



REVIVING THE ARTS AND CRAFTS: PROJECTS BY KLIMENT AND HALSBAND
YALE SCHOOL OF ORGANIZATION AND MANAGEMENT BY EDWARD LARRABEE BARNES
THE HOUSTON SUNAR SHOWROOM BY MICHAEL GRAVES
DAVIS HALL: ABRAHAM GELLER DESIGNS THREE THEATERS IN ONE FOR CCNY
BUILDING TYPES STUDY: INDUSTRIAL BUILDINGS
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ARCHITECTURAL RECORD

JUNE 1980

6

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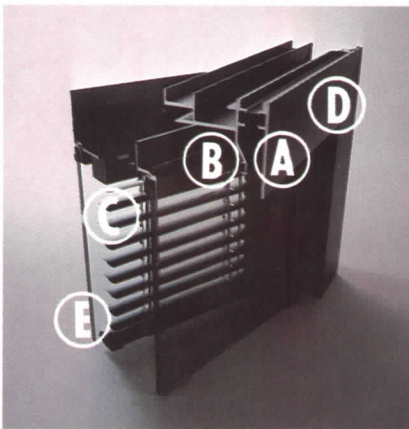
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Letters to the editor

Just a brief note to tell you what a superb piece I thought that was on our new home at the Kennedy Library [RECORD, February 1980, pages 81-90]. It was brightly and sensitively written and wove together a number of themes into a coherent tapestry—no mean task in a project like this one!

Dan H. Fenn, Jr., Director
John F. Kennedy Library
Boston

Your crystal ball, "New Perceptions of Mobility" (RECORD, December 1979, pages 120-125), makes it appear that subway and bus stations, pedestrian spaces, airport terminals and people movers are going to be the wave of the decade. A lot of reliable information, however—from the Census Bureau, the National Transportation Policy Study Commission, and the Brookings Institution, for example—says that cars and trucks will continue to play a central role in urban mobility, not only in the '80s but well into the next century.

No doubt architects will be needed to work on terminals and pedestrian malls. But they should also give serious thought to where the 27 million new urbanites in the year 2000 are likely to live and how they are going to move around.

Most indications are that suburbanization will continue. Anthony Downs of the Brookings Institution cites "the widespread American preference for low-density housing and small town environments. This preference is expressed by people of all ages and all income groups, and among all racial groups."

As population continues to disperse, travel from one suburb to another will increase. National Transportation Policy Study Commission reported that auto travel will increase 78 per cent by the year 2000, and truck travel will more than double—even with energy limitations.

This is the real challenge to architects and other design professionals. It would be a real contribution to a better urban environment if the architect would concentrate on the less glamorous practicalities of urban-suburban travel and living patterns over the next twenty years.

Peter G. Koltnow
President
Highway Users Federation
Washington, D.C.

I appreciated Edward Steinfeld's utopian design concept for "barrier-free goals" (RECORD, March 1980, page 57 et seq.), but feel his cost estimates are very conservative and his design

criteria do not address themselves to the true problem. I assume he uses government standards and ANSI 117 as his criteria. I feel these criteria need to be challenged.

My experience in the design of multifamily housing, housing for the elderly and nursing homes has shown that the needs arbitrarily defined by the government do not meet the actual needs demanded, whether we have an informed public or not. Furthermore, the design criteria address themselves specifically to the wheelchair handicapped. Horizontal grab bars for people in walkers or who just shuffle their feet are a hazard; instead of being able to pull "up," you will pull face down on the floor.

The less than 1 per cent additional cost estimated is unreasonable. First, what is 1 per cent? My last three projects were in the \$4-million range, and the budgets were very tight in order to make Section 8 (non-profit) rent subsidies work. A \$40,000, 1 per cent extra would have killed the project's feasibility.

I suggest that additional floor space for door swings, bath and kitchen to accommodate the handicapped requirements would alone be approximately 40 square feet per unit. In a typical 200-unit, \$4-million complex, this would be 8,000 additional square feet. At today's cost of \$30 to \$40 per square foot, this would be \$240,000 to \$320,000 additional cost. A more appropriate figure might be 15 per cent increase in the cost of the project.

Instead of governmental utopias, we need practicing professionals writing practical criteria which couple design capabilities with economic reality.

R. Douglas Roberts, Jr., AIA
Nashville, Tennessee

Calendar

JUNE

15-20 30th International Design Conference in Aspen, Colo., "Form and Purpose." Contact: I.D.C.A., P. O. Box O, Aspen, Colo. 81611.

16-18 24th Annual Convention and Exhibit of the Construction Specifications Institute, Anaheim, Calif. Contact: E. M. Dutchak, CSI, 1150 17th St., N.W., Washington, D.C. 20036.

16-25 Seminar/workshop, "Function Analysis & Creativity," sponsored by the Department of Engineering, University of Wisconsin-Extension. Contact: Thomas J. Snodgrass, Assistant Professor of Engineering and Applied Science, University of Wisconsin-Extension, 432 North Lake St., Madison, Wis. 53706.

18-21 Annual meeting, National Council of Architectural Registration

Boards; The Broadmoor, Colorado Springs, Colo.

19-21 First Solar Retrofit Conference, sponsored by the Mid-Atlantic Solar Energy Association in conjunction with the Center for Energy and Environmental Studies at Princeton University; to be held at the university, Princeton, New Jersey. For information: MASEA, 2233 Gray's Ferry Ave., Philadelphia, Pa. 19146.

20-21 Conference, "Conservation of Campus Resources," sponsored by the National Endowment for the Arts, the National Trust for Historic Preservation, the California State Historic Preservation Office and the University of California at Berkeley; to be held on the U.C. Berkeley campus. Contact: Center for Planning and Development Research, University of California, Wurster Hall, Rm. 373, Berkeley, Calif. 94720.

22-26 The International Federation of Consulting Engineers 1980 national conference, "Consulting Engineering: A Risky Business," sponsored by the American Consulting Engineers Council; held at the Fairmont Hotel in San Francisco. Contact: Connie Neuman, Director, Information and Communications, ACEC, 1015 15th St., N.W., Washington, D.C. 20005.

Through June 15 "Richard Meier/MATRIX 58," exhibition of three of the architect's buildings; shown at the Wadsworth Atheneum, Hartford, Conn.

28 through Sept. 2 Exhibition of the major works of Alvar Aalto, on the grounds of Mt. Angel Abbey, near Salem, Ore.

Through June 30 Exhibit of the works of city planner-craftsman Paolo Soleri, at the Union Street Gallery, 1909 Union St., San Francisco. Featured will be windbells and "Arcology" city drawings.

JULY

1-29 "Architecture: The Spatial Frontier," a Learning Museum Program at the Indianapolis Museum of Art; sponsored in part by the National Endowment for the Humanities. Contact: Indianapolis Museum of Art, Press Information, 1200 West 38th St., Indianapolis, Ind. 46208.

6-11 Short course, "Lighting for Interior Designers & Architects," offered by the Division of Continuing Education at the University of Colorado. Contact: Center for Conferences and Management/Technical Programs, University of Colorado, 970 Aurora Ave., Boulder, Colo. 80302.

7-9 "Acoustics in Buildings: To Hear or Not to Hear," a Harvard & MIT Summer 1980 Professional Seminar. Contact: Lisa Underkoffler, Harvard Graduate School of Design, Gund Hall, Cambridge, Mass. 02138.

ARCHITECTURAL RECORD (Combined with AMERICAN ARCHITECT, ARCHITECTURE and WESTERN ARCHITECT AND ENGINEER) (USPS 132-650)

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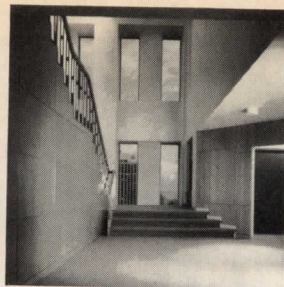
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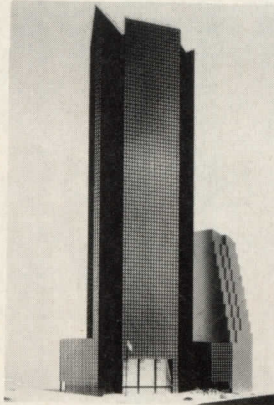
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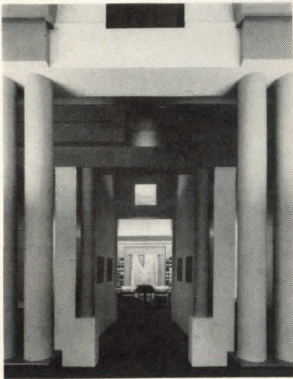
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Chas. McGrath

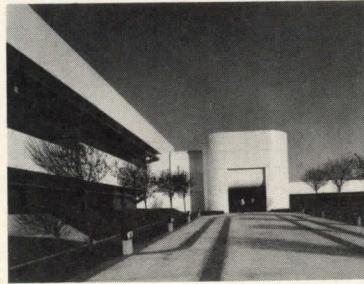
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NEXT MONTH IN RECORD

Building types study: Hotels
There is at present a flurry of activity in the hotel industry. Investors are finding the flexibility of room rates to be a ready hedge against inflation, and as conventions become an even more integral part of the American way of business, the demand for first-rate luxury hotels, both urban and resort, can only increase. But architects are finding rich potential not only in new construction but in the restoration of once elegant old hotels. Next month's Building Types Study will feature New York architect Peter Gluck's renovation and addition to Henry Flagler's 1921 Casa Marina Inn in Florida. Also, the grand Arizona Biltmore has been rebuilt, with two guest wings and a conference center added, by the Frank Lloyd Wright Foundation. A flourishing market for American architects continues to be the oil-rich United Arab Emirates on the Persian Gulf between Saudi Arabia and Oman. Boston architects Benjamin Thompson & Associates have designed two "fantasy" hotels for Abu Dhabi and Al Ain. Both evoke the splendor of an Arabian palace and both display this architect's ability to capture the esthetics of Arabian art within Islamic traditions.

Thermal Break.

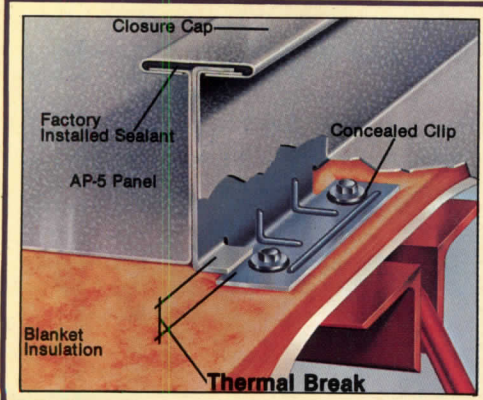
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The Texas Society takes time out to establish goals for itself and its members (others, please copy)

Not so long ago (this page, November) I carried on about the excellence of the Florida AIA state convention, which was devoted entirely to design and which "generated the most involved here-to-listen-and-learn, enthusiastic convention I'd been to in a long time." Last month I had the opportunity to participate in an entirely different state meeting—and came home equally enthusiastic.

The subject this time was goals for Texas architects—as a society and as individuals. The organizer: the Texas Society of Architects, with Jack McGinty (former AIA president) as chairman of a Goals Task Force. It was quite an effort organized in an extraordinarily interesting way, and (to my mind) so successful that other state organizations might wish, as the title of this piece suggests, "to copy."

The TSA chose six areas of special interest to itself (and, one presumes, to any state AIA organization): the professional society's role, the role of the profession, involvement in establishing public policy, consumerism and the profession, growth/resources/environment, and architectural education.

For each of those subjects, it commissioned the writing of an essay by an appropriately qualified person: for example, the paper on "growth" was written by Professor Catherine Powell of the Department of Urban Studies at Trinity University in San Antonio, the paper on consumerism by Harold Fleming, pioneer public member of the AIA's national board and director of the Potomac Institute in Washington.

Those essays were distributed in advance to the 60-odd participants in the Goals Conference as the basis for discussion. No one had to agree with the essayists, of course, and there were some good arguments—for example a proposal on land-use controls in the paper on public policy drew some hot responses from more than a few don't-tread-on-me Texans.

The participants were chosen, wisely, not just from among the architects of the state but as representatives of the public. About half of the group were architects—of course chosen from all over a state so big that design problems and indeed the concepts of "regionalism" are quite diverse. (Indeed, one goal established was to "recognize the differences among the several natural regions of Texas and support plans and

design approaches appropriate to the regions.") The other half of the participants were chosen to bring to the discussion varied points of view: There was a doctor, a lawyer, and a prominent religious leader. There were several engineers, a number of architecture-school faculty members, and journalists from both the professional and the Texas consumer press. There were advertising people, and an artist. The president of the Texas Heritage Council attended, as did the head of the Mexican-American Unity Council. There was the head of a leading Texas foundation, a Texas-scale land-owner and agri-businessman, several bankers, a city administrator, the executive director of the Minnesota chapter. David Meeker from the AIA in Washington, and Karel Yasko, counselor to the Commission for Fine Arts and Historic Preservation at the GSA were active participants.

The selection of non-architect participants was clearly a wise decision: Some of the most thoughtful and thought-provoking comments—on professional and "consumer" matters—came from the non-architects.

At the meeting itself, the participants were divided into four teams, and subjected to a rigorous and effective regimen. Each group had a discussion leader who led his team through a highly structured discussion of each essay. The leaders were prepared with questions intended to draw out comment on the papers—and they all managed to draw all of their team into the debate, permitting a minimum of "speech-making" or other domination by any one participant. An assistant team leader was assigned to take notes and attempt to establish the team's sense of what the "Goals" should be. The pace was fast, the time schedule inexorable—handling six such complex subjects in an afternoon and evening session the first day, and a very long second day, was demanding and draining. By the morning of the third day, a very hard working and very tired team of writers had reduced the goals established by each of the four teams to a single set of goals which were debated, often amended or abandoned after discussion, and voted on by all of the participants.

The resulting goals form an impressive document—now to be debated at local chapter meetings throughout Texas and discussed in polished form at the TSA annual convention in the fall.

Some of the goals are predictable (but nonetheless worth stating and re-affirming). For example: The first goal TSA wrote for itself states that "The professional society permits us to accomplish together what we cannot accomplish individually. For members, the society must define ethical standards, demand excellence in architectural practice, provide resources for achieving excellence, improve reciprocal communication among members, chapters, and TSA, and encourage personal development. For the public, the society should inform, educate, listen, advise, and advocate. . . . Above all, the society must insist on an architecture that lifts the human spirit." Predictable, sure. But a goal which, if talked about at chapter meetings, can help generate useful thinking about individual chapter programs. Some of the other goals were controversial during the discussion periods, but nonetheless strongly accepted in the end. A few items: "Develop a process that encourages small groups of peers to share common problems." "Encourage and prepare architects to serve in positions of public responsibility [and they were talking about politics]." "Explore alternatives to liability insurance." "Aggressively promote energy conservation [not an altogether unanimous stand in Texas]." "Develop, with the help of community, political, and professional allies, creative guidelines for land use based on incentives, not just controls; and a strategy for persuading state and local governments to use them [and there's a position that takes commitment and courage in some parts of Texas!]" Another non-traditional stand for Texas: "Increase public awareness of the critical environmental consequences of unguided growth and stimulate public debate on alternative patterns of growth and their liabilities and benefits in terms of improved resource management." And: "Evaluate existing tax programs and promote incentives for the conservation of our natural resources." Well, enough. The TSA established in all 40 goals in the six areas of discussion. And clearly intends to have those goals well discussed, voted on by all members, and then—if necessary—make changes in the TSA organizational structure to accomplish the Goals Program. Which seems a pretty strong commitment not just to talk but to involvement. Three cheers for the TSA for such aggressive action at the state level. May there be more of it. —W.W.



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The cumulative value of construction contracts in the first quarter of 1980 was \$32.6 billion, a decline of 20 per cent from the comparable 1979 period. For March, the value of nonresidential building contracts was 3 per cent higher than the year-ago amount, totaling \$4.3 billion, while contracts for residential building posted a 34 per cent year-to-year decline, falling to \$4.6 billion, with a cumulative decrease of 19 per cent. "The construction market's reaction to anti-inflationary restraint is no longer limited to housing," noted George A. Christie, vice president and chief economist for F.W. Dodge. "As housing starts plunged toward the one-million unit rate in March, minus signs began spreading to several types of nonresidential building and public works."

The cost of construction materials and labor increased 8.7 per cent during a twelve-month period which ended in March, according to the Cost Information Systems Division of McGraw-Hill Information Systems Company. The information is based on a semi-annual survey of building trade unions, contractors, and materials suppliers in 182 U.S. cities. The Dodge Building Cost Index is now rising at a slower rate than general inflation, due to a slowdown in the price boosts of materials stemming from decreased demand. The full report, entitled "Dodge Building Cost Indexes for U.S. and Canadian Cities" may be obtained from Cost Information Systems Division, Department 1759, McGraw-Hill Information Systems Company, 1221 Avenue of the Americas, New York, N.Y. 10020.

The Society of Architectural Historians presented the Alice Davis Hitchcock Book Award for the most distinguished works of scholarship in the history of architecture, published in North America during the last two years, to Abbott Lowell Cummings for *The Framed Houses of Massachusetts Bay, 1625-1725* (Harvard University Press) and to Norma Evenson for *Paris: A Century of Change, 1878-1978* (Yale University Press).

The jury has been named for the Passive Solar Design Awards Competition of the Fifth National Passive Solar Conference. Architects and designers are asked to submit energy conserving passive solar designs in the following categories: single and multifamily residential; commercial buildings; and solar redesign of existing buildings (retrofit). Prospective entrants must register by July 1, and submissions must be received by August 31. For further information, contact: Design Awards, Passive Solar 1980, Box 778, Brattleboro, Vermont 05301.

The Abacus Group has been chosen by the People's Republic of China to assist the Architectural Society of China in selecting and collecting samples of American-made building materials for an exhibition in Peking this fall. According to Arlyne LeSchack, export manager for Abacus, "We hope to provide samples of various materials including: windows and doors, building metal parts, lighting and electrical fixtures, air conditioning equipment, plumbing fixtures, finishing materials, etc. We also hope that some experts in the related fields can travel to China for an exchange of technical information." For further information, contact: Arlyne LeSchack, Abacus Group, 154 West 57 Street, New York, N.Y. 10019.

A new publication/advisory service for design professionals began publication in May. The *Presentation ADVISOR* provides articles and information on the preparation of presentations, newsletters, and brochures by architects, engineers, landscape architects, interior designers, and constructors. Publisher of the bi-monthly *ADVISOR* is Ernest Burden, author of *Visual Marketing*, *Visual Presentations*, and *Architectural Delineation*. Mr. Burden also holds nationwide workshops on visual marketing for design professionals. For further information, contact: The *Presentation ADVISOR*, 20 Waterside Plaza, New York, N.Y. 10010.

The Industrial Designers Society of America welcomes entries for the 1980 National Design Awards Program. A committee of nine judges will select the winners in August, and up to five awards will be given in each of five areas of design: consumer products; equipment and instrumentation; contract and residential; visual communications; and environments. The competition is open to all industrial designers in the United States for projects or programs that have been introduced in 1978, 1979, and January through April of 1980. The deadline for entries is July 15, 1980. Entry forms and further information may be obtained from IDSA, 1717 N Street, N.W., Washington, D.C. 20036.

Five finalists have been invited to participate in the design phase of the Pioneer Courthouse Square Design Competition, sponsored by the Portland Development Commission. The winning architects are: Willard K. Martin, Machado/Silvetti and Schwartz/Silver, Lawrence Halprin & Charles Moore, Geddes Brecher Qualls Cunningham, and Eisenman/Robertson. Each of the finalists will be paid \$10,000 and given a 60 day period to prepare conceptual plans to be considered by the jury in July.

The National Research Council of Canada is compiling a "Casebook of Energy Conscious Lighting Installations" and requests submissions from building owners, developers, architects, engineers, designers, and contractors. The casebook will include lighting installations in four categories: individual interior spaces in commercial, industrial, institutional, and residential buildings; building facades and canopies; special tasks within buildings; and parking areas and service roadways directly associated with a building. Submission packets may be obtained from: Dr. A.W. Levy, Division of Building Research, National Research Council, Building M-24, Room 326, Ottawa, Ontario, K1A 0R6.

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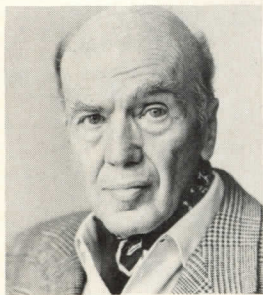
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1980 Pritzker Prize won by Luis Barragan of Mexico

The international Pritzker Architecture Prize, granted for the second time in 1980, has been won by Luis Barragan, of Mexico.

At a press conference held at the Museum of Modern Art, Jay A. Pritzker, president of the Hyatt Foundation which is administering and funding the prize, announced the jury's choice.

Mr. Pritzker presented the \$100,000 award to the Honorable Jose Enciso, Consul of Mexico in New York, who accepted for the 78-year-old winner. Mr. Pritzker noted that "Through this award, the Hyatt Foundation is seeking to elevate the caliber of architecture internationally and to elevate public responsiveness to the qualities of architectural forms that are so much a part of our lives today. . . . We are honoring Luis Barragan for his commitment to architecture as a sublime act of the poetic imagination. He has created gardens, plazas and fountains of haunting beauty—metaphysical landscapes. . . . A stoical acceptance of solitude as man's fate permeates his

work. The garden is the myth of the Beginning and the chapel of the End. For Barragan, architecture is the form man gives to his life between both extremes."

Luis Barragan is one of architecture's most poetic practitioners. For over half a century, his work has embodied the spirit of his native Mexico: austere spaces intensified by brilliant color, fountains and water channels, and the Islamic notion of compartmentalized and successive garden spaces are hallmarks of his work. Barragan will be given a bronze cast of a sculpture created for the Prize by Henry Moore. The presentation will be made at a dinner to be held June 3, in Washington, D.C.

The Prize was originally sparked by the late King Gustavus VI Adolphus of Sweden, who noted that Alfred Nobel omitted certain vital fields from his bequest. The Hyatt Foundation identified architecture as an area requiring such recognition.

In formulating the award and its conditions, the Foundation relied on the counseling and direction of architectural authorities throughout the world. It determined to make the Pritzker Prize an annual event, patterned after the Nobel Prize.

The jury included: J. Carter Brown, director, National Gallery of Art; Lord Clark of Saltwood (Kenneth Clark), author and historian; Arata Isozaki, architect and critic; J. Irwin Miller, chairman, executive committee, Cummins Engine Company, Inc.; Cesar Pelli, architect and Dean of the School of Architecture, Yale University; and Philip Johnson, winner of the 1979 Pritzker Prize.

Preservationists balk at Carter's proposed cuts

A proposal by the Carter Administration to cut Federal spending on the National Heritage Program—from \$55 to \$25 million—is drawing vigorous protest from the National Trust for Historic Preservation. The Trust claims the proposed spending reduction will "cripple the Historic Preservation Program."

The Interior Department's Historic Preservation Fund aids states in reviewing projects for possible preservation and provides grants to the National Trust for carrying out preservation efforts.

In addition to the proposed cuts, Mr. Carter also suggested that \$16.5 million be cut from the budget for

this fiscal year. According to *Preservation News*, the monthly publication of the National Trust, the Heritage Program is accepting 75 per cent of the entire Interior Department's "budget belt-tightening." An editorial in the *Preservation News* states the reason for the cut: "We [preservationists] do not constitute a vocal political constituency. . . . For too long, preservationists have been too quiet, too nice, too easy to go along and to get along with. Today, preservation is playing in the major leagues and if it is not to be forced back to the minors, preservationists must start playing hardball.—William Hickman, *World News, Washington*.

The continuing battle over BEPS . . .

With only two months left before it is to complete its development of the Building Energy Performance Standards, the Department of Energy is coming under intense pressure to either drop BEPS, or at least to ask Congress for more time so the standards can be drastically changed. Last month legislation was introduced in both houses of Congress to push back the schedule by two years—and speedy action by the lawmakers was expected. The measures do not suggest changes in the basic law ordering BEPS, they simply postpone the deadline for implementation from August 14, 1980 to August 1, 1982.

Business groups and professional design organizations—with the notable exception of the AIA—have been urging the DOE for months to greatly modify the proposed standards—which would require the calculation of design energy consumption budgets for buildings of all sizes.

The battle has now been joined by Federal and quasi-Federal organizations which make pretty much the same points: the standards are too complex; they are based on out-of-date data; and they will require too much training for the building team code officials.

The most damaging attack on the standards to date has come from the Council on Wage and Price Stability—the White House agency charged with fighting inflation. The Council's Regulatory Analysis Review Group says its "misgivings about the program are serious" and it goes on to list dozens of reasons for sending DOE officials back to their computers and drawing boards.

A central theme of the criticism is that the BEPS are based on an outdated premise: under economic conditions prevailing when Congress was debating their authorization in 1975-76, energy prices were largely controlled and the marketplace had little influence on consumption. Since that time, however, most energy prices have been partially or completely decontrolled and market price has greater impact. As an example, the Council pointed to statistics stating that only 2 per cent of new homes built in 1975 were equipped with heavy ceiling insulation (at an R-value of 30 or more), but by 1971 that figure had grown to 30 per cent, and it is even higher today. In addition, the Council points out that in the

five-years since the BEPS program was conceived, many states and local governments have adopted the Component Performance Standards of the American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), and these are adding to the energy efficiency of the built environment.

In summary, the Council says that "over the past five years, the energy situation has changed considerably, and the justification for a nationwide BEPS program has been weakened."

If the Energy Department and Congress accept the Council's recommendations, there are alternative programs that the Department of Energy could start which would foster energy efficiency:

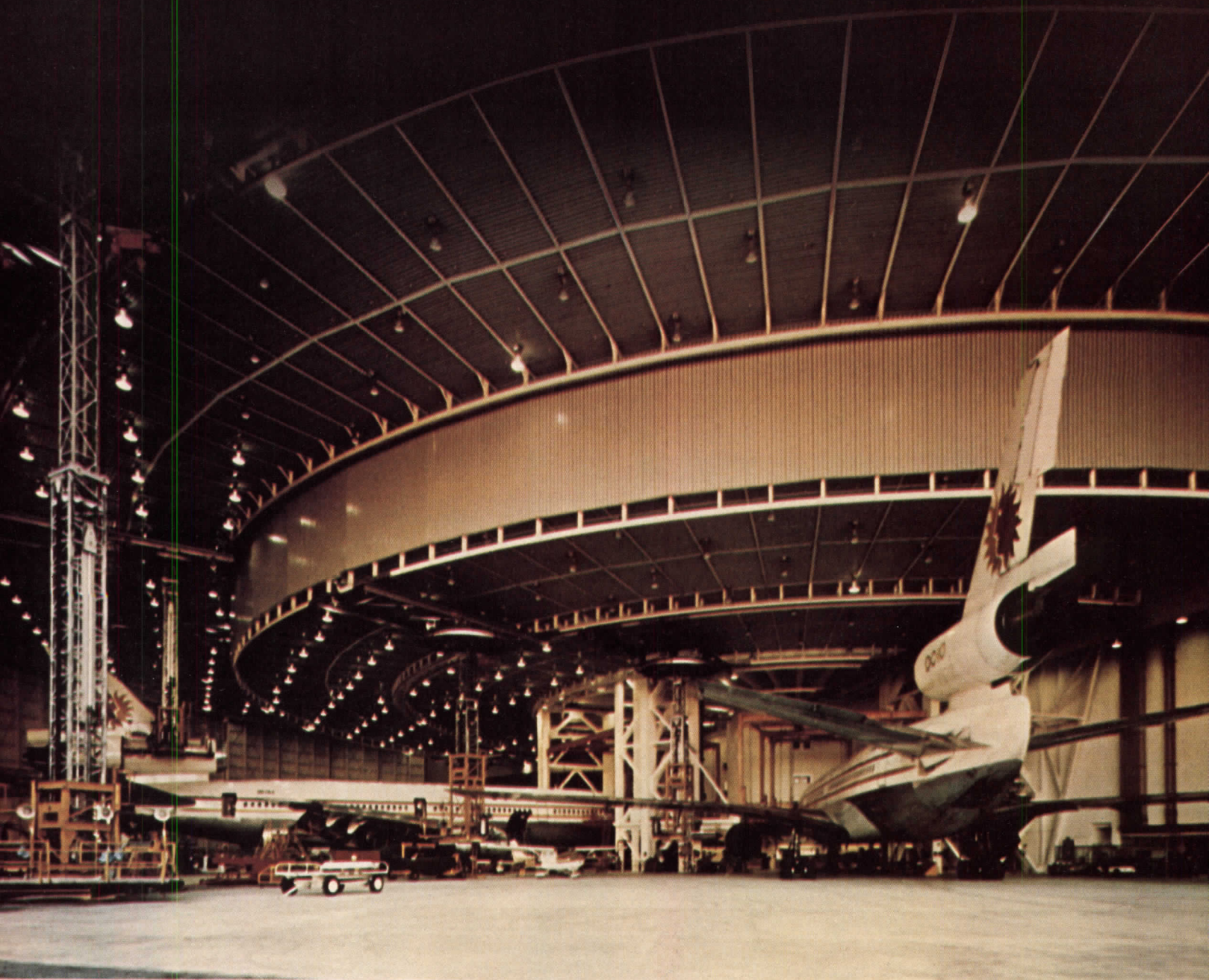
- Launch programs to train or advise designers in the use of current and advanced conservation techniques.
- Aid states and localities in modifying building codes.
- Institute a labeling program under which every prospective buyer of a new building would be told its projected design energy use.
- Implement a BEPS-like program for Federal buildings only, or in volunteering states, and gain operational experience.
- Develop a new set of minimum prescriptive standards, or more broadly applicable ASHRAE standards.

The BEPS program has also been criticized, but less harshly, by the National Institute of Building Sciences (NIBS), a Federally chartered organization of building industry interests. It claims the BEPS "will not achieve the stated goals and may, in fact, detract from the progress that is being made in improving the energy efficiency of new buildings through existing state and local regulations and building community initiatives."

NIBS says BEPS should be deferred "until technical and structural deficiencies" of the proposed standards are corrected. The Institute says "alternative paths" such as the ASHRAE code ought to be considered acceptable, and that the sanctions provisions should be dropped in favor of voluntary compliance.

Under Congressional directive, the Energy Department must finish its drafting work on BEPS by August 14, and they are to be in effect one year later.—William Hickman, *World News, Washington*.

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Housing starts hit a new low: recovery forecast for 1981

The National Association of Homebuilders now predicts new housing starts will drop to a new low of 965,000 this year, and then gradually begin a recovery that will continue through 1984. The forecast, made public at the 20th annual Residential Construction Forecast Conference in Washington, predicted a rise to 1,347,200 starts in 1981; 1,671,900 in 1982; 2,010,500 in 1983; and 2,224,900 in 1984. The 1979 total was 1,745,000.

The forecast, prepared by NAHB's economic forecasting service, is viewed skeptically by some—at least as far as this year's housing slump is concerned. Merrill Butler, the Association's president, says the actual 1980 figure may be even lower than the forecast.

Although recent record-high mortgage rates have begun to decline, housing experts believe the improvement is too small and too late to save the industry from a dismal

1980. A break in the housing finance picture came on May 7, when the Home Savings & Loan Association of Los Angeles dropped its rate on 20 per cent down payment mortgages from 17½ per cent to 12¾ per cent. The California mortgage rate stabilized in the 13 per cent to 14 per cent range. Declines were more modest elsewhere in the country.

Financial analysts say the rate decline does not mean that mortgage money has become dramatically cheaper, but that it has become available—at a price.

The NAHB is now forecasting rates averaging 14 per cent by year-end, and the U.S. League of Savings Associations expects to see 12 per cent to 13 per cent in the third quarter. Despite the financial improvement, there are still economic depressants clouding the housing market. Even though a rate of 13 per cent is better than 17 per cent, it is of course still high enough to discourage buying and to price a large number of potential buyers out of qualifying for financing. —*William Hickman.*

Audiovisual competition for design professionals

The first Annual Audiovisual Competition for design professionals will be held in New York City on August 15, by the Society for Marketing Professional Services in cooperation with McGraw-Hill, Inc. The purpose of the competition is to give recognition and national exposure for achievement in audiovisual communications by professional design firms.

There will be three categories with first, second, and third place awards offered in each. The categories will be: marketing services, (selling design services); project designs, (presentation of proposed designs); and marketing products, (selling products to design professionals).

Entry formats will be 35mm filmstrips or 35mm slides with sound applied on a tape cassette utilizing

the 50 or 1000 hertz automatic advance, or Super 8 sound motion pictures.

One grand prize winner will be selected for over-all excellence. The 1979 winner of the SMPSP achievement award in presentations will be shown at the AIA national convention in June.

All design professionals and firms serving the design professions are eligible to enter, including engineers, architects, landscape architects, interior designers, constructors, and building product manufacturers. Entries must be submitted by July 18.

For complete competition rules, contact: Ernest Burden, Chairman, Annual Audiovisual Competition, 20 Waterside Plaza, New York, New York 10010, (212) 889-4672.

Australia's John Andrews wins \$30 million competition

The Australian architectural firm of John Andrews International Ltd. has won an international competition to design the Washington, D.C., headquarters for the International Telecommunications Satellite Organization (INTELSAT). The competition included: Hellmuth, Obata and Kassabaum and Holabird and Root, from the United States; Arthur Erickson Architects, from Canada; Hentrich, Petschnigg and Partner KG of West Germany; and Raili and Reima Pietilae of Finland.

The winning design is highlighted by a series of 85- by 85-foot octagonal pods—each four to five stories high—arranged to form a series of continuous interior atriums. Pools of water will be used outside the build-

ing and inside the atriums to cool summer air and maintain what INTELSAT calls "a sense of repose and beauty" for the new headquarters.

The exterior of the \$30 million structure will present a delicate facade of stainless steel and acrylic sun screens in front of floor-to-ceiling glass walls. Energy consumption is estimated to be a very low 24,500 Btus per gross square foot per year.

INTELSAT is a 102-member-country organization that owns and operates many of the telecommunications satellites which provide worldwide communications: and the proposed headquarters is adjacent to an international enclave in upper northwest Washington. —*William Hickman, World News, Washington.*

AIA establishes Competitions Advisory Service

There continues to be considerable disagreement about the value of architectural competitions. Although the AIA is not on record as favoring competitions, their policy is that if and when competitions are held, they should be well run and the legitimate interests of all participants protected. Hence, the establishment of an AIA Competition Advisory Service—not as a means for promoting competitions, but rather as a means of offering information and advice when the competitions procurement process is chosen.

The AIA Board of Directors has adopted six statements of services to be provided by the Competition Advisory Service. It is to:

- Respond constructively to all inquiries on competitions.
- Assist in the proper management of competitions by providing technical advice, documents, and other information.
- Undertake, when appropriate, the organization and operations of architectural competitions as a compensated service to private clients and public agencies.
- Establish and maintain contacts with architectural societies in other countries, with other professional and industrial organizations, and with AIA components.
- Establish and maintain a competitions reference archives.
- Initiate and maintain, on a regular basis, a public information program on imminent and completed competitions in the professional press.

On February 26, 1980, William Lehr, the Assistant Director of the AIA's Design and Environment Division, began work as the staff executive for the Service. His salary and the operation of the Service are supported in part by a one-year matching grant from the National Endowment For the Arts, Division of Design Arts—which has been supportive of the competitions process.

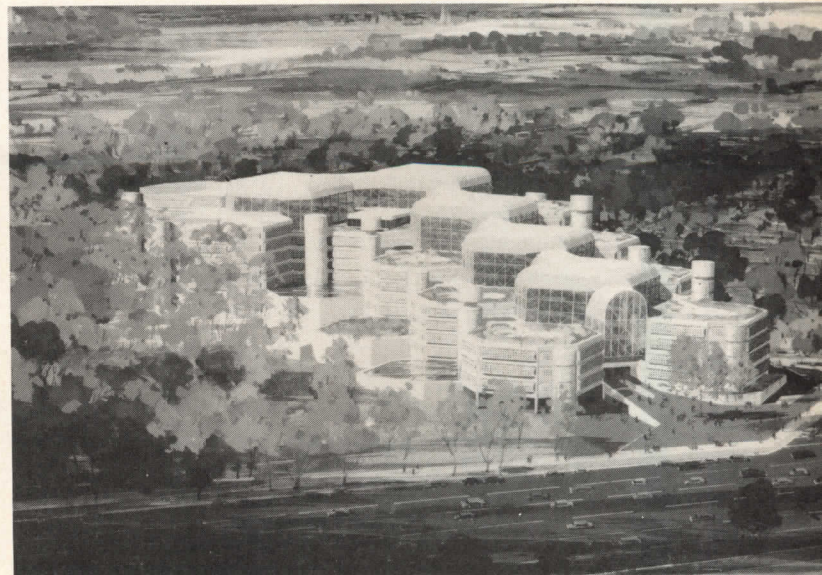
The Service's major goal during its first year of operation is to produce a series of handbooks about the competitions process. The handbooks will be written specifically for sponsors, professional advisors, jurors and competitors. The roles, responsibilities, and opportunities for each will be discussed. In addition, a great many suggestions will be offered so that architectural design competitions held in the United States can be run in "a fair and equitable way."

In the meantime, the Service is disseminating copies of the AIA's "Guidelines for Architectural Design Competitions" to those who request it. Neither the "Guidelines" nor the handbooks are binding on competition sponsors.

The Competitions Advisory Service requests that all competition sponsors and professional advisors keep it informed of their plans. For those who desire it, the Service will review draft copies of competition programs, including its competition rules and instructions to competitors, and offer advice accordingly.

During the coming year, the Competition Advisory Service will attempt to index as much of the AIA library's current competition archive as possible so that it can be of more use to practitioners and scholars. At present, hundreds of pounds of materials that undoubtedly comprise the largest collection of competitions data in the nation are roughly organized simply according to chronology.

In order to extend the archive into the current and near future, the Service requests that copies of each competition's press releases, programs, jury reports, publications, press articles, photographs of winning designs, etc., be sent to Competitions Advisory Service, American Institute of Architects, 1735 New York Avenue, N.W., Washington, D.C. 20006.



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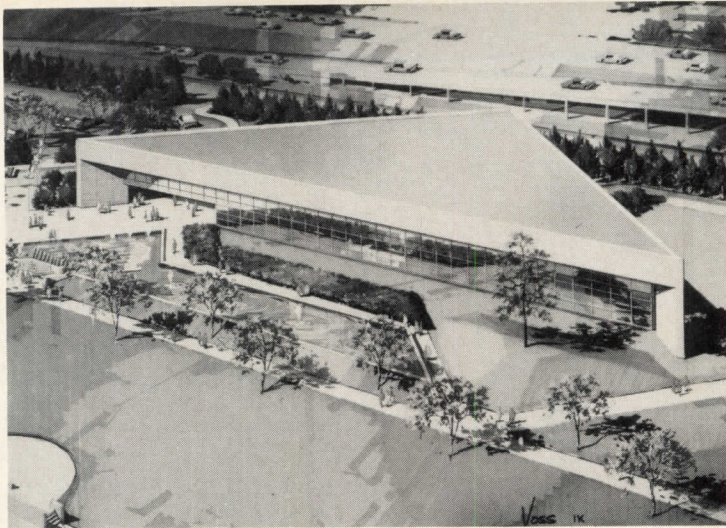


Gerald R. Ford Museum Grand Rapids, Michigan

From the circle, square, and triangle of I.M. Pei's Kennedy Library (RECORD, February 1980) we now move to the right isosceles triangle of Marvin DeWinter Associates' Gerald R. Ford Presidential Museum in Michigan. The site for the new museum is along the banks of the Grand River in Grand Rapids' "Bicentennial Park," and the opening is slated for July 4, 1980 (Mr. Ford is known as the "Bicentennial President").

The museum has been positioned on a narrow strip of land between the river and an elevated expressway. The architects have used thick concrete walls to muffle the freeway noise. Electronically controlled water sculptures have been placed along the river side of the museum "to provide a visual and audio echo of the rapids in the Grand River."

The hypotenuse of the museum triangle is a 300-foot-long glass wall,



recessed under an overhang to protect the exhibits from the sun—the mirrored wall reflects the buildings across the river.

The Ford Museum contains a theater and production and storage facilities on the main floor, and exhibi-

tion space on the second floor. A pedestrian bridge, leading from Grand Rapids' central business area, terminates at the museum entrance. The exhibition space terminates in a full-scale replica of the Gerald R. Ford Oval Office.

New York architects form Design Professionals Management Corporation

Following their Chicago colleagues, several New York architectural firms have joined together to establish a not-for-profit corporation known as the Design Professionals Management Association, Inc., (DPMA). Firms in the New York metropolitan area are invited to join the Association, organized to pursue common interests in the development of business and professional practices which guard against claims of professional liability. Initial membership is \$300.

The Association plans to hold two professional-liability loss-prevention seminars in its 1980 program: the first was held on April 30, at the

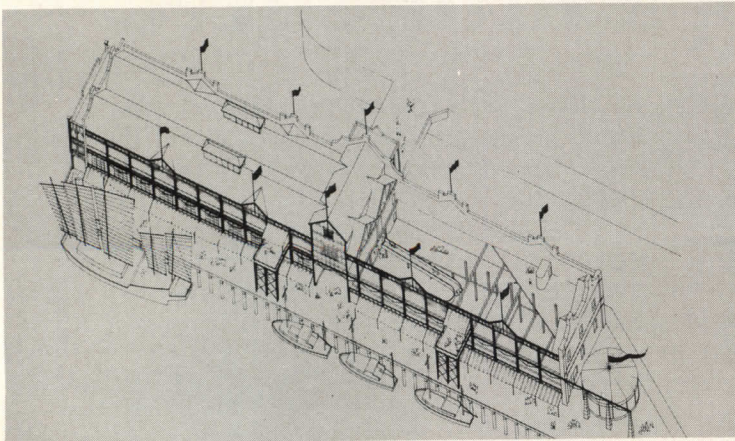
Biltmore Hotel, New York. The seminar fee for member firms is \$125 per person. Member firms must pay for one attendee per 15 principals and technical personnel, to a maximum of 18 attendees. The fee for non-members is \$175 per attendee.

The kick-off seminar, an all-day meeting entitled "A Look Across the Communications Gap," had a morning session featuring David W. Lakamp and Gerald G. Weisbach, AIA, of Risk Analysis & Research Corporation, on aspects of loss prevention. The luncheon speaker was attorney Peter G. Kelly. The afternoon was devoted to a workshop on

"Information, Communication, and the Transfer of Meaning," conducted by Albert Shapero, of Ohio State University, and Maitland Huffman, associate professor of management, University of Texas.

Directors of DPMA for 1980 include: Robert Gatje, FAIA, of Marcel Breuer Associates; Frank Munzer, AIA, of The Eggers Group, P.C.; Joseph Roher, AIA, of Gruzen & Partners; and Alan Schwartzman, FAIA, of Davis, Brody & Associates.

Firms wishing to join DPMA or to have principals or technical staff attend seminars, are invited to contact Ms. Hanin at (212) 559-7272.



Boston firm to aid Sydney, Australia renovate waterfront

The Boston architectural firm of Perry, Dean, Stahl & Rogers, which did the early planning and organization of the Quincy Market restoration, will be helping Sydney, Australia renovate its waterfront.

Number One Walsh Bay Wharf, a 70-year-old wharf and cargo berth at the southern end of Sydney's Harbor Bridge, is the first structure to be declared "excess and available" for redevelopment and preservation by

the Maritime Services Board of New South Wales. Plans call for its conversion to a Market Hall, similar to Boston's Quincy Market and San Francisco's Fisherman's Wharf.

Pier One Syndicate and Wills Denoon/Perry Dean have been commissioned to undertake restoration and development of the project, beginning early next year. Wills Denoon/Perry Dean is an association recently formed to bring together the architectural, managerial, and technological skills of The Wills Denoon Group in Sydney and Canberra, and the Boston firm.

The proposed plans for Walsh Bay Wharf include specialty shops, exhibition galleries, restaurants, and market stalls. To maintain the character of the wharf, minimum alterations will be made to the exterior.

The new complex is expected to become a popular tourist attraction in Australia, and generate new interest in revitalizing Sydney's Waterfront.

U.S. Justice Department attacks codes of ethics

The U.S. Justice Department has launched a new round of attacks on the codes of ethics of professional societies—insisting that any provision that might be considered anti-competitive be removed. The target of this latest attack is the American Consulting Engineers Council, which has been ordered to submit the contents of its files relating to code prohibitions on contingent fees, free services, and design competitions.

The American Institute of Architects, which has similar provisions, is considering making its code of ethics voluntary rather than mandatory. A discussion of the change is expected at the AIA June convention.

This latest probe follows on the heels of other Justice Department assaults on code of ethics provisions. In the past decade, the Justice Department has successfully demanded that professional societies representing architects and engineers remove bans on price competition, advertising, and the "supplant rule"—which bars a professional from taking over work awarded to another.

The National Society of Professional Engineers (NSPE) refused a Justice Department demand that it lift the prohibition on price competition: the result was a legal battle all the way to the Supreme Court which the Society lost in 1978 after spending more than \$600,000 on legal fees.

The AIA, which has also been subject to expensive litigation involving the supplant question, discussed its code during "Grass Roots" meetings throughout last year. Three options were presented to the Grass Roots participants: continue with the present mandatory code; make it voluntary; or continue its mandate nature while eliminating any language that might be construed as anti-competitive. It's expected that the AIA will opt for the voluntary alternative.

In demanding ACEC's records, the Justice Department cited Section 1 of the Sherman Act and said the purpose of the probe is to determine whether the code of ethics prohibitions constitute an "agreement to limit competition in the sale of engineering services."

The ACEC code language which is under scrutiny is:

- Members shall not request, propose, or accept professional commissions on a contingent basis under circumstances that might compromise their professional judgment.
- Members shall not enter competitions for a specific project unless provision is made for reasonable compensation.
- Members shall not undertake or agree to perform any engineering service on a free basis, except professional service for civic, charitable, religious, or eleemosynary organizations. —William Hickman



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*by Robert Lawrence, Vice President
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Dade County Administration Building, Miami, Florida

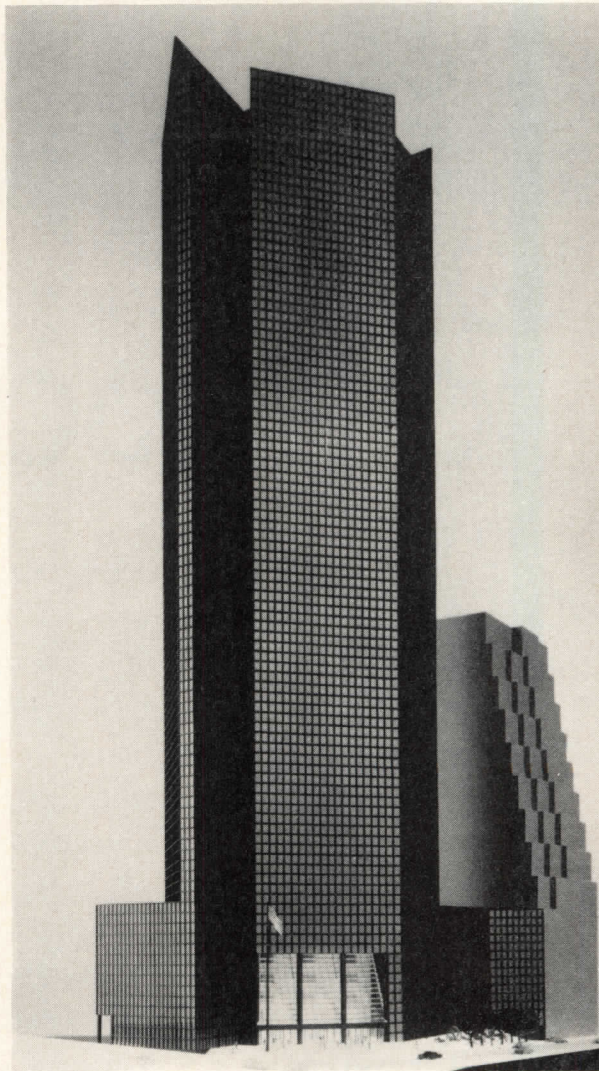
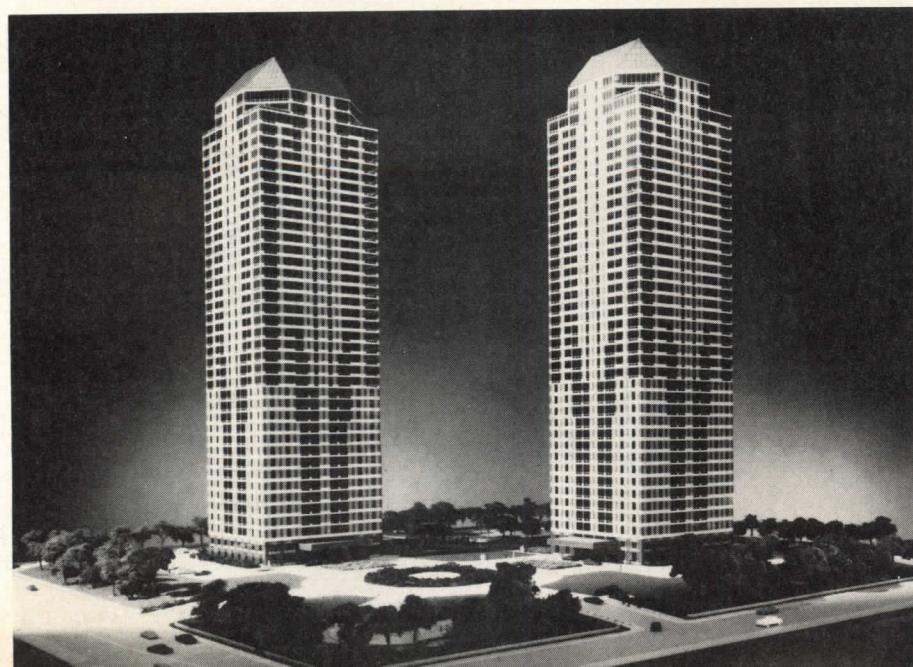


A 500-foot-tall, modified hexagonal concrete and travertine tower will be the new seat of County Administration in Dade County, Florida. The site is defined by three elevated transit lines, which will ultimately serve 90,000 to 100,000 people a day, and the tower has been designed to relate to the confluence of the transit lines, as well as to the nearby Dade County Courthouse and Cultural Center. The structure is raised above the transit lines to provide a dramatic shaded opening at the base; suspended within the large opening between the tower buttresses are offices for commissioners, the mayor, the press, and the county clerk. According to architect Hugh Stubbins: "The form and scale of the structure establish an appropriate transition between the low-rise Cultural Center to the south and the County Office Tower."

Four Leaf Towers, Houston, Texas

Houston's largest high-rise residential condominium development, Four Leaf Towers, will have 400 units in two 40-story towers, with underground parking for 700 cars. The two towers will cost \$100 million and will rise simultaneously on a 9.5-acre site in the "Magic Circle" area of

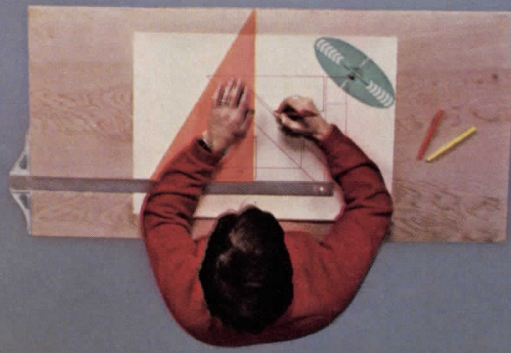
Houston's West Side. Albert C. Martin & Associates of Houston is managing and coordinating architect and Cesar Pelli & Associates of New Haven is design architect. Upon completion, Four Leaf Towers will be the tallest buildings in Houston outside of the downtown area.



101 Park Avenue, New York City

The tallest concrete structure in New York will replace the 18-story Architect's Building on 40th Street and Park Avenue. The new 50-story office building will be placed on the diagonal and supported by a 6-story rectangular pedestal on the 55,000-square-foot site. The air-conditioning system for the 1.1-million-square-foot building will make use of chilled water, cooled during off-peak hours and stored in a 350,000 gallon tank built beneath the elevator shafts. The main entrance, from the plaza on the corner of 40th and Park, leads into a 90-foot-high

lobby with an open view through the building. And a second entrance, on the north side at 41st Street, leads into a 70-foot-high lobby. To reduce the visual bulk of the 618-foot-high tower, only a narrow 10-foot-wide facet, or tapered "wing" will extend on the tower to the Park Avenue property line. According to the architects, this will result in more open space and light on the surrounding streets. 101 Park Avenue was designed by Eli Attia & Associates and the building is scheduled for completion in the early spring of 1982.



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The knowledge business



City Center, Fort Worth, Texas; Paul Rudolph

Two office towers, containing 1.5 million square feet, and a 1,000-car parking garage are now under construction in Fort Worth, Texas. The massive three-part project, called City Center, covers a four-block downtown area and will be inter-connected by glass enclosed "skyways." A 32-story bank tower will contain 720,000 square feet and is to cover one full block. The inte-

rior of the bank facility will feature a four-level atrium covered with a skylight. The second tower, Center Tower, is to be 37 stories. The two office buildings are to be sheathed in reflective gray glass and have been designed to exceed Federal energy requirements. Both buildings will be organized around a central "core" with each corner of the square extended to form a

trapezoidal wing. Each tower will be supported by 16 metal clad column clusters, extending five to seven levels. A 1907 fire station is being renovated and will become an integral part of the parking garage, housing the lobby area for the elevators and office facilities. Design architect for City Center is Paul Rudolph and 3D/International of Houston is construction architect.



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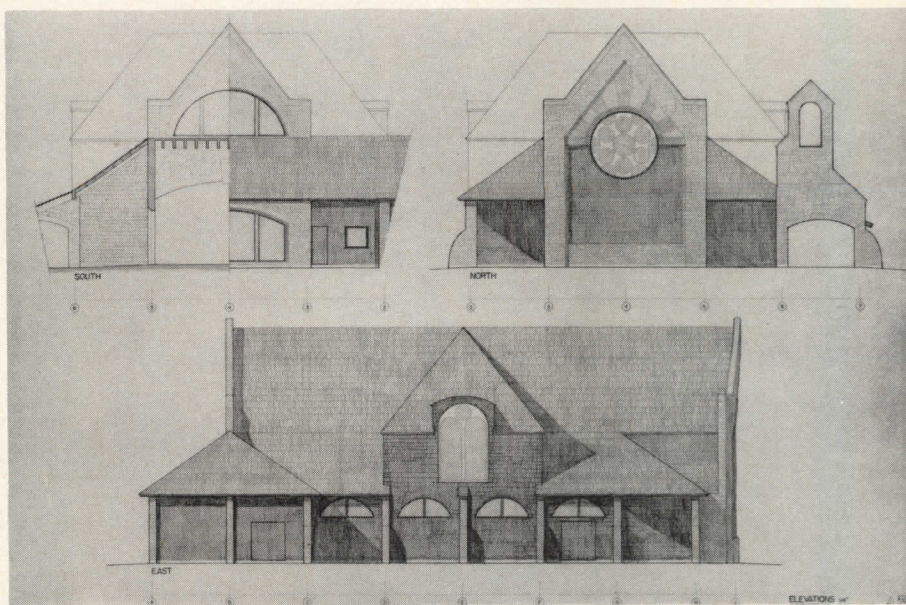
ARCO Oil & Gas, Dallas, Texas; I.M. Pei & Partners

A 49-story triangular tower will be the corporate headquarters for ARCO Oil & Gas Company in Dallas. Constructed of gray polished granite between bands of reflective glass set in stainless steel frames, the new \$100 million facility will provide 1.4 million square feet of space with two underground parking levels. The 630-foot-high equilateral triangle meas-

ures 252 feet per side, and, according to the architects, the prism shape "is meant to complement Thanksgiving Square [a major downtown park] and respond to its triangular geometry." The structure has a reinforced concrete core which carries most of the wind loading and the structural steel frame has exterior columns around the perimeter.

Church addition, Houston, Texas; Charles Tapley Associates

The congregation of a small "proto-Gothic, Norman-esque" stone church in an established neighborhood in Houston wanted to expand by adding a new sanctuary. The architects felt that the addition should be compatible in both form and materials with the original: and by using an inexpensive textured concrete block, framed in stone, the 5,900-square-foot addition fits comfortably with the existing church. The new sanctuary has been placed parallel to the original church, to form a cloister courtyard. A connecting arcade joins the two structures and fronts the new sacisty. Houston architects Charles Tapley Associates expect completion in the fall of 1981.





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Circle 32 on inquiry card'

The fabricated world

INDUSTRIAL DESIGN, by Raymond Loewy;
The Overlook Press, \$45.

TWENTIETH CENTURY LIMITED: INDUSTRIAL DESIGN IN AMERICA 1925-1939, by Jeffrey L. Meikle;
Temple University Press, \$45.

Reviewed by Niels Diffrient

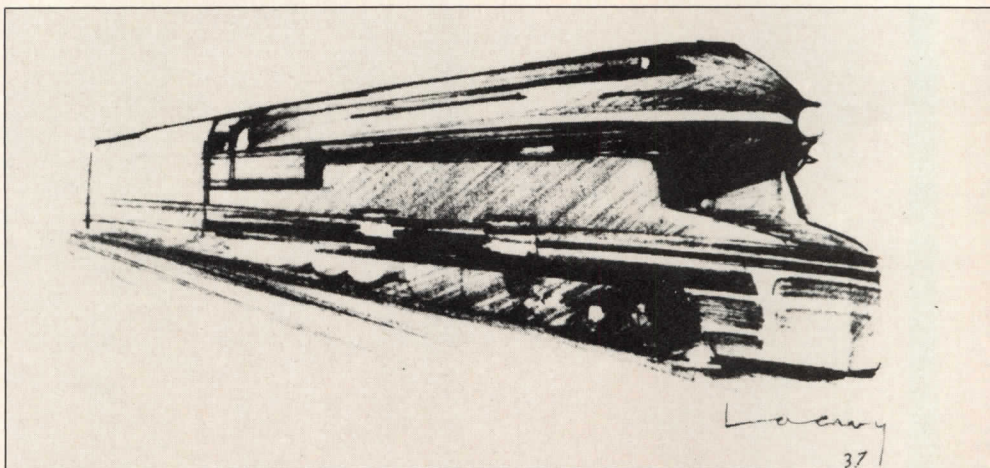
Industrial design is not as quantifiable as other professions, and it has eluded succinct definition to date. This elusive quality—growing from the tension between human values and mass production—is also at the root of industrial design's value; involving the intangibles of esthetics and quality combined with performance and technics. Unlike architecture, which can focus on building construction for its discipline, industrial design ranges through the extremes of technological disciplines with few commonalities. How this situation will ultimately resolve itself is unknown, but interest and public awareness is growing in no small measure due to increased notice given the technological arts by the media.

Two current publications are a part of this increased interest in industrial design and the merger of art with technology. The more notable is a book by Raymond Loewy.

Loewy is no stranger to publicity. His flamboyant style and Gallic *joie de vivre* have been publicized in various ways over the years (including the cover of *Time* magazine). Who can forget the vicuna coat draped on the shoulders of a dapper suit with extraordinary amounts of white cuff and collar showing? Or Loewy with Adolphe Menjou moustache, gracing one of several custom made automobiles designed exclusively to turn heads. His book, *Raymond Loewy: Industrial Design* is a curiosity of contradictions. The curiosity grows out of why a book on design is so poorly designed. And the contradiction is how the designer of so many successful and memorable products can construct a book that lacks the substance to support his successes.

One of the most remarkable aspects of Mr. Loewy is that he is still active in a profession that he was instrumental in starting over 50 years ago. It must be appreciated that his work in the emerging era of mass production and industrial design had to be ad-libbed for

Niels Diffrient is a partner in the industrial design firm of Henry Dreyfuss Associates. He was chairman of the 1975 *Aspen Design Conference* and is currently working on chair design for Knoll International.



each circumstance since rules of performance were non-existent. These rules are still not defined in the minds of the managers of industry, and consequently the use of industrial designers is often not so much a case of measuring against existing professional standards as it is trusting in an individual.

Industrial design was started by bold personalities who established a reputation and were trusted to do a good job for their clients. In their own ways, this is how the other pioneers—Henry Dreyfuss, Walter Teague, and Norman Bel Geddes—established their businesses.

Industrial design is not so much the fulfillment of a positive need as it is the filling of a void. The void exists in industrial production and marketing, which can, within its working scope, develop products that are ill-performing, unsafe, ugly, over-priced, and graceless. The reason for this is that sympathy for human appropriateness, esthetics, and quality are not cornerstones of these professions. Perhaps they should be, yet few engineers have an esthetic-humanistic attitude and very few marketing people look beyond bottom line performance as a measure of success. It can be argued that the industrial designer simply comes along and finishes off what is missing in the other professions. It is mostly the exercise of intangibles: appearance, appropriateness, comfort, and quality, and these are not the things of which hard and fast professional standards are built. Still, they are important to the fabricated world for bettering enjoyment of existence beyond base survival. With goals that are sustained more by sympathy than standards, it's little wonder that some contradictions exist in Mr. Loewy's book.

While serious industrial designers would like to see a more substantiated and solid

representation from such an important figure, it is perhaps unrealistic to expect it. The book is valuable as a historic record, just as it stands, contradictions and all.

Loewy, though French by birth, is principally an American designer by his own admission, and until recently accomplished his most successful achievements in the U.S. But it is significant that excluding the NASA man-in-space project in the early '70s, there is virtually no evidence in his book of product design in America since the '60s. His European designs in the last pages of the book are good solid work, but they *are* European. The resulting picture is of a declining practice of industrial design in America and an emerging dominance of Europe and Japan. In terms of Mr. Loewy's book, it is an almost antique record of American product design which in fairness should not be compared to later standards. Yet, taken in the context of the past, it is a remarkable record and an even more remarkable personal story.

Loewy's intuition—from which he derives most of his concepts rather than through extensive research—has produced some fine work indeed. The designs are legend: the succession of Studebaker automobiles, especially the 1947 and 1953 models; the streamlined locomotive for the Pennsylvania Railroad, 1935; the Hallicrafter radio, late '60s; Coldspot refrigerator, 1934; the Singer vacuum cleaner, 1946;—all are appreciated more by recalling the feeling of delight upon first seeing them than in present-day context. They represent extraordinary boldness of the designer and the client who supported the effort: both conditions are diminishing in this country.

As stated earlier, one does wish the book were better designed and structured.

continued on page 48





**WHEN THE
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Circle 33 on inquiry card

As an example, an introductory page shows an Avanti auto sketch with a NASA rocket and the planet Earth in surrealistic poor taste; followed by still another Avanti picture with the car suspended from threads like a puppet and then captioned in a near illegible script "slender and trim." This kind of illustration, along with some questionable sketches of products that would have been better left out, is unnecessarily distracting from the good work. The text is also spotty and lacks flow. It jumps from a historical section, done in question-and-answer style with Peter Mayer, to a very sketchy survey by decades which lapses into personal memories and name dropping ostensibly without purpose except to fill pages.

From these sections onward it is practically all captions accompanying photographs. Hidden among this material are some interesting first-hand descriptions of how the designs were accomplished. Unfortunately, there is not enough of this kind of dialogue and too much flattering advertising copy, now dated, which seems somewhat stilted and unbelievable.

One has the feeling that if Mr. Loewy had brought the same inspiration as he did to a Studebaker in 1945, or, if he had followed the maxim of his earlier book "Never Leave Well Enough Alone," this book would have been better designed.

Twentieth Century Limited, Industrial Design in America 1925-1939, probably represents scholarship as thorough as possible with the sketchy residue left from industrial design's 50 year history. It is an essential reference, and for those who experienced all or part of the period, a trip down memory lane. The references to historical figures (some still living) are accurate and well-integrated within a sensible structure, and it is a valuable brick in the foundation of the history of modern design and technology.

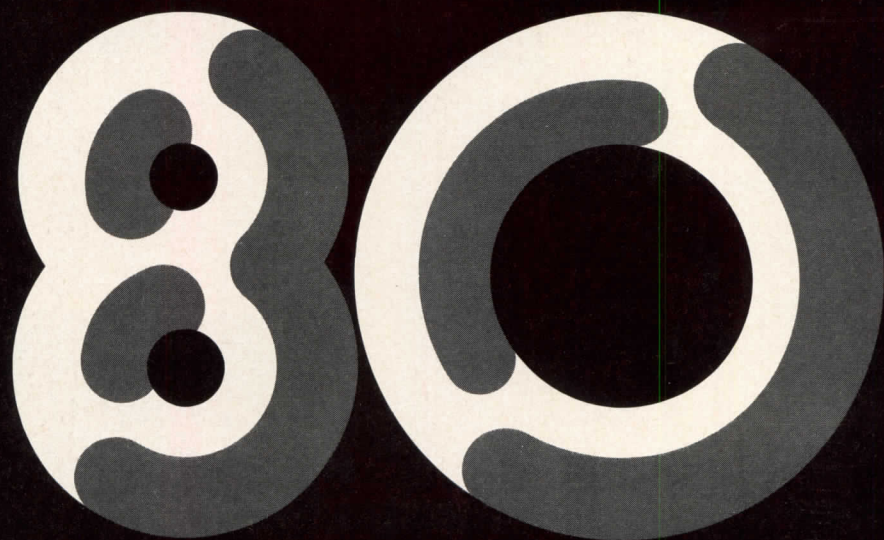
After reading the book, one is at first lulled into a comfortable succession of well ordered facts and anecdotes frequently illustrated by appropriate pictures. But as the reader progresses, an interwoven subliminal message, or veiled criticism, begins to emerge. The message is basically that from a brave beginning of bold idealism and raw intuitive talent a gradual erosion of standards and the decline of discipline allowed the practice of industrial design to become more of a prop for marketing and advertising goals than standing for its own intrinsic values.

This is perhaps a message that can be applied to all the applied art disciplines; the ready sale of raw talent without self-discipline can only decline the activity.

Mr. Meikle seems hesitant to make his critical statement in a bold and well illustrated way. And, though this may be appropriate for a history of the subject, it is also a weakness of the book. It does, however, give one hope that under the gaze of probing historians with a semi-detached view, that attention to the growth and failures of industrial design, will clarify and establish the missing direction.

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Fast-track schedule and large bays call for steel framing

The project:

American Cyanamid Corporate Headquarters Expansion, Wayne, N.J.

"Steel framing was critical to the fast-track construction sequence we used on this project," says Robert Schofield, architect, Schofield/Colgan, Nyack, N.Y. "We were able to select the primary framing members, bid, and order the steel before every design detail was worked out. This allowed us to get construction under way before all the working drawings were completed.

"Furthermore, we decided that steel was the most appropriate framing material for the spacious 30 ft x 30 ft bays required."

Electrified steel deck for flexibility

"Our client wanted an underfloor electrical and telephone distribution system similar to the existing headquarters building on the site," comments Alger Ross, P.E., Edwin M. Ragold Associates, consulting engineers. "We find that a blend of composite cellular and non-cellular steel deck on steel beams is a very economical and functional way of meeting this requirement.

"The alternative to this system would have been a poured-in-place or precast concrete floor system with cellular deck on top of the structural slab. Since a cellular electrical distribution system was required, it was more economical to support a cellular steel deck directly on steel beams and to make the deck and slab one structural unit."

Built into the hillside

The owners did not want the new building to compete visually with the original structure. Accordingly, the new structure is situated so that only the penthouse reception area is visible from the entrance plaza. The top office floor is connected to the lowest floor of the original building by means of an underground passage beneath the plaza.

The structure is subdivided into terraced blocks, so that the form relates to the sloping hillside. The exterior is treated with a sun

screen to reduce cooling loads, while at the same time allowing views of the surrounding woods.

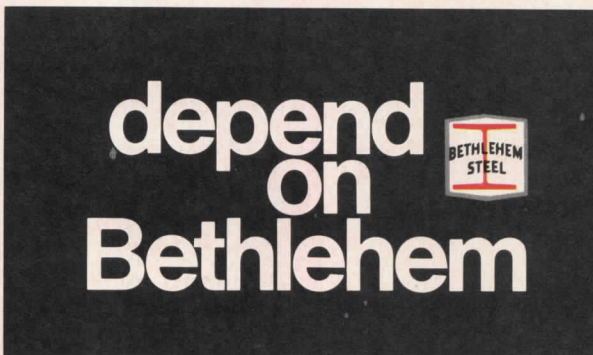
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Structural Engineer:

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F. M. Weaver, Inc., Lansdale, Pa.

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James King & Sons, Inc., New York, N.Y.

New California law on claims against architects raises questions

State architectural licensing boards often cannot learn about professionals who violate the law unless a formal complaint is filed. To assist its state board in regard to professional disciplinary matters, California recently enacted a new law to require that court judgments, arbitration awards and claim settlements be reported to the state's Board of Architectural Examiners. Despite its salutary objectives, the California law leaves a number of important questions unanswered. In addition to possibly enhancing the board's ability to monitor claims against architects, the law also injects an entirely new factor to be weighed by architects themselves when defending against claims. The law also contains a number of inconsistent requirements, depending on whether a claim is settled or results in an arbitration award, whether it involves a court judgment, and whether the architect carries professional liability insurance.

By Arthur T. Kornblut, Esq.

The American propensity to legislate solutions to all problems sometimes resembles the ancients' sacrificial lamb rituals—it makes the offerors feel better, the lamb's complaints are given little weight, and the problems that prompt the ritual remain singularly unaffected. Thus, architects in California may be justified in saying "Baa" to a new California statute requiring the filing of liability-related reports with the state's Board of Architectural Examiners.

The California legislature has enacted an amendment to the state's architectural licensing law. Effective January 1, 1980, Sections 5588, 5589, and 5590 were added to the Business and Professions Code to require reporting of settlements, judgments and arbitration awards involving a holder of a California certificate of architecture.

■ Section 5588 requires settlements or arbitration awards in excess of \$5,000 to be reported to the architectural examining board. The settlement of arbitration awards must involve a claim or action for damages caused by the architect's fraud, deceit, negligence, incompetency or recklessness in practice. The report must be filed within 30 days of the settlement or award by the certificate holder and the insurance company that provides the professional liability insurance to the certificate holder. There is no penalty prescribed for a failure by either the insurance company or the architect to file a report under this section of the law.

Prior provisions in the licensing law gave the examining board authority to discipline certificate holders who were *guilty* of the

above offenses. However, the new amendment requires a report whether or not there was a finding of liability or guilt. There is no provision to dispense with a report if a settlement was for reasons other than admissions of liability—i.e., it might have been to avoid the expense of prolonged litigation.

■ Section 5590 requires reports under certain circumstances when there has been a court judgment involving an architect in California. Within 10 days after a judgment that a certificate holder has committed a crime or is liable for any death, personal or property injury or loss caused by fraud, deceit, negligence, incompetency or recklessness in practice, the clerk of the court must report the judgment to the examining board. However, the reporting requirement can be dispensed with if the judge in the case finds that the judgment did not relate to the defendant's professional competence or integrity.

Unlike the \$5,000 threshold for arbitration awards or settlements in Section 5588, Section 5590 requires a report for all judgments (unless dispensed with by the judge), no matter how small the amount in controversy. Furthermore, it makes no provision for a report to be withdrawn or modified if a court judgment is subsequently reversed on appeal or if the parties subsequently work out a settlement during the appeals process.

■ Section 5589 establishes reporting requirements for arbitration awards or settlements when the architect does not have professional liability insurance. As with Section 5588, there is a \$5,000 threshold beyond which a report is required, but this report must come from the architect or his attorney. A copy of the report must be sent to the claimant, through his counsel if he is represented or directly if he is not. If the claimant (or his counsel, if he has one) does not receive the report within 45 days of the

settlement or arbitration award, then he is obligated to file a report. Unlike Section 5588 which contains no penalty for a failure to report, Section 5589 states that a failure to report shall be a misdemeanor punishable for a fine of not less than \$50 or more than \$500. Further, an intentional failure to comply with this section is deemed to be a misdemeanor punishable by a fine of not less than \$5,000 nor more than \$50,000! Thus, a member of the public who brings an action against an uninsured architect and is able to achieve a settlement for more than \$5,000 can become liable for a misdemeanor and a fine if he fails to receive a report within 45 days and then fails to file a report himself.

Irrespective of the merits of a claim, a claimant's attorney could try to use this law to gain bargaining leverage for a settlement for just under \$5,000. An architect might not want to risk a report going to the examining board because of a later judgment or settlement or award in excess of \$5,000, because that could require the architect to defend himself (or retain private counsel) before the board as well. Liability policies do not normally provide defense counsel for board disciplinary proceedings.

Other troubling aspects of this new California law stem from a number of unanswered questions. The law does not define what must be contained in the report—all it calls for is a "complete" report. The law does not give any guidance about how the reports are to be used by the board or require that they be kept confidential. One of the advantages of arbitration and settlements is the degree of privacy that normally surrounds them—confidentiality often being important to architects concerned about their professional reputations.

There is little doubt that architectural registration boards operate at a handicap when it comes to policing incompetence. Most boards have inadequate finances and must rely on the attorney general's office for legal counsel. The boards also must rely on complaints being filed before they learn about potential violations of the law. These problems require careful professional attention. Unfortunately, the approach taken in California may do little to solve these problems and could harm innocent members of the profession who were unfortunate enough to be subjected to a claim simply because of involvement with a project.

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

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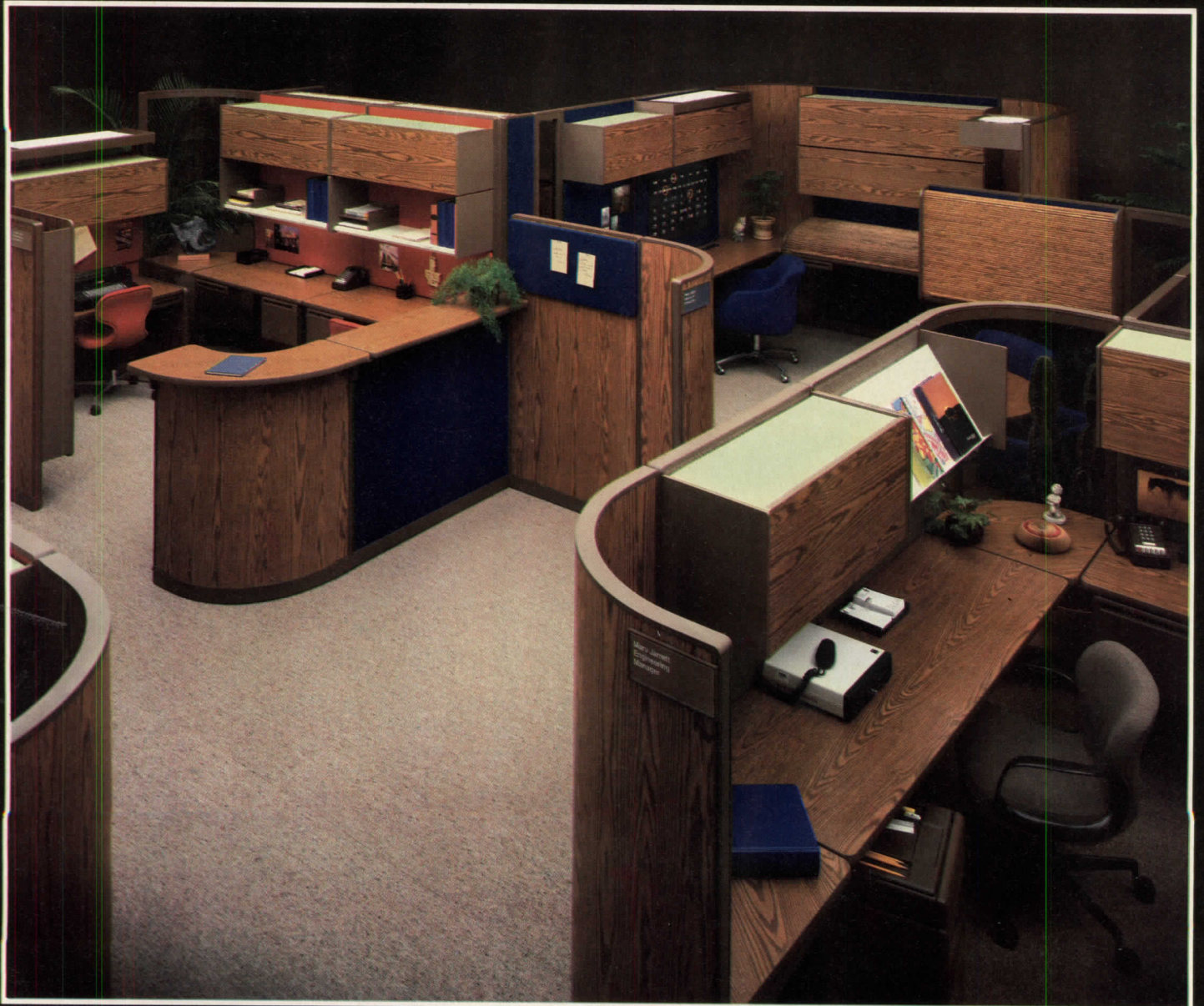
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HAWORTH

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Finding opportunities in health-care construction

A cursory examination of health-care construction suggests a seriously ill market, whose square footage is shrinking at an alarming rate. A more intensive probing, however, reveals several submarkets; in these, square footage in additions, alterations, and new building is stabilizing, or even growing.

At the heart of the market's problem are changing government attitudes on health facility construction. In the 1960s, governments (Federal and state) developed programs, particularly Hill-Burton, for subsidizing the financing of health-related construction, especially hospitals. During that decade, the volume of health care square footage more than doubled from 36 million in 1960 to a record 87 million in 1969. In the 1970s, priorities changed as governments sought to contain soaring health costs. Health facilities building slowly but steadily sunk. Only 56 million square feet is expected in 1980—less than two-thirds the 1969 figure.

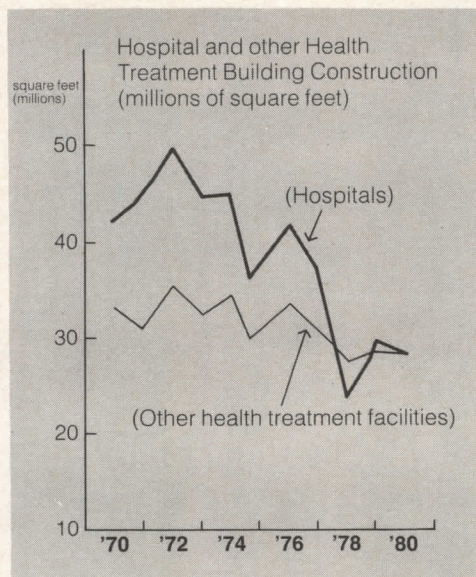
Inside this market, several major shifts occurred in the type of building during the 1970s. Most notable was the 40 per cent decline in hospital square footage and the emergence of other health treatment facilities construction (primarily nursing homes, but also short-stay facilities).

At the start of the past decade, hospital building, at 49 million square feet, represented more than three-fifths of total health care construction. But even in its heyday, additions to existing structures, not new construction accounted for more than half of hospital square footage. In recent years, additions have become even more important, constituting nearly three-fifths of the 29 million square feet of hospital construction in 1979.

Contract value reveals submarkets

Square feet, because it excludes alterations, does not provide a broad enough measure for identifying another change in hospital construction. Contract value, specifically the percentage share of construction, does.

Additions have consistently been about 50 per cent of total hospital contract value in the 1970's. *New construction*, however, has steadily lost share, falling from 45 per cent to 35 per cent during the decade. Offsetting that drop, alterations, after averaging 7-8 per cent in the early years, abruptly expanded to 15 per cent of the market in the last half of the decade, as hospitals modernized existing facilities and installed new equipment. In *real* dollar terms, the hospital alterations market has grown from \$125-\$150 million in the



early 1970s to \$200-\$250 million currently—roughly a 5 per cent *real* growth rate.

Year-to-year movements in *other health treatment* construction were erratic throughout the 1970s. There was, however, some slippage in square footage in the second half of the decade. Even so, the average of 30 million square feet for 1975-79 was only 10 per cent below the average of 33 million square feet for 1970-74—a much less severe decline than in hospital construction. As a result, other health treatment facilities now are half of *total health care* square footage. Furthermore, three-quarters of current *other*

health treatment building is from new construction—a sharp contrast with hospital building.

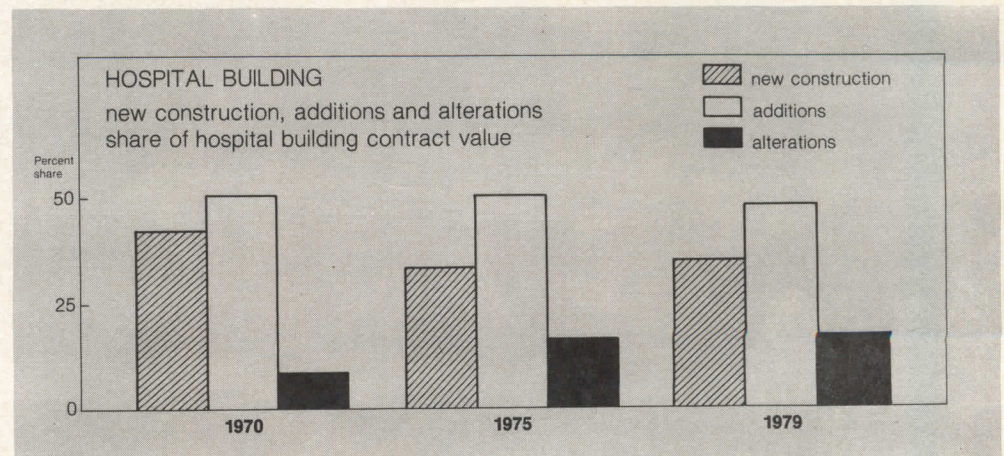
During the 1970s the growth of the older population, especially above the age of 75, (the group most likely to use extended-care facilities) supported the demand for *nonhospital health care* construction. In the 1980s, the aged population (over 65) will expand at a steady 2 per cent annual rate, which is expected to sustain demand for other health treatment buildings in the 30-32 million square feet range for the next few years.

Demographics, specifically population growth and number of older people to total population, have affected the location of *other health treatment* construction. Not surprisingly, the South and West, which received the greatest number of new people including older ones, raised their share of this type of building in the second half of the '70s compared to the first half (28 per cent to 35 per cent in the South and 12 per cent to 14.5 per cent in the West.) The Midwest, which has a significant older population, also increased its share (28 per cent to 31 per cent.)

Only the Northeast lost share (32 per cent to 19.5 per cent). However, one state, New York, accounted for almost all of that decline. In fact, if New York's figures are removed *treatment* square footage would have ended the 1970s at just about the same volume that it entered the decade, instead of 2.5 million square feet lower.

Over-all, health-care construction is a declining market. Opportunities do exist, however, if the right building submarkets and locations are found.

Phillip E. Kidd, Director, Economic Research
McGraw-Hill Information Systems Company



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For a lot less than you might expect, *Solarcool* can be a brilliant complement for the colors and textures of a wide range of other building materials. From wood to masonry to metal.

Solarcool will complement your building's setting, too. By reflecting the surrounding view, it helps a design blend naturally into its environment, while adding a striking, yet fitting, new dimension to the overall landscape.

But controlling costs is what this newest PPG reflective glass does best. Its initial cost is low. And it can be cut, tempered and fabricated in your area. Which means improved delivery times, lower installation costs and faster job completion.

Solarcool also helps save energy. It cuts relative heat gain through the glass almost in half, compared to single glazed clear glass. And that can lead to lower air-conditioning costs.

Learn more about the beautiful economies of PPG *Solarcool* reflective glass. See Sweet's 8.26 Pp or write us: PPG Industries, Inc., Dept. AR-260, One Gateway Center, Pittsburgh, PA 15222.

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PPG: a Concern for the Future

Top Left: Physicians' Square, Shreveport, LA
Architect: Wilson, Sandifer Associates

Top Right: Tucker Office Building
Atlanta, GA Architect: Arkhora & Associates

Below: Koll Center Newport, Newport
Beach, CA Architects: Langdon & Wilson



PPG
INDUSTRIES

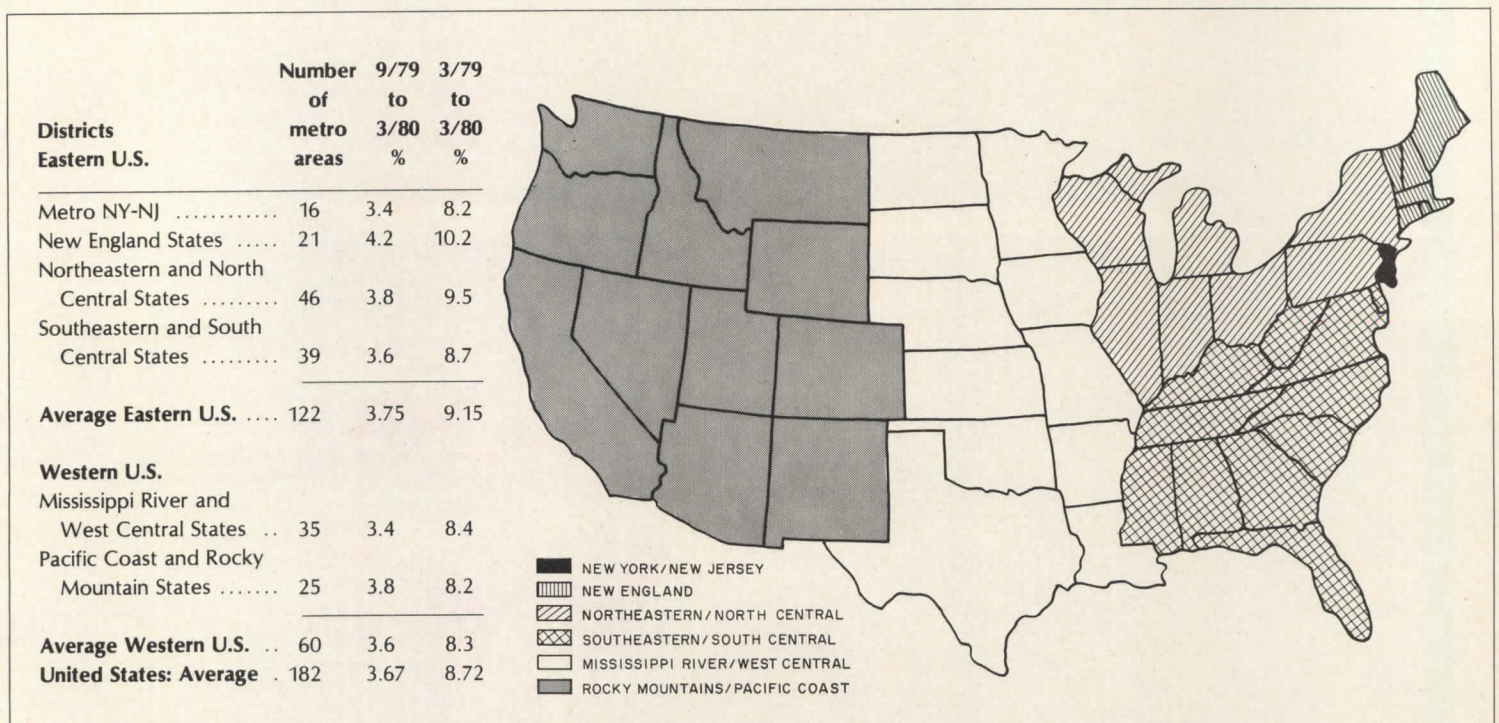
Material price increases, wage hikes boost costs

A recent survey by McGraw-Hill's Cost Information System's Division shows average building construction costs to have increased 3.67 per cent in the past six months, and now stand 8.7 per cent above a year ago. On the average, 182 metropolitan areas throughout

the U.S. reported building material prices increased 8.7 per cent in the past 12 months, while hourly wage rates of building trade craftsmen increased 8.74 per cent for the year.

According to the McGraw-Hill report,

the price of concrete rose 10 per cent in the 12-month period ending March, 1979, while reinforcing steel soared 19 per cent, and steel 8 per cent. Prices for gypsum board dropped 5 per cent during the first quarter of 1980 due to low starts in housing construction.



HISTORICAL BUILDING COST INDEXES—AVERAGE OF ALL NON-RESIDENTIAL BUILDING TYPES, 21 CITIES 1941 average for each city = 100.00

Metropolitan area	1970	1971	1972	1973	1974	1975	1976	1977	1978	1st	2nd	1979		1980			
												3rd	4th	1st	2nd	3rd	4th
Atlanta	422.4	459.2	497.7	544.8	575.0	598.7	657.1	714.2	755.8	819.6	836.0	872.1	904.3	875.6			
Baltimore	348.8	381.7	420.4	475.5	534.3	581.1	585.0	635.6	662.2	729.6	744.2	773.6	802.2	779.0			
Birmingham	309.3	331.6	358.3	402.1	421.2	448.9	551.9	585.4	609.2	704.1	718.2	724.5	751.3	736.8			
Boston	328.6	362.0	394.4	437.8	462.5	513.2	555.9	587.7	759.5	691.9	705.7	718.9	745.4	736.2			
Chicago	386.1	418.8	444.3	508.6	529.6	560.1	635.2	689.9	717.3	805.4	821.5	885.9	918.7	889.4			
Cincinnati	348.5	386.1	410.7	462.4	500.1	550.6	609.8	656.6	669.5	750.7	765.7	810.0	840.0	823.0			
Cleveland	380.1	415.6	429.3	462.2	509.5	531.0	632.9	625.2	653.5	794.7	810.6	853.6	885.1	881.8			
Dallas	327.1	357.9	386.6	436.4	477.9	499.6	538.5	615.2	637.6	739.0	753.8	873.0	905.3	787.7			
Denver	368.1	392.9	415.4	461.0	510.0	553.6	616.0	703.8	730.5	803.2	819.3	847.4	878.8	905.9			
Detroit	377.4	409.7	433.1	501.0	538.7	597.5	617.2	664.2	756.6	840.6	857.4	865.5	897.6	860.5			
Kansas City	315.3	344.7	367.0	405.8	444.9	509.1	547.3	603.0	631.8	657.7	670.8	711.0	737.3	735.2			
Los Angeles	361.9	400.9	424.5	504.2	531.8	594.1	673.1	756.8	784.2	886.3	904.0	955.4	990.8	978.3			
Miami	353.2	384.7	406.4	447.2	485.5	558.9	592.5	628.4	649.0	686.1	699.8	736.9	764.1	742.8			
Minneapolis	361.1	417.1	412.9	456.1	488.6	538.0	564.1	629.4	651.3	793.4	809.3	824.3	854.8	827.6			
New Orleans	318.9	341.8	369.7	420.5	442.1	494.7	534.8	614.7	637.0	697.7	711.6	734.7	761.9	753.8			
New York	366.0	395.6	423.1	485.3	515.3	533.5	580.8	619.8	646.3	666.6	679.9	778.9	807.8	793.7			
Philadelphia	346.5	374.9	419.5	485.1	518.5	567.5	579.2	658.8	680.0	778.0	793.5	814.6	844.8	830.9			
Pittsburgh	327.2	362.1	380.3	424.4	465.6	509.5	526.3	589.6	614.0	692.2	706.0	736.5	763.8	746.1			
St. Louis	344.4	375.5	402.5	444.2	476.7	528.9	537.1	617.1	637.4	752.0	767.0	782.8	811.8	786.7			
San Francisco	465.1	512.3	561.0	632.3	672.5	753.3	820.8	963.2	990.0	1239.0	1263.8	1200.3	1244.8	1202.7			
Seattle	341.8	358.4	371.5	424.4	450.2	515.1	570.5	629.6	669.0	700.7	714.7	761.0	789.1	763.3			

Costs in a given city for a certain period may be compared with costs in another period by dividing one index into the other; if the index for a city for one period (200.0) divided by the index for a second period (150.0) equals 133%, the costs in the one period are 33% higher than the costs in the other. Also, second period costs are 75% of those in the first period (150.0 ÷ 200.0 = 75%) or they are 25% lower in the second period.

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Calculate your personal multiple

The "multiple"—the factor which relates the billable salary of each professional to the income the firm needs to satisfy the client and make a profit—may be one of the most useful tools an architecture or design firm has to plan and manage its business. The reason: determining the multiple forces one to project all the aspects of running one's firm for the coming year. You must forecast all the costs of running the business, decide on the profits you wish to aim for, and estimate the number of professional hours that will be utilized on income-producing work. The rewards for doing this successfully will be a better managed firm which can purposefully respond to the vicissitudes of the business environment.

By Andrew Loebelson

While the "multiple" is most often thought of as a billing tool, it is really a planning tool. Many firms bill for their services by charging clients, say, three times the hourly wages; or perhaps two and a half times the direct personnel expense (wages, plus fringes) expended on any project. Too often this multiple is chosen just because so many other firms are using one or another nice round number. Don't confuse that number with

your actual multiple. Each firm has (or should have) a unique multiple based on its own unique operating characteristics. The derivation of its own true multiple allows a firm to know its actual costs for doing each and every job.

Even when billing is done by other means, such as a percentage of construction costs or furnishings, the most accurate method of figuring out true costs is by determining the number of hours of each staff member required. The proper use of the multiple in this instance correctly covers the overhead and builds in the appropriate profits.

Conversely, when one is forced to meet a fee set by other parties, division by your multiple will give you the maximum amount of billable time that can be spent on this project without eating into one's planned profits.

A simple formula for the multiple

One determines what one's income goal is for the coming year, and divides that by the total cost to the firm of the professional time of your staff that will be available to earn that income:

$$\text{Multiple} = \frac{\text{Your income goal for the year}}{\text{Total cost of professional time}}$$

To expand those concepts slightly: Your "Income Goal" should be the amount of money you need to earn to pay all your people their salaries and fringes, cover all overhead and sales costs, and have enough profit left over to allocate properly for benefit of the owners, the staff, and the firm.

Determining what to divide the Income Goal by is easier. One starts with the total of the salaries of staff whose work is billed to the client. Do not include overtime since that is an undesirable long-term commitment. Subtract a proportion of that for unproductive or unbillable time—for design firms it is typically about 15 per cent. For principals involved in sales or other unproductive services, subtract an additional percentage of their salaries appropriate to their jobs. Make sure support staff are not included unless you actually bill out their time. Now add the costs of fringe benefits for these people and divide. Fringe benefits typically total 20 to 35 per cent of salaries.

continued on page 69

Andrew Loebelson is vice president of Management Services of Building Programs International, a New York management consulting firm.

FR/LS "MULTIPLE" WORKSHEET

EXPECTED YEARLY COSTS	
\$420,736	YEARLY PAYROLL
119,187	FRINGES (27.8%)
133,000	RENT
8,400	TELEPHONE EQ. RENTAL
7,000	LONG DISTANCE (NON-REIMBURSED)
12,000	INSURANCE (ERRORS & OMISSIONS)
8,000	INSURANCE (FIRE & THEFT)
6,000	UTILITIES
12,000	SUPPLIES
1,000	REPRODUCTION (NON-REIMBURSED)
3,000	AGENCY FEES
1,200	POSTAGE
500	SERVICE CONTRACTS
3,000	LOCAL TRAVEL
2,000	TEMPORARY HELP
23,000	PROMOTION
5,000	LEGAL
3,500	ACCOUNTANT
15,000	BAD DEBTS (1.5%)
13,000	DEPRECIATION/CAPITAL IMPROVEMENTS
1,000	EDUCATION, MAGAZINES, ETC.
3,000	MISCELLANEOUS
809,525	TOTAL EXPECTED YEARLY COSTS
200,000	PROFITS (20%)
\$1,009,525	INCOME GOAL (no overtime, no idle time)

BENEFIT ALLOCATION	
200	TOTAL
-15	BONUSES
-30	PROFIT SHARING
-11	PENSION PLAN
144	TAXABLE PROFITS
-66	TAXES
-30	DIVIDENDS
-48	RETAINED EARNINGS

BILLABLE DIRECT PERSONNEL EXPENSE	
\$420,736	YEARLY PAYROLL
-35,536	SUPPORT STAFF SALARIES
-51,480	15% UNBILLABLE PROF. SALARIES
-23,400	ADDITIONAL UNBILLABLE PROFESSIONAL TIME
268,320	BILLABLE SALARIES
+74,573	27.8% FRINGES
\$342,913	BILLABLE D.P.E.

$$\frac{\$1,009,525}{\$342,913} = 2.9 \text{ THE FR/LS MULTIPLE ON D.P.E.}$$

$$\left(\frac{1,009,525}{268,320} = 3.8 \text{ THE FR/LS MULTIPLE ON WAGES} \right)$$

VULCRAFT IMPORTANT ROLE ON



Note: There are two forms of the multiple. If one divides just by salaries, and does not include fringes, the multiple is a larger number which is applied to salary. When one divides by the direct personnel expense the multiple is a smaller number applied to direct personnel expense. Mathematically, the two numbers result in identical fees. Example: if fringes are 20 per cent and the multiple times salary is 3, the multiple times d.p.e. (1.2) will be 2.5. A \$10 salary hour times 3 equals \$30. A \$10 salary hour plus 20 per cent fringes (\$2) times 2.5 also equals \$30.

The latter is probably more palatable to clients, since it is a smaller number, while the former is easier to work with in-house since it deals with the straight salary figures.

This seems more complicated than it is. Take a fictional example—a 26-person design firm in the New York area called FR/LS Inc. On page 63 is a worksheet like one that Frank Right, one of the two principals, might have used to figure out their multiple. This one sheet lays out most of the strategic planning for the year. Figures that aren't here, such as the targets of the promotional budget or the types of people to be hired later, must nevertheless have been considered in order to arrive at the budgets for those areas. As you can see, it is not all that complicated. However, there are a few points worth touching on.

First, the expected yearly costs should include all the costs one can think of. Fringes should be refigured each year and budgets should be planned for each item as temporary help, bad debts, etc. Promotion also can be roughly allocated.


Second, the profit goal should not be set simply as a percentage of income. Profits should be allocated to four different groups: to Federal, state, and local governments through taxes; to the employees through bonuses, profit sharing, and pension plans; to stockholders as dividends; and to the firm as retained earnings. These goals, above all, should be set well in advance.

Third, having determined the correct multiple, one need not tell the client what it is. If this firm can round its billing multiple up to 3, more power to them—that's \$34,000 more in profit they can get. But for use in-house, or to determine straight billing rate, the correct multiple should be used. The multiple can also be used to determine billing rate categories, *i.e.*, project managers = \$45/hr, etc. This requires averaging the salaries in each category and applying the multiple to the average hourly rate.


Fourth, the billable direct personnel expense is simply determined and does not include overtime. Otherwise, this firm would be committed a year in advance to work overtime just to meet its objectives. Each overtime hour adds a disproportionate amount of profit, but excess overtime will result in subtle costs—matching time off, inefficient work habits, extra fringe expenses etc. It is best not to plan on any major amounts of overtime.

The proper use of the multiple, whether or not the client even sees it, can help a firm to bid properly, schedule realistically, and profit.

ARCHITECT: Jova/Daniels/Busby	PROBLEM: Design a church interior that conveys a powerful sense of warmth and peace yet is as economical to maintain as it is inspirational for worship.	SOLUTION: Brick
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For more information about the design of the First Christian Church of Atlanta, request a free copy of *Brick In Architecture*, Volume 34, Number 2 from Brick Institute of America, 1750 Old Meadow Road, McLean, Virginia 22101.



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Offices opened

Ervin E. Addy, III, AIA and Robert W. Peters, AIA announce the formation of Alianza Arquitectos An Architects Alliance, 812 Gold Avenue, Southwest, Albuquerque, New Mexico.

Laurence Booth and Paul Hansen will establish the firm of Booth/Hansen & Associates, Architects/Planners with offices at 230 East Ohio Street, Chicago, Illinois.

Flack and Kurtz Consulting Engineers announce the opening of an office on 818 - 18th Street, Northwest, Washington, D.C.

Stanley H. Goldstein/Consulting Engineer, located at 45 West 45th Street, New York, New York announces the opening of his new office.

Harrison Fraker, Jr., who has had a private architectural practice in Princeton, New Jersey, announces the formation of a new partnership with Stanley J. Aronson and Martin M. Bloomenthal. The firm will be known as Harrison Fraker, Architects and will continue its specialization in energy conscious design.

The architectural practices of Harwood Taylor, FAIA and Harwood K. Smith & Partners have established Harwood Taylor/HKS Architects with offices at 3000 South Post Oak, Suite 1550, Houston, Texas.

The firms of Radloff Associates, Inc. and Truman Howell-Architect have merged to form the new firm of Howell, Radloff, Thorpe Architects, Inc. headquartered in the Wesley Temple Building, 123 East Grant Street, Suite #206, Minneapolis, Minnesota.

Loschky Marquardt & Nesholm announce the formation of a professional services partnership offering a full range of design and production services in architecture, interiors and planning. Offices are located at 1509 Western Avenue, Seattle, Washington.

Five professionals in the field of architecture and design, have established a new architectural firm called Prevost/Treacy/Schreier/Pudists/Ernest, Associated Architects, Inc., located at One Northfield Plaza, Troy, Michigan.

Robert L. Rodin, AIA, announces his new firm located at 186 Fifth Avenue, New York, New York.

Shiv Singh has announced the formation of his own firm, Shiv I. Singh, AIA ARCHITECT, 12211 Oakwilde, St. Louis, Missouri. The firm will provide architectural/engineering and health facility planning services.

Thomas H. Richardson announces the formation of The Richardson Engineering Group, 111 South Bemiston, Suite 517, Clayton, Missouri.

Firm changes

The engineering firm of Bonney, Bennett & Peters, Inc., has announced the appointment of Paul Walsh as the new director of planning and engineering services.

Caudill Rowlett Scott announces that David Thorman has become manager of interior architecture.

Saudi Arabian Dames & Moore, engineering and environmental consultants, announced the appointment of Paul R.D. Wilkinson, as managing principal-in-charge of the firm's Riyadh office.

Coriolana Simon has joined the staff of Daniel, Mann, Johnson, & Mendenhall (DMJM) as manager of corporate communications.

William T. Trotter has joined Ferendino/Grafton/Spillis/Candela as vice president and director of construction services.

Martin Bruner has been named as associate in the firm of Fitch/Larocca Associates, Inc.

Three promotions in the New York office of Gruen Associates, international architecture, planning and engineering firm, have been announced by the partners of the firm. Gary Engel has been appointed vice president in charge of design, Dennis Clark has been named director of planning and Thomas Loosbrock has been appointed senior project architect.

continued on page 73

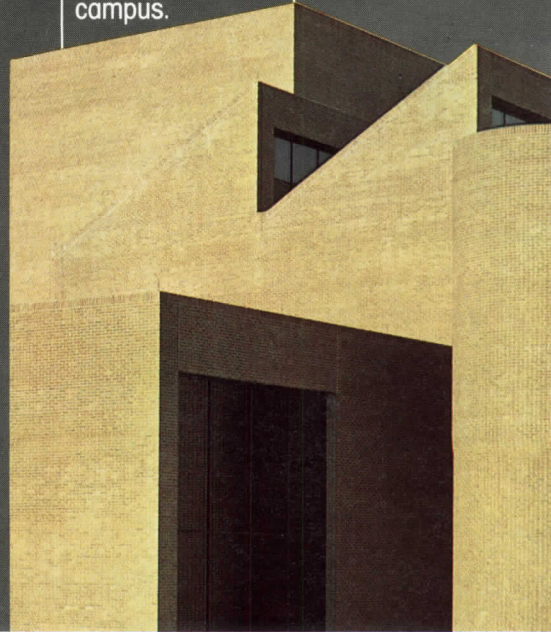
ARCHITECT: PROBLEM: SOLUTION:

Caudill Rowlett Scott

Design a university arts center that makes a boldly contemporary architectural statement yet blends gracefully with the traditional buildings that make up the remainder of the campus.

Brick

For more information about the design of Wake Forest University's Fine Arts Center, request a free copy of Brick in Architecture, Volume 36, Number 1 from Brick Institute of America, 1750 Old Meadow Road, McLean, Virginia 22101.



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Kick Me.

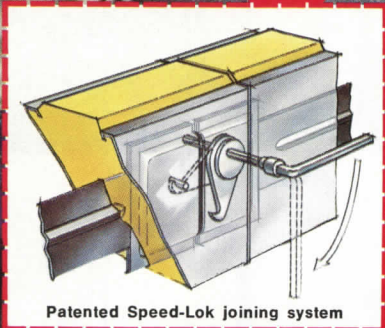
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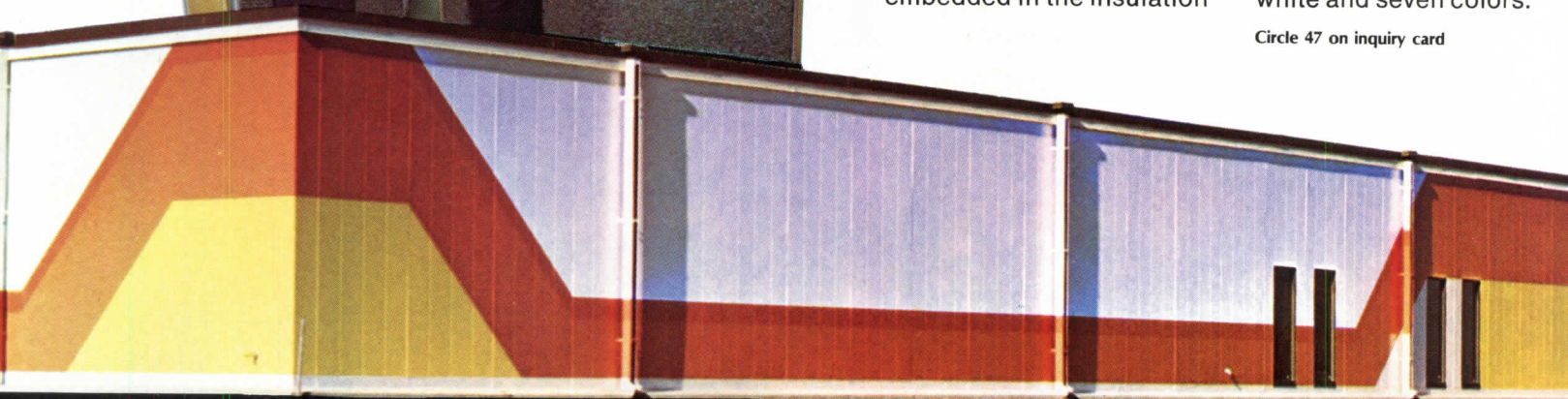
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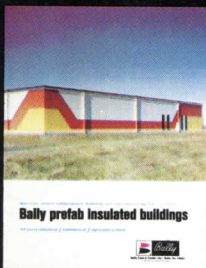


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HKS Associates, Planning, Architecture and Environmental Design, announces the appointments of Edward Tower to senior associate; Andrew Drozdowicz and John Petty to associates.

Hertzka & Knowles, AIA, architects and planners of San Francisco have elected three architects to the board of directors. They are: Kinya M. Matsuno, Merideth Lozica, AIA and William P. Martin, AIA.

The board of directors of Interspace Incorporated announce the election of Les J. Cranmer as president.

Charles Kober Associates has announced the appointment of Anthony C. Belluschi to the board of directors.

McClellan Cruz Gaylord and Associates, has announced the promotion of nine staff members to associate. The new associates are: Gordon B. Siechert, director of design; E. Steve Powers, director of planning; William G. Beavers, director of specifications; James P. Walker, director of field administration and Roy W. Kee, director of production; John H. Baker, project architects and manager of the firm's Orange County office; and project architects Marty C. Marteney, Edmund Meland and Randal Werner.

Mosher Drew Watson Ferguson announce that George A. Barker, AIA has been elected an associate.

Symonds & Feola has incorporated as The Symonds/Feola Partnership, Inc.

Charles O. Russell has joined The McKinley Architects as director of business development.

Smith, Hinchman & Grylls Associates, Inc., announced the appointment of 17 employees as associates of the firm of architects, engineers and planners. The new associates are: Nicola Balderi, William M. Craig, Shashi Dani, Rudy G. Hardey, Randall Hebestreit, Wayne Hu, Charles C. Ireland, Stephen J. Kirk, Ralph J. Kloc, William B. Krag, Harry R. Mack, Alan Mahin, Edward Mazur, Thomas O'Connor, Edward Robinson, Fortunato Sunga and Randal Swiech.

David G. Murray, president of Murray Jones Murray, and Philip J. Meathe, chairman of the Smith Group, completed the formal affiliation of the Tulsa architectural, engineering and planning firm with the Detroit-based Smith Group. The Smith Group is a network of 14 architectural and related professional service firms.

S. B. Tietz & Partners announce that David Clark has been made an associate in the firm.

The west Los Angeles firm of Johannes Van Tilburg, AIA, Architects and Planners, has expanded to welcome two new partners, Douglas A. Lowe, AIA and Richard C. Solberg, AIA. They are located at 1101 Broadway, Santa Monica, California.

Gerald L. Mueller has been appointed chief engineer of Wight and Company, a 40-year-old architecture and engineering firm.

Lev Zetlin Associates, Inc. (LZA), engineers and designers based in New York and Boston, has announced the appointment of three staff members to senior positions within the organization. Jagdish Prasad, P.E. has been named a vice president. Daniel A. Cuoco, P.E. and Craig Barnes, P.E. have been named senior associates.

New addresses

D. G. Champion Engineering Limited have moved to Suite 409, 20 Victoria Street Toronto, Ontario.


Dames & Moore, engineering and environmental consultants, have announced that the firm has moved its Denver office to newly acquired and larger quarters located in the Denver West office park at 1626 Cole Boulevard, Golden, Colorado.

The firm of Dawson & Johnson consulting engineers announce its new location to 368 Huron Street, Stratford, Ontario.


Design Group, Inc. Architects, Planners AIA, announces the relocation of its corporate offices to 6500 Busch Boulevard, Columbus, Ohio.

Ewing Cole Rizzio Cherry Parsky announce that they are moving to the Federal Reserve Bank Building, 100 North 6th Street, Independence Mall West, Philadelphia, Pennsylvania.

<p>ARCHITECT: Brooks Borg and Skiles</p>	<p>PROBLEM: Design an office building that will display low operating and maintenance costs and meet stringent energy conservation guidelines.</p>	<p>SOLUTION: Brick</p>
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For more information about the design of the Federal Home Loan Bank Building, request a free copy of *Brick In Architecture*, Volume 36, Number 6 from Brick Institute of America, 1750 Old Meadow Road, McLean, Virginia 22101.



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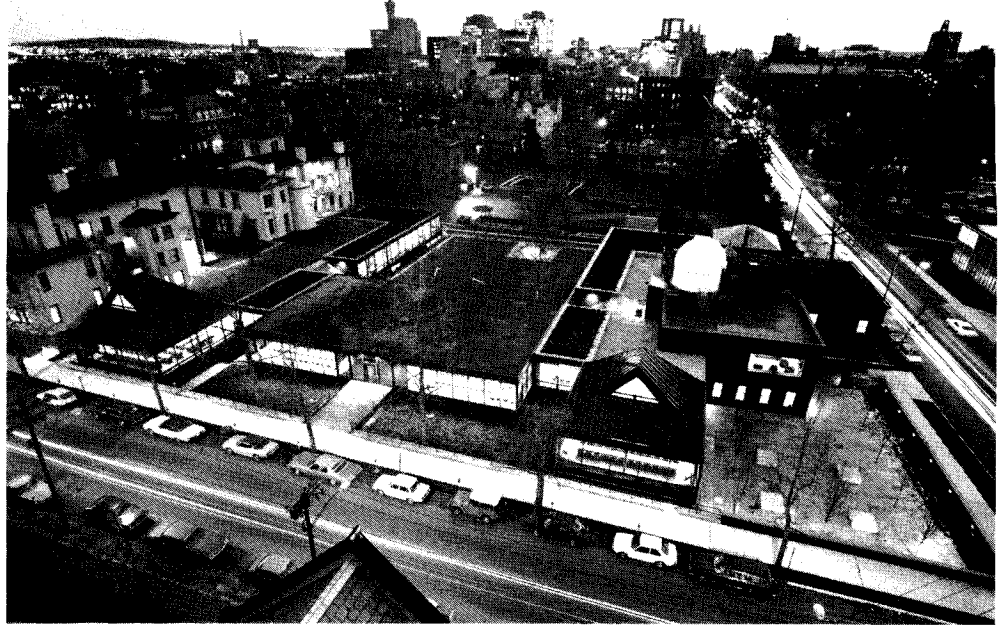


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WORKING WITH INFRASTRUCTURE AT YALE

"Our building is an infill, not complicating things. You could call it anti-architectural." Edward Larrabee Barnes' design for the Yale School of Organization and Management exploits the urban quality of an old campus, the interaction of diverse buildings, by linking four existing structures to create a self-contained precinct. —Eleni M. Constantine

Ivy League campuses are perhaps the most architecturally intense places in America. Our cities have grown too big and too fast to contain more than passing references to the Renaissance city-states that architects and urban designers currently cite for their concentrated activity and organic integration of architectural disparities. But the older university campuses, particularly those with lots of prestige, tradition and endowment, do share the urbanistic assets of the Italian Renaissance towns, along with their civic pride, patronage economics, and desire to manifest these in architecture.

Spatially, the older university in a town seems destined to become its own city. Since space is at a premium, structures and the patterns of their use interlock closely. Thus, out of eclectic collections is forged a surprisingly strong infrastructure; unlikely bedfellows are wedded by incessant usage, which becomes hallowed custom.

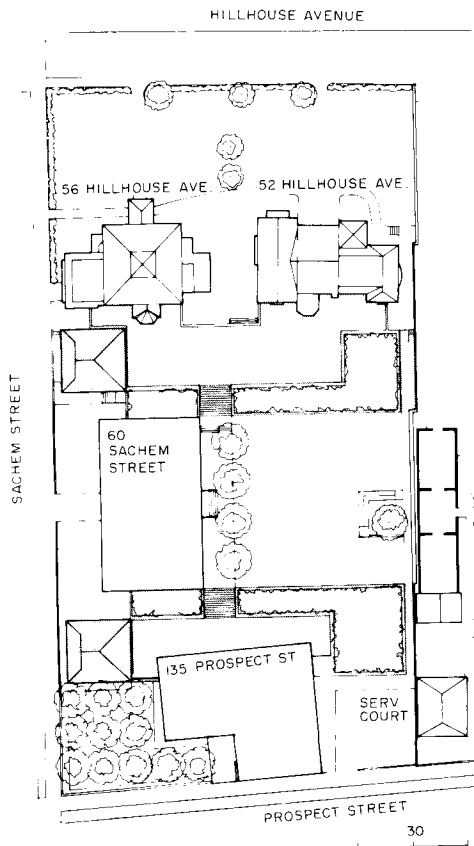
On campus, tradition validates buildings to a much greater extent than anywhere else. Older buildings tend to live longer here not only because of conditional bequests, chronic shortage of space, or penny-pinching, but also because the structures acquire the patina of history faster and more intensely in these cities of youth, where four years is a generation. The pervasive cult of college nostalgia

confers on any university building, no matter what its architectural value, an "instant history" which demands a certain respect.

Moreover, the university as a client tends to insist on sophisticated standards of design. What's wanted, typically, is a building that portrays the institution as a cultural touchstone: a leader, but not a faddist; a consolidator but not a reactionary; taking the best of the contemporary and fitting it with the established. Every campus building, then, is a memorial, a landmark, and a monument to some cultural trend. The campus must be the ultimate contextualist challenge.

When Yale University, two years ago, decided to build a \$5-million complex to shelter its new School of Organization and Management, the climate was particularly sensitive to contextual values. And the architect the school chose, Edward Larrabee Barnes, has a reputation for contextual concerns: with site, in his Haystack Mountain-School of Crafts (1962); with local vernacular and technique, in his Tabriz consulate (1966); with surrounding buildings, in his Walker Art Center (1971) and even with the campus-as-city, in his redesign of the Potsdam campus of the State University of New York (RECORD, August 1972). At Yale, however, the existing structures were drastically unequal in style, date, and esthetic value; the space for intervention minimal, the force of the past strong.

The school wanted a structure that would incorporate, not override, the existing buildings scattered over the block, and at the same time, create a new image for the whole, to express the now-cohesive function of the parts. The extant buildings were a collection as eclectic as could be imagined: a pair of



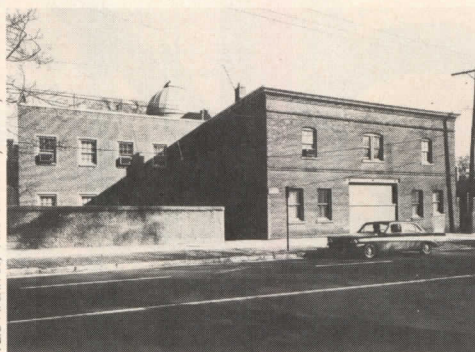


**“This is contextualist design
par excellence . . .
you have to like not only
things which are fashionable,
like Victorian houses, but also
1960 Bunshaft and this funny
little building.” —E.L. Barnes**

Joseph Molitor



Watson Center, 1961 by Gordon Bunshaft of SOM



Founders Hall, circa 1900



Evans Hall, 1836, by Ithiel Town and Alexander Davis



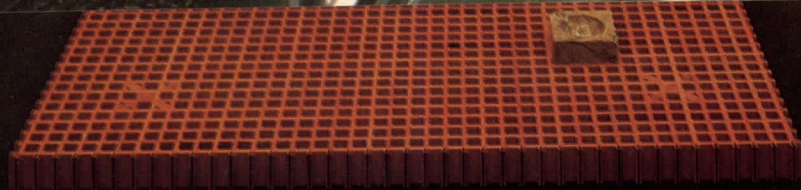
Steinbach Hall, 1849, by Henry Austin

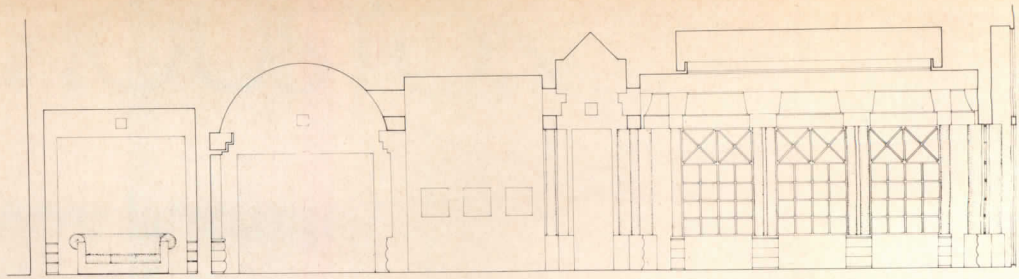
for the Bunshaft pavilion, but rather through the old observatory. At the entry, a low wall on the property line defines a precinct for the building, and a canopy reaches out to the street; but, despite the welcoming gestures, this is still very much a side door. Entering this way doesn't help one's orientation in what is, the architects admit, "a confusing circulation pattern."

The program called for a wide variety of classrooms in addition to faculty and administration areas and conference rooms. As it turned out, the most studied rooms, the amphitheatres under the peaked roofs, are the least successful. While the high roofs provide relief from the low ceilings of the garden-roofed wings, the potential they offer for a soaring volume is marred by the recessed lighting pockmarking the ceiling. The interior of the redone Bunshaft building, however, is one of the deft understatements Barnes does so well; the plan has been reduced to two large classrooms and a long student lounge along the back, looking out south over the court. As for the interiors of the Hillhouse Avenue houses, Barnes himself regards them as "a failure. We were five years out of date." Here, where the school apparently limited Barnes's intervention, the interiors are inadequate compromises between preservationism and bureaucracy.

But, though the "edges" of the design—roofscape, entry, interiors—are imperfectly resolved, the central elements of the parti—the terraced court, the Miesian wings—are precise, reserved and handsomely understated interventions. Above all, the design deserves recognition for conscientiously addressing the difficult whole of the campus, for coming to grips with issues that go beyond architecture into urban design.

YALE SCHOOL OF ORGANIZATION AND MANAGEMENT, New Haven, Connecticut. Architects: Edward Larrabee Barnes—associate-in-charge: Edward L.Z. Jacobson; project architect: Thomas V. Czarnowski. Engineers: Tor, Shapiro and Associates, PC (structural); Lehr Associates (mechanical). Landscape architects: Zion and Breen. Graphics: Strong-Cohen. General contractor: The Joseph F. Kelly Co. Inc.





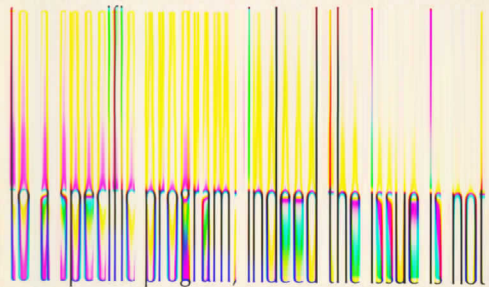
To appreciate the work of Michael Graves, one doesn't have to speak the same language—but it helps. Over the last century, architects have displayed a notable enthusiasm for borrowing language from other disciplines, and Graves is no exception. He refers to his work as "composition," the formal elements as "vocabulary," the set of elements as "language," and the viewer's perceiving as "reading." There's nothing scandalous about appropriating terminology from other disciplines: we have only to recall Proust's description of a cathedral—"It is a book to be read and understood"—to find a precedent. But Graves helps himself not only to the lexicon of literary criticism, but to the language of anthropomorphism. His buildings, walls, and columns all have "foot" (base), "body" (shaft), and "head" (top); and his murals have a "waist" and a "heart."

The real trouble begins with the *ad hoc* criticism of Graves's work, which often leads us down the oblique path of linguistics, past *syntax* and *semantics*, before delivering us to the work. In the rarefied air of that convoluted world, not only do terminologies dance with abandon among disciplines, but we find ourselves immersed in the opaque language of semiotics and structuralism. But language is, after all, a means of journeying closer to the subject under investigation, and *if* this cross-disciplinary rummaging shortens that journey—all the better.

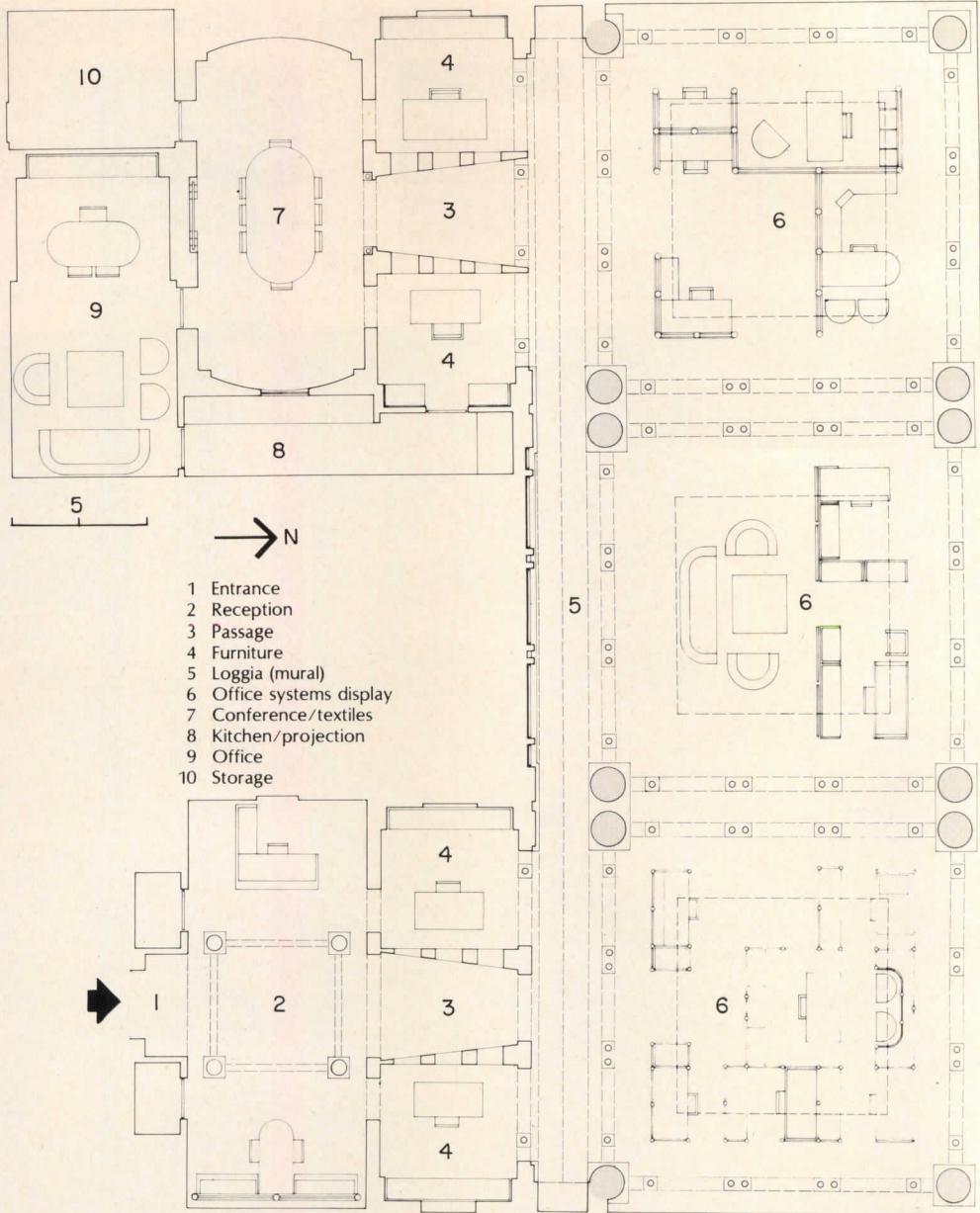
"Every problem is the same problem"

Most architects think of a commission as the *problem*, and their correspondent design as the *solution*. The problem is made specific by site, client, budget, and the particular constraints of the program. In a recent lecture in New York, Graves remarked: "I see every problem as the same problem." Therein lies his departure from *status quo* architecture.

The "problem" for Graves is not limited



so much a problem but rather a theme as old as *Beowulf*: the relationship between the natural and the manmade, the landscape and the hearth, the sacred and the profane. Graves attempts to establish a nexus between these *polarities* and to reconcile the inherent tension between them. His architecture is an effort to register the distinction between inside and outside and to focus attention on our passing from one to the other. The wall is central—serving as separation and protection—and the threshold (doorway) is ele-



A tapering passageway (photo right), with six windows looking in on two small office settings, leads to the



conference/fabric room. The barrel vaulted ceiling is painted yellow/gold, to recall natural light (the better for viewing fabrics). Textile samples are held in bins, and Graves displays his panache by sensually draping fabric for a sculptural display. Light is directed up to wash the ceiling in a vivid gold, and down to sweep the fabrics. The large square at the end of the room "suggests" a window, and contains the projection screen for conferences; the small "window" above, is a vent.





Visitors pass under the four-columned "aedicula" and through a tapering passageway (photo above), before entering the "loggia" (photo right). The three soffit windows suggest the development of space, and the overhead light guides circulation into the larger showrooms. All of the special shapes and forms are wood frame and drywall, and the exceptional degree of finish was achieved by what Graves calls "gypboard wizardry." The wood columns have a finishing coat of plaster and all cabinet work was custom. Job captain Steven Harris supervised construction.



vated to a ceremonial event of passage.

In his early work, Graves borrowed the forms of Le Corbusier and invested them with metaphoric values of his own. The structure became the symbol—less pure form and more the vehicle for expressing his dialectical concerns. But the abstraction was overwhelmingly esoteric, and the few built projects that grew out of this period (Snyderman House, Hanselman House, Gunwyn Offices) appear overzealous, burdened with a greater responsibility than they can comfortably assume. And now, looking back, Graves notes that "Sometimes one goes too far."

In the mid-'70s, Graves's work changed from abstract metaphoric structure to fragmented historic allusion. When asked about the impetus for the dramatic shift, Graves answered: "I thought it was going to be a pretty lonely world out there if I continued to speak a private language." The four Sunar showrooms represent the strongest built examples we have of his more public, more accessible associative "language."

"My architecture sees the room as primary"

This Houston showroom was Graves's first opportunity to work in a space without conspicuous physical restraints. The space is large and unobstructed, with 19-foot ceilings. The two least attractive features were floor-to-ceiling plate glass on two sides (looking out across a parking lot and the Buffalo Speedway) and a fire stair/service core that makes a U-shape of the otherwise neat rectangle.

Graves has covered the vista-less windows with translucent curtains, and around the edge of the showroom, he has erected a lattice-work grid that takes the shape of window mullions. Along the top of the encircling grid (page 88), X-shaped Roman grilles recall a transom, to suggest the passage of air and light. The lattice grid functions symbolically to echo the window, schematically to serve as a vertical plane for establishing boundaries and a natural light corridor, and pragmatically to drape fabric for display.

The showroom is divided by a three-part central axis/wall, perforated on the two ends and solid along the middle (behind the mid-section are bathrooms and fire stairs). Graves wanted to continue the layering effect, achieved by the openings in the end sections, for the middle section, to give the viewer a consistent "reading" of the three. He has therefore used a mural (page 89), to create the illusion of depth and vista. The bottom 30



inches of the mural wall are painted the now familiar terra cotta, and "read" as the ground plane; the top, in blue, refers to the sky; and in between is the "idealization of the landscape," with references to the "actual pragmatic context" (of the showroom). We can pick out fragments of "hypothetical furniture"—a stone bench, a sarcophagus, the welcoming symbol of the garlands, and, somewhat whimsically, a piece of a stair (which refers to the fire stairs). The mural has now become a benchmark in Graves's work, and he notes, "my painting is an extension of my architecture," providing an appropriate place for "exploring the development of passage within a shallow space."

But the mural and the allusionary grid have less to do with the success of this showroom than the plan and the manipulation of volume. To understand the logic behind the parti for Houston, it is helpful to recall Graves's dictum: "Modern architecture sees space as primary, my architecture sees the room as primary"—an attitude that resonates from Louis Kahn.

The program for the Houston showroom called for at least one large open space to accommodate a range of present and future furniture and office-system arrangements. Graves provided the large space, but in plan it takes the shape of three rooms. The articulation of the rooms is established by columns (and for Graves a column is a fragment of a wall) that give enough definition to establish a room but leave the space flexible for change.

The showroom is entered through a typically underwhelming public lobby (Graves designed a facade for the door, but it was rejected by the management of the building). Visitors enter, passing under four columns connected by horizontal beams (page 92), and after moving through a series of display rooms, are led through a tapered passageway (page 91) into the barrel-vaulted conference/fabric room. At this point, the axis is turned—directing circulation around the conference room and past the fabric samples (page 90). It is interesting to recall the solution to this same problem in the Chicago showroom, where Graves used the mythic figure *Terminus* to signal "the end of the journey."

A vibrantly colored interior "loggia" (page 93) parallels the natural light corridor (formed by the encircling grid frame), and offers an optional route, so that one can exit the showroom without retracing the earlier furniture display steps. The loggia also serves as an inter-office business route.

Graves has cleverly exploited our natural inclination to move in the direction of light by punching holes through the soffits. The soffit windows let light pass from room to room—inviting the visitor on—and serve as clues to suggest forthcoming rooms.

"For me it works"

The Graves showroom offers a less conventional way of displaying furniture and textiles. It is a way of seeing furniture not in its usual context (the typical open office or the department-store method of decorator showrooms) but in a thematic context. According to Graves: "The thematic similarities between private buildings and public buildings have been used to allow the furniture to be appropriate for both settings. Those shared themes, such as the transition we feel in the foyer as the threshold, the loggia as passage, and the primary rooms as social congregation are made explicit in the Houston plan."

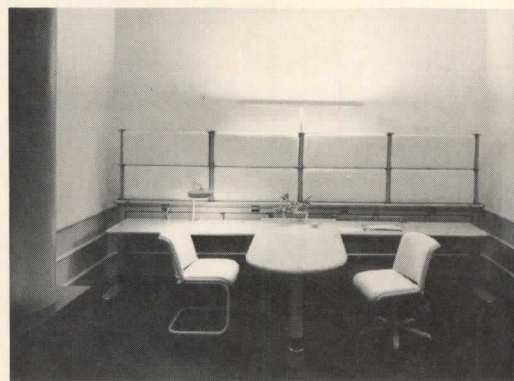
After the opening of the Chicago Sunar, customers and salesmen asked: "Does the furniture work with the showroom?" Graves responded with: "There's going to be some disassociation between the room and the furniture . . . I think it works very well, it offers a level of richness in the room."

There is debate in the furniture industry on the relative merits of Graves's contextual approach: "Does the showroom overwhelm the furniture?" and "Is there too much architecture?" It is the reverse debate carried fresh from the recently completed Venturi Knoll showroom in New York (RECORD, March, 1980, pages 97-102), where the question on opening night was "Where is the architecture?" But more important than the argument—interesting as it is—is the question: "Does it serve the product line?" Sunar chairman Robert Cadwallader's simple answer is: "For me it works." Perhaps as testimony to his success and as a postscript to this latest showroom, Graves is now working on furniture design for Sunar and has recently completed a color palette for Sunar textiles.

The hierarchy of levels

Despite a favorable reception by the industry of the four Sunar showrooms, the focus of Graves's work remains opaque for many people. It is often seen as pretentious and arcane in its allusions and recondite in its meaning. But perhaps we should not be so eager to search out the etymology of his "vocabulary." Even Graves shows some

Sunar chairman, Robert Cadwallader, interviewed 19 architects for the showroom commissions, and chose Graves because he was "on the leading edge" of architecture. The four showrooms have succeeded—for both client and designer—because they provide a "rich context" for viewing the sleek Race and PAS office systems of Douglas Ball, (photo below) and the sensual furniture designs of Lella and Massimo Vignelli (page 89). Graves is now working on furniture designs for Sunar, and a color scheme for textiles.



impatience with the search: ". . . that's so far down the line, you don't have to think about those kinds of historical associations—only that there's a difference between what's relative to your body and above your head." And after all the talk, theory, and interpretation, the true test, as D.H. Lawrence would say, is in "the tale, not the teller."

As with any art form, Graves's work can be approached on a hierarchy of levels, and it can be satisfying on each: as a purely functional space or room, as a metaphor for the tension between man and nature, or as a highly ordered system of fragmented iconography. And whether or not his work is valid or satisfying for us ultimately depends upon how it fulfills the expectations we bring to any work of architecture. It is Graves's distinction to be among the few whose work asks us to expand those expectations.

SUNAR FURNITURE SHOWROOM, Houston, Texas. Owner: Sunar. Architect: Michael Graves—Steven Harris, job captain; Nicholas Gosser, Max Underwood, assistants. Engineers: Thomas Polise (mechanical/electrical). Consultant: Vignelli & Associates (Sunar graphics). Contractor: Flexible Walls.

The value of color

by Michael Graves

One can think of the meanings ascribed to color as being derived primarily from associations found in nature. These associations are for the most part simple and somewhat commonplace. In fact, it could be said that if color is not understood easily, we run the risk of making levels of abstraction which leave the associative realm and quickly become private or introverted.

What one might call normal associations of color and material, found in construction and in nature, include red or terra cotta for brick, cream or ranges of white for limestone, travertine, etc., ranges of green for the general landscape, blue for sky, and so on. It is within this deliberately simple range that we start to identify the placement of such associative color values with that of form itself.

In a time when craft, material, and form were understood in a more direct manner, such as in the Romanesque era or in elements of most vernacular construction, there was a one-to-one pairing of material and its color range. However, at times like the present where we do not count on building out of "real stuff" but rely on more economical material such as gypsum board and other veneers, we have perhaps three choices: one, we can leave this material in its "natural" state, the problem here being that it was never meant to be so; two, we can apply painted or stained surfaces or other decorative coverings to the material in an abstract, intuitive, or personal way; or three, we can, through painting and other coverings, identify the forms and materials that we use with associations that allow interpretation and allusions not given by the first two options.

In the Sunar showroom, we have attempted to associate or to identify both the location of various forms and the forms themselves with the descriptive embellishment that color can

offer. Where a column base has been painted terra cotta, it offers the room an element of stability because the weight is registered in the foot; it also provides a measure throughout the interior at the lower levels which can be seen as a registry of the earth or landscape. Though, within budget constraints, it is not feasible to build the column base out of tile, brick, or other masonry materials, it is legitimate to provide, not through imitation but through association, the level of weight or gravity to the room that one senses is necessary to provide us with the perception of stability. One can, of course, say that if one is not able to build out of the "real stuff," then the forms and colors of those forms should be neutralized, which in turn rules out or at least weakens associative values. In attempting allusions and associations here, we have obviously felt that, while it is not always possible to build in "real" materials, it is possible to provide the building with levels of meaning derived originally from these basic materials.

Other clues to colors in the showroom also have to do with the various strata, both vertical and horizontal, that one might associate with landscape and/or materials from the landscape or nature. The column shafts, though not imitating stone, are

painted in a cast of gray that allows one to think of such material. Their capitals can be seen in two ways: one, as the head of the column, terminating the column and supporting the soffit; and two, as a hollowed capital forming a vessel, almost a cusp, which gathers the light from the soffit or sky and directs it along the shaft of the column to the interior below.

One's associations are extended beyond this simple range of base/heavy/warm and top/light/azure/cool in the narrow passage that connects the entrance of the showroom to its termination. One sees here not a light blue color or other equally ethereal association used in the soffit, but instead a light terra cotta which might seem to reverse or invert the patterns already suggested. However, the intention here is to foster thoughts of a passage, colonnade, or peristyle connection surmounted by a somewhat independent roof, a roof that, though again not imitating clay tile, can offer the form and sense of what we associate with such material. It has been our intention in this particular set of rooms to allow the descriptive element of color to enrich the form of the space with greater thematic significance than a more neutral position would have allowed.



Aaron Davis Hall: Three theaters for CCNY

©Ezra Stoller/ESTO photographs

If its gala opening can be taken as an augury, CCNY's Aaron Davis Hall will surely be a happy house for performers and audiences alike. Performers at the theater's Dedication Program included Mikhail Baryshnikov, Ella Fitzgerald and the American Symphony Orchestra, as well as a spirited audience.

The first performing arts complex built in northern Manhattan for more than 50 years, the new hall has none of the sometimes daunting magnificence of Lincoln Center 3½ miles to the south. Architect Abraham Geller says that the design aimed for an atmosphere of warmth and accessibility to encourage a comfortable habit of use and attendance by both students and public. The hall is meant to be a cultural link between the college and its surrounding multi-ethnic neighborhoods.

The entrance facade, intentionally small-scale, appears only a single story high, although the graceful ascent of stepped clerestories above hints at the grander volume within. The architect took advantage of the sloping site to conceal the height of the fly space from the entrance plaza.

The building is sited on a bend of Convent Avenue, the thoroughfare that bisects the City College campus. Its entrance and lobby cross the main body of the building on the diagonal to command a view directly up Convent Avenue and to the massive North Academy Complex now under construction.

The complex angularity of the facade presented to Convent Avenue (both photographs at top), apart from showing various interesting faces to the passer-by, reflects the constraints of the site (roughly a triangle) and the multiplicity of levels inside. The tight configuration, points out Carl Meinhardt of the Ehrenkrantz office, also reflects the stringent net-to-gross ratio the college insisted on.

The new hall is the heart of City College's Leonard Davis Performing Arts Center, which grants degrees in theater, music, dance and film. Only eight years old, the center focuses on career training, though a parallel curriculum leads to more conventional academic ends. As educational equipment, the hall contains no fewer than three theaters. It also offers an array of lighting and sound equipment more impressive than graduates will likely encounter in any but the newest and most sophisticated facilities elsewhere.

Davis Center is endowed by \$2.6 million from Leonard and Sophie Davis. The hall is named for Mr. Davis's father.







Architect Geller, who acknowledges that his architectural hero is Alvar Aalto, strove to manipulate volume and light in the lobby at Davis Hall both to heighten theater-goers' sense of social participation and to give their eyes a diversity of things to see as they move up and down and around the space.

The room has two major levels—one, directly inside the vestibule, has a deep, white-walled well in the middle; the other, reached by a short flight of steps, gives access to the largest of the three theaters (plans next page). The triangular well, bounded on two sides by a long ramp offering access for wheelchairs to the main hall, has a small lounge at the bottom.

Using the fairly simple ploy of skewing a couple of elements 45 degrees—the railing around the well and the cantilevered landing on the stairway to the balcony—the architect further complicated volumes and supplied some unexpected vantage points.

The stepped clerestories above the lobby face northeast and thus admit only indirect daylight. The architect craftily inserted a high window in the southwest corner, however, which at certain times of the day throws a shaft of sunlight into the seating area.

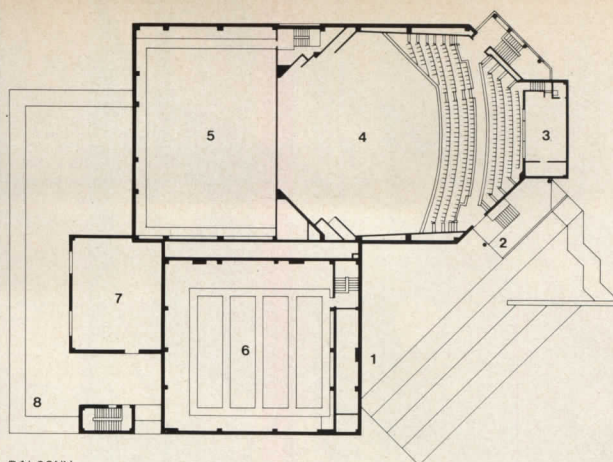
In any case, the lobby will more often serve as an intermission lounge in the evening, when it is illuminated by incandescent globes overhead and by wall washers. To establish a perception that the light globes are uniform in size, they graduate from 12-inch diameters below the lowest clerestory, about 10 feet high, to 25-inch diameters in the top row, about 55 feet up.

Because Davis Hall is essentially a working facility for students and because the budget was limited (\$7.9 million for the building and the stage equipment), the public space achieves its glamor with modest means. The cascading clerestories and the exposed trusses, the longest of them stretching 100 feet, offer a measure of drama. Apart from the visual richness and warmth of the deep orange carpet, however, finish materials are low-keyed: brownish brick walls, white plaster, light wood accents on railings.

The projected installation of art will of course add grandeur to the space. A tall marble sculpture by Gonzalo Fonseca, now being installed, will stand at one end of the stairs to the main theater. Metal hanging strips on the brick walls can receive either permanent or temporary painting exhibits.



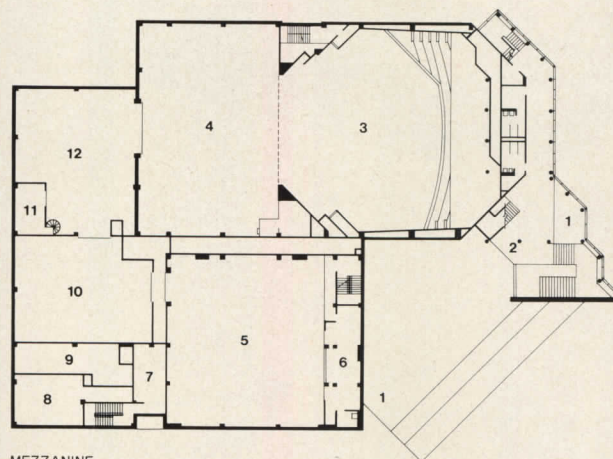




BALCONY

- 1 Upper main lobby
- 2 Mezzanine level
- 3 Projection room
- 4 Upper hall
- 5 Upper stage
- 6 Upper theater
- 7 Mechanical room
- 8 Roof

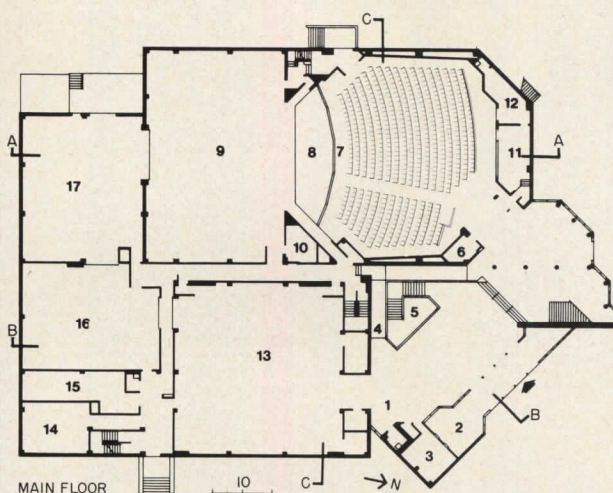
BALCONY



MEZZANINE

- 1 Upper main lobby
- 2 Mezzanine
- 3 Upper hall
- 4 Upper stage
- 5 Upper theater
- 6 Light and sound control
- 7 Electrical sound repair
- 8 Upper small props
- 9 Upper common storage
- 10 Upper paint shop
- 11 Technicians' office
- 12 Upper scenery shop

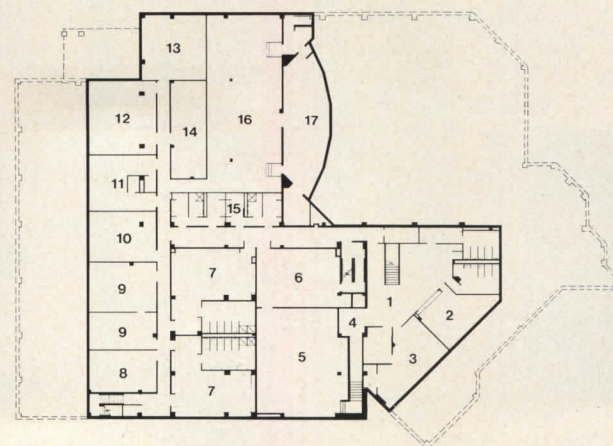
MEZZANINE



MAIN

- 1 Main lobby
- 2 Vestibule
- 3 Ticket office
- 4 Ramp
- 5 Lower lobby
- 6 First aid
- 7 Hall
- 8 Orchestra pit
- 9 Stage
- 10 Stage manager
- 11 Light control
- 12 Sound control
- 13 Experimental theater
- 14 Small props
- 15 Common storage
- 16 Paint shop
- 17 Scenery shop

MAIN FLOOR



CELLAR

- 1 Lower lobby
- 2 Check room
- 3 Staff offices
- 4 Balcony
- 5 Upper rehearsal
- 6 Upper Green Room
- 7 Chorus dressing
- 8 Mechanical room
- 9 Wardrobe rooms
- 10 Mechanical room
- 11 Musicians' lockers
- 12 Electrical room
- 13 Water/sewer room
- 14 Dimmer room
- 15 Dressing rooms
- 16 Trap room
- 17 Orchestra pit

CELLAR

The successful design of functioning theater space calls for an effort that Mr. Geller describes as "holding tight loosely." Acoustician William Cavanaugh calls a good theater "well seasoned soup." In any event, the mix of circulation, visual and acoustical needs, plus the accommodation of supporting technical equipment, public spaces and safety requirements, challenges even the three-dimensional juggling familiar to architects.

Davis Hall comprises three theaters: a proscenium theater that seats an audience of 750, a "black box" experimental theater that seats 300, and a rehearsal/workshop theater that seats 75. All have sprung floors for dance.

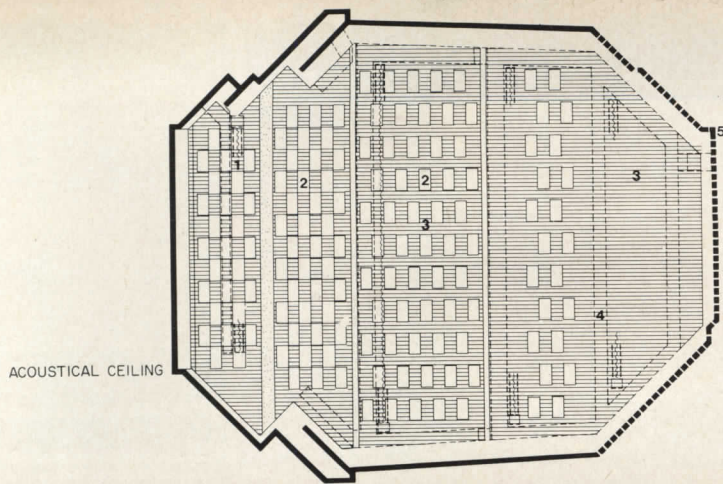
For the main auditorium, the architect sought a warm, calm character that would allow the audience to concentrate on the acting and music rather than on the technical performance. This meant, first off, no assertive acoustic reflectors distracting the eye.

Acoustical reflection was required, however, since about half the occasions planned for the theater are musical performances, including orchestras and chamber groups, whose musicians prefer a bright sound. On the other hand, the stage will house dramatic productions the other half of the time, and actors want almost no reverberation.

The device that compromises this contradiction is a readily tunable acoustic ceiling hidden above a wood grid (diagram opposite). The essential components of the system include movable acoustic reflector panels on top of the grid and four pairs of curtains that can be drawn across the space above the grid or stored in pockets at either side. All four curtains, which have sound-absorbent pile on the side facing the stage, are drawn during dramatic performances. Further sound absorption is provided at the rear of the hall, where absorbent material lines the recesses in the checkerboard brick masonry.

The acoustical compromise has evidently paid off. Shortly after the new hall opened, Joseph Horowitz, one of the *New York Times'* notably particular music critics, reviewed a concert given by the college's orchestra and reported, "Acoustically, the hall is . . . splendid. The sound is true and lively, but without crowding the listener."

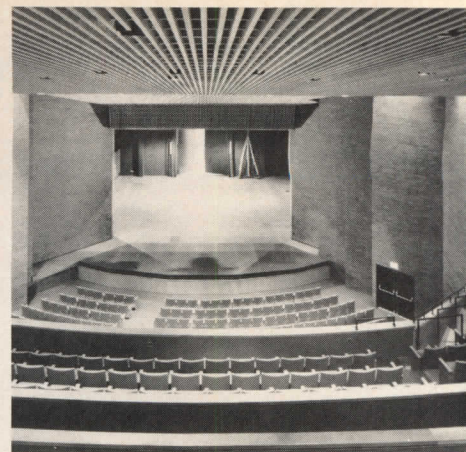
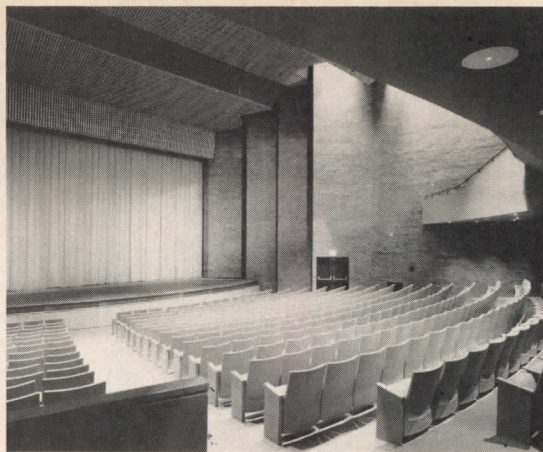
The auditorium's orchestra pit can be covered with demountable flooring to produce a thrust stage projecting beyond the proscenium.



ACOUSTICAL CEILING

- 1 Acoustic drapery
- 2 Acoustic reflector panels
- 3 Wood grid ceiling
- 4 Catwalks
- 5 Acoustic masonry





The second theater at Davis Hall is the so-called black box, an experimental theater with its own complement of sophisticated light and sound equipment, including a Kleigl Performance Memory Board, like the one in the main hall, that can store and activate a number of programmed lighting plots.

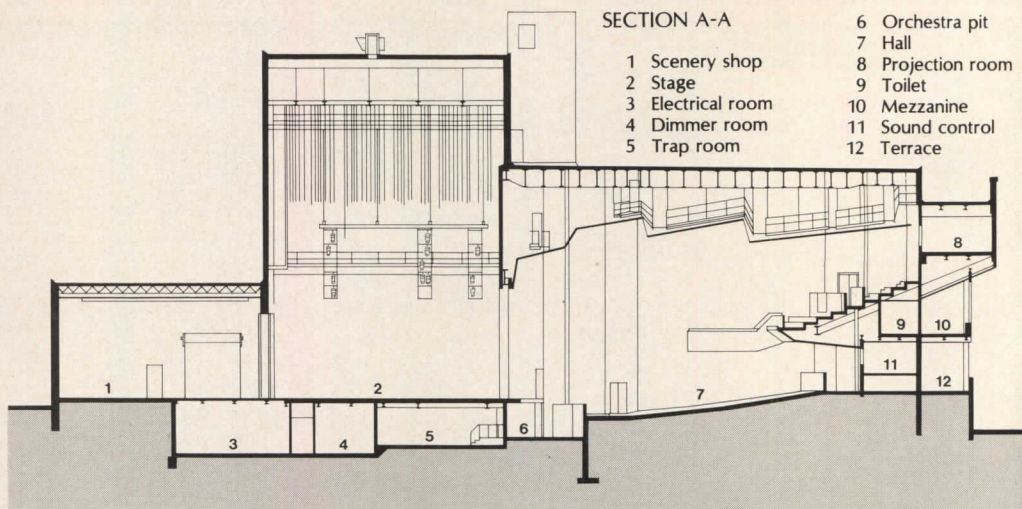
The room, which measures 62 by 63 feet, can accommodate diverse arrangements of its movable seating, including conventional front seating, theater-in-the-round, and tables and chairs for cabaret performances.

With its four light-lock entrances, the theater can indeed be made to resemble the eponymous black box. The decor, however, though dark, is less gloomy: dark mauve walls, dark red seats, and an exposed red grid overhead for lights and scenery.

The third theater, intended mainly as rehearsal space, can also provide seating for workshop performances. A raised stage at one end of the room has for the time being been closed off with a temporary wall and now houses the Green Room, the traditional lounge for actors and their guests.

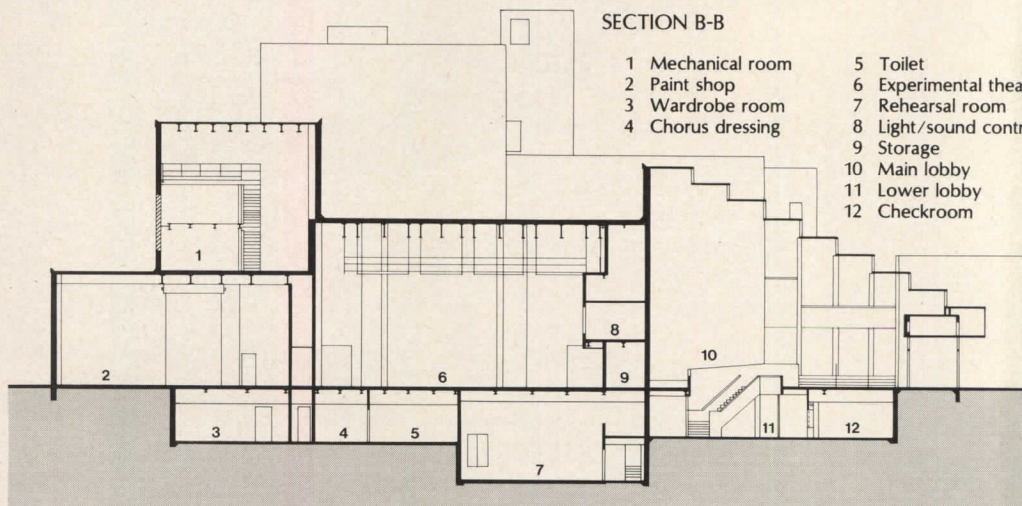
Additionally, the complex provides a fourth theater outdoors: deep steps surrounding the entrance plaza can double as seating for an amphitheater.

Backstage facilities are unusually generous and include a 2700-square-foot scenery shop, a 2200-square-foot paint shop, two wardrobe shops and a small-props room. The backstage area also offers two large chorus dressing rooms, four "star" dressing rooms, and a locker room for musicians.

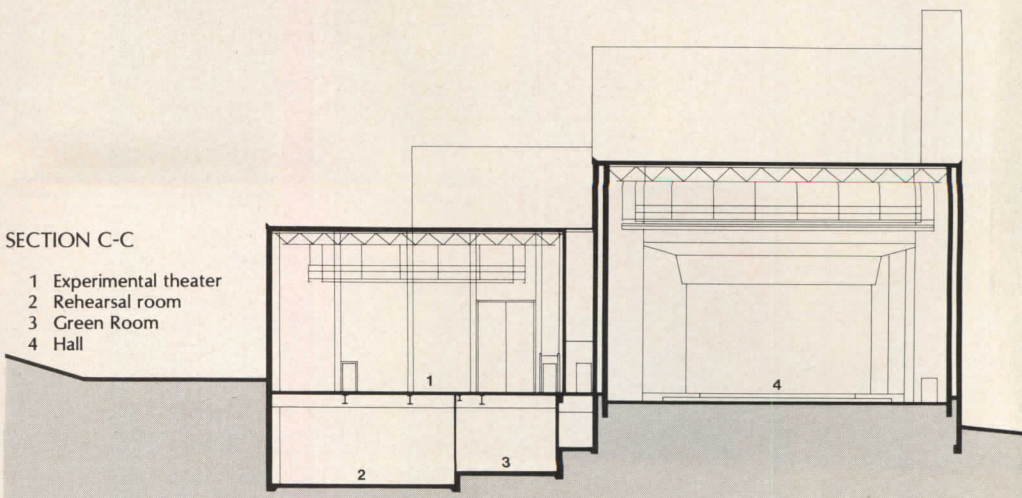


SECTION A-A

10



SECTION B-B



SECTION C-C

AARON DAVIS HALL, THE LEONARD DAVIS CENTER FOR THE PERFORMING ARTS, New York City. Owner: City College of New York of the City University of New York. Architects: Abraham W. Geller & Associates, Ezra D. Ehrenkrantz & Associates/Architects—Abraham W. Geller, FAIA, principal-in-charge of design; Carl Meinhardt (Ehrenkrantz), associate principal; Suzanne Wertz (Geller), project architect; Ronald Sikor (Ehrenkrantz), job captain. Engineers: Atlas-Balogh Associates (structural); Meuser, Rutledge, Wentworth, Johnston (foundation and soils); I. M. Robbins (mechanical/electrical). Consultants: Ranger Farrell Associates (acoustics design); Cavanaugh Tocci Associates (acoustical measurements); Jean Rosenthal Associates, Inc. (theater); A. E. Bye and Associates, Inc. (landscape). Construction management: Dormitory Authority of the State of New York. General contractor: Laske-Goldman Corp.



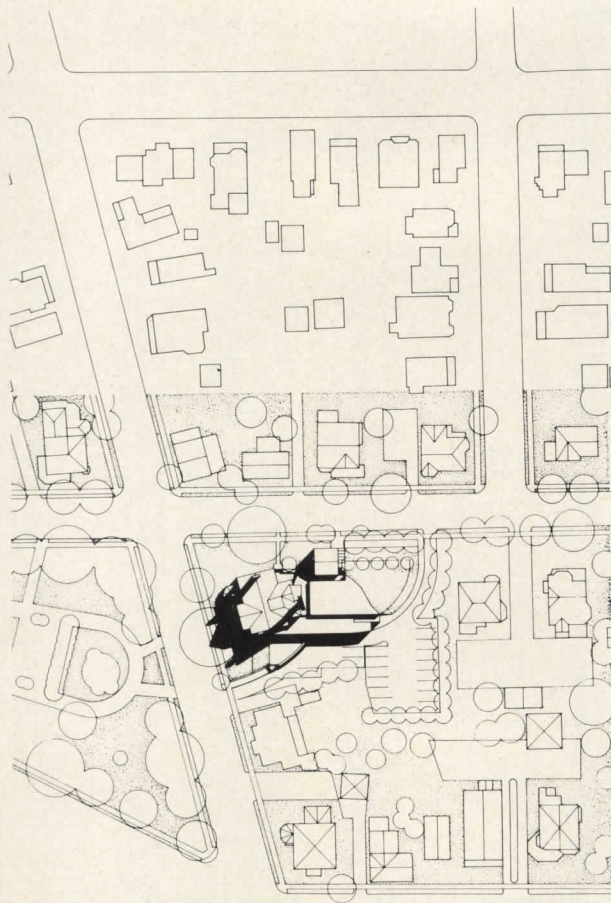
Reviving the arts and crafts: projects by Kliment



"You'll never be famous if you don't stop doing understated buildings," Robert Stern once told New York architects R. M. Kliment and Frances Halsband. Perhaps not, but in recent years their office has begun to gain a really distinguished reputation for finely planned and meticulously detailed designs, and this is arguably a good substitute for fame. Though they are now at work on a large new science library for Swarthmore College, Kliment and Halsband have so far done projects that are, first by circumstance and then by persuasion as well, contextual, since most of them have in one way or another involved existing buildings (RECORD, February 1977). The buildings shown here and on the following pages offer more recent examples.

In their willingness to free themselves from the rational, orthogonal grid, Kliment and Halsband's designs—like those of many other Post-Modern architects—have been compared to the work of Alvar Aalto. But there is another reason for the comparison, too, and it can be made not just with Aalto but also with Eero Saarinen who came after him and with Aalto's predecessors in the National Romantic

Movement in Finland: Eliel Saarinen, Lars Sonck, and Herman Gesellius. The comparison could even be stretched to include the whole Arts and Crafts Movement, from which the National Romantics received much of their inspiration. The link between all of these is a careful attention to hand craft and to what used to be called "total design," from the whole building right down to the light fixtures, the furniture and the door knobs. Architecture is always expressive of abstract concepts, but much Modernist architecture has expressed these in a pure and dematerialized way. A parallel tradition—that of Aalto, for instance, and his predecessors and followers—expresses them as bent into particular shape by circumstances, as in Aalto's fractured plans. But it expresses them as well by making them physically particular, specific to the hands that made them, and to the hands that drew them as well. Most of R. M. Kliment and Frances Halsband's work is in a modified Modernist vocabulary like that of Alvar Aalto. But, also like Aalto, it is not international in style but is instead special to its own certain places.—Gerald Allen

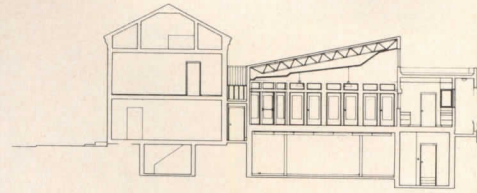


Norman McGrath photos

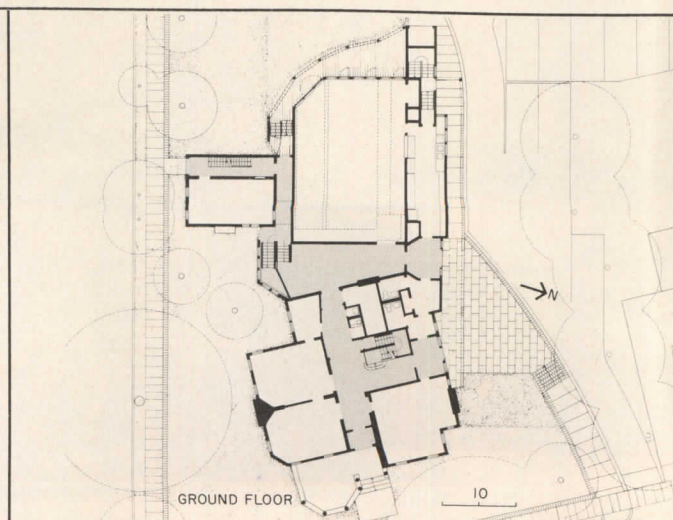
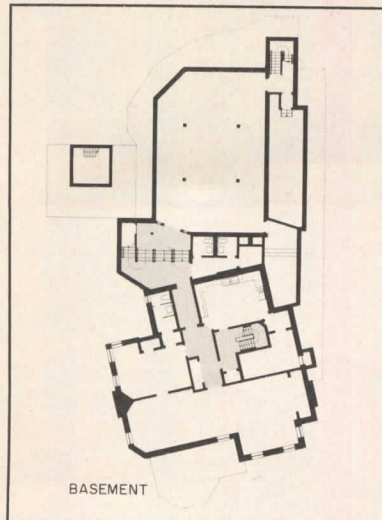


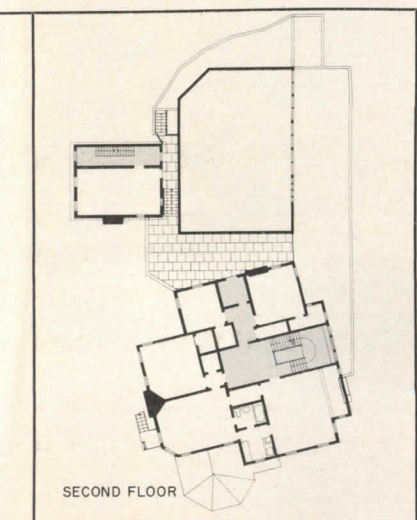
Shown on the left and on the following two pages is Kliment and Halsband's new addition to the Young Women's Christian Association in Kingston, New York—a building which is designed to be not only an addition but a connecting link between the two old houses which until recently composed the facility. One of these houses is a handsome old wood-and-shingle structure, shown on the opposite page, which faces a little park. The other is a somewhat smaller house of vaguely post-Federal persuasion; it faces the street around the corner. Both of these buildings are fairly modest, but they are still important elements in Kingston's townscape, and so one of the goals of Kliment and Halsband's addition had to be to maintain their prominence and therefore the continuity of the streets of which they are a part. The new building is designed in a freer form than either of the houses, and it is placed mainly behind them, gently hooking itself onto one corner of the newer one and butting up against the back of the older. The fact that a new driveway approaches it from one side helps to give it its own prominence, as does the fact that on the other side, shown in the photograph at the bottom of this page, the building sports an arcade which forms a large bow that peels back from the older house and addresses a view across a new lawn and out to the street. Behind the arcade is the main room in the addition, shown on the following pages, and this shares the view through a series of large glass and wood doors. It is worth pointing out that what happens here is a delicately balanced kind of contextualism whose success is assured by a supple configuration of the new building in the first place. Since it is supple, it can step back and efface itself relative to the two older buildings when that seems necessary, but then it can also gather itself together in other places to make a strong presence on the remaining parts of the site. Another key ingredient in this formal maneuvering is the fact that the new building appears to consist of a large volume inside with a lower series of more freestanding elements, of which the arcade is one, wrapped around it, making connections to the existing buildings and conforming to the requirements of the site.

YOUNG WOMEN'S CHRISTIAN ASSOCIATION, Kingston, New York. Architects: *R. M. Kliment and Frances Halsband*. Engineers: *Robert Silman Associates* (structural); *George Langer* (mechanical/electrical). Consultant: *Howard Brandston* (lighting design). General contractor: *Vassar Construction, Inc. & John L. Sullivan, Inc.*



The Kingston YWCA required an additional space to accommodate groups of from 75 to 125 people, which is shown in the photograph on the opposite page. The program also called for reorganizing existing spaces to accommodate YWCA programs more effectively: infant care, play-school, teen center, adult and elderly crafts, classes, and counseling. The interiors are therefore planned to provide for a maximum flexibility of spaces. The exterior of the addition is of painted wood siding; the roof is composite plank and steel joists with a hung ceiling made of crisply detailed wooden slats.

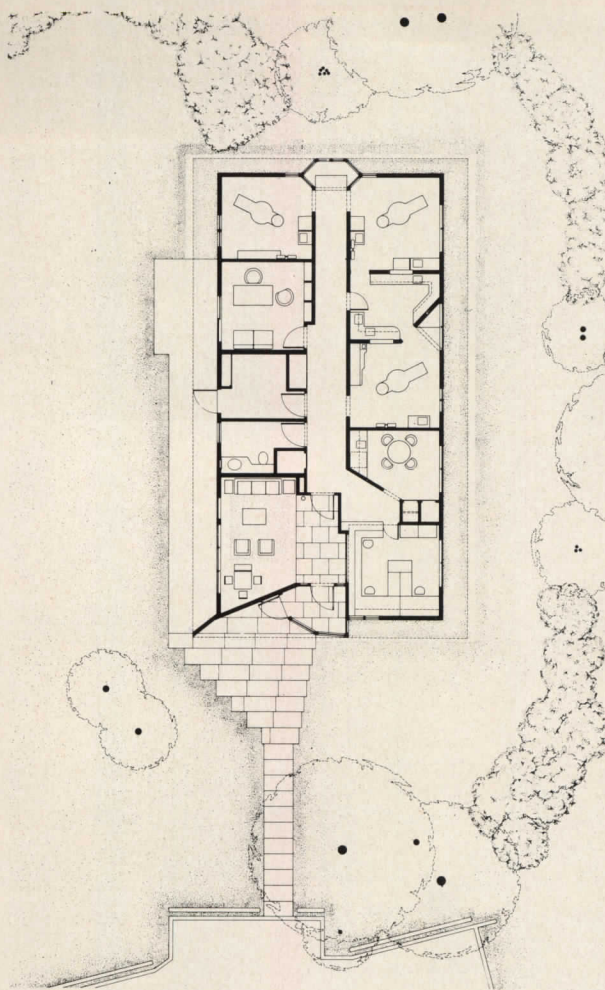




Krotenberg Dental Offices, Woodstock, New York

These dental offices, which are an example of the maximum effect with the minimum of means, began life in 1965 as a plain prefabricated one-family house built on a site at the intersection of two important roads in Woodstock. Because of its site, and because its basic shell was sound, it was reconstructed for its new use, though almost the only remnant of its domestic past that is still visible is its over-all volume and its characteristically suburban low-pitched gable roof. The inside of the building was gutted, and new interior partitions were erected; the outside was reclad with cedar siding. Three important elements were involved in the new plan: a new entrance from the adjacent parking lot, a central gallery through the length of the building and connecting all of the rooms, and a bay window at the far end of the gallery. What results is something economically special, a linear pathway from the car to the entrance, pausing inside in a waiting room, then moving from it to one of the dentists' offices beyond, with the bay window serving as an ultimate termination of the route. All of this is carefully configured and carefully, though simply, detailed. The front walk, the vestibule floor, and a part of the waiting room floor are of bluestone. The ceilings in the waiting room and in the dentists' offices are made of cypress slats, and in the latter spaces they are placed on the diagonal to the walls. In the waiting room and the long gallery, the wall surfaces are of vinyl-covered linen, and in the offices and other spaces they are of vinyl. Floors, aside from the main entrance, are of carpet or tile. The effect of all this is clear, quiet, and soothing, an environment designed to make the best of what can for many people, adults and children alike, be an anxious experience. Thoughtful touches include the fact that each of the dentists' chairs has a carefully composed view of the outdoors, and the two offices at the end of the building have views through the bay window as well by virtue of their little corner windows. Again, all of this seems achieved without much architectural strain, and without rhetoric.

DENTAL OFFICES, Woodstock, New York. Architects: *R. M. Kliment and Frances Halsband*. General contractor: *Roy H. Hoffman*.

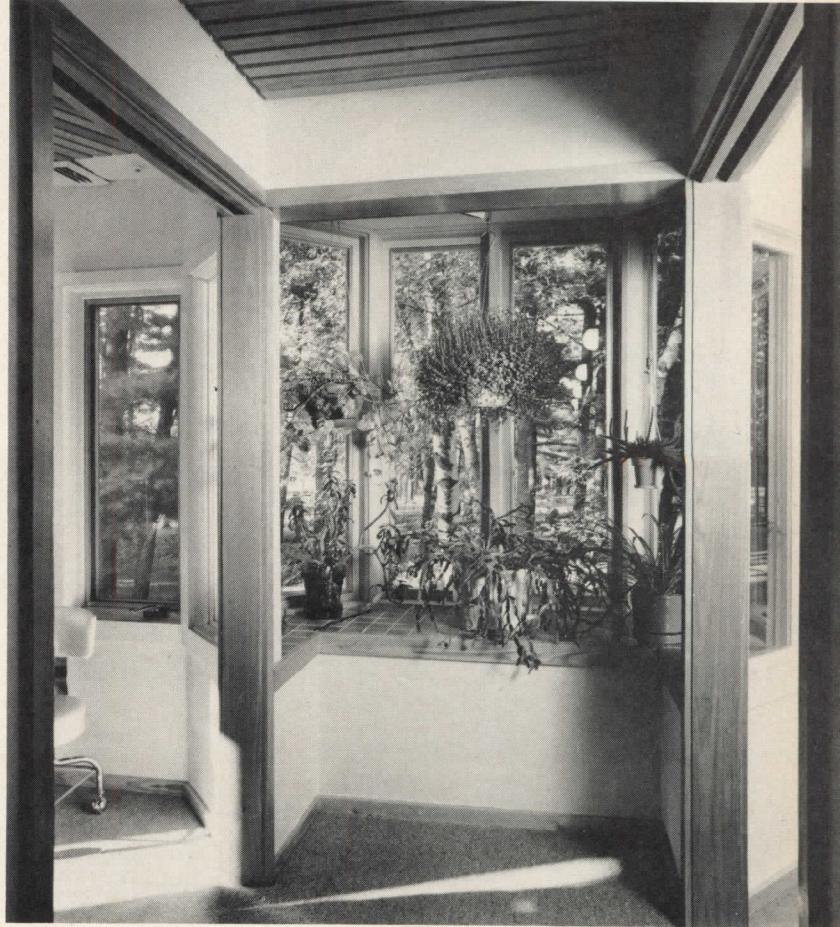


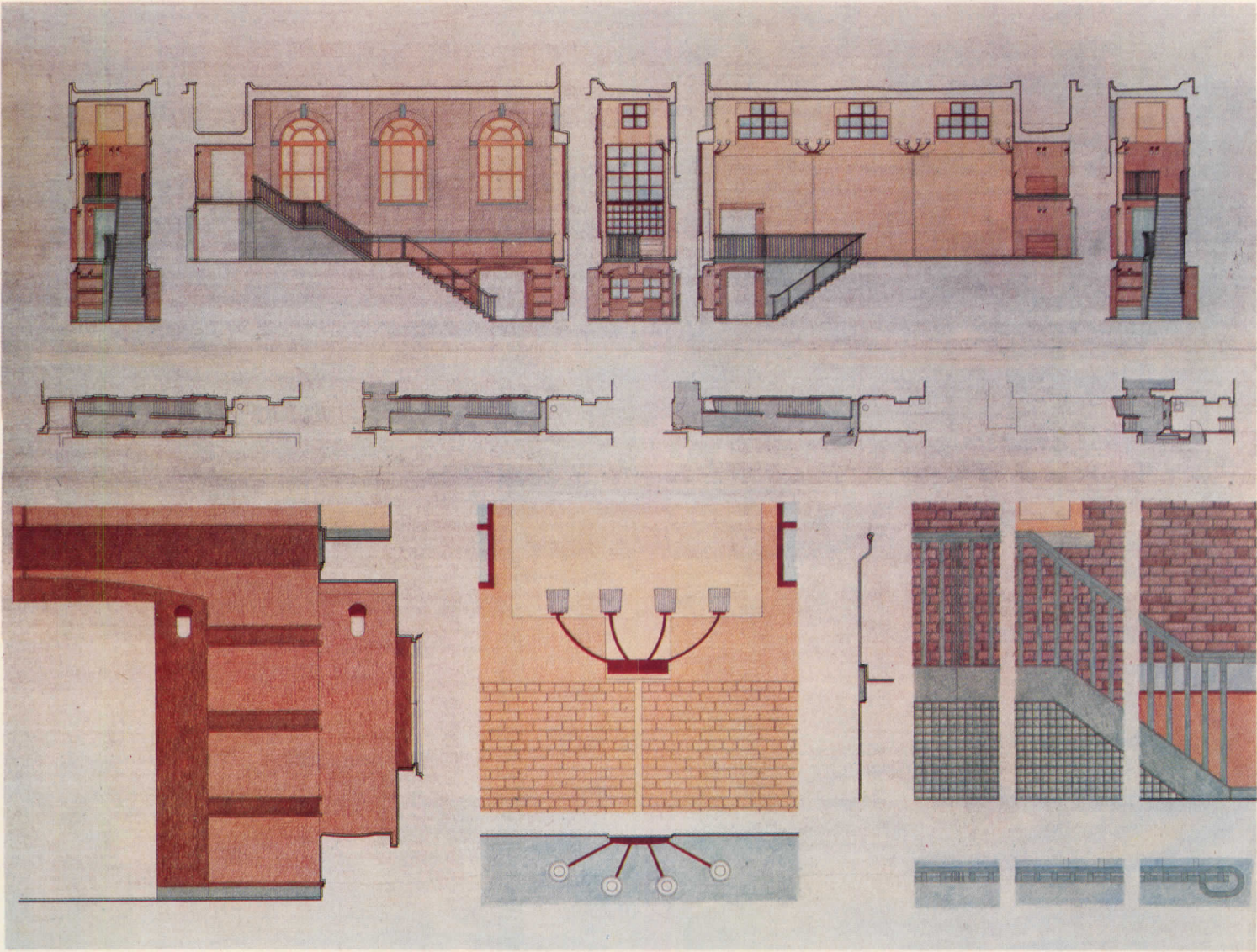
The large photograph at right shows the waiting room of the Krotenberg Dental Offices looking back towards the main entrance. The smaller photograph shows the bay window at the opposite end of the building.



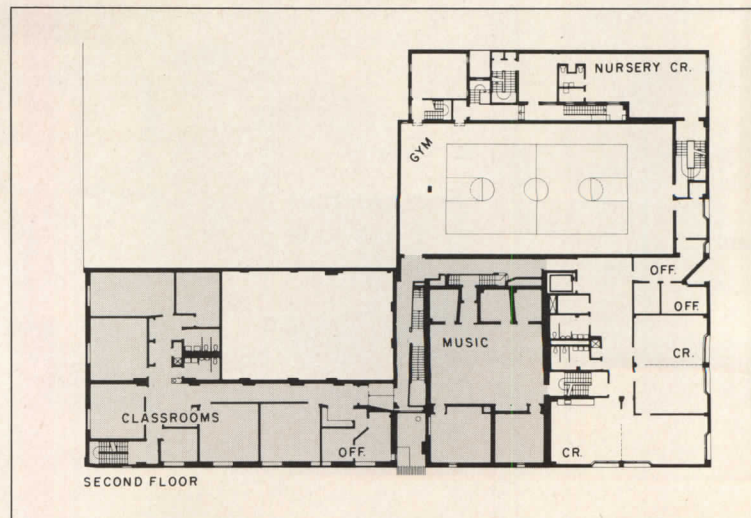


Norman McGrath photos

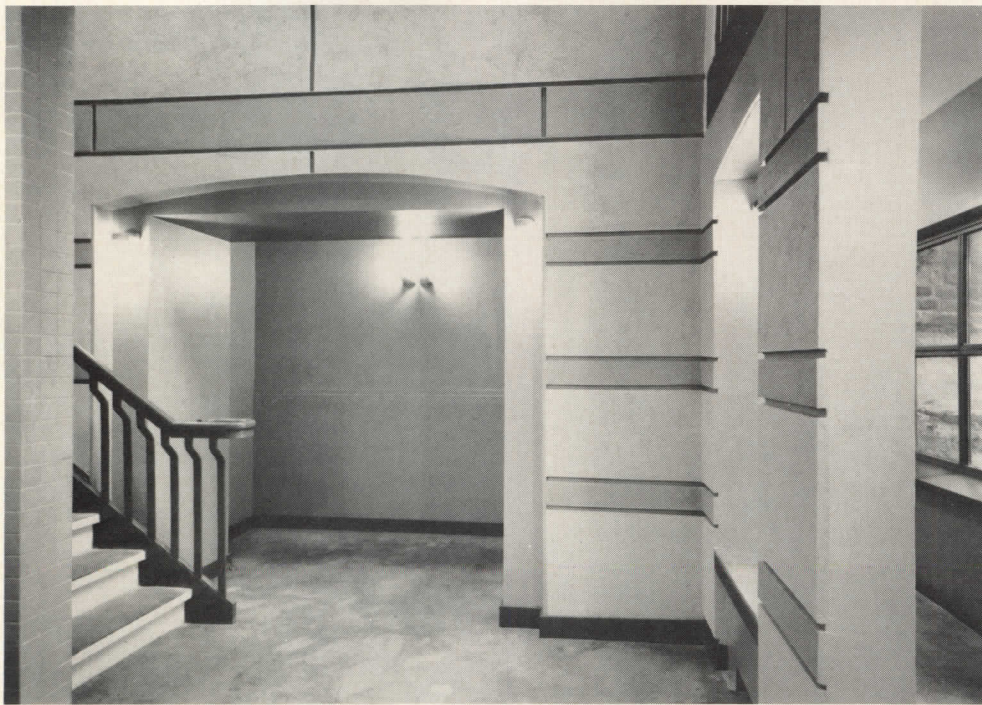
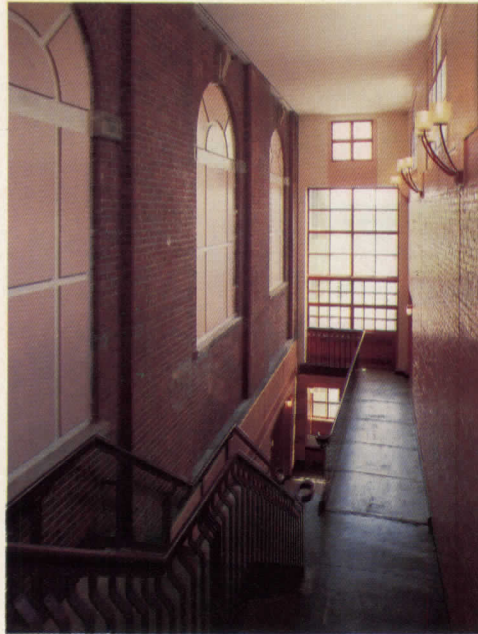




The plan on the right shows the Town School's brownstone building at the top and the Settlement House near the corner surrounded by the two warehouse buildings. In the section on the opposite page, the new stair hall is seen wedged into a small alley space between the tall Settlement House and one of the warehouse buildings on the left.



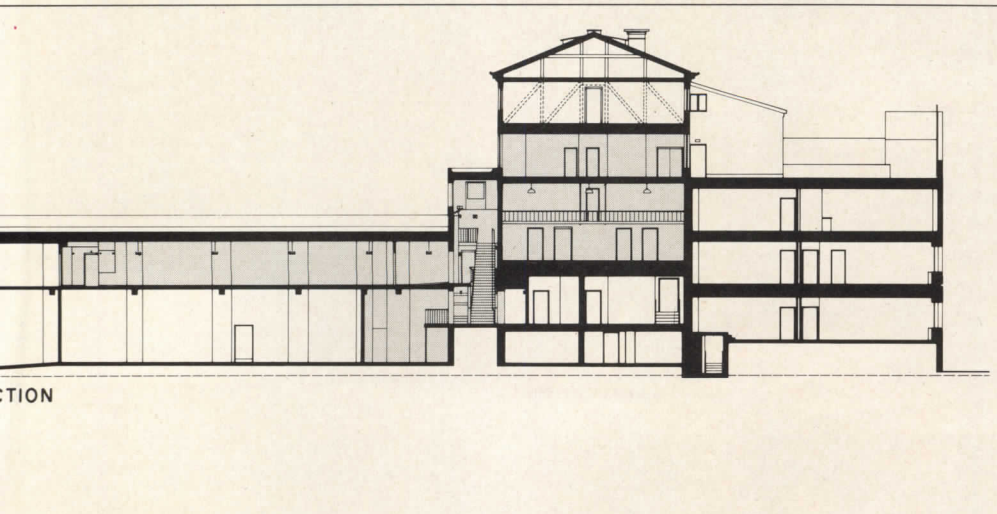
The Town School, New York City



In essence Kliment and Halsband's new addition to the Town School in New York consists of nothing more than a new stair, though a beautifully detailed one, and this is the centerpiece of a major new circulation system. The school's existing buildings consisted of a Settlement House adjacent to the new stair, built in the 1880s and much altered since, a brownstone and two warehouse buildings plus a later addition from the early 1970s. The new circulation system cuts through all of these buildings and is tied together by the stair, which was built in an open alleyway and connects various levels of one of the warehouse buildings and the Settlement House. A large window faces a splendid view of the East River, giving an exterior focus to this otherwise tight space. The fourth floor of the Settlement House was completely rebuilt in order to provide two large open classrooms and smaller seminar rooms for the upper grades of the school. In the warehouse other new classrooms for the upper school were provided, with many of these facing the river also. An old auditorium was reconstructed as a music center with practice rooms and classrooms that open onto it. The next construction phase will include a new lunch room, an auditorium/theater, and a new lobby that will link the main entrance to all of these new facilities.

The building that contains the new stair is made of steel frame and concrete planks and clad in terne metal. Windows are steel industrial sash, and the interior of the stair hall is brick, concrete, and ceramic tile. The light fixtures are made up of standard industrial components. The color scheme for the new stair hall was developed from the color of the existing dark brick wall of the Settlement House, which is left exposed; it uses a range of warm terra cotta colors and creams. The steel handrails are developments of those in Kliment and Halsband's YWCA building, shown on page 104, and both of these can be seen as contrasts to the really elegantly crafted railings in the corporate offices shown on the following pages.

In this design, as in much of Kliment and Halsband's other work, a particular, pivotal element has been identified and dealt with great energy and refinement.



THE TOWN SCHOOL, New York City. Architects: R. M. Kliment and Frances Halsband. Engineers: Robert Silman Associates (structural); Flack & Kurtz (mechanical/electrical). Consultants: Howard Brandston (lighting design); John O. Meadows (cost). General contractor: MacArthur Construction Corporation. Subcontractor: Buelher Iron Works, Inc. (ornamental metal).



**Offices of William M. Mercer, Inc.,
New York City**

These employee-benefit consulting offices occupy two-and-a-half floors of an office building in the new part of Rockefeller Center on the Avenue of the Americas in New York. The spaces include private offices for consultants, open work stations for technicians and secretaries, conference rooms, a library, and spaces for a computer and for office services. Headquarters for the entire corporation are located on one floor, and the New York regional offices are on two additional floors, connected by the stair shown in the photograph on the right and on the opposite page; the windows opposite it overlook Lower Manhattan.

Each plan is organized by a reception area which gives access to consulting divisions that are located in each quadrant of the floor. Each quadrant contains one division, with accommodation for sixty people. Senior consultants occupy exterior offices, whose inner walls are glazed above door height. Junior consultants occupy offices along the inner core, with windows that look onto open office areas and, beyond them, the windows of the building itself. Technicians and secretaries occupy the open work stations. Thus all of the employees have access to windows, to light, and to a view.

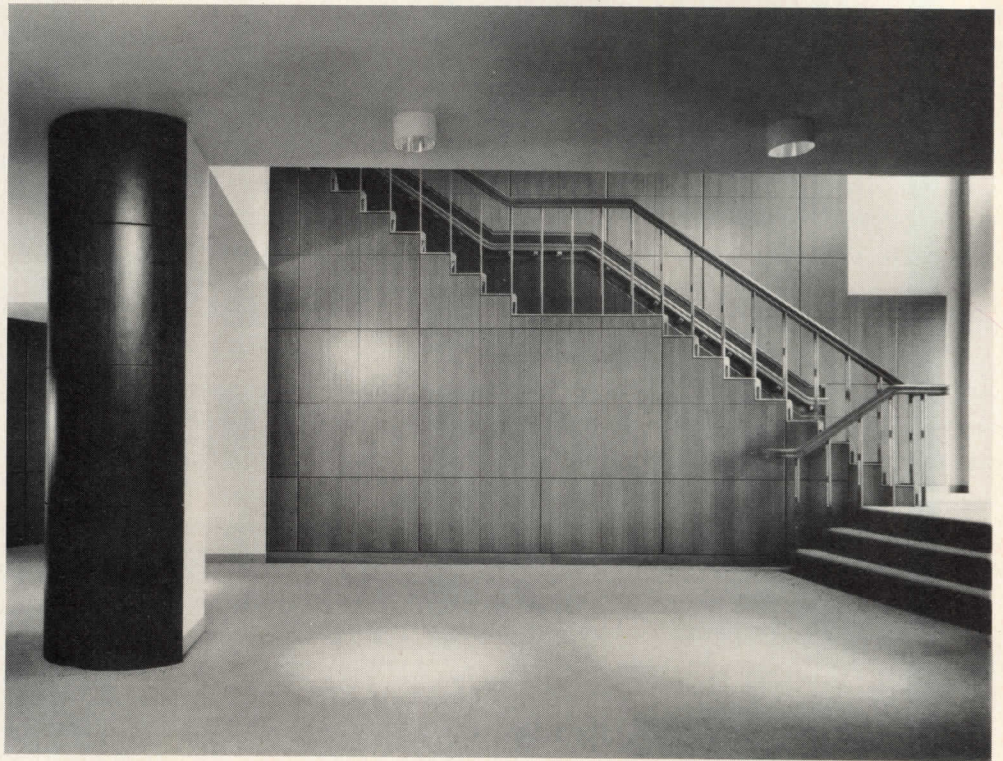
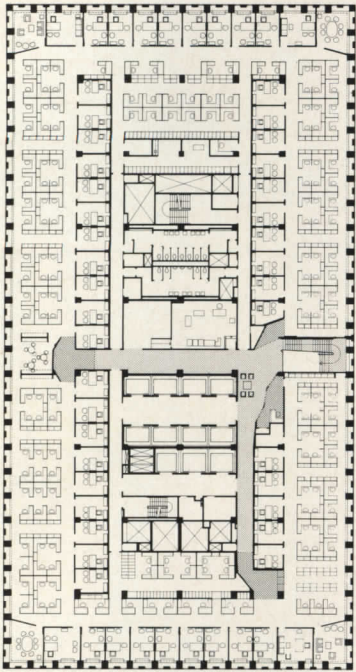
The work stations are designed in clusters of six, with modular components in each that vary according to work requirements. These stations are made of white oak with interior surfaces of fabric-covered acoustical panels. The heights of the partitions between stations and the arrangement of groups of stations are designed to provide privacy in some areas and to allow groups to work together in others. In the open areas the ceilings contain no lighting, and light fixtures are mounted on the work stations themselves, providing both direct task lighting on the work surfaces and ambient light reflected off the ceiling.

The stair and the reception areas are paneled in white oak and English brown oak, with areas of fabric wall covering. Oak paneling also occurs at the vestibule entrances to each division. Floors are carpeted and spaces are lit by means of semi-recessed down lights and wall washers.



Norman McGrath photos

CORPORATE HEADQUARTERS AND NEW YORK OFFICE OF WILLIAM M. MERCER, INC., New York City. Architects: *R. M. Klimont and Frances Halsband*. Engineers: *Syska & Hennessy* (mechanical/electrical). Consultants: *Robert A. Hansen Associates, Inc.* (acoustical); *Sylvan R. Shemitz & Associates, Inc.* (lighting design); *Henry Altchek* (graphics); *John Meadows* (cost). General contractor: *Rockefeller Center Construction Co.* Subcontractor: *Midhattan Woodworking Corp.*



The plan above shows how the regular grid of offices is broken by the special configurations of spaces in critical areas—a reception room, a conference room, or the stair hall, right and below. At left is one of the reception areas in the corporate headquarters floor, and the photograph below right shows a collection of open work stations, with offices for junior consultants on the left along the wall of the core.



INDUSTRIAL BUILDINGS

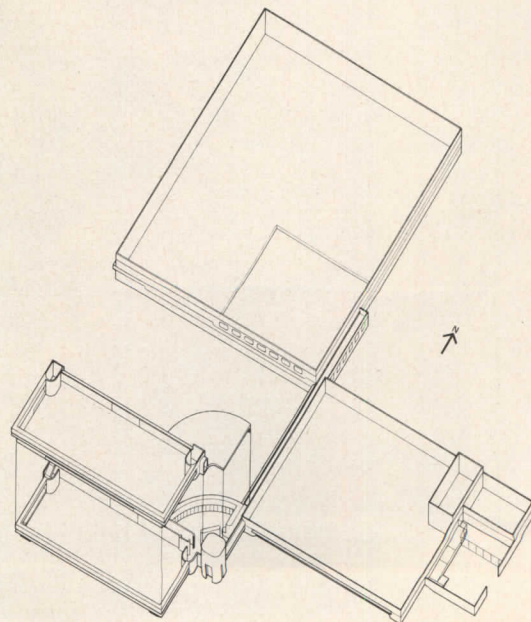
For architects and engineers deeply involved in industrial-building design there's some good news, and (of course) there's the bad news—but even the bad news may affect construction volume more than it affects the volume of work of design professionals. Let's get the bad news over first. As you might guess, industrial construction is one of those types most directly affected by the kinds of economic downturns that we will be experiencing in the near future. The lack of consumer demand may put many existing production facilities at less than full capacity, while last year's almost 13 per cent inflation in industrial construction costs, coupled with the lack of available financing, certainly will put increased strains on any plans for expansion. But—like the economy as a whole last year—the rate of industrial and commercial construction started this year with remarkable resiliency in the face of cautionary signals, reaching an all-time high in dollars spent. While part of this phenomena is the result of previous commitments, James Gallagher, of Smith Hinchman & Grylls, states that at least his firm, with a large stake in the field, is not experiencing any cutbacks in planning, but rather slowdowns of what is usually a frenetic process. "It is as if clients, facing the credit crunch, have just decided to build out of revenues as they become available."

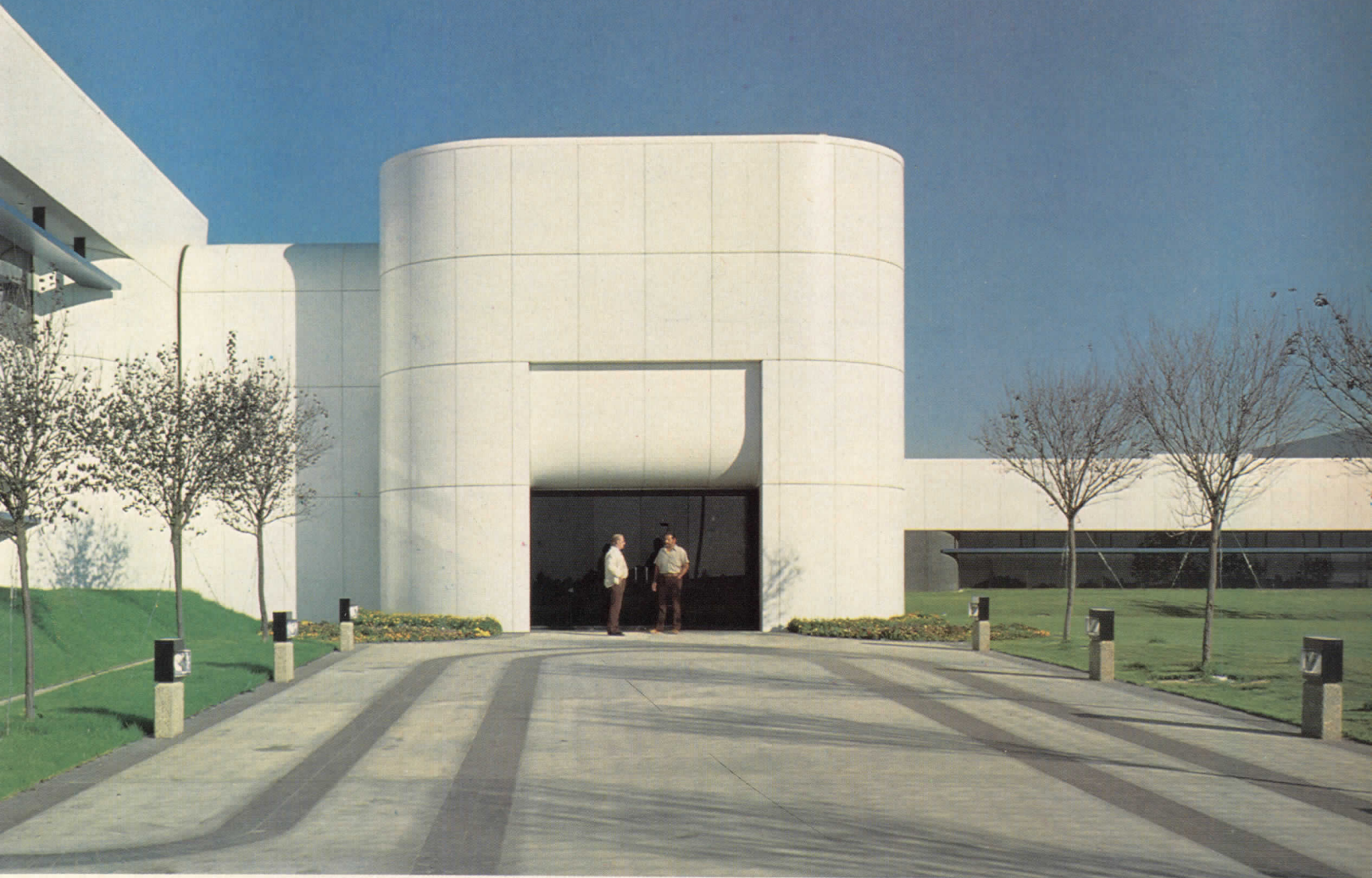
Further, it is probable that the types of industrial buildings that will continue to show the greatest resilience in spite of recession will be exactly those for which the design professionals' services are most commonly understood to be valuable: the high end of the line. Both increasing regulatory pressures on American manufacturers and pressures on foreign manufacturers to produce in America are causing a lot of redesign of existing facilities and—most significantly—more sophistication in the process of building new facilities. Regulatory requirements are causing massive new construction of testing facilities, to assure that new products meet specified standards. Two such facilities—for Yamaha and for General Motors—are shown on the following pages. It is significant for architects and engineers that manufacturers often consider such facilities, which have high fixed costs because of the equipment they contain, worthy of special design attention. In addition, Yamaha represents another type of manufacturer—the foreign-owned—that seems to value the design aspects of its projects more highly than the general norm. And current U.S. pressures on such manufacturers—especially in the automotive field—to produce their products in this country assure that a lot more construction or renovation of existing facilities by these extra-nationals lies ahead. And so the future for the participation of architects and engineers in the industrial construction process looks rosier than the anticipated volume of such construction might indicate.

The value of such participation can be seen in the splendid examples of all sorts of industrial buildings on the following pages. From a purely design point of view, it can be seen that the industrial esthetic is finally catching up with its origins. Exposed brightly painted ducts, pipes, and steel construction members coupled with the various "high-tech" furnishings of wire carts and colorful plastic bins do seem right at home in factory offices and in the growing number of employee amenities like canteens and rest areas—having successfully made the jump from production spaces to produce a more unified imagery for whole buildings. A really graphic example can be seen in the bright purple ducts in Metz Train & Youngren's reception area for Montgomery Ward on page 125. So, after years of application in schools, houses, churches and stores, the industrial esthetic is finally having a happy effect on just that building type for which some critics have said it was most appropriate all along. —Charles Hoyt



Wes Thompson photos ©1980





YAMAHA MOTOR CORPORATION BY WILLIAM L. PEREIRA ASSOCIATES

Located in Cypress, California, this 270,000-square-foot facility is in three distinct parts that are unified by an unusually sensitive formal relationship (see isometric left and aerial photograph overleaf). The three parts correspond to quite different functions: an executive office building (left in isometric and photo above), a large distribution warehouse (top of isometric) and a building for research, development and testing. Accordingly, the complex in whole or part exemplifies two sorts of industrial construction that are likely to be built in significant volume in the near future—again, as discussed in the introduction: testing facilities, to meet increasing government-regulation requirements, and those industrial facilities of all kinds built by foreign corporations. This complex illustrates an especially high level of design concern, a concern that can be expected to characterize most examples of these types of construction to some degree. Most especially it illustrates a heightened perception of design's value in producing strong corporate imagery, no small

consideration in currently competitive markets. And it has the ambitious amenities for employees, the well organized capacity for expansion, and the sort of energy consciousness that we may expect to see a lot more in the future.

The strong imagery that architects William Pereira Associates have produced recalls the sleek qualities of the machines that are distributed from the buildings: motorcycles, snowmobiles, golf and "go" carts, sailboats and portable generators. Because the functions carried on were divisible into separate elements, the large facility was capable of being visually articulated into a campus-like arrangement, with each element "holding its own" within an over-all composition. Unlike the situation where production facilities are housed in one immense building, a separate executive-office block could become a meaningful element in a U-shaped arrangement about a central parking and outdoor circulation area. In order to further emphasize the office building's importance as part of an

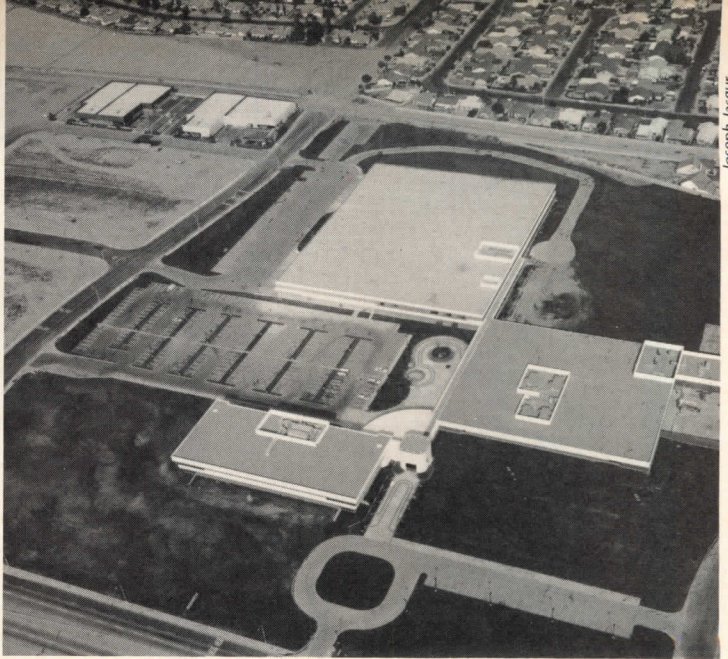


over-all composition, an adjacent "capsule" (photos above and overleaf) is a strong vertical element that contains the main visitors' lobby. It is located at the end of a long central corridor that unites all three buildings. This corridor is a spine, along which the planned future expansion is to occur.

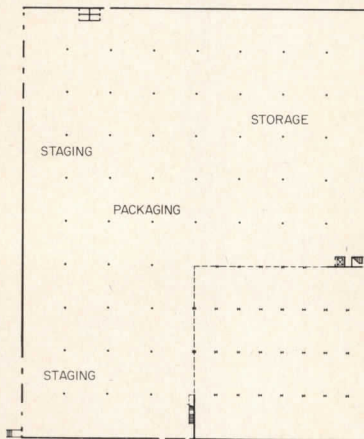
Because of the visually manageable volumes created by the site plan, the architects were able to infuse the large buildings with a scale that is—if not intimate—directly related to the passing observer in an area with both light industrial and residential construction. More importantly for the desired imagery, the architects were able to give a sense of the precise nature of the products produced. Crisp colors and detailing characterize claddings that range from shiny white aluminum panels on the office building to white tilt-up concrete panels on the warehouse. Horizontal bands of black glass on the office building are carried through in the color patterns on the other buildings—as are the brilliant blue bands created by the

aluminum "fins" that shade office windows. To emphasize this mechanistic esthetic, the landscaping of the 25-acre site has been treated with formal precision in a manner that project designer Brian Dougherty describes as "pristine."

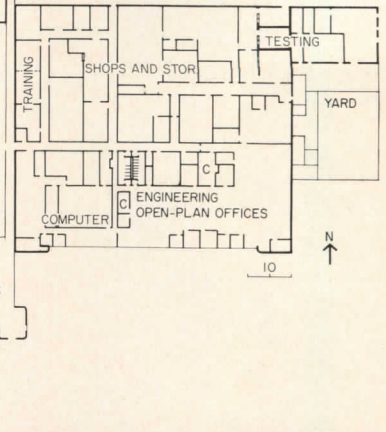
As seen in the photos of the interiors on the following pages, the executive office spaces are designed to continue the sleek and precise nature of the buildings. Reflective aluminum ceilings and black glass produce a polished idiom. A large percentage of open offices both here and in the adjacent research and development building characterize planning that is particularly prevalent in the firm's native Japan. The research and development building has two basic parts: that devoted to heavily utilitarian testing and that devoted to more office-like pursuits: research and business control, with a heavy reliance on computers. Along with these facilities are shop and storage spaces that buffer offices from test areas. Their placement augments those buffers built into the structure that are



Joseph Pasgur



Built along a circulation spine that allows for ambitious future expansion, the three components have a horizontal linearity that has been accentuated by the designers. The three-part division has allowed each element of the campus plan to assume a balanced proportion with the others, and it has the functional and structural benefits explained in the text.



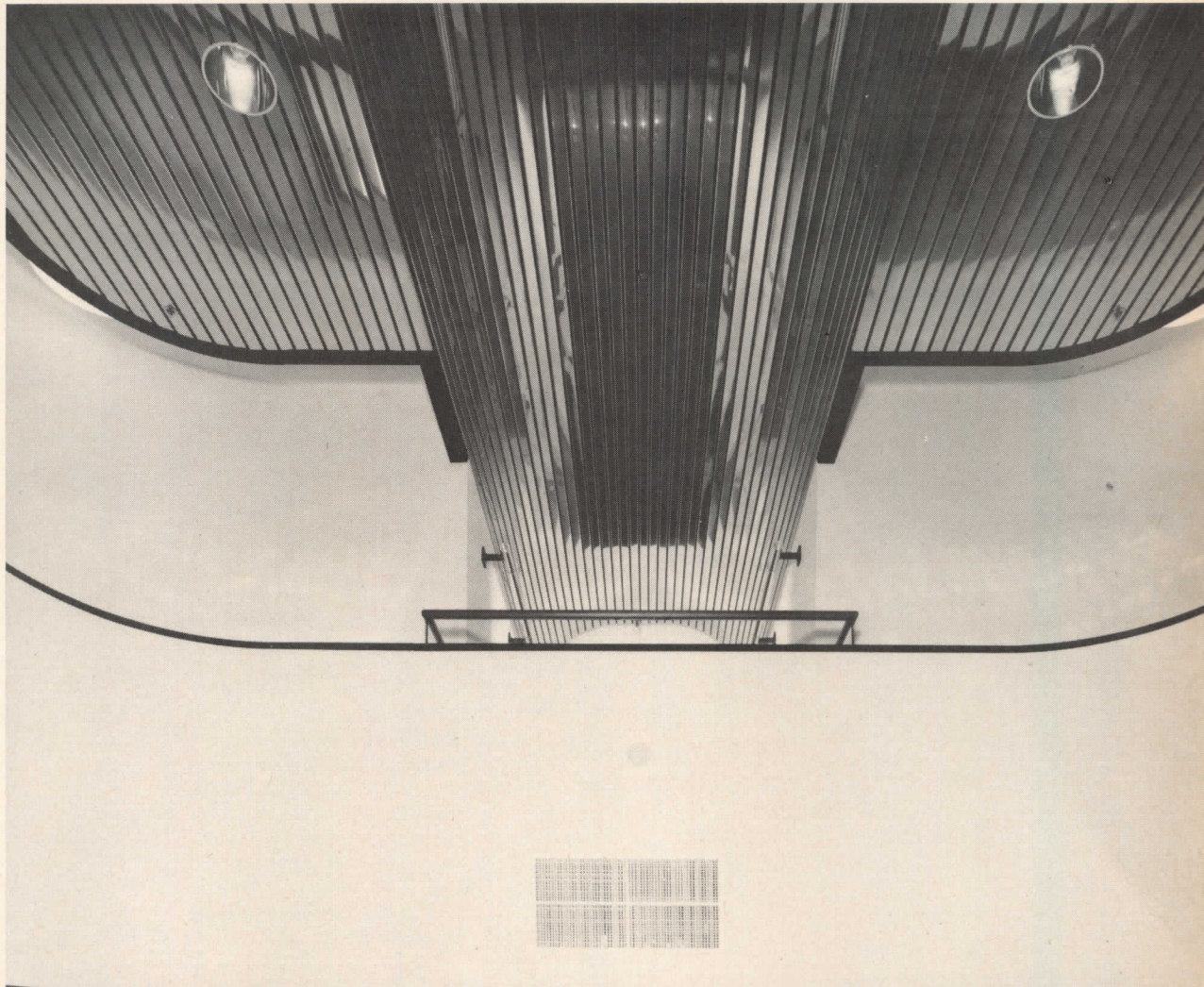
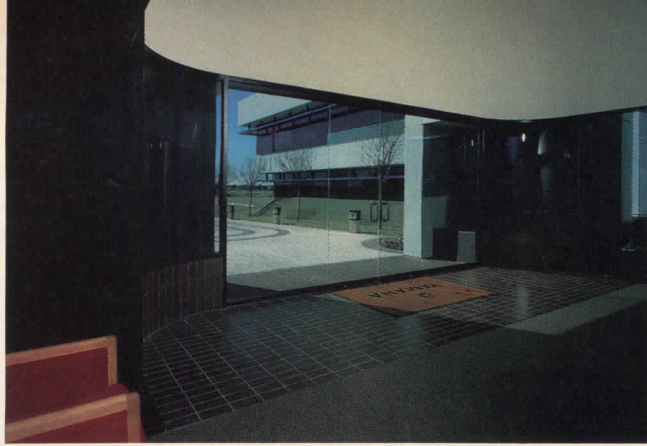


discussed below. The warehouse is highly mechanized for fast storage and retrieval. The client's desire was to achieve the "fastest and most efficient" such facility in the United States.

In order to meet structural requirements for the possibility of earthquakes in the area, the office building is built with steel moment frames that also meet the sensitive criteria of support for both the metal panels and the butt-jointed glass windows. Because of the noise generated by the testing facilities, their structure is built separately from that of the rest of the research and development building. The walls of the entire building are built with tilt-up concrete panels with a panelized wood roof system, while the testing facilities have a double-wall construction that reduces 125 decibels of noise down to 50 at the property line. The roof of the entire building has been built to support solar-collector panels in the future. The warehouse has been built with a similar construction system with an especially high roof allowing for the movement of

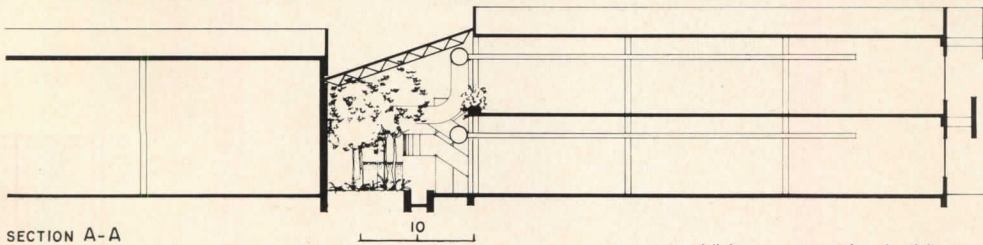
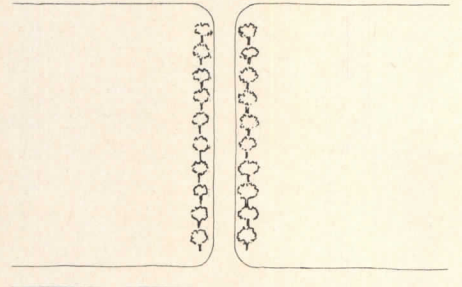
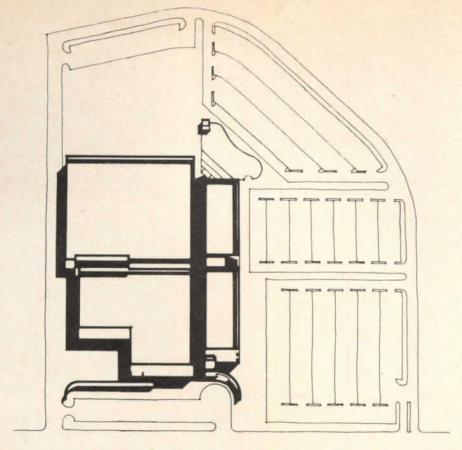
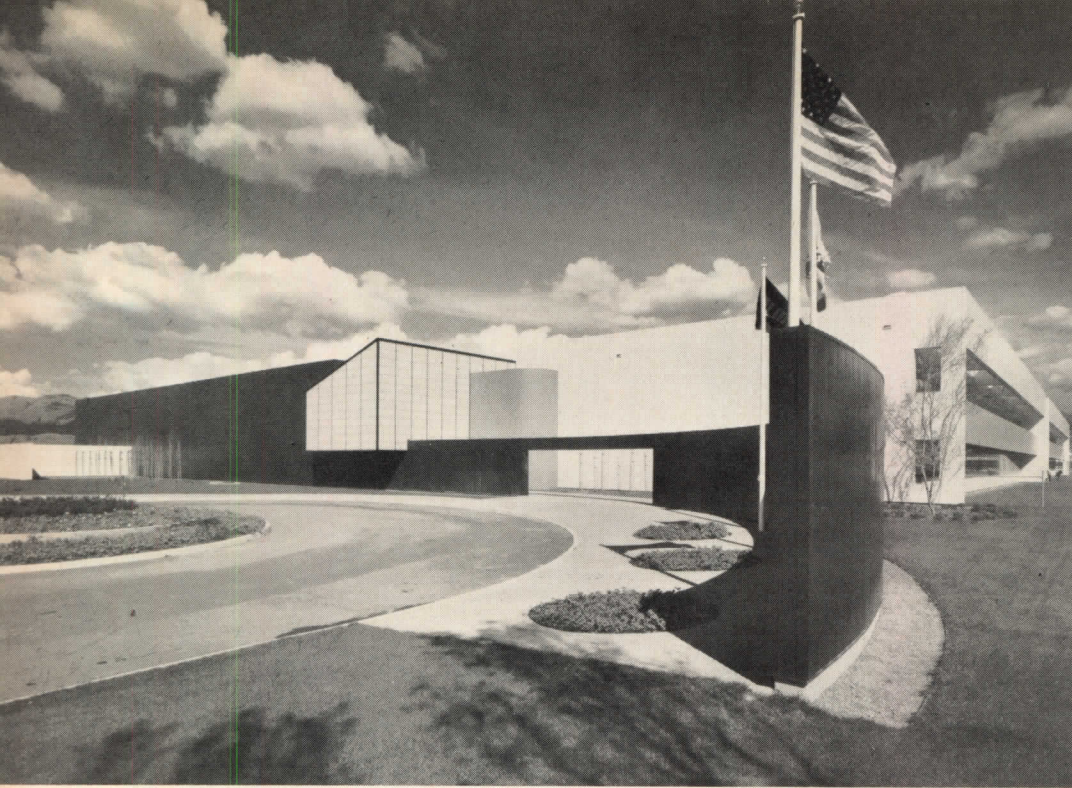
equipment and the insertion of a mezzanine. The interior column spacing is 40 feet by 40 feet. The construction cost of the entire complex was \$12 million, and a fast-track system allowed occupancy of the warehouse in 9 months from the start of design. The new facilities were occupied in phases as personnel were moved from the previous headquarters on completion of each new building.

YAMAHA MOTOR CORPORATION CORPORATE HEADQUARTERS, Cypress, California. Architects: *William L. Pereira Associates—G. Robert Ensign, project architect; Steven F. Jelson, deputy project architect; Brian Paul Dougherty, project designer.* Engineers: *Steinbrugge and Thomas, Inc. (structural); RMG, Engineering, Inc. (civil); Jon Hammond Engineers, Inc. (mechanical); Frederick Brown Associates (electrical).* Consultants: *Purcell & Noppe & Associates, Inc. (acoustical); Reel/Grobman and Associates (interior design).* Landscape architects: *Robert Herrick Carter & Associates, Inc.* General contractors: *Turner Construction Company.*

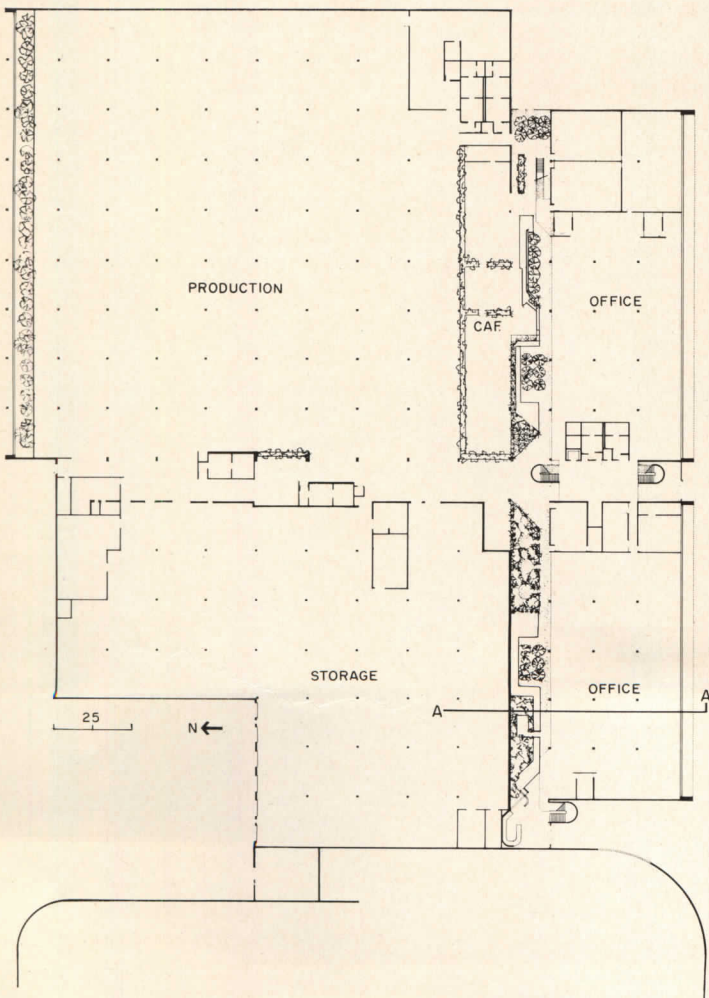


The interior of the rounded separate lobby structure (photo right) has a sleek esthetic that is continued through the executive offices (photo above) and into the ambitious employee commons area. The cafeteria (top photo right) is located in the semicircular structure between the offices and the research and testing building, near the center of the employee population.





Visitors enter the building at the short western end of the office block, through a gate in a freestanding wall that is an extension of the bright blue walls of the storage block (photo above and bottom of plan). Once inside, they are greeted by an interior garden that is like an oasis in the flat industry-strewn terrain (photos right and below). Translucent panels on the roof and end walls admit light by day and emit a soft glow at night from interior lighting.





Craig Buchanan photos

THE QUME DIVISION OF I.T.T. BY HAWLEY & PETERSON

This design for a manufacturer of high-speed electronic printers in San Jose unifies the administrative offices and production space into one 225,000-square-foot entity—here divided by a skylit "garden" for the enjoyment of all of the 1000 employees. As in other projects shown on these pages, there was a strong desire by the clients for both a statement of a high-quality corporate identity and for an open and pleasant working environment. Accordingly, the planting in the central area has been repeated along the translucent north wall of the production space. Other employee amenities include an outdoor dining terrace, adjacent to a pond at the eastern end of the building. The portion of the building devoted to offices is two stories high, so that the height of this portion balances that of the high-bay, 155,000-square-foot production and storage areas. Besides the 430-foot-long garden that is first seen by visitors (see caption), a second major circulation route crosses at right angles.

The structure of the \$10.5-million facility is rigid steel frame,

with 32-foot-square bays and a panelized wood roof system. The exterior cladding is steel panels with double glazing that has a mirrored outer layer and a bronze-tinted inner one. The translucent panels on the central area's roof and end walls—as well as the north wall of the production space—are insulated fiberglass with a very low heat conduction value. The project has just won an AIA National Honor Award.

QUME, A DIVISION OF I.T.T., San Jose, California. Architects: *Hawley & Peterson—Charles Peterson, partner-in-charge; Wayne Holland, project architect; John Duvivier, Curtis Snyder, designers.* Engineers: *Thomas T. Siebert (structural); Cooper & Clark (soils); Practicon Associates (mechanical); George Greene Co. (electrical).* Consultants: *Charles Salter (acoustical); Catherine McCoy, Newman Interiors (interior design); Sue McIntyre (graphics); Adamson Associates (cost).* Landscape architects: *Fong & LaRocca.* General contractor: *Dickman Construction.*

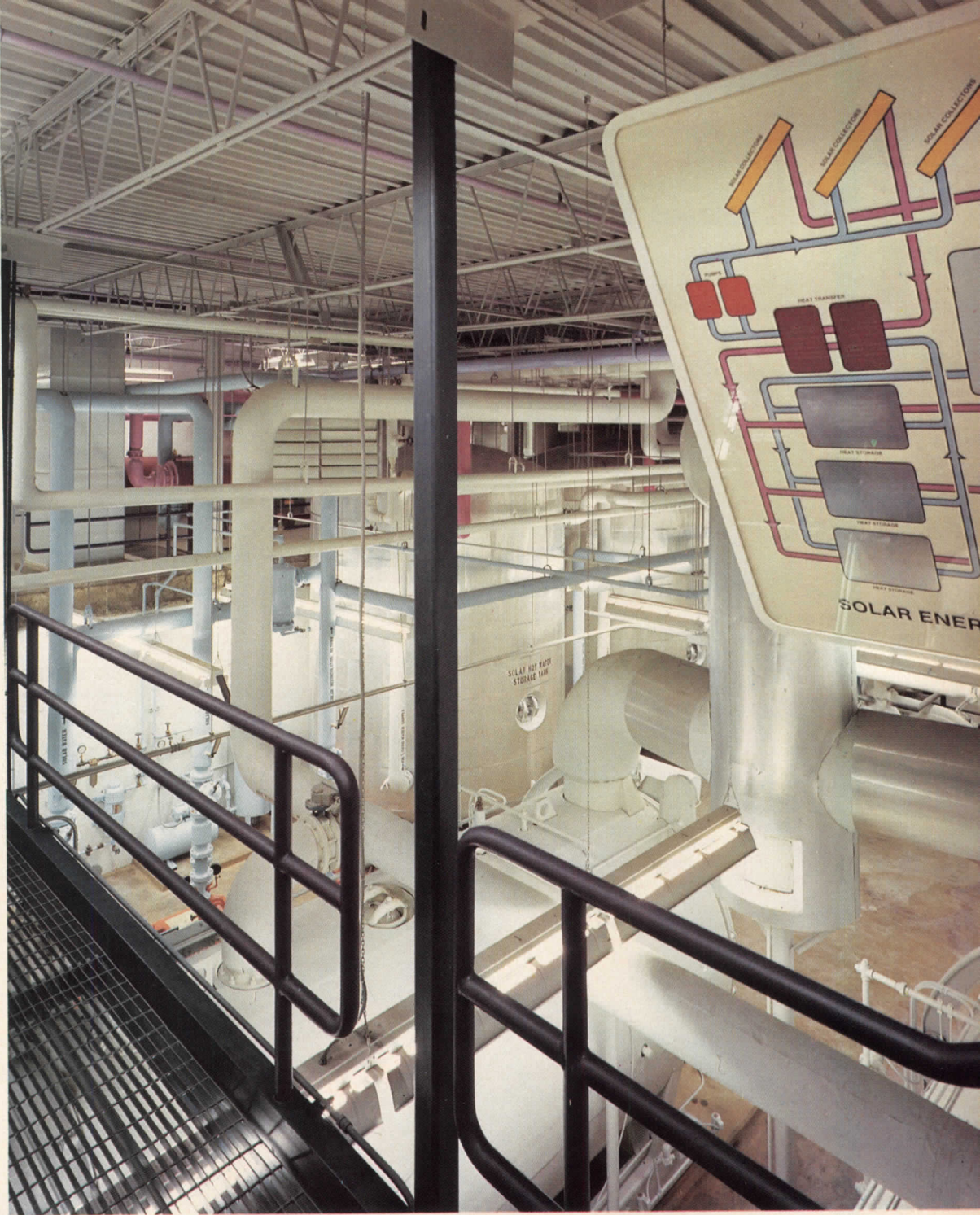
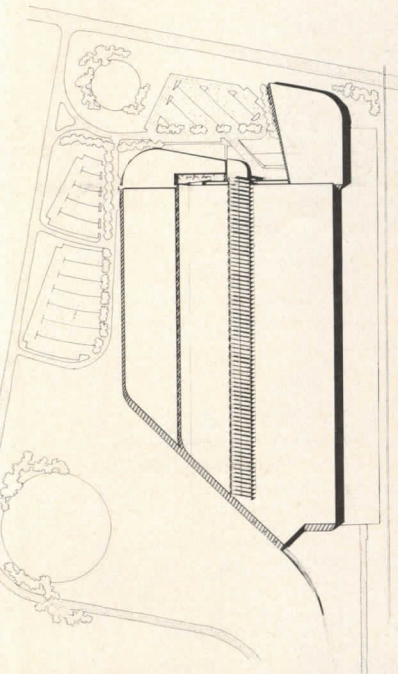


MONTGOMERY WARD DISTRIBUTION CENTER BY METZ TRAIN & YOUNGREN

The architects have managed to produce a vast building of 1,200,000 square feet, which seems to float over the flat Ohio terrain—in associate Carl Hunter's words—"like a ribbon laid upon the landscape." The effect has been produced by orchestrating a number of givens with a clear vision of what such a large mass means in terms of scale. First of all, the purposeful unbroken linearity has been produced by an atypical arrangement of in-and-out truck loading docks on the same side of the warehouse space, away from the highway view (photo right). The arrangement was possible, despite the facility's huge size (it had almost 28 acres of roof), because automated handling made the more normal crossbuilding flow pattern less meaningful (see plan overleaf). The second given design consideration was the low lying site, which is subject to periodic flooding. Accordingly, the architects raised the adjacent ground level by berms that not only deflect water, but accentuate the horizontal lines by hiding part of the building's actual height. The

metal-panel siding above the berms has been set out almost two feet from the concrete retaining walls below, so that it appears to "float." The separation between the planes allows the free flow of outside air to the interior when operable cover panels are opened. Another result of precautions against flooding is that the relatively small office and sales area (top of site plan) is raised five feet above the plant floor level. Thus, despite the much lower over-all height of these two-story volumes, their raised elevation allows them to appear as part of the adjacent high-bay production building—continuing the designers' intentions of one linear entity. Supplements to conventional energy sources include one of the largest solar collectors in the Midwest. A control room (top photo opposite) monitors the input from 17,000 square feet of solar panels that are designed to eventually be expanded.

One of the most interesting visual aspects of Metz Train & Youngren's design is the way in which the esthetic of the production



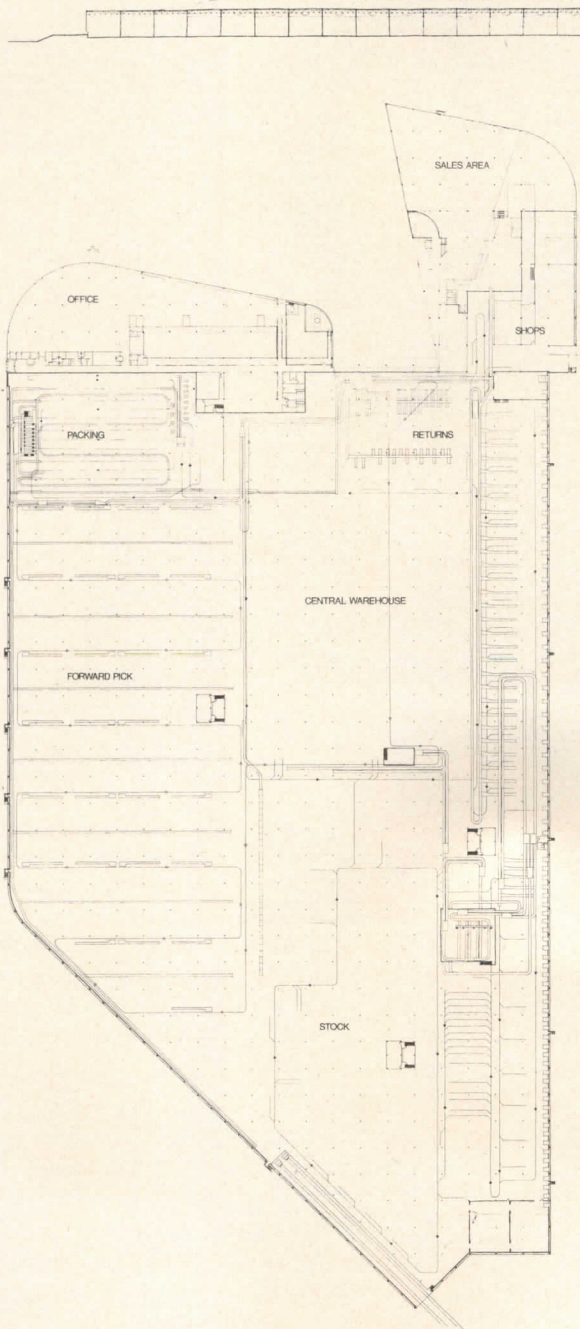
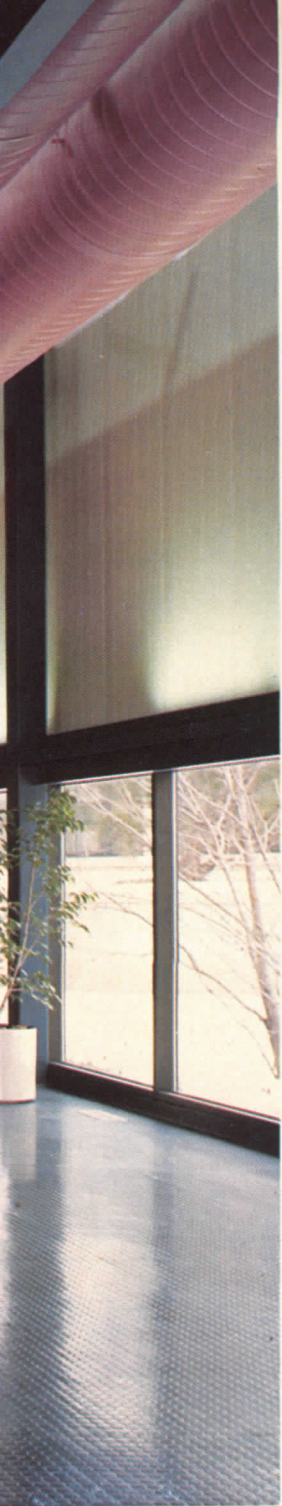


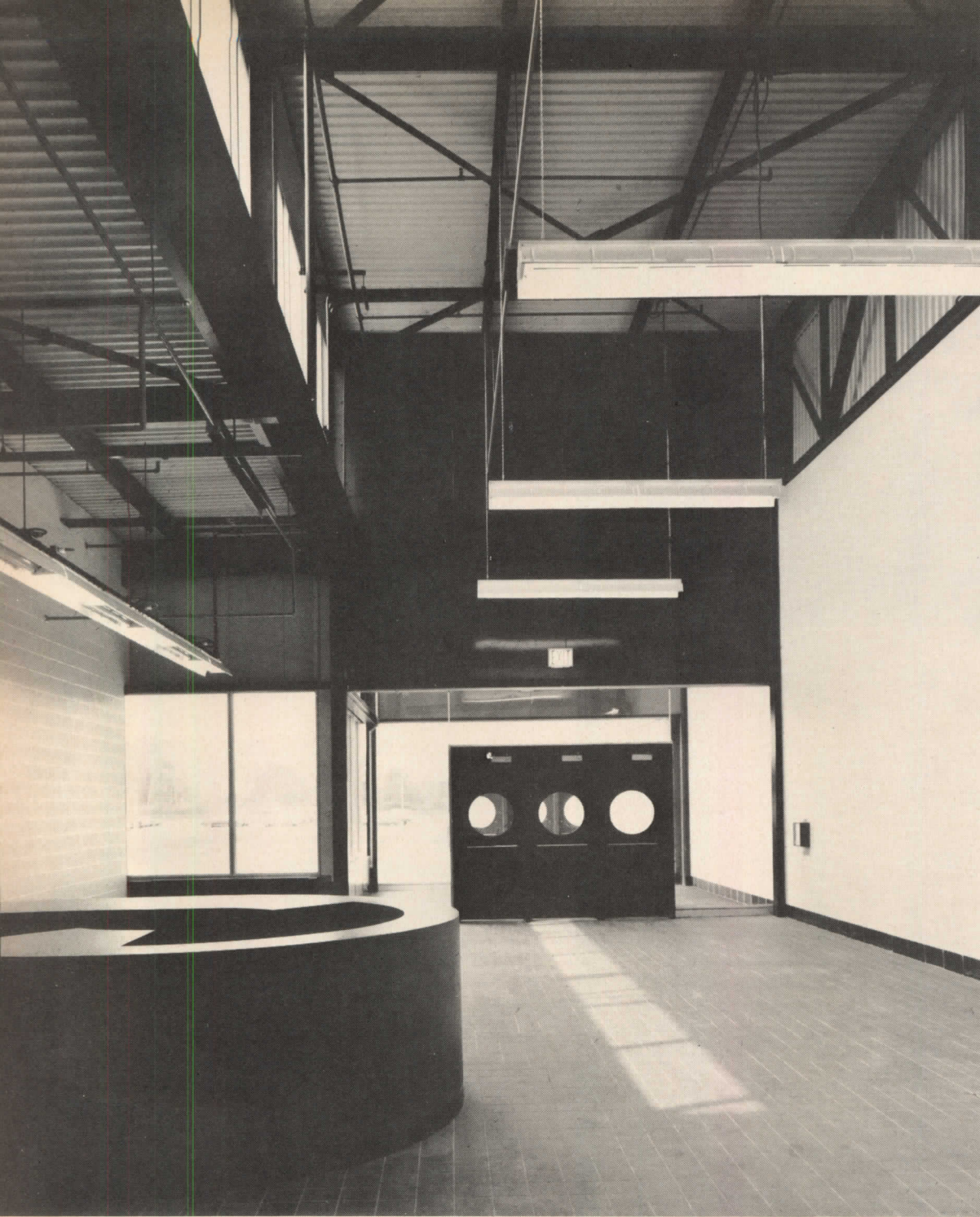
areas has been carried through to offices, employee amenities, and the retail sales area. The two top photos on these pages show the cafeteria, which opens to the courtyard shown on page 122. While these spaces certainly produce the pleasant atmosphere necessary for a break from daily routines, they do so in a way that carries through the exposed structure and mechanical pipes and ducts along with brilliant colors seen elsewhere. Similarly, the reception area and retail area (small photos opposite) carry through a similar esthetic. In the reception area (top small photo) an appropriate kind of elegance has been produced by such devices as the polished metal finish on ducts. Project-design team-member Carl Hunter cites slides of a trip to the Yucatan as the clinching argument for some of the more colorful elements, such as lavender ductwork. "After three minutes of rapid-fire torrid colors, the clients were ready for anything."

In the plan opposite, the basic flow of goods is in through the truck loading docks (bottom right) or the train platform within the

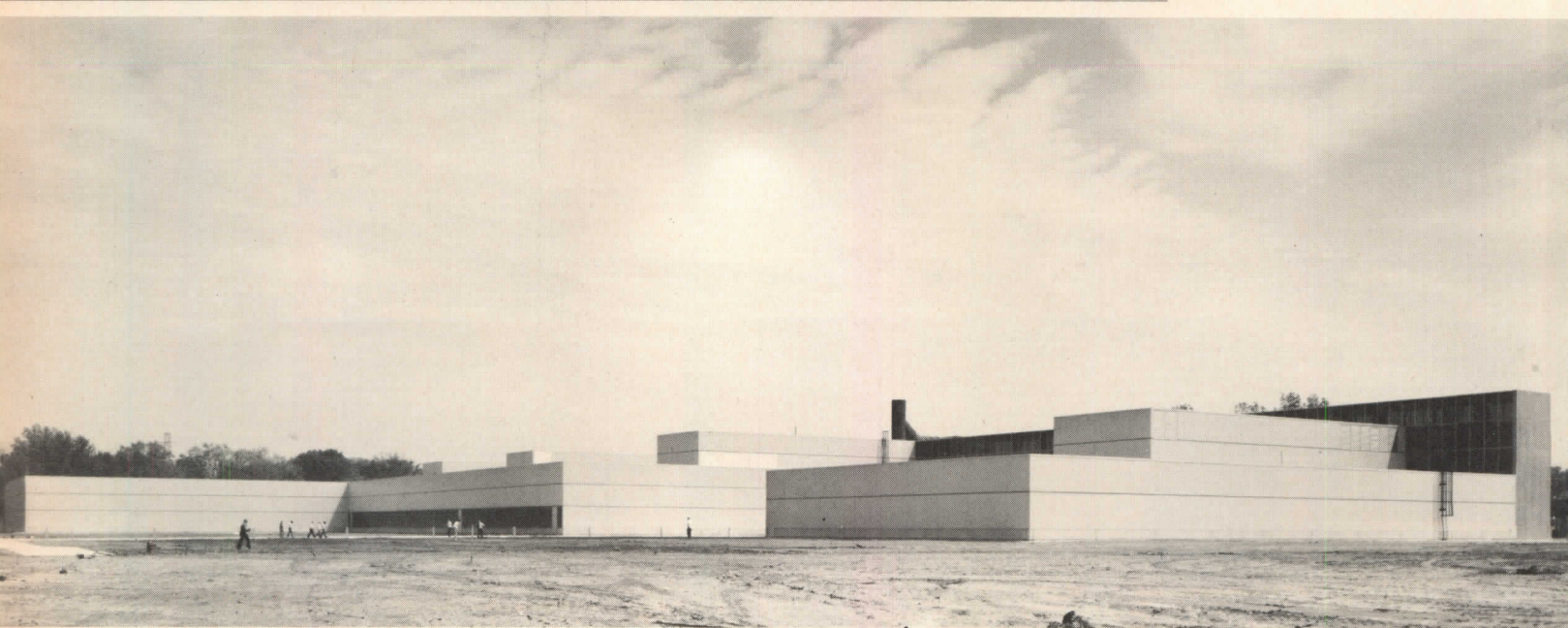
building (bottom). Here, bulk containers of the various products are held. From here the contents are separated and proceed along the center of the building to another holding area (left) or directly to the individual-packaging area (left top), and out through loading docks (right) or to the retail store (right). The diagonal wall of the production area was a design solution that not only modulated the impact of the huge building, but allowed the rail connector to make an easy turn into the building. The steel frame is designed on 40-foot-square bays and is topped with metal decking.

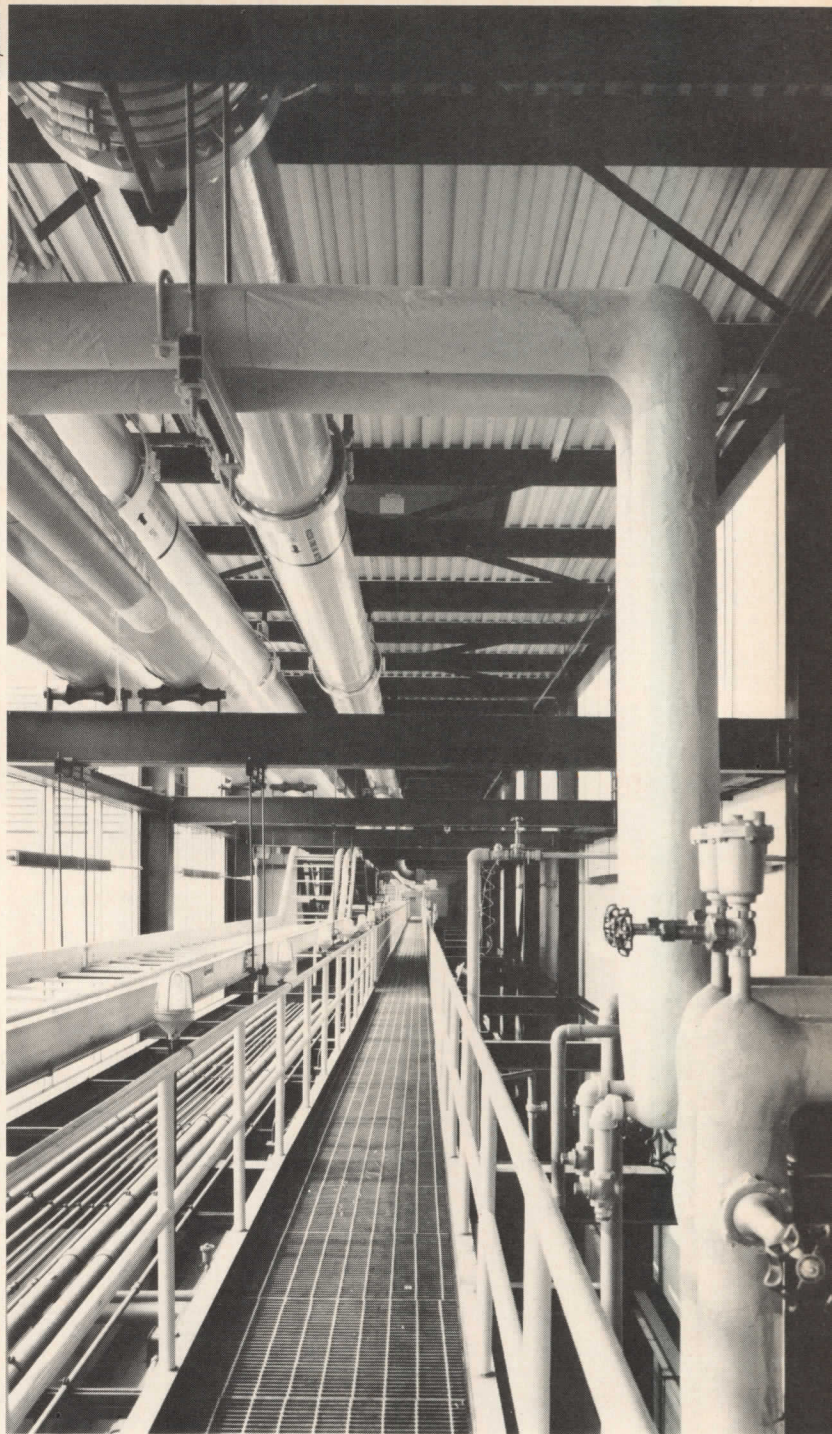
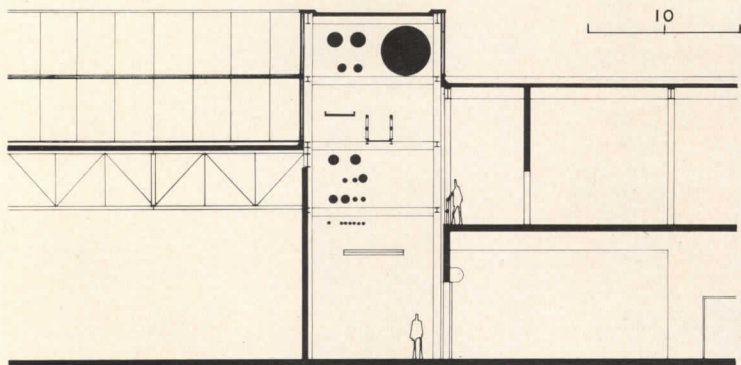
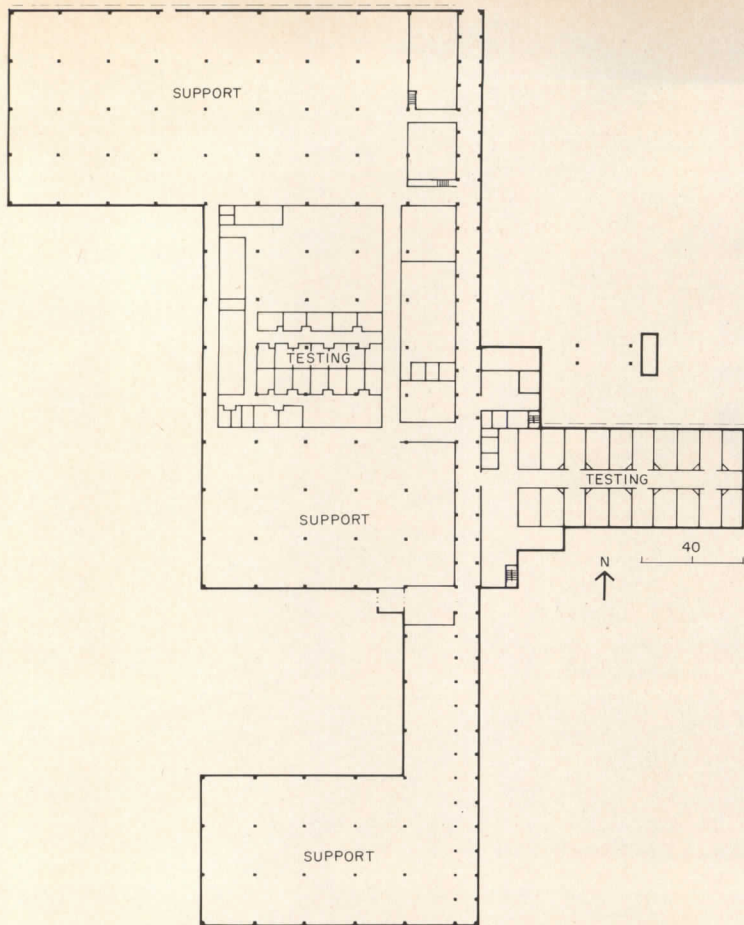
MONTGOMERY WARD MIDWEST DISTRIBUTION CENTER, Sharonville, Ohio. Architects: Metz Train & Youngren, Inc. —Don Belford, Herb Fritz, Carl Hunter, Martha Lampkin, Rich Leyshon, Tim Miller, Fritz Read, Robert Schill, Jorge Sirgo, and Eric Younquist. Engineers: Environmental Systems Design, Inc. (mechanical/electrical). Cost consultant: Construction Economists Collaborative, Inc. Construction manager: W.E. O'Neil Construction Co.





The building is designed to be greatly expanded along a central corridor, over which the mechanical services are carried in a colorful array of pipes and ducts that are exposed to both the occupants below and to the outside through clerestory windows (photo and section opposite). The metal-panel cladding on most of the building has been kept a neutral gray to accentuate both the colorful view into the clerestory and the bright red panels at the ends of the high central corridor and over the entrance.



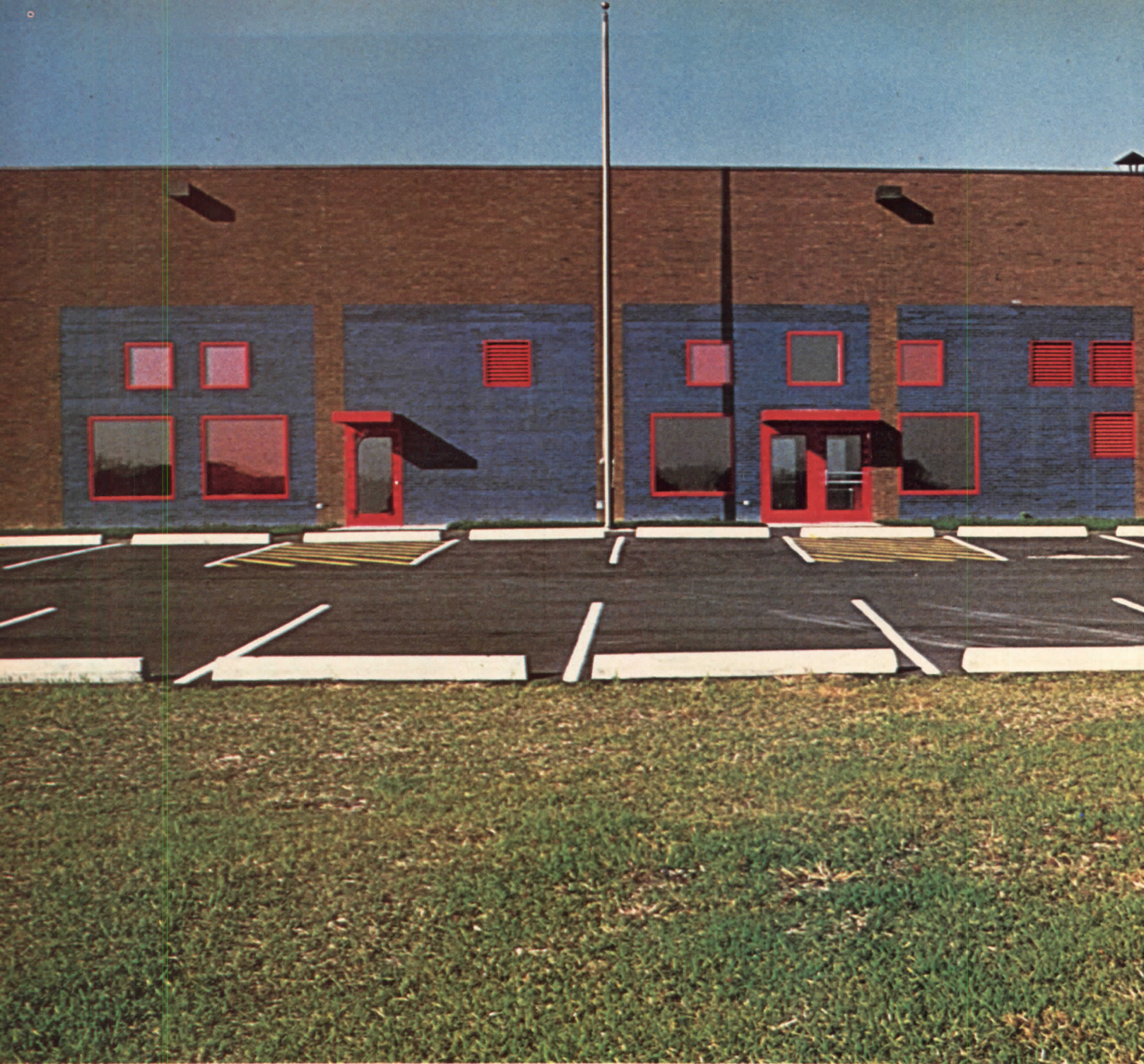


ROMULUS ENGINEERING COMPLEX BY ALBERT KAHN ASSOCIATES

Located on a large General Motors campus near Detroit, this 230,000-square-foot diesel-engine testing facility is typical of the kind of industrial construction that is expanding because of increased government regulations on quality control. It also exemplifies the kind of facility for which clients—faced with high fixed costs for equipment—are willing to invest in some extra thought and care in design. Albert Kahn Associates' design seems at first glance to be the most frankly industrial building in this study. But the conscious choice of the architects was to carefully orchestrate an esthetic of minimal parts into a grander whole. The care and attention with which they have done this is underlined by the retention of established trees on the 75-acre site and by the separation of parking areas by buffers of planting. And on the building's exterior, gray metal panels and sandblasted concrete are a neutral foil for the colorful piping and ductwork seen through a continuous clerestory along the top of the central spine (see caption). A steel structure is built on a system of

40-foot-square bays in the larger support areas. This allows flexibility and the ability to mount overhead cranes. The twelve test cells are built with poured-in-place concrete for both safety and sound absorption. Because of the need to keep hot contaminants from leaking from the cells, a negative pressure is maintained by large-capacity fans that draw air into a purification system. Heat exchangers supply the full heating needs in the building, and the system has excess capacity for building expansion. A minimal amount of glass, the concrete walls and well-insulated metal panels and roofing make this a very fuel efficient structure.

ROMULUS ENGINEERING COMPLEX, Romulus, Michigan. Architects: *Albert Kahn Associates, Inc.* Consultants: *Wade-Trim Associates* (drainage ditch relocation). Contractors: *Palmer-Smith Company* (general); *Douglas Steel Fabricating Corp.* (structural); *Limbach Company* (mechanical/plumbing); *F.J. O'Toole Co.* (electrical).

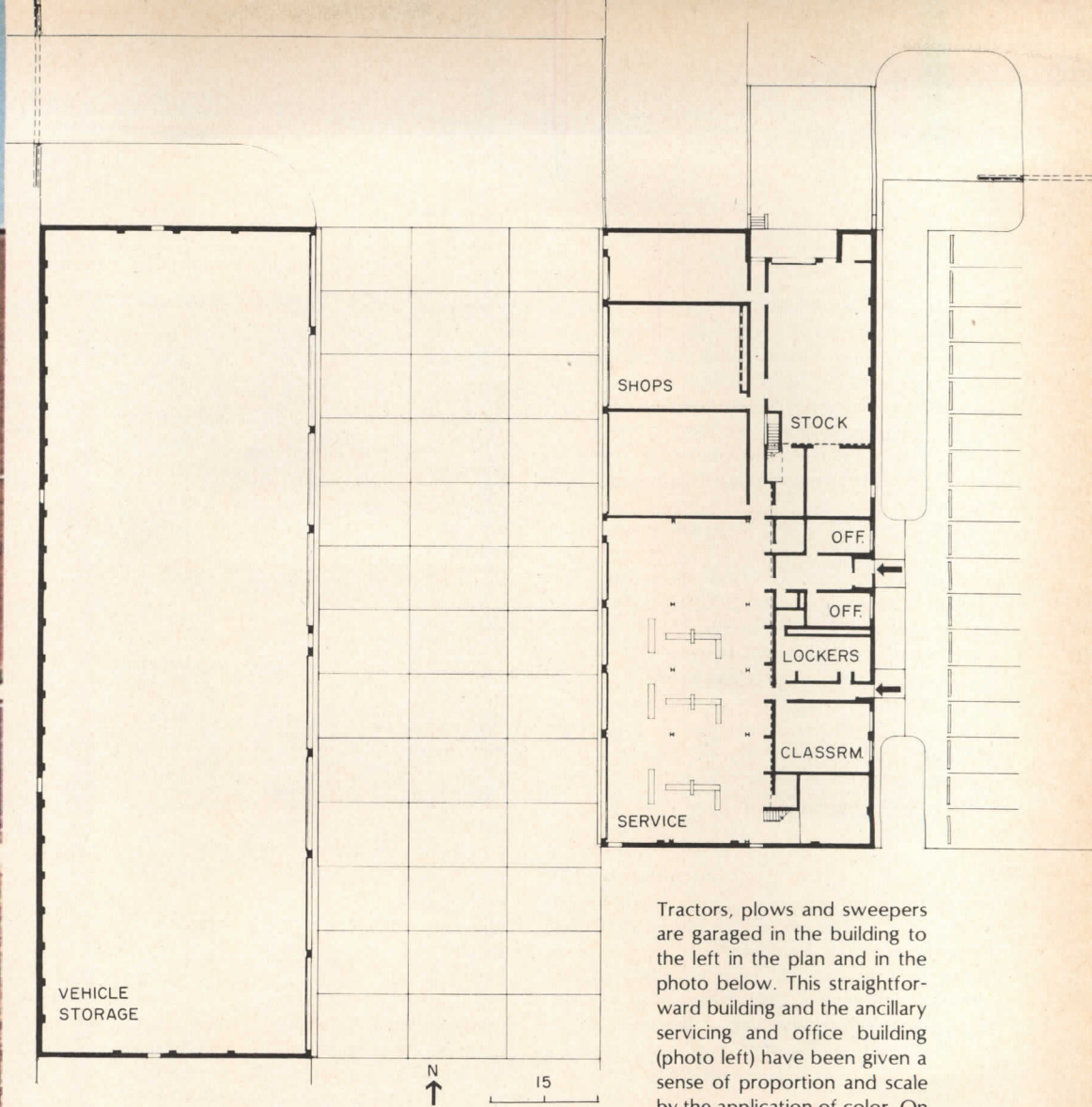


DAYTON AIRPORT MAINTENANCE FACILITY BY LEVIN PORTER SMITH

Faced with a commission for a bare-bones type of construction, the architects have chosen to turn these two buildings for vehicle storage and servicing into a playful exercise in formal relationships and manipulation of scale. Careful cost studies indicated that in this case there were definite advantages in using masonry bearing walls and steel bar joists in the conventional "stick-built" manner. The costs for the 33,500 square feet of space were \$1,220,000, and the architects had the flexibility to maneuver the resulting volumes in a more visually controlled way. The buildings are very straightforward, taking the shape of two parallel "boxes" on either side of an outdoor service court. While the end walls of the two volumes align at only one end, a subtle unifying central axis has been created through both by the formal placement of the public and employee entrances (see caption) on roughly the axis of the center of the storage building behind it. The importance of the otherwise simple entrances has been accentuated in an amusingly modish way by

both the applied flat patterns of the large squares of brilliant-blue glazed brick, and by the small patterns of the carefully organized, brilliant red doors and windows within them (see caption). Project team member C. B. Wayne describes the result of the colorful design as a relationship to human scale in an otherwise over-scale environment, "a means by which the buildings would serve as bench marks in the open space of airport fields." The architects estimate that the costs of the striking glazed-brick were only one tenth of one per cent of the minimal construction costs.

MAINTENANCE FACILITY DAYTON INTERNATIONAL AIRPORT, Dayton, Ohio. Architects: *Levin Porter Smith Inc.*—Donald A. Porter, project manager; Dale D. Smith, project designer; David M. Kirkwood, C. B. Wayne, project team. Engineers: *Richard Shell & Associates* (structural); *Bowser-Morner Testing Labs Inc.* (soils); *Heapy & Associates* (mechanical/electrical). General contractor: *Henry Stock & Son Inc.*



Robert Hower photos

Tractors, plows and sweepers are garaged in the building to the left in the plan and in the photo below. This straightforward building and the ancillary servicing and office building (photo left) have been given a sense of proportion and scale by the application of color. On the facade of the service-office building the color is applied in an over-all pattern of glazed brick within which a second related pattern of windows and doors has been carefully controlled to produce an emphasis on the double public doors, while the single employee entrance has been sublimated by a seemingly "accidental" placement.



HEALTH CARE EQUIPMENT / A 6-page brochure discusses how hospitals and nursing homes can reduce their food delivery utility bills by using a serving system with a rechargeable power pack. The self-contained meal delivery system was designed to take meals from the kitchen, keep them heated during transit, and deliver the entire meal on one tray to the patient. ■ Sweetheart Plastics, Inc., Wilmington, Mass.

circle 400 on inquiry card

PLASTIC PROFILE EXTRUSIONS / Practical solutions to interior wall system problems using plastic profile extrusions are described in a 4-page application guide. Interior protective systems include rigid vinyl corner guards, bumpers and handrails; IT Dual-Extrusion decorative and wire-carrying wall components; and profile extrusions used as trim, edge seals for floors and partitions, for glazing and as door and panel trim. ■ Crane Plastics, Columbus, Ohio.

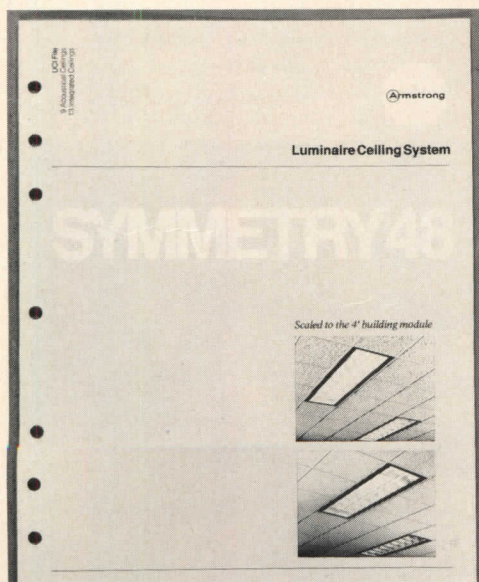
circle 401 on inquiry card

DRAFTING FORMATS / Specialty format and title block printing services offered by Accupress are presented in a catalog for engineers, architects, draftsmen and contractors. Included are "Artwork Master" custom formats, ANSI and MIL-STD pre-printed formats, and StikOn decals and appliques. ■ Bishop Graphics, Inc., Accupress, Chatsworth, Calif.

circle 402 on inquiry card

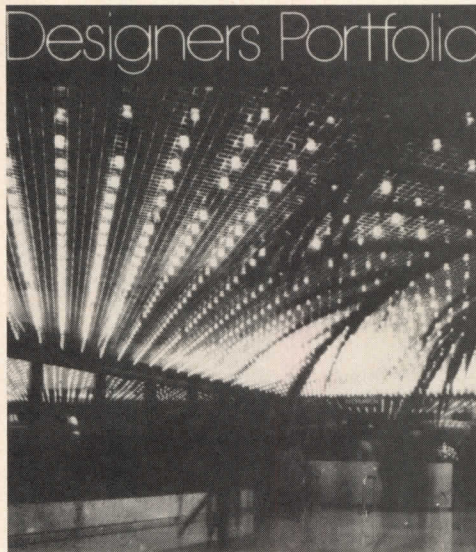
ENVIRONMENTAL ROOMS / Prefabricated, pre-wired and pretested scientific laboratories are offered in 85 standard sizes: a 20-page catalog explains construction methods, controls, and applications for these walk-in environmental rooms. ■ Hotpack Corp., Philadelphia.

circle 403 on inquiry card



INTEGRATED CEILINGS / A four-page brochure describes the new Symmetry 48 integrated ceiling system, the newest addition to the company's line of ceilings. ■ Armstrong, Lancaster, Pa.

circle 404 on inquiry card



LIGHTING CATALOG / A full color "1980 Designers Portfolio Catalogue" introduces products that are specifically oriented to the "design trends" foreseen in the '80s including low energy equipment (low wattage and low voltage). ■ Neo-Ray Lighting Inc., Brooklyn, N.Y.

circle 405 on inquiry card

SIGN SYSTEMS / Prepared as a check list for professionals, "How to Develop a Sign System" supplies step-by-step advice, design data and code requirements for architects and institutional administrators. ■ Best Sign Systems, Kansas City, Mo.

circle 406 on inquiry card

INSECT CONTROL / Electric control systems for industrial, commercial and recreational areas are shown in a 12-page color catalog. Approved for use in food processing plants, these UL-listed units attract flying insects with "NRG 357" ultraviolet lamps placed behind a charged grid. An escape-proof tray traps the insect remains. ■ Flintrol Inc., Jonesboro, Ark.

circle 407 on inquiry card

DRAFTING CHAIRS / A six-page color brochure illustrates a complete line of chairs for architects and engineers. Seating construction encourages a comfortable working posture; features include three-way adjustment, replaceable upholstery covers, and semi-hydraulic Auto-Lift height control option. ■ Cramer Industries, Inc., Kansas City, Kan.

circle 408 on inquiry card

OFFICE ACOUSTICS / "Taking the Guesswork out of Office Acoustics" is a book offered by this well-known acoustical firm that discusses in non-technical terms new techniques available to analyze acoustical/speech privacy between enclosed or open-plan offices. Worksheets and an interactive computer program that rapidly models office layouts to evaluate the acoustical implications of each design element during preliminary planning stages are included. ■ Bolt Beranek and Newman Inc., Cambridge, Mass.

circle 409 on inquiry card

HEAVY-DUTY DOORS / Catalog introduces the products of American Industrial Doors, Inc., custom-fit doors for industrial, utility and government buildings. Types include bi-fold, vertical lift, bi-parting, swinging, turnover, and special doors for nuclear installations. Electric door control systems and safety features are shown. ■ American Industrial Doors, Inc., Madison Heights, Mich.

circle 410 on inquiry card

INDUSTRIAL WINDOWS / Aluminum-framed top-hinged, pivoted, side-hinged, and Safety Slider windows for industrial and commercial applications are shown in an 8-page catalog. A chart lists the fiberglass, Twinwal and acrylic glazing options available for each window and skylight type, and gives the insulating and light transmission values for each. ■ Industrial Air & Light, Pittsburgh.

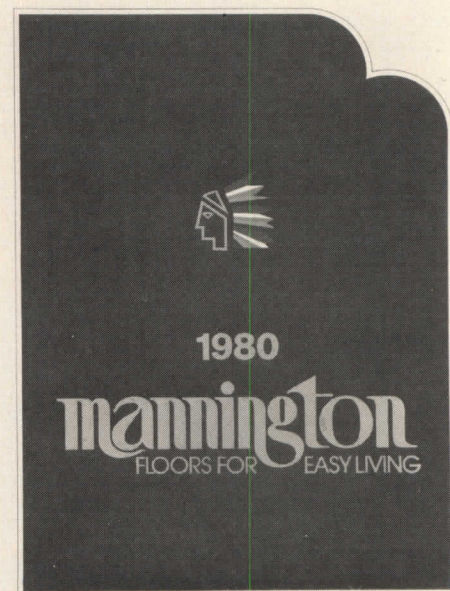
circle 411 on inquiry card

GRAB BARS / Heavy-duty stainless steel bars and rails, designed for hospitals, nursing homes and schools, are shown in a 12-page grab bar and corridor hand rail brochure. ■ American Dispenser Co., Inc., Carlstadt, N.J.

circle 412 on inquiry card

STONE PRODUCTS / A handsome color brochure describing the types of stone and suggested interior and exterior applications is available with descriptive information on materials and finishes. ■ Eldorado Stone Corp., Kirkland, Wash.

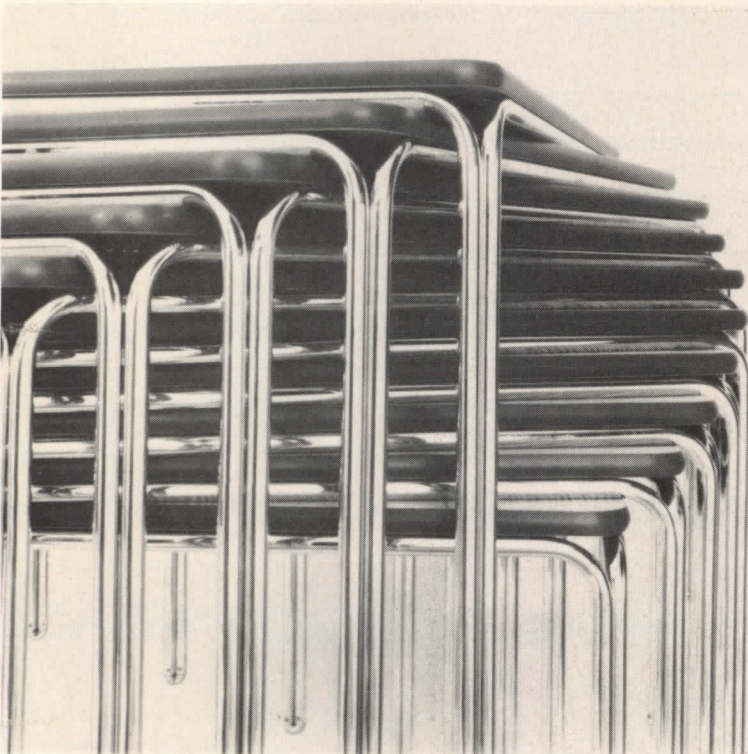
circle 413 on inquiry card



RESILIENT FLOORING CATALOG / In the "1980 Mannington Catalog of Resilient Sheet Flooring," small scale motifs with natural colorations are featured in 89 designs in 9 collections. Thirty room scenes illustrate commercial and residential installations, augmented by installation and maintenance specifications. ■ Mannington Mills, Inc. Salem, N.J.

circle 414 on inquiry card
more literature on page 146

For more information, circle item numbers on Reader Service Inquiry Card, pages 201-202



Sleek design features for stack table

The "Venus" stacking table has an apron frame of tubular steel that surrounds the top, meeting in a Y-shape at the corners to form a double leg. The table stacks ten high and is available in 36-in. square or 45-in. round models; also

available with natural oak top and "bumper-t" mold edge. It is one of a trio offered, including a square tube model and a tapered leg model. ■ Fixtures Manufacturing Corp., Kansas City, Missouri

circle 300 on inquiry card

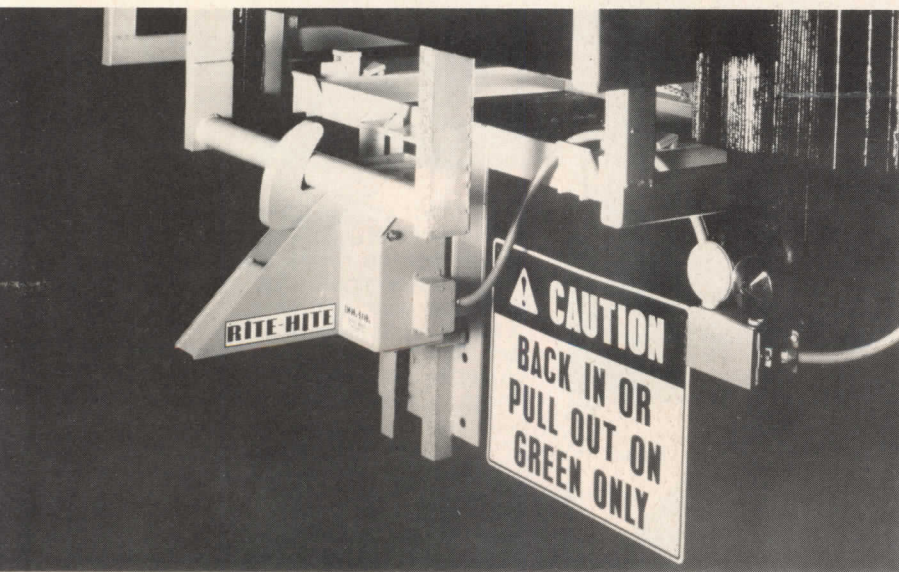


Ceiling design for high-impact areas

Long popular in Europe, a new line of six Daempa linear ceiling systems is now available in the U.S. Offered in more than 100 colors, including bright metallic finishes, the group includes Daempa-700 (shown) for use in indoor sports facilities, corridors, covered walk-

ways, tunnels, industrial buildings—anyplace where ceilings or walls may be exposed to impacts. Typical of linear systems, this one has snap-in installation of lightweight panels. ■ Levolor Lorentzen, Inc., Hoboken, New Jersey.

circle 301 on inquiry card



Safety device for truck loading docks

"Doc-Lok" is an electro-mechanical, self-aligning device used to secure trucks and semi-trailers to the face of a loading dock, thus preventing trailer movement that might create an unsafe space be-

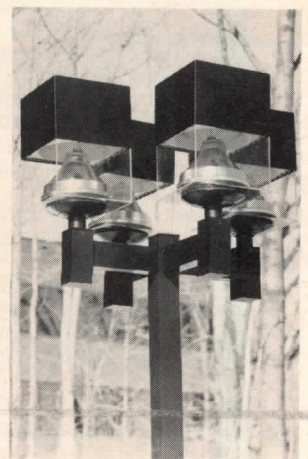
tween the truck and dock. The device, attached to the dock, simply hooks onto the truck's bumper assembly, and is operated by dock personnel. ■ Rite Hite, Milwaukee.

circle 302 on inquiry card

Economical outdoor lighting with new fixtures

These lighting standards called "Conquest" for outdoor areas produce glare-free uniform lighting. The visual cutoff of high angle light is accomplished with the combination of collector and distribution reflectors. The company claims that fewer poles at lower heights are necessary, which result in its economical use. ■ Area Lighting Division, McGraw-Edison Co., Racine, Wisc.

circle 303 on inquiry card
more products on page 137



KIM FOUNTAINS

Experience, Dependability, Performance Guaranteed



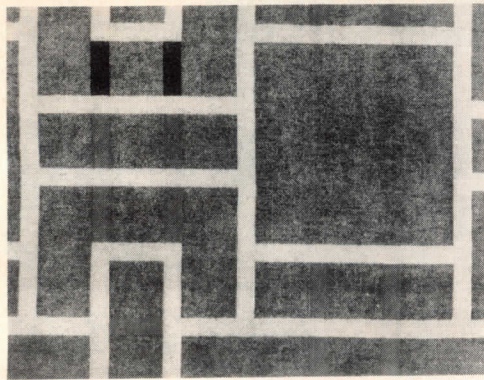
KIM LIGHTING

Subsidiary of Walter Kidde & Company, Inc.

KIDDE

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Outdoor Lighting and Architectural Fountains



WILTON WEAVE / Designed by Jack Lenor Larson, "Promenade" is a Wilton-weave velvet made of a blend of acrylic and nylon yarns. Its Mondrian-type grid is designed both for bound rugs and as carpeting. "Promenade" is performance-certified for such heavy-traffic commercial installations as hotel lobbies, banks and department stores. ■ Jack Lenor Larsen, Inc., New York City.

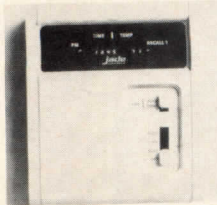
circle 310 on inquiry card

DRINKING FOUNTAIN / A pedestal-mounted fountain made from pre-cast concrete with an exposed aggregate finish, "Model 30" is designed to blend into any landscape or street setting. The self-closing valve may be operated by turning or pushing in on the cross-arm handle assembly. The fountain, which is available 30- or 36-in. high, is surface mounted with concealed bolts and anchor feet in the base. ■ Western Drinking Fountains, Glen Riddle, Penn.



circle 311 on inquiry card

DIGITAL THERMOSTAT / Said to be the first digital thermostat that can automatically switch from heat to cool and back again, the "Smart Digital" unit constantly maintains temperature in the desired comfort zone. Both room temperature and time of day are displayed on a LED readout; concealed behind a hinged door, the keyboard of the all-electronic unit requires two-finger programming to lessen the chance of accidental manipulation. Thermostat can store up to four different time-temperature programs. Suggested retail price of the "Smart Digital" is about \$80.00. ■ Jade Controls, Inc., Montclair, Calif.

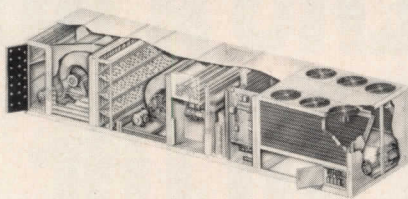


circle 312 on inquiry card

MICROFILM READER / Specifically designed for engineering drawings and other large-sized documents, the Model 4312-AR reader provides distortion-free magnification onto an 18- by 24-in. screen. It accepts EAM film cards up to 5- by 8-ins., plus 100-ft spools of 35mm film, microfiche and acetate jackets. Film is held in a heat-resistant flat glass housing during projection; all controls are front-mounted for operator convenience. ■ Dietzgen Corp., Des Plaines, Ill.

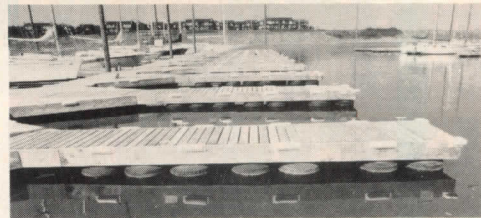


circle 313 on inquiry card



ROOFTOP AC / The *Rooftop* line of single zone air conditioners from 18 to 100 tons has received approval from the Canadian Standards Association. The approval covers all electric heating and cooling units as well as electric heating only units. *Rooftop* units are designed for constant and variable volume applications. ■ McQuay Group, McQuay Perfex Inc., Minneapolis, Minn.

circle 314 on inquiry card



FLOATING MARINA / Using a patented process for filling used tire casings with polystyrene, this floating dock installation was completed at substantially less cost than similar marinas of all-wood construction. The floatation system can support over 15 lb per sq ft, live load, and is guaranteed for 25 years. ■ Topper Industries, Inc., Vancouver, Wash.

circle 315 on inquiry card

more products on page 141

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MEDUSA WHITE PORTLAND CEMENT—lends itself to unlimited architectural creativity in color, form and texture. Write for colorful, informative brochure.

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SANITARY CEILINGS / A new brochure describes the company's full line of sanitary ceilings. Scrubbability, durability and acoustics are key features of both the metal and vinyl surfaces. Textured, perforated or unperforated surfaces are available in both tile and lay-in panels. ■ Capaul Ceilings, Oak Brook, Ill.

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CUSTOM GRAPHICS / Capabilities brochure demonstrates the consoling, design, production and installation services offered by a design firm specializing in signage systems, decor and graphics. Color photos illustrate a variety of actual installations in public, private and commercial facilities, including factories, hospitals and stores. ■ JaRob Design, Inc., Grand Rapids, Mich.

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CONTRACT ACCESSORIES / Catalog presents hundreds of office accessories—clocks, lamps, urns, planters, desk sets, etc.—from many major manufacturers. All items shown are available in stock; price and trade discount information is included. ■ Fuller Office Furniture, Corp., Long Island City, N.Y.

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MARBLE TUBS / The newest line of lightweight cultured marble bathtubs are outlined in a color brochure. Dimensions, colors and special designs for hydro-therapy equipment are included. ■ Fabri-netics, Ltd., Salt Lake City.

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INSULATION / A revised and up-dated catalog covering silicone treated perlite loose fill insulation for masonry construction, in preparation for over a year, is available with test results on silicone treated perlite for combustibility, corrosion, moisture absorption and volume loss. Of particular interest to architects and engineers is a procedure for calculating the U value of masonry walls; R values of typical components of veneer and cavity wall constructions are presented as are R values for uninsulated and insulated concrete block walls. ■ Perlite Institute, Inc., New York City.

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SHUTTERS / A pamphlet describes the attractiveness and practicality of woven oak insulated shutters. They have received an R-8 value rating. ■ FTR-Wovoak, Boulder, Colo.

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OPERATIVE ROOFS / Design versatility and solar energy efficiency for these operable skylight roofs are described in an 8-page brochure. Suggested applications include residential, institutional and commercial indoor pools and atriums. The roof panels can be opened to vent moisture, condensation and for ventilation. The system has no moving parts exposed to weather elements. ■ Rollamatic Roofs Inc., San Francisco.

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STUCCO / Ready-to-use polymer stucco is described in a 4-page pamphlet with samples attached. Permanent, fade-resistant 21 colors range from pale cream to bronze, with unlimited hues available on special order. "Stucorock" is a non-cementitious, coarse-grain, flexible, high-texture compound containing weather resistant pigments and fillers. ■ Stucorock Manufacturing Co., Tulsa, Okla.

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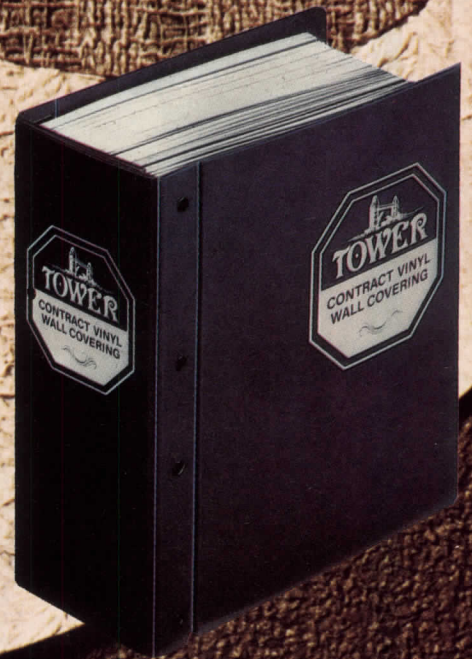
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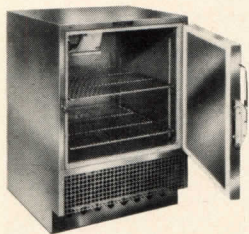


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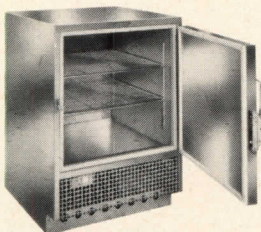
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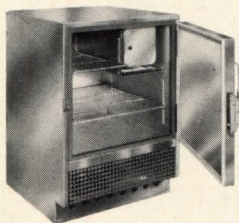


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Refer to Sweet's Catalog 11.20/Je for quick reference.



CONTRACT FABRICS / Small patterns and warm earth tones are used in Fujiwo Ishimoto's textile collection for *Marimekko*. Fabric may be used as wall hangings, upholstery, etc.; the quilts shown here are made with a number of different designs. ■ Marimekko, New York City.

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WALL LAMP / A shell form made of Italian glass in a white matte finish, "By The Sea" fixture measures 8½- by 8½-in., and is available as either a pin-up or wall bracket model. The light takes one 60-Watt bulb; list price is \$115.00. ■ Koch +

Lowy, Long Island City, N.Y.

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DECORATIVE LAMINATE / For use on walls, furniture or fixtures, "Travertine Marble" pattern laminate is said to be especially suitable for offices and commercial settings. This beige and brown marble design is one of 108 selections offered in the "Design Group I" collection of high-pressure decorative laminates. ■ Ralph Wilson Plastics Co., Temple, Texas.

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INTERIOR PANELING / "McKenzie Trail" paneling has real fir face veneer in a distinct wood grain pattern. The four- by eight-ft panels are 7/16-in. thick, with 1/8-in.-wide random grooves to give the appearance of old boards. "McKenzie Trail" is available in four rustic colors. ■ Georgia-Pacific Corp., Portland, Ore.

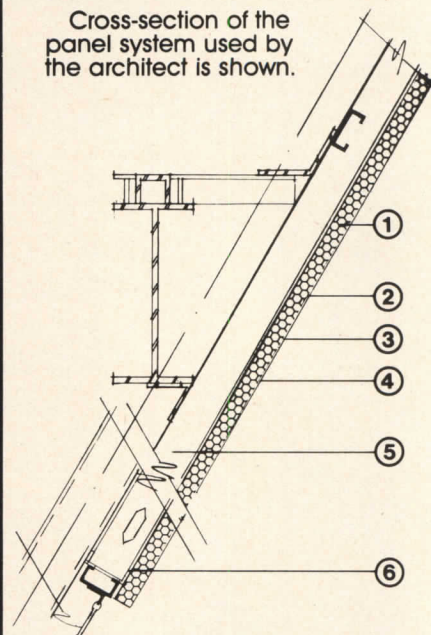
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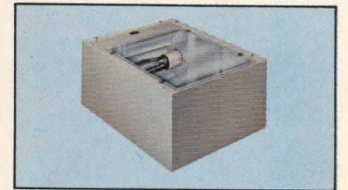
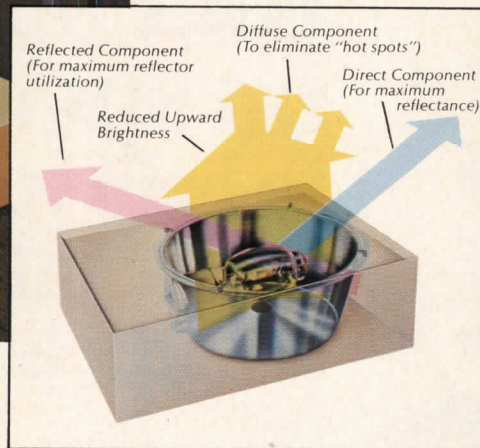
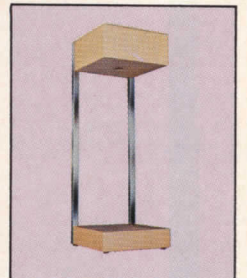
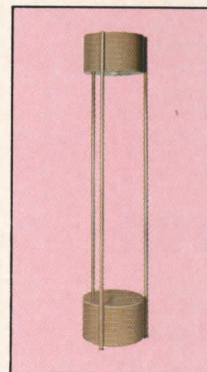
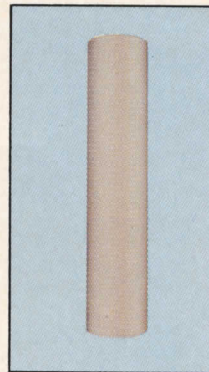
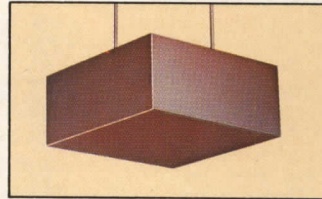
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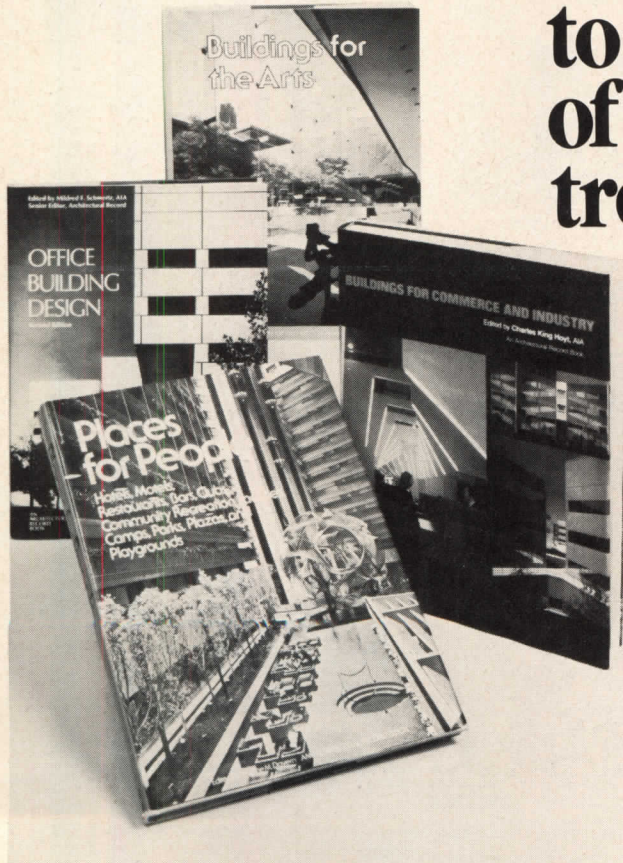
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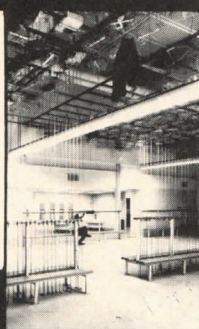
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Owner/Manager-Equity opportunity in sales/distribution company serving a manufacturer of building interior systems. Establish architectural product used in several major installations and designed for use in a variety of commercial facilities. Persons must be sales oriented with ability to serve as chief executive of a newly formed company. Current connections within the architectural community and among the building industry essential. Persons now serving as manufacturer's agents for related products who are interested in a full time ownership role are encouraged to respond. Limited investment required according to individually prepared business plan. Reply to: BO-2476, Architectural Record.

BOOKS

Europe: Architectural Guide 1860-Today by Jerryl Habegger. 13 countries-500 Bldgs. with address, architect + date. 150 illus. \$4.50. Order from: Architectural Guidebook, 421 West Belden, Chicago, Illinois 60614.

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