



PALMAS DEL MAR, PUERTO RICO BY ESTEBAN PADILLA

AN URBANE OFFICE BUILDING IN THE SAINT LOUIS SUBURBS BY HOK

A BANK AND OFFICE TOWER FOR THE FEDERAL RESERVE BY HUGH STUBBINS

FOUR BUILDINGS OF BERTRAM GOODHUE, BY RICHARD OLIVER

BUILDING TYPES STUDY: INTERNATIONAL RESORTS

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ARCHITECTURAL RECORD

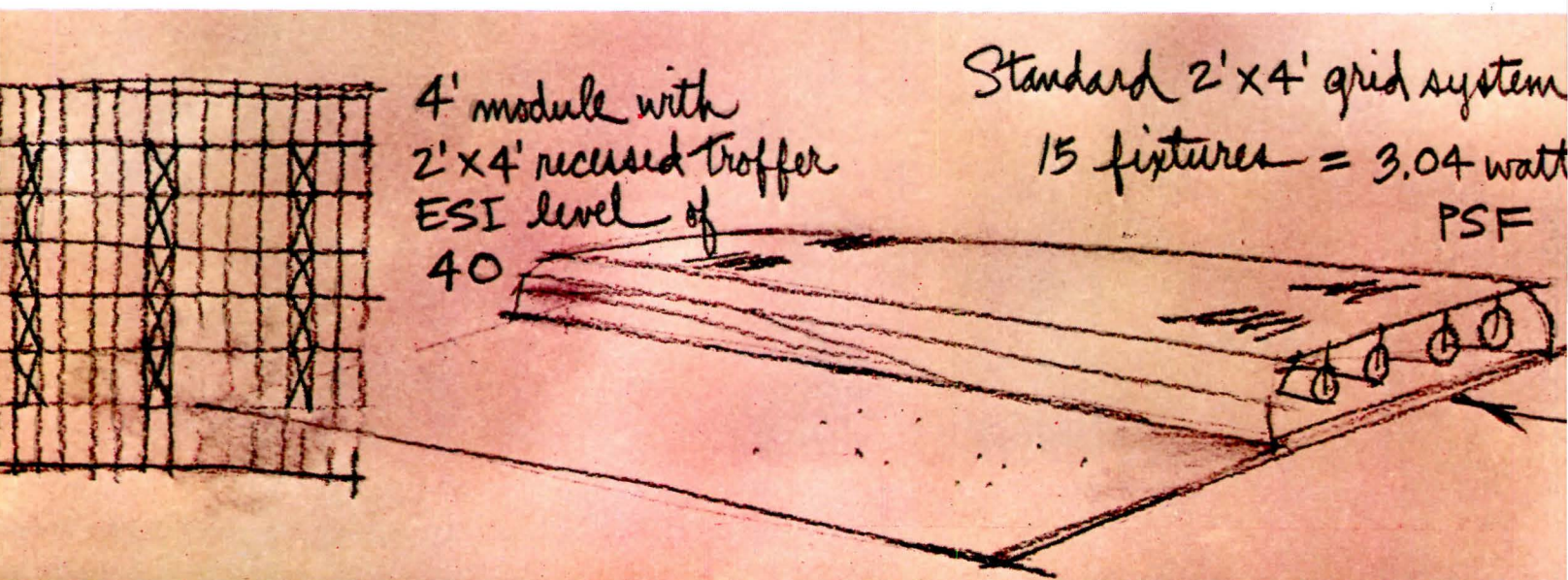
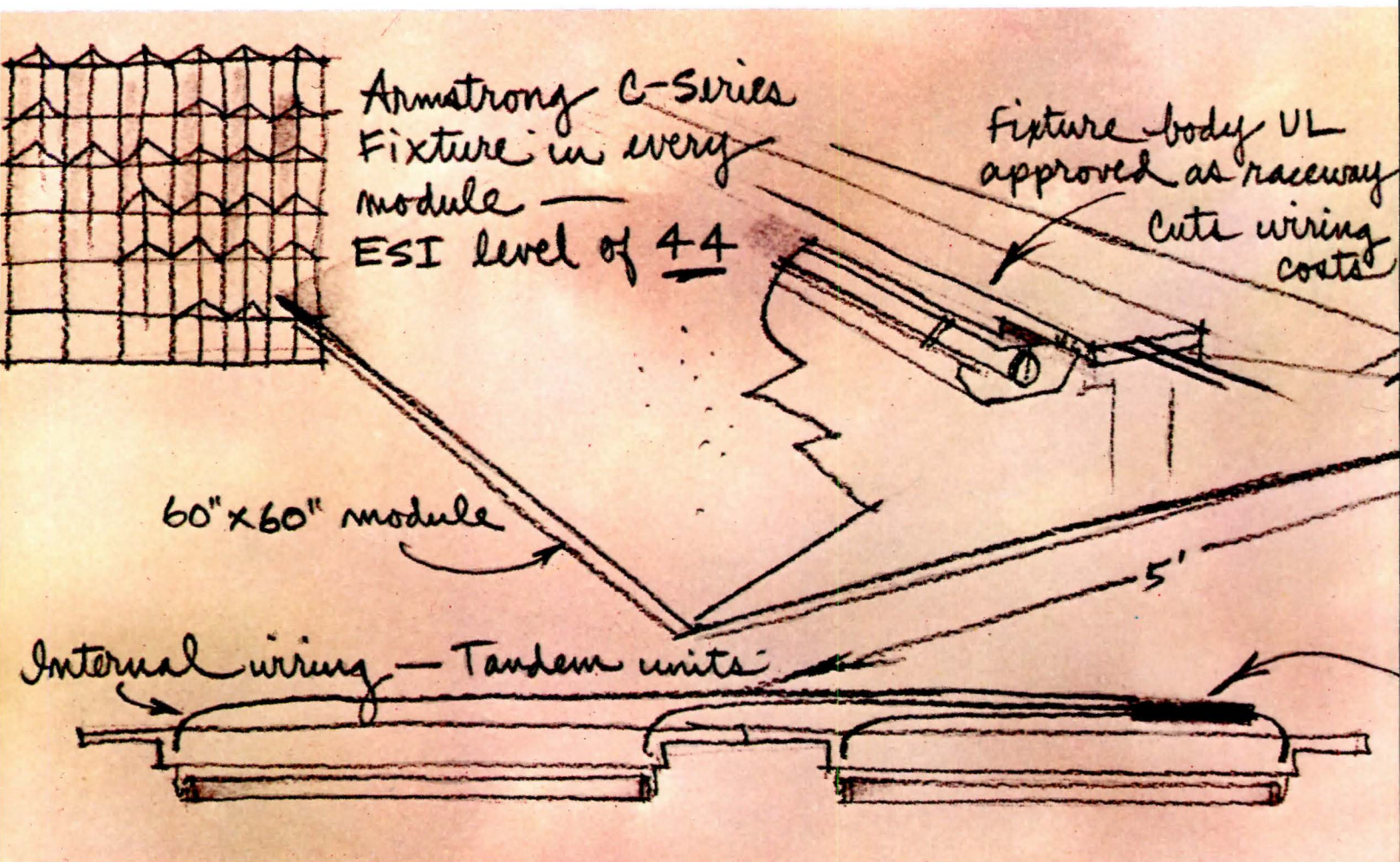
SEPTEMBER 1978

9

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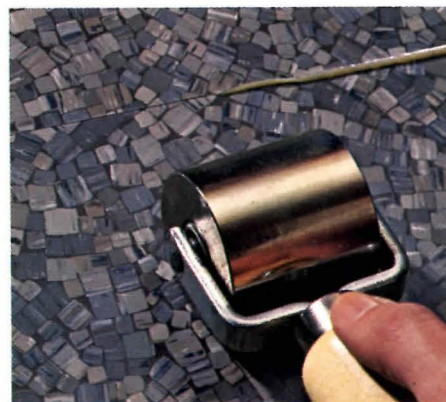
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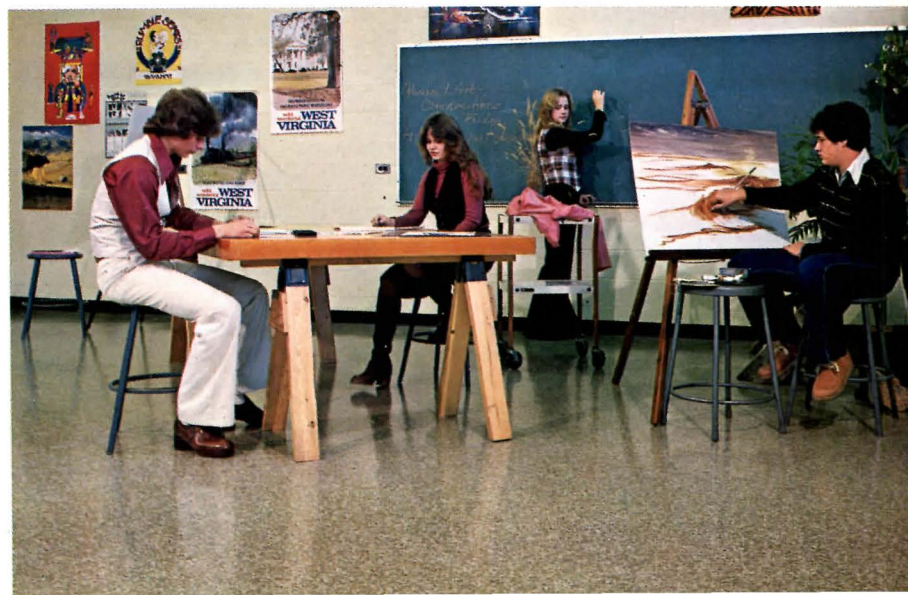
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Letters to the editor

I was gratified to be the first one to be chosen for the RECORD series of conversations with what you call the "grand older men of architecture" (RECORD, May 1978, pages 119-124).

Possibly for dramatic effect, I was referred to as being in my early 70s; as a matter of fact I still have some time to go to get to that age.

As the reporting of our conversation was set in a seemingly nostalgic mood, I want to reassure the somewhat younger architects who, as the article says, "found inspiration in our work" that I am in no way given to nostalgic reminiscing but, as a partner in a vigorous firm, am as actively practicing the same guiding principles as in the past.

Our firm has realized significant projects in recent years—corporate headquarters, department stores, office buildings, embassies, churches, banks, educational facilities and urban design projects—both to our professional satisfaction and the satisfaction of our clients.

While the story seems to allude to an office carried or controlled by one man, my partners Edmund H. H. Caddy, Jr., and Howard L. Bonington (partners for about 10 years and with the firm some years prior to that) have equal responsibility to my own in all aspects of our practice. Edmund Caddy has been the partner-in-charge of many major projects, and as such has been responsible for their acquisition, design, management and client relations. Howard Bonington has maintained similar responsibilities for other clients, over the years, and has also directed the business management of our office.

I would like to emphasize my partners' dedication to the same principles that guided Raymond and me in solving the problems of the clients in a direct and uncompromising way, undaunted by the changing fashions. They will continue to do so after my personal involvement with the firm will someday cease.

This brings us back to the design philosophy that was the focus of our conversation. As the emphasis of the reporting was more on the past, I would like to restate our views on the present state of architecture and the future, which is uppermost in our minds.

The meaning of contemporary architecture is a return to the eternal true principles and values practiced in

the great periods of architecture.

It is disquieting for me and my partners to observe that in recent years these principles are being distorted, falsified and disregarded, often for personal aggrandization and self-gratification nurtured by our era of salesmanship.

We deplore the sequence of architectural forms and exaggerations for the creation of a personal style.

We deplore the pop and camp architecture, the proclaimed striving for the ordinary, the talking down to the people for the lack of creative ability to uplift them.

We deplore contorted schemes necessitating intellectual rationalization under the guise of deep thought and originality.

We also deplore the now fashionable superficial historical allusions, picking old skeletons out of the closets of history at random and out of context. The love and understanding of the lessons of history is on our heart, and not to be worn on our sleeves lightly as if we were going to a costume ball.

To put it bluntly—history should be an inspiration and not a crutch.

Architecture has made great progress in finding an expression based on our technological advances and on our new ways of life. Let's however not assume the posture of being the lords of nature instead of being part of it. Let's act in harmony with the universal laws of nature and not as if they had been repealed.

Looking to the future, we shall enrich our vocabulary and develop a poetic language that will encompass not only physical relationships but evoke images and emotions.

While satisfying our physical needs, our buildings and open spaces will evoke our purpose, faith, joys and fantasies and reveal the mysteries of truth and beauty.

*Ladislav L. Rado
Raymond, Rado, Caddy & Bonington
New York City*

Your editorial "Design education and the quality of design" in the June RECORD hits all too close to home. Mr. Bill Caudill's remarks speak eloquently to the problem each practitioner faces as he looks for architectural graduates with design skills.

As partner in charge of design for our firm, I have observed that with each year the design ability of graduates declines. When I review

continued on page 171

Calendar

SEPTEMBER

11-15 Plant Layout and Facilities Planning, instructed by Richard Muther and Associates; sponsored by the University of Kansas, at the Hilton Plaza Inn, Kansas City, Missouri. Contact: Richard E. Meyer, Management Programs, The University of Kansas, Linwood Center, 9900 Mission Rd., Shawnee Mission, Kansas 66206.

12 Third Annual NBS-NCSBCS Joint Conference on Research & Innovation in the Building Regulatory Process, sponsored by the U.S. Department of Commerce; Hilton Inn, Annapolis, Maryland. Contact: Patrick W. Cooke, Center for Building Technology, Bldg. 226, Rm. B 226, National Bureau of Standards, Washington, D.C. 20234.

15 "Tax Incentives for Developing Historic Buildings," sponsored by The Foundation for San Francisco's Architectural Heritage; Palace Hotel, San Francisco. Contact: Linda Jo Fitz, HERITAGE, 2007 Franklin St., San Francisco, Calif. 94109.

24-27 Third Annual Design Management Conference, sponsored by the Design Management Institute; at the Jared Coffin House, Nantucket, Mass. Contact: Nancy San Antonio, Design Management Institute, Massachusetts College of Art, Boston, Mass. 02115.

27 35th Semi-annual Construction Marketing Seminar, sponsored by the Producers' Council, Inc.; at the Chicago Marriott Motor Hotel at O'Hare Airport. Contact: CMS Coordinator, Producers' Council, Inc., 1717 Massachusetts Ave., N.W., Washington, D.C. 20036.

30-Oct. 15 International Institute of Site Planning's Study/Travel Program: The United States. Contact: International Institute of Site Planning, 914 11th St., N.W., Washington, D.C. 20001.

OCTOBER

20 Seminar, "Laying the Legal Groundwork for Design/Build Ventures," sponsored by ARCHITECTURAL RECORD, with briefing by Arthur T. Kornblut, Attorney; Water Tower Hyatt House, Chicago. Program will be repeated Nov. 13 at Peachtree Plaza, Atlanta; Dec. 15 at Century Plaza, Los Angeles; and Jan. 15 at Hyatt Regency, Houston. Contact: Charles Hamlin, ARCHITECTURAL RECORD SEMINARS, 1221 Avenue of the Americas, New York, N.Y. 10020. Phone: 212/997-3088.

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Too many troubles in too many buildings: Why don't we start talking about what to do?

It's no big secret that a lot of buildings are not performing the way they're supposed to. We seem to be having a spate of roof collapses, beefing up of tower structures, masonry facades loosening, and window breakage.

It's probably safe to assume that for every "failure story" that reaches headline proportions a number of less dramatic (or less visible) failures are struggling their way through litigation and/or settlement.

The trouble is that the *reason* for these failures remains hidden behind legal strictures against discussion while the problem is in litigation. Thus the real reason for the problem may not be known for years—while other architects, engineers, manufacturers, and their insurers (as well as everyone else involved) hope and pray they are not building themselves a similar nightmare.

Any professional knows that the reason for a building problem is usually far more complex than it seems. You don't have to be much of an architect or engineer or contractor or insurer to know that a "glass problem" may be a glass problem—but might very well also be or instead be a detailing problem or a sealant/gasketing problem or a curtain wall problem or a structural problem or an installation problem or an unpredicted local wind problem or any of a dozen other problems.

The trouble is—again—that we really won't *know* what happened for a number of years. So what does happen is that everyone simply pulls in their horns and lies low.

What *is* going wrong? Why do we seem to be having more failures—more tall building swaying more than the smartest computers say they should, more glass cracking than reason says could happen, more structures being stiffened up—after the building is essentially complete? I don't pretend to know—I only know what I read in the papers. But herewith a theory—and I'd be pleased if any readers felt moved to take issue with it or confirm it:

At the very same time that we as consumers are being taught that we are entitled to "consumer protection" (indeed, being taught to demand our rights as consumers and to sue if we don't get them), our economic system forces every project to or towards the lowest bid.

At the very same time that architects and engineers are being asked to take on more and more responsibility for higher and higher performance in their buildings, a whole new subprofession of consultants has arisen who are experts at squeezing the last nickel and dime out of the building contract.

In short, I think it a strong possibility that the reason for our recent much-publicized spate of failures and courtroom scenes is that buildings are being skinned down too tight and the safety factors reduced too far, at the very same time that clients are expecting more and more performance and demanding that designers take more and more responsibility for that performance.

So who is at fault when there is a failure? The architect? The engineer? The contractor? The cost consultant? The client?

I think the answer is "none of the above" or perhaps "all of the above." Maybe the fault lies with our expectations.

All of us are human: the client wants the most building he can get for his money; and architects, engineers, manufacturers, and contractors want to give it to him. But the constant overriding pressure on everyone is money: the architect doesn't want to tell the client he can't have the job at the budget he has in mind—because he knows someone else will take the job. The engineer doesn't want to tell the architect that he better beef up the design. The manufacturer doesn't want to tell the architect that it won't take responsibility for meeting a spec.

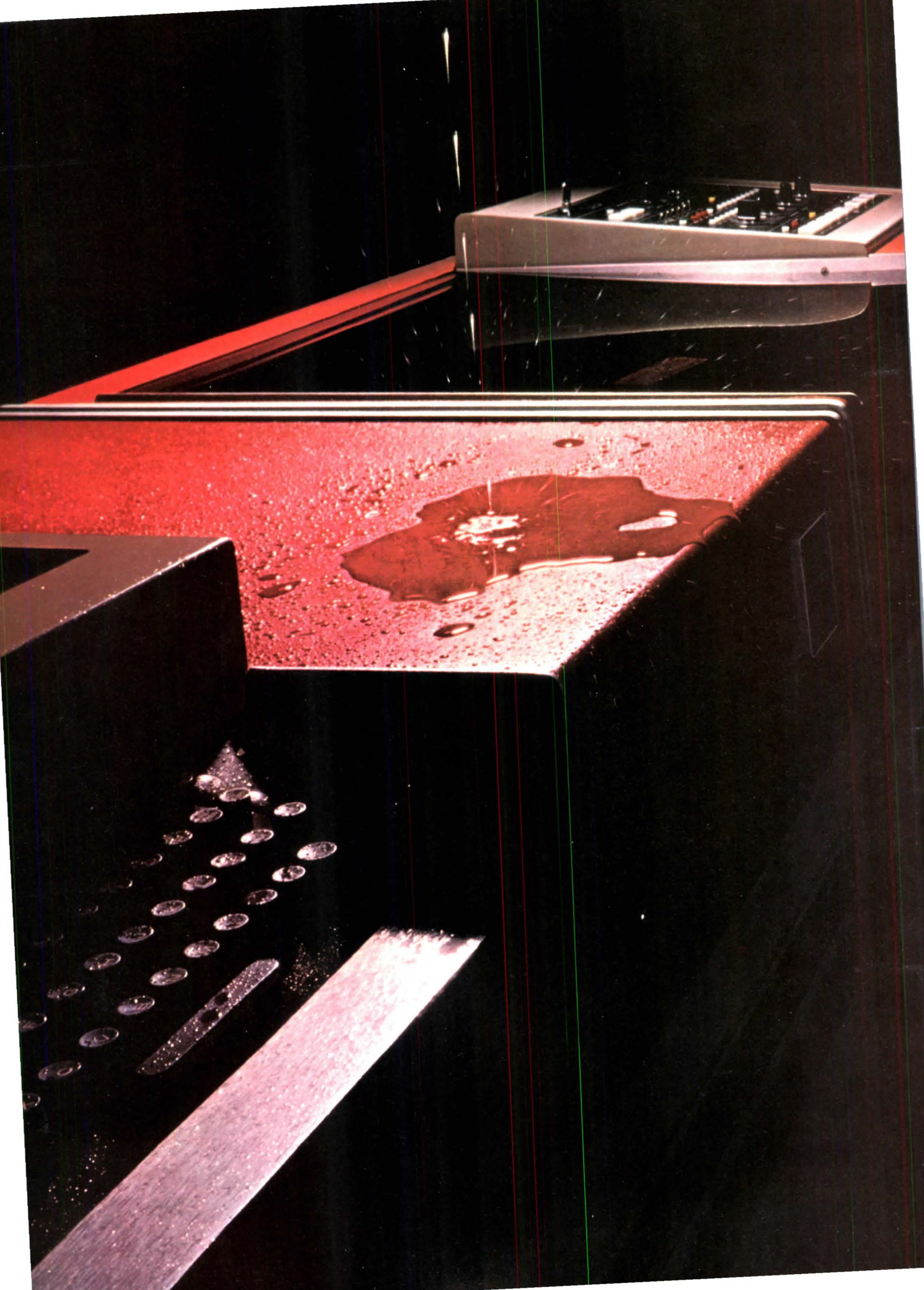
The responsibility, of course, remains first with the architect. That is one of the things that being an architect is about. So the question becomes: What can and should be done to help the architect (and everyone who works with him in the design and construction of a building) get out from between the rock and the hard place?

How can we get the information everyone needs about what went wrong out from behind the years-long silence required by our legal procedures? Can the facts somehow be reported on an "off the record," non-attributable basis? Do we need a major research effort into all failures; with a sound report on the results? Would it help to have a major Round Table on the subject—as the first step in a public education program on "reasonable expectations?" Do we need to examine the basic premise of just what a client can expect for his money?

Or are we simply committed to a future full of litigation, higher and higher insurance premiums, and the spectacle of fine and competent professionals being forced to walk away from jobs because they simply cannot face the risks that anything but the most routine construction might pose?

Herewith an urgent invitation for readers to contribute their thoughts and comments.

—Walter F. Wagner, Jr.



The value of residential and nonresidential contracts posted 28 per cent year-to-year gains in June, though a 64 per cent fall-off in nonbuilding construction resulted in an over-all decline of 14 per cent for the month. A decline in the "large and volatile" category of electrical plants accounted for the decrease, according to George A. Christie, chief economist of the F. W. Dodge Company of McGraw-Hill Information Systems Company. He added, however, "Activity is still growing in nonresidential construction [where] contracting for factories, offices and shopping centers during the first half of 1978 surpassed last year's total by well over 50 per cent," although contracts for institutional building were up only 2 per cent for the month.

The ABA's latest model procurement code for states and cities recommends A-E selection by qualification, and does not include, except in "comment," the price-bid rule that design professionals lobbied against (with mixed results). Details on page 34.

For Washington's Pennsylvania Avenue, PADC received 12 proposals for two important sites: nine for the Willard Hotel, three for the National Press Club site. Details on page 35.

San Francisco, after a decade of controversy, has broken ground for the Yerba Buena convention center. The underground hall, designed by HOK, will have clear-span arches of 275 ft. Details on page 34.

The National Gallery's new East Building, designed by I. M. Pei, drew a million visitors in its first 51 days. The Gallery, in a press release announcing this figure, hesitated to venture a guess whether the new building or the popular exhibition *The Splendor of Dresden* was the bigger draw, but it did report that its total attendance during the year 1977 was 2,678,797.

The Federal government will renovate the landmark U.S. Custom House on New York City's Bowling Green at the cost of \$24.7 million, under authority granted last month by the Senate Committee on Environment and Public Works. The Beaux-Arts building was designed by Cass Gilbert and completed in 1907. Renovation will include the installation of new mechanical and electrical equipment, new roof and coping, new ceilings and floor covering, new partitions, fire protection systems, aids to the handicapped and exterior repairs.

A 15 per cent spurt in new enrollments in the last six months has increased AIA membership to more than 30,000 for the first time in the Institute's history. Executive vice president David O. Meecker, Jr., says that most of the new members are small practitioners in firms of 10 or fewer people.

The GSA has published a small booklet titled *Results of a PBS Hydroponic Demonstration Project*. Hydroponics, for the uninitiated, is a method of plant culture requiring no soil: plants are provided with a continuous supply of water, plus nutrients. The Public Buildings Service, prompted to undertake the survey because of the increasing use of plants in open-plan offices, reports that while installation costs are higher than with conventional planters, maintenance costs are considerably lower.

Faith, a mortgage, and "sweat equity" took a small step to revitalize the devastated South Bronx. The parishioners of the Rapture Preparation Church of Christ, with a \$25,000 mortgage advanced by the Mortgage Review Fund of the New York State Savings Banks, restored a vandalized two-story brick building to provide a sanctuary on the lower floor and a seven-room apartment for its pastor on the upper floor.

A three-day conference will examine the impact of energy constraints on the future of American cities. Sponsored by the Department of Energy, the Economic Development Commission of Tulsa and the Metropolitan Tulsa Chamber of Commerce, the conference will discuss such topics as environment, jobs, land use, municipal services, intergovernmental relations, financing and the quality of life. The National Conference on Energy and the Future of America's Communities will convene October 18-20 in Tulsa.

A National Bureau of Standards conference will focus on codes for building rehabilitation, concentrating particularly on efforts by the State of Massachusetts, a co-sponsor of the conference, to develop interim provisions for alterations and additions to existing buildings that can be incorporated into the state building code. The conference will meet October 30 at NBS in Gaithersburg, Maryland. For information: James Pielert, NBS, Center for Building Technology, Washington, D.C. 20234.

The Winston Churchill Traveling Fellowships provide \$2,000 to \$4,000 for study and travel in the British Commonwealth. The subject of the 1980 program, for which applications are due this December 31, is the reuse and recycling of landmark structures. The competition is open to U.S. citizens between the ages of 25 and 45 "working full time in a trade, profession or occupation concerned" with the subject of the program. For application forms: The English-Speaking Union, Education Department, 16 East 69th Street, New York, New York 10021.

After ten years of delay, construction begins on the underground Yerba Buena convention center in San Francisco



Climaxing a decade of controversy, San Francisco finally broke ground last month for an underground convention and exhibition center in the Yerba Buena Center Redevelopment Area downtown.

The 87-acre redevelopment area south of Market Street has been in dispute since the mid-1960s, when it was first proposed for multi-use development. The land was cleared of blighted buildings, but displaced residents prevented construction of the convention center and the area remained a desert in the middle of the city. Outside the 25-acre central block of the redevelopment area, construction of a few office buildings and low-income housing has gone forward.

In 1976, the voters endorsed proceeding with construction of the long-delayed center, passing a proposition specifying that the facility be built underground as far as financially

feasible. The city also required that the roof of the building be usable.

In response to this mandate, the San Francisco office of Hellmuth, Obata & Kassabaum designed a 670,000-sq-ft complex with the main exhibit hall underground. Only the lobby will be visible from street level.

The exhibit hall will have 275,000 sq ft of column-free space, with a roof supported by eight sets of paired concrete arches spanning 275 ft. Gyo Obata, HOK's partner in charge of design, and T.Y. Lin International, San Francisco structural engineers, developed the arch design.

Patrick Leamy, HOK's project architect, says that the column-free design "should give San Francisco a little edge" in attracting large conventions, meetings and exhibitions. Even a political convention could fit into the hall, which can accommodate 20,000 people. Movable partitions

can divide the hall in half or into thirds. There is a 4,000-person meeting room on the exhibit hall level, and 31 smaller rooms on the mezzanine.

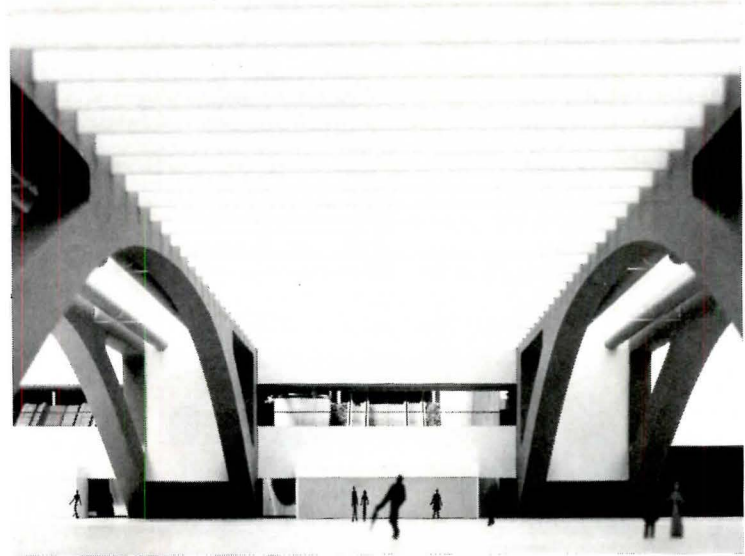
A prime architectural consideration in selecting the arch design, with its 37-ft-high ceilings, was to make the underground hall seem light and airy instead of subterranean. Natural light enters the lobby at ground level through glass walls on all four sides and penetrates past the escalators down three levels to the exhibit floor. A window in the hall itself admits daylight from the lobby and provides a glimpse of the skyline.

The reinforced roof above the

exhibit hall is designed to support a park, or even lightweight buildings as much as three stories high. Says Mr. Leamy, "We started with an 11-acre site, filled it curb-to-curb with building, and are returning 6½ acres of rooftop as air rights—a developable parcel—to the city and the redevelopment agency."

The lobby roof will be carried by four long-span tubular steel trusses with considerable openness between its members.

The \$100-million center is scheduled to open in July 1981. —*Jenness Keene, World News, San Francisco.*



ABA strikes price-bids from its model code draft

Backers of a Brooks Law approach to choosing construction design professionals have won a clear victory before the American Bar Association panel developing a model procurement code for the use of state and local governments.

The latest draft of the code—presented to a special session at a recent ABA meeting in New York City—dropped the suggestion that local legislatures be offered two alternatives for buying the services of architects and construction engineers, one taking price into consideration and one limiting initial negotiations to the bidder who is deemed best qualified.

The code now mentions prices only in a "comment" that suggests an alternative might be preferred where "local conditions or fiscal structures require."

There was heavy lobbying by architects and engineers to get the ABA group to leave out price considerations in the legislative language describing how the services would be purchased. But lawyer James M. Marsh of Philadelphia, the committee member who explained the construction provisions at the ABA meeting,

insisted that those efforts did not affect the deliberations. In fact, he said, "It really annoyed the hell out of me." Mr. Marsh said the "best qualified" option was chosen not because the committee was convinced it was the better approach, but because it is the one "most commonly used."

Under that procedure, governments are told to set up a three-member "architect-engineer selection committee" made up of the chief procurement officer, the buying official in charge of the project, and the state architect or someone in a similar position. That group must talk to at least three firms, and pick at least three contenders for each job, ranking them in order. The basis for the ranking is to be defined in criteria published in advance.

The procurement officer then will try to work out a contract with the top-ranked firm, going to others on the list only if the first choice will not accept the job at a price the official deems "fair and reasonable."

Even the substitute language now relegated to the comment in the model code rates price as only the third most important consideration, to be given less weight than "the professional competence of offerors" and their "technical merits."

The current draft of the code is

the third made public by the committee, and the first not merely labeled a "preliminary working paper." The committee asks that comments on this version be mailed to its offices at Suite 601, 1700 K Street, NW, Washington, D.C. 20006.

In November, the code will be presented to the governing councils of the two ABA sections working on the project, and the drafting group hopes to get a final okay from the ABA House of Delegates next February. —*Dan Moskowitz/William Hickman, World News, Washington.*

3rd annual BCEC will meet for three days in Chicago

Mayor Michael A. Bilandic will declare October 16 "Chicago Construction Day" to honor the opening of the third annual Building & Construction Exposition and Congress. The BCEC is sponsored by the Producers' Council.

The three-day conference will convene October 16-18 at McCormick Hall. Jay Janis, Undersecretary of the Department of Housing and Urban Development, will deliver the keynote address at lunch on the exposition's opening day.

BCEC will offer panel discussions at its morning and afternoon sessions.

In addition to several sessions on residential construction and marketing, discussions will include:

- "Establishing Energy Performance Standards for Nonresidential Construction," addressed by engineers Roger Alford of Heery & Heery Architects and Edgar K. Riddick of Riddick Engineering Corp.;
- "The Architect and Developer Working Closer Together in Search of Quality: The Case for Design Quality in the Market Place," addressed by architect Arthur Cotton Moore and developer Harold S. Jensen, and moderated by Walter F. Wagner, Jr., editor of ARCHITECTURAL RECORD;
- "The Liability Distortion," addressed by Marshall A. Ames, account executive with Victor A. Shinerer & Co., and attorney Arthur T. Kornblut, and moderated by Thomas Eyerman, AIA, of Skidmore, Owings & Merrill;
- "The Rehabilitation of Our Inner Cities—A Challenge and Opportunity for the Construction Industry," which will present "several success stories" to participants.

The Producers' Council says that it expects more than 10,000 architects, engineers, contractors, owners, builders and developers to attend this year's BCEC. About 300 suppliers of building materials, machinery and services will exhibit.

Pennsylvania Avenue studies 12 proposals for two sites

Twelve development teams have submitted plans for rebuilding on two of the most important sites along Washington, D.C.'s historic Pennsylvania Avenue.

The Pennsylvania Avenue Development Corporation, a Federally chartered redevelopment agency, expects to announce winners this month or next in its search for developer-designer teams. Construction work on the two sites is expected to cost \$200-250 million, depending on which proposal is accepted.

Nine of the proposals call for a complete rehabilitation of the Willard Hotel, a Beaux-Arts structure finished in 1901 that was designed by Henry Janeway Hardenbergh. The site is just two blocks from the White House on the western end of PADC's area of responsibility.

The other three teams have made proposals for the larger block, just across 14th Street from the Willard. This site now contains the National Press Building, the National Theater and other structures. All three proposals envision a mix of hotel, office and commercial space.

Last month the PADC staff reported it was sifting through the proposals with the aid of its advisory board of architects. The Fine Arts Commission is also involved.

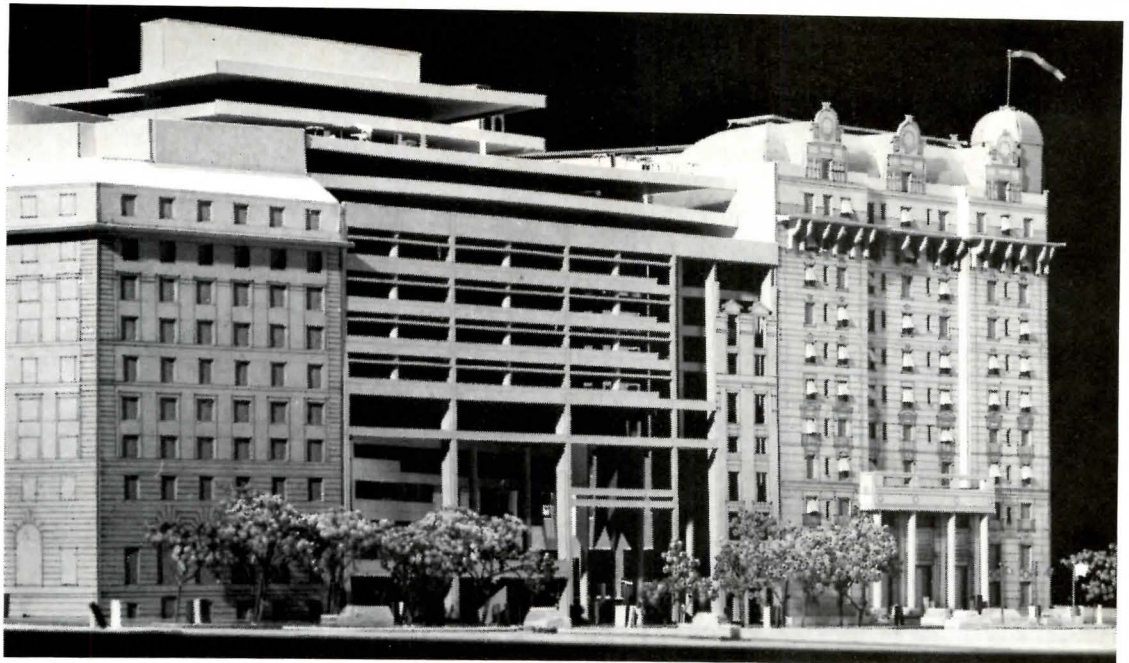
The final decision, however, will rest with the 15 members of the PADC board of directors who have voting rights. (Another seven members of the board serve without voting rights.)

The board's chairman, Elwood R. Quesada, says the board will select the proposal that best promotes PADC's mission:

- to reinforce the avenue's unique role as the physical and symbolic link between the White House and the Capitol and between the Federal city and the Washington community;
- to provide a mixture of commercial and cultural activities on the street;
- to attract residents and visitors to the area, particularly on weekends and in the evenings;
- to introduce new buildings representative of the best architecture and planning;
- to contribute to making Pennsylvania Avenue an elegant and lively urban place, and a ceremonial boulevard that reflects the nation's pride.

Development teams offering plans for the Willard, which include top hotel chains and some of the best-known names in architecture, all stress that the site's proximity to the White House makes it a prime location for a luxury hotel.

In most of the proposals submitted to PADC, the developers seek redevelopment rights on two adjacent sites now occupied by parking lots. By including the parking lots, plus a plot once occupied by the Occi-



From left to right, facing Pennsylvania Avenue: the Washington Hotel, a new office building by architects Perkins & Will, the restored Occidental Hotel facade, and the landmark Willard Hotel.

dental Hotel, the complex would create a bridge to the Washington Hotel on the same block.

The Willard was closed in 1968 and was once marked for demolition. Preservationists got that decision overturned by stressing the hotel's relationship to the Federal city. It was at the Willard that Julia Ward Howe wrote "The Battle Hymn of the Republic," and Vice President Thomas E. Marshall wisecracked that "what this nation needs is a good five-cent cigar." It has also served as the focal point for inaugural parties.

The block across the street has an area of nearly 163,000 sq ft and is in better condition than the Willard, though some of the store fronts have taken on a shabby appearance. The Press Building, with nearly 42,000 sq ft, is the largest landowner.

A new structure, which will be the home of the National League of Cities, is under construction on the southeastern corner (see ARCHITECTURAL RECORD, May 1978, page 35). PADC officials declined to make clear whether all three proposers envisioned redevelopment of the entire block, though two bidders said they would retain the National Theater.

The PADC staff did say that the "average" cost of construction proposed on the block would be \$100 million. This implies that two of the developers have rather modest plans since one team—John C. Portman and the National Press Building—have detailed plans for \$160 million in construction.

Controversy over the redevelopment plans centers on the National Theater, which claims it has occupied one building site or another on the block for more than a hundred years. The Portman-Press Building plan does not envision keeping the theater—at least at the same place—while the

other proposals do intend to.

The Portman-Press Building plan is clearly the most ambitious. The design by the Atlanta-based architect-developer proposes a structure that would have a gross area of 2.2 million sq ft, including an atrium of 7.8 million cu ft, a 20,000-sq-ft ballroom and a 22,000-sq-ft exhibit area.

Included is a 1,060-room hotel and press-related office space of 692,000 sq ft, most of which would be perched above the hotel floors. The National Press Club would have a clubhouse facility of 35,000 to 40,000 sq ft. Solar-heated hot water is being considered. The existing press building would not be demolished until alternative space was completed elsewhere on the block.

Details on the other proposals are less well known.

One involves the Quadrangle Development Corp., builders of the National League of Cities building, in cooperation with the Marriott Corp., which would operate an 830-room hotel and offer a 34,000-sq-ft exhibition area. Designed by architects Frank Schlesinger and Mitchell/Giurgola, the building would retain the National Theater, and would offer 100,000 sq ft of retail space for 40 store units and a cinema, plus 450,000 sq ft of office space.

The third proposal is from the John Akridge Co., Washington, working with a plan prepared by the architectural firm of Weihe, Black, Jeffries & Strussman. It too would retain the theater and offer 1.3 million sq ft of office space, an atrium and four floors of commercial space. An alternative offered by Akridge includes a 200- to 300-room hotel and less office space.

The PADC staff expects to complete its review of the Press Building block before finishing its assessment

of Willard proposals, mainly because the greater number of proposals for the latter will slow the review.

Developer/architect teams submitting proposals for the Willard Hotel include:

- The Oliver T. Carr Co., Washington, in cooperation with Intercontinental Hotels of New York City, with plans by Cossutta & Associates, New York City, David N. Yerkes and Associates, Washington, and Hellmuth, Obata & Kassabaum;
- Total Management, Inc., of Washington, with the Radisson Hotel Corp. of Minneapolis and Radnor Corp. of Radnor, Pennsylvania, with plans by Perkins & Will of Washington;
- Stuart S. Golding of Clearwater, Florida, with Fairmont Hotels of San Francisco and architects Hardy Holzman Pfeiffer of New York City;
- Forest City Enterprises, Cleveland, in cooperation with the Dunfey Family Corp., and architects Graham Gund Associates of Cambridge, Massachusetts;
- Boston Properties for Loews Hotels, with architects Hartman and Cox of Washington and Davis, Brody & Associates of New York City;
- Hyatt Corp., Chicago, with Hyatt-Willard Associates, with a design by Arthur Cotton Moore Associates of Washington and Gruzen & Partners of New York City;
- MAT Associates of Chicago with Trusthouse Forte, London, and a design by Welton Becket Associates, Los Angeles;
- Holywell Corp. of Washington, with Canadian Pacific Hotels, using a design by Vlastimil Koubek, AIA, of Washington;
- A. Cal Rossi, San Francisco, with Rossi-Willard Associates as hotel operators and 3D/International, Houston, as architects. —William Hickman, *World News, Washington*.



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Fairmont will restore, reopen the late Bellevue-Stratford

A lethal outbreak of "legionnaires' disease" at Philadelphia in 1976 forced the closing of the venerable Bellevue-Stratford Hotel, where the respiratory disease was first observed at a state convention of the American Legion.

Designed by architects G.W. & W.D. Hewitt, the hotel opened in 1904 and for the next 70-odd years operated successfully as the city's premier luxury hotel (see RECORD, March 1905, page 107 *et seq.*).

A revival of interest in "grand" hotels—hard-headed commercial interest, not mere sentiment—promises new life for the old building, which is listed on the National Register of Historic Places. Developers Rubin Associates of Philadelphia and the Fairmont Hotel Company of San Francisco will reopen the new Fairmont in September 1979, a date that coincides with the 75th anniversary of the hotel's first opening.

Day & Zimmerman Associates of Philadelphia will design renovations and oversee the restoration of public spaces. Hyman Myers, Day & Zimmerman associate, says that the job will involve a combination of restoration and renovation.

The fabric of the structure was well-maintained up until the time the Bellevue-Stratford closed, and, "thanks to Independence Hall and other 18th-century preservations," Mr. Myers reports, "Philadelphia is well-supplied with the artisans—guilders, plasterers and the like—who have the necessary skills for this kind of work."

Some infelicitous moderniza-

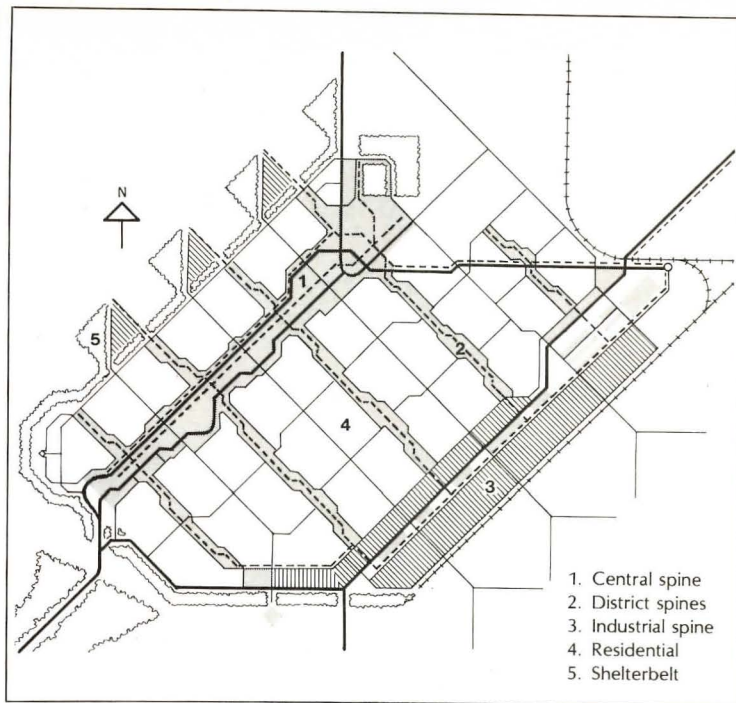
tions made in the 1950s will be removed. Where appropriate and feasible, they will be replaced with reconstructions and restorations of original furnishings and accessories as these can be discovered in contemporary drawings and photographs. (Many pieces of the original furniture survived in use until 1976.)

Restaurants and meeting rooms where all trace of the original design has been obliterated, or where late 20th-century functional needs render them unusable, will be designed afresh.

All of the hotel's guest rooms, which will be reduced in number from 725 to 566 to eliminate unacceptably small quarters, will be redecorated and provided with new bathrooms. In addition, the hotel's hvac system will be replaced.

Interior designers are Graham & Solano, Ltd., of Boston.

Restoration and renovation will cost an estimated \$20 million.



New Sadat City hopes to house half a million by A.D. 2000

A mere four per cent of Egypt's land area supports all of her agriculture and almost all of her population. Explosive population growth and migration from rural areas have led to almost intolerable overcrowding in Alexandria and Cairo—Cairo's population more than doubled between 1960 and 1976, from 3.7 million to 8 million. At the same time, the expansion of smaller settlements has consumed too much of the country's fertile but limited farmland.

In a major policy statement issued in 1974, President Anwar El Sadat declared that "the life of the Egyptian people cannot remain confined to the Delta and the narrow valley of the Nile."

In consequence, plans have been completed and construction started for four new cities in the desert to ease pressure on agricultural land, to provide jobs and housing and thus to attract people from the existing urban centers, and to stimulate the national economy with the establishment of industrial centers. The new cities are King Khaled City southwest of Cairo, Amrya near Alexandria, and, just outside the Delta, Tenth of Ramadan between Cairo and Ismailia, and Sadat City midway between Cairo and Alexandria.

At Sadat City, the government aims at a population of 500,000 by the turn of the century, with 150,000 by Year 10.

The city, with ground water sufficient for a population of 1 million, is situated on the Desert Road connecting Cairo and Alexandria, as well as Sadat City and Amrya. This location, it is hoped, will divert urban development from the Delta to the desert along the road. An existing railroad also connects the four cities.

Manufacturing is seen as the primary stimulation for the city's growth—its location permits large-

scale pollutive industry on land with no present alternative use, and construction of a steel mill to the northeast is contemplated—but the government also plans to encourage growth with government offices, a university and research facilities.

The starting point for construction is a "shelterbelt" around the southwestern edge of the city, of which about eight kilometers are already in place, as protection against the strong Khamseen wind that blows in the spring. The shelter consists of a man-made dune 2.5 meters high at the outside, a stand of tall trees and low shrubbery inside, and orchards inside that, all to screen out sand and larger dust particles. The planners recommend extending this shelterbelt along the city's northwestern and southern edges.


Inside the shelterbelt, a linear central spine will direct expansion to the northeast and will accommodate the major commercial, institutional, governmental and recreational facilities. District spines serving residential areas and accommodating secondary commercial and employment centers will cross the central spine at right angles. Both the central spine and the district spines will be closed to private motor traffic, carrying only public transit, bicycles and pedestrians; private traffic will use arterial roads at the perimeter and parallel with the central spine. To discourage animal-drawn carts—still a traffic consideration in this area—planners located markets at the periphery.

Members of the Sadat City Planning Group included both Egyptian and American consultants: Sabbour Associates, David A. Crane and Partners, Marcel Breuer and Associates, Parsons, Brinkerhoff International, Inc., Peat, Marwick Michell & Co., and Warner Burns Toan Lunde.

To be continued next month.

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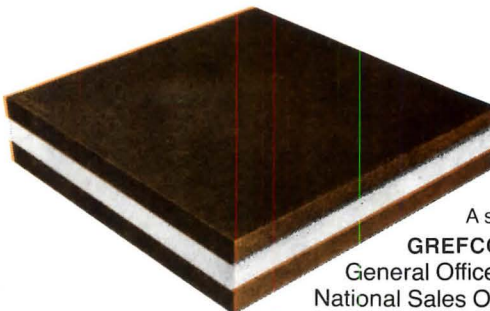
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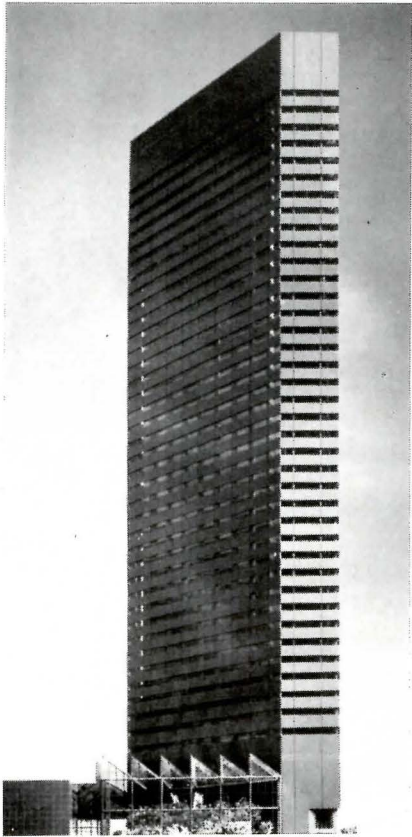
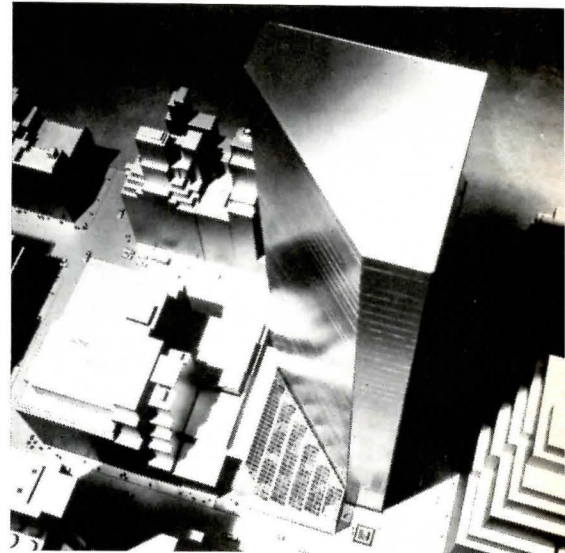
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Barnes designs a Manhattan tower for IBM

IBM is presently building a five-sided, 43-story tower at the corner of 57th Street and Madison Avenue in Manhattan, and will share a good portion of this important site with the public. The design by Edward Larrabee Barnes fills the 56th Street corner of the site with a sawtooth-roofed "greenhouse" that will contain trees as high as 40 ft. Apart from giving pedestrians a protected park and access to the tower, the greenhouse will also give access to an adjacent three-story building leased by IBM to Bonwit Teller's department store. The tower's main entrance will be recessed at the corner of 57th Street,

providing the busy corner with widened sidewalks. The office building will be faced with polished green-gray granite and horizontal bands of tinted green-gray double glazing; operable vents below every other window will allow natural ventilation when weather permits. An IBM computer model was used to analyze the building's energy performance during early design stages, and an IBM computer energy management system, which will include temperature and humidity regulation and automatic light-switching, will be used to maintain minimum energy consumption. Completion is scheduled for late 1981.

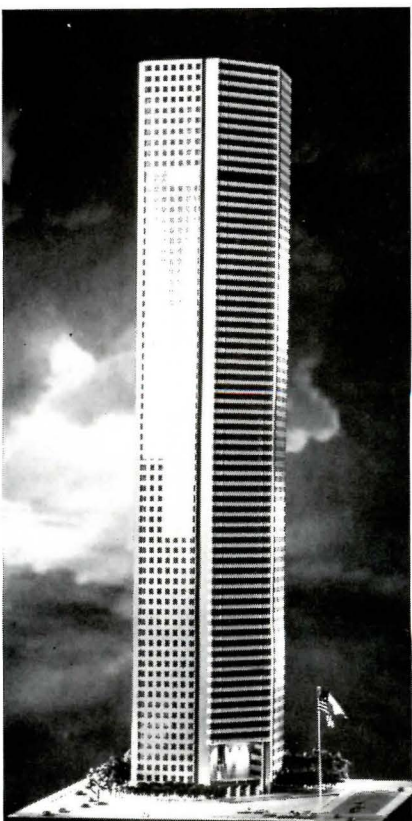


Pei and 3D/I collaborate on a 70-story office tower for Houston

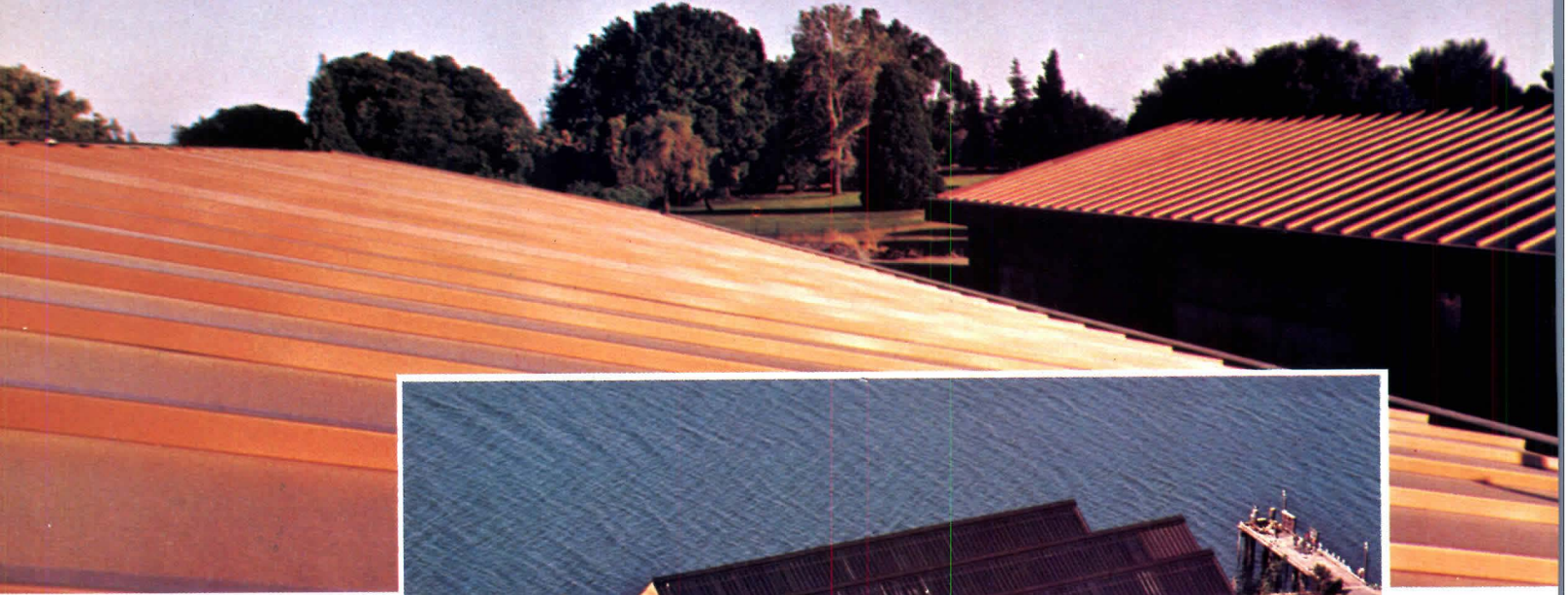
Not only will the 70-story El Paso Tower in Texas Commerce Plaza be the tallest skyscraper outside Chicago and New York, say developers Gerald Hines Interests—it will be the largest composite structure in the world. Architects 3D/International and I. M. Pei & Partners are collaborating on the tower, which will contain 1.9 million sq ft; a 1,200-car garage across the street,

connected by an underground retail concourse, will increase the total area of the complex to 2.2 million sq ft. One corner of the building was cut off at 45 degrees to open up a one-acre plaza at the main entrance. A five-story, column-free glass wall will stretch across the diagonal face to offer views of the Buffalo Bayou and the west side of Houston. On the tower's low-

er five floors, glass-enclosed balconies will, as it were, offer private views of these sights to tenants. The building will be clad with pale gray polished granite and double glazing. Horizontal fenestration will distinguish the front face of the tower, while the remaining four faces will have square windows punched in the masonry wall. Occupancy is scheduled for 1980.

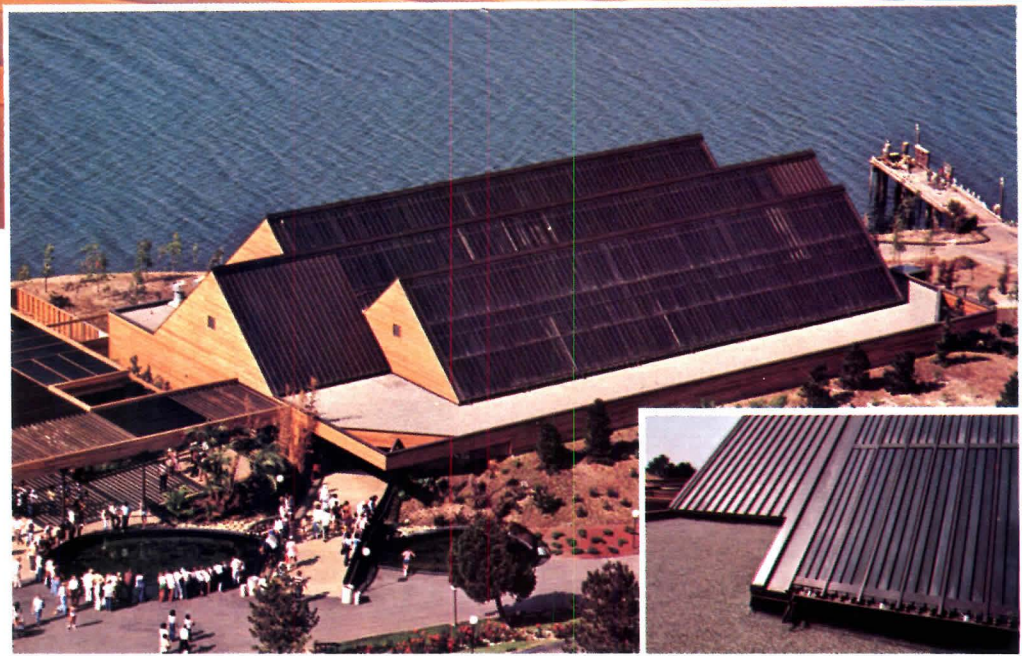


Why the architects for Sea World and the VA chose metal roofing by AEP



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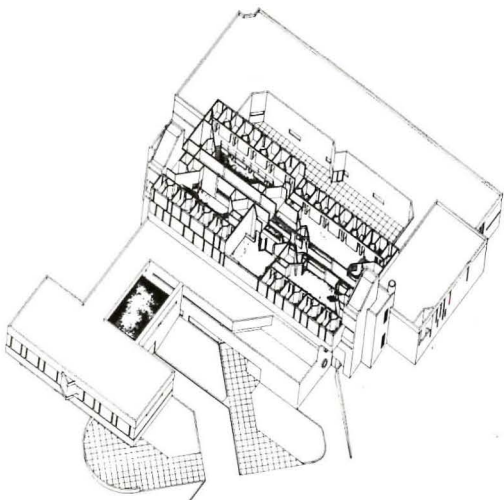
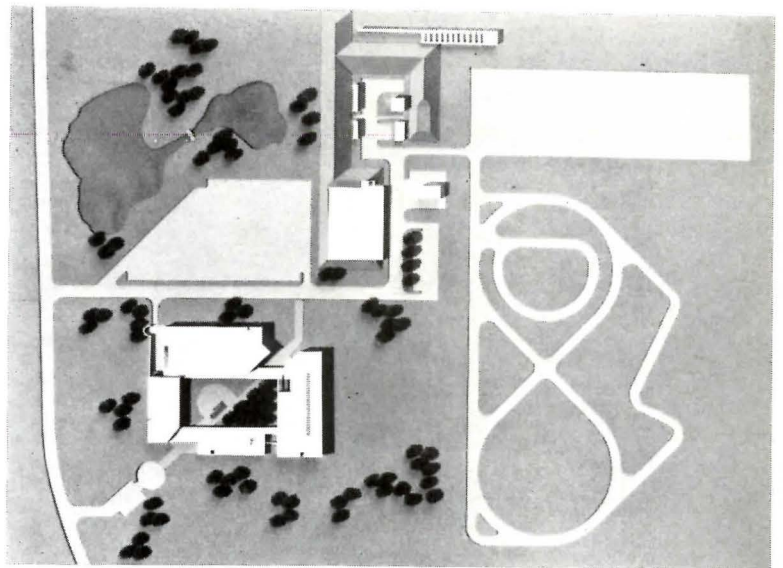
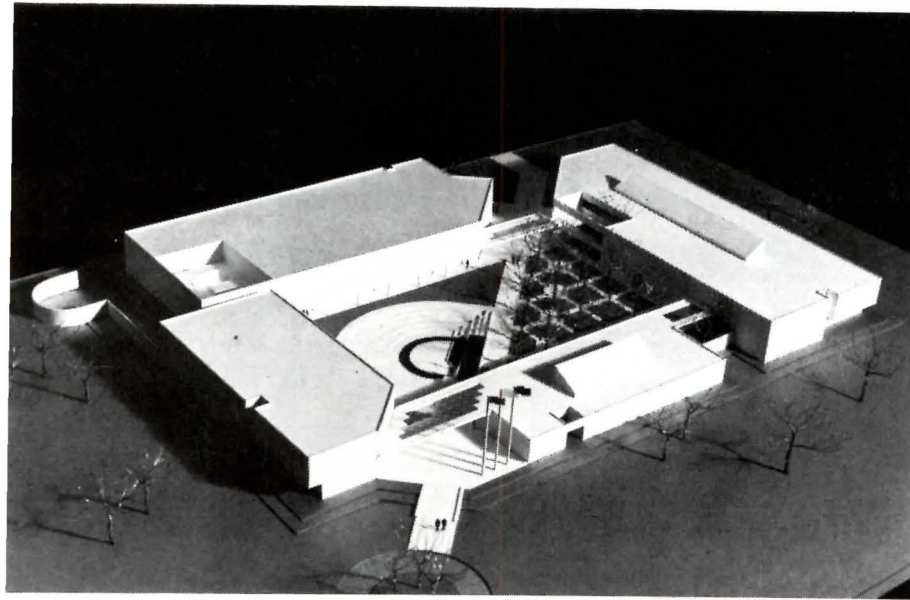
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Houston police academy has "tactical village"

The L. D. Morrison, Sr., Police Academy, now under construction, will provide Houston's police department with classrooms, a 24-position shotgun and pistol shooting range, two driver-training courses, and a "tactical village," in which decision-making problems can be set up for stress training and which can accommodate simulated crime scenes. The McGinty Partnership, Architects, Inc., disposed the academic and administrative buildings around a quadrangle that contains an 800-seat amphitheater for graduation ceremonies. The quadrangle also establishes a diagonal

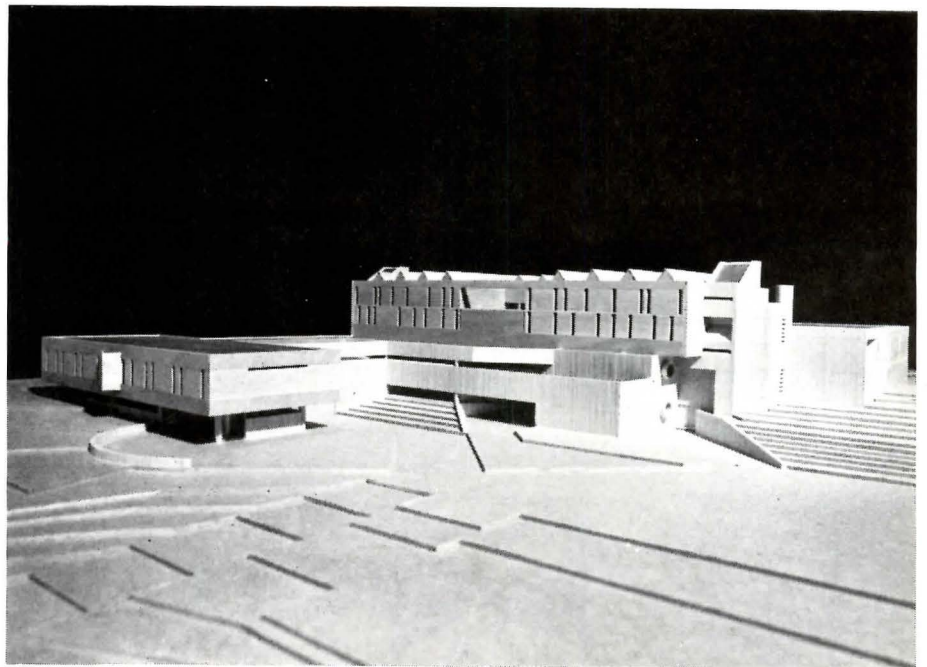
axis for a view and circulation from the visitors' entrance to outlying facilities. The architects report that one of the critical design problems was noise control: the 70-acre site is adjacent to Houston's Intercontinental Airport. Design features for noise attenuation include internal acoustical zones with monitors to provide natural lighting, lead shielding in the roofs, and triple-wythe masonry walls. These techniques, plus digital control systems, helped the designers achieve an estimated 30 per cent reduction in the building's air-conditioning and lighting load.



Omaha county jail exhibits correctional reforms

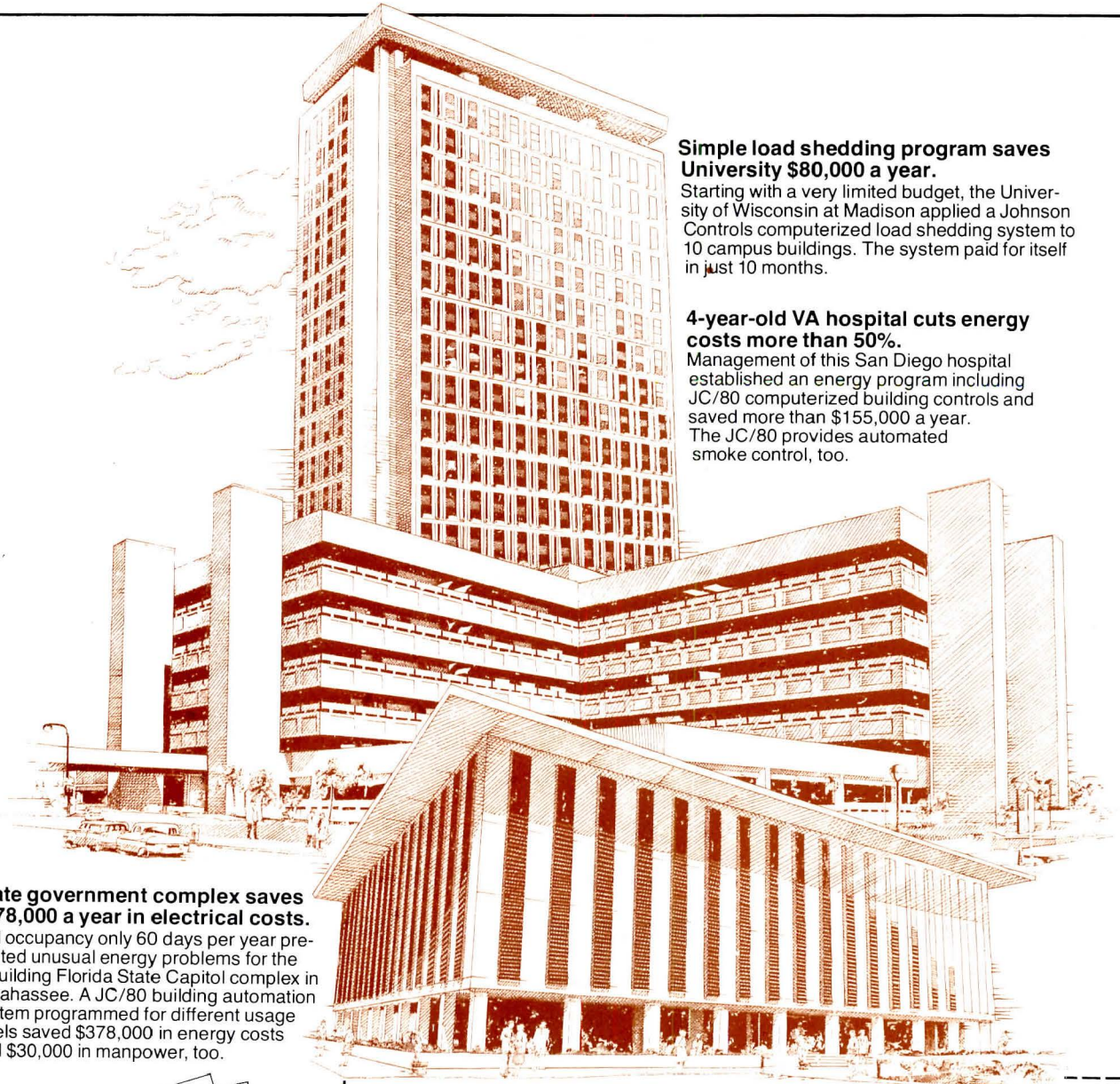
With the help of a \$5-million grant from the Law Enforcement Assistance Administration, Douglas County, Nebraska, developed a program for "a model correctional system and facility" for its new county jail in downtown Omaha. The new standards call for work release and training programs and, say architects Dana Larson Roubal Associates, "an atmosphere reflecting the right of privacy and self-respect of the incarcerated, while maintaining secure detention," and a facility "conducive to the development of staff correctional approaches." (Under the program, the recently established County Correctional system will relieve the sheriff of responsibilities in this area.) The facility provides for the separation of offenders by the

seriousness of their offenses and the length of their sentences, with medium-security prisoners on the third level of the building and low-security prisoners on the second level. Female offenders will be housed on the second floor of the administrative wing, separated from the rest of the building by an outdoor exercise deck. All cells are designed for single occupancy and are located around the perimeter, with 5-in.-wide windows running from floor to ceiling. The rooms are arranged in groups of 11 to 20 around common dayrooms, dining and recreational space. Solar collectors will provide heat for about 75 per cent of the jail's domestic hot water and 10 to 15 per cent of its space heating.



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Toward a natural history of architecture

THE PRODIGIOUS BUILDERS, by Bernard Rudofsky; Harcourt Brace Jovanovich, \$14.95.

Reviewed by Lyrinda Snyderman

I remember vividly the excitement which I first felt upon the discovery of Bernard Rudofsky's first book on the subject of primitive and vernacular architecture, *Architecture Without Architects*, the catalogue to his 1964 photographic exhibit at the Museum of Modern Art in New York. Since then, I have experienced firsthand the aesthetic adventure of staying in an exquisite granite and thatch cottage nestled among the English moors, the wonder upon viewing the awesome cyclopean masonry of the Incas and the elegant tenoned limestone friezes of the Mayas, as well as the exhilaration of wandering among the hollowed-out cave dwellings and tortuous moccasin-worn paths of our own Southwestern mesas. It is the immediacy and power of such structures and the exquisite excitement of such spatial experience that Rudofsky conveys so eloquently in *The Prodigious Builders*.

The book is a poetic gazeteer of vistas into the isolated aeries of the present and the remote eras of the past, and its subject matter runs the gamut from apiaries to ziggurats, from architectural details to entire cities and extends from pergolas and pavilions to caves and quarries. Through his provocative comparison and ironic contrast of our architectural amenities to these structures of the unselfconscious tradition, the author compels us to question our own cultural traditions and stylistic prejudices and, consequently, to develop our critical insight and aesthetic sophistication. Furthermore, he believes that "the philosophy and knowhow of the anonymous builders present the largest untapped source of architectural inspiration for industrial man."

In treating subjects traditionally considered the province of the archaeologist or ethnologist as "architecture" and "art history," Rudofsky compensates for a body of architectural history which has been primarily concerned with the domains of the powerful and the wealthy, and instead he presents us with structures representative of more gregarious and poetic ways of life and with fewer pretenses to functional determinism.

The autochthonous architect is, in the words of historian James Marston Fitch, the "captive of an economy of scarcity," and in

the tradition of Viollet le Duc and Pugin, who along with Morris and Ruskin helped pave the way for the appreciation of vernacular art, the author extols the formal elegance of structures disciplined by such functional necessity. Nevertheless, in the tradition of Venturi, Rudofsky praises the vitality of their inclusive and complex compositions as the source of their aesthetic power. In the over 300 extraordinary photographs (over 100 by the author himself) and rare illustrations in the book, he celebrates the untrammelled spirit of the anonymous builder.

The *tour-de-force* is one manifestation of the anonymous builder's prodigious skill. The stones of Incan Cuzco's defensive ramparts of Sacsayhuaman average 15 by 12 by 10 feet in size and fit together like living cells, whereas one single stone of Osaka Castle in Japan is 47 feet six inches long and 19 feet two inches high. And, like the architectural student's traditional challenge to support a brick at the greatest height with the least toothpicks and glue, and like the medieval Frenchmen who stretched their cathedrals to the point of collapse, the anonymous artisans constructed castles and towers to their achievable limits, like Fleckenstein Castle in Alsatia, which loomed gaunt and immense over its 21-foot-wide base.

In the pure geometry of many ceremonial structures of the prodigious builders is manifest a keen love of *mystery* and *drama*; such settings include pyramidal platforms, freestanding columns and trilithons, neolithic stone rows and circles. The more complex spiritual descendants of these structures became instruments for investigating and celebrating the arcana of the universe; they include Stonehenge and the minimalist sculpture of Samrat Yantra, the astronomical plaything of a maharaja of Jaipur. Their ideological second cousins testify to a relish for adventure; I can imagine the thrill of the first intrepid Chinese daredevil to sally forth into the blue on the wings of a 4-ton kite!

Sheer *exuberance* of surface ornament is also an evocative manifestation of such spirit. The spirals of Malta's Hal Tarxien shrines, carved 6,000 to 7,000 years ago, and the florid painted arabesques around a Mauretanian portal are delightful examples portrayed in the book, as are the complex turned wood screens of Arabia and the staccato fillip of the finials at the apices of the conical stone rooves of the trulli of Italy's Apulian region.

Another manifestation of the unique vitality of indigenous structures is in their highly charged *symbolism*. Rudofsky, like Joseph Rykwert in his *On Adam's House in Paradise*, sees the dwelling as the "repository

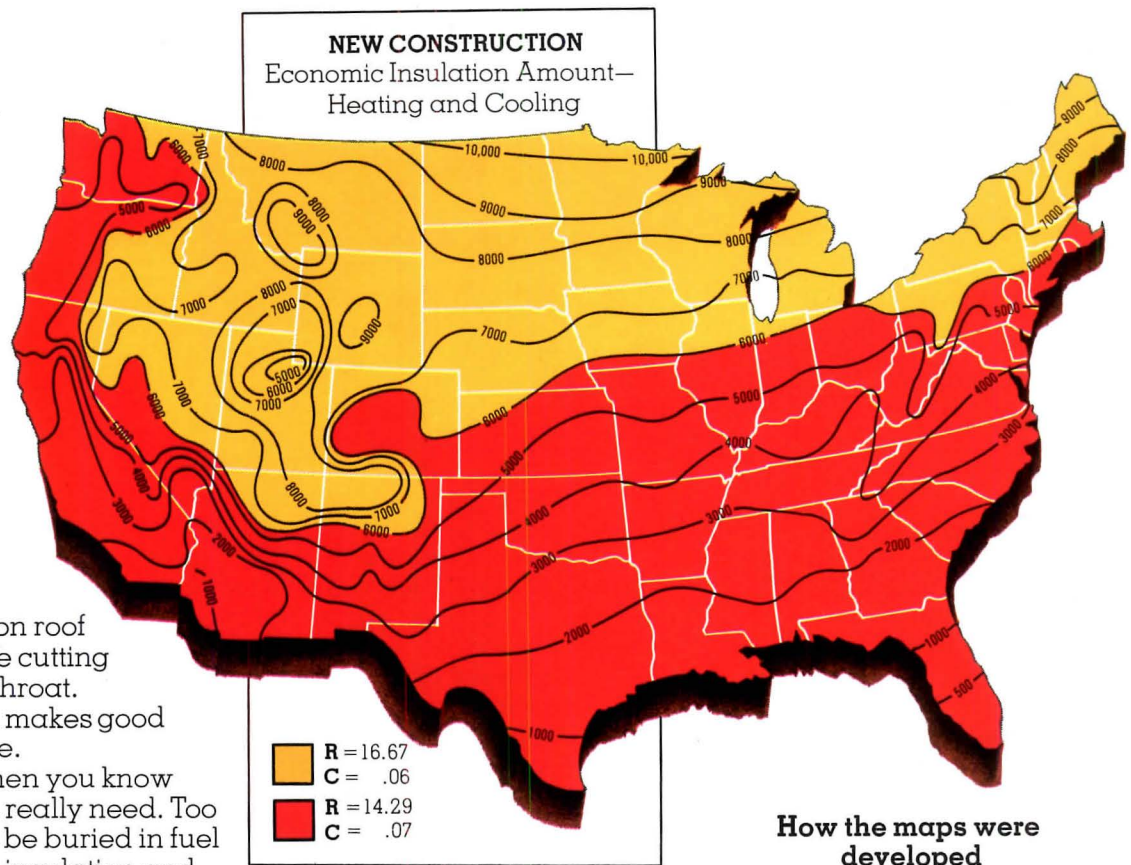
of our wishes and dreams" and "our memories and illusions." The largest houses of Papua, New Guinea, for instance, represent alligators, their gently smiling jaws agape. The "Big House" of the Dogons of Mali represents in plan a recumbent, procreating man, where the sex organ is the entryway and the breasts are two jars of water, strategically placed. The author contends that we are impoverished by the total lack of such metaphors and anthropomorphism in our straightforward and psychologically and unsophisticated houses.

The untutored builder delights in his ability to outwit the elements. Pointing out that we take for granted that our advanced technology should scorn nature's gifts, he shows how they instead capitalize upon them. He describes how in modern Pakistan and in ancient Egypt and Peru natives built wind-scoops to funnel the prevailing breezes from on high into their homes, much like the "belvederes" of such contemporaries of ours as Donald Watson and Everett Barber. He also describes early precedents to our current mini-trend of burying our buildings and berming our ground floors, such as the entire communities of farmers excavated into China's loess belt. Also, as he did in *Streets for People*, he applauds the utter civility of cultures which bestow upon their public the arcaded street; Bologna, Italy, alone has over 20 miles of these benevolent arcades.

Building traditions, like that of southwestern Turkey, which has survived as much as 5,000 years into the present, are readily annihilated by our homogenizing industrial technology. Rudofsky asks if we are not the less for their demise and in turn recommends the examples of ethnocentric and archaeological parks, such as our Colonial Williamsburg and Plimoth Plantations. He also opts for adaptive reuse of existing structures, noting that the symbiosis of a "squatter" and an abandoned structure extends the life expectancy of both. He observes that the Vieux Carre in Split, Yugoslavia, once Diocletian's palace, is now teeming with residential infill, and that traditional stone dwellings in southern Italy have been resurrected and have gained new popularity as nonpareil summer cottages.

In exposing architecture as not only a reflection, but a conditioner of our ways of life, the book reaffirms the awe-inspiring power of human-scaled forms to move our souls and create a powerful sense of place. And it is with this sense of moment that we are bid: go forth and shape the world—but shape it with the same sensitivity, wit and affection brought to it by the author of *The Prodigious Builders*.

How saving money on roof insulation is a quick way to go broke



Cutting down on roof insulation is like cutting your financial throat. Roof insulation makes good economic sense.

But only when you know how much you really need. Too little and you'll be buried in fuel cost. Too much insulation and it'll seem like forever before you recover the cost.

Here's a not too farfetched example to show you what we mean: A million-square-foot (1,000,000) plant with a minimum amount of roof insulation "R" 2.77 ("C"—0.36) in the northern part of the country with 7,000 degree-days and 500 cooling hours. It can cost you \$129,700 per year to heat and cool.

Assuming a 5% annual inflation in fuel costs, seven years from now the same building will conservatively cost you a whopping \$208,250 to heat and cool per year.

But there's more to come. The original equipment cost

for heating and cooling our not so farfetched example could run as high as \$1,900,000. How's that for a quick way to go broke!

How to avoid going broke

Take a hard look at these two "Economic Insulation" maps. Using 7,000 degree-days, 500 cooling hours and 80°F temp. difference. The map for a new roof recommends an "R" of 16.67 ("C" of .06). Translated into energy costs a year, that's only \$25,000 to heat and cool this building. A savings of \$104,700 the first year and a possible reduction in equipment cost of \$1,500,000.

How the maps were developed

Owens-Corning has taken twenty years of energy management experience and put it into a computer.

We used a metal-deck commercial or industrial building, with gas heat and electric cooling, as our base. We did thorough calculations for degree zones throughout the country. Then we factored in a 15-year building life. A 5% annual fuel inflation estimate. We put corporate income taxes at 48%. Electric costs at \$0.03kwh, \$1.80/M cu. ft. (1 million btu) for gas. Equipment costs were pegged at \$1000/ton—cooling. \$35/1 M btu—heating. Plus 5% equipment maintenance cost. Roof resist-

Consultant profile: the food service planner

The industry publication *Kitchen Planning* claims 5600 architects, design firms and consulting engineers as subscribers, a fact suggesting that a few design professionals are regularly involved in planning and designing commercial and institutional kitchens. However, the opportunities to design food service operations prevail in almost every non-residential building type, especially health care facilities and a growing number of corporate office buildings where company-run cafeterias are part of an upward trend. Since the operational problems of mass feeding are compounded by the operators' concern for return on investment, planning and design of even small food service operations can be sufficiently complex for the architect, to warrant outside help. In the case study that follows—the renovation of Cleveland Clinic's food service operation — Ronald P. Kooser, of Cini Grissom Associates, sketches some of the management and design services typically provided to the architect and building client by food service consultants.—Ed.

by Ronald P. Kooser, FFCS

Probably the most important concern in institutional food service today is the same as that which the commercial operator has always had as a prime interest. That concern is *return on investment*. It has been Cini Grissom's experience over the last several years that hospital administrators, university presidents, and other levels of administration involved in food service are looking at the potential investment of several hundred thousand dollars as one which should be reviewed as any prudent financial decision.

This concern requires evaluation of various trends or methods of controlling and decreasing labor costs, food costs, and capital costs as well as energy conservation. Whether to use "ready food," "chilled food," or other methods of centralization and increase efficiency of labor intensive tasks are the major interests. "Ready food" involves the ability to produce in an efficient manner large columns of food and freeze either in bulk or portions for later thermalization and service. "Chilled food" is similar in function, except that it provides the opportunity to chill food rather than freeze. This saves energy since less heat is removed from the product and fewer chemical changes occur when chilling the product.

Other methods of extending shelf life such as irradiation and pasteurizing of food are being investigated to provide an opportunity to produce food in a different scope of labor intensity that the service requires. If it is possible to completely separate these two functions, production and serving, it is possible to level out the peak service requirements

Mr. Kooser, FFCS, is Vice President of the Cleveland, Ohio-headquartered Food Service and Management consulting firm of Cini Grissom Associates, Inc. He directs the Design Services Division, and was responsible for his firm's services at the Cleveland Clinic.

when considering production, to a more consistent and efficient method of operation. The ideal situation is to run a food production facility 40 hours a week and provide the service requirements as necessary to meet the demands of the patron.

Initial stages of programming should include market and management goals

Proper definition of the market and management goals and objectives must be defined in the initial stages of programming. No longer can an architect afford to give a kitchen designer an area determined by "rules of thumb" and tell him to design a kitchen.

It is the responsibility of the food service consultant to be aware of not only systems available, but how to adapt the systems to meet the needs of clients. If new equipment is on the market or coming on the market to fulfill a particular function, the consultant must know how it can best be utilized to operate at maximum profit or minimum cost, whichever is the program goal. The introduction of the "ready food" or "chilled food" systems is certainly a typical instance of something not being the answer for everyone since a low labor cost market or high utility cost market may not find it financially feasible to utilize these alternatives. However, energy management systems and energy conservation systems along with other labor saving items like the carousel cafeteria counters and microwave ovens when considered as a part of the system may make them feasible.

The carousel food wheels, for example, provide high-speed service where high volume is required in a short period of time. Since the patrons stand at a station as food passes by, they can see many items quickly, make a selection, and move along for the

next patron. This is accomplished with a minimum amount of service labor since kitchen personnel can also replace numerous items on the wheel from "the back of the house," or kitchen area.

However, this is not the answer for all situations, since a minimum number of patrons is required for every meal period within the service time to keep the wheel operating at its maximum efficiency. Too few patrons do not require enough food items to maintain the attractiveness of merchandising the food properly.

The "ready" and "chilled" food systems require the reformation of recipes to accommodate chemical changes brought about by the freezing or holding process. This requires management expertise or the availability of this service through the consultant. Retraining and development of new operating procedures and manuals are also required with any new system of operation.

The incorporation of an ingredient room may be essential to the controlling of costs and quality. This room provides a point of issue to the cooks or production staff for all items required to be cooked for that day in a state ready to be processed. All ingredients are weighed, cleaned, cut and all other required steps completed to provide the cooks with that day's production cycle ready for their prime function to be completed—cooking.

Clinic's previous food service presented serving, distribution problems

Our main goal and objective was to provide high quality food to the patients and the staff of the Cleveland Clinic at the proper temperature at a reasonable cost. This also meant a method that controlled costs not only now, but in the future. The temperature of the patient food was of utmost concern due to the distance necessary to deliver from the central kitchen to the various wings of the hospital.

The employees serving facility and dining room was another of the major areas of concern. The original layout contained two straight serving lines within an old dining room. It had not been remodeled or updated for years and did not provide a very pleasant dining experience for the employees, or break from their daily routines.

The doctors'—or staff—dining room was totally inadequate. It was necessary for staff to wait in line with other employees to

obtain lunch, and long lines were created through the corridor by people waiting to get into the dining facility.

A new dining room space had been allocated in the Carnegie Wing which was constructed adjacent to the main building. After several years of discussion it was determined that the dining facility for employees would be installed in this wing, and would be designed to feed approximately 3500 at lunch, and provide breakfast and dinner on a more limited scale. A separate staff or doctors' dining room would be located in the old cafeteria area. This was to have a non-institutional look, and be capable of feeding approximately 300-500 staff members.

In order to accomplish the design criteria for the doctors' dining room, a sawtooth serving line designed as a buffet was installed using very little stainless steel. The sawtooth effect eliminated the site lines of a straight cafeteria and the inherent equipment. The dining room was carpeted and furnished to create a more formal atmosphere.

The employees' serving area was designed as a very light, airy and cheerful space with colors and materials selected to reflect this atmosphere. In order to serve the large number of employees in a short period of time at lunch, two circular rotating conveyors were installed to provide a fast method of food selection. A fast-food counter was also included for those who preferred sandwiches. Beverages and cashiers were located in remote areas to eliminate lines.

Management services preceded the consultant's design activities

Analysis of all the systems available was made including capital cost, labor, energy usage, food quality, and management demands. These were all performed at the institution under controlled procedures to determine their compatibility with the Cleveland Clinic's goals and objectives: were

1. *Systems Analysis:* In order to determine the best method of production and patient service to provide food at proper temperature, we worked with the staff at the Cleveland Clinic in evaluating all the systems available on the market, and those coming on the market in the near future, which were applicable to this operation. This was done by touring numerous facilities throughout the country and factories where systems were under development. Upon completion of these visual observations, a test facility was established at the clinic to physically evaluate the systems on site.

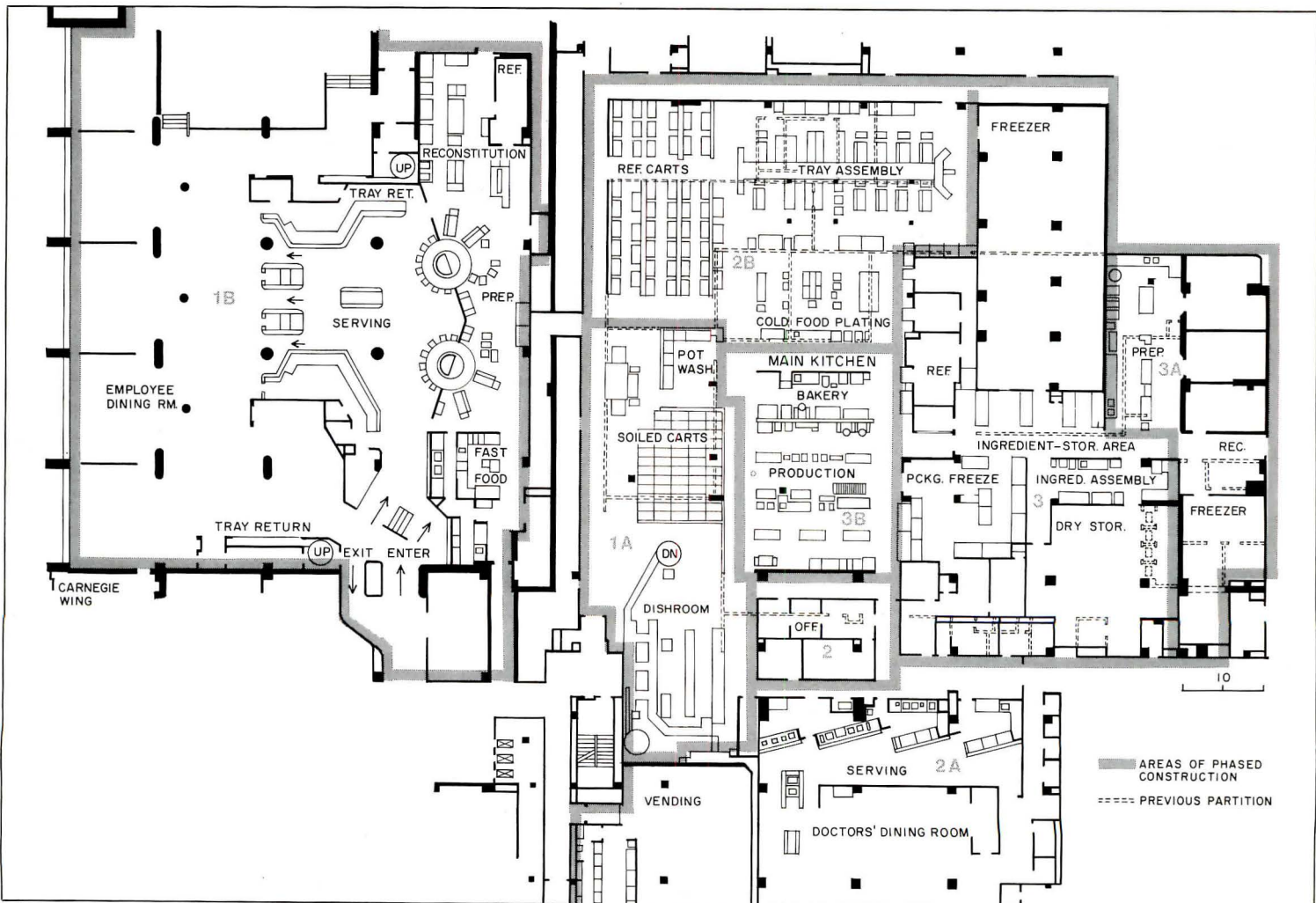
Each system was evaluated regarding capital costs, labor costs, utility costs, and other ongoing operating costs such as packaging, maintenance, etc. The menu proposed for the new operation was totally analyzed in terms of each item, its method of production, holding, and thermalizing. This permitted accurate sizing of all equipment in relation to volume and labor.

2. *Soiled Tray Conveyor Return:* A total analysis had to be made to determine whether a second dishroom should be installed; all

disposables utilized; all trays returned on carts by manual labor; or an automatic conveyor system installed. The capital cost of the conveyor along with its inherent operating costs had to be carefully analyzed regarding comparable labor costs or product cost in the case of disposables. All parties wished to simplify the conveyor, or eliminate it. But, since the new cafeteria was 3 feet above the dishroom level and there was a very limited area to penetrate through the wall adjoining the two areas, a conveyor was necessary.

3. *Waste Handling System:* The volume of waste created by the single dishroom posed a problem of waste handling. The location of the dishwashing facility in the center of the dietary department was most logical due to the patient and cafeteria trays return path. However, it did create a major traffic problem in moving waste to the dock area. Again, the capital, operating, labor and additional costs had to be analyzed versus the labor of moving all of this trash through the kitchen. A decision to install the waste removal system was reached.

4. *Cash Handling:* The volume of patrons that would pass through the employee cafeteria created a major concern from the point of cash handling procedures and speed of service. Typically, the cashiers' counter is the slowest point of service and can create major bottlenecks in traffic patterns. Since there are many types of cash register systems, with various record-keeping options, our management group analyzed all of the electronic



cash register systems on the market to determine which system best suited the Clinic's needs both for adequate speed of cafeteria service and the information produced for cost control records and management information systems.

Maintaining service during construction is essential in health care facilities

Our design group coordinated very closely with the Clinic's architect in residence, Malcolm Cutting, and project architects, Dalton, VanDijk, Johnson, to coordinate the phasing of the construction and the feasibility of the construction of the new system. It was Cini Grissom's responsibility to prepare all bid documents for the food service equipment and work closely with the engineers and other consultants in coordinating their needs, including:

1. *Table selection:* In conjunction with the dietary department, our design group performed an analysis of the requirements for both patient and staff dining in order to provide a table top esthetically coordinated with the dining areas and the patient tray set up. This involved consideration of portion sizes and how they appeared on the plate as well as the size of the plate as it appeared on the table and tray. Cost analysis, breakage, ease in cleaning, ease of storage, and temperature retention were also considered.

2. *Phasing schedule:* Due to the complexity of the Cleveland Clinic project, as is the case in any health care project that involves

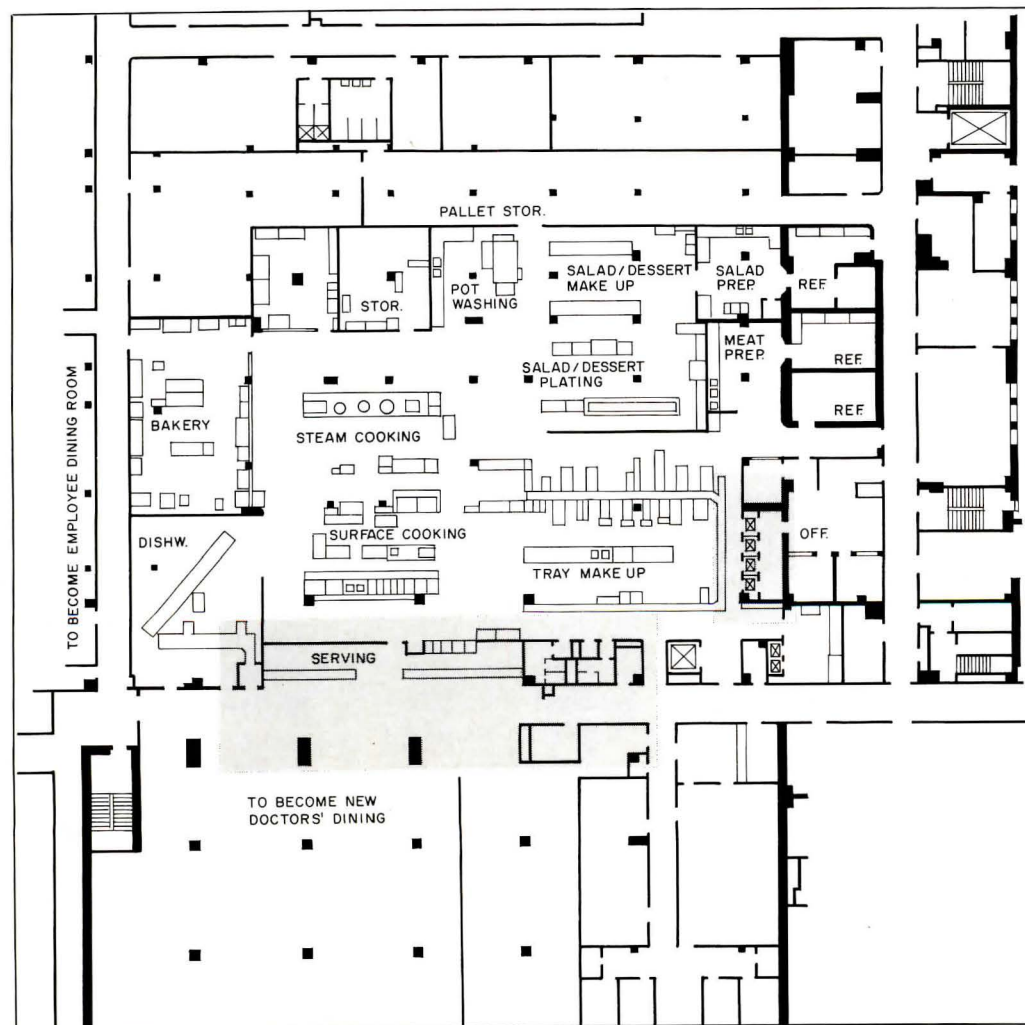
remodeling, it was essential to determine very specific phasing of the construction. A health care facility is unique in its requirement to maintain service for all patients and staff throughout construction. This was made more difficult at the Clinic, since the main production area for the new kitchen would be located almost in the same position as the old cooking batteries, a decision determined by the general flow in the space and also by the need to utilize existing steam lines, drain lines, water lines, etc.

Since the area indicated as 1A on the phasing plan (below) had formerly been utilized by the dishwashing facility, it was decided that this would be the first area of construction that could be started and completed. The area indicated as 1B on the drawing was vacant and could easily be worked on and completed in the first phase, although it had no conjunction with the main kitchen. Therefore, 1A and 1B were started at the same time in the hope that 1A would be completed as soon as possible. Fortunately, the Clinic did have a second dishroom that could be used for some of the services although it was not adequate to assume the entire load of the facility. Therefore, disposables would have to be used during this period of construction. This is a factor that often is overlooked as a cost of construction.

Upon completion of 1B, the new cafeteria was available for all staff members and employees. This permitted the old cafeteria to be included in the second phase, although

again it had no conjunction with the completion of the production area. Area 2B was also vacant, formerly used for various storage and locker facilities which were going to be relocated. This could also be included in 2B although a great deal of demolition work was required in order to make this area ready for completion. It should be also noted that the vending area which was part of 2A had to be completed before some of the storage could be relocated from area 2B into the vending room on a temporary basis.

The old tray assembly line was located in the center of area 3, and was going to be relocated into area 2B. Therefore, construction could not start on 3 until 2B was completed and the new tray assembly was constructed and ready for operation. However, 3A which was a remodeling of the existing walk-ins and the adjacent areas could begin as a part of phase 3, before 2B was completed. Upon completion of phase 2B, phase 3 and 3A were both underway, leaving 3B for the final step of revision to a chilled food system. During the construction of 3 and 3A, many of the underfloor lines for drain, water, and steam were being run so that a minimum of "down" time could be projected for the 3B production area. Once construction started in 3B, it was necessary to shift from one area in 3B to another as steam kettles were completed and that area was screened off from dust and dirt; then the ranges were completed, and screened off and the bakery was completed.

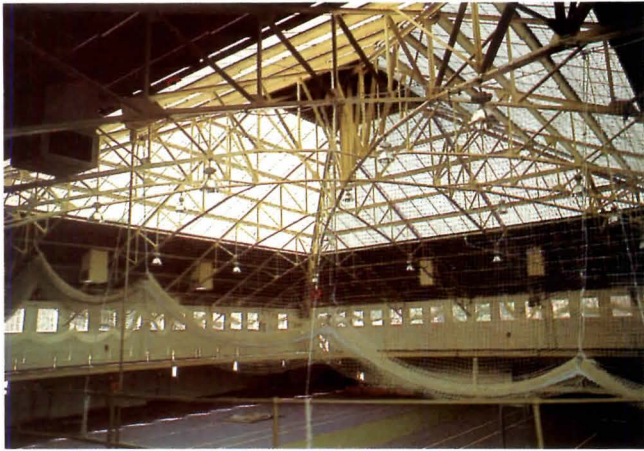


The plan at the immediate left is the old kitchen. Shaded areas refer to two key trouble areas in the old plan: the serving area, and the vertical distribution system to patient floors. The new kitchen and dining rooms are shown on the plan, far left, and the construction phasing is indicated by the shaded lines. In 1972, Cini Grissom began programming at the Clinic. In 1975, they started their system review, testing and preliminary designs. In January 1976, construction began, and the cafeteria opened in June of that year. The doctors' dining room opened in November 1976, and the main kitchen was completed in April 1977. The implementation of the chilled food system occurred this year.

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Identifying your markets of the future

As a consultant, I discover that 92.4 per cent of the people who come in our door with marketing problems cannot solve them with marketing solutions. The solutions are management-oriented, organizational, and internal. That's why we became management consultants. I have also noticed that there is an evolution in the way design firms are applying management and marketing, and that there is a distinct difference between architects and engineers in that regard. It's my observation that in management, engineers are about five to ten years ahead of architects. In marketing, architects are about five to ten years ahead of engineers—that is, in terms of making marketing a formal, organized function; getting complete commitment of the people; budgeting; and all the other things that are related to it. Therefore, the fun we have in following this over recent years is that we begin to observe some trends. I might start with some of the criteria for identifying future markets. But I want to contrast that with the criteria for managing future markets.

by Weld Coxe

As management consultants asked to help identify markets of the future we would say: do market research. That involves volume, demographics, or demo-economics, building and service types, geography, etc. If you plan to do any market research, I strongly urge that you get your key people to learn about it and do it internally. You'll get ten times the payoff compared with hiring somebody from the outside to do it for you.

There are people who will do market research for twenty years ahead, five years ahead, and some will have a hard time doing it one year ahead. I think the parameters vary tremendously depending on the kind of data and the type of markets you're going to develop. But it is possible for market research to identify where certain kinds of work are going to be down the road.

And then, of course, when you have all that market data, you develop a marketing plan which includes staffing, roles, budget, yardsticks for measurement and feedback, implementation, etc.

Probably the classic case of identifying and developing a new market was written by an AE firm on the West Coast some years ago. DMJM, one of the largest airfield design firms in the early sixties, had 2,000 people worldwide, mainly building SAC bases. They began to see the end of that. They commissioned a market research study to determine

what would be the largest single new engineering/architectural market in the 1970's for large-scale firms such as theirs. The data from the study said: urban mass transportation facilities.

Having done the study and understood the market and the geography, DMJM developed a plan. They didn't have anybody in-house who knew about mass transportation facilities, so they hired a leading mass transit engineer; they assigned to him a full-time marketing support person with a budget in the range of \$75-100,000 per year, and gave him two years to come up with the first job, and three years to determine whether it's a viable market. That was a real case of corporate planning. In point of fact they started in 1969, got their first mass transit job in 18 months, not 24, and today, they have a big share of the market.

Health care/retirement facilities and environmental design are strong markets

One of the new architectural market opportunities we see—and one of the more interesting building types—is congregate care or life-care retirement facilities. These are facilities where people can retire with a one-time payment and one flat monthly payment to cover not only shelter but complete food service, and health care for the balance of their days. As a major building type, the statistics 3½ years ago indicated that five to ten of these buildings were being started each year, mostly by non-profit sponsors. The forecast was 500 to 700 such facilities at an average budget of \$10 to \$14 million within five years. The latest forecast we did trebled that, and it's going to be the major new HUD program next year. Therefore, this is an immediate market to move on.

Another strong architectural market is behavioral-based design. I happen to believe that we're on the threshold of understanding how the physical environment on a room-to-room basis really affects human behavior. When that breaks through and captures the public imagination, it's going to be a bigger revolution than the energy market.

New opportunities in engineering (in no particular order) include the marine and ports market, and water treatment. The first, marine and ports, stems from the fact that water commerce is going through some major revolutions technologically—containment, for example. Largely due to oil, water commerce is suddenly more profitable and most of our ports are obsolete. There is also a redistribution of many products and a changing demand. Wherever the ports are in urban areas like San Francisco, there's a tremendous push to completely redesign the environmental quality of waterfronts. Add to that, offshore oil tankage and floating nuclear reactors, and you see a good market.

Another opportunity is water treatment. I believe that the funding of water treatment is going to continue, and those firms working in this area are going to be busy for another five to seven years.

An excellent engineering market is in urban retrofit. The older urban areas of the country are going to compete with the mountain and sun and water locations for environmental excellence, and I think in the immediate future that urban environmental upgrading is a superb market to pursue. I feel architects are aware of this, but that many professionals have not developed a full scale marketing strategy in this direction.

That's the oracle talking, maybe ten to thirty years ahead.

Theodore Leavitt's "Product life cycle" is an important concept in identifying new markets. The theory says that there is a curve to the way every product or new market develops, and it's a factor of time on the horizontal line and volume on the vertical: a new product or market takes off only after a long period of low growth then peaks and declines.

One of our clients is a firm in Butler, Pennsylvania. In 1969 we did some goal-setting at Burt Hill Associates which was then 35 people. They said "by the way, as you look over the firm, we've got this young

Weld Coxe has specialized in the marketing and management of professional design firms since 1960. He is the author of *Marketing Architectural and Engineering Services*, and publishes "The Coxe Letter," a national monthly devoted to the market for architectural services. He is a founding member of the Society for Marketing Professional Services. This article is an edited version of a presentation given by Mr. Coxe at the March meeting of the Professional Services Business Management Association in San Francisco.



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associate who just won't get off the kick that there's something to be done in energy." The architect's name is Richard Rittlemen. Today, Burt Hill has over 70 per cent of their work in energy, and the name of the firm is Burt Hill, Rittleman and Kosar. There was no market research done in that firm.

What does that mean in terms of what we're addressing? It says a little bit about the product life cycle, and it says a little bit about the Delphi system. I'm sure there were Delphi people who said energy was one day going to be important. We all heard it, but I don't remember anybody paying much attention. But the fact of the matter is that what we've learned is the market finds the expert when the expertise is there at the right time.

Medium-sized firms emerged from the recession doing 40 per cent of the work

For architectural firms, there are some interesting statistics now on what might be called firm organization or firm profiles. For instance, 71 per cent of the firms are less than 10 staff. About 26 per cent of the firms are between 10 and 40 staff. And 3 per cent of the firms are over 40 staff. Our data on the amount of work done by these firms is revealing. The smaller 70 per cent of the firms are doing 30 per cent of the work. The largest 3 per cent of the firms are doing another 30 per cent of the work. The middle size 26 per cent of the firms are doing about 40 per cent of the work—in other words, more than their mathematical proportion.

It is interesting to see how these middle-size firms are organized. If you count the number of principals, the 3 per cent of large firms have about 5 per cent of the people listed as principals, owners. The 70 per cent of the small firms have about 55 per cent of the total. Most of them are one individual firms. The 26 per cent mid-size firms have about 40 per cent of the principals. We began to look at why the larger 3 per cent of the firms were often hard hit in the recession, and why the middle size 26 per cent of firms were really doing best, coming out of the recession as the fastest growing segment. The reason, we observed, had to do with how they were structured to serve their clients.

A long time ago, the typical design organization was an architect (or engineer) who acquired his own clients, and had a staff of from five to 15 people—the most he could manage. If he went into a partnership, each partner had his own clients. They shared the rent, but they each had their own staff. That

kind of firm never really integrated except at the office door and when they paid the rent. Clients could tell, and you'd hear in the marketplace, "well, I don't know much about that firm, but if you get Bill, it's great. By the way, don't get Joe." A lot of engineering firms are still like that today—they're really discrete practices under one roof. In architectural practice in the last seven years, the ones that were organized this way are all but out of business.

The reason is that clients began to notice the difference between the firms that are organized only around projects, and the practices that are organized as firms.

"Charismatic" marketers of the sixties are bowing to personal, principal salesmanship

During the sixties in architectural firms we saw the typical large organizations headed by a chief executive officer, a charismatic marketer or "closer" who could bring in clients. He had a team of project managers and all the staff, of course. The "closer" or the marketer would get the client and pass him off to a project manager or "doer" to execute the job. From a marketing standpoint if you had a George Hellmuth or a Vincent Kling or Charles Luckman as the "closer" at the top of the pyramid, a firm in the 60's could—and did—grow to 100 or 300 more people on the efforts of a single marketer.

Then a funny thing happened along the way through the recession. The firms that were organized this way—where one marketer was trying to hand off the clients, leaving other people to do the work—were severely hit by the recession. Most of them, if you ask their chief executives, will tell you "well, our market research indicates the market's gone." And I can't contradict that, except that our data indicates that there's another type of firm that keeps taking all the work away from them: a firm where the person who is the marketer is also a "closer," and also a "doer."

He tells the client, "if you hire me, you get me. I will be with you." How many clients tell their architects today that the person they really want to interview and get to know is the person who is going to run the job? These clients are giving their jobs to the firms whose "closer-doers" best respond to the client's needs.

There's a management limitation to how big an organization a typical "closer-doer" can support. In architecture, it's somewhere between 5 and 20 people per closer unless you're really chasing the big clients overseas.

The firms that are thriving are the firms that have a number of closer-doers, and there is overlap between them. Each one is serving some clients but they also overlap at the product level and quality control is firm wide. Thus, from the client's standpoint, no matter whom you get, you get the product of the firm. That, more than anything else, is what is justifying the matrix organization that more and more design firms are adopting today. The management of a matrix organization are people who cut across all teams making sure it's one firm from the standpoint of design, production, technical control, financial control, etc.

From a marketing standpoint, these "closer-doers" cannot be managed like the old project manager. What happens in your firm when you get a junior project manager who can get work? He opens his own office. If you get a staff person who can "close," you have either a competitor or a partner. What we're seeing in the firms that are growing fast and taking so much of the market right now, is that they're multi-principaled, where the principalship is "closer." In spite of much interest today in corporate-type organizations, some of the most successful firms are still partnerships.

Distinctive competence is what will sell in the markets of the future

It seems to me that in a very real sense *what you are* has more to do with your future markets than *where the work is*. We've seen far too many firms try to do future market planning by the DMJM example, but not many have the resources to deal with it. They may see a market, but then they try to buy it. My position is that the real future markets of design firms are created as much by what you are and what your distinctive competence is, without adding a marketing component. The question of how to find future markets is really better stated: What do you have to sell?

If you're going to worry about future markets, worry about developing people who are committed to those markets as people, and are able to be closers. If you have the expertise and commitment in the right place, your clients will find you with only a reasonable amount of formal marketing help. The market is proving again and again that it is still a game of professionalism. The client is hiring the people who embody professional services. As long as this is true, the market could never be more optimistic for design firms.



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Scrutinize indemnification clauses in owner-architect contracts

Construction industry contracts often contain indemnification, or hold harmless clauses to shift legal risks from one party to another. For instance, in construction contracts, it is not uncommon for the general contractor to be required to indemnify the owner and architect for claims caused by the contractor's faulty performance. In recent years, however, an increasing number of owner-architect contracts have included indemnification clauses requiring the architect to indemnify the client for claims stemming from professional negligence. Careful business and legal analysis is required before an architect should commit himself to a contract containing an indemnification clause. The liabilities arising out of such clauses depend on a number of factors: the scope of the indemnity language; the availability of insurance for such clauses; statutory restrictions on indemnification; and whether the courts will accept and enforce contractual risk shifting mechanisms.

by Arthur T. Kornblut, Esq.

Indemnification is a legal risk-shifting device whereby one party becomes responsible for holding harmless or protecting another party against loss or damage suffered by the latter party. Some common terms used when discussing indemnification are: *indemnitor*, or the party who will be doing the indemnifying; *indemnitee*, or the party who will be protected against loss; and *contractual liability*, or assumption, by contract, of another party's liability.

Indemnification clauses appear in three general forms: broad, intermediate and limited. The broad form requires indemnification even when the indemnitor has not himself been negligent; the intermediate form is operative when the indemnitor and possibly the indemnitee both have been negligent; and the limited form applies only when the indemnitor has been negligent. Today, clients sometimes seek to include indemnification clauses in the contract with the design professional. In many instances, the desire to include such clauses stems from the client's familiarity with indemnification in other types of contracts and a belief that it is always appropriate to shift as much risk as possible to the other party to a contract. However, what may be appropriate in a purely commercial setting can create special problems in a professional service contract.

For architects, a client's proposal for an indemnity clause needs to be carefully evaluated so the areas of risk, both insured and uninsured, can be clearly recognized.

Mr. Kornblut is a registered architect and practicing attorney in Washington, D.C.

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Insurance coverage

All professional liability insurance policies contain terms of coverage and a list of exclusions pertaining to items for which there is no coverage. In architects' professional liability policies, one common exclusion relates to claims arising out of the assumption by contract of the liabilities of another party (i.e. indemnification). In some policies, the exclusion states it will not apply if the insured would have had the liability even in the absence of the contractual agreement. Other policies require the insured to secure an endorsement from the insurance carrier before there will be coverage for contractually assumed liability. An architect confronted with an indemnity clause in a proposed professional service contract should review the pertinent exclusion in his professional liability policy. In the absence of insurance, by endorsement or otherwise, the liability flowing from an indemnity clause may be beyond a professional's financial means.

The coverage afforded for indemnification clauses under professional liability insurance policies normally extends to the indemnitee's liability for the insured's (the architect's) negligence. If a client proposes an indemnification clause which would require indemnity for all claims arising out of the project or the architect's services (without being related to negligence), the architect probably would not have insurance coverage for this risk. A decision then must be made either to assume an uninsured risk or to negotiate with the client to try to achieve an indemnity clause for which there could be insurance coverage.

Often, clients recognize it is in their own best interests for the architect to have insurance for the indemnification clause, because enforcement of an uninsured clause may not

be worth very much. With such clients, negotiations can lead to indemnity clauses keyed to claims arising out of professional negligence. When in doubt, an architect should not hesitate to contact his insurance carrier.

Statutory restrictions

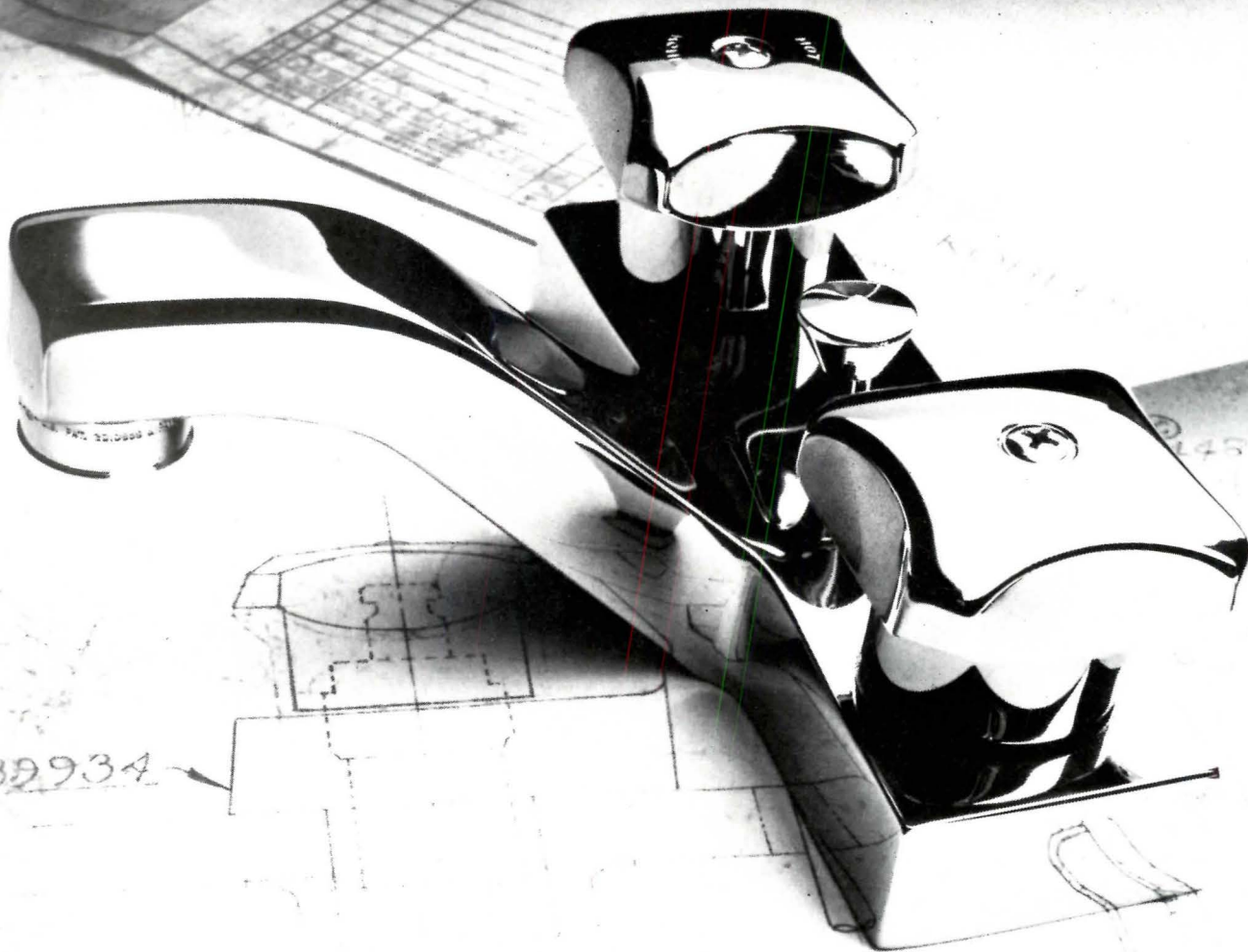
A number of states have enacted statutes to place severe restrictions on the use of indemnification clauses in construction related contracts. There have been few cases interpreting these statutes, but two cases in Illinois illustrate how the courts may view them.

In 1975, the Illinois Supreme Court ruled that the state's anti-indemnification statute was a valid exercise of legislative authority (*Davis v. Commonwealth Edison Co.*) Persuaded by the hazardous nature of the construction industry, the court justified the statutory voiding of indemnity clauses because it "thwart(s) attempts to avoid the consequences of liability and thereby insure(s) a continuing motivation for persons responsible for construction activities to take accident prevention measures and provide safe working conditions."

Then, in 1977 the same court clarified its earlier ruling by stating that the anti-indemnity statute did not outlaw all indemnification provisions in construction contracts (*Capua v. O'Neil Const. Co.*). Reversing a lower court dismissal of a suit against contractors and their sureties from whom indemnification was sought for a claim by a construction worker severely injured in a scaffold collapse, the court pointed to a provision in the statute which stated it did not apply to construction bonds or insurance contracts. The rationale for reconciling this decision with the earlier case was: prohibitions against indemnity will promote worker safety, and by not voiding indemnity provisions in bonds and insurance, funds will be available to compensate persons injured from construction.

These two cases illustrate the often fine distinctions drawn by the courts to interpret indemnity clauses and anti-indemnity statutes. This results from the interplay of two relatively conflicting legal concepts, namely one favoring the right to contract and one in aversion to the avoidance or shifting of liabilities. Parties using indemnity clauses, whether or not in a state with an anti-indemnity statute, should recognize the potential for non-enforcement or strict construction against the party to be exonerated.

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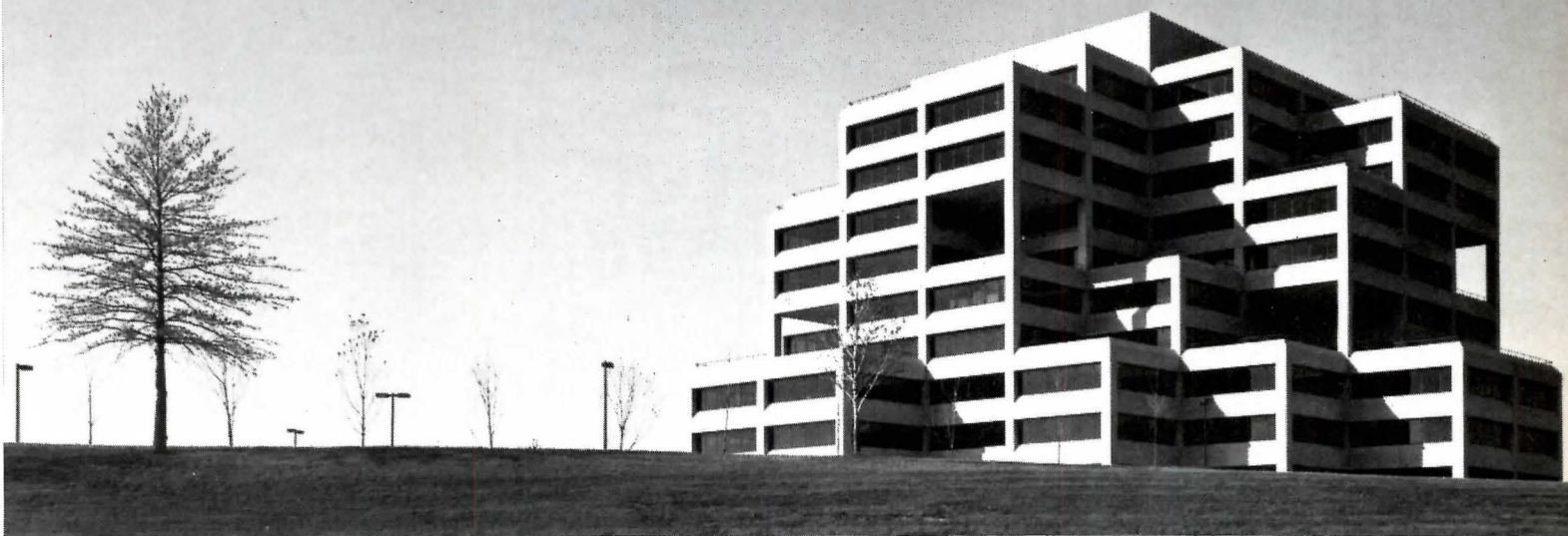
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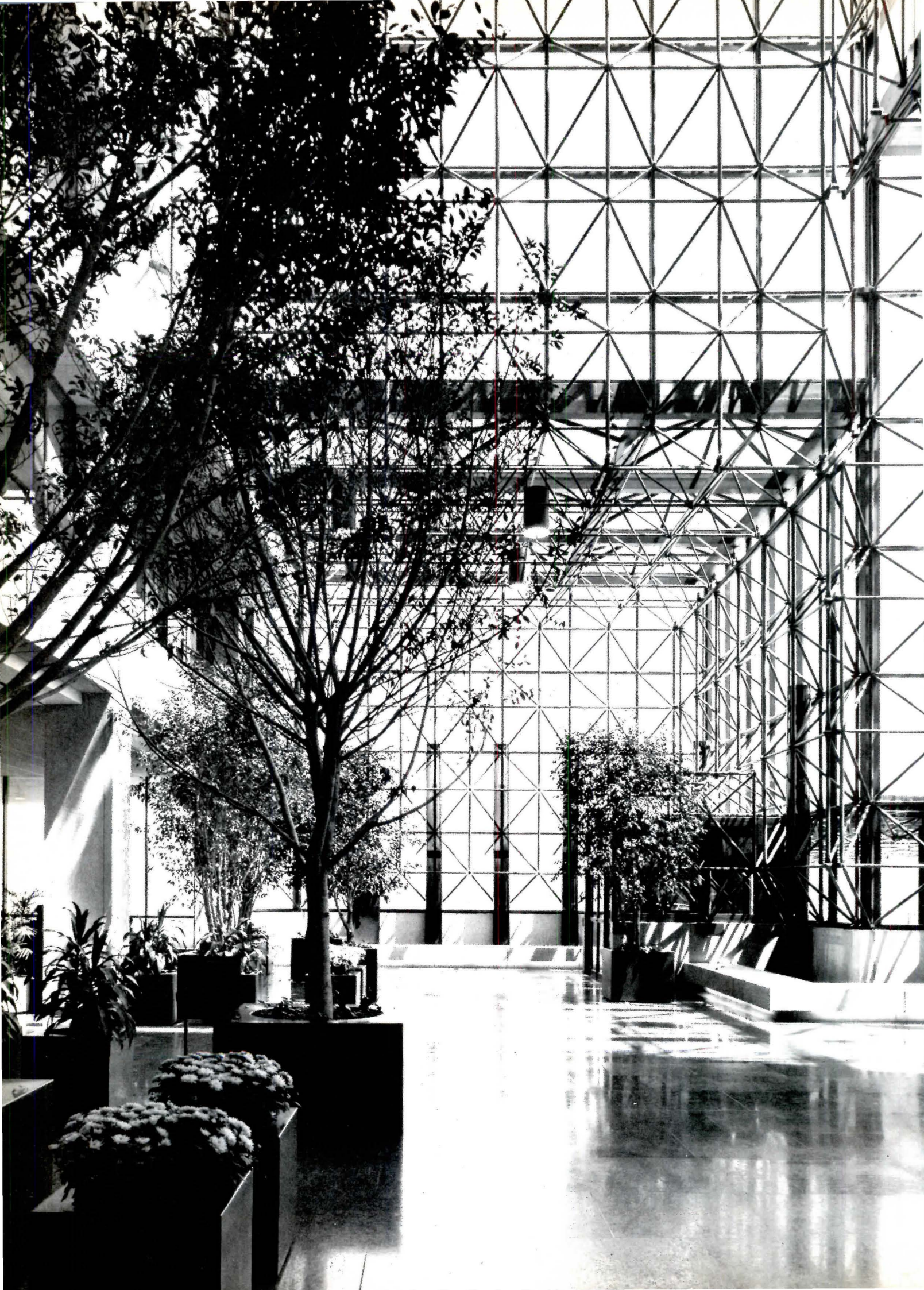
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URBANITY IN THE SUBURBS



Kiku Obata photos

Community Federal Center, located outside of downtown Saint Louis, has been designed by architects Hellmuth, Obata & Kassabaum as a strong and highly refined example of its building type, the suburban office building. And Community Federal is unmistakably appropriate to its type. It stands free on a large site, and its large floor area has been spread out to produce a moderate-height profile that is neither urban-tall nor rural-flat. But it is in the architectural language with which this building expresses itself that it becomes most distinguished. Community Federal is an exceptionally adept solution to the problems of resolving a corporate image in contrast with a normally small-scale residential environment. It is big (some 300,000 square feet worth). But there has been a splendid fracturing of the large mass that makes it sympathetic—with while not derivative from—its more bucolic neighbors. This powerful statement is clearly not disguised as a colonial house or a woodland camp. The sophistication of its massing and detailing are clearly most fitting to the sophisticated banking transactions within.



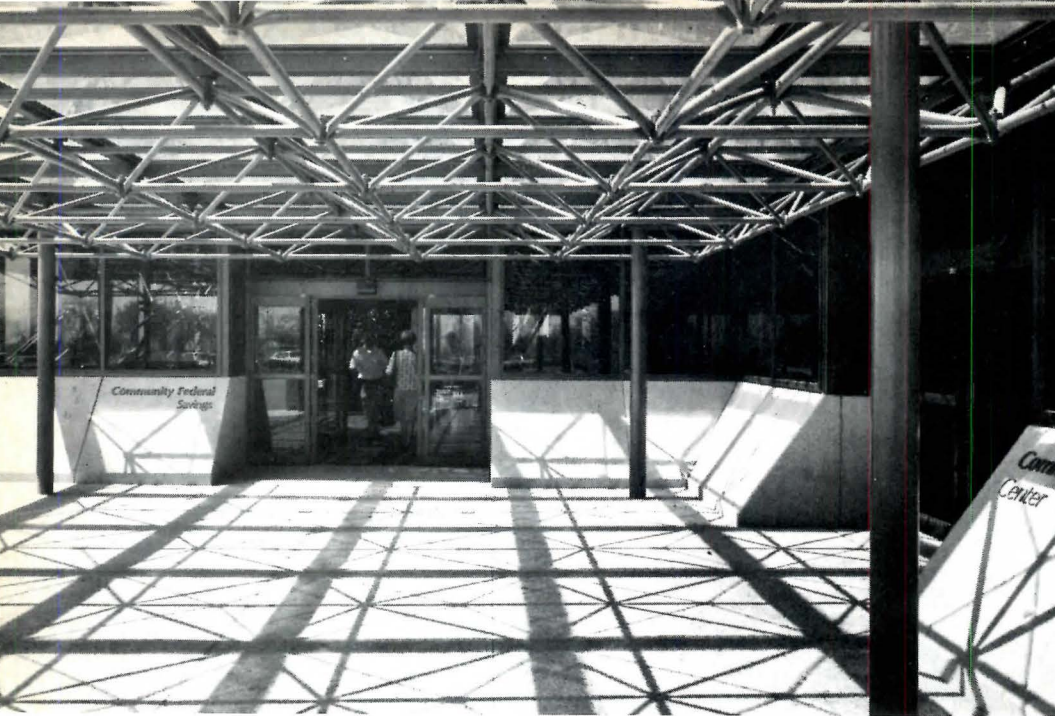
The rich variety of Community Federal's massing was produced by Gyo Obata and his design team in ways that are much simpler than is immediately apparent. Because of the many elements that comprise the facades, the sunlight makes ever changing patterns as it and the viewer move around the structure. Accordingly, the viewer has to really look to see that all four sides are essentially identical. The viewer also has to look to see that the concrete framing is placed on regular 30-foot-square bays.

The plan at the top of the ten stories is a simple cruciform shape with equal "arms" (see plan of executive floor overleaf.) As the floor areas gradually increase toward the bottom, they do so in a regular expanding pin wheel fashion. The initial visual effect is that of a pyramid composed of many boxes. And the resulting visual variety is enhanced by bringing the exterior walls inside the rows of exterior columns to provide partially covered terraces that are related to executive offices and employee amenities—such as a cafeteria on the fourth floor.

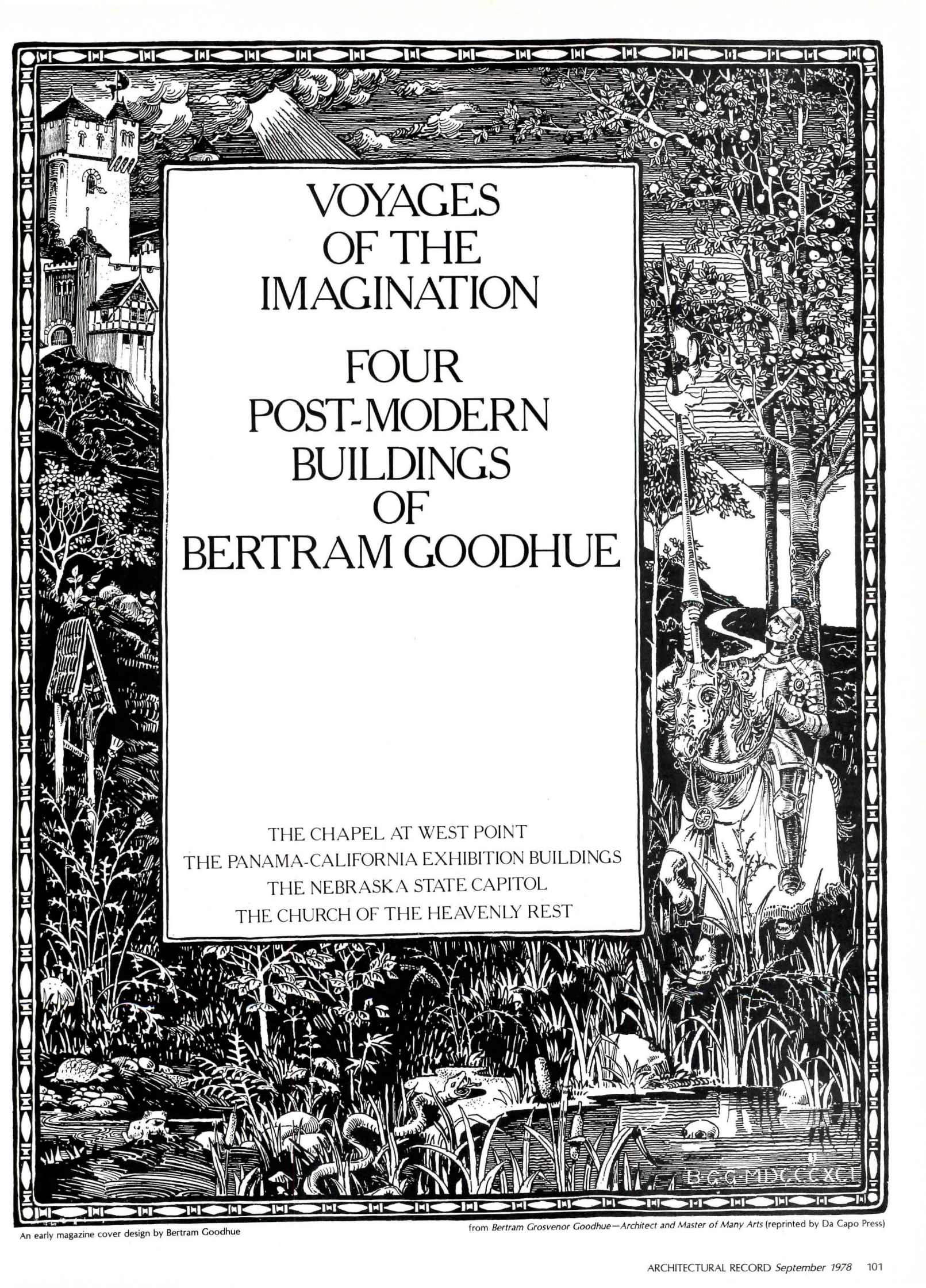
Of particular advantage to a bank's headquarters, the large number of corners generated by the scheme produce many prestige private office locations—as can be seen in the plan of the executive floor. The 300,000 square feet of office space are divided into 200,000 that are to meet the bank's projected requirements through 1983, and 100,000 that are to be leased until 1983.

Access to the office floors is through a lofty lobby (photo opposite) that projects from under the main building frame. Here glass walls and a roof of pyramid-shaped skylights both set in thin steel framing





At the entrance to the "atrium"-lobby, a canopy extends from the building and repeats at close visual range the high steel supports for the skylights inside. The pyramid-shaped skylights and their steel supports form a lacy pattern both inside and out that becomes a major decorative element for the whole building. At the entrance, the poured-in-place and precast concrete and dark metal and glass that form the palette of materials for the building's exterior are also seen at close range. Many office spaces are largely "open-plan." There are also many private offices, and—as a result of the numerous building corners that the various plan setbacks create—there are many private corner offices. Glazed partitions on the inside walls of the private offices allow the occupants of the interior to look outside Terraces, created by the projecting building elements below, give offices added amenity.



VOYAGES
OF THE
IMAGINATION

FOUR
POST-MODERN
BUILDINGS
OF
BERTRAM GOODHUE

THE CHAPEL AT WEST POINT
THE PANAMA-CALIFORNIA EXHIBITION BUILDINGS
THE NEBRASKA STATE CAPITOL
THE CHURCH OF THE HEAVENLY REST

BGG MDCCCXCI

VOYAGES OF THE IMAGINATION

by Richard Oliver

The generation of architects just before the International Style included three extraordinarily talented people whose work seems especially important to architects today as the International Style draws to a close. All of them were born in 1869: Frank Lloyd Wright, who died in 1959, Sir Edwin Lutyens, who died in 1944, and Bertram Grosvenor Goodhue, who died earliest of all in 1924, who is the least remembered, and who therefore is the subject of this essay. These three men have one very important thing in common. Each began his career enmeshed in the Arts and Crafts movement, and out of its ideals each developed an architecture that was both "modern" and "traditional," simplified but still ornamented. These ideals (from which a number of current architects also seek inspiration) stressed that a building—no matter which "style" it adopted—be designed with careful regard for its physical and social context, that it be built with a judicious array of proven as well as innovative construction techniques, that it include the work of allied craftsmen, and that it display ornament as a finishing touch. The many and various manifestations of this architecture have often, for obvious reasons, been called "Free Style."

Bertram Goodhue is known for two very different kinds of things: for designing Gothic churches, the finest being St. Thomas Church in New York City, and for his modernistic designs for the Nebraska State Capitol at Lincoln. The Capitol is often seen as evidence that a reformed "traditional" architect was moving inexorably toward the purities of the International Style. Had Goodhue lived just a little longer—or so the story goes—he, like George Howe, would have become a full-fledged convert. This is perhaps an understandable evaluation from the Modernist viewpoint, but it is also not true, because—in spite of the fact that it manifests itself in a variety of different styles—Goodhue's work has consistency from start to finish. Also, he preferred the looser and more ebullient historical styles, and he avoided classicism because it had stricter rules of composition. So it seems hard to believe that he would have begun designing according to the equally strict rules of the International Style. And thus it is haunting to imagine just what he might have produced but for his early death—a speculation that is particularly poignant now for a younger generation of architects who are attempting to do many of the same things he did.

Goodhue's career can be traced by looking at four buildings out of the dozens he worked on from 1903 to 1924: the chapel at West Point, the Panama-California Exposition buildings in San Diego, the State Capitol at Lincoln, and the Church of the Heavenly Rest in New York City. The consistent features of these four buildings include siting, organization, massing, surface, and ornament. The siting was usually dramatic, the organization in plan clear and forthright, the massing picturesque, and the surfaces rendered as broad blank areas enlivened with ornament. All of these were in the service of Goodhue's

fundamental goal, which was the creation of buildings which were special to their time and place but which also rekindled the memory of places in the historical and imagined past. These were buildings which responded not only to their physical contexts, but to the larger contexts of the mind and of the culture. Style was, of course, important to Goodhue. But it was not a fixed moral issue for him. Unlike A.W. Pugin or Le Corbusier—or, for that matter, Ralph Adams Cram, his partner from 1892 to 1913—Goodhue would never have asserted that a building had to be designed in any one particular style to have legitimacy. Nor would he at any point have insisted that the chosen style be used strictly or "correctly."

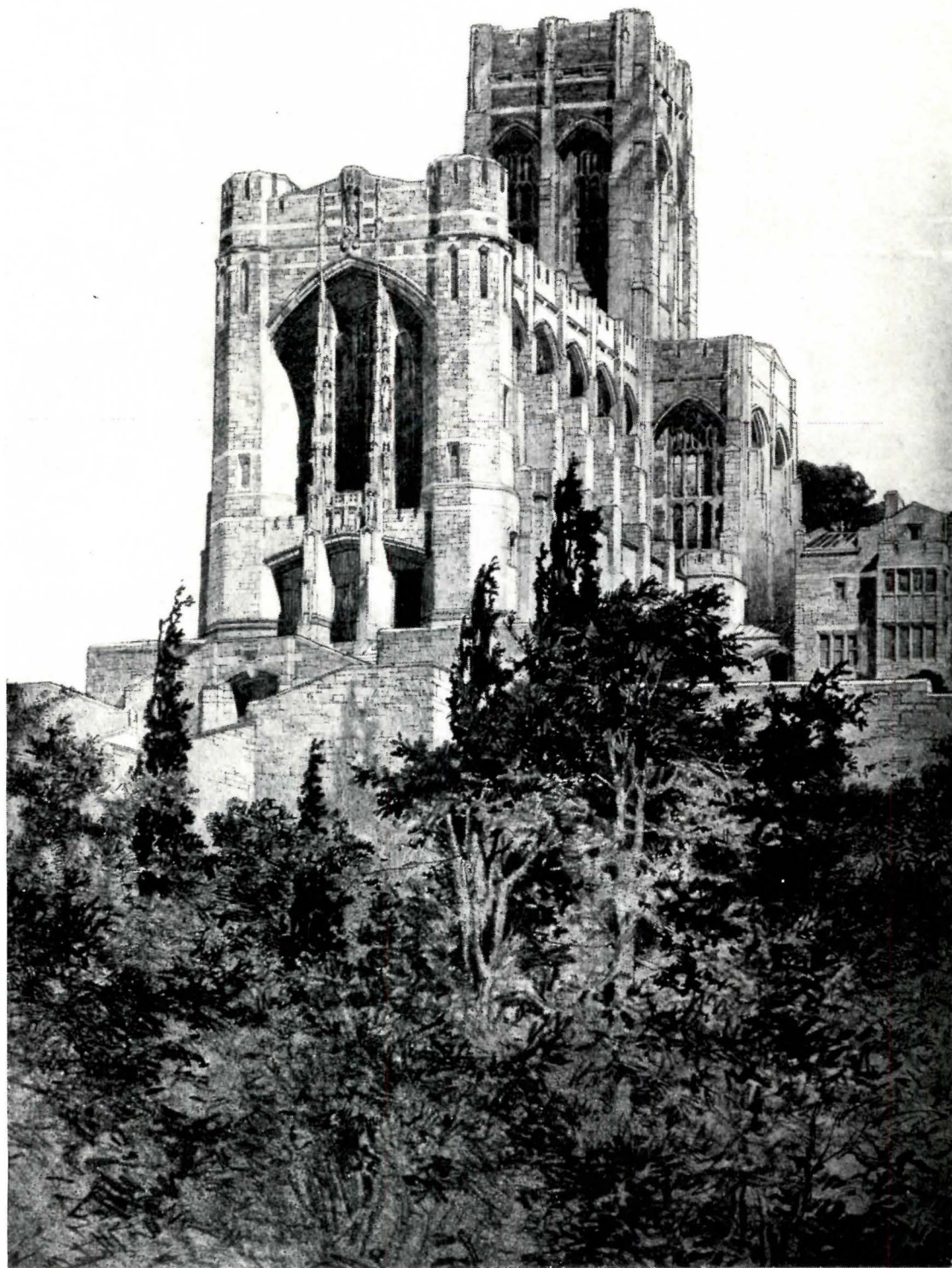
Indeed, he relied heavily on his imagination, which tended to the borderland of fantasy, and which expressed itself in his drawings of imaginary places—his *voyages imaginaires*. Buildings, gardens, and whole towns would emerge onto the flyleaves of books, sketch pads, and perhaps the backs of envelopes. These drawings, executed in the drafting room or on a transcontinental train, were a strong proving ground for his ideas. These sketches were the children of reverie, and so, in a sense, were his buildings. This world of imaginary places was fused with Goodhue's more conventional resources—the established forms of architectural history as well as new methods of construction—to create designs which were fresh and unexpected.

Goodhue's yearning for the dramatic caused him to design his buildings with a keen regard for the choreography of people's perceptions—how they would view them, move about them, and therefore remember them. In his plans there are careful distinctions (of the sort that later intrigued Louis Kahn) between ordinary functional spaces and special ceremonial spaces. Also they often have an ecclesiastical air about them, whether or not they are actually for a church. Goodhue relied on the church form not for any strong religious reasons—he himself was not unusually devout—but because it had dramatic and emotional content.

One more resource of importance to Goodhue was the writings of the English critic and spokesman for the Arts and Crafts movement William Lethaby, particularly his evocative book *Architecture, Mysticism, and Myth*, in which there are chapters that deal with subjects like "the center of the world," "pavements like the sea," and "ceilings like the sky." Lethaby was seeking a primeval symbolism with which to invest contemporary architecture, and to varying degrees Goodhue embraced this search in his own designs, especially for the Nebraska State Capitol.

Goodhue created a set of buildings which seem to be *whole*, to project a quiet air of completeness, devoid of the back-and-forth rhetoric that characterized a lot of architecture since and which still does. Goodhue stands out today, over fifty years after his death, as an appealing figure, worthy of our attention, because his concerns seem so much to resemble our own

Richard Oliver is an architect and Curator of Contemporary Architecture at the Cooper-Hewitt Museum in New York; his work on which this essay is based was sponsored by an Arnold W. Brunner grant from the New York Chapter of the American Institute of Architects.



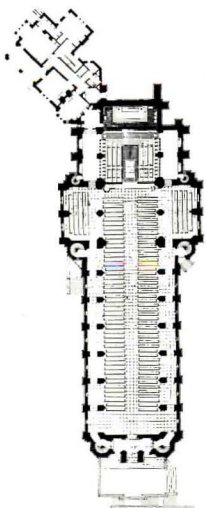
LN 1903, Cram, Goodhue, and Ferguson won the competition to be the architects for the new

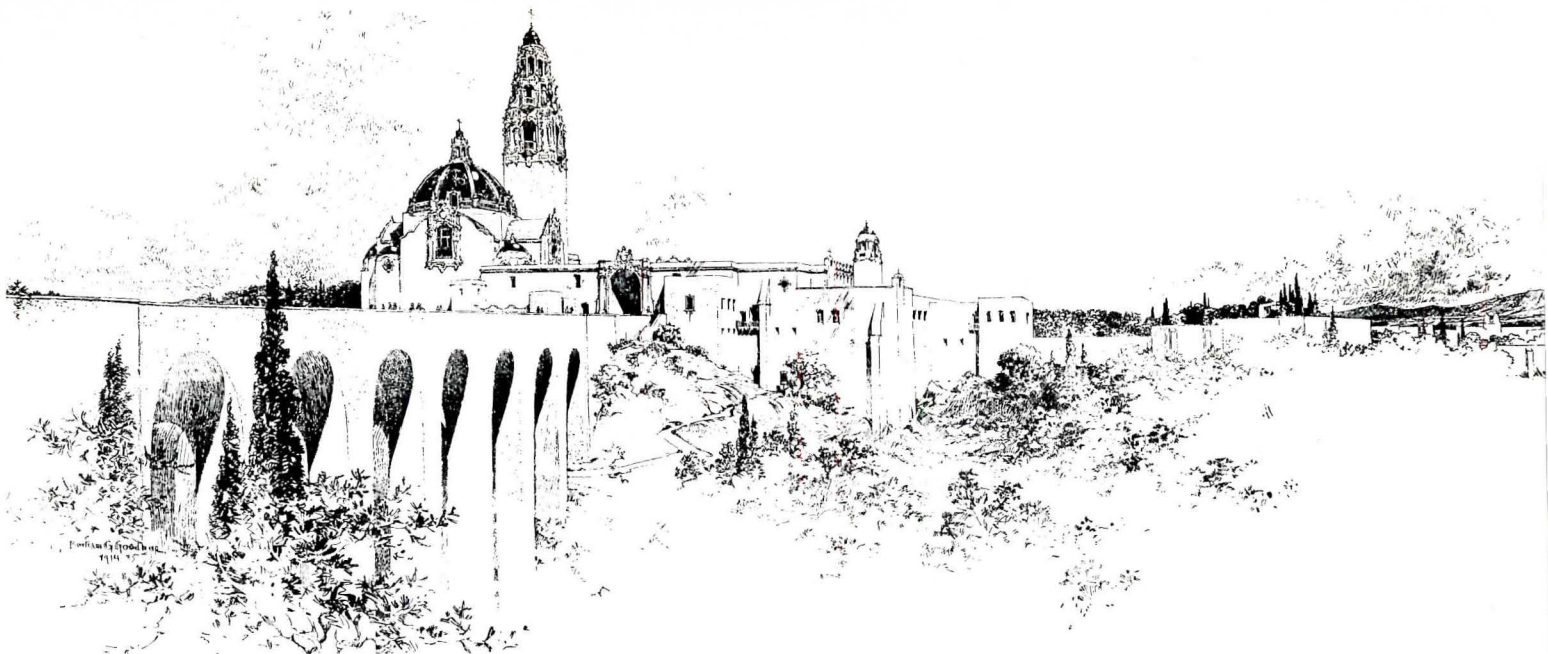
military academy at West Point. The commission was large for a firm that had until then specialized in churches, and one requirement was that the Boston firm establish a New York office to supervise the work. Goodhue elected to return to New York where he had earlier worked for James Renwick. As a result, Cram and Goodhue divided the work at West Point among the two offices, with Goodhue responsible for the chapel, and Cram for many of the other buildings. With Goodhue in New York, and Cram in Boston, the seeds were sown for the eventual dissolution of the partnership in 1913.

The chapel was a splendid opportunity for Goodhue to realize his most imaginative and romantic notions of siting. The chapel sits like a great rock outcropping halfway up the mountain, silhouetted against the backdrop of the hill. One approaches it from below, not straight on but from an angle, so that the building is seen as a gray looming volume. Thus the chapel shares the flamboyant power seen in many of Goodhue's imaginary drawings. From a vehicular court, one ascends a few steps to a porch that is in fact an outlook over the Hudson Valley. One enters through a low, suppressed doorway that heightens the effect of the great window above. Around to the rear of the chapel, the profusion of massive buttresses creates an impression that reminds one of the Brutalist buildings of the 1950s. The usual airiness of a Gothic church gives way to a powerful pile of stone which steps inward as it rises toward the central tower. Juxtaposed to the chunky simplicity of the whole there are small-scale elements—an elaborated doorway, a small stair tower, and a turret—which are, in a sense, ornament both to embellish and to act as a counterpoint to the simple bulk of the building itself. The chapel is a lofty structure scaled to valley, yet scaled to the size of a person as well.

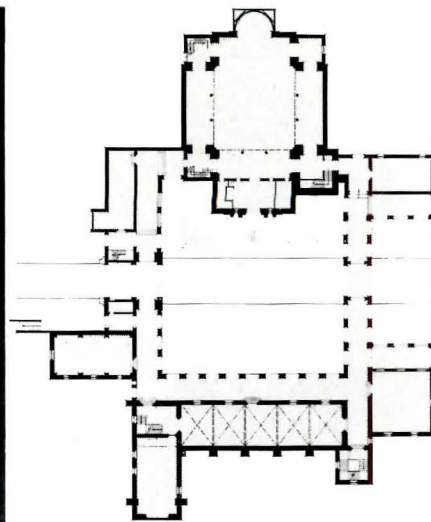
Critics of the day, especially English critics would have called the style of the Chapel "Free Gothic," to suggest both its lack of archaeological correctness and its sense of originality. What one has is a contemporary building in which Gothic forms are employed not with an eye to correctness, but with a desire for architectural drama and cultural assurance. The process used here is consistent throughout Goodhue's work and is a key to understanding it.

Above is a drawing of the chapel at West Point, and on the right is a drawing by Goodhue of an imaginary place.

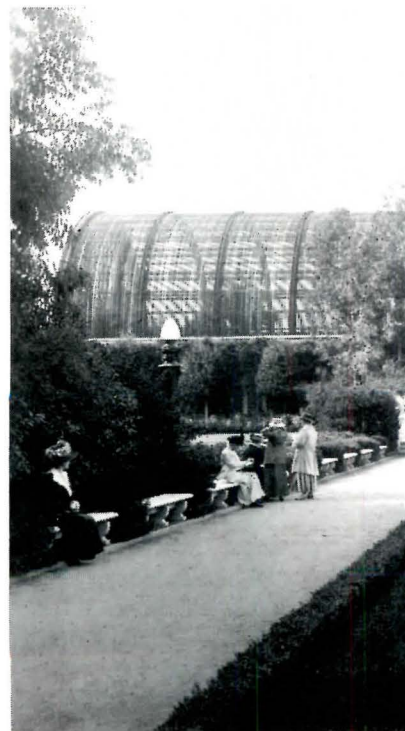


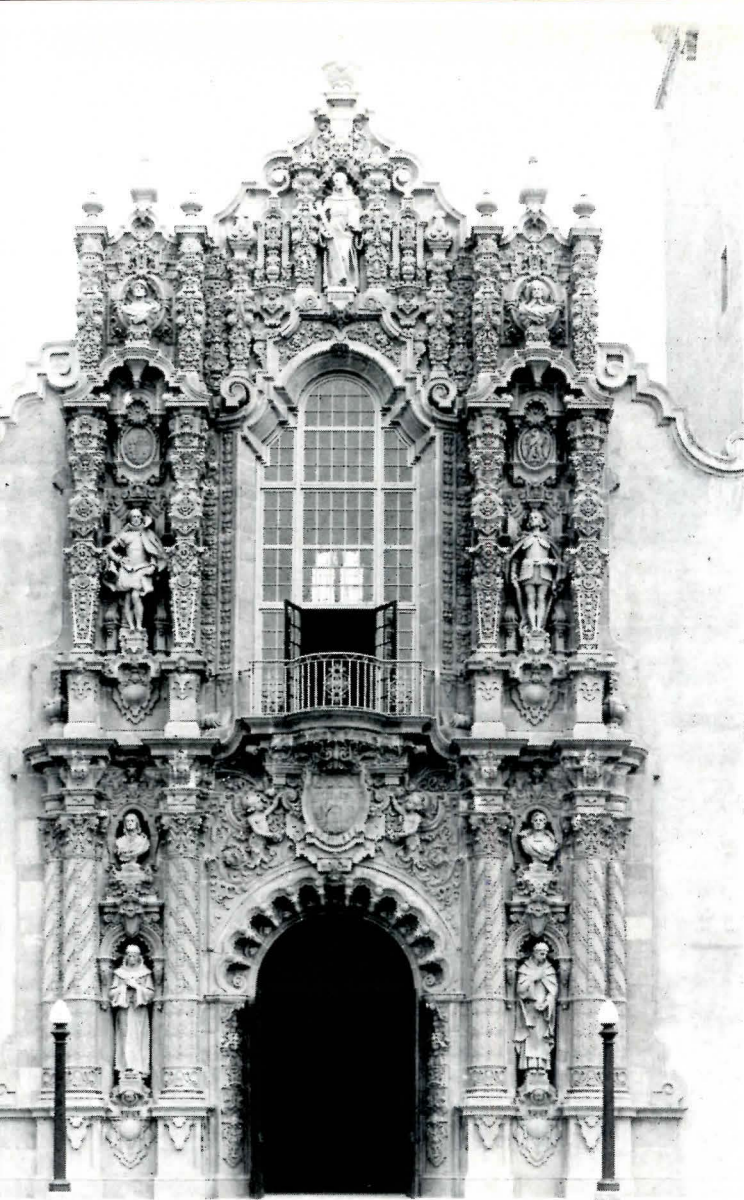


Historical Collection, Title Insurance and Trust photos

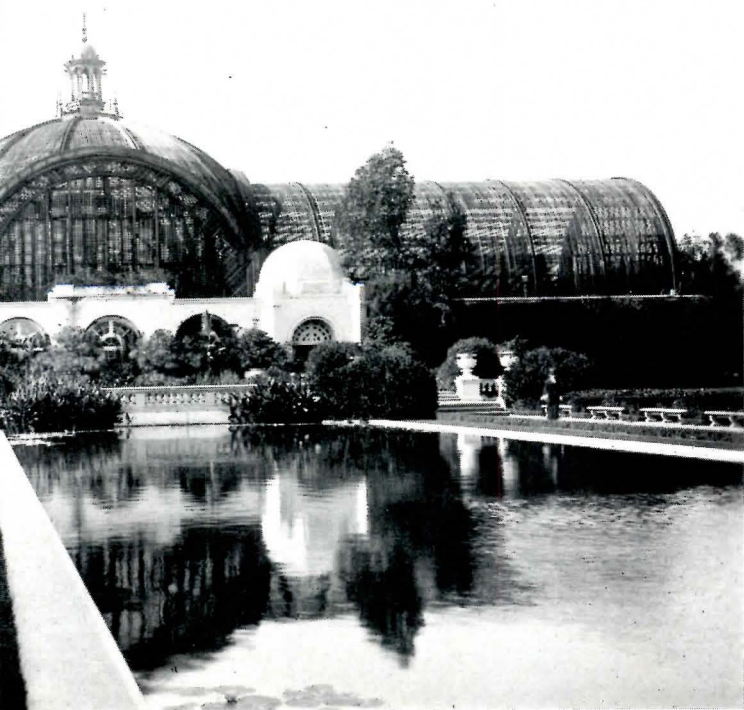


On the left is the main entrance to the exhibition, and above is the plan of the main entrance court, the *Plaza de California*





Above is the facade of the California Building, and below is the lath-house containing a botanical garden.



NE of the most important events in the architectural development of Southern California was the

Panama-California Exposition, held in San Diego in 1915-16, to celebrate the opening of the Panama Canal. Most expositions of this kind are usually housed in buildings designed to suggest the future. But at San Diego Goodhue designed the buildings to embody a dream of a romantic past. And whereas most exposition architecture has often fallen by the wayside and been dismantled, Goodhue's "dream" exposition remained to engender a real environment that became the future.

The exposition launched the wild vogue for "Spanish" which swept California and to some extent all of America during the 1920s. But while the architecture of the buildings relies for details and ornament on sources Goodhue had seen in his travels to Mexico, Spain, and across the Mediterranean world to Persia, its form and siting were original. There had, of course, been "Spanish" influences in Southern California all along, in the missions, and in the form of the popular romantic imagery provided by books like Helen Hunt Jackson's novel, *Ramona*. But it was Goodhue who fused all these sources—local, historical, and imaginary—in a new way.

Visitors to the fair enjoyed an atmosphere described as "a Spanish city of flower-grown surfaces, reflecting the sunlight and history and romance of Southern California." To many, the architecture and landscape resembled a city from a childhood fable. Goodhue's expressed intention was to create "a city-in-miniature wherein everything that met the eye and ear of the visitor were meant to recall to mind the glamour and mystery and poetry of the old Spanish days."

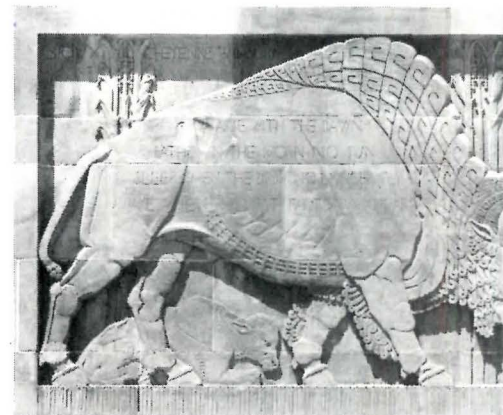
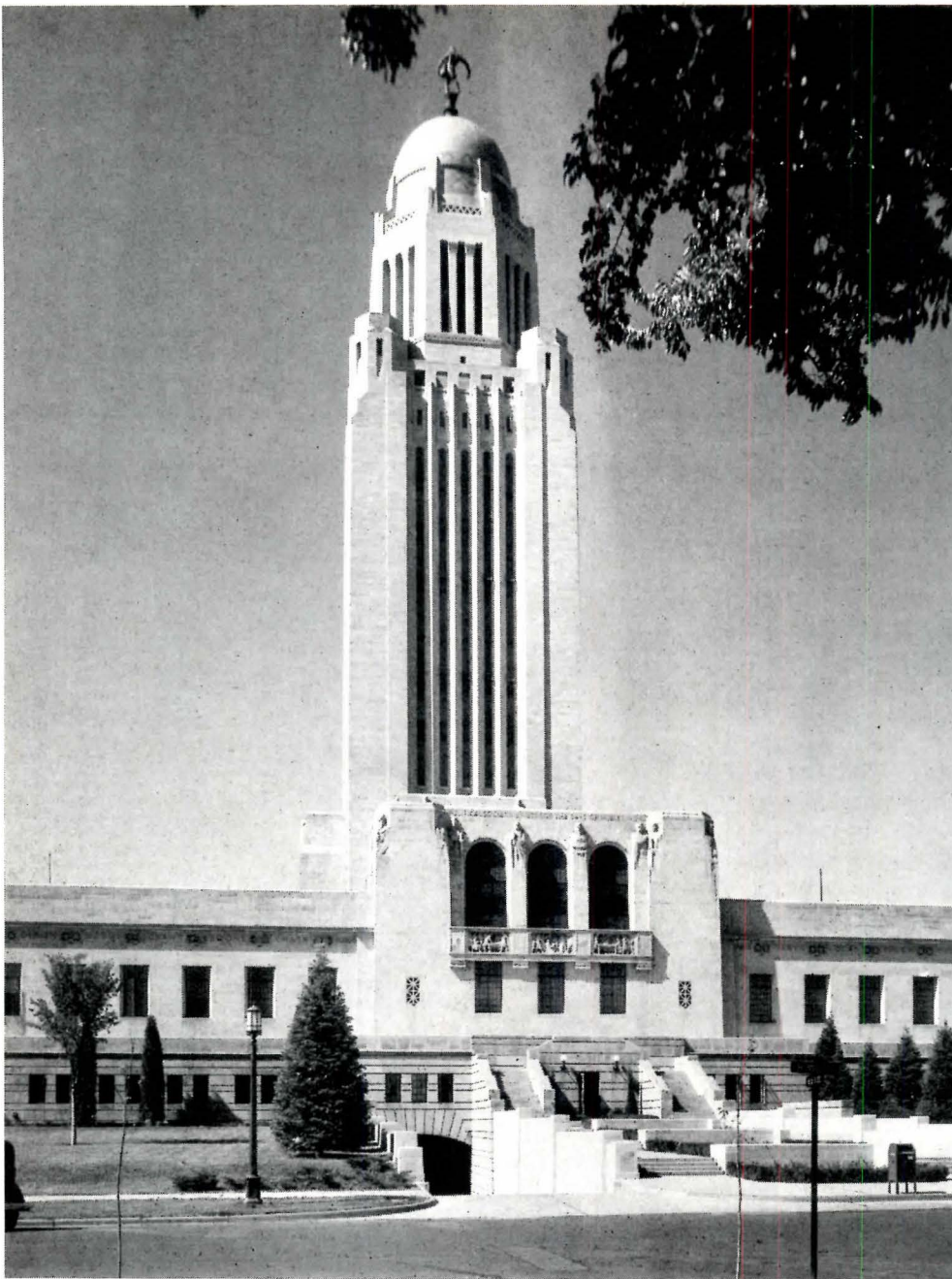
Entrance to the exposition was from the west across a 1000-foot-long, 130-foot-high concrete-arch bridge spanning Cabrillo Canyon, terminating at a picturesque pile of buildings that seems based directly on Goodhue's mysterious and evocative drawings of dream cities. Through a monumental gateway, one entered the *Plaza de California* around which the theme buildings were tightly grouped. The plan of this group of buildings as well as its massing is clearly based on an ecclesiastical model. On the south side of the plaza was the low, massive, and rather chaste Fine Arts Building. On the north side was the California Building, composed of a 200-foot-high

tower, an exuberantly Churrigueresque front facade, and a dome covered with blue, green, yellow, black, and white tiles, and the inscription: "a land of wheat and barley, and vines, and fig trees, and pomegranates; a land of olive oil and honey," an Old Testament description of the Holy Land, and a prescription for Southern California as well. This grouping of permanent buildings was constructed out of concrete, covered on the exterior with a dark putty-colored stucco. On the inside, in a way that seems surprising for a "traditional" architect, the concrete was left exposed and simply painted. Past this entrance grouping, which was designed to be permanent, the remaining temporary buildings were arranged along a tree-lined pedestrian street called *El Prado*, and around the *Plaza de Panamá*. One color of stucco used predominantly—lighter than the stucco on the theme buildings—provided a sense of over-all harmony and acted as a backdrop for the vivid colors of the tiled domes and awnings, and contrasted effectively with the green and floral landscape. Further, the monochromatic color scheme emphasized the effect of sunlight and shadows.

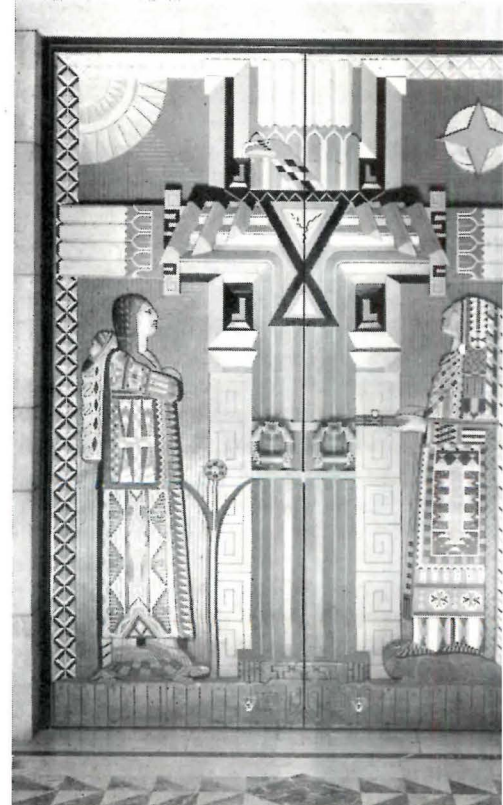
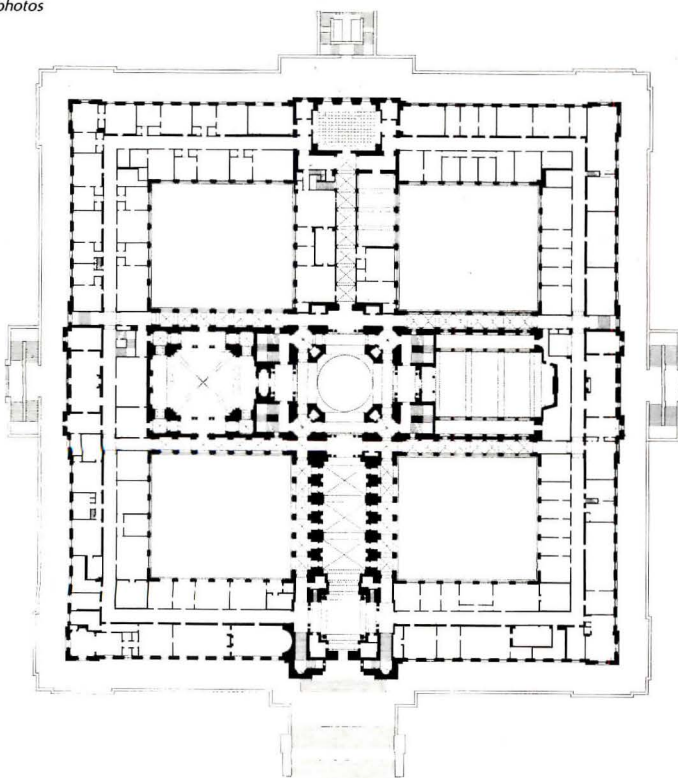
The style of the exposition buildings was a flamboyant "Spanish Colonial." Goodhue noted that "exposition architecture differs from that of our everyday world in being essentially of the fabric of a dream—not to endure but to produce a merely temporary effect. It should provide, after the fashion that stage scenery provides—illusion rather than reality."

Goodhue's concept specified that the temporary buildings would be razed after the exposition had closed and replaced with gardens to complement the landscaping provided for the fair itself. The whole site was destined to be transformed into a 200-acre public garden to rival those of Europe. Only the ensemble of buildings at the entrance was to remain—as a gatehouse—to mark the entrance to the garden.

But Goodhue created a "dream" more potent than he had realized. When the exposition closed, the citizens of San Diego wanted to keep all the buildings, despite Goodhue's protests, and today they are used to house cultural institutions. It is ironic that buildings designed in the spirit of festive and temporary fantasy were claimed for such long-term use. Their intimate scale, their drama, and the extraordinary landscape conspired to create an indelible image of what Southern California might become, and in many ways has.



Gottscho-Schleisner photos



BERTRAM Goodhue was selected as the winner of the Nebraska State Capitol competition in 1920. His success was the result of his cleverness in interpreting a traditional program, and his design had three important features: it had a tower instead of a traditional dome; it was lean, condensed, and efficiently organized, with a total volume of only 70 per cent that of the other entries; and its style was a gravely simple blend of many sources but seemed totally new.

For a very long time after its completion in 1934, the Capitol was hailed as *the* great contemporary American building. More recently, it has come to be revered again by architects for its fusion of cosmic myth, local lore, and architectural ceremony.

Entrance to the building is up a wide set of stairs flanked by four magical buffalo—once described by a bedazzled local journalist as “weirdly wonderful”—carved into the parapets. On them are inscribed Indian phrases like

ARISE WITH THE DAWN
 BATHE IN THE MORNING SUN
 SLEEP WHEN THE BIRDS NO
 LONGER FLY
 AWAKE WHEN THE FIRST FAINT
 DAWN APPEARS.

The main doorway is in an arched portal flanked by figures of Wisdom, Justice, Power, and Mercy. These colossal beings well up out of the walls, looking down from the parapet where the building meets the sky.

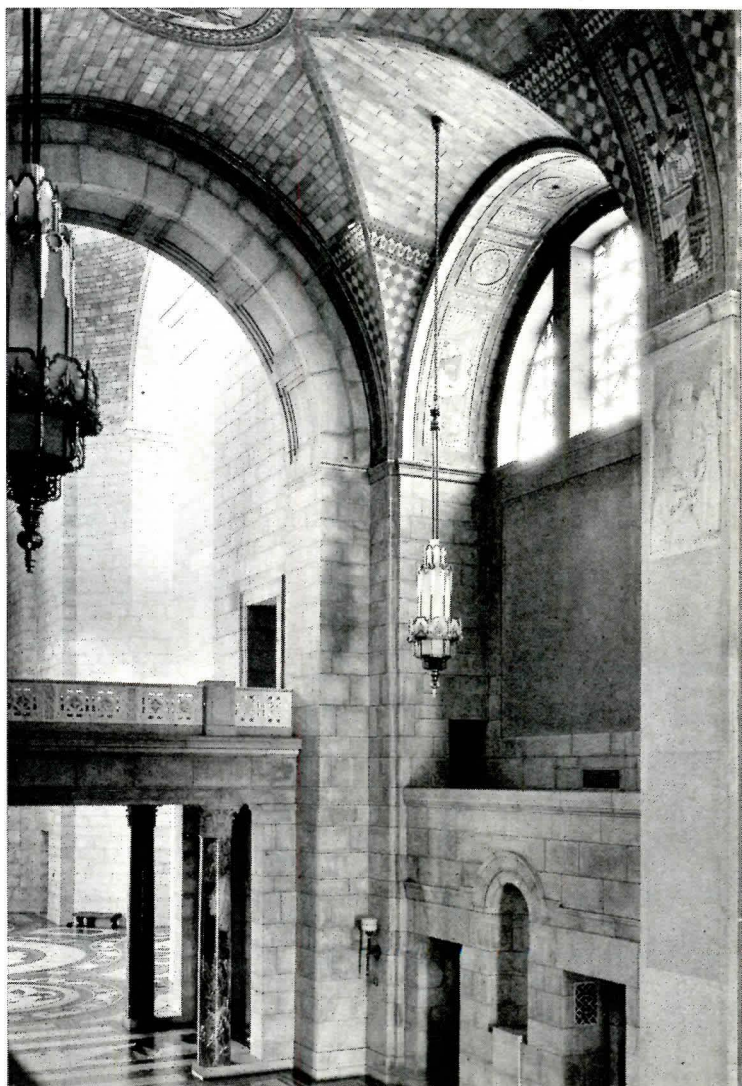
The plan of the Capitol uses an ecclesiastical form for the ceremonial spaces, essentially a Greek cross. Unlike a Greek cross plan, however, the four arms are not equal in importance. One contains the Great Hall leading from the Foyer to the Rotunda, two arms contain legislative chambers, and the fourth contains merely a passage to the Supreme Court chamber. Surrounding this the state offices are arranged into a large square encompassing the cross, and allowing generous courts to be placed in between, thus providing all offices with natural light.

The plan, a square in congruence with the streets and the compass points, and the tower, a marker on the plains visible from miles away, both reinforce the sense the Capitol has of being at the center of things.

At Lincoln, Goodhue was able to fulfill his desire to be only one of a triumvirate, consisting of architect, painter, and sculptor. This desire, of course, is wholly consistent with the ideals of the Arts and Crafts movement. But at Lincoln, Goodhue also solicited the contributions of a poet—philosopher, Hartley Burr Alexander, who prepared, under Goodhue’s direction, the program for art and symbolism. The ornamental and symbolic forms rely on two major sources: local Nebraskan and especially Indian lore, and the more exotic sources fashionable in the 1920s like Assyria, Egypt, Persia, and Spain, as well as other historical, primeval, and mythical pasts. The history of the Law is allegorically recounted in eighteen panels around the outside of the building, beginning with Mosaic law and proceeding right through to Nebraska statehood. On the south, just outside the Supreme Court chamber, a trinity of additional panels depicts the Magna Carta, Declaration of Independence, and American Constitution, above which stand the eight great lawgivers of Western culture. Encircling the base of the tower are carved figures symbolizing eight ideals of culture protected and nourished by the law: history, vision, reason, statecraft, faith, chivalry, science, and liberty. High on the tower is a frieze of thunderbirds, symbols of the rains, and at the very top the bronze figure of “The Sower” casts his seeds.

The interiors of the ceremonial spaces are ornamented with equal verve and intensity. The Rotunda is especially so: the eight Virtues grace the dome; representations of Mother Earth and the genii of Earth, Air, Fire, and Water are worked into the tile floor; and the chandelier is emblazoned with the twelve signs of the zodiac. Corn husks, wheat sheaves, and heads of buffalo inhabit column capitals, balustrades, and the governor’s fireplace. The decoration of the Senate Chamber is devoted to Indian cultures native to Nebraska, and the House Chamber depicts the Spanish, French, and American cultures which later added their imprint on the land.

The tower went through many revisions before Goodhue’s death, and one of his proposals showed four awesome winged buffalo ruminating at its top, high above the plains. The motif was also proposed for other parts of the building, but, alas, it was finally not used anywhere. It is sorely missed, for in many respects it is a metaphor for the building as a whole, fusing a familiar local presence with images of transcendent fantasy: a winged buffalo, a buffalo that could fly.





OF THE four Goodhue buildings shown here, the fourth was not designed by Goodhue at all.

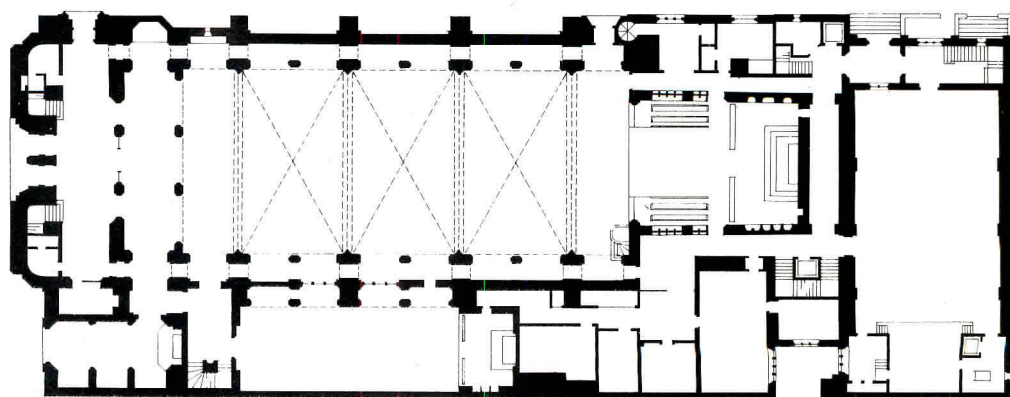
The Church of the Heavenly Rest, in New York City, is a church he would have designed had he lived. The architects were Mayers, Murray and Phillip, the successor firm to Goodhue's own office and the firm which completed work on the Nebraska State Capitol.

The church was constructed in 1927-29, on a parcel of land purchased in 1925—a year after Goodhue's death—from Mrs. Andrew Carnegie, whose house to the north (now the Cooper-Hewitt Museum) overlooked the church site. The congregation decided to move to upper Fifth Avenue in the early 1920s, in part because at the old location the church was surrounded by the Episcopal congregations at St. Bartholomew and at St. Thomas. Both of those churches had been designed by Goodhue. Thus, it was appropriate that he would have been asked to design this church, too. In any case, the church looks like a Goodhue building, embodying the characteristics of his work which are interesting today.

This is an austere, even stark church that not many people would call "Modern." Like West Point, it fuses Gothic details with a contemporary form. But the Church of the Heavenly Rest is simpler than West Point; its style could be called Deco Gothic. Goodhue and the people who designed in his manner never abandoned Gothic, but kept rethinking what a church might look like as it fused the images of a Gothic past with the present. Both at West Point and on upper Fifth Avenue, the use of "Gothic" forms was only the starting point. Goodhue and architects like him used many styles as a springboard to a personal form of expression. He found the styles of the past nourishing and evocative, because in them there was so much license to be original. (This will seem ironic to architects who find these same historical styles so constricting.) But the resource Goodhue relied on even more were his own drawings of imaginary places, his imaginary voyages. The last of these drawings still extant is sketched on the title page of a book called *The Glorious Mystery*. Dated April 14, 1924, just ten days before his death, the drawing, made on a train somewhere east of Ogden, Utah, depicts the town hall of an imaginary city. Without hesitation, one can recognize that the fantasy resembles the Los Angeles Central Library, a building on which he was then at work.



Gerald Allen photo



DESIGNING EVERYTHING DOWN TO THE LAST DETAIL

The president of the
Federal Reserve Bank
of Boston, Frank E. Morris,
decided from
the beginning that he
wanted his architects,

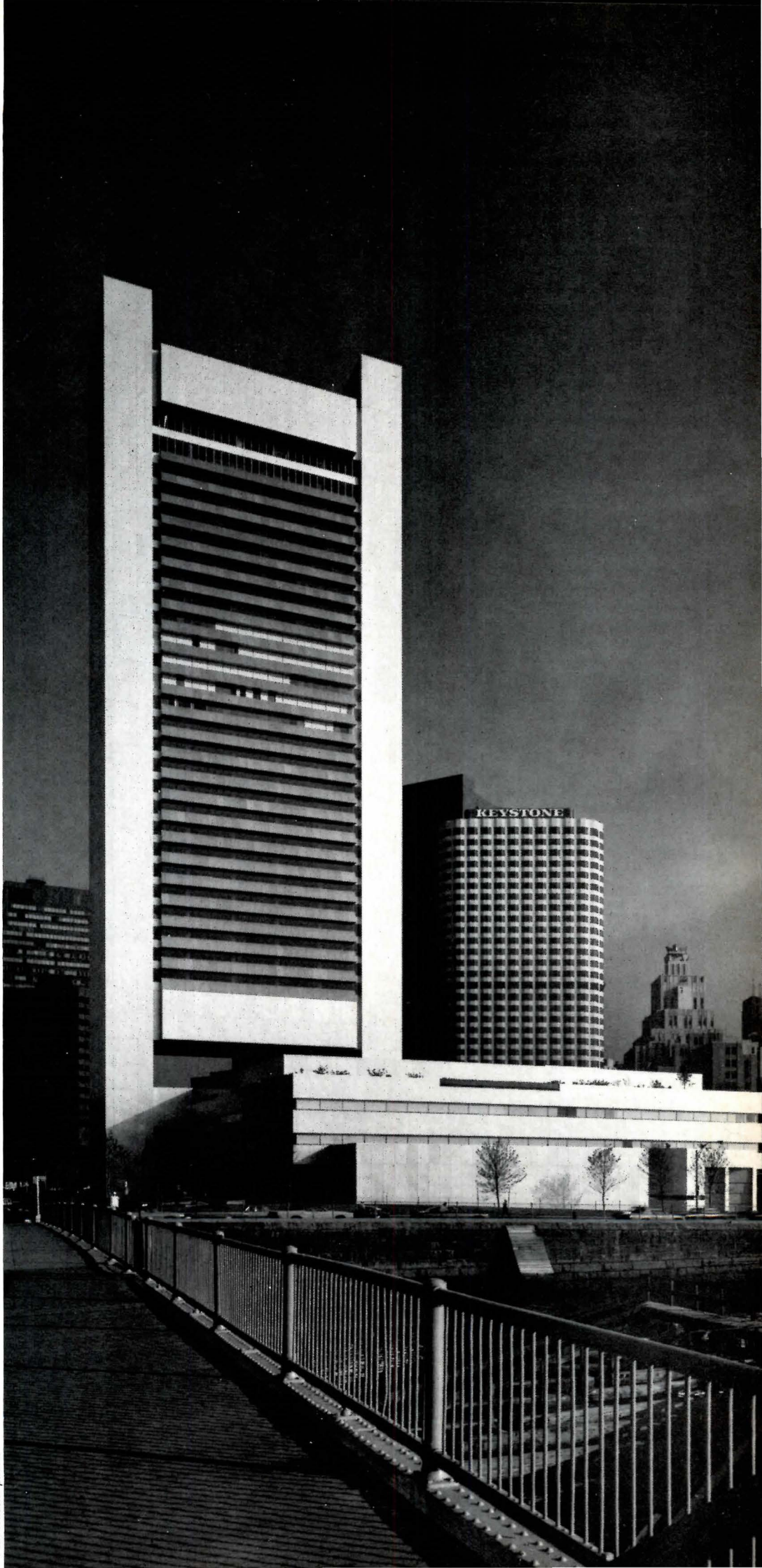
Hugh Stubbins and Associates, Inc.,
to have total responsibility for
the building and its site, from initial
programming to furnishing and graphics.

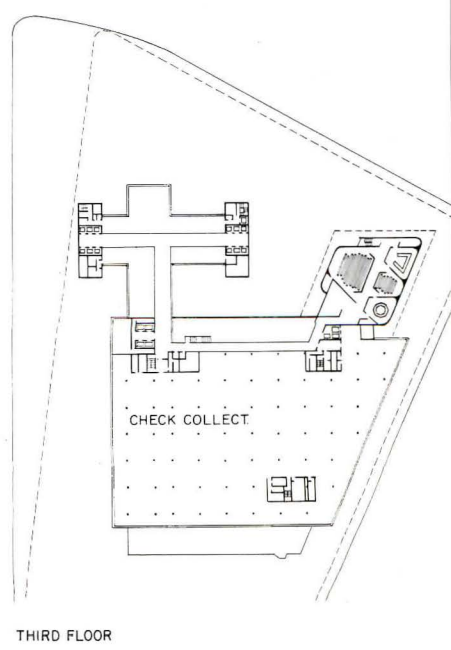
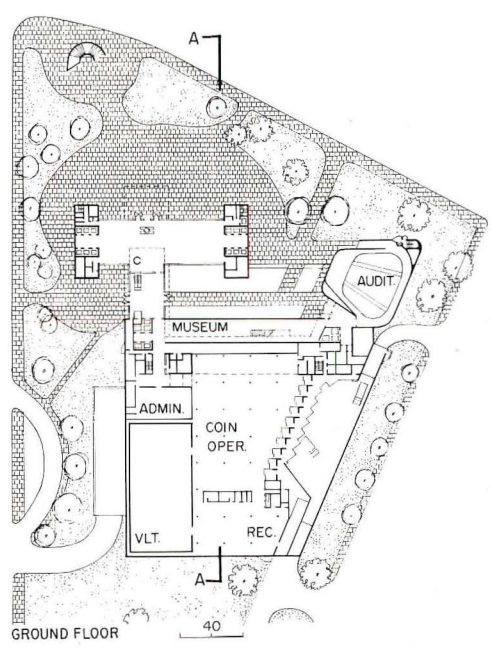
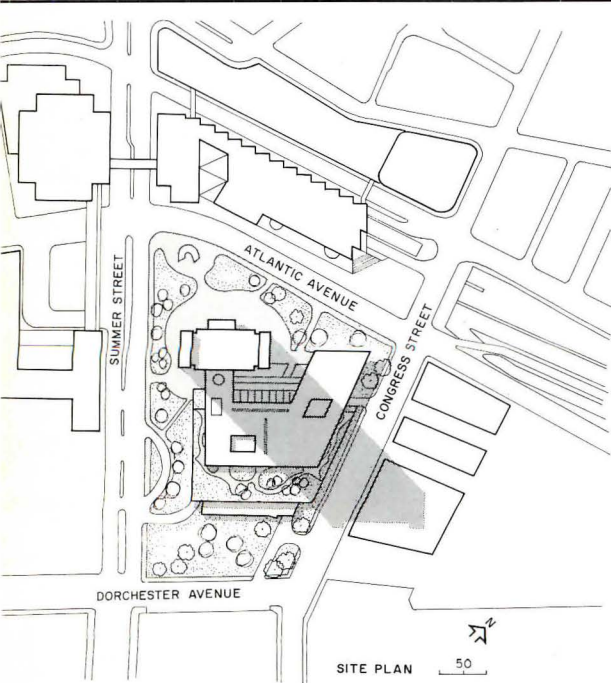
All the specialists needed were either
on the staff of the Stubbins' firm or
were hired by the architects as outside
consultants. Thus Stubbins and his
team had the rare opportunity—in the
large office building market—to practice
what was once called "total design."

The building, as a result, has been
highly controlled, clarified and refined.

This last quality is most evident in all
the interior spaces which are among the
best which have been accomplished in
an office building in this decade.

—Mildred F. Schmertz





Devising an elegant and simple structure to serve complex functions

The Federal Reserve Bank required large areas for money handling operations, accounting, computers and vaults. These functions had to be secure, well guarded and accessible to authorized personnel only. They were placed below ground in three huge floors, which take full advantage of the size and bearing capacity of the site, and above ground within a four-story, low-rise building that wraps around a tower and a generous landscaped plaza. The bank also needed space for economic analysts, public relations staff and other office workers who need not work under tight security control. Architect Stubbins and his team decided that these people belonged in the tower to give them light and views.

The low-rise and tower were placed on the site in a manner that permits the bank to expand in the future. Other towers can be built on the channel side of the property and interconnected to the existing tower at the fourth floor level of the low-rise.

According to Stubbins: "the elevator banks got on the ends of the tower instead of at the center because we wanted a flexible floor for an open-plan layout. This allowed the wind bracing to be at the ends of the building where it is most efficient. Because we had few windows in those end pylons, the steel could be deeper and not so heavy. Furthermore, elevators at the end of a floor can be more closely guarded than elevators in the middle."

The bank wished to include leaseable space which it will eventually grow into. The elevator bank to the left of the entrance approach serves the lower tower floors occupied by the tenants, and the elevator bank to the right serves the upper floors

occupied by the bank.

Stubbins decided to support the tower on the two end pylons because "I didn't want a lot of little feet coming down into the operational spaces. We left the huge void between the low-rise and the first tower floor to make it clear that the tower is structurally free of the low-rise block. It is an esthetic statement of the relationship of the tower to the block. Like the slanted spandrels, this opening has a good effect on the downward acceleration of wind—a problem with tall towers—especially those like the Federal Reserve which are out in the open. The void relieves the pressure from one side of the building to the other."

The slanting spandrels were devised before the energy crisis, but Stubbins (like most good architects) has always thought about energy. "We have always tried to save fuel costs even though it was plentiful at the time we were designing the bank." The spandrels carry heating and cooling ducts but more importantly shade the windows to reduce air conditioning requirements in the summertime.

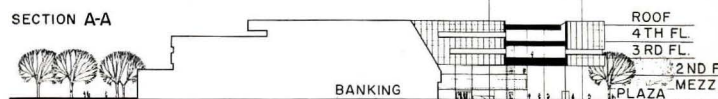
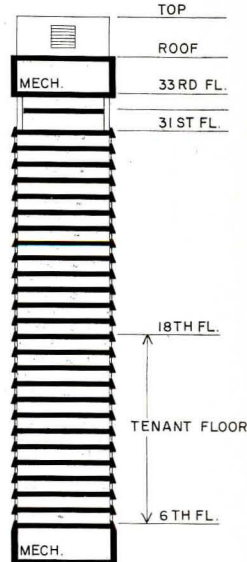
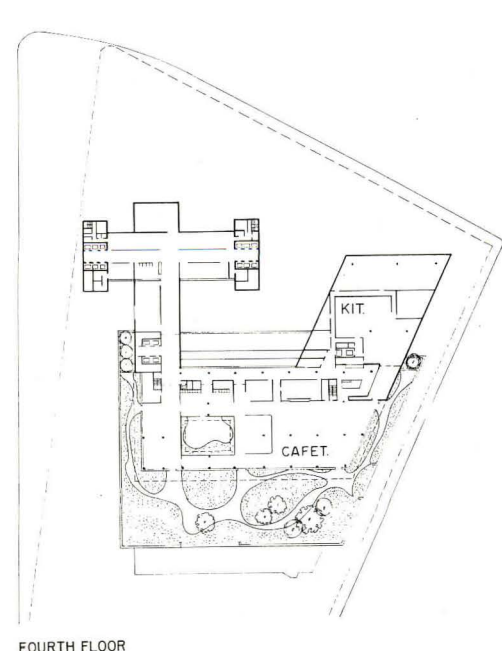
Stubbins selected light-colored aluminum not only to reflect solar heat, but also because he wanted the building to be easily seen and to reveal its sculptural qualities. "We used mullion-less glass," he adds, "for uninterrupted vistas. Although only a small percentage of the outside skin is glass, within the offices you get great panoramic views. Well aware of the problems at the Hancock building we detailed our curtain walls to allow the glass to bite into a deep groove. Most of the glass in the building is 3/4 in. thick."

Stubbins sought to create a strong image for a building whose structure and organization would be easy to understand visually. Like Citicorp, also designed by Stubbins,



The 33-story, 602-foot-tall aluminum-clad tower was placed to the northwest of the 5.7 acre site where bearing conditions were best. It spans 143 feet to come to bearing at only two points—a minimum interruption of space at the three basement levels (not shown). At the lowest grade is a mechanical equipment floor and the second level contains parking for 165 cars. A floor for services and currency is beneath the plaza level. At the plaza level of the above ground four-story U-shaped structure and to the rear of the tower are public areas—a

lobby, auditorium and museum—and secure areas. The next two floors contain the check collection department and data operations. On the top floor are the employee dining and recreation facilities opening upon a roof terrace. The first tower floor (the fifth) begins at approximately 35-feet above the roof of the four-story structure and contains mechanical equipment. It is framed by two 36-foot-deep trusses (the largest ever built), which carry 27 office floors and a mechanical floor at the top directly above two executive floors.



RECORD, June 1978, pages 107-116, the building is urbane and welcoming at its base, even though, unlike Citicorp, there are no retail facilities and public access is strictly controlled. "At the base," says Stubbins, "I tried to assemble functions that could be in scale with people—the greenhouse walls and roof for the exhibition gallery, the reflecting pools and other plaza and lobby details. Because the plaza is rather large we decided to bring in as much green as possible. We wanted some big trees but instead of dropping their roots through the roof of the garage below, we mounded up the earth around them creating a landscape which curves and undulates. The roof garden was handled in the same way."

Developing interior design criteria and awarding the contract

The Stubbins firm had always done its own interiors whenever possible, but for a job the size of the Federal Reserve it expanded its interior design team and put Philip Seibert in charge. He is now director of interior design for the firm's expanding interior practice. After the programming and basic design phases were underway, Seibert and his team began to analyze office landscape and executive furniture lines in accordance with a complex set of criteria.

They assessed the lines of 27 manufacturers for their suitability to the functions of senior management, mid-management and clerical and technical people. The layout flexibility of each line was studied as were the characteristics of the individual components—for structure, for range of module, for available finishes, quality of hardware and other considerations.

Seibert examined the systems for their availability, mobility, serviceability and the

trades required to install them. Their compatibility with the building module and its systems—hvac, lighting and electrical—was studied. Finally he tested their structural rigidity, stability and maintainability. Every line was given an esthetic rating. The past performance, the financial capability and the business volume of each manufacturer was carefully looked into in order to predict their ability to perform.

Seibert eventually selected the seven manufacturers who performed best in most categories to bid on the furniture system. He gave each manufacturer a performance specification which indicated how he wanted the furniture to appear and work—the range of things it had to do, the kinds of materials he wanted and the performance criteria. The specification made it clear to the manufacturers in what respects their present lines did not fill the bank's needs so that the costs of meeting these requirements could be included in their bids.

The low-bidding manufacturer redesigned one of its best lines for Federal Reserve, to fit the new module, revising and simplifying the hardware. A weight limitation for the panels called for in Seibert's specification caused the manufacturer to develop a method of hollow core construction, whereas formerly they had constructed such panels of solid lumber core. The bank has about 15,000 such wood panel partitions

A two-story mockup of a portion of the tower was built in Florida as required in the construction contract to help test and redesign any building parts which were a problem. It was 50 feet long and 20 feet deep and was used as well in wind tunnel tests for weather infiltration and penetration. "We took advantage of this opportunity," said Seibert, "to test the material for window coverings, ceil-

ings, carpets. We tested horizontal versus vertical blinds and studied a range of colors—white, silver and gray. We used the mock-up to test the ceilings and panels acoustically."

The bank has a distinguished collection of contemporary American art most of which will be visible to the visiting public on a rotating basis. The selection committee consisted of Stubbins, Frank E. Morris the bank president, a senior accounting officer and Professor Wayne Anderson of MIT. Instead of the usual Alexander Calder or Henry Moore they chose important more recently developed artists of the fifties and sixties whose work fits well with the building. The final selections were made from original art, not from slides or printed reproductions. Until they were installed in the building the major pieces for the major spaces were kept in a nearby warehouse so that the interior designers could refer to them from time to time as they studied fabric colors for the space each was to occupy. —M.F.S.

FEDERAL RESERVE BANK OF BOSTON, Boston, Massachusetts. Architects: *Hugh Stubbins and Associates, Inc.*—principal-in-charge: *Hugh A. Stubbins, Jr.*; project managers: *Eugene Racek and Emmett Glynn*; project designer: *Peter McLaughlin*; job captain for high-rise building: *James A. Magliozzi*; job captain for low-rise building: *Howard Goldstein*; director of interior design: *Philip Seibert*; landscape: *Robert Fager*; graphics: *Merle Westlake and Philip Seibert*; materials handling: *Lloyd Kleypas*; curtain wall: *Edward Cassidy*. Consultants: *Le Messurier Associates SCI (structural)*; *Golder, Cass Associates, Inc. (foundations)*; *Jaros, Baum and Bolles (mechanical and electrical)* *Bolt, Beranek and Newman, Inc. (acoustics)*; *Wayne Anderson (art collection)*; *SI Handling (materials handling)*; *E.O. Tofflemire Associates (curtain wall)*. General contractor: *Perini Corporation*.



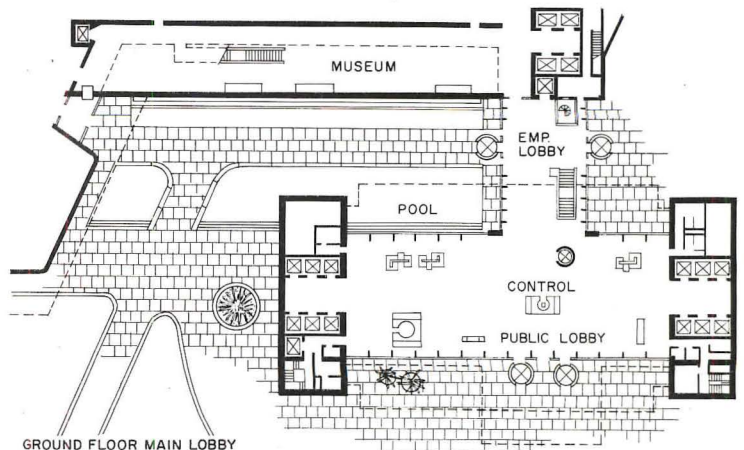
The four-story building has a skylit hall at the edge of the plaza (left and overleaf), which functions as an exhibition gallery and interconnects the entrance lobby with the public auditorium to the left of the photo. The spandrels of the aluminum-clad tower slant outward, shading the glass from excessive heat gain in the summer. In winter, when the sun follows a lower path, its rays bring warmth and light to the interiors. These sunshades made it possible to use clear rather than tinted glass windows. The slanting spandrels interrupt the downward acceleration of the wind—a problem associated with tall buildings—reducing the turbulence around the building's base. The bright aluminum skin reflects the sun, lessening solar heat gain and thereby reducing the air conditioning loads.



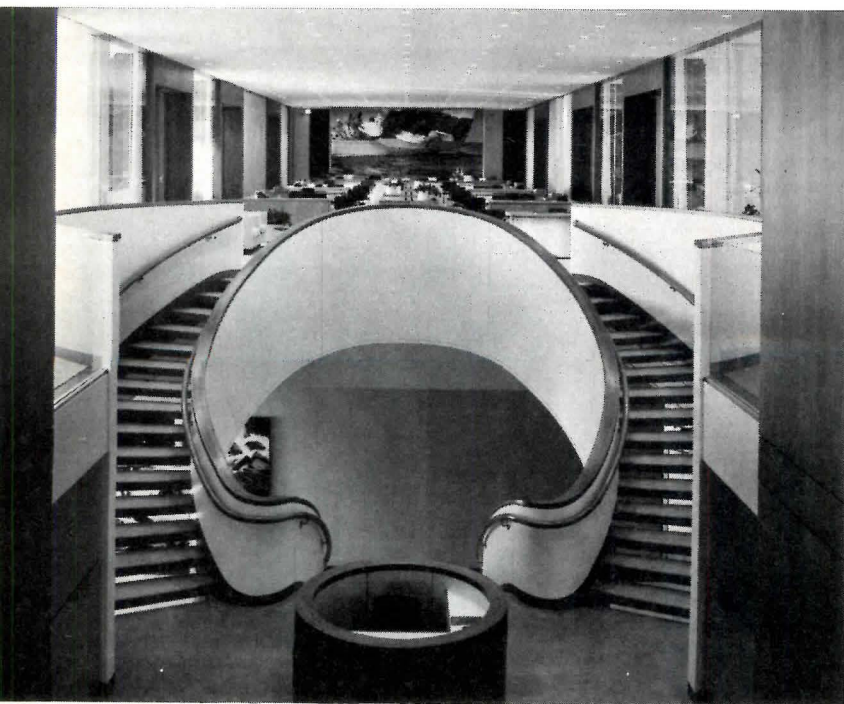


The principal interiors of the Federal Reserve Bank which the public sees are the entrance lobby (above), the exhibition gallery (left) and the auditorium (opposite page right). These spaces are beautiful and elegant—their design and detailing under perfect control. The great stretches of aluminum and glass which meet and reflect so handsomely in the lobby were possible because this space is column-free—spanned by the great trusses which carry the tower and rest on the piers to the left

and right of the photo. The exterior of the exhibition gallery can be seen beyond the lobby. A public staircase leads from the exhibition gallery to open corridors on the second and third floors. These are lined with glass on the opposite side so that the visiting public may watch money, check and computer operations without interrupting the work process. The auditorium seats over 400 people and is used for meetings, conferences and the numerous events to which the public is invited.







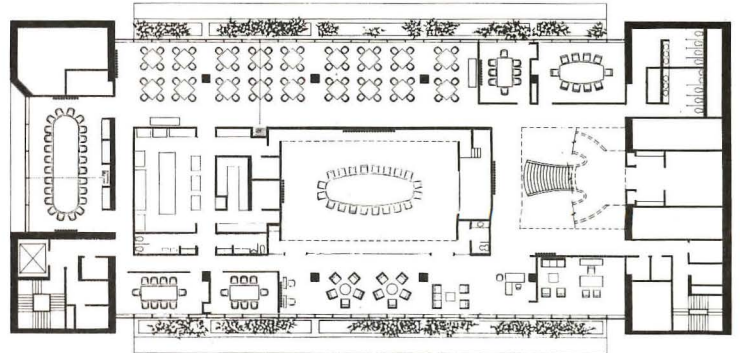


Executive offices, conference rooms, dining facilities and secretarial areas occupy the top two floors. These are interconnected by a lovely curving stair which would need only to be somewhat bigger and flaunt a few moldings to look just right on the principal facade of a Renaissance palazzo. The wool tapestry beyond the secretarial stations was woven for the space by Helena Hermarck. This and all the other major works of art throughout the bank were either commissioned or selected to be in good proportion to the spaces for which they were planned. A color

palette was chosen for each executive office space or conference room based upon the painting selected for it. Throughout the building the basic color palette is warm and neutral—beige carpeting, light woods and a white ceiling. Hugh Stubbins himself designed two rugs—one for each of two executive offices—and two large tapestries placed at opposite ends of the main lobby. Not very long ago it was the custom for the architect of a building to participate as an artist in its decoration. Stubbins, so far, is one of only a few major architects who are reviving this tradition today.



32 ND FLOOR EXECUTIVE OFFICES



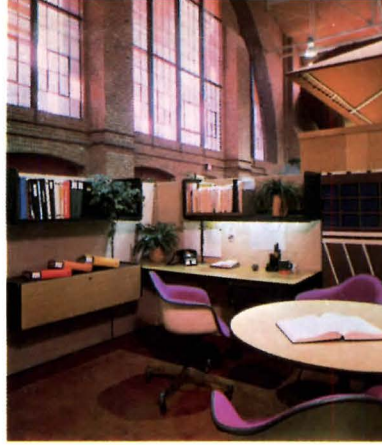
31 ST FLOOR EXECUTIVE DINING AND MEETING



The employee dining and recreation floor (top) opens upon a landscaped roof terrace. Tellers' stations (middle) are simple and uncluttered. The typical office floors (bottom) are open plan with no floor to ceiling partitions. The desks and space dividers were redesigned by the manufacturer to meet the requirements of the Federal Reserve Bank.

TWO INTERIORS

Stanford University's aging gymnasium is restored to life as rich, glowing office space. . . .



... and a gloomy mountain inn is revived as elegant dining facilities suffused with light

George Cserna photos



A freshly-cut skylight over the stairwell (left), and a sleek glass brick wall (far left and below) allow natural light to pour through the once-gloomy interior of the old Bear Mountain Inn. Cavernous eating areas were brightened with hanging industrial fixtures and zig-zagging fluorescent strips in the cafeteria (far left), and by circular fixtures with miniature white bulbs in the formal dining room (below left).

A stairwell skylight and glass wall brighten dining areas and lounge at Bear Mountain Inn

The Old Bear Mountain Inn in the Ramapo Mountains of New York had been a landmark for more than three generations. Built in 1914 as a bus terminal and shelter for visitors, the inn had provided eating facilities for 60 years as the focal point of a popular resort that featured swimming, boating, skiing, hiking, and cultural events.

Though the inn's rustic exterior had retained its beautiful Alpine appearance over the years, the building's decaying interior had become a jumble of congested space and dark, gloomy eating areas. Architects Joseph Tonetti & Associates were faced with the task of preserving the inn's historic charm while upgrading dining facilities and lounge areas to handle increasing crowds of visitors to the state park.

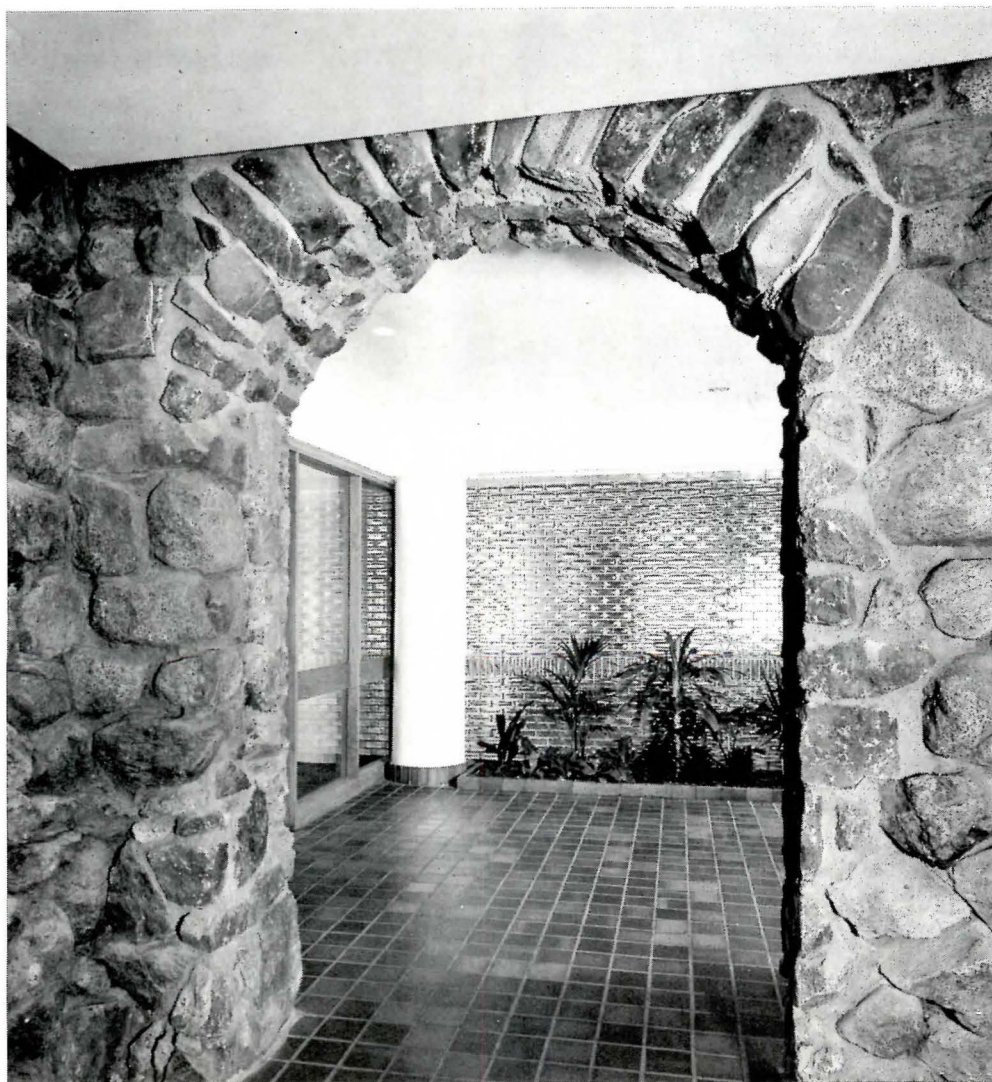
Working on a state-allotted budget of approximately \$2.1 million, the architects redesigned the building's entrances and exits, and gutted much of the existing interior in pursuit of their two major objectives—to provide better traffic circulation and to get more light into the musty, old inn.

"I enjoy renovation immensely," said architect Tonetti, of the challenge. "Working with an old building is like a puzzle. There are all sorts of things you have to work with and around, and solving the problems is like completing a puzzle."

A major problem was that the building had only one main entrance which opened into a tiny foyer housing the inn's narrow circular stairway. Other exits were rarely used and the main entrance was usually a bottleneck. The problem was solved by removing the circular stairway and creating a large, tiled entry foyer with adjoining hat check area in that space. The architects used a glass brick wall to conceal the downstairs cafeteria just off the foyer, and a wide new stairway to second floor dining and lounge areas was added beyond the foyer. A dramatic 15-by 20-foot skylight was then cut over the stairway to flood the dark center of the building with light.

All building exits and entrances were defined by using custom-made cream and brown awnings for a crisp but subdued effect that blended with the inn's turn-of-the-century flavor.

The only major addition to the inn's exterior was a concrete patio dining area off the inn's west side which was designed to conceal the loading area and garbage bins while offering visitors a tranquil view of Hessian Lake. The patio was furnished with





The only major addition to the inn's well-preserved exterior was a new concrete patio dining area, which conceals loading area and trash bins (left). Preservation was also the primary concern in the inn's main lounge (below). Layers of dirt and old varnish were stripped from the original chestnut ceiling and old chandeliers were repaired. Oak floor and furniture blend with the log-cabin air.



durable industrial stacking chairs and custom-made tables, with awnings that coordinated with those at entrances and exits.

In the main lounge and dining room on the second level, there was much that, despite decaying appearances, needed to be preserved. "Some of the old-timers were very apprehensive—they hated to see anything at all changed," said Tonetti.

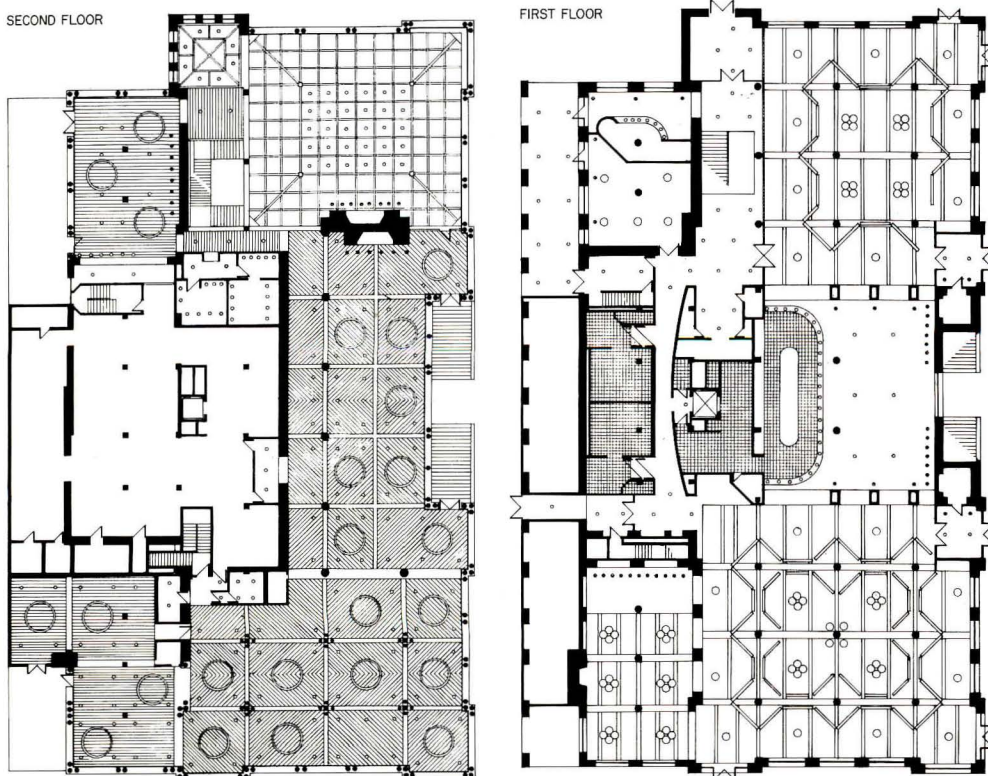
Preserving the lounge's original chestnut ceiling, which was black with dirt and old varnish, the architects stripped and sealed the old wood, and installed unobtrusive linear diffusers for air supply. Quaint old chandeliers were also spruced up by replacing wood parts and cleaning lanterns. An unsightly temporary bar in the lounge was removed, and a handsome new oak bar was constructed in the corner created by moving the original stairwell. Custom-made oak lounge furniture was designed to echo the log-cabin style of the inn.

The old wood floors in the lounge and dining rooms, which were badly deteriorated, were replaced with Appalachian white oak, a material used throughout the inn's renovation for its light color.

In the dining room, drab acoustical tile ceilings were also redone in white oak and mirrored walls and cabinets were used to give the illusion of increased spaciousness and light. The old lighting fixtures in the dining room, which vaguely resembled yellowing parchment paper stretched over a wheel, were replaced by circular fixtures with tiny white bulbs, creating a star-like quality in the dining area at night.

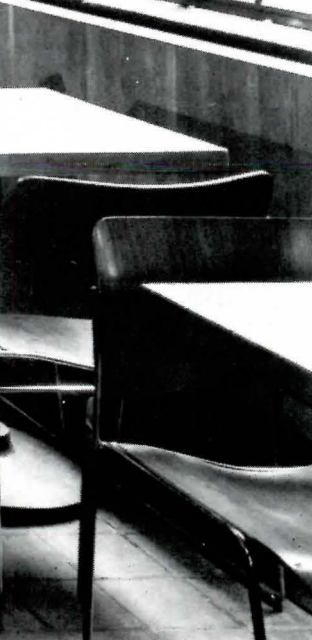
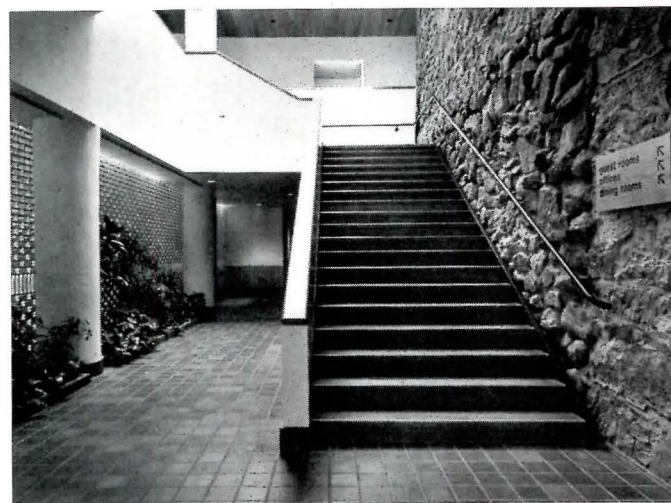
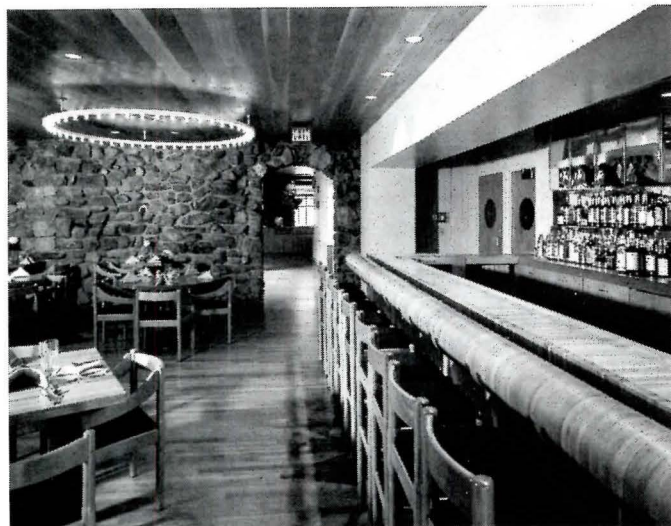
The main dining room was furnished with oak tables that may be covered for formal dinners or used without tablecloths for breakfast and brunch. Caned bentwood chairs were used in the dining room while informal, low-backed oak chairs and bar stools were installed in the smaller Cub Room just off the lounge.

The major portion of the inn's renovation however, was done in the first floor cafeteria. Like the rest of the inn, it needed new plumbing, electrical and mechanical systems and its antiquated food service and storage facilities needed to be replaced. The dismal cafeteria had a low greying canvas ceiling that was hung with old Japanese lantern fixtures. The walls were covered with dark paneling and plaster, and the large eating area was cut into inefficient chunks of space by walls added in an earlier renovation.



The first floor was gutted to expose windows and old stone walls hidden behind dark paneling. A spacious new main entry foyer and stairwell (right, second to bottom) and auxiliary entrances and exits improved traffic circulation, providing more pleasant and efficient dining in the cafeteria (below and top right), the main dining room and the Cub Room (right, second to top).





In an effort to restore as much of the original building as possible, the architects gutted the first floor, exposing and restoring the inn's beautiful old stone walls and arches, and opening the arched windows to let light in. The glass brick wall, which complemented the texture of the stone walls, was used to separate the cafeteria from the foyer.

The old quarry tile floor, a gift of Robert Moses from the 1939-40 New York World's Fair, was still in good shape, and was simply cleaned, patched, and sealed with polyurethane.

Removing several layers of ceiling added in earlier renovations, the architects installed a new pressurized ceiling to increase air circulation while avoiding extensive duct work. The new ceiling was then finished with spray-on acoustical plaster following the structural contours.

Since the first floor cafeteria frequently had to function both as a fast food eating area and as a banquet hall, the new lighting and furniture had to do double duty. The eating areas were given hanging industrial incandescent fixtures for subdued banquet lighting and track lighting was used to wash the stone walls with soft light. Zig-zagging fluorescent strips were used to brighten the area for quick meals during the day.

In the cafeteria, Tonetti chose butcher block tables, and stacking chairs done in oak that lend a more formal look than the chairs used on the patio eating area. Sliding or folding oak doors that disappear into the walls were also installed to curtain off space, separating the enormous cafeteria and dining room into smaller banquet rooms.

Finally, the fast food service area in the cafeteria was enlarged and moved further out into the eating area, permitting more direct traffic circulation from the outside and increasing the efficiency of the service.

Graphics in the eating areas and throughout the lodge were designed to harmonize with furnishings and were later silk-screened and installed by the Park Service.

BEAR MOUNTAIN INN, Bear Mountain, New York. Owner: *The Palisades Interstate Park Commission*. Architect: *Joseph Tonetti & Associates—principal architect: Joseph Tonetti; project architect: Richard Jansen; designer: Rex P. Lalire*. Consultants: *Goldreich, Page & Thropp (structural engineering); Flack & Kurtz (mechanical and electrical engineering); Harry T. Skolodz (food service); The Wolf Company (cost)*. Contractors: *Elite Construction Company (construction)*.

Old wood and brick brushed with color transform Stanford's Old Pavilion into handsome offices



At Stanford University, an old unused campus gymnasium was recycled to provide badly-needed office space for two university departments. The restored building's rich new interior is an elegant mixture of brick, wood and steel, glowing with color.

The 2,700-seat Stanford Old Pavilion, built in 1921, had fallen into disuse a decade ago after a larger multi-purpose sports center was completed. With its interior sprayed entirely a dingy off-white, the Pavilion had temporarily provided a drab setting for some campus offices before university officials decided to have the building converted to permanent office space.

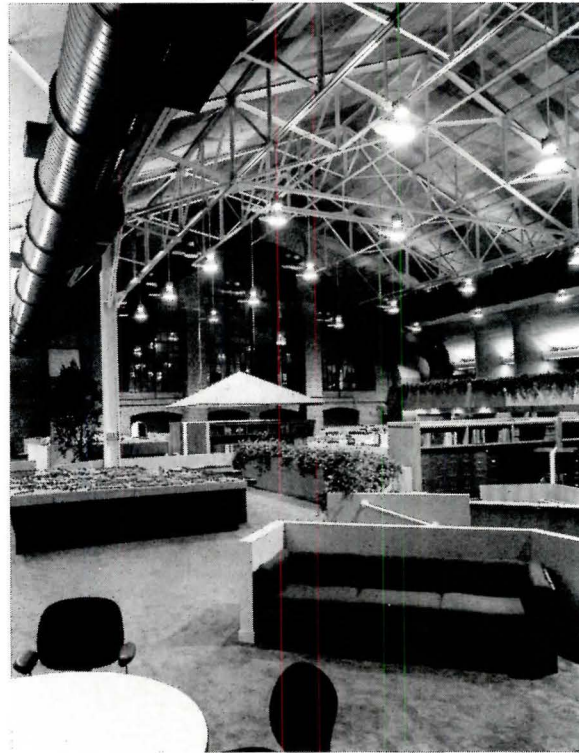
The 17,000 square foot gymnasium with its 48-foot ceiling presented interior designer Barry Brukoff with problems ranging from severe acoustical reverberations to erratic heating. Brukoff, who thought the building's interior volume "reminiscent of some of the turn-of-the-century train stations—raw, but in its own way quite elegant," wanted to restore as much of the original interior as possible while providing a handsome work space for the personnel and architectural planning departments.

Sandblasting the entire structure, Brukoff began by exposing the original red brick, steel beams, and natural redwood. The clerestory windows were also sandblasted to produce a frosted glass that would cut direct sunlight on work areas. The exposed roof area was insulated and finished with rough-sawn fir plywood.

The University had asked that the Pavilion's fine old basketball floor be preserved in case it was needed in the future, but the floor was too springy to simply carpet for office use. To provide a more solid floor and allow room for underfloor wiring, new 2 by 6 framing with plywood flooring was constructed on top of the basketball floor, and the two floors were fastened together, stiffening the whole area.

Brukoff added an elevated platform at the entryway to provide a reception area, lounge, and space for a large-scale model of the campus used by the planning department. A balcony along the north wall was also constructed to set private conference space apart from the regular open-plan office on the floor.

Brukoff began the luxurious coloring of the interior by painting the ceiling's steel beams a glossy white to heighten their lacy quality against the wood roof, and countered with soft cadet blue along the balcony and



Jeremiah O. Bragstad photos



Freestanding walls and integrated office systems were used to divide the Pavilion's immense space for use by two different offices. A balcony (below) was constructed along one wall to provide private conference space, and noisy office machines were grouped under canopies to confine noise. The raised entry platform (left bottom) provides a reception area, lounge, and space for a model used by the planning department.





walls. Warming the room with russet carpeting, he stretched a 150-foot ivy bed along the balcony and entryway, and painted the air-handling ducts overhead a deep red. The soldier-course masonry arch over the window was accented with band of dark purple.

The enormous space required special lighting, so custom tubular 18-inch diameter fixtures were designed and installed running along both sides of the building, and metal-halide fixtures were suspended from the high center bay, with task lighting added at work stations.

To allow two different departments to share the new interior, the building was divided by freestanding wood walls, which can be moved in the future as office needs change. The open-plan offices on both sides of the wall reflect the difference in the two departments' work; personnel offices are arranged in an angular, free-form manner while the planning offices are in a linear grid dictated by the need for large drafting tables and plan files.

Integrated office systems throughout lend a sense of unity, and panels separating offices are below standing eye-level to promote spaciousness, but above seated eye-level for privacy.

To solve the acoustic problems, Brukoff controlled office machinery and files—two primary noisemakers—by grouping them together and surrounding them with freestanding walls. Pale brick-colored canopies were then hung over the enclosed area to absorb and confine sound.

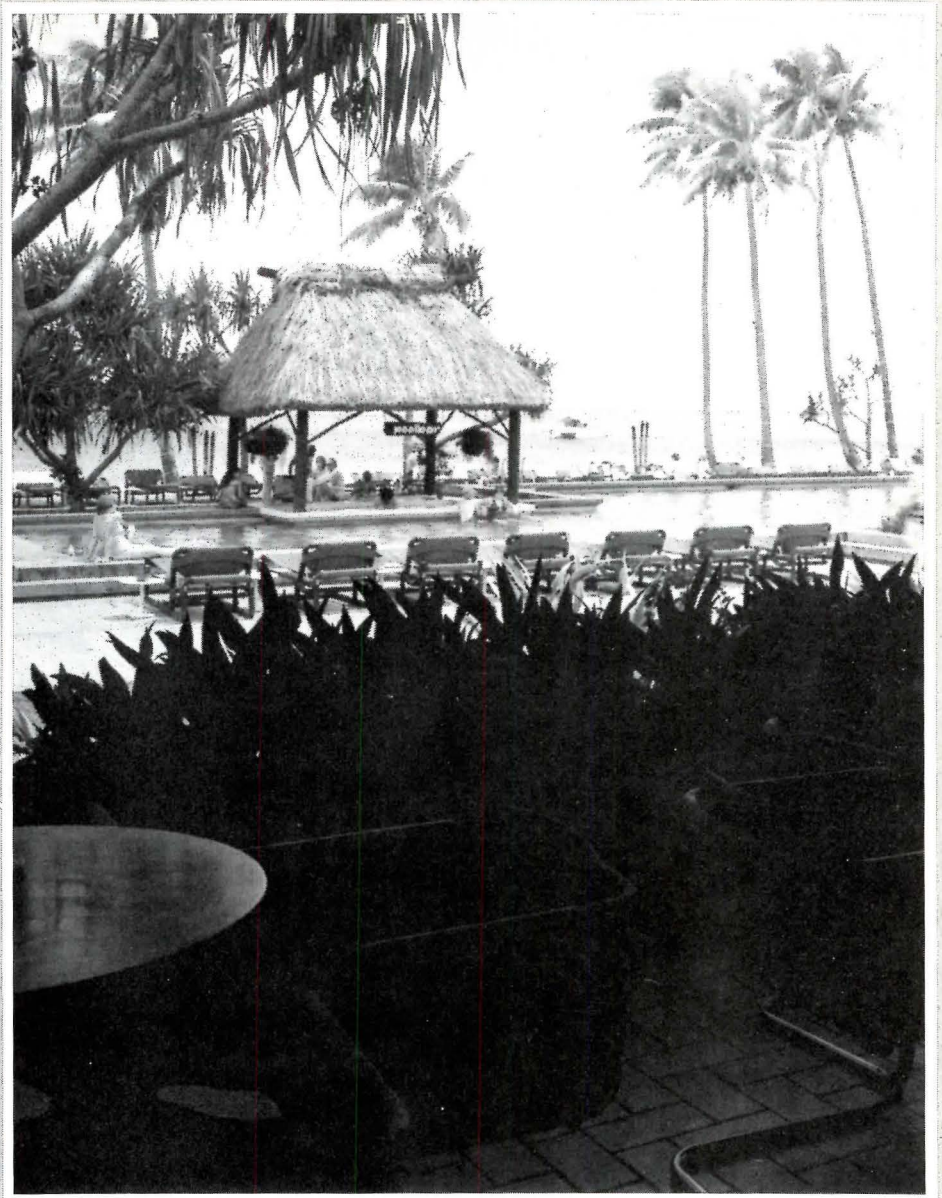
The final effect, that of luxuriant spaciousness, has become a source of pride for university employees working in the building. "I enjoy walking into it in the morning and to some extent I regret leaving in the evening," says Gene Kirschner, co-director of the planning department. "Many times I'm the one to turn off all the lights. And invariably, when there's nothing on except the night lights, I come back in and just stand on the platform and enjoy it, because it's quite dramatic with just a spot of light here and a spot of light there." —*Joy Ross*

OLD PAVILION, STANFORD UNIVERSITY, Stanford, California. Owner: *Trustees of Stanford University*. Designer: *Barry Brukoff*. Consulting architect: *Michael Wolfe Siegel*. Consultants: *Pregnoff, Mathew & Lee (structural)*; *Westcon Associates (mechanical)*; *David Arrigoni & Associates (electrical)*. Contractor: *Howard J. White Inc.*



International Resorts

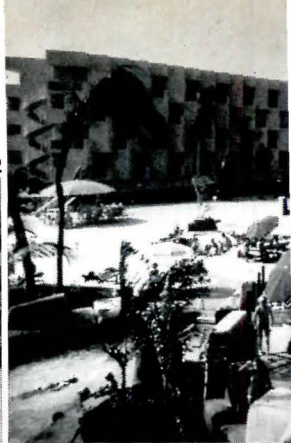
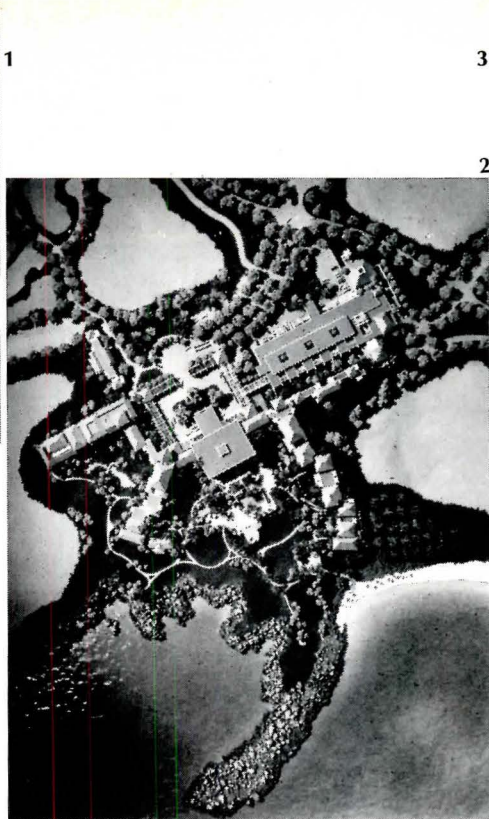
Overseas designs by American architects



The hotel industry distinguishes between three basic types of hotels:

- the businessman's hotel—built almost anywhere that business is transacted
- the tourist hotel—usually located near natural wonders, historic sites or other features that attract a steady stream of visitors
- the resort hotel—designed for longer stays and often located next to nothing except whatever can be made of the local beaches or mountain sides.

It is this last type, the resort hotel, that interests us here. For architects and other designers it offers an extraordinary challenge in that it draws on reserves of imagination and creativity as few other building types do. And when the resorts are overseas, as these are, design and construction problems are sometimes compounded by distance, by unfamiliar regulation, and by occasionally bewildering local custom and usage. —*Barclay F. Gordon*



1. Sheraton Molokai, Island of Molokai, Hawaii
2. Kapalua Bay Hotel, Maui, Hawaii
3. Inter Continental Forum Golf Hotel, Abidan, Ivory Coast
4. Sheraton Luxor, Luxor, Egypt
- 5/6. Maho Bay, U.S. Virgin Islands

"Not an easy way to get rich" says Charles Bell of Hilton International in describing resort operations in most parts of the world. He goes on to point out that other sorts of hotels are far less chancy and usually pay higher returns to those who build and operate them. The resort hotel, after all, has the largest staff-to-guest ratio. It normally requires the largest land area. Its trade is often seasonal. It is the most vulnerable to changes in public taste and preference as well as to local political turmoil. Most of all perhaps, it is sensitive to every downturn in the economy, not just in the host country but in every country from which it draws its clientele. For these reasons and others, the industry thinks of the international resort market as the toughest in the business.

Yet some resorts have returned remarkable profits over reasonably long periods and their success leads to new investment and new construction. Where you build and when is just as important as what you build. And keeping a finger on the pulse of tourism is still absolutely critical for all those concerned with resort planning, management and design.

In the Hawaiian Islands, long a playground for both affluent and budget-conscious West Coasters, growth continues at a dizzying pace. Last year alone, 3.2 million tourists visited the Islands and spent about \$1.4 billion—figures that have doubled in the last five years. The numbers this year will almost certainly go higher. Though Waikiki prospers, it is pretty nearly built out. The hottest destination today is Maui. On its extraordinarily beautiful western coast at Wailea, the new 600-room Inter-Continental Maui offers a lavish range of recreational facilities on its spectacular 1500-acre site. Further up the coast at Kaanapali is the new Kapalua Bay Hotel, to open in October under the management of Rockresorts, Inc. It will be

a 200-room facility (with 100 more rooms projected) designed by Killingsworth Brady & Associates for an exquisite oceanfront site that was a pineapple plantation. Says Killingsworth: "If I haven't designed it so it disappears into its surroundings, then I haven't done my job." Maui, like the other islands is exerting stricter controls on its growth and the new Coastal Plan, much like California's Proposition 20, is modulating development.

Molokai, the island between Maui and Oahu, has been slower to develop but a new Sheraton Molokai, designed by Wimberly, Whisenand, Allison, Tong and Goo for a splendid site on the island's northwest coast is a harbinger. Some experts, however, like Inter-Continental's Vice President for Marketing James Potter are betting that Kauai rather than Molokai will feel the next surge of development.

The natural beauty of the Islands and their superb year-around climate are largely responsible for the heavy tourism. But there is something else. The region's resorts are stacked top to bottom with the best educated, best motivated, best paid staffs to be found anywhere—and to tourists what a difference that makes!

The Caribbean, to East Coasters what Hawaii is to Californians, has not enjoyed the same steady growth. Tourism in Jamaica, an island with some of the world's most appealing beaches, suffered severely from racial unrest but now seems to be rebounding.

The area around Tortola in the Virgin Islands has been increasingly active and boasts several new small resorts: Brandywine, Prospect Reef, and The Bitter End Yacht Club at Virgin Gorda. Designed by architect Peter Brill, The Bitter End offers hospitality and snug harbor to sailors from all over the Caribbean.

The region's growth areas, say some, are further to the south: Trinidad, Tobago and

the islands off Venezuela.

Conditions for resort builders in the Third World vary so markedly from place to place that generalizations are all but useless. The availability of trained labor, housing, supervisory personnel and materials affect the cost of building so sharply that a new resort in Lagos—according to one recent feasibility study—might cost almost twice as much as a comparable facility in Nairobi. And the spectrum of political climate is just as broad. Even in those developing countries actively seizing on tourism as a potential source of foreign investment, the experience has been mixed. New resorts have been built in Gambia and the Ivory Coast that now attract streams of vacationers, particularly northern Scandinavians, fleeing from their halfyear's night. They come seeking the sun, the beaches and just the right touch of exotica. They find all of these inside the hotel compound. They venture out seldom, if at all. There is little reason to. Like tourists everywhere, they want their favorite foods (mostly imported) and international liquors and wines (all imported). They want to dance to familiar rhythms in the hotel cabaret, and handle currency they understand. And because they came on charters or packaged tours, almost everything was prepaid in the country of origin. The result, too often, is that the local economy remains unstimulated and its expectations are deflated. Some estimate that 70 cents of every tourist dollar is either repatriated or never leaves the tourist's home country. Others say the figure is somewhat lower, but nobody doubts that it is substantial and leads to disappointments and sometimes even bitter resentments between the local population and the luxurious world of the resort.

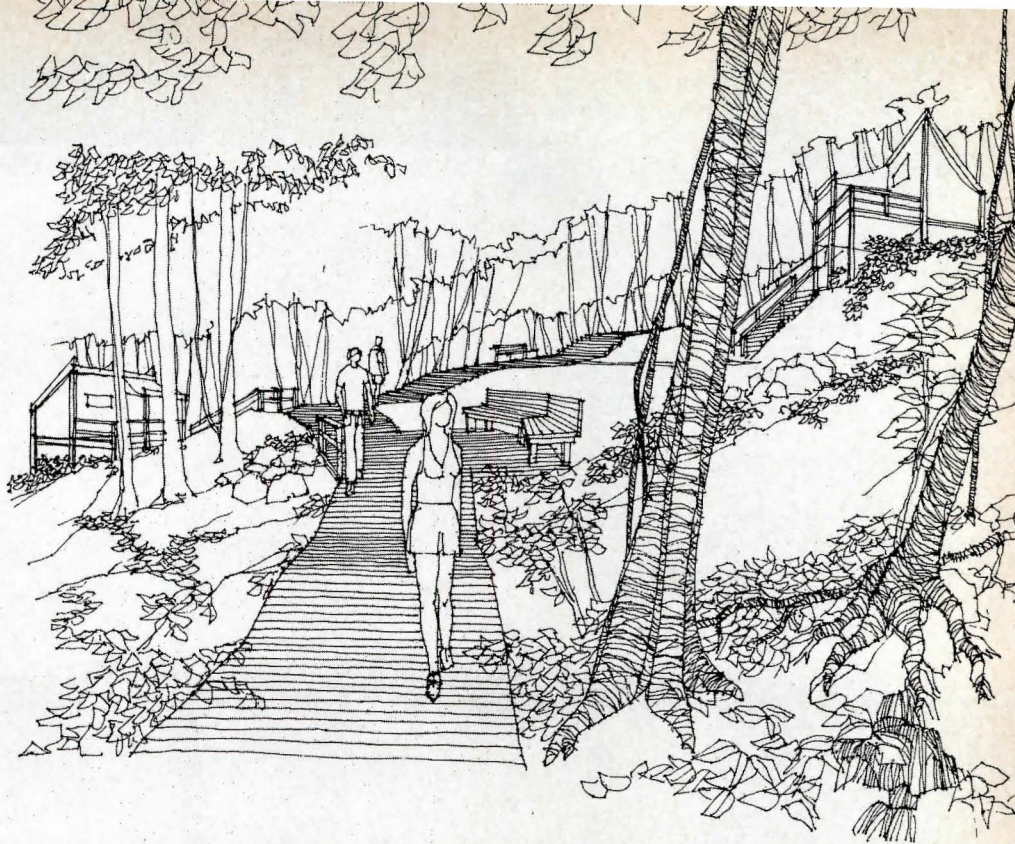
In certain other African countries with superb game parks or similar points of interest the problem is much less severe. Or in



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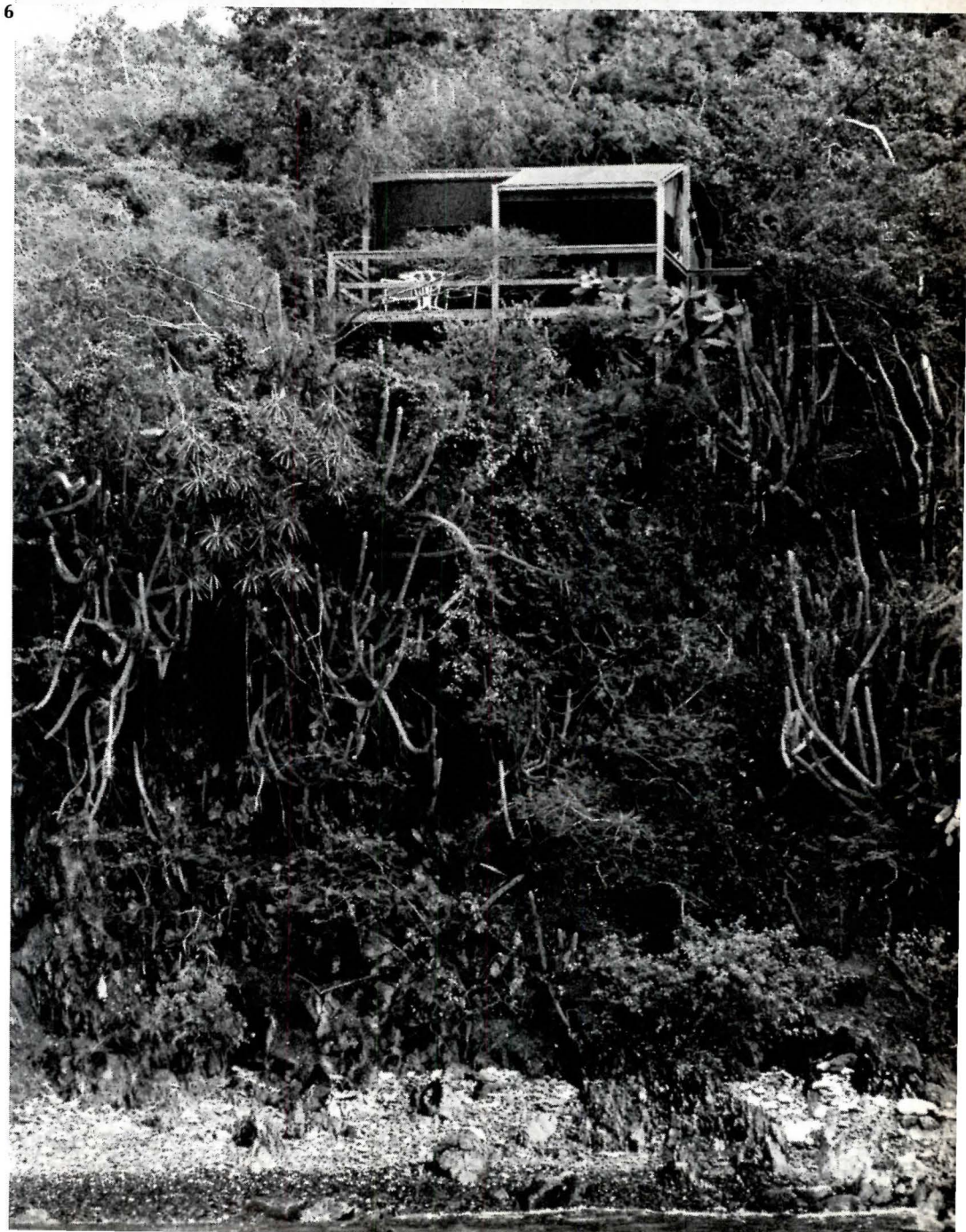
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Egypt, where Welton Becket is now planning a new 350-room hotel near Luxor, Queen Hepsetchet's Temple and the Valley of the Kings are powerful magnets.

There is almost always a restless, avant garde of tourists who tire of places as they become too popular—perhaps because they become too popular. These wanderers blaze new trails and others follow. Asked where this advance wave has been moving recently, Hilton's Charles Bell ventured: Puerto Vallarta . . . Baja California . . . Mombassa . . . the Southern Caribbean. Inter-Continental's Victor Newman agreed, adding Guatemala, Cancun and Bali—where The World Bank is now financing a huge new resort complex.

The kinds of resort facilities that will be built in these places may not differ widely from what is being built now, but for economic and environmental reasons, most (though not all) will be lowrise. Environmental safeguards and techniques for controlling growth are springing up everywhere to protect against the giant beach hotels the artificial stimulants, and honty-tonk development of yesterday.

There are and always have been alternatives for vacationers who seek the beauty of the world's garden spots but shun the life of the resort hotel. Typical is some ways of these alternatives is Maho Bay—a new campsite development on St. Johns in the U.S. Virgin Islands. The dwellings (photo right) are three-room, 16 by 16 foot tent structures pitched on wood decks that cantilever over the hillside. Designed by architect James Hadley, the units have a good deal of amenity and style, and are linked by wood boardwalks to the beach below, to the community garden and to public bathhouses and toilets. Because the 14 acre site is part of the U.S. Virgin Island National Park, environmental safeguards were welcomed by the developers and scrupulously enforced.





THE REGENT OF FIJI FIJI ISLANDS BLACK & O'DOWD, ARCHITECTS

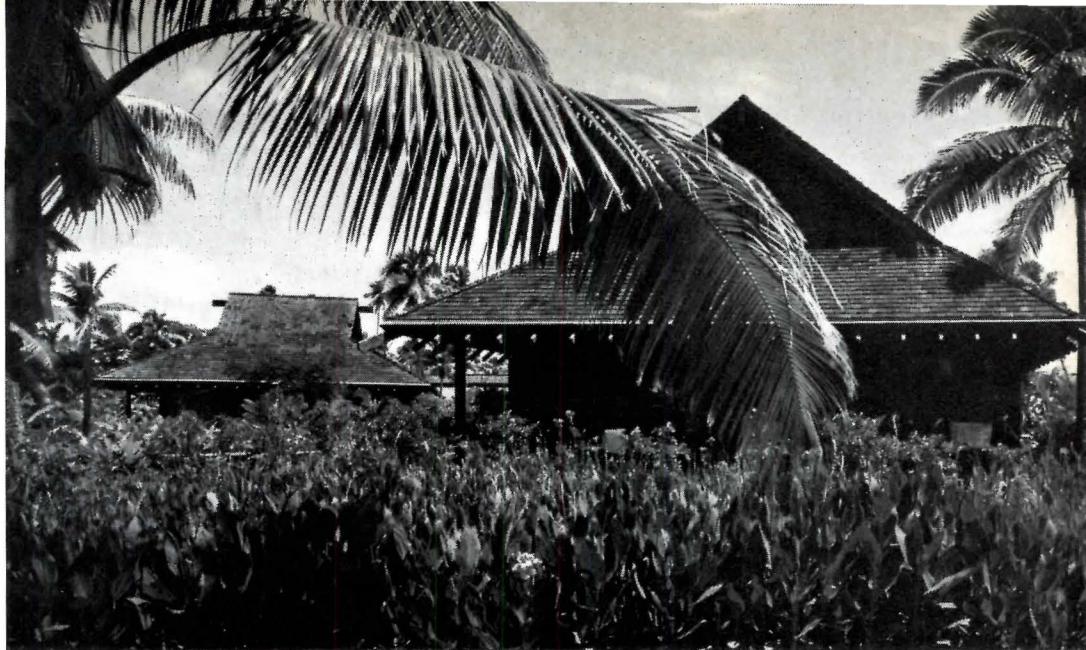
The islands of Fiji lie at about 18 degrees south latitude on a line between the east coast of Australia and American Samoa. New Zealand is almost due south, and the preponderance of tourists to Fiji are vacationers from Down Under. They come mostly on packaged tours with a choice of several hotels. The most recent of these is the Regent Fiji Hotel, a 300-room facility designed by Black, O'Dowd and Associates of Palos Verdes, California.

The site is about 25 acres of land owned by a Fiji tribe that shares in development revenues. The architects designed eight residential buildings of 36 units each, eleven "bures"—deluxe suites in a Polynesian idiom—and a central structure housing kitchen, dining, shops, convention rooms and

hotel administration. Most are oriented to ocean views and respect the custom that no building may be taller than a coconut tree.

The living units are constructed chiefly in prefabricated and poured concrete with some construction timber coming from the U.S. and Canada. Exotic woods, local to this part of the Pacific, found many decorative uses. Most of the finishes are simple and durable; tile taking the place of carpet wherever practical in this moist climate.

The benign climate, of course, encourages the development of outdoor spaces and the architects have had fun with balconies, dining verandahs, and a host of outdoor activity spaces. All are developed and detailed with restraint and with a sensitive respect for local conditions. From every point

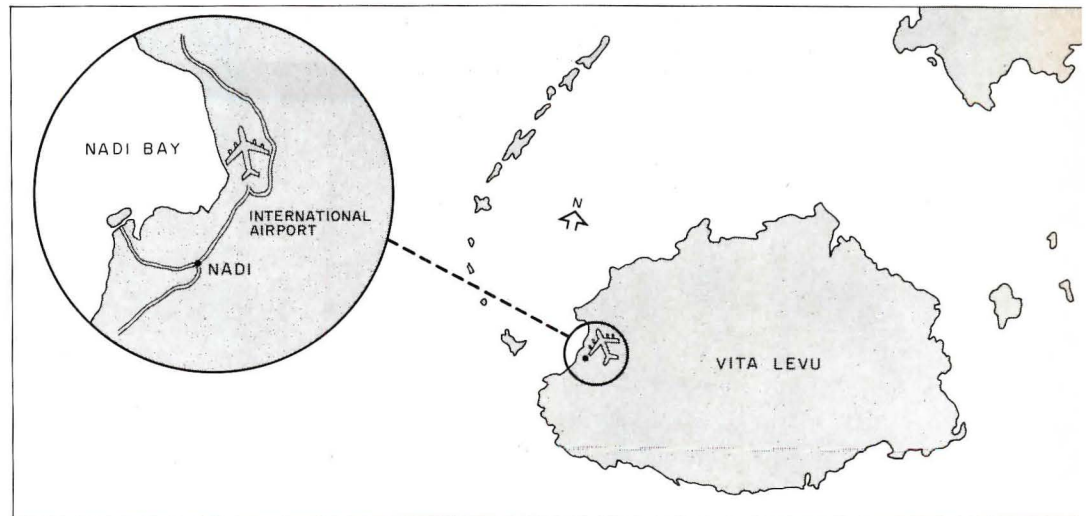


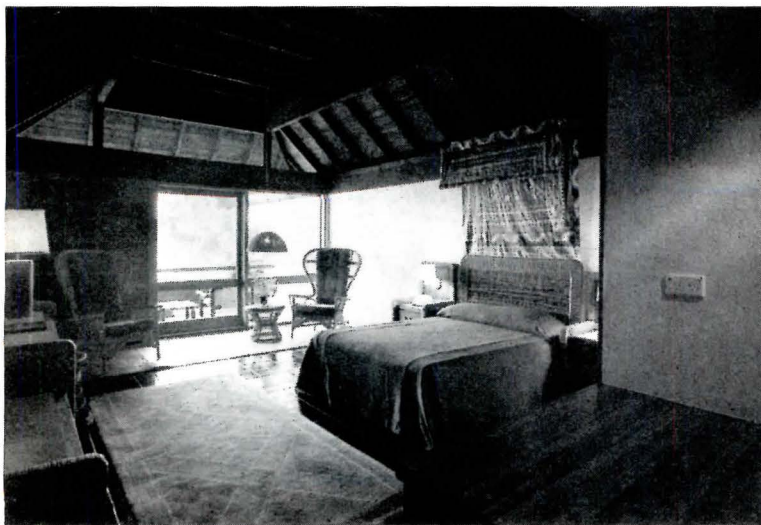
Wayne Thom photos



of vantage, the hotel presses lightly on the land and that is an attitude toward design as much as it is a construction reality. Almost anywhere this attitude appears it is welcome. In Fiji, for so long beyond the reach of most vacationers, it is especially welcome now that new air routes and schedules are beginning to open even the vast reaches of the central and South Pacific to tourism and development.

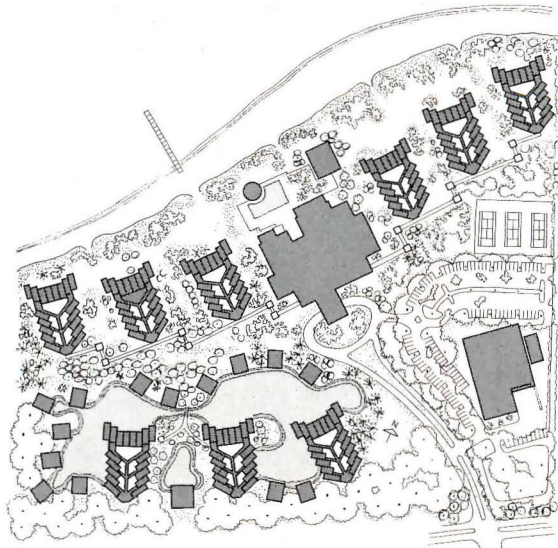
THE REGENT OF FIJI, Fiji Islands. Architects: *Black O'Dowd and Associates*. Associate architects: *Larson, Holtom, Maybin & Co.* Engineers: *Socoloske, Zelner & Associates* (structural); *Ambrose Engineering* (mechanical); *Daniel Laidman Associates* (elec.). Interiors/Graphics: *William L. Pereira Assoc.* landscape: *EDAW*; contractor: *Fouche Construction*.







Simple appointments are part of the appeal in the hotel's reception area as well as in the suites. Rattan furniture and tapa cloth wall hangings add distinctive Fijian accents. All living areas are air-conditioned and equipped with full valet service.





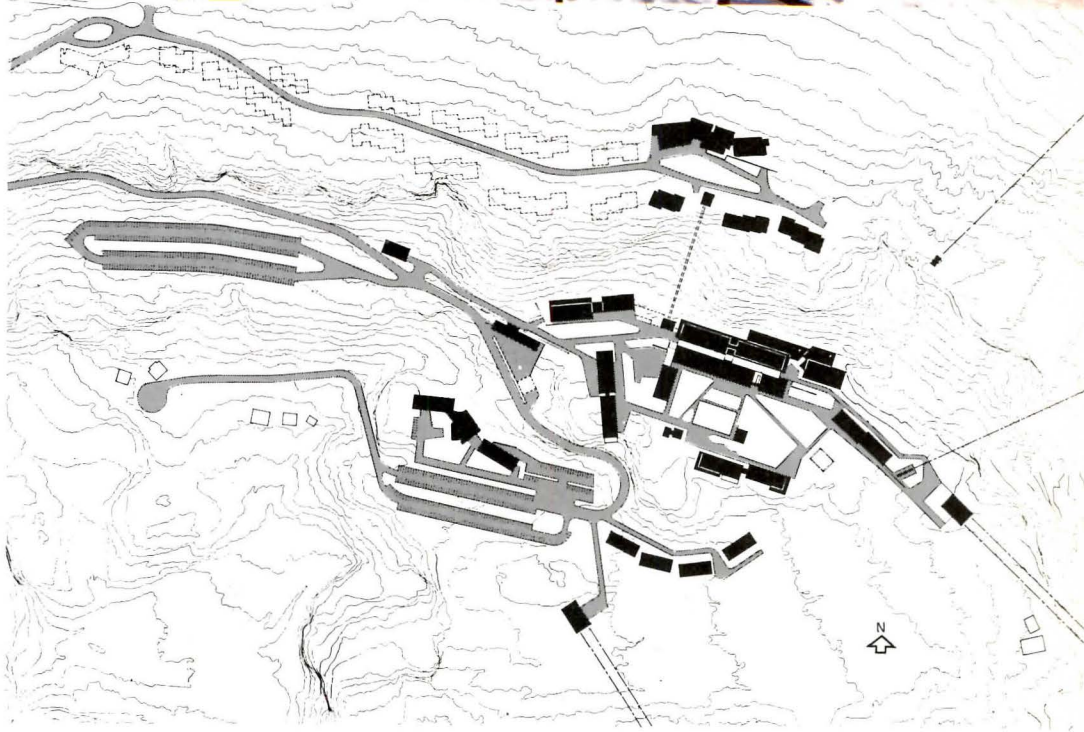
**FLAINE
HAUTE SAVOIE, FRANCE
MARCEL BREUER AND
ASSOCIATES,
ARCHITECTS**

Flaine is a new resort town nestled in a high valley in the French Alps (an hour's drive from Chamonix) and it has been under more or less constant development since the early 1960s. The force behind its planning and growth since its inception has been Parisian businessman Eric Boissonnas who saw the extraordinary recreation potential of the undisturbed site—the *Desert Blanc* as it is called—after flying over it several times. Boissonnas' vision and Marcel Breuer & Associates' design and planning skills combined to create the resort's nucleus as reported in *RECORD*, August 1969. This nucleus included a tourist office, ski center and lifts, several hotels and apartment buildings, access roads and parking, a power plant and various support facilities. Most of these structures were built in precast (from a

nearby batching and precasting plant) and were sited on the valley floor in a design that enclosed an attractive town center that excluded automobiles.

In the decade that has followed *RECORD*'s earlier coverage, considerable new work has extended the resort's capacity and broadened its recreational options. Most conspicuous among this new work is an expansion of residential and commercial structures around the town center and the development of an upper tier of hotels and apartments facing south and overlooking the whole building complex.

One of these is the 3-star hotel *Les Gradins Gris* with 51 rooms and a terrace restaurant facing south (see photos next pages). North, across the town center, are



Yves Guillemaut photos





the 2-star *Hotel Aujon* and *Hotel Vega*. East of these is the hotel *Les Lindars*, a fine 160 room design that caters to families with small children and offers special facilities for their supervision and entertainment.

In addition to each of these is a sequence of hotels and apartments planned along an upper tier to the north. These new structures offer a range of accommodation from one to three bedroom and a variety of ownership or leasing arrangements. More new residential buildings are projected.

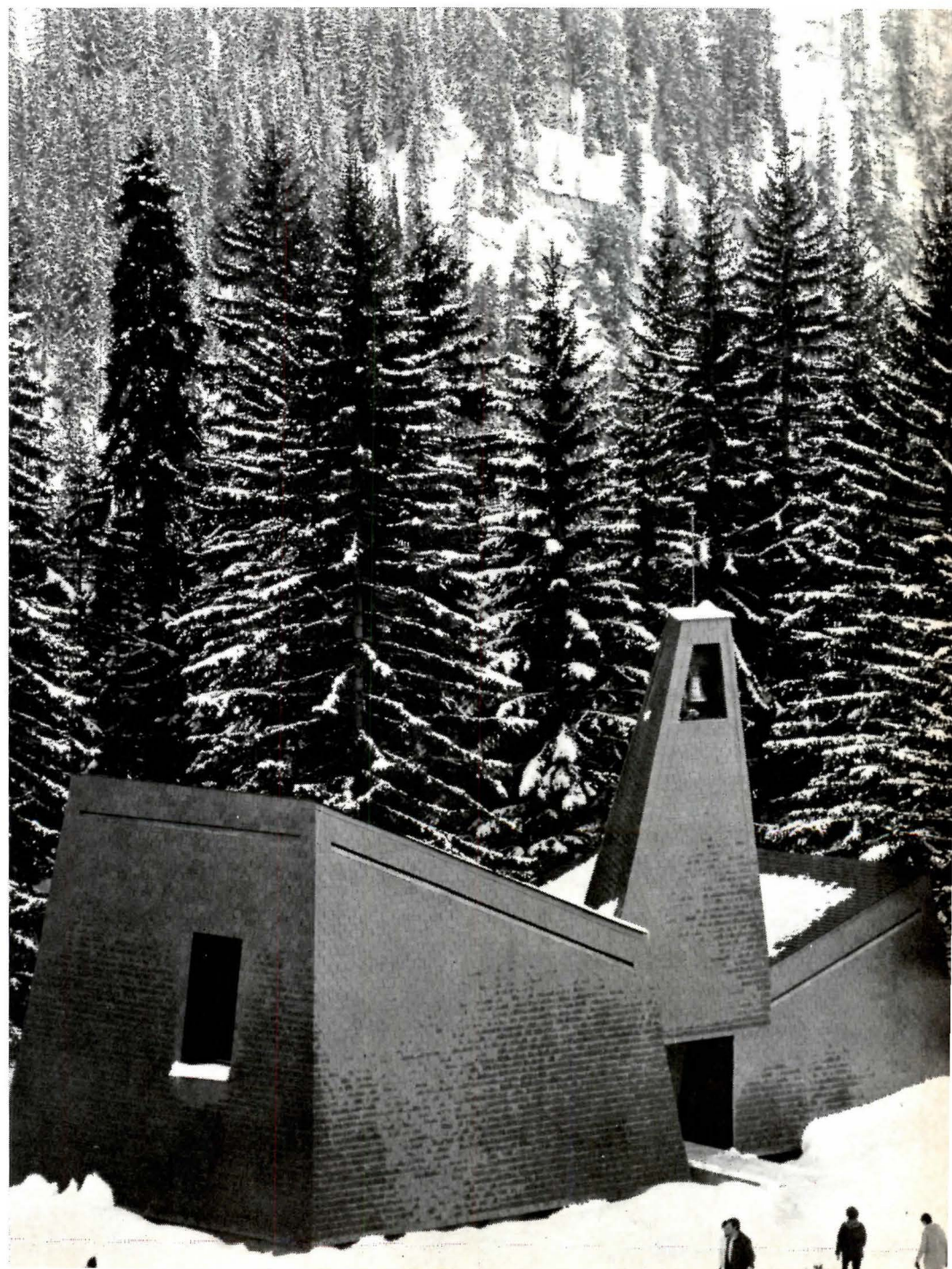
So often in new town development, strong ideas trail off to insipidity or worse during subsequent to growth and development. That this did not happen at Flaine is a tribute to both owner and architect and to the continuity they created and maintained.



The original masterplan is still being implemented. The artistic intelligence and level of design quality remain consistently high. Though elevational treatment and materials have varied slightly, all the new work relates to what was already there and bears the Breuer stamp in its every part.

RESORT TOWN FLAINE, Haute Savoie, France. Owner: *Societe d'Etudes de Participation et de Development (SEPAD)*. Architects: *Marcel Breuer, FAIA, and Robert F. Gatje, FAIA*. Engineers: *Guy Trouvin (mechanical); Claude Bancon (structural)*; Ski run planning: *Emile Allais*. Construction management: *Coordination Technique de Batiment (CO.TE.BA.)*. General Contractors: *Ets. Place, Sotramont, Cassou Bordas*.

The trails and slopes around Flaine, while not the most difficult in Europe, offer considerable challenge to skiers at every level. They are well maintained and very adequately serviced with lifts of every kind. A small ecumenical chapel, photo bottom, adds a grace note to this compelling winter scene. The interiors of apartments and lounges are detailed with care to offer comfort and amenities second to none in the region.





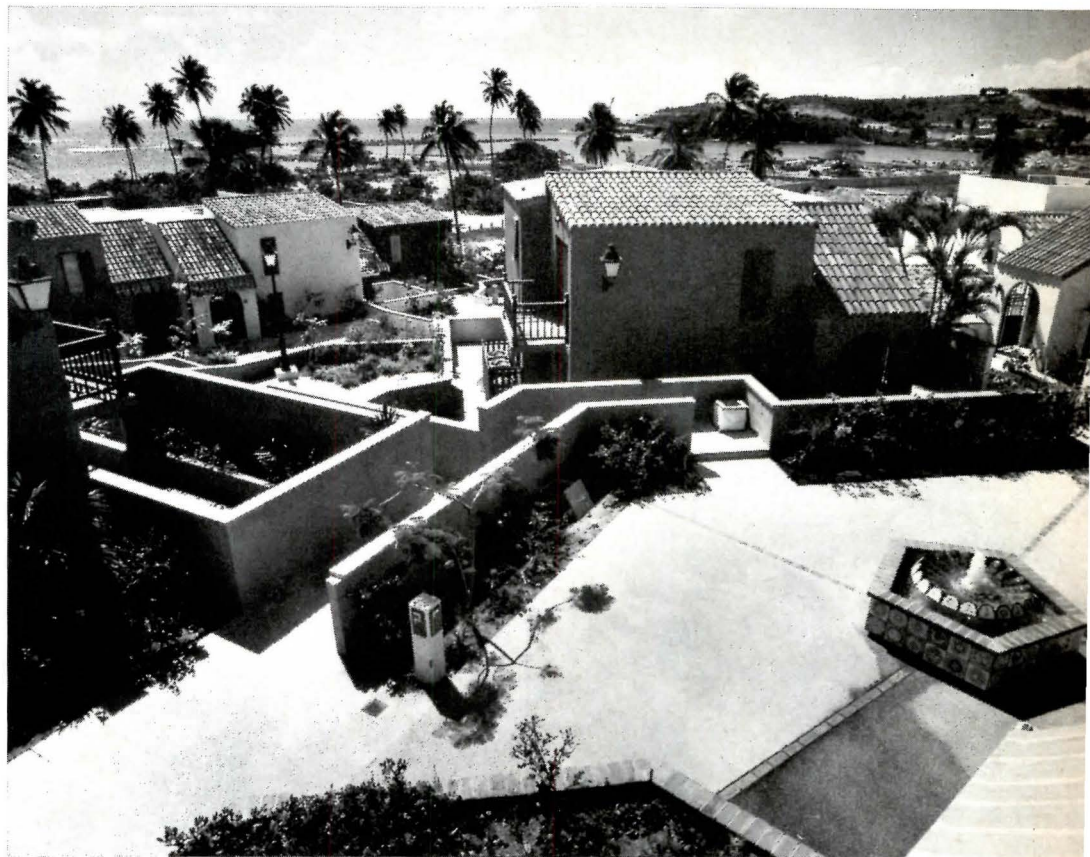
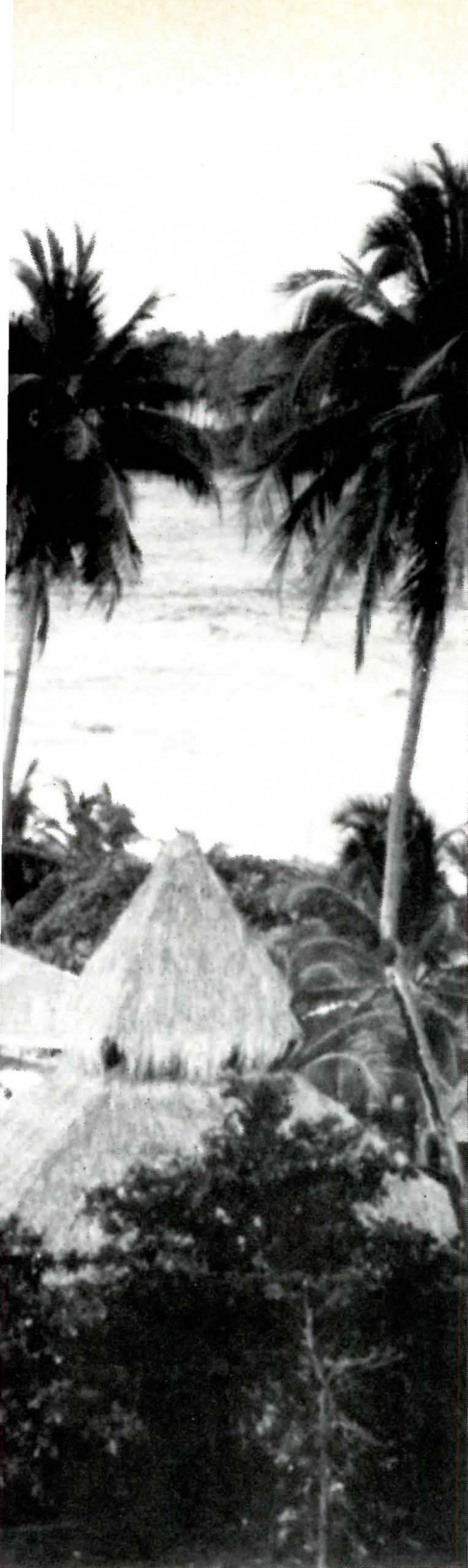
**PALMAS DEL MAR
PUERTO RICO
ESTEBAN PADILLA,
ARCHITECT**

Palmas del Mar's development has not been without misadventure, but enlightened planning principles were so firmly built in from the start that, even though the resort is only a fraction complete, there is a sense of wholeness here—and a sense that whatever follows must match what is here now or pay the penalty of unfavorable comparison.

The masterplan by architect Esteban Padilla and developer Charles Fraser follows the general formulas worked out at Sea Pines and other Fraser resorts: an avowed determination to preserve landscape values and a good quality but community-conscious architecture that "fits in." Even though ownership at Palmas has changed hands, these design objectives still pertain. And if the design idiom is gayer and brighter at Palmas than at Sea

Pines, that is because it reflects the brilliance of its surroundings and Puerto Rico's Spanish heritage.

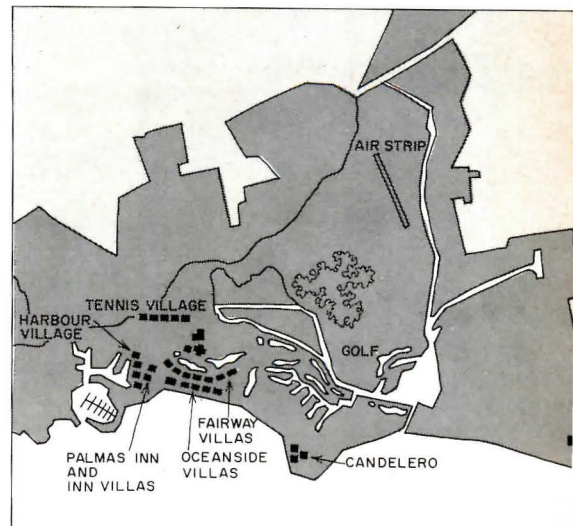
Each of the resort's four villages has its own personality but all share a more or less common architectural expression. The largest and most ambitious of these is the harbor-front village which now has 102 residential units and a variety of supporting amenities. The hotel and club villas make up a second grouping, 250 beach villas a third, a tennis village of 64 units the fourth. The tennis village includes 20 courts, a center with pro's shop and a "grandstand" formed from natural contours. Beaches, an 18-hole golf course, riding stables and a marina, which now accommodates 100 pleasure craft, extend the resort's recreational potential.



Great stress was laid on preserving a pedestrian character, reinforcing and enriching natural landscape features, and finding every small, half-concealed visual delight that Nature, in its bounty, had provided. And if there is one strong after-image that any visitor to the site carries away, it is Padilla's reverence for landscape detail expressed in twisting walks with vine-covered interludes and vistas that open unexpectedly to beautifully scaled and sometimes polychrome courtyards with various degrees of visual containment.

A great many lots around the site have been developed for private homes or townhouses. Few so far have been completed, but those that have reflect the resort's design objectives with extraordinary sympathy.

PALMAS DEL MAR, San Juan, Puerto Rico. Owners: *Sea Pines Co.; Charles Fraser, President.* Master plan: *Passalacqua y Cia, architect-in-charge—Esteban Padilla; RTKL, architect-in-charge—George Pillorge; Palmas Inn: Passalacqua y Cia, architect-in-charge—Esteban Padilla; RTKL, architect-in-charge—George Pillorge; Contractor: Ibec Construction; Designer—Taka Oribe.* Montesol (Tennis Village): *Kenneth Niddrie; David Todd and Associates, architect-in-charge—Robert Cabrera; Contractor: Rexach Construction Beach Village and Harbourside: HTC Davis; Architects Design Group, architect-in-charge—Robert Abramson; Contractors for Beach Village: Ibec Construction, Rexach Construction; Contractor for Harbourside: Desarrollos Metropolitanos; Consultant for Harbour Village: Francois Sperry.*





**BABIN KUK
DUBROVNIK,
YUGOSLAVIA
EDWARD DURELL STONE
ASSOCIATES,
ARCHITECTS**

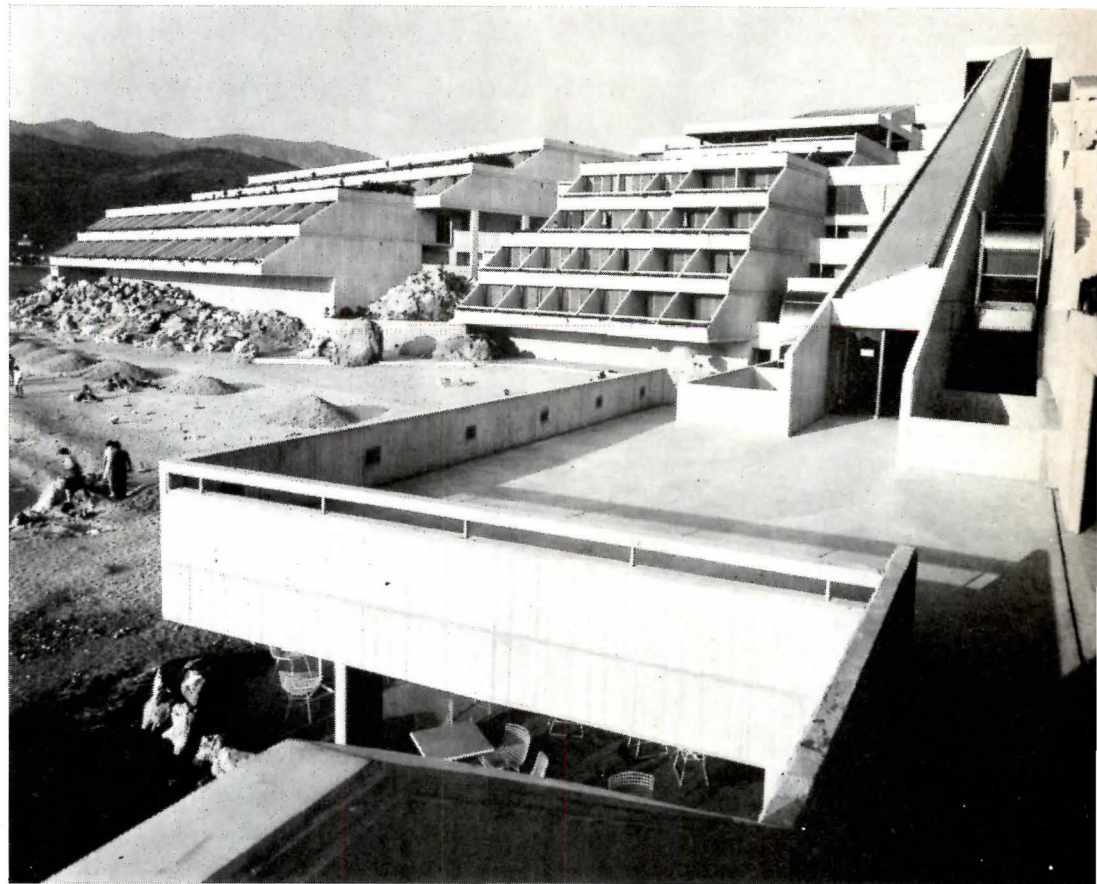
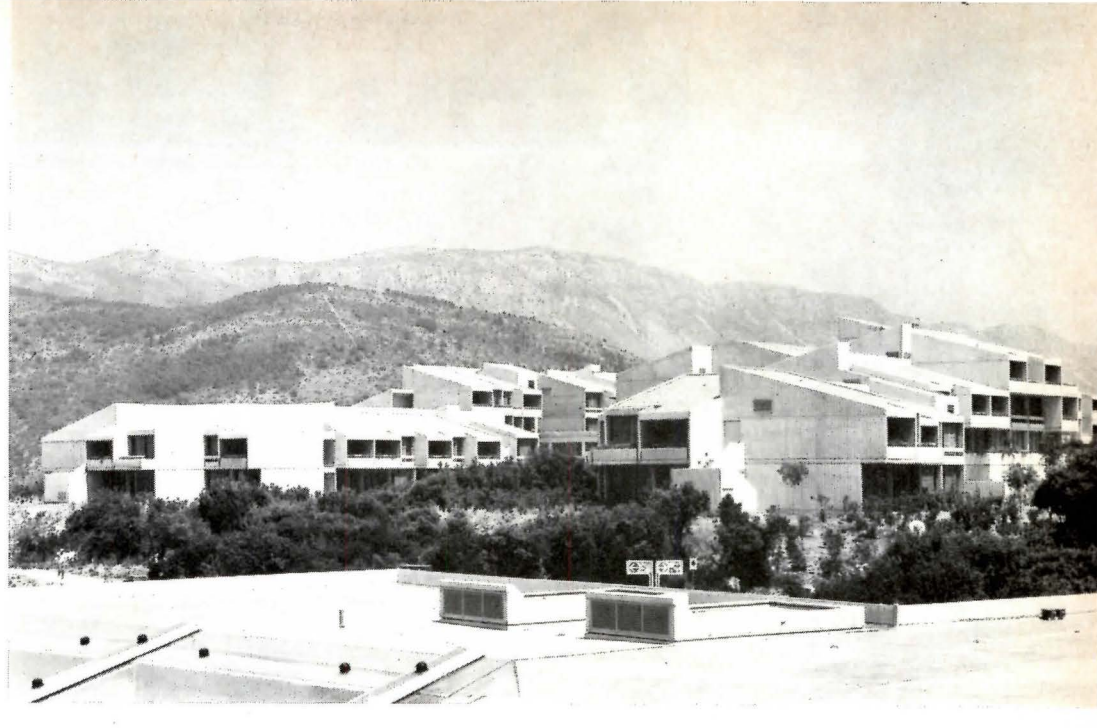
This 1200-bed resort facility, made up of several hotels of varying classes, is located on Yugoslavia's stony Adriatic Coast near Dubrovnik. It is a region that has long attracted European tourists and many have happily surrendered themselves to its beaches, its holiday atmosphere and to the spell cast by its beautifully eroded landscape forms. It is just these features that have shaped the region's architecture and Stone and his colleagues were determined to design in response to them also.

The site is a high promontory that commands fine water views in three directions. The strategic setting had not escaped the notice of World War II military planners who built gun emplacements and concrete bunkers into the hillside. And to open fields

of fire, the hillside had been denuded of trees and much of its natural vegetation. Both architects and landscape architects labored to restore the hillside using native plant materials and trees, and using them in a way that reinforced the site's original contours.

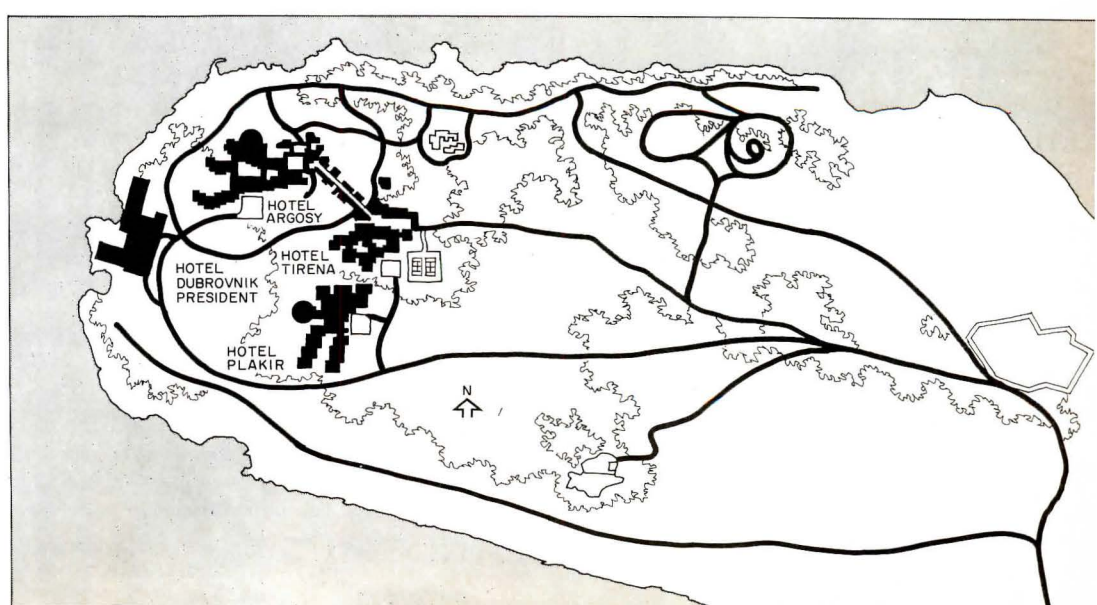
In its massing, the complex is reminiscent of many fishing villages, and the selection of building materials—concrete with red tile roofs—brings the design into a building idiom that is indigenous to most of the north coast of the Mediterranean basin. The older sections of Dubrovnik offered clues for the design of streets and pedestrian ways, and local artists, some of established reputation, enriched the interiors with their work.

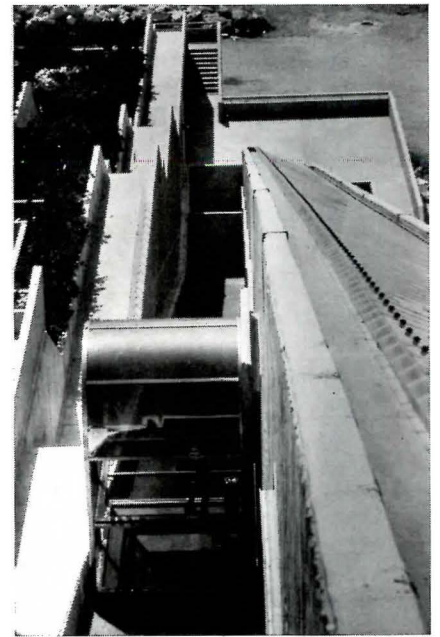
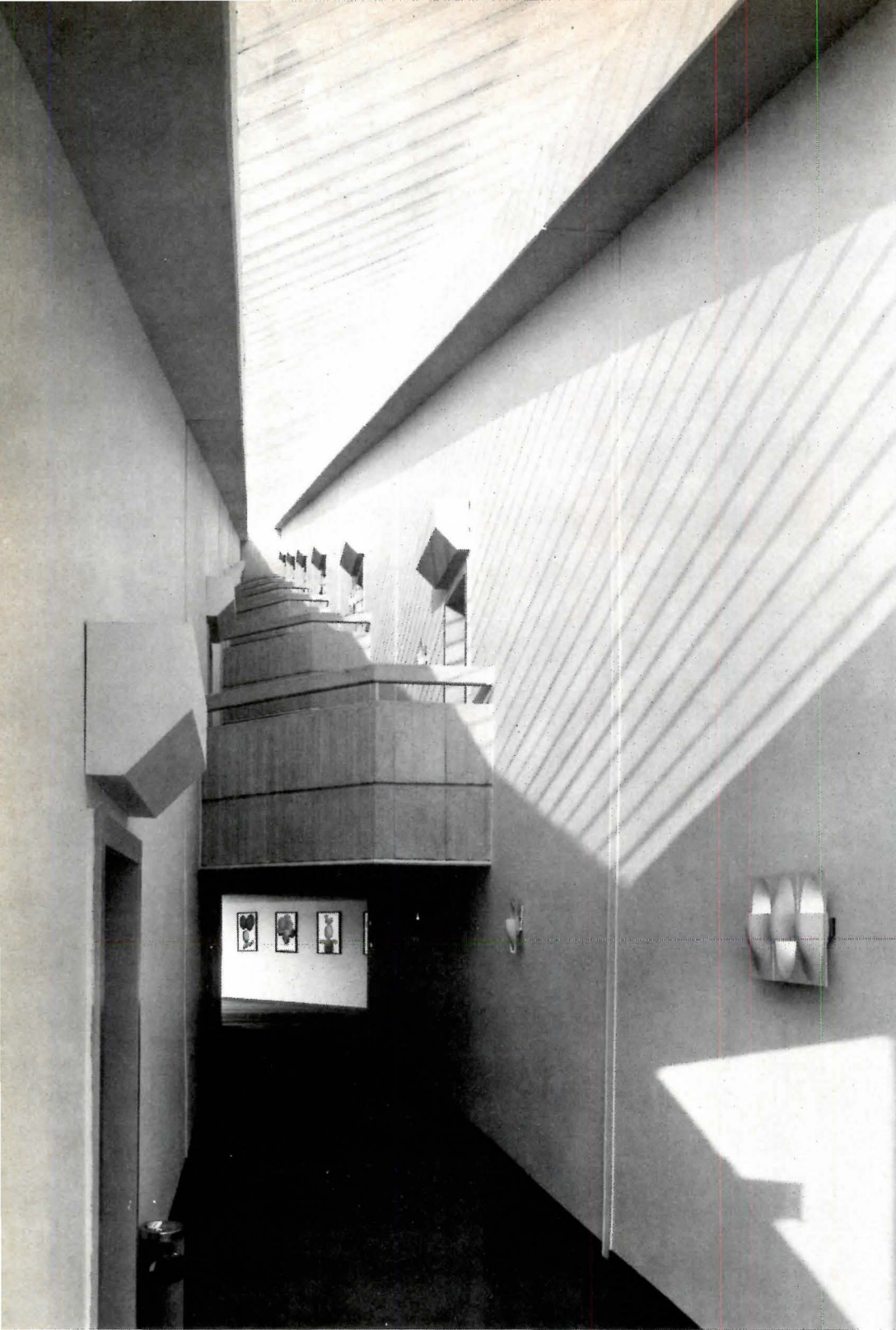
The living units vary somewhat in size and degree of amenity but in general they are



slightly smaller than American equivalents but large by European standards. Dining spaces are large because local custom requires that half the hotels guests be accommodated at each of two sittings. In the deluxe hotel, an inclined elevator system (photos next page) carries guests directly from their rooms to the beachfront.

In Yugoslavia's socialist political matrix, the original owners and clients were members of a workers' cooperative. The architects report that this created no special obstacles to a satisfactory architect client relationship. Nor did it result in the kind of drab, "make-do" surroundings that visitors to other Iron Curtain countries have sometimes reported. Here at Babin Kuk the accommodations are more than comfortable, the archi-





ecture is carefully tailored to both site and local custom and the level of amenity is equal to any international standard that could reasonably be asked by any of several categories of European vacationer.

It is a lovely place with site and buildings enjoying an unusually close harmony; a harmony shared by owners and architects, by Americans and Yugoslavs, across a breach that has sometimes seemed unnaturally wide.

HOTEL BABIN KUK, Dubrovnik, Yugoslavia. Owner: *Hotelsko Turisticki Centar*. Architects: *Edward Durell Stone Associates*. Collaborating architects: *Architektonski Biro*. Landscape architect: *Edward D. Stone, Jr. & Associates*. Engineers: *Bovay Engineers, Inc.* Consultants: *Monk Dunstone Associates (construction cost)*; *Mathematica, Inc. (economic)*. Contractor: *Hydroelectra*.



For more information, circle item numbers on Reader Service Inquiry Card, pages 227-228



A chair and table highlight PACE Collection

The highlight of new additions to The PACE Collection that were introduced at the NEO-CON X convention in Chicago in June include the Meda Table (left) and the Lugano chair (right). The coffee table has a smoked glass top set into three V-shaped chrome legs. The design results in highly reflective classic lines. The chair, designed by Leon Rosen, also has chrome legs but can be covered with various fabrics over a molded back and seat. Armless, the chair can easily be used as an accompaniment with a dining table. ■ The PACE Collection, New York, N.Y.

circle 300 on inquiry card



New office component system designed by Sunar Limited

The newly-designed office furniture component system is being offered by Sunar Limited, a Canadian-based company, where the streamlined design is the key to organization and appearance. The system provides a number of furniture

designs that contain both wood panels (like the one above), acoustically-treated panels and transparent panels. The desks are unencumbered by large supports, being hung from framing between the panels. Storage units can also

be hung in the same manner. A variety of finishes and colors is available. The system was given a design award by the American Society of Interior Designers. ■ Sunar Ltd., Waterloo, Ontario, Canada.

circle 301 on inquiry card

Advanced user programming in-office computer

Redactron Corporation, a Burroughs Corporation subsidiary, has announced a new line of diskette display editing systems that is claimed to be of particular interest to architects and engineers because of its easy in-office programming and retrieval of information. It is not intended as a design tool, but for storing any kind of information the office uses

regularly, including forms and manufacturers' information. Three units—a display unit, printout unit and the computer terminal (with keyboard)—comprise the system and offer the interchangeability of either diskettes or magnetic cards. ■ Redactron Corporation, Yaphank, N.Y.

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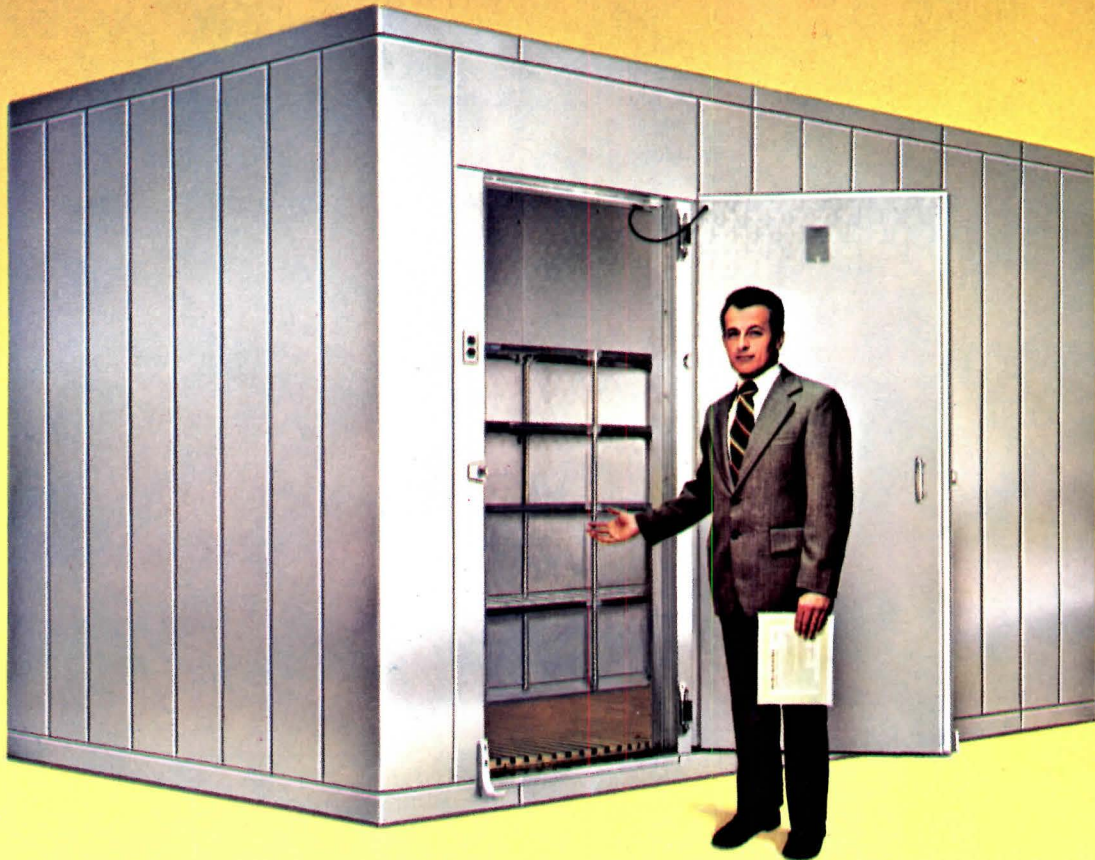
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Dept. No. AR-9

For more information, circle item numbers on Reader Service Inquiry Card, pages 227-228

SOLAR HEATING SYSTEMS / Although published by a manufacturer of the silicone liquid used as a heat transfer medium in solar energy collectors, the "Solar Decision Book" is not a product catalog; the 330-page book was written by a solar market specialist to translate the scientific data gathered by researchers into workable solar systems for contractors and consumers. Designed to guide the reader through all significant steps of planning an active solar heating system, the book discusses financing, designing, installing and controlling a system. Selection of collectors, heat-transfer medium, pumps, auxiliary heaters, heat exchangers, storage systems and heat delivery methods are also covered. Copies of *The Solar Decision Book* may be ordered directly from Dow Corning Corp., Dept. 2268, Midland, Mich. 48640. Price is \$10.00 per copy.

COMPUTER POWER DISTRIBUTION / An illustrated brochure describes the "Computer Power Center," a self-contained unit designed for isolation, distribution, control and monitoring of AC power to a computer system. Features of the computer peripheral include minimum installation time with flexibility for easy expansion, and the units qualify for a full investment tax credit. Models range from 15 to 200 kVA; all are listed under UL Standard 478 as Electronic Data Processing Equipment. ■ Emergency Power Engineering, Santa Ana, Calif.

circle 400 on inquiry card

POCKET CALCULATORS / Two business calculators have been added to this maker's "E-Series" pocket-size units; an eight-page brochure describes the financial, mathematical and statistical functions of the "HP-37E" and the "HP-38E", a programmable pocket business calculator. ■ Hewlett-Packard Co., Palo Alto, Calif.

circle 401 on inquiry card

ACRYLIC FURNISHINGS / Dining, coffee and occasional tables are featured in a 16-page catalog of handcrafted acrylic furniture. Display pedestals, wall units, benches and chairs are also shown. A price list gives complete dimensions for all pieces, designed for both contract and residential applications. ■ Paul Associates, New York City.

circle 402 on inquiry card

BATHROOM ACCESSORIES / Stainless steel and black acrylic vanities in Art Deco style are included in a 44-page fixture and accessory catalog. Brass, polished chrome and gold faucets, towel bars and knobs are shown; clear and opaque colored acrylic is used for hampers, benches, soap dishes, etc. A catalog insert gives prices for all items. ■ Paul Associates, New York City.

circle 403 on inquiry card

CABLE DISTRIBUTION SYSTEM / Designed to allow flexibility in office arrangement by bringing communications cables from overhead raceways to movable power poles at point-of-use locations, "Main Feeder Ducts" and "Communi-T-Ducts" are part of an easily installed modular system which routes and protects telephone, computer and other wiring. A six-page folder shows different components and typical layouts of the UL-listed duct system. ■ Electro-Products Div., 3M Co., St. Paul, Minn.

circle 404 on inquiry card

WOODGRAIN FOILS / Building materials and furniture are among the applications suggested for the woodgrain and other patterns available in hot stamp foils. A product folder provides samples, and explains how printed materials can be produced from artists' sketches in a few hours using gravure presses. ■ The Orchard Corp. of America, St. Louis, Mo.

circle 405 on inquiry card

HYDRAULIC CEMENT / *Waterplug*, a quick-set hydraulic cement said to stop leaks in three minutes, is described in a four-page illustrated brochure. For industrial and residential use, the cement is non-shrink, and will not pull away from edges of the patch. ■ Standard Dry Wall Products, Miami, Fla.

circle 406 on inquiry card

RAILINGS FOR HANDICAPPED / Featuring flush, concealed connections that develop the full strength of the aluminum pipe system, the *Connectorail* railing has an adjustable tee fitting that permits joining posts and rails at any ramp angle from 0 to 28 deg. This ramp railing to accommodate the handicapped is described in a product bulletin; engineering data and installation instructions are included in the literature. ■ Julius Blum & Co., Inc., Carlstadt, N.J.

circle 407 on inquiry card

SOUND REDUCTION DOORS / Applications for *Jamisonic* doors include jet engine test cells, sound stages, anechoic chambers, computer facilities, manufacturing plants, etc.: several installations are shown in an eight-page catalog. Information is included on such door specifications as door and frame construction, insulation, oval or flush sills, and operating clearances. Test data resulting from ASTM procedure E90-70 is given; a table shows sound transmission loss. ■ Jamison Door Co., Hagerstown, Md.

circle 408 on inquiry card

INDUSTRIAL SEALANTS / A six-page brochure details properties and typical applications of a line of silicone adhesives and sealants for general industrial use. Safety and bonding data, based on government and other tests, are covered in the literature. ■ Dow Corning, Midland, Mich.

circle 409 on inquiry card

HANDRAIL COVERING / A full-color catalog describes *Vinyl-Rail*, a thermoplastic, decorative covering offered in a variety of colors and profiles for standard metal and supported wooden handrails. The four-page catalog contains application information, standard and special order profile dimensions, colors, and installation data. ■ Vinyl Plastics Inc., Sheboygan, Wisc.

circle 410 on inquiry card

ROOFING/FLOORING MAINTENANCE / Over 120 different roofing, flooring and general maintenance products are presented in a 64-page catalog; each product is accompanied by product usages, coverages, prices and pictures. Free 2-gal. samples of many of these products may be ordered from the literature. ■ Randustrial Corp., Cleveland, Ohio.

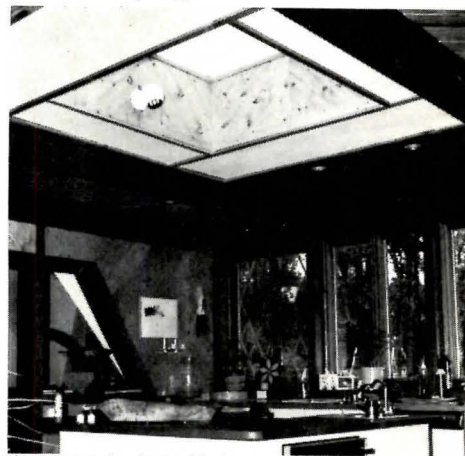
circle 411 on inquiry card

more literature on page 165

AZTEC

RADIANT HEATING FOR HOMES

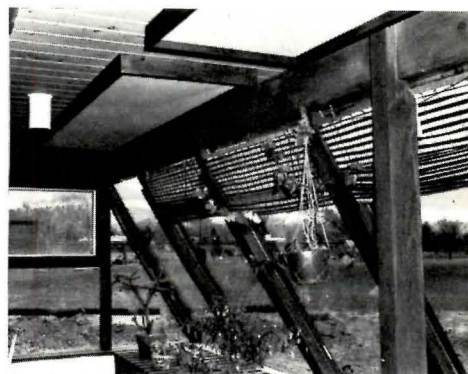
Send for new brochure on an alternative way to increase comfort and cut energy costs in architecturally designed homes.



Aztec panels above kitchen counter

Total heat. Supplemental heat. Remodel. Add on. Back up for solar. **Why turn on a central system to heat one room?**

Aztec low temperature electric radiant heating panels can be surface mounted on ceilings, recessed between 16" or 24" joists, or placed in suspended ceilings, can give you absolute zone control and substantial energy savings. No air movement. No moving parts. 10 year warranty. UL.



Panels above greenhouse extension

For the new 8-page brochure or for the Aztec Engineering Representative nearest you, call or write to:

Aztech International Ltd.

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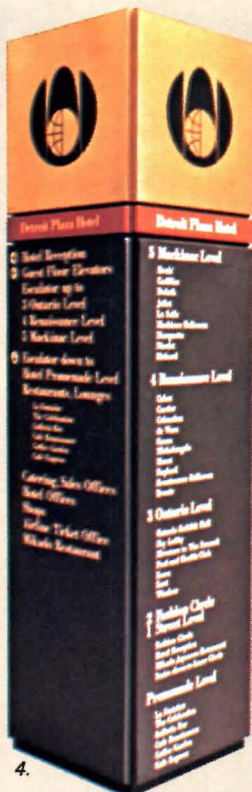
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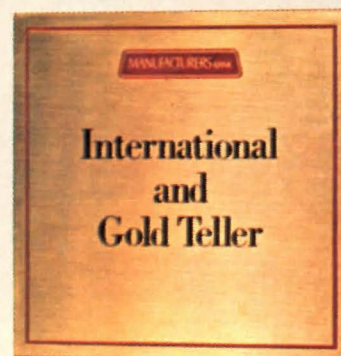
2.



3.



4.



5.

1. 24-inch fabricated muntz metal letters.
2. Fabricated aluminum sign.
3. Cast bronze plaque.
4. Brass-capped fiberglass pylon.
5. Etched brass plaque.
6. Custom cast bronze letters.



6.

What you might not know about Renaissance Center, Detroit, is that a totally integrated signage system keeps its thousands of daily visitors and occupants moving in the right directions.

Hauser Associates, Atlanta, designed the graphics for the vast five-tower hotel and office complex. And Matthews was appointed as subcontractor to manufacture the complete signage system. Continuity of the graphics is evident from the illuminated building directories and the seven-foot-high pylons down to the smallest door plaques and garage signs. Some of the most visually striking features are the numerous cast bronze plaques, letters and numerals.

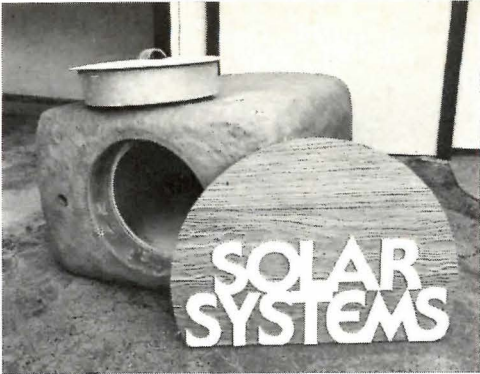
Renaissance Center's broad range of signage, fabricated in a wide variety of materials, illustrates a point: Matthews has the advanced technology and manufacturing capabilities to produce virtually any signage system. *Totally.* No matter how complicated the design, no matter how large the project.

If you'd like to know more about our products and facilities, phone us toll-free at 800/245-6574 (Pennsylvania calls: 412/344-4200).

Project: *Renaissance Center, Detroit*
 Owner: *Renaissance Center Partnership*
 Architect: *John Portman and Associates, Atlanta*
 Graphics Consultant: *Hauser Associates, Atlanta*
 Contractor: *Tishman Construction Company*
 Graphics Subcontractor: *Matthews International Corporation*

Matthews
 Architectural Division

M



HOT WATER STORAGE / This line of high temperature fiberglass solar heated hot water storage tanks has eight models, ranging in size from 350 to 3000 gallons. The seamless reinforced fiberglass inner wall has a 180F gelcoat (a wall with 210F working temperature is offered for systems using absorption air conditioners), then 2- to 4-in. of flame retardant urethane foam insulation. An outer fiberglass wall sandwiches the urethane into a sealed envelope, protecting the insulation from degradation by moisture or sunlight. The hot water storage tanks are claimed to lose less than 1 degree in 12 hours under average conditions. ■ Solar Systems, Novato, Calif.

circle 303 on inquiry card

DUCT CONNECTOR / The *Ductmate* connection system is said to substantially reduce shop fabrication and field installation costs, as the galvanized steel unit requires only four bolts. An integral mastic seal creates a virtual one-piece connection between the *Ductmate* frame and the duct wall; gasket tape is applied before joining duct sections creating a permanent seal. Hvac operating costs are also lowered, as the duct connector is said to result in zero air leakage. ■ Ductmate Industries, Inc., Pittsburgh, Pa.

circle 304 on inquiry card



AUTOMATIC DIGITIZER / The "GP-75 Scan-Graphic Series" for OEM and end users combines document scanner and software with a customer-supplied minicomputer or interactive graphics systems to complete an automatic digitizing facility said to be ideally suited for mapping, engineering and architectural drawings. The systems scan documents to create a RASTER data base which is then automatically converted to a VECTOR data base. This, in turn, can be updated, modified, output or stored. Output can consist of points, lines, intersections, polygons, line width data and black area fill-in. ■ Broomall Industries, Inc., Broomall, Pa.

circle 305 on inquiry card

more products on page 159



Bad guys finish fast

Prevention, not reaction, is the smarter security strategy. Detex does it . . .

. . . by restricting entry to authorized persons. Our Dentco access unit requires that a correctly encoded card be inserted, then three buttons pushed in proper sequence. (Also available without push-button feature.) Can be connected to electric strike or other electrical locking devices.

. . . by discouraging intrusion with well-marked Exit Alarms. Warning signs alone will generally deter unauthorized door use. That failing, high-pitched horns are enough to shake the confidence of any intruder.

. . . by preventing misuse of exits through UL listed Exit Control Locks that combine warning, locking and alarm capability in one door mounted unit.

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Exit Alarms
EA2504 AC

Dentco Access
Control 1680

Exit Control Locks
ECL-230

CS-916 Time Delay
Cylinder Switches



Remote
Indicating Panels
RIP 205



For more data, circle 82 on inquiry card

The First Design Standards for Composite Floor Deck.

The first industry-wide criteria for composite floor deck design have now been established. The all-new Steel Deck Institute *Design Manual for Floor Decks and Roof Decks* contains floor deck design recommendations, illustrations of typical assemblies, and a design example.

The Institute has also revised all roof deck material. A design example has been added, and greater emphasis has been placed on construction and maintenance loads, protective coatings, and fastening devices.

The manual is available now from the Steel Deck Institute.



P.O. Box 3812
St. Louis, Missouri 63122
(314) 965-1741

For more data, circle 83 on inquiry card



TABLE BASES / The "Series 30 Trim-Line" base collection is offered in seven spreads to accommodate table tops from 24-in. round or square through 36- by 84-in. Designed for maximum strength and stability, the bases have cast iron base and top plates, and lathe-cut columns. Base and column finishes include black wrinkle, brown or black, bright or satin chrome, and statuary bronze. ■ Berco Industries, St. Louis, Mo.



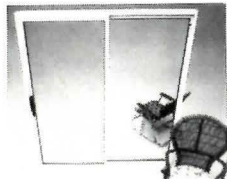
circle 306 on inquiry card

HARDBOARD SIDING / "SuperSide" is a nominal 1/2-in. thick siding designed for improved performance in high moisture areas. It is available either as preprimed lap siding or prefinished panel siding. Pictured is the simulated woodgrain "Woodsman" pattern in vertical planked panels, offered in either 4- by 8-ft or 4- by 9-ft panels with shiplapped edges. ■ Masonite Corp., Chicago, Ill.



circle 307 on inquiry card

SLIDING GLASS DOORS / Energy-saving features of this line of double and triple panel sliding doors include a 7/8-in. double pane tempered safety insulating glass sandwich with a 1/2-in. sealed air space to prevent heat and noise transfer, and weather stripping fused to all four sides. Thermal breaks are provided on frame and glass panels; rolling screens are standard on all units. ■ Norandex Aluminum Building Products, Cleveland, Ohio.



circle 308 on inquiry card

EPOXY RESIN FLOORING / An epoxy-resin blend, *Orthite 94* bonds firmly to new or old concrete, wood or ferrous metal, producing a sanitary joint-free surface said to be hard, slip- and abrasion-resistant, water tight and self-extinguishing.



The floor is highly resistant to chemicals such as sugars, salt, acids, alkalies, and various hydrocarbon solvents; it will not delaminate or otherwise degrade when exposed to temperature extremes. ■ Permaflex Products Co., Inc., Philadelphia, Pa.

circle 309 on inquiry card

BREAK-PROOF SIGNAGE / The close-to-ground mounting of this hospital sign is made feasible by the vandal-resistant properties of the *Lexan* sheet used: it is guaranteed for three years against breakage. The sheet will stand up to sledge-hammer blows, and may be lighted with internal ballasts, which generate heat up to 150 deg., with no reduction of its high impact strength. ■ General Electric Co., Plastics Div., Specialty Plastics Dept., Sheet Products Section, Pittsfield, Mass.



circle 310 on inquiry card

more products on page 161

Don't let water make its mark!

Joint sealant problems such as this are eliminated for the life of your building by Polytite-B when used as a backer for caulking.

Sandell's patented Polytite-B is a resilient, open-cell polyurethane foam strip. It is saturated with liquid sealant compound, and coated on one face with a release agent that acts as a bondbreaker for caulk.

Substitute Polytite-B for backer rod for a truly fail-safe system!

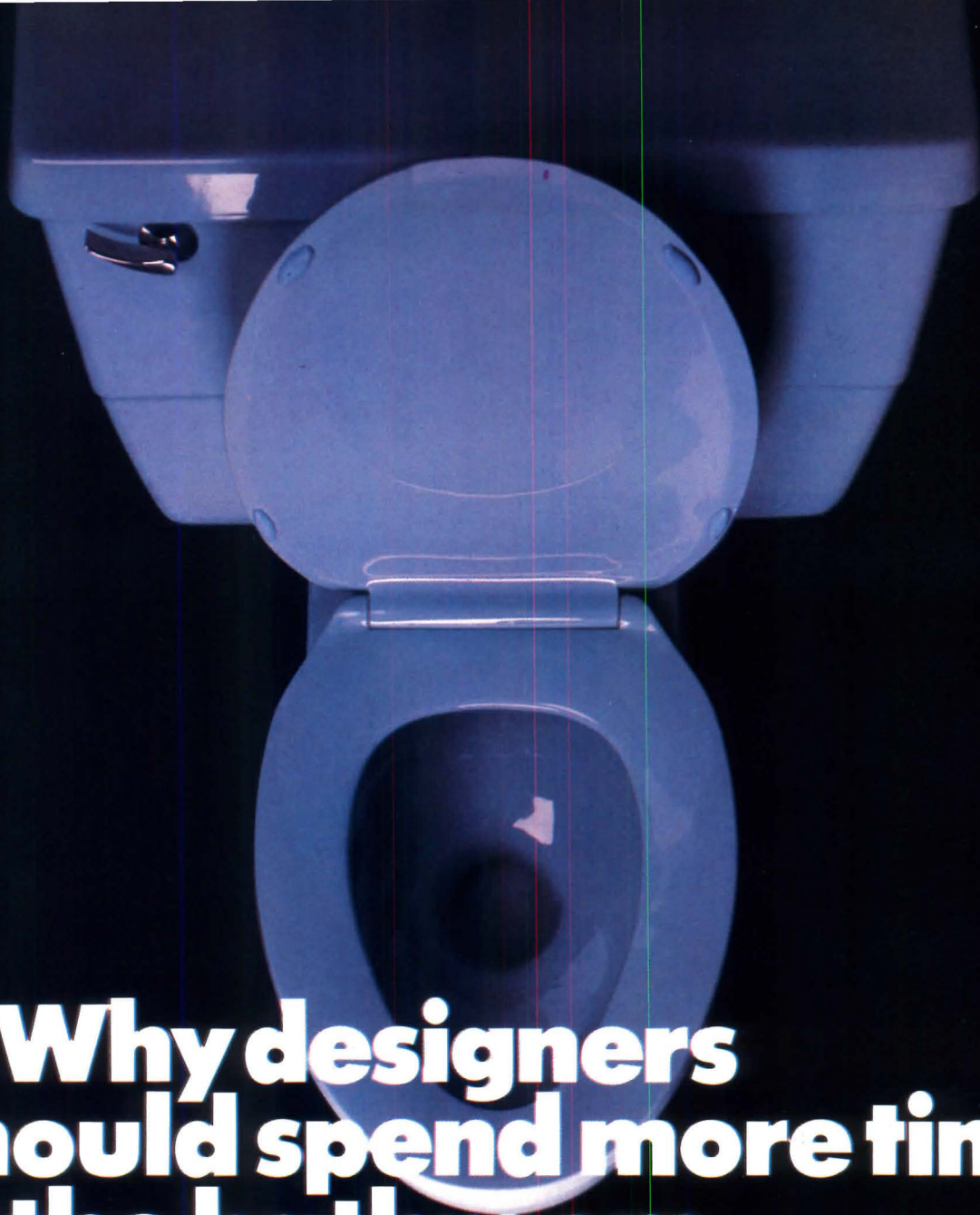
Polytite®

the protection you should insist upon

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Telephone (617) 491-0540

For more data, circle 84 on inquiry card



Why designers should spend more time in the bathroom.

If you've got a job coming up involving 20 or more bathrooms with back outlet water closets, tell us where to stick the fixtures. And we'll show you how to save up to 50% on materials and installation.

Just send us your rough-in drawings and we'll tailor a RufWall® system to your specs. And it won't cost you a dime.

Our RufWall system can save you a bundle on any project where the plumbing

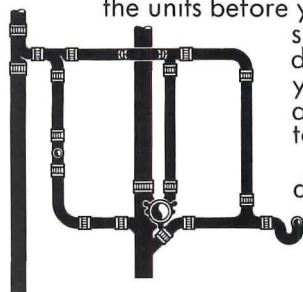
is repeated floor after floor—such as hotels, motels and hospitals. Because it simplifies installation and eliminates the need for dropped ceilings.

Complicated plumbing and tight places are no problem, either. Because you can assemble the units before you get to the job site. When you drop 'em in place, you've only got a few connections to make.

So if you're designing or

installing 20 or more bathrooms—where people will be staying overnight, send us your drawings. And we'll show you why you should stick all your fixtures on a RufWall.

Mail your rough-in drawings to Manley Hendricks, Tyler Pipe, Box 2027, Tyler, Texas 75710.



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For more data, circle 85 on inquiry card

LABORATORY EQUIPMENT / Tempered safety

glass with a tensile strength four times as great as either plastic or laminated safety glass is the standard sash material used in this line of fiberglass fume hoods. The tempered glass will withstand temperatures up to 560F, or higher for short periods. Air foils are vinyl clad steel for increased chemical resistance. Other laboratory equipment includes laminar flow bio-hazard safety cabinets, glassware washers, carts, Kjeldahl nitrogen and freeze dry apparatus. ■ Labconco Corp., Kansas City, Mo.

circle 311 on inquiry card

COIN-OPERATED WASHERS / The "Water-Mis-

er" washers use a total of only 40.6 gallons per washload; energy saving features include all cold rinses and a hot water consumption of 7.6 gallons during the "Warm Wash" cycle. A reinforced service access door and a meter case with an extended hood help prevent pilferage and damage. These security features are also available on companion gas and electric dryers. ■ General Electric, Commercial Laundry Dept., Louisville, Ky.

circle 312 on inquiry card

ENERGY SYSTEMS DATA LOGGER / The *Sunlog-*

ger is a microprocessor-based, user-programmable data acquisition and control system that gathers energy utilization data and allows changes to building control strategies automatically or by phone. The system provides 72 data input channels and 16 control outputs, and comes with two RS232 interfaces, Julian calendar, clock, and battery back-up. The *Sunlogger* is priced at \$11,900; complete packages including sensors, actuators, field installation, and remote access can be provided. ■ Andover Controls Corp., Andover, Mass.

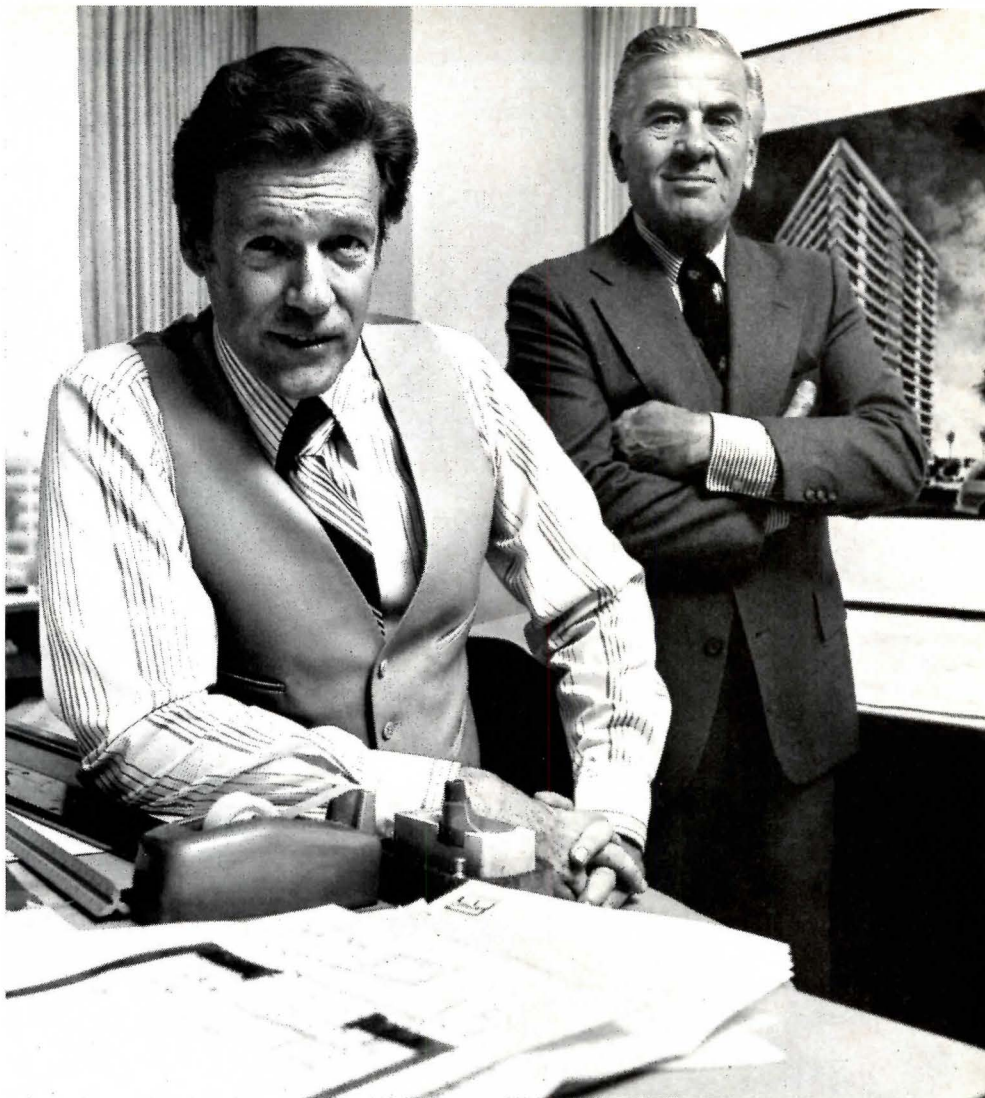
circle 313 on inquiry card

VANDAL-RESISTANT LUMINAIRES / The *Parkpak*

HID luminaire is constructed with a heavy-duty cast aluminum housing and an injection molded clear or opal polycarbonate refractor compounded with UV stabilizers; the enclosed and gasketed fixture is said to be ideal for illuminating vandal-prone places such as schools, entrances, parking garages, and exterior or interior walls or corridors. Listed by UL for wet locations, the *Parkpak* can be washed with hot or cold water. Low brightness, uniform illumination is provided by HPS, metal halide or mercury lamps. The luminaire can be mounted in a variety of ways, three of which are shown here: pole-mounted, wall-mounted with a horizontal arm, or ceiling-mounted over a junction box. ■ Holophane Div., Johns-Manville Sales Corp., Denver, Colo.

circle 314 on inquiry card

more products on page 163



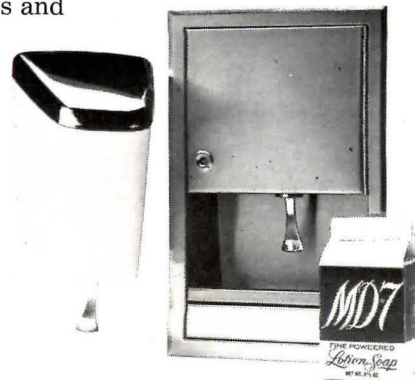
"I went for design. He went for cost. We both went for powder dispensers."

As the designer of this building, I had two things to consider when I chose the soap dispensers for the washrooms. Cost and design. The building owner asked if there wasn't an alternative to liquid soap. He said the dispensers always clogged or leaked. He also mentioned there was more waste with liquid soap—and the dispensers always seemed to need refilling.

I suggested we try a fine-powdered soap. Specifically MD*7. It's not gritty like an industrial powdered soap, so it is perfect for the washrooms in an office building. Still MD*7 gets hands really clean, is gentle, and won't irritate normal skin. We decided to go with powdered soap. And with all the different styles in soap dispensers I found one that was perfect for the design of the washrooms.

I'll be installing powder dispensers and MD*7 in all the buildings I design. And for good reasons. They please my eye, the tenant's hands, and my client's budget. Who says you can't please everyone?

For further information see Sweet's Catalog 10.16 Un.



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For more data, circle 86 on inquiry card

RESTRUCTURE YOUR THINKING ABOUT BRICK.

WE'VE RESTRUCTURED THE TECHNOLOGY.

Introducing Acme's Engineered Brick Design.

The oldest man-made building material is brick. For centuries, designers have been using brick as a major form giver.

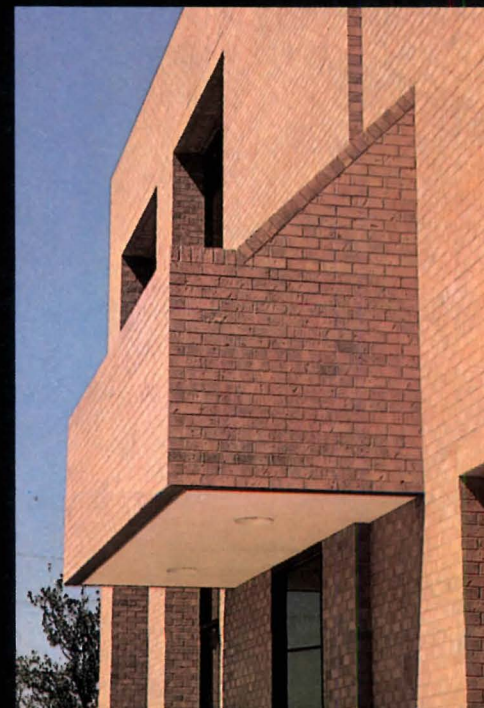
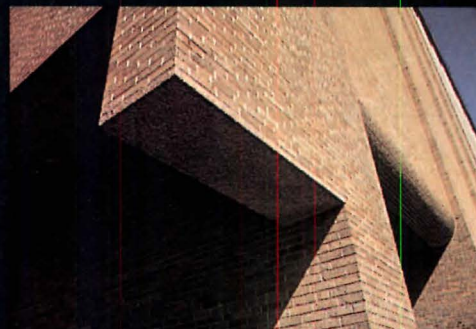
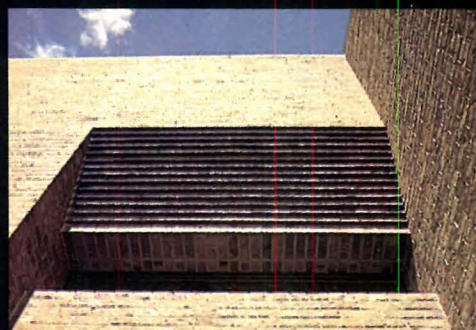
And there will always be the classic solutions to design problems. But in keeping with the advanced technology now available to you, today's architect, we have replaced the intuitive with fact.

Acme Brick is pioneering the use of Engineered Brick Design. Brick buildings can now be designed taller. Composite structural systems can be employed to increase spans allowing a more flexible building layout. The use of high bond mortars have given brick design a new architectural vocabulary. The structural integrity of Engineered Brick Design walls carrying the load can eliminate entirely the need for a skeleton structural frame.

With this design purity comes economic advantages. The cost of the structural frame alone on many buildings is as much as 25% of the total construction cost. With Acme Engineered Brick Design, structure and exterior walls combined often cost just over 10% of the total building price.

Although not all buildings lend themselves to the use of Engineered Brick Design in its loadbearing application, all buildings can benefit from the many all-around advantages of brick. Use them with great flexibility to provide the best solution to your design requirements.

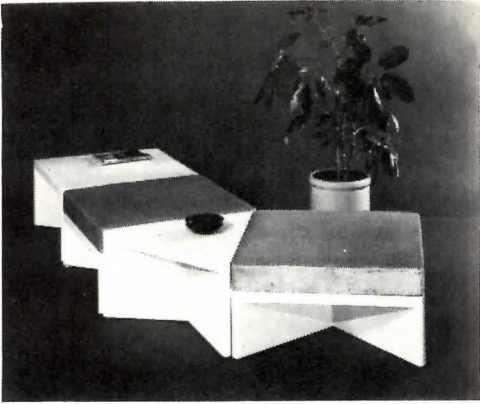
Acme Brick manufactures a building product to the highest standards in a wide range of colors, textures, sizes and shapes. We can



help with your unique design problems through our extensive technical services group, new products developments or testing facilities.

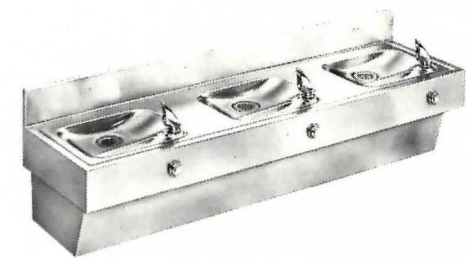
Contact us if we can help on your next commission. Call collect 214-748-0276, or write Acme Brick Technical Services, 2821 West Seventh Street, Fort Worth, Texas 76107.

**ACME BRICK. THE BEST
ALL-AROUND BUILDING MATERIAL.**



MODULAR BENCH/TABLE / Part of a furniture collection with both contract and residential applications, the "TB590" series is composed of three high-density fiberboard units finished in off-white low luster polyester. All mounted on centrally-angled columnar bases, the add-on grouping shown here consists of square and triangular table sections, and a square bench/table with an upholstered seat. Additional sizes and finishes are available. Designed by Subodh Dhairyawan/Gideon Lowenstein. ■ Helikon Furniture Co., Inc., Taftville, Conn.

circle 315 on inquiry card



DRINKING FOUNTAINS / Stainless steel in a satin finish, the three-station fountain shown has individual push-button controls mounted in front. Basin is specially contoured to protect the floor from splashes. ■ Elkay Mfg. Co., Broadview, Ill.

circle 316 on inquiry card



REFLECTIVE GLAZING / A new addition to this manufacturer's line of environmental-control glasses, *Reflectafloat 35/52* (silver) is a monolithic solar-control glass with a highly reflective coating. Suitable for use in all climates, the glass has a high reflectivity (43 per cent) and low absorptivity for solar radiant heat, which reduces the risk of breakage through thermal stressing. *Reflectafloat* can be single- or double-glazed; standard lights are 6-mm thick, 2000mm by 2500mm. ■ Pilkington Brothers (Canada) Ltd., Toronto, Ont.

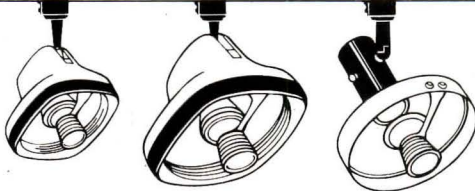
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The Lightcraft Power Spot



**unmatched
high concentrated "spot" light
using economical all purpose bulbs**

With Power Spot, a 75W, All-Purpose Lamp delivers more center beam illumination than a 150W PAR 38 Reflector Lamp in a conventional fixture . . . but that's just the start. Power Spot's exclusive design creates a moving envelope of air around the bulb (chimney effect) that constantly cools. Less heat build-up means conservation and extension of lamp life, and the use of lower-wattage lamps is an obvious *energy-saving plus!*



For more information write:
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Lightcraft of California
1600 West Slauson Ave.
Los Angeles, Calif. 90047

Lightcraft OF CALIFORNIA **Exclusive* POWER SPOTS**

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A tough team to beat.



Do you want to put together a top performing hardware package and still hold costs down? Specify Sargent.

Take our 6-Line cylindrical lock. Add the 1100 Series door closer and the 5800 Series exit device. All are tough, solid, dependable...a hard-to-beat hardware combination.

Look to Sargent...complete lines of outstanding hardware at all price levels. Sargent...your solid source of responsibility and supply.

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Sargent & Company, New Haven, Connecticut 06509.
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For more data, circle 89 on inquiry card

BUTT JOINT GLAZING / Proper glazing techniques for continuous horizontal window walls of architectural glass for commercial buildings are described in a 32-page booklet. The butt joint system consists of head and sill frames for various glass thicknesses, and includes procedures for glass handling, installation and maintenance. ■ PPG Industries, Pittsburgh, Pa.

circle 412 on inquiry card

FIRE PROTECTION EQUIPMENT / A 16-page technical catalog provides current information on a complete line of sprinklers, nozzles, valves and accessories. Each product is fully described, with specification data, approvals, and metric conversion factors. ■ Grinnell Fire Protection Co., Inc., Providence, R.I.

circle 413 on inquiry card

SCIENTIFIC CALCULATORS / Three pocket calculators, each with a full range of scientific and mathematical functions, are described in an eight-page brochure. Included are the "HP-31E" calculator, priced at \$60.00, and the "HP-33E", a keystroke programmable unit. ■ Hewlett Packard, Palo Alto, Calif.

circle 414 on inquiry card

DRAFTING FURNITURE / Tables, filing systems and other furniture for architects, engineers, draftsmen and students are shown in a 40-page full-line catalog. Photos and drawings illustrate every model offered. ■ Starcor Corp., Newark, N.J.

circle 415 on inquiry card

AIR-CIRCULATING DEVICE / An illustrated fact sheet shows how the Tempifier freestanding air circulator automatically takes hot air from the ceiling and distributes it at floor level. The unit's low operating cost and energy saving benefits are outlined. ■ Tempifier Co., Falls, Pa.

circle 416 on inquiry card

BUILDING TRIM / The Colortrim line of fascia systems, batten fascias, soffits, copings and gravel stops is described in a 16-page color catalog. New products included are "Snap-lock" coping and gravel stops, designed for easy installation and watertight use. Literature provides in-use photos, full specifications, detail drawings and color samples. ■ Construction Specialties, Inc., Cranford, N.J.

circle 417 on inquiry card

WINDOW BLINDS / A pocket-size sampler displays over 200 colors and patterns available in the "Riviera" line of narrow window blinds. The folder also includes a slat quantity guide, and a chart of component color availabilities that lists the head, bottom bracket, ladder and cord colors. ■ Levolor Lorentzen, Inc., Hoboken, N.J.

circle 418 on inquiry card

INSULATED SKYLIGHTS / Two series of insulated, translucent skylights are described in a product brochure. Dimensions, standard features and available options are given. ■ Kalwall Corp., Manchester, N.H.

circle 419 on inquiry card

AMMONIA ODOR REMOVAL / Designed to neutralize vapor generated by ammonia developing whiteprinters, the "Ammonia Arrestor" described in a product brochure can be installed on old or new printers, using only a screwdriver. Unit is UL-listed. ■ Diazit Co., Inc., Youngsville, N.C.

circle 420 on inquiry card

WALL SYSTEMS / "Architectural and Industrial Wall Systems for Energy Conscious Owners," an 8-page booklet, described a series of metal wall panels, along with their insulation advantages. ■ Roll Form Products, Inc., Boston, Mass.

circle 421 on inquiry card

RADIANT HEATING PANELS / UL-listed low temperature electric radiant heating panels, for both primary and supplemental heating, are described in an eight-page brochure. The panels can be surface-mounted on walls and ceilings, recessed, or placed in suspended ceilings; 15 different standard-sized panels and custom heaters are offered to meet a range of use requirements. ■ Aztech International, Albuquerque, N.M.

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WASTE WATER TREATMENT / A 12-page Buyer's Guide summarizes most of this manufacturer's current line of water and wastewater treatment systems and equipment. Processes described include aeration, clarification, control systems, deaeration and degasification, demineralizing, filtration, flotation, ion exchange, membrane systems, and water softening. ■ Permutit Co., Inc., Paramus, N.J.

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LOSS PREVENTION / Alarm equipment to scare off intruders and potential burglars from stores, warehouses, construction sites and offices is highlighted in an eight-page catalog of security and loss prevention products. Also shown is new equipment to continuously monitor and alert authorities in case of hold-up, fire or other emergencies. ■ The Silent Watchman Corp., Columbus, Ohio.

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INSTITUTIONAL WINDOWS / Basic information on two styles of detention windows for correctional and psychiatric facilities is given in a product brochure. Also included are application drawings, design and construction data, and details of ventilation and other optional features. ■ Courion Industries Inc., St. Louis, Mo.

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General Services Administration - Social Security Administration Payment Center, Chicago
 Architects: Lester B. Knight & Associates, Inc. - Photo: Hedrich-Blessing



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the portfolios of graduates seeking employment, I am astonished that the overwhelming majority of these potential architects have no more design skills than the first- or second-year students of ten to fifteen years ago. Certainly they carry all the proper "buzz" words—and very little else. They can exhibit their skin-deep architecture of chip-board, which speaks well for their modeling skill and very poorly for their ability as architectural designers. Graphic competence and presentation skills as design tools have all but vanished.

No firm expects polished designers with month-old degrees, but the practitioners expect and need the graduates who have basic skills and understanding of design. The basic problem-solving ability necessary for graduates to become top-flight design professionals is not being taught in the university.

I would like to see graduates walk in the door with portfolios that are exciting, portfolios that are proof of ability to design, portfolios that speak to a love of creation and pride in crafting buildings. Maybe that is asking too much—I don't think so.

Everett Hatcher, AIA
Blondheim Williams and Colson, Inc.
Birmingham, Alabama

You are to be commended for publishing Bill Caudill's comments concerning design education on the editorial page of your June issue. His comments evoke many of the same thoughts expressed by the AIA's Design Committee this last year and are worth a hearing. Several paradoxes present themselves in the issues they have raised:

- The profession would like better designers but needs fewer of them.
- Schools seem to be producing intelligent but relatively unskilled individuals.
- The profusion of "different" architectural programs has produced people with widely divergent skills and experiences, making it difficult to know what abilities an individual has when graduating from a three-, four-, five- or six-year program.
- Many schools, rather than clarifying the values commonly associated with "good" design, have been encouraging students to raise questions about those values.

Coupled with those paradoxes are some other interesting phenomena:

- The cost of acquiring a university education has inflated at a much greater rate than the level of compensation most graduates can expect from employment in the profession.
- Licensing procedures for architects are quite confused and diverse. In some states, achieving licensing through formal educational activity may mean several more years of preparation than if one simply apprenticed himself to an architect.
- The numbers and quality of students entering college-level programs is diminishing.
- The Bureau of Labor Statistics, as reported by Donlyn Lyndon in the most recent issue of the *Journal of Architectural Education* (Vol. XXXI, No. 3), predicts that there will be openings for 33,000 people in the architectural profession between 1974 and 1985. During this same time, there will be 40,000 accredited degree holders and 10,000 recipients of pre-professional degrees entering the job market.
- Continuing education is likely to be a requirement for maintaining one's license in many states and for membership in the professional society, a perplexing turn of events given that a formal education is not a required prerequisite for licensing in all states.

▪ The clear vision which the profession once held regarding quality design has been replaced by a period of searching inquiry. The age of post-modernism is real.

It is encouraging that Bill Caudill and others still see the university as a major breeding ground for the architectural designer. But the times have changed.

Expensive as it is, the university is open. Architectural programs attract a wide range of students. The elitist veneer of an architectural education has given way, and people from all classes now enjoy a try at becoming an architect. The number of students from the minorities enrolled in architectural programs continues to grow. In our own 2+2+2 and 4+3 programs, a junior from a small two-year college who has not traveled outside his

or her own state may be seated in a studio next to a Peace Corps volunteer who has spent four years in a Third World country trying to help people build "shelter." They might be joined by someone who already holds a degree in another field and who has decided to change careers.

It is unlikely that any of these individuals would graduate from an architectural program, even the most rigid program, with the same skills, insights or objectives. Yet each will have invested anywhere from \$25,000 to \$60,000 in an architectural education by the time he is finished, and will have lost at least an equal sum in unearned wages. They will be competing in the employment lottery, and their chances of becoming registered practicing architects are about 50/50.

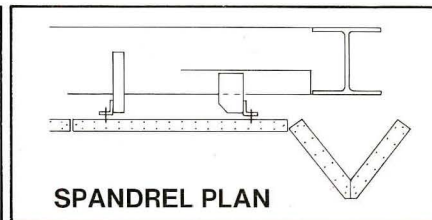
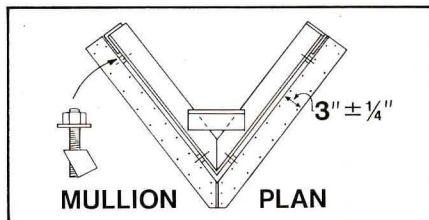
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If they make the field, their chances of becoming engaged primarily in "design" are even smaller.

It would be easy enough to screen out all the candidates for an architectural program based on their demonstrated design skills. Architectural schools would be the first to applaud pre-college programs which provide students with visual literacy. But alas, that task falls to the professional schools. Not all students succeed. Nearly half of those who enter a professional school will not make it through. Lack of design ability is still the major reason for failure in most schools. Few schools have been pretentious enough to suggest that all their graduates are hot-shot designers, and those who have such pretensions also have a careful screening process that assures them they accept only individuals with demonstrated design ability.

What about those other students? Are they employable? Certainly, because the profession recognizes that there are other than design roles for people trained in architecture. How does one judge a graduate architect's design competence? By his portfolio, not his degree.

It is a credit to the schools and to the profession that we are producing a wide range of intelligent graduates who have a variety of skills. Architectural schools have responded to the pluralistic changes made in society over the last two decades, just as the profession has. This pluralism has left many confused—practitioners, students and educators alike—who would like to return to simpler times. But to do so would be an injustice to the positive changes which have occurred.

It would be tragic indeed if all architectural schools were to return to old educational formats as a result of our failure to cope with a pluralistic profession and society. Schools can improve their design curricula. More top architectural designers need to share their skills with students—both inside and outside of the schools. Those needs still exist—they always will as we strive for design excellence. But there is no need, at this time, to re-orient architectural education so that design is the only focus of an architectural curriculum.

I would claim that the designers architectural schools turn out today are as good, if not better, than those turned out in the past. In addition, most of these people are responsive to a broader range of design issues than their predecessors. However, these same schools are also turning out people who have skills other than design.

The profession has a responsibility to fulfill in architectural education. One responsibility is intelligent employment and internship, the hiring of people not because of their degree but for the skills they possess and their ability to continue to learn. The better design offices, Mr. Caudill's included, have always served as ateliers, the real "finishing school" of a designer's education. That practice needs to continue.

*Robert M. Beckley, Chairman
Department of Architecture
The University of Wisconsin—Milwaukee*

Just a couple of thoughts on your quotes from William Caudill's speech about the teaching of architectural design and particularly the phrase from item 5 (1): "We are looking for top-flight designers."

Design is a very confusing thing. In my own case (M. Arch., Univ. of Penna., '34), during most of the six years, I was learning the wrong thing for that time. Taste and proportion are pretty consistent, but Professor Gropius had brought in an entire new concept of design and education. Professor Anderson at MIT adapted pretty well to a

mix of this with the Beaux Arts.

So who knows what style a design student should learn—or should he learn them all? This would take about 25 years.

I claim the only answer is to de-emphasize architectural design and put more emphasis on landscape design. We have a variety of unchangeable types of trees and shrubs not only to enhance the setting of buildings but, thank the Lord, to cover up most of the smaller ones.

*George Cooper Rudolph, ANA
Architect-Renderer
New York City*

I would like to compliment ARCHITECTURAL RECORD on three aspects of its June issue:

■ Mildred Schmertz's coverage of Citicorp Center, a truly memorable corporate symbol, is, as always, first-rate. We say that corporations and architects ought to give something back to the city, and it is

refreshing to see it done so well.

■ The editorial quoting William Caudill emphasizes a point I think is long overdue for emphasis. As architects, we can offer society many things that can be provided by others, but the one unique skill possessed by our profession—design—allows a building to be *greater* than the sum of its parts. Our society benefits too little from design, not because it does not crave it, but because our profession often does not provide it. Three cheers for Caudill and Wagner!

■ Bradford Perkins's article, "Some Tips on Ensuring the Survival of a New Design Firm," was an excellent review, even for some of us who have been going a while. I think his article should be required reading for all architects, regardless of the length of time they have been in business.

*Earl R. Flansburgh, FAIA
Earl R. Flansburgh and Associates, Inc.
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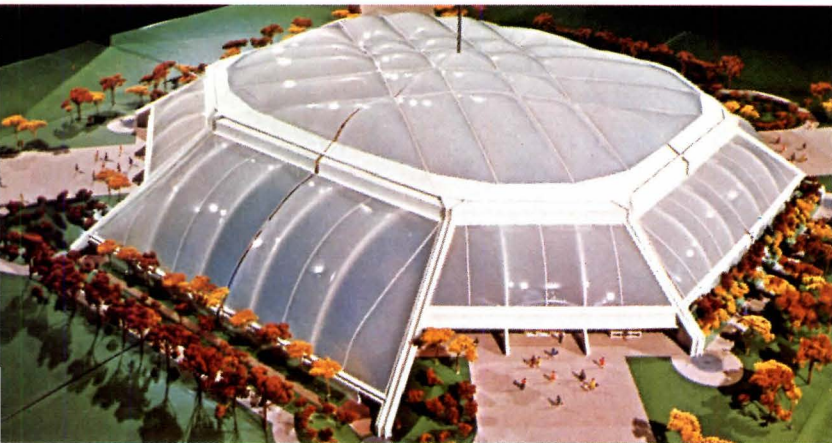
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Model of proposed student activities center, University of Florida, Gainesville, Florida.
Architects: Caudill Rowlett Scott, Houston, Texas; Moore, May & Harrington, Gainesville, Florida.
Engineers: Geiger-Berger Associates, P.C., New York City.

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Offices opened

Backen Arrigoni & Ross, Inc. are happy to announce the opening of their new offices at 10 Nottingham Place, San Francisco, California.

Bristol, Litynski, Wojcik, Cinquino, P.C., a member of The Saratoga Associates have recently opened two new offices. The New York City office is located at 16 West 16th Street and is headed by Patricia Luciani. The Washington, D.C. office is located at 1609 Connecticut Northwest and is managed by Robert Bristol.

Daroff Design Inc. proudly announces the opening of their Atlantic City office located at 1421 Atlantic Avenue, Atlantic City, New Jersey.

Carmen Vincent Gintoli, Architect, has opened an office located at Redoubt Townhouse No. 24, P.O. Box 3504, Kenai, Arkansas.

James A. Hornak, AIA announces the opening of his office for the practice of architecture at 3927 South Calhoun Street, Fort Wayne, Indiana, under the firm name of James Hornak & Associates.

Jack C. Miller PE has opened a structural engineering office at 1309 Parkwood Drive, Southeast, Cedar Rapids, Iowa.

John M. Morse and Christopher B. Stafford, announce the formation of Morse/Stafford Partnership, 2033 Minor Avenue, East, Seattle, Washington.

Rader Mileto Associates Architects and Planners, announce with pleasure the forthcoming establishment of a branch office in Dubai UAE, the expansion of professional services and the change of corporate name to RMA&B CONSULTANTS.

Eugene R. Racek announces the opening of a new office for the practice of architectural and allied design services at 59 Commercial Wharf, Boston, Massachusetts.

The SWA Group is pleased to announce the opening of its new offices at 1201 Heights Boulevard, Houston, Texas.

Stokes & Bojorquez announce the opening of their office located at 2211 Martin Street, Suite 115/Loft, Irvine, California.

Firm changes

B. Robert Axton takes pleasure in announcing the restructuring of his firm, formally The Axton-Foster Partnership. The firm is known as B. Robert Axton Architect, AIA, 15010 Ventura Boulevard, Sherman Oaks, California. He also announced the promotions of Albert L. Croft to project manager and Phyllis M. Miller to director of architectural services.

Bobrow/Thomas and Associates (BTA), has announced the appointment of Judy Grubbs, as principal of the firm.

Bristol, Litynski, Wojcik, Cinquino, P.C., a member of The Saratoga Associates has named James E. Miller as senior associate in charge of design in the main office in Saratoga Springs, New York.

Brooks/Collier has announced that Craig A. Kress is now in charge of material and building systems technology and Harry A. Harwood has become a project manager with emphasis on medical facilities.

Gus K. Yuan has joined the firm of Calhoun, Tungate, Jackson and Dill as director of the commercial and industrial design division for the firm.

Harry A. Saunders, has joined Carter Engineers as director of a newly formed energy systems group.

more office notes on page 223

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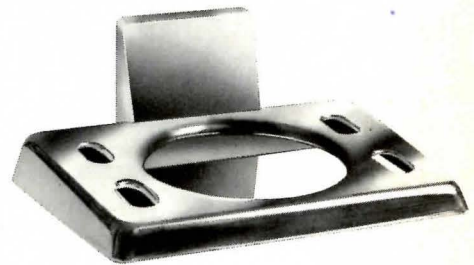
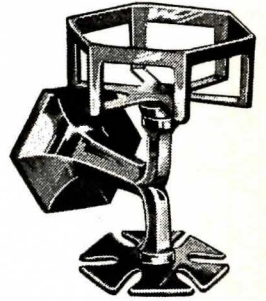
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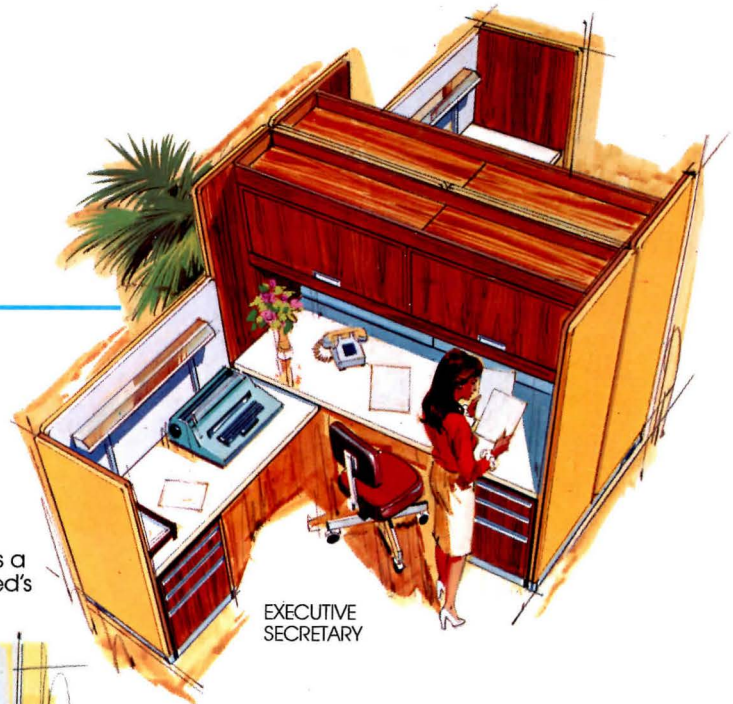
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