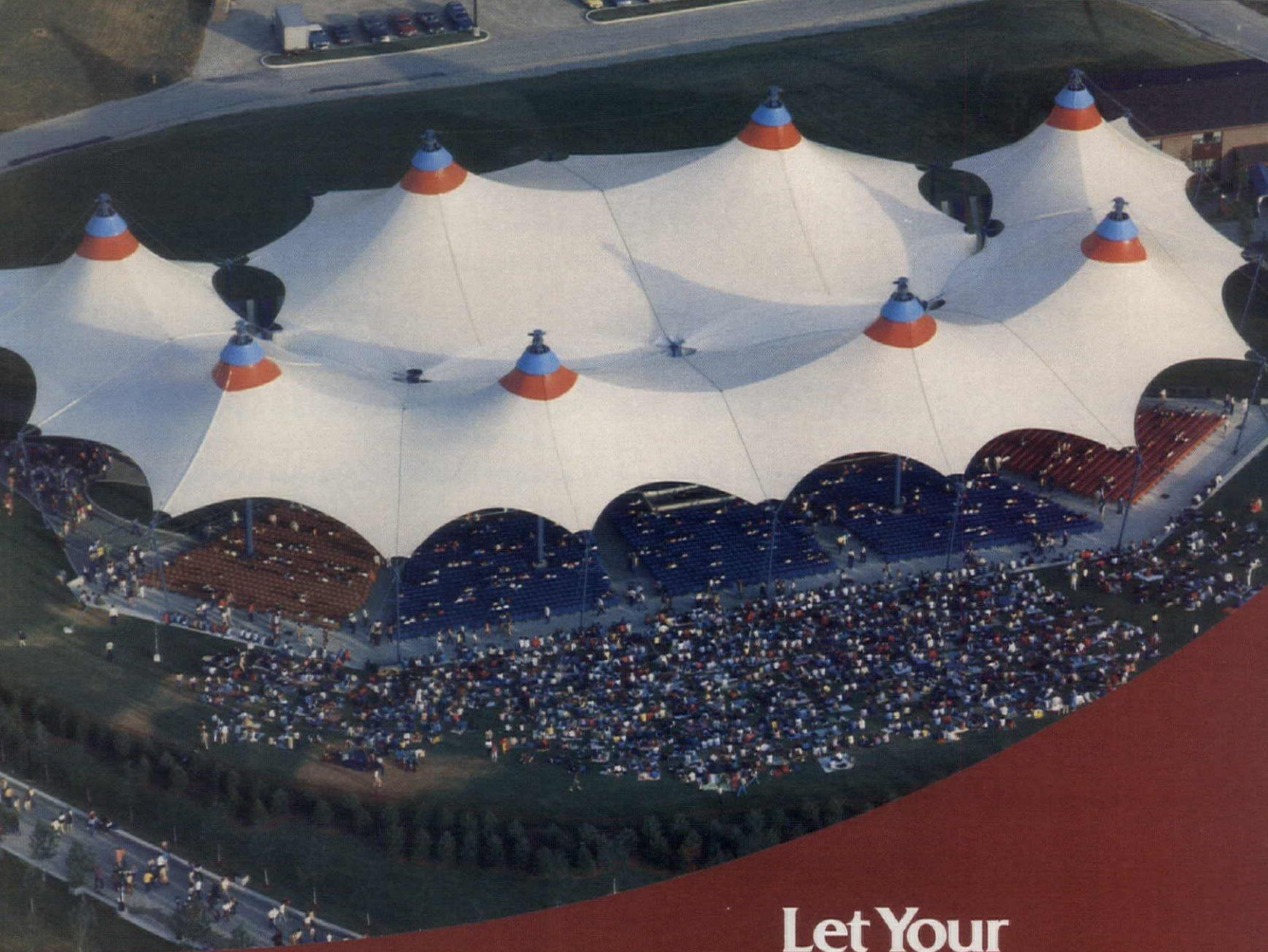
Send today for a fact filled brochure on the applications and performance advantages of the innovative ENVIROVAC vacuum column system.



ENVIROVAC INC.

1260 Turret Drive
Rockford, IL 61111
Telex 257-415, 815/654-8300
Toll Free 800/435-6951 except in IL, HI, AK

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Break away from routine corners and walls by designing a Helios Soft Shell Structure. Discover the endless possibilities of working with soft fluid lines. Combine translucent texture with vibrant colors. But best of all, bring in natural open-air feeling into your environmental statement.

with flexibility, practicality and economy...

Creativity doesn't exclude professional practicality. Helios tensioned membrane structures offer realistic and economical solutions to a variety of structural applications, from vast arenas—like the one shown here from Canada's Wonderland in Toronto—to totally enclosed structures.

With Helios Industries behind you, your creative freedom is virtually limitless. They'll translate your design into a tangible full scale structure. Or their in-house design team can work *with* you to create the most people-pleasing and practical solution to your project.

Let Your Imagination Soar with Helios



CANADA'S
WONDERLAND

So, if your imagination is ready to take off, contact the people at Helios Industries.

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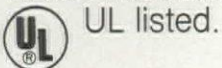
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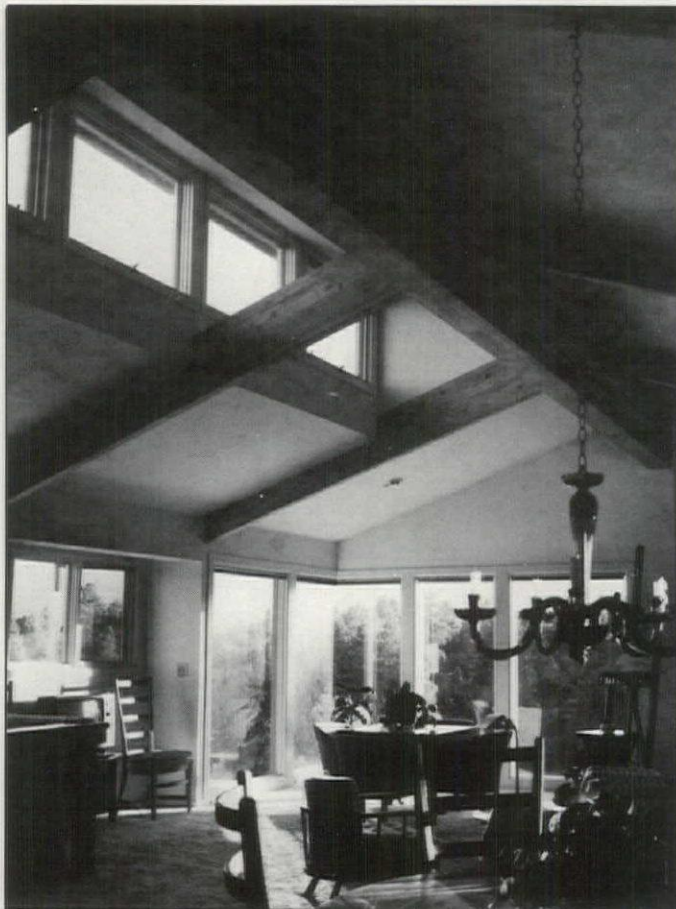
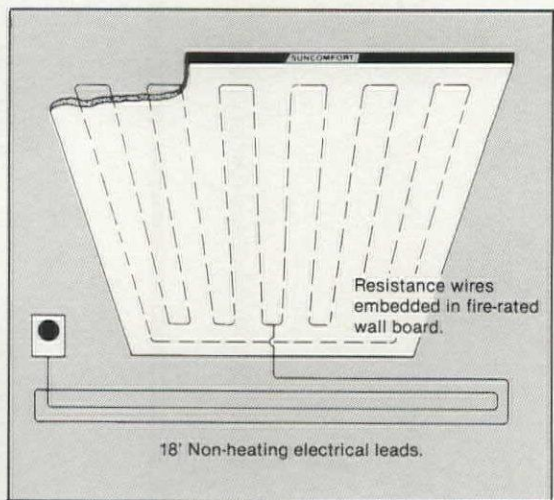
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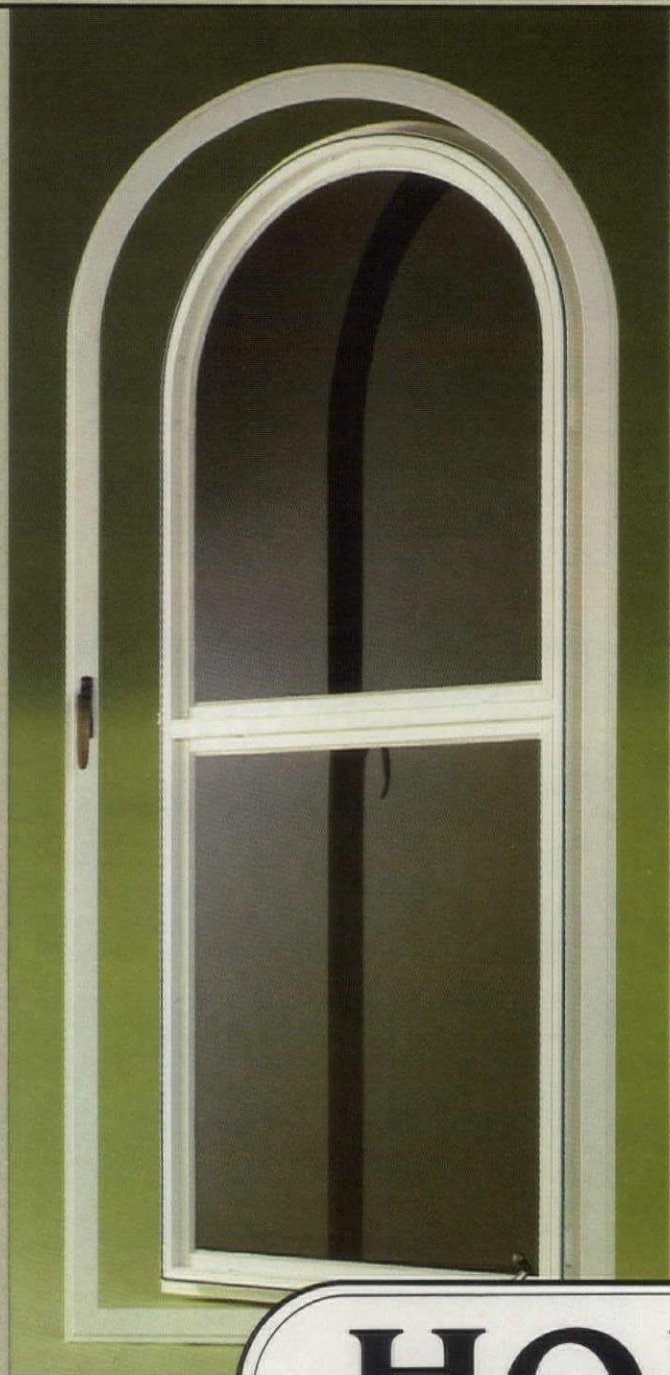
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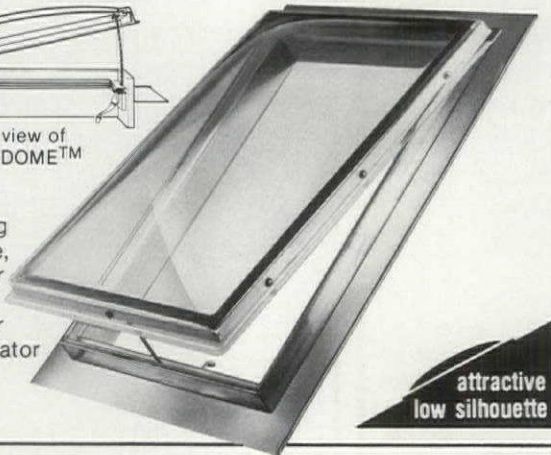
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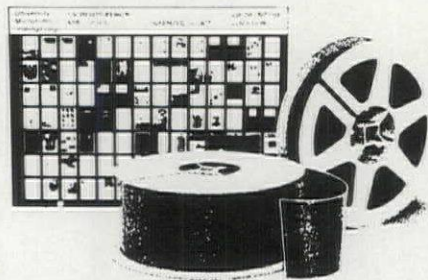
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The Hatch Distinguished Professorship In Architecture. The School of Architecture and Urban Design at the University of Kansas invites nominations and applications for the Don Hatch Distinguished Professorship in Architecture. Candidates should possess a distinguished record of achievement in architecture, including research and/or professional practice, teaching and service. The person selected for this chair will be expected to assume an active role in undergraduate and graduate studies. In particular, candidates should possess a record of achievement in architectural design or in a body of scholarly work related to architectural design. The position will become available on August 15, 1984. The initial closing date for applications is April 1, 1984; however, applications will be considered after that date if the position has not been filled. The successful candidate must be eligible for a tenure appointment as full professor at the University of Kansas. Salary is negotiable and will be competitive depending upon experience and qualifications. Inquiries, applications, or nominations for this position should be addressed to: The Chair, Hatch Search Committee, School of Architecture and Urban Design, 206 Marvin Hall, University of Kansas, Lawrence, KS 66045. EO/AA.

Clemson University is searching for a Dean of the College of Architecture. The College is made up of the Departments of Architectural Studies, Building Science, History and Visual Studies, and Planning Studies. It offers baccalaureate degrees in Design and Building Science and graduate degrees in Architecture, Fine Arts, and City & Regional Planning. The total enrollment of the College is over 500 and the faculty numbers 50. Candidates with suitable professional, educational and administrative credentials are asked to respond with a resume and references to Ralph E. Knowland, Chairman, Dean Search Committee, College of Architecture, Clemson University, Clemson, South Carolina 29631 by March 1, 1984. Clemson University is an AA/EOE employer.

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Faculty Positions In Architecture — The Pennsylvania State University. Continuing positions available beginning August 25, 1984. Primary responsibility will be directing basic design and visual communication studios at the second year level and architecture design at the third year level with correlated seminars on architectural language and methodology. CAD studio application capabilities preferred. Terminal professional degree and registration desirable. Rank and salary open, based upon qualifications and teaching experience. Application deadline: March 1, 1984. Submit applications and resume to: Head, Department of Architecture (B), 206 Engineering Unit C, The Pennsylvania State University, University Park, PA 16802. An affirmative action equal opportunity employer.

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Faculty position in architecture teaching computer applications, periodically offering architectural design studios. Possible involvement in architectural technology courses. NAAB accredited degree with Master's in architectural design, technology or computer application required. Rank: Assistant Professor. Send application letter, resume and names of 3 references by February 28, 1984 to James Barnes, Chairman of the Search Committee, Rhode Island School of Design, 2 College St., Providence, RI 02903. RISD is an Equal Opportunity Employer.

Faculty Position, Montana State University. Sept. 1984. Assist/Assoc. Prof. tenure-track. Teach interior design and develop interiors program. Masters degree in Interior Design or Arch. and professional practice experience in Interiors required. Teaching experience preferred. Send resume, portfolio, 3 current ref. to: School of Arch, MSU, Bozeman, MT 59717. Due 4/1/84. AA/EOE. MSU is largest university in State and Bozeman, a town of 30,000, is located in beautiful setting near many scenic and year-round recreational areas, such as Yellowstone Park and Big Sky ski area.

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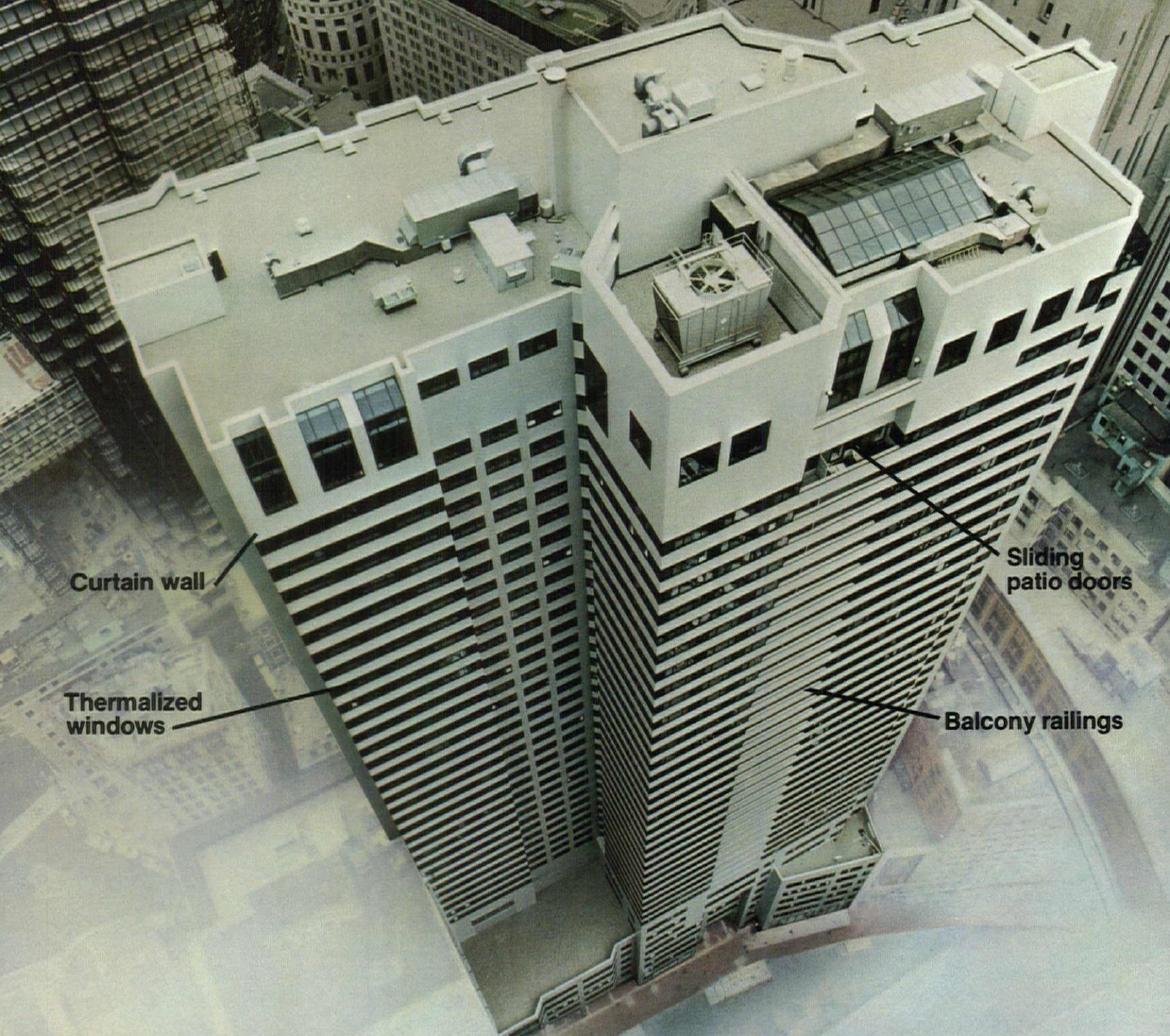
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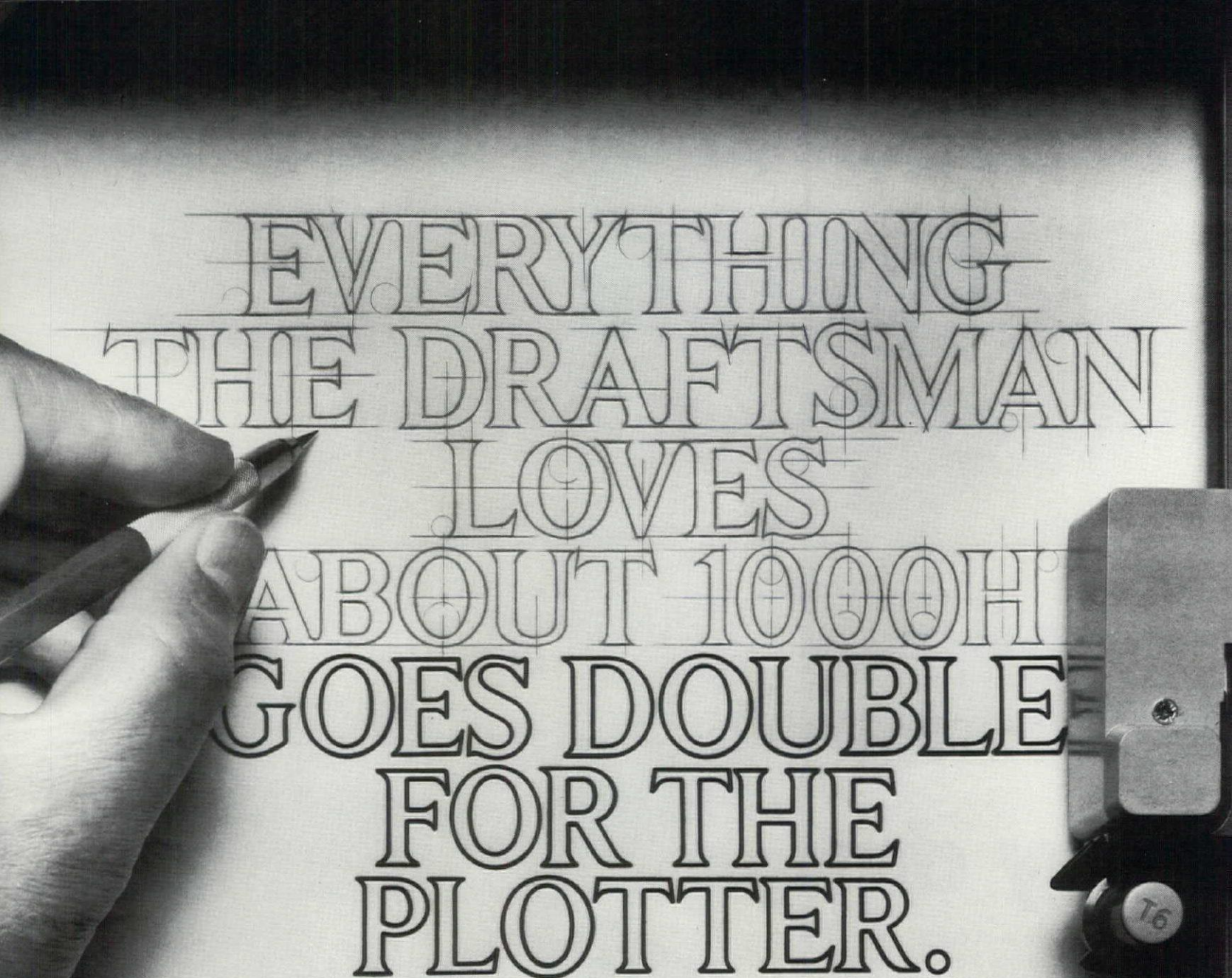
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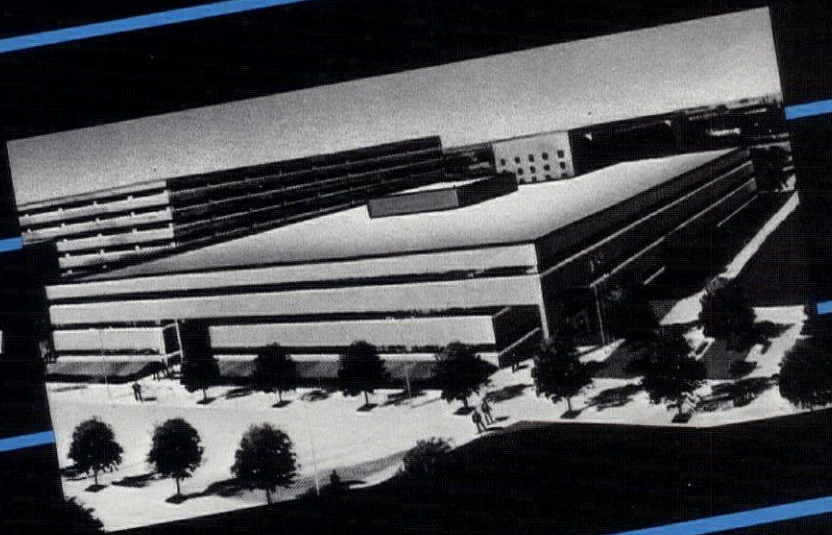
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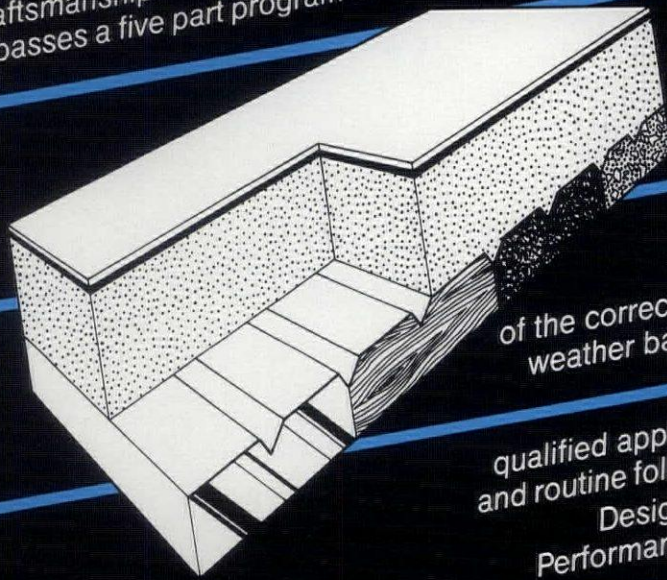
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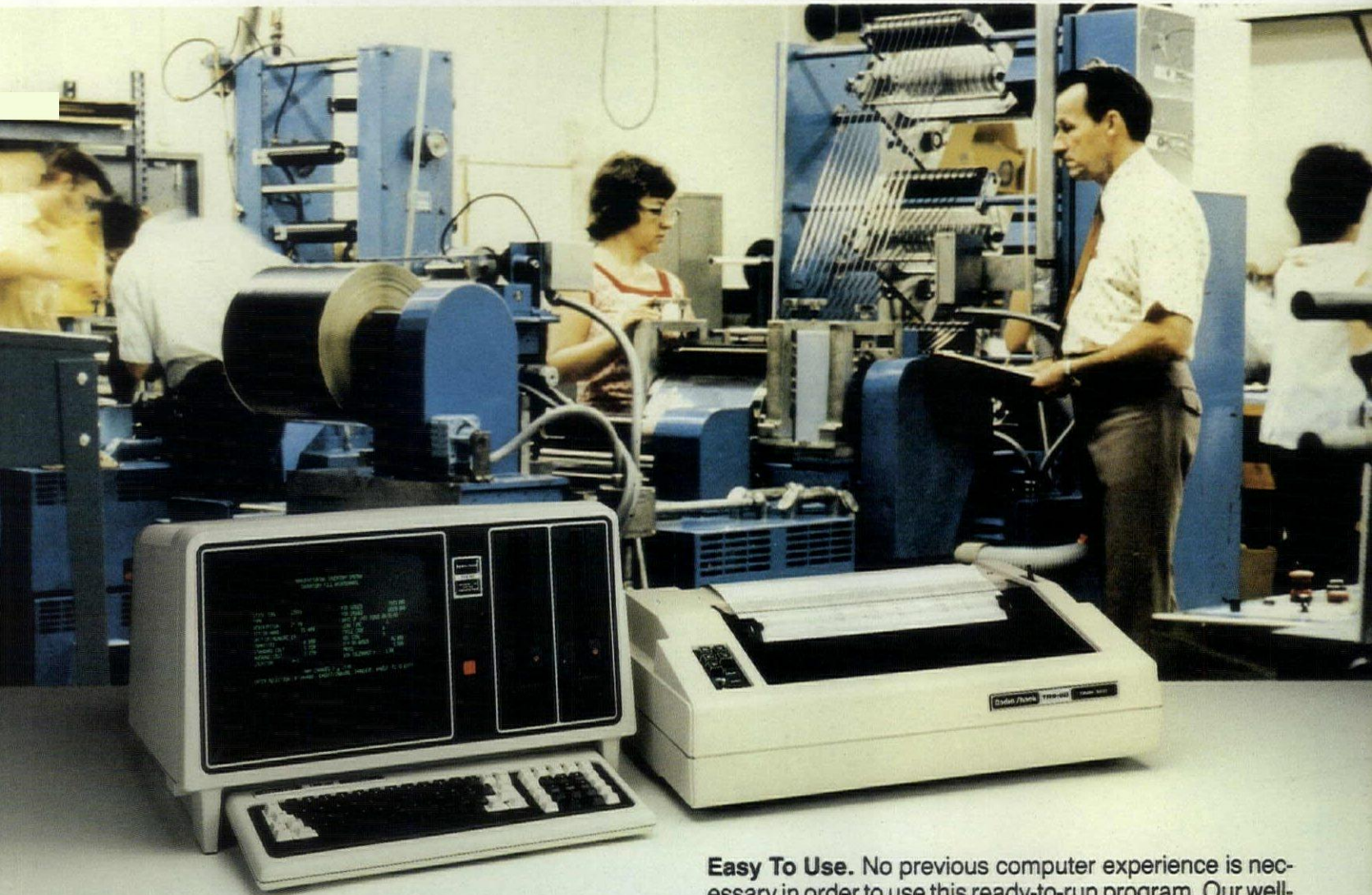
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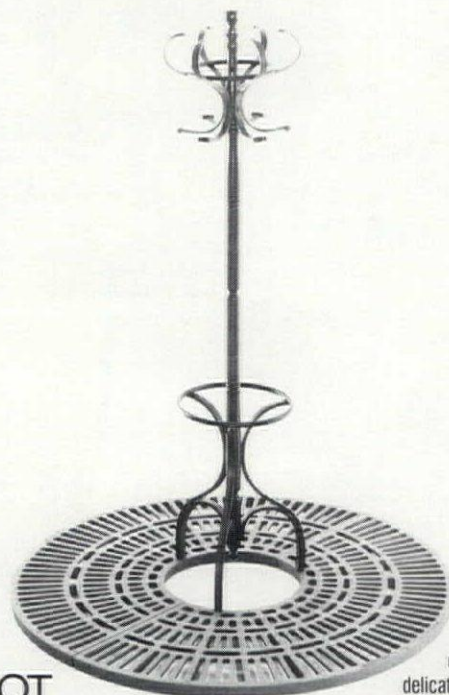
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