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LETTERS

FORUM FERMENT

FORUM: I am very glad to have finally heard a responsible voice in defense of America's architectural heritage, which I have watched being slaughtered for the last 20 years of my life in this country.

I do hope that FORUM will bear strong enough influence to save some of the treasures placed in our trust and care by history. Thanks for bringing a fresh outlook and uncompromising stand, both very much needed.

JACEK VON HENNEBERG, AIA
Cambridge, Mass.

FORUM: What a pleasure to open the September FORUM and find on page 21 that an architect can write.

There have been good editors in FORUM's past but none that I can remember whose words augur as well, both in content and form.

We will be watching, however, to see if fashion continues to prevail in reporting. Can simple common sense building, basic work that does not proclaim itself "Architecture," the non-chic, be found newsworthy? Can puff pieces about "form-makers" be done with? We will support FORUM if such changes come about.

Seattle FRED BASSETTI, FAIA

FORUM: Permit me to add my congratulations. The September editorial gives promise for a continued era of journalistic excellence for the magazine.

BILL N. LACY, AIA
Director, Architecture & Environmental
Arts, National Endowment for the Arts
Washington, D.C.

GUND HALL

FORUM: Your article on Gund Hall is a splendid piece—fair, balanced and insightful, and, from what I have seen of architectural reporting, far above the ordinary.

MAURICE KILBRIDGE
Dean, Graduate School of Design
Harvard University

LOW COST MODULAR HOUSING

FORUM: Re: A Modular House That's Different, page 61, October 1972.

Isn't it about time we quit kidding ourselves about architect designed low cost modular housing? In the 50 or so years this sort of thing has been going on we should at least have learned that if the prototype isn't successful there is little chance that what follows will be any more successful.

Allow me to suggest that to call Richard Dattner's house a prototype for a low cost housing system makes as much sense as to call the Taj Mahal a prototype for a low cost monument system. "Now if we can just get more of those mosaics factory produced..."

MICHAEL GASSMAN
Aspen Architect

EVERYDAY BUILDINGS

FORUM: I have just read your "Everyday Buildings" article (October '72 issue). Since my practice is quite heavy in educational work with public bodies, I read with more than casual concern. Although the article has a much broader target than just educational work, two major points stand out: (1) Bringing in the architect as a central decision-maker early enough in the pre-planning process to help determine overall objectives and methods of achieving them; (2) the two-part contract, covering two distinct phases of services, recognizes the design architect as a true problem solving professional.

This article is well written and has a major message for public bodies. Unfortunately, that message has not been received by those "decision-makers" here in the midwest. I contacted a sampling of agencies and found one of nine had seen the article.

I think this reinforces the need to get your magazine and your message across to the "decision-makers" in City Hall, the Court House, the School Board, etc.

ROBERT O. LITTLE
Executive Vice-President
St. Louis Wm. B. Ittner, Inc.

FAR FROM THE MADDING CROWD

FORUM: "We never live in a modern setting if we can avoid it. That's for our clients"... quote from N. Owings, (FORUM, Sept. 72).

Will SOM ever be able to speak with conviction and principle again? Their clientele must

now see "the crack in the picture window." One hopes the other partners of this great firm can keep Nat on his travels, collecting building materials and nick-nacks—anywhere—but as far away from the office as possible.

We also note on the plan accompanying this Sunday supplement that a high adobe wall not only separates the couple from the outside world, but from each other as well. Perhaps nostalgia is not the answer either? Let's hope it doesn't rain.

NESBITT A. GARMENDIA, AIA
New York

WOMEN IN ARCHITECTURE

FORUM: I wish to correct some impressions regarding our book, "So You Want To Be An Architect" and our publisher, Harper and Row, which might have been gained by reading Ellen Perry Berkeley's article, "Women in Architecture" in the September issue of your magazine.

In our book we describe some of the working situations architects find for themselves after leaving school. A husband and wife who also happen to be architects are used in two separate vignettes. The husband works in an office which turns out a great volume of work under extreme pressure but which produces large monetary rewards for its employees. The wife has a great many problems in finding a good position. She is not taken seriously by her fellow students, teachers or the administration at her school. After leaving school, she finds herself working for less salary than men of similar experience or assigned to do interior work or renderings exclusively. Eventually she finds an enlightened office where people move along on their merits as individuals. The employees share in the work decisions and the resulting profits. She works up to and after the birth of her children. She teaches at the City University. Of course, in such an office the atmosphere is a balance of good design, humane working conditions and adequate responsibility with monetary reward.

The two architects above are separate personalities. They require different things. If their salaries reflect the difference in the offices they worked in, let me point out that the woman architect had a salary (\$30,000) based on a profits-shared idea.

Some years it would be less, some years more. She also taught at a local university, a position which could be very lucrative. Her husband made more money as salary (\$50,000) but spent a great deal on ulcer cures. It never occurred to me that the woman in our vignette had anything but a very positive kind of work-situation. But if one takes salary amounts completely out of context and then puts values of great weight on these lonely amounts, one can easily make it appear that the woman is being short-changed.


Our book goes on to criticize some architectural monuments, physical and otherwise. We were cautioned by our co-author, Alan Nourse, a long-time professional writer for Harper and Row, to be discreet in our criticisms as the book was one meant for junior high school libraries; a book from the trade book department to be bought by school librarians rather than the public in general. But our editor, Hal Grove, never inhibited us in any way. Ms. Berkeley might have mistook our being given this quaint warning about shaking up the junior high schools of America for meaning something else. The single vignette describing a person in solo practice is a man because (1) Most of the single-architect type offices are headed by men and (2) Single-architect type offices are becoming obsolete and (3) I couldn't advise, even remotely, a woman architect to get into anything that is obsolete.

CAROLYNN R. MEINHARDT
New York Architect

Ms. Berkeley replies: When I mentioned the salary differential between husband and wife, I did not mean to imply that the woman had anything less than a "very positive kind of work-situation." The work-situation was not under discussion. I was simply reporting the fact that the book shows a man earning one amount, and a woman earning a lesser amount. It is a product of the times that in the real world—and in this book—a woman often earns less than a man. I did not feel that the details of the two jobs, in this case, were important to this point; since Carolynn Meinhardt disagrees, I am glad to have her cite full details.

As to whether a woman should

(continued on page 9)



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LETTERS

(continued from page 4)

be depicted as heading a single-architect office, the book again reflects quite accurately the present situations: most such offices are indeed headed by men. However, I see no reason why a larger proportion of these offices shouldn't be headed by women, as women come to have broader opportunities in this and every profession.

The authors describe quite vividly the difficulties and rewards of each kind of practice, and—to their credit—do not directly advise men or women to choose any particular aspect of the profession. The vignettes, however, can be read as "indirect" advice to women that they should put limits on their ambitions. (One other point: if the authors believed, in 1969, that the single-architect office was "becoming obsolete," why didn't they say so—for the benefit of anyone reading the book, boy or girl?)

I wondered, after reading this letter from Carolyn Meinhardt, whether the book was advising a man, even remotely, to get into anything that would give him ulcers. But it turns out that our man in the Huge Anonymous Firm doesn't actually have ulcers: "Occasionally he exhausted himself completely on a job and had to be shipped off to the Bahamas to get his nerves unknotted." I can think of more than a few women who would enjoy this "ulcer-cure," as well as the pressures and responsibilities of a \$50,000 job. In a future time, and perhaps in a future revision of this book, let us hope there are more women in the profession, and in a more complete range of jobs.

KAHNTEXT

FORUM: Two letters in your October issue require an answer, both on Lou Kahn.

Mr. Conrad's letter: The buildings at Dacca are built under labor conditions far less mechanized than in this country. A brick arch uses local labor and material, while a steel beam may have to be imported. The Dacca complex reminds Mr. Con-

rad of "an abandoned section of the Paris subway" and "the Mayan ruins of Yucatan" built at quite different periods of history. If the Dacca buildings simultaneously evoke two different periods, then they must have a timeless quality that makes an architectural work great.

FORUM's comment that "the mind of Lou Kahn is a cross between a gaslight and a laser beam" is highly perceptive. Such an encompassing of past and future aptly describes Lou Kahn's conceptual capacities. To be able to give material existence to spaces which seem timeless is, in Lou's own words, "to make measurable the unmeasurable." Lou Kahn's architecture has archetypal power—it reveals a forgotten past and points to new beginnings.

As for Mr. Smith's letter: It is time someone dispelled the myth that Lou Kahn is an expensive architect. He was a pioneer in low-cost housing. He pioneered in the use of exposed concrete in institutional or monumental buildings and was thereby called a 'new brutalist'. His buildings, when required, are strictly budgeted as far as building costs. It is certainly true that he personally does not budget his own efforts in the design of his buildings, and for that reason they are fantastic bargains for his clients. What may appear to be non-functional aspects of his architecture, are in fact functional—for instance the double walls of Dacca provide "air conditioning" in the extreme heat of Bangladesh.

His extraordinary accomplishment is that out of 'mundane' requirements (research laboratories, government buildings—think of some of our own government buildings in Washington) he is able to evolve (not without great struggle) buildings which transcend the mundane. Such vitality is certainly relevant, hardly a "relic". If Lou Kahn should involve himself in "systems buildings," I doubt very much if his solutions would be called "systems buildings." In function, in square foot cost, and in generative possibilities, they would probably transcend the "commercially relevant." Clients for "systems buildings," take note!

Is great architecture ever not relevant?

ANNE GRISWOLD TYNG, AIA
Philadelphia

On Reader Service Card, Circle 308→

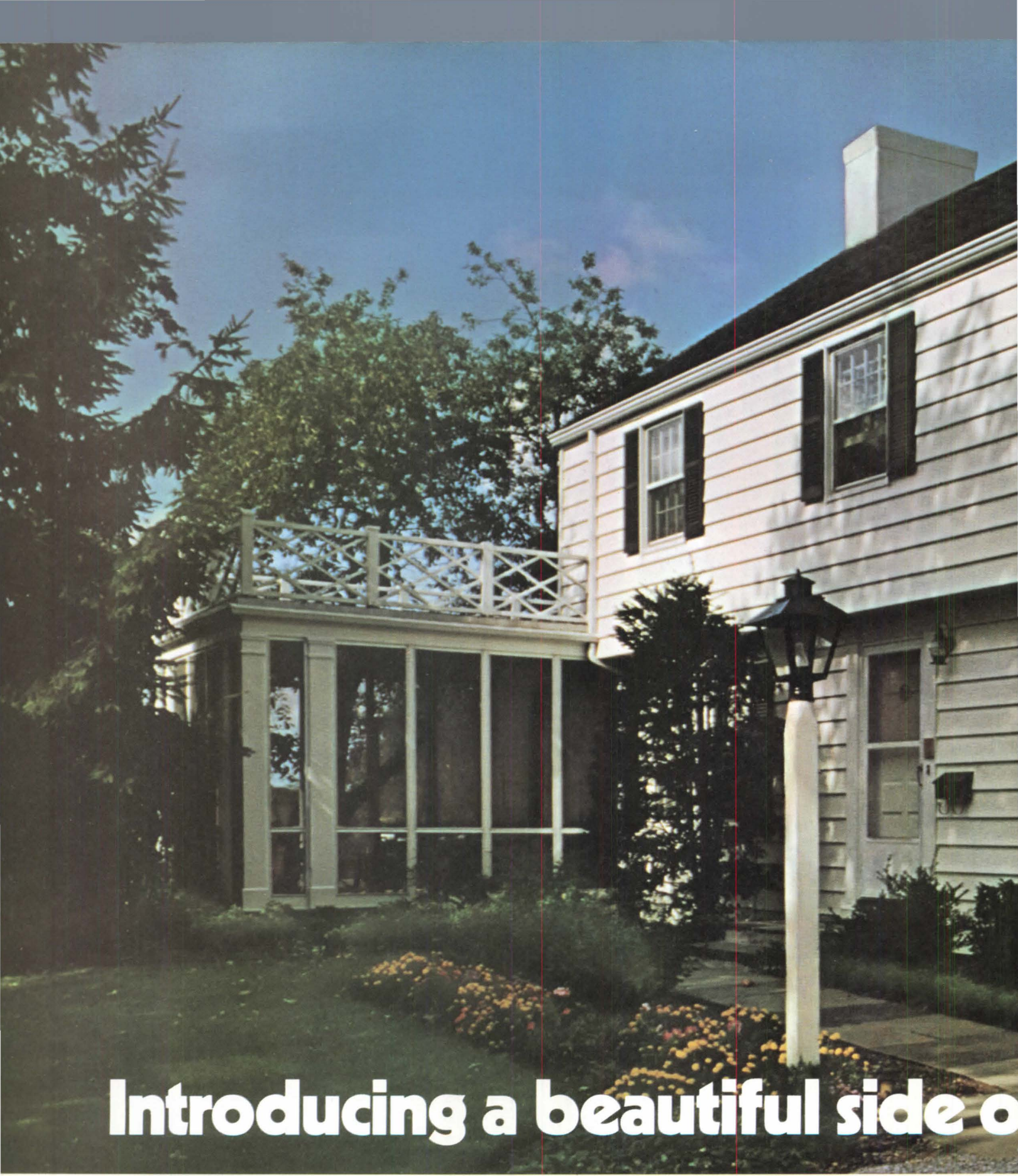
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BOOKS

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REVIEWED BY DANIEL J. SHANNON

In 1836, three men who had been appointed by the State of Illinois to supervise construction of the Illinois and Michigan Canal provided Chicagoans with a heritage which, only today, can be fully appreciated. These men agreed that the lakefront should be free of construction and declared it to be: "Public Ground—A Common to Remain Forever Open, Clear and Free of any buildings, or other Construction Whatever." On the basis of this declaration, Lois Wille has written a book which declares the importance of preserving Chicago's lakefront as open space. "Forever Open, Clear and Free" is a thoroughly fascinating and well-documented narrative which draws the reader into the sights, smells and sounds of Chicago's story. The reader will find himself nodding in agreement, frowning as the disagreeable odor from the city cemetery (which is now Lincoln Park) assaults his imagination, gasping: "Oh, so *that's* what happened!" and experiencing a spectrum of human emotions as his reading progresses. It's the kind of book you hurry to finish and then feel sorry to conclude, because it leaves you aware of things which you had only vaguely realized before—and wanting to know more about.

Rich historical interest transports the reader from the time Indians and Jean Baptiste Point DuSable settled in the area, through the boom-town development and the resultant Chicago Fire, up to the redevelopment of a burned down city and the battles that were waged to keep the lakefront a public ground. Personally, I found the information on the notorious "Cap" Streeter and his wife, "Ma," fascinating. How many people



"Cap" and "Ma" Streeter, founders of the "District of Lake Michigan"

know of the bond existing between those two colorful, somewhat unconventional rioters and the stately Hancock Building? Aaron Montgomery Ward is known to all Chicagoans as a merchant, but few are informed of his monumental court battles to preserve Grant Park for future inhabitants of Chicago. This man's personal conviction, foresight and courage cost him grief, slander and a great deal of money. It provided those of us who came later with a priceless open area, acclaimed throughout the world for its beauty and grace. If it hadn't been for Ward, no amount of money could reacquire the precious open spaces of Grant Park.

The great builders and artists who planned, dreamed and fought for the designs which enhance Chicago's lakefront and parks—Frederick Law Olmsted, Daniel Burnham, moderns such as Walter Netsch and Gene Summers—are enumerated and their contributions explained to laymen who do not normally comprehend architectural beauty as an essential for landmark preservation.

When the city rose from the ashes, Chicagoans believed they could do anything. This attitude prompted the nickname: "That Windy City," and inspired Chicago's fight for designation as the location of the World's

Columbian Exposition. The opening of that grand event revealed a city planned with attention to the relationship between buildings, water and open spaces, a concept developed by Olmsted and Burnham. This exposition's architecture complemented the natural configurations of the lakefront and left what is now Jackson Park as its legacy. It was to become the basis for the Chicago Plan. Contrasting this exposition was the Depression Era's "Century of Progress," which was gaudy, gala, boisterous and left Chicago only crumbling plaster edifices to blot the lakefront. The most memorable "construction" of that exposition, it appears, was that of Sally Rand.

The careful development of Chicago as a city of parks with its beautiful plan, struggle, and history of success-in-spite-of-itself, gave the city a park heritage famous throughout the world. Past presidents of the Chicago Park District are named, their triumphs recorded, their mistakes criticized—albeit with the benefit of hindsight. Political influence is inferred as being present in the Agency since the time of the depression. While it makes interesting, gossipy reading, the positive contributions of many dedicated men are overshadowed by the "spicy" behavior of men such as Alderman Hinky Dink Kenna, Bathhouse

John Coughlin, and friends and relatives of men in public office. Chicago's Mayors, from William B. Ogden to Richard J. Daley, are also criticized and acclaimed. I noted a pervading undercurrent which implies that politicians are the main cause of the lakefront problem; that everything was "O.K." before they got involved. The author's failure to note the real crux of the matter, which is that the public is apathetic unless they feel personally threatened, enhances this implication. We all know that it's easier to get mad at a public servant in any situation that needs someone to blame than at the thousands of anonymous voters who elect the public officials.

As one of the subjects within the book, your reviewer took a few quick jabs to the chin, and one good right to the stomach; however, I found myself in some pretty important company.

A left to the chin hurts less if one of the referees in the ring is Aaron Montgomery Ward or Daniel Burnham. While Miss Wille makes some valid criticisms of the Chicago Park District, in other instances the blame directed toward that Agency alone should have been shared. In judging the actions of a public agency, the people of Chicago, their attitudes at the particular time, the pressures of the economy, and countless other factors must also be weighed in the judgment. For example, Soldier Field may well be a "Hippodrome", but it does provide a much needed home field for the Chicago Bears and a municipal stadium which is available for high school championship competitions and other non-professional games. The cost to participants is not prohibitive, since rental fees are based upon the individual team's ability to pay. The Chicago Park District is aware of the problems, but has yet to reach a solution which is agreeable to the public, city government, economy, landscape and the many other factions that must agree to proposed solutions which involve the entire city.

The gradual development of final plans through various private citizen clubs, not so private citizen clubs, altruistic committees and councils, not so al-

Daniel J. Shannon is president of the Chicago Park District and former Notre Dame All-American.

(continued on page 16)



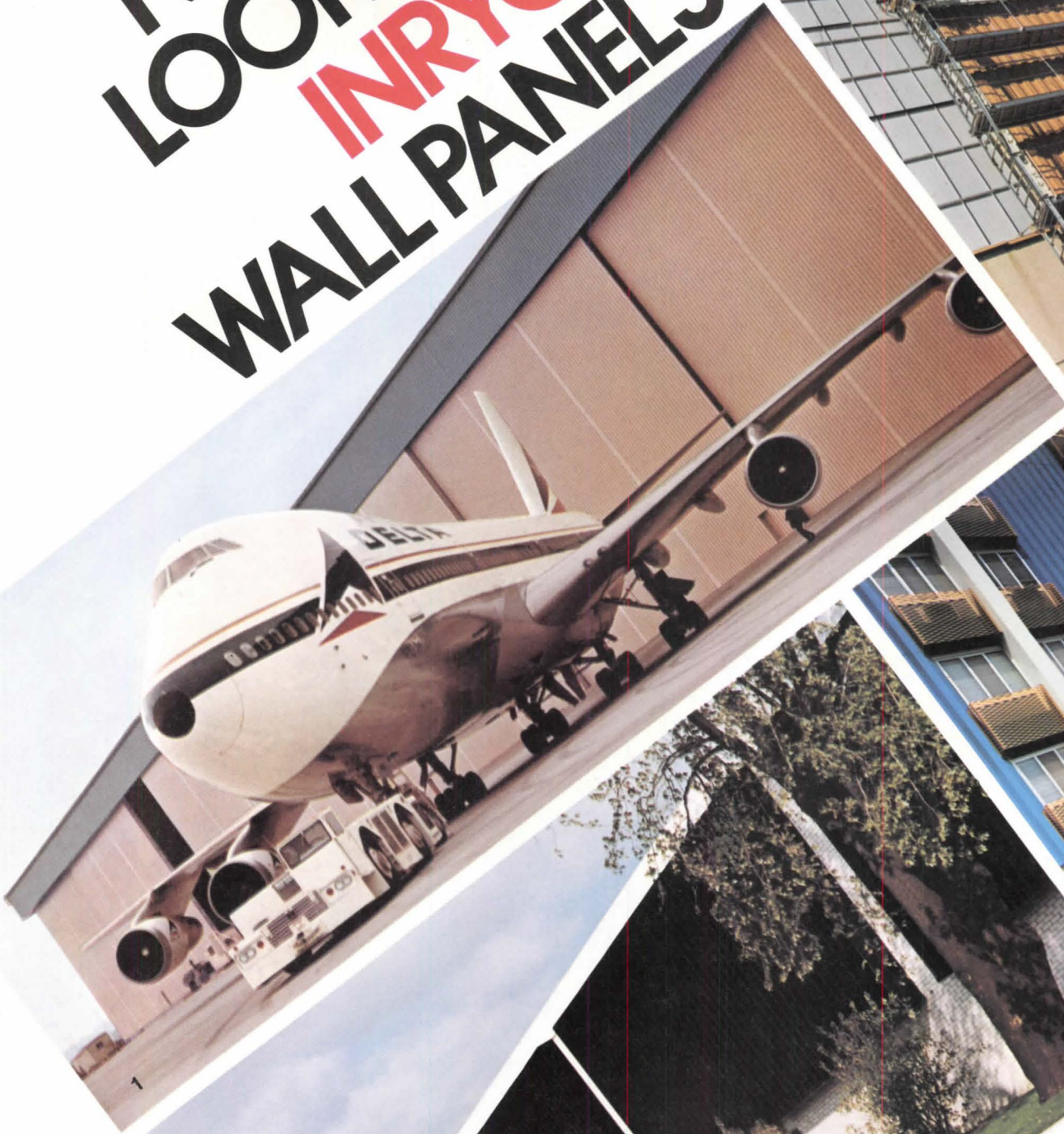
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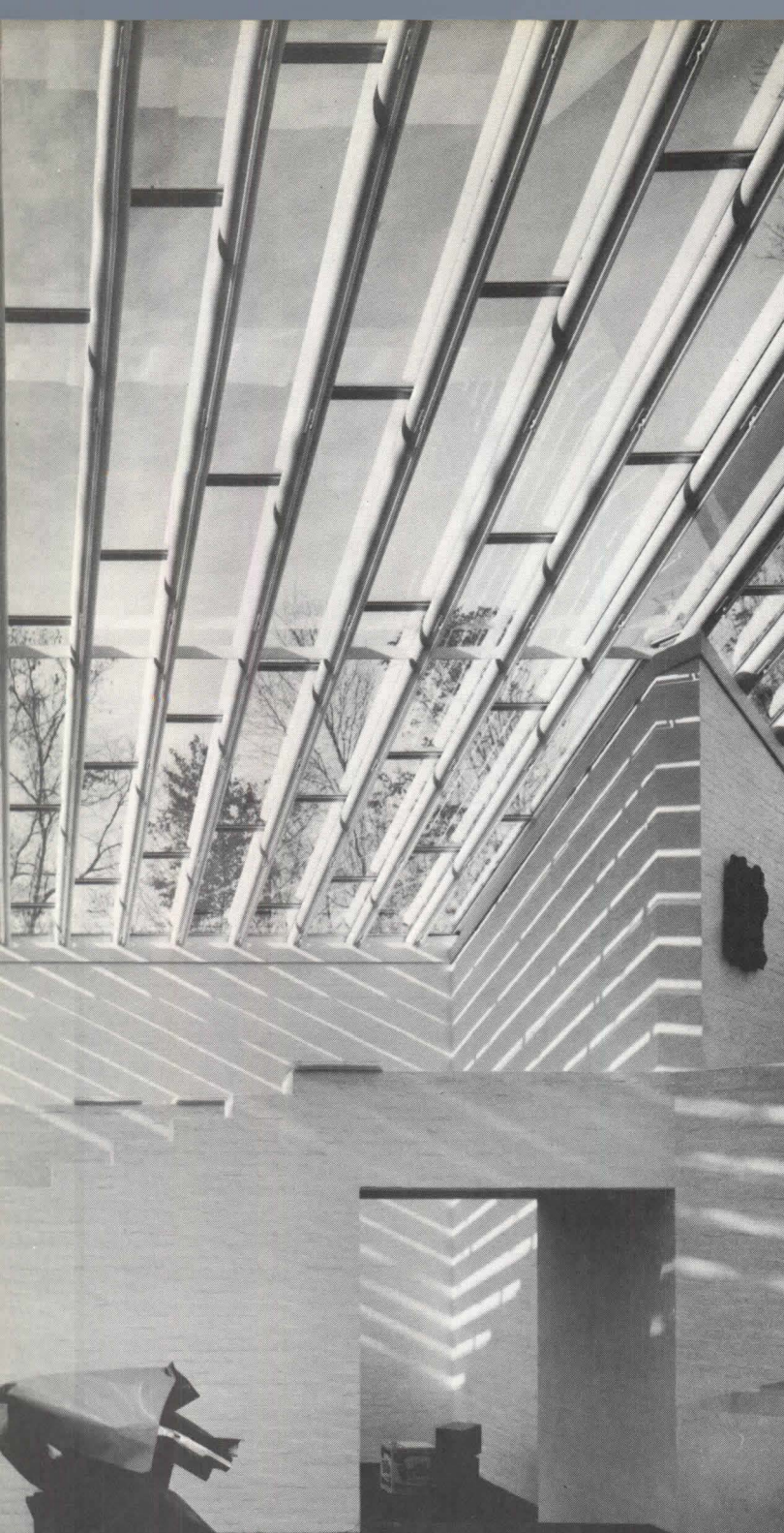
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BOOKS

(continued from page 12)

truistic committees and councils, architects, modern city planners and politicians, usually results in development acceptable to everyone involved. What your reviewer noticed as inherent in this book is that the failure of the above groups to agree with plans made by those who the author has designated as "authorities," means it is the groups who are wrong; not the plans. No room is left for compromise, a necessary factor if anything, be it a road, a building or a park, is to be realized.

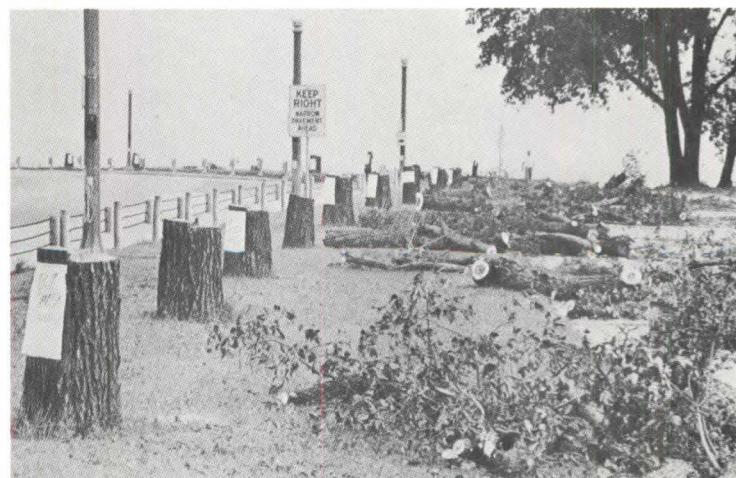
In conclusion, Miss Wille enumerates serious questions which threaten the future of the lakefront. Chicago has grown in all conceivable directions: North, South, West, Up and Down. The only undeveloped land which remains—the lakefront—has been preserved as open space by Chi-

cagoans who cherished its esthetic value more than its monetary value. Now, people who advocate monetary profit as the true measure of "growth" are viewing this land as a possible location for business, housing and private enterprise. Opposing these people are the conservationists, those who support the cultural need for open space and believe this land should be used for recreational facilities, park land, public boating facilities, a year-round fair ground, or anything which will allow Chicagoans to preserve their precious open space heritage. (Personally, your reviewer strongly endorses preservation of open space.) To offset the argument of the advocates of monetary profit, Chicagoans—and people everywhere who are the keepers of this nation's open spaces—must be made to realize that the recreational benefits of open space profit the entire society, while monetary profits accrue to only a few.

Everyone who cares about the development of land and its conservation will benefit from reading Miss Wille's book. Apart from the enjoyment the readers will derive from this story, they should also remember, heed and learn from the contents. Hard work, research, love and conviction have gone into the development and conservation of the lakefront, and Miss Wille has employed these same qualities in bringing the story to the public. What remains is for these qualities to be passed on to and accepted by the readers for their use in continuing and understanding the fight to keep Chicago's lakefront, "Forever Open, Clear and Free."



In 1965, demonstrators tried to save these trees in Jackson Park . . .



. . . from becoming another lane of Lake Shore Drive.

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Michelson Plaza: A bold exterior and column-free first floor were two of the prime objectives for this four-story office building. Both were achieved by the use of bare fluid-filled USS COR-TEN Steel box columns and roof girders, and by suspension of the upper three floors. The girders are also filled with fluid and represent the first use of the internal fire-protection technique in a horizontal plane.

Owner: Michelson Associates, Newport Beach, Calif. **Architect:** Riley & Bissel, Newport Beach. **Structural Engineer:** Robert Lawson, Newport Beach. **Contractor:** B. H. Miller Construction Co., Newport Beach.

columns=fire protection.



Should the columns be exposed to flame, the fluid inside the columns absorbs the heat, and convection currents circulate the water solution within the closed-loop system. Heated fluid rises and cooler solution replaces it, literally giving heat the run-around.

For information on fluid-filled columns or USS COR-TEN Steel, contact a USS Construction Representative through your nearest USS Sales Office or write United States Steel, Dept. 7565, Box 86, Pittsburgh, Pa. 15230.

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Airport Business Center: This handsome, four-building complex comprises two four-story office buildings and two one-story branch banks. All exterior steel is bare USS COR-TEN Steel, complemented by bronzed-tinted glazing. Perimeter columns of all four structures are 6-inch x 4-inch hollow structural tubes. Columns in the two larger buildings are fluid-filled.

Owner: The Irvine Co., Irvine, Calif.
Architects: Craig Ellwood Associates/James Tyler and Robert Bacon, Los Angeles. **Structural Engineer:** Norman-Epstein, Los Angeles. **Mechanical Engineer:** (Liquid-filled column system design) Paul S. Bennett, Los Angeles. **General Contractor:** J. B. Allen & Co., Anaheim. **Fabricator/Erector:** Lee & Daniel, Azusa.

 **Cor-Ten Steel**

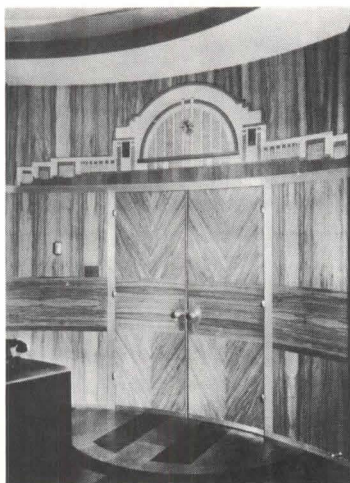
FACETS

PRESERVATION

TERMINAL CASE

Cincinnati's Union Terminal is *everything* its new Amtrak station isn't. First of all it's grand. Both the rotunda—spanning 180 feet and soaring 106—and the concourse are magnificent spaces. It manifests the touch of the human hand. It is richly garnished with murals, mosaics, bas reliefs, carved linoleum, Art Deco metal lettering, exotic woods, Vermont and Verona marble, patterned terrazzo, which, along with seating and other fixtures, reiterates the curve of the rotunda, and much more. Thirdly, in the marquetry representing the station's facade above the entrance to the president's office (below, right), it shows an astonishing and very bygone respect for architecture.

One can easily imagine the time when people did more than just "pass through." They



Entrance to the president's office

paused. Think of it. They could stop by the newsreel theater, or send a telegram. They could buy toys or banana splits. They could have a good meal, or do some banking, read quietly in the plush lounges, or buy just about anything they may have forgotten to pack back in New York City or Buffalo.

The building, designed by Fellheimer and Wagner, is now in jeopardy because the Southern



Cincinnati Union Terminal

Railway System, a component of the owning Cincinnati Terminal Co., wants to destroy or alter its part of the concourse to make way for piggy-back freight operations. Preservationists fear that once the concourse is tampered with the rotunda won't be far behind.

With many good examples of railroad station rescue and reuse at hand—Washington, D.C.'s visitor and tourist center, Baltimore's college of art, to name a couple of the big ones—surely there must be a way of survival for this one too. The National Endowment for the Arts has surveyed the nation and found 49 stations in 26 states restored to useful life.

Some of the large scale ideas for the Terminal are that it become a branch of the Smithsonian, a STOL port, a high school facility, an art and music center, a transportation museum and an international trade center. But one hopes users will be found who can enjoy its more intimate spaces—the elegant shops, restaurants, offices, conference rooms and theater. Many feel that a collaboration among several users will have to be worked out.

One buoying factor is that there is such interest in the station reuse problem nationwide, that Hardy, Holzman, Pfeiffer Associates of New York City are conducting a \$37,000 study of the problem with a joint grant from the National Endowment and the Educational Facilities Laboratories of the Ford Foundation. Hopefully their documentation of existing and impending reuse programs—which include conversions to doctors' offices, architects' studios, art

galleries and a hunting lodge—will add weight to a proposed bill which, though languishing at present, could put many terminals back on the track of productivity and pertinence.

Besides admiring the mentioned delicacies of the Terminal, we've developed an almost unmentionable hankering for an Art Deco banana split which we are sure they served in the good old days. Anyone else with a sweet tooth for this building is urged to send ideas, encouragement and anything else helpful to the Cincinnatians who are working hard for the second life of this building.

RENEWED AGAIN

The nation's first urban renewal area, the Faneuil Hall Market area in Boston, was five acres of congested waterfront property when, in 1824-1826, it was acquired, cleared and redeveloped into a market complex by the city. Now 43 buildings on North and South Market Streets in that area are to be restored in a \$2.2 million project which

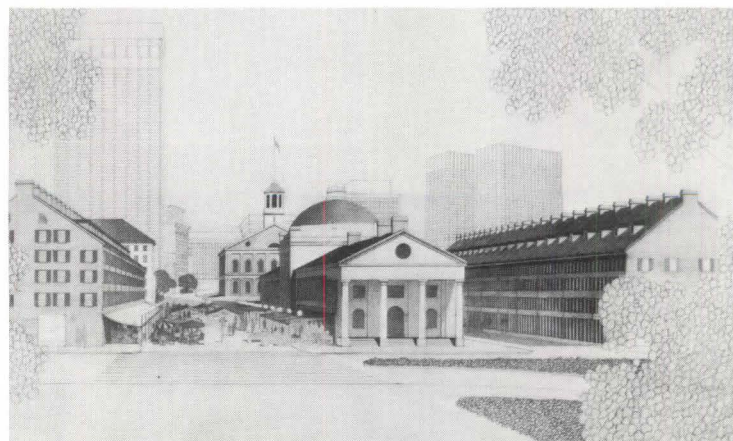
got under way with the installation of a block of granite by Mayor White on November 10th.

The restored buildings will be used for retail and specialty shops, restaurants and other commercial activity.

The project is being carried out by the Boston Redevelopment Authority as part of its Waterfront Urban Renewal Plan. It is a major link in the Walk-to-the-Sea that is part of this plan, as it provides the pedestrian connection between the new Government Center and the waterfront. This area will be the focal point of Boston's celebration of the Bicentennial.

Faneuil Hall served the city as a market and assembly hall since its construction in 1742, and, in the words of Mayor White, "It was here, in 1775, that brave men met to decide what course of action they would take in removing oppression and injustice from this tiny colonial outpost." He added, "What we are doing here is something more than a preservation of the past as a museum piece for the future. There is a need and purpose for these buildings. We think the Government Center, the revitalized business district and the growing residential community on the waterfront will combine to make the Market area once again the crossroads of trade and activity it was when Boston was a town."

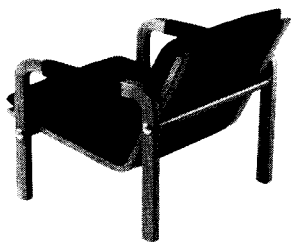
Ada Louise Huxtable has said "Every mayor and renewal director, in every American city, large or small, should be exposed to what is being done in Boston." FORUM will give you detailed coverage of the Faneuil Hall Market area developments late in 1973 after the completion of the first phase scheduled for August 1973. Architects for



Faneuil Hall Market Area

(continued on page 22)

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FACETS

(continued from page 20)

this phase, which involves exterior restoration of the North and South Market buildings, are Stahl Associates, a division of Stahl-Bennett, Inc. Alexander Parris was the original architect for these buildings which will be restored to his specifications. The work includes restoring the original roofline, slating the roofs and reconstructing the granite exteriors.

JUNGLE WARFARE

Angkor Wat is the 12th century masterwork of the 60-square-mile city and temple complex of Angkor, where construction began ten centuries ago. Angkor was abandoned in the mid-15th century and almost forgotten until the French colonials arrived 400 years later.

A year ago, French archaeologist Bernard Groslier (who, like his father, dedicated his life to Angkor) was engaged, along with 1,150 workers, to excavate the site and restore 100 massive temples dug out of the jungle. Their archaeological work had been allowed to continue, although the city was occupied by North Vietnamese in June 1970 and used as a logistics base. Last January, Cambodian Communists occupied the temple, and late that month they turned on Dr. Groslier, killing some of his workers, arresting others and forcing the rest to flee.

The government launched a limited attack to recapture the national monument. To minimize damage, orders were issued against the use of artillery or small arms in the vicinity of

the temples. The plan was to weaken the Communists with napalm, then to surround the complex and starve them out. This operation occupying 7,000 Cambodian troops, continued into late September, with no ground gained. The damage has not been catalogued but pictures smuggled out showed the collapse of supporting scaffolds.

When their work stopped the archaeologists warned that their efforts would be overtaken by decay in two years. Now almost a year has passed and there seems to be no possibility of resuming the 50-year old reconstruction work as long as the war lasts. Meantime, Dr. Groslier is working on other Khmer temples in Thailand.

The Parthenon barely withstood use as an arsenal, but it didn't have to fight off a jungle. Its growth poignantly outpaces human wisdom.

TOWERING TROUBLE

The Italians are bending over backwards to save the Leaning Tower of Pisa which is not only *leaning* more than ever (a fifth of an inch in the last 34 months, a rate previously recorded for a four-year period) but is *rotating* on its base of water soaked sand and clay. Maybe it's about time for the thing to pick itself up by its cracking arches and walk quietly into the sea one dark night soon.

But that would put the Committee for Vigilance for the Stability of the Bell Tower of Pisa out of business. It has offered a \$10,000 reward for the most practical idea for the return of stability to the Tower or the arrest of the sinking water table. It has received, considered and filed over 3,000 suggestions.

Soon the Tower is going to be trussed into a harness of steel cables which will hold it up until

and during an international competition (to be announced soon) for a plan to consolidate the soil underneath. The rules of the competition will forbid any external buttressing or changes in the area surrounding the cathedral or adjacent baptistery. And contractors will be asked to suggest something other than injecting cement into the base which has been done on and off with continuing controversy. Entrants will have a year to work out their ideas.

All we know about gravity—which almost began here as one story has it with Galileo dropping two unequal weights over the side of the Tower to refute the Aristotelians—tells us that the more the Tower leans the harder it leans. Maybe the authorities should reconsider their strictures and submit to an almost irresistible urge to give the Tower an elbow to lean on, maybe an air structure, an inflated slingshot forming a nice soft cradle.

That would seem less cumbersome than some of the proposals for reworking the foundations. An aerospace engineer from MIT, Yao Tzu Li, suggests placing a ring of concrete pads around the base of the tower underground and linking them to the original foundations by tensile steel and cable trusses to redistribute the pressures and drastically cut the rate of tilting.

Another American idea comes from Architect Arthur Everett Smith of Architectural Engineering Services in Pittsburgh. He wants to stabilize the subsidence by strategically placing refrigeration coils around the tower and freezing the earth's moisture content. You might call this radiant cool and certainly summer tourists would be much obliged.

There must be many an engineer who would relish one part of this job: the Tower must continue to lean. It's now more than 14-feet off from the vertical. And no one will be allowed to straighten it up more than one sixtieth of a degree, because it, and maybe Italy too, would lose its identity.

And a bone is being thrown to the insurance industry. The winner of the competition, or whoever is authorized to take on the long range treatment, will be ordered to take out insurance against the Tower's collapse during the reconstitution.

It looks like something for Lloyds of London.

Never underestimate the power of a landmark, at least in Italy, which, increasingly, is living off its history as its industry slows down. In 1973 the current national budget for tourism will be tripled. Thus it's not just for sentimental reasons that neither bells nor planes are pealing through Pisan skies. The Tower's carillon has been silenced and Pisans have been grounded for the duration of this problem.

TRANSPORT

BOOST FOR THE MTA

Massachusetts Governor Francis W. Sargent, who has a degree in architecture and is a former State Commissioner of Public Works and thus quite familiar with road building, has decided, after a 33-month, \$3.5 million study, to stop any further intrusion of expressways within Boston's Circumferential Route 128. He has committed \$2 billion on a mass transit program which may be trend-setting. This appears to be the first time a governor has put his full power behind public transportation rather than highways.

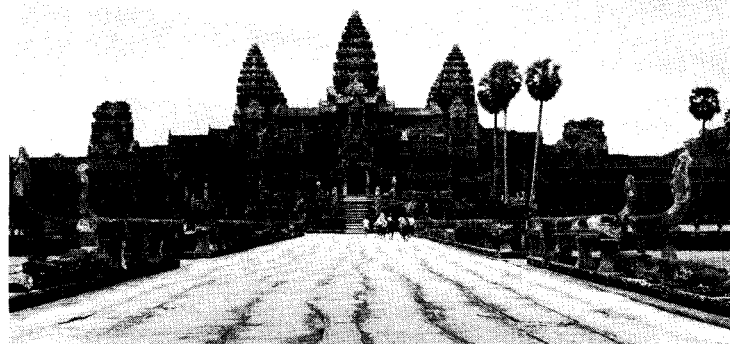
It may take eight to ten years for realization of his plans, which include provision for cars in large parking lots at the suburban end of an expanded rapid transit system, highway lanes exclusively for buses and airport limousines, and people movers. Many neighborhoods which would have gone down if the planned expressways had been built will now not only survive but stand to be served by convenient transportation.

ENVIRONMENT

NAIROBI NEW U.N. HQ.

The new UN environment secretariat will be in Nairobi, according to a 93 to 0 vote with 31 abstentions in the Second Committee of the General Assembly. The full Assembly is expected to confirm this decision. It will be the first major global UN body located outside the industrialized Western world, and there are some, as the abstentions indicate, who aren't too happy about it. All the major

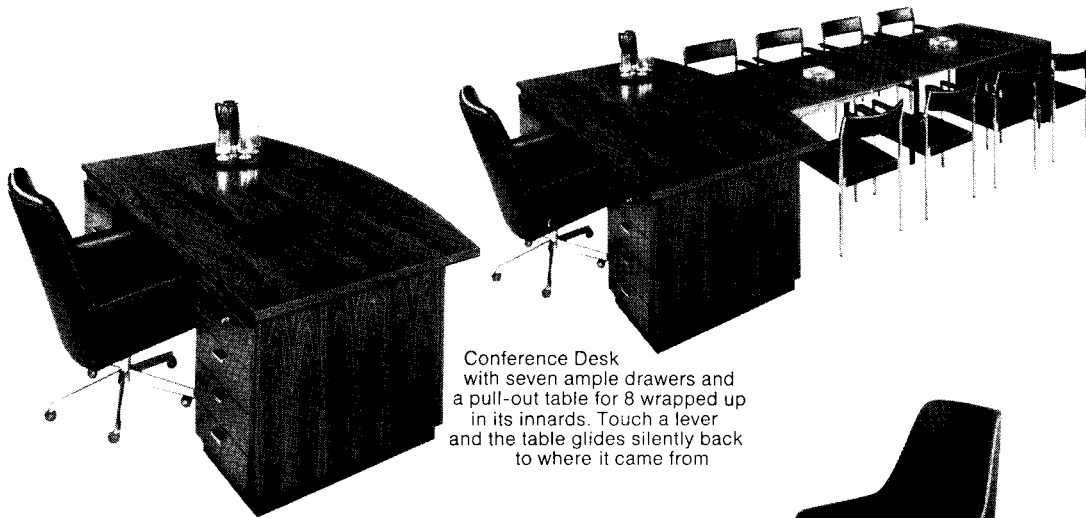
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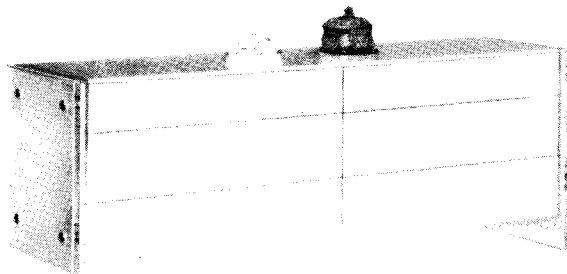
Angkor Wat

The Uncommon in Furniture

Contract pros have been finding it at John Stuart and John Widdicomb since 1932

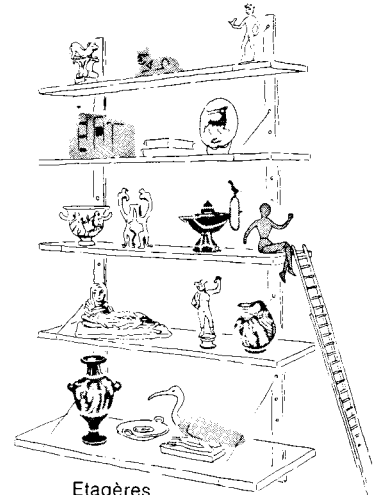
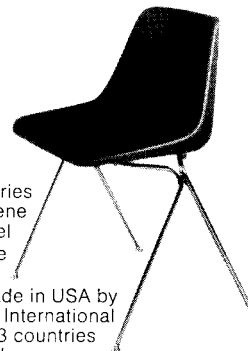


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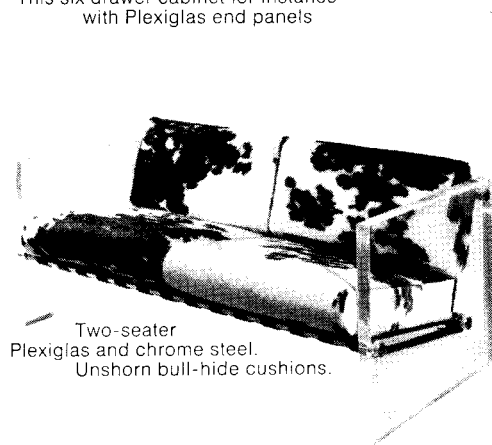


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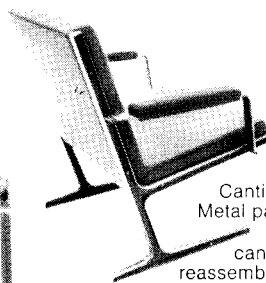
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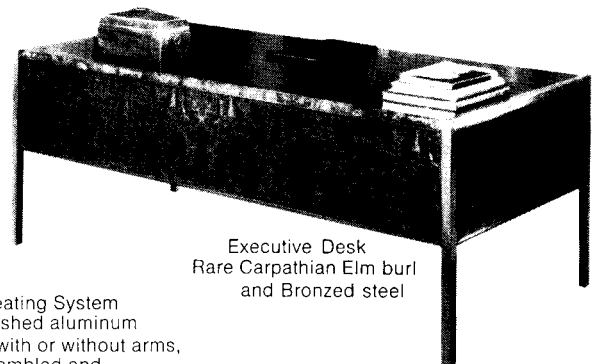
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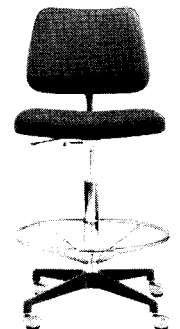
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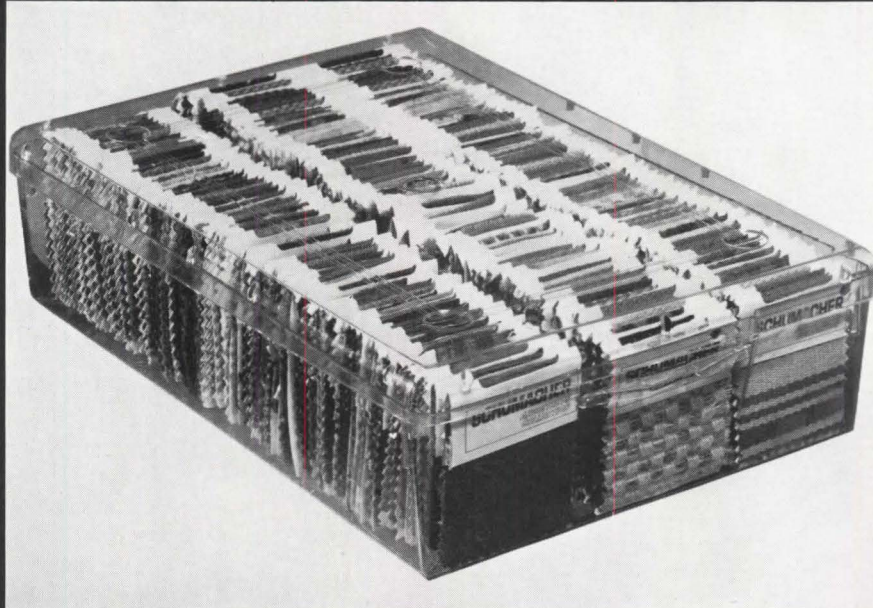
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You may know the story about Gertrude Stein's last words. If not, it goes something like this. Supposedly, Alice B. Toklas, her longtime companion, leaned over the bed, asking, "Gertrude, Gertrude, what is the answer?"— to which the great writer rallied, replying, "But Alice, Alice, what is the *question*?"

This came to mind recently when an architect friend invited me over to discuss, among other things, what kind of forum FORUM should be. He sat me down (rather up) in this antique barber chair in his living room, and proceeded to clip away at my preconceptions (some of which I didn't know I had).

One of these turned out to be what he called my high regard for the word "architect." This was quite a surprise. Although I like the word immensely, I try not to let my high regard show too much. After all, it might go to everyone's head.

My friend reminded me that many "architects" (especially younger ones) don't take the word "architect" seriously anymore, and he read off a list of things which "architects" are doing. The list included, as you might expect, urban designers and landscape designers, city planners and environmental planners, architect-developers and architect-builders. It even included "arcologists," "proxemicists" and (get this) "ecotacticians."

This was, of course, very heady stuff.

Isn't it great, I told myself, that "architect" has become so resonant a word that practically anybody, anywhere, can grab the long-sought Grail and, having done so, flaunt it.

To be truthful (come closer), I have not seen the Grail, although I keep running into people who swear they have. The most deceptive are those who swear that no Grail exists. Their chief message seems to be that no message is possible, and they fall over themselves trying to get it across. Thing is, these missionaries of non-meaning are in terrific demand. They tote great social climbing gear, make fine faculty ornaments and, should fashion suggest it, they are always ahead of everyone else in turning the other chic.

I hate creating a tempest in your highball glass, but wouldn't it be a good idea (let me hear) if we all yelled out at least two cheers for "architect" and tried stretching the definition of that? Semantic hangups can be, among other things, entertaining. But they do little more than clutter up the evidence of architecture's reason for being. As Lewis Mumford is fond of saying, "You have to know less before you can know more." In that sense, "architect" is not a bad word to go back to. Who knows? It might be one way to get over our so-called crisis of identity.

This is serious business. Stresses are building in the society which the "architect" serves, and we must know what those stresses are before we can help resolve them.

FORUM

JANUARY/FEBRUARY-1973

VOL. 138 NO. 1

Major institutions are changing, and we must know why before we can help inform that change. John Entenza put it this way, "Someone has bred a strain of termites which consumes concrete, steel and glass."

It may be tempting to think that "throwaway" architecture is the answer; or, as several people have suggested, that the "architect" must be as unheroic and hedonistic as everyone else. I don't think we can float for long on that kind of intellectual backwater, and the most unheroic among us will, before long, be those who so obviously enjoy wading in it.

It's going to take more than knee-high boots (and knee-high names) to get "architects" back on solid ground. That is where real-life people are—those who pay for buildings, live in buildings, work in buildings, walk by buildings, and look at buildings. That is where they shop, go to the movies, drop off the laundry, or grab a meal. That solid ground is where "architects" dare not fear to tread, and where they dare not fear to hang out their shingle saying "architect." It doesn't matter whether the office inside the door is a one-man office or a 100-man office. What we must start thinking about are the criteria of architecture, not only the tools of architecture. It is the only way that *the* architect, however collective that noun may be, will be able to ask for and get society's time of day.—WILLIAM MARLIN

PHILIP JOHNSON

It might be said that Philip Johnson backed into architecture.

He started out as a critic and historian, leaving Harvard College in 1927 with an A. B. Only 21, and in no real hurry to work, he gallivanted about Europe, learning as much about John Soane and Karl Friedrich Schinkel as, say, about Walter Gropius and Ludwig Mies van der Rohe.

This experience in tow, and having really lived, Johnson settled down (sort of) at New York's Museum of Modern Art in 1930, helping shape its Department of Architecture. In 1932, with Henry-Russell Hitchcock, he published *The International Style: Architecture Since 1922*, thus anointing what Alfred Barr had named.

This little book, unlike many of the Bauhaus pamphlets, was not a polemic. Far from consecrating the International Style as some sort of monolith, the book acknowledged, if tactfully, that the triumphs of the 1920's had reached something of an impasse. This impasse was not, as some have suggested, just politically imposed. It was, in many respects, self-imposed. And the Style's key figures—Le Corbusier, Gropius and Mies—went on to think out and refine their own variations on the international theme, which is perhaps an even better word than style, looking back.

It was not until the late 1930's that Johnson did something about being an architect. Repeated travels in Europe, especially Germany, had whet his appetite and, ever a lover of *haute cuisine*, he couldn't stand staying out of the kitchen. So, he entered Harvard's Graduate School of Design, leaving with a B. Arch. in 1943.

This second stint in Cambridge was important for Johnson. Walter Gropius and Marcel Breuer were there, of course, but so were many of Johnson's present day colleagues. GSD was a potpourri of talent. And Breuer, as much an alchemist as an architect, had a way of bringing the talent out. Johnson was part of the chemistry, and contributed richly to the mix. His own house on Ash Street, in Cambridge, the first one he did (1942), turned in on itself—taking off on Mies' courthouse schemes of the late 1930's. While the Ash Street house provided a quiet backdrop for the frenzied formulations of Johnson's fellow-students, it also verified, before his graduation, how fully his "apprenticeship" in architecture had developed.

This so-called apprenticeship cannot, one feels, be called or, as has happened, be dismissed as just a Miesian one. True enough, Johnson "did Mies" from the 1940's through the mid-1950's when they



Philip Johnson's estate in New Canaan, Connecticut: Glass House, 1949 (far left); Sculpture Gallery, 1970 (middle); Art Gallery or "Kunst-Bunker," 1966 (located beneath mound, far right).



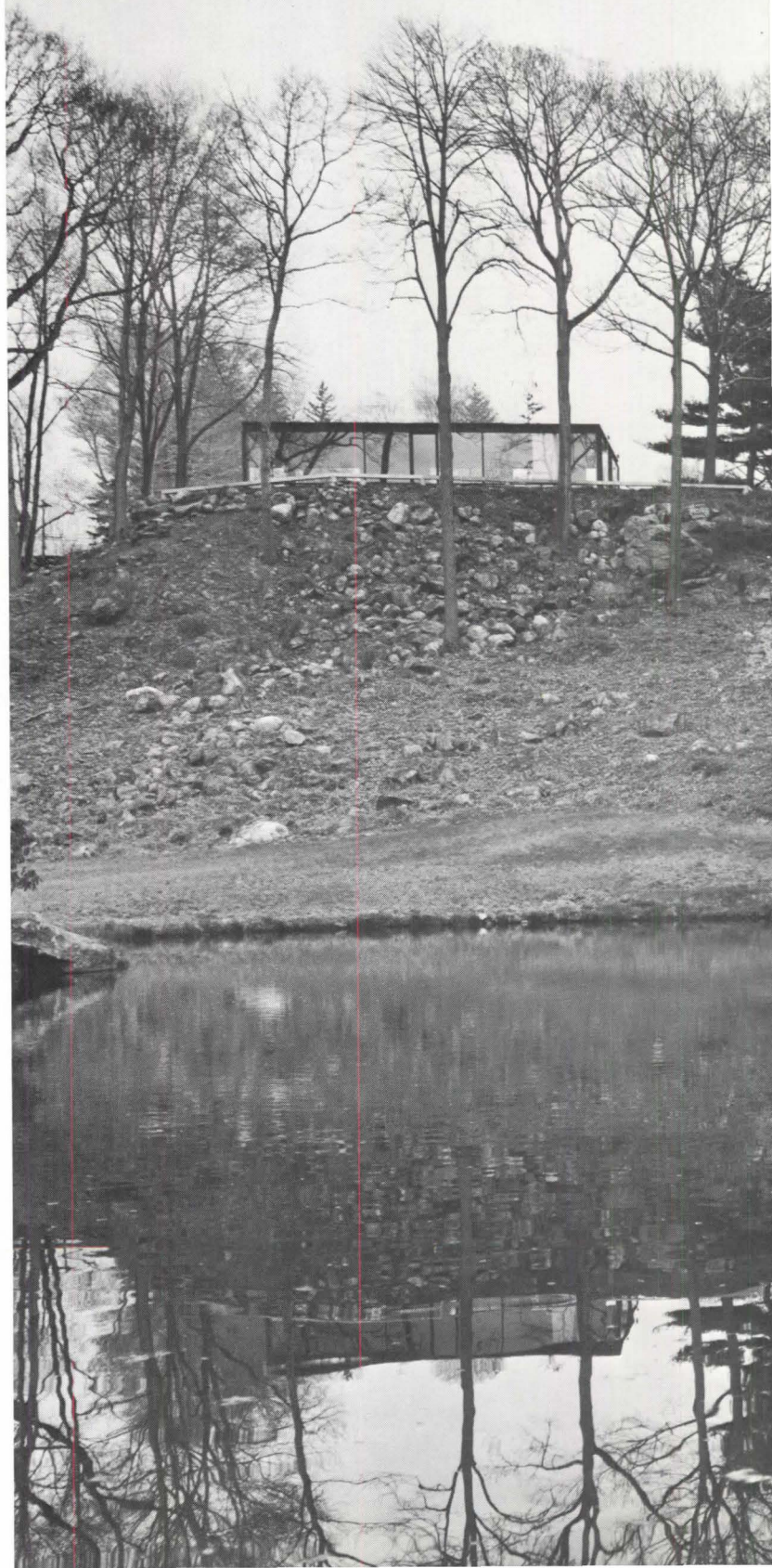
worked together on the Seagram Building. He had returned to the Museum of Modern Art in 1946 as director of its expanded Department of Architecture and Design, a position he held until 1954. He had done an exhibit about Mies and published a book about him in 1947. His own Glass House in New Canaan, Connecticut (1949)—the first of that marvelous cluster shown on these pages—was, for many, all too apparently, or transparently, Miesian. But it is not that easy.

Johnson, a discerning student of history, knew full-well that architecture, as of 1950, not unlike the early 1930's, was taking account of its precedents and of its future direction. Johnson chose not to thrash about. He chose self-assessment, not self-assertion. And he chose a congenial, if exacting conscience to talk to. Mies often insisted that there is no such thing as a Miesian style. Whether you buy that or not, Johnson took Mies seriously—enough so, in fact, that Johnson deliberately, if hesitantly, edged the Miesian boundaries outward. Whereas Mies innovated sparingly to simplify, Johnson innovated just as sparingly, but to enrich.

By the late 1950's, Johnson's spaces had acquired a tensile character; you could sink your sensory teeth into them. His materials were more tactile than detached; unlike Mies', they invited participation, not just observation. Structurally, the work remained spare. But overall, it took on a sentient, experiential quality. Something very important began to evolve in Johnson's thought, as indebted to precedence as he was. And that thought evolved around the notion of architecture as *experience*—as the structure of human interaction.

Although this was not really a new notion (it has appeared in the design of buildings, streets and cities throughout history), it was new when considered in scale with contemporary needs. Whereas Johnson's work up until ten years ago has been described by historian John Jacobus as "creative criticism," Johnson's work in recent years could be described as "social criticism." Jacobus has pointed out, quite aptly, that the earlier works were "infinitely more than the sum of several influences," resolving these in an intensely personal, even aristocratic manner. Johnson's presentday work, illustrated in this issue of FORUM, is no less personal, but has taken on a distinct *pro bono publico* character. This is especially so in the large-scale urban schemes illustrated in the following section.

These works embody Johnson's idea of *procession*—itself a pretty aristocratic word. Connotations aside, procession has to do with a sequence of experiences, not just of space. It has to do with the feelings people have as they move from one element to another, whether those elements are within a building or between several of them. Procession is a quality of on-going connection; that is, a quality of *experience*. And it is, so to speak, the loom upon which Johnson is weaving today.







Interior of the Art Gallery or "Kunst-Bunker" with paintings (left to right) by Frank Stella, Andy Warhol, Jasper Johns and, again, a Stella.

Hence, an office tower is tied into the fabric of an existing streetscape by means of an expansive court where downtown activities converge—that's the Investors Diversified Services Center in Minneapolis.

Or a museum becomes a sequence of experiences, not just exhibits, lining a broad walkway, running *through* it, and covered by a crystalline canopy—that's his museum at Muhlenberg College.

Or a library addition defers to a Charles McKim precedent and to the sensitive scale of a street and square—that's the Boston Public Library job, just completed, a genteel gesture in granite.

In this spirit, Johnson's recent works may be thought of as points in space which contain all *other* points. Mathematicians call this point the aleph-zero. Jorge Luis Borges wrote about a house in Buenos Aires that had an aleph in the basement. According to Borges, the aleph, a little more than an inch in diameter, was a kind of periscope. If you were clever enough to find it, and daring enough to look through it, you could find out or see almost anything.

Architecture is aleph-like in that it can supply points of reference, and meaning, at the same time that it fulfills various functions. For example, the IDS Center brings into focus so much which people have seen before, or taken for granted, sinking its

roots into downtown Minneapolis while its reflective tower symbolizes that city's emergence.

IDS, as well as most of the projects shown in this issue, have been done in concert with John Burgee, Johnson's partner since 1967. After taking his B. Arch. at Notre Dame, Burgee worked in Chicago for Holabird & Root, and for C. F. Murphy Associates, with emphasis (too much, he recalls) on project management.

The story goes that Johnson was invited to submit a proposal for the design of Philadelphia's new airport; in turn, he invited the Murphy firm, which designed Chicago's O'Hare Airport, to collaborate. Johnson did not get the Philadelphia job, but he did get John Burgee, and promised to let him "design."

The tandem has worked out marvelously and, so reports have it, Johnson and Burgee are often seen working late into the night at the Seagram Building office—grabbing pencils out of each other's hand, flinging onion skin paper across the room, rarely talking, but communicating in what Burgee calls "mental sign language."

It may not be stretching it to say that the uptight character of the firm's most recent works is due, in good degree, to this give-and-take. For his part, Johnson remains the affable martinet—in contrast to Burgee's more relaxed manner.



Interior of the Sculpture Gallery with a Claes Oldenburg (major element, lower level) and two Donald Judds (on walls, upper level).

Despite the diversity of the work, it is clear that a course is being steered, although Johnson resists the temptation to explain what that course is. He hates "profound statements"—in contrast, we presume, to "profound concepts," like procession.

Johnson will be 67 next July. Although, in a moment of irreverence, he once compared himself to an old goat pretending to swing, there's no pretending to be found. He may be a master of put-on, and has been called put-offish. But he is way ahead of most in refusing to put down the innately heroic aspect of his art.

In a period of nihilism, architectural and otherwise, he has insisted that architecture exists, and that it exists as an art. In a period of technological overkill, he has insisted that human values be respected. And, in a period of social disorientation, he has insisted that beauty, at every level of life, is an investment that society must make in the interest of both common sense and common purpose.

Johnson's frequent use of the word "monumental" should not be taken too literally. For him, "monumental" is not overwhelming. It refers, instead, to the size of mankind's spirit which, for all our emphasis on practicality, cannot be played down, or punched onto a computer card, or audited into oblivion. Don't get the idea that Johnson spends

his time talking about mankind's spirit; he is, in fact, suspicious of overly moral appeals unless, of course, they are built ones.

Philip Johnson once suggested that there might be "a principle of lack of principles," and has always refused to be locked into, or content with, prevailing views—even if they happened, now and again, to be his own. Perhaps this is because he *did* back into architecture from history and realizes how fragile prevailing views are.

If such sentiments are out of sorts with the present day, it is because he holds fast to the belief that architecture's sole concern cannot be the present day, and never has been. Only when architecture evokes a sense of mankind's origins and destiny may our daily needs be fully satisfied, and in any sense "practical."

Philip Johnson has tried to draw that connection, and he has drawn it, as we have noted, in the perspective of past events. If he did, in fact, back into architecture, more architects might do well to back into history. That experience might be the ultimate form of procession.—WILLIAM MARLIN

PHOTOGRAPHS: From the Series of Global Architecture No. 12, "Philip Johnson House," photographed and edited by Yukio Futagawa, published 1972 by A.D.A. Edita Tokyo Co., Ltd.



FORM AND PROCESSION

BY PAUL GOLDBERGER

If Philip Johnson's work during the late 1950's and early 1960's can be characterized as a somewhat stiff, even decorative attempt to break away from the Miesian mold of his first years, his work since that time is notable for a freshness of form that confirms his movement away from Mies and his position as one of the most original as well as eminent architects in America today.

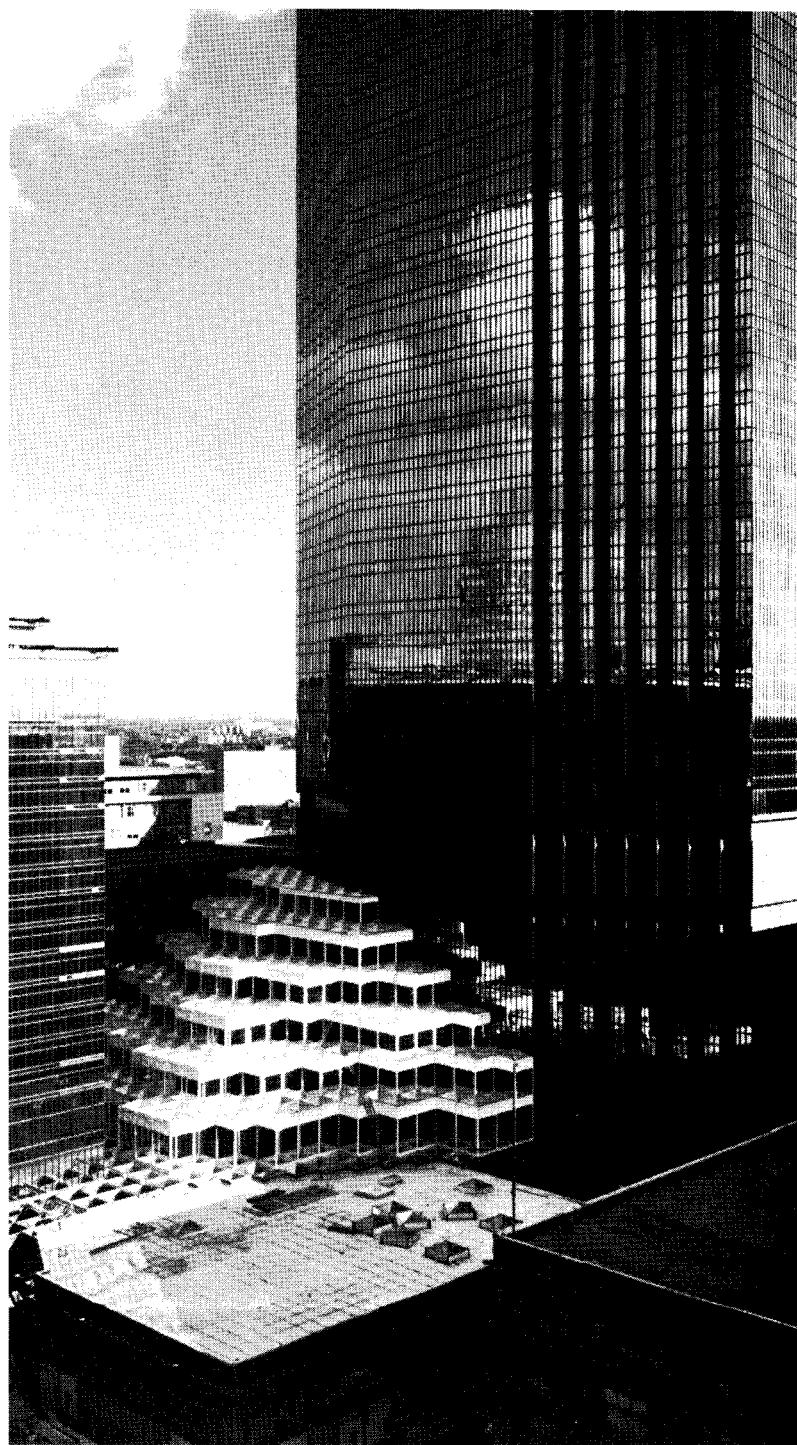
Johnson's most recent projects, designed with John Burgee, his partner since 1967, cannot be described in terms of any one philosophic approach as his earlier work was said to be so exclusively Miesian, despite the fact that his Miesian buildings (like the Glass House) were often strikingly different from Mies' own.

Such a mistake could hardly be made now. Taken as a group, Johnson's recent projects resemble neither Mies nor the work of any other architect alive today. He has broadened the range of his forms considerably, combining the historical allusions for which he has been so long known with a willingness to experiment with formal approaches as different as the irregular white mass of the Art Museum of South Texas at Corpus Christi, the monumental granite arches of the very ordered new wing for the Boston Public Library, and the "non-building" of windowless Burden Hall—a small, largely underground auditorium for Harvard.

Yet these projects have a great deal in common, both with

each other and with Johnson's earlier work. The sense of elegance, of refinement, that contributed so much to the making of Johnson's reputation is clearly evident in his current work; window placements at Corpus Christi are handled with the care that marked the detailing in the Glass House; the proportions of the central court of the IDS Center in Minneapolis are as carefully worked out as those of the foyer at the New York State Theater. But more importantly, what ties Johnson's current work to his entire *oeuvre* is its continuing concern, beyond form, for the organization of space—or what the architect himself has referred to as the element of procession. His early work was always noted for its attention to the control of movement, and that attention remains, reinterpreted now in new formal directions, but still strong.

This preoccupation with the sequential element in architecture could perhaps be seen as having played a major role in Johnson's assertion of a personal approach as he eased away from Mies. Henry-Russell Hitchcock has suggested that it relates as well to the shift in emphasis from individual houses to major projects, often on a multi-building scale, in Johnson's practice. In any event, Johnson set down this credo in *Perspecta* 9/10 in 1965, and his essay—which he entitled "Whence and Whither: the Processional Element in Architecture"—is as relevant in terms of his current work as it was then: "Architecture is surely not the design of space, certainly not the massing or organizing of volumes. These are ancillary to the main point which



The Crystal Court, central space of the IDS Center in Minneapolis, designed with John Burgee, rises to a height of 121 feet at its highest point. The roof is made up of a pile of glass and steel pyramids mounting towards the southeast corner of the court. (For project credits and a listing of key products used in these buildings, see page 70.)

Mr. Goldberger is an associate editor of the New York Times Sunday Magazine.



The third-floor balcony overlooking the Crystal Court of the IDS Center (above) serves as a restaurant for the Marquette Inn, the Center's hotel. The octagonal shape of the IDS Tower rises across the court from the restaurant. The dining balcony can be seen in the center of the picture below, with another balcony containing a bar beneath it.



is the organization of procession. Architecture exists only in *time* . . . The beauty consists in how you move into the space . . . Whence and whither are positive, not negative, architectural virtues which are basic to the entire discipline of the art."

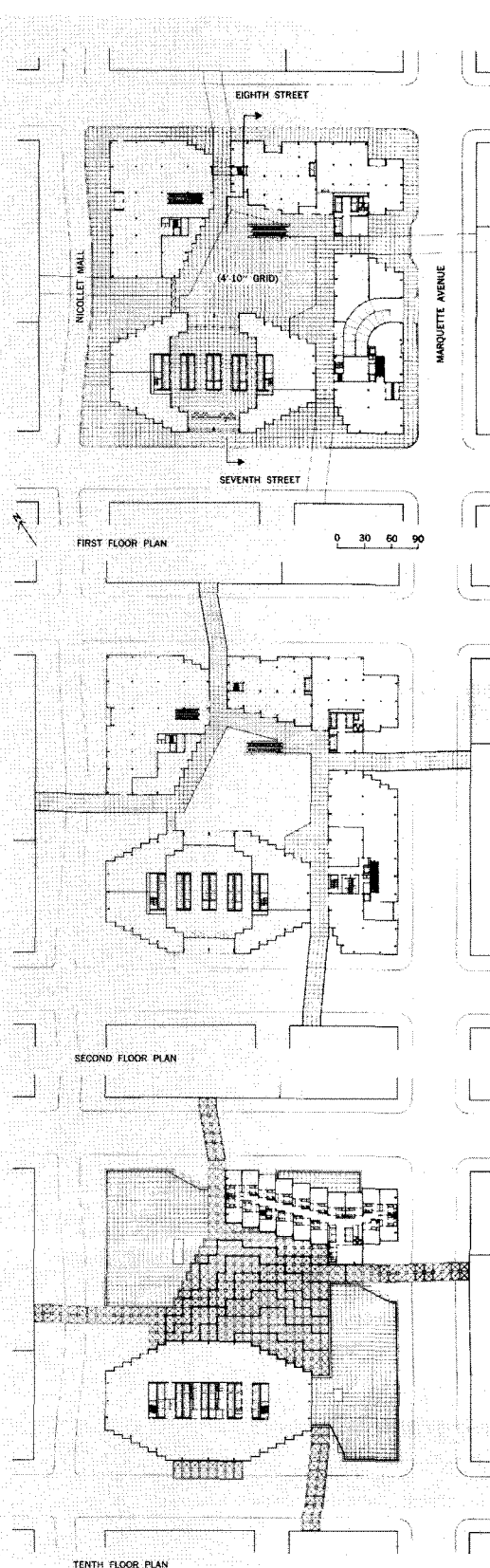
Johnson's major completed work to date—and a project which admirably combines his and John Burgee's current formal interests with his continuing preoccupation with the processional element—is the IDS Center in Minneapolis. A \$100-million, four-building complex, IDS functions as successfully from an urbanistic standpoint as any grouping of its size (the office tower is 51 stories) could conceivably be expected to in a city where the average downtown building is less than half its size. But IDS relates intimately to its surroundings both at street level and one level above, where four new additions to Minneapolis's second-floor "skyway" aerial crosswalk system literally tie the new complex to its neighbors on all sides. It is difficult not to contrast this project with Charles Luckman's Prudential Center in Boston, where a similar program—office tower, hotel and shopping center—was handled in such a way as to isolate the project entirely from the surrounding streets, providing little in the way of successful spaces inside to make that isolation worthwhile.

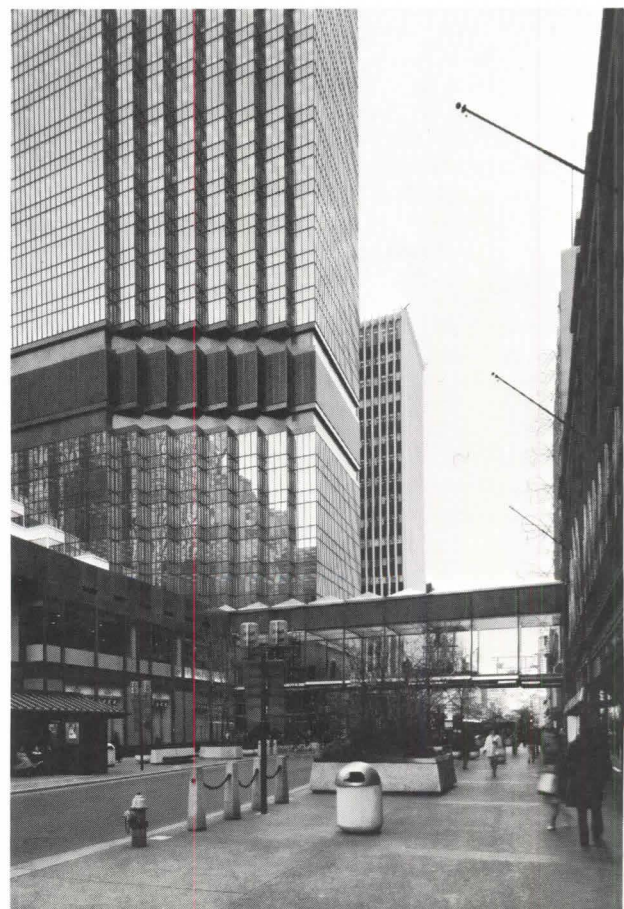
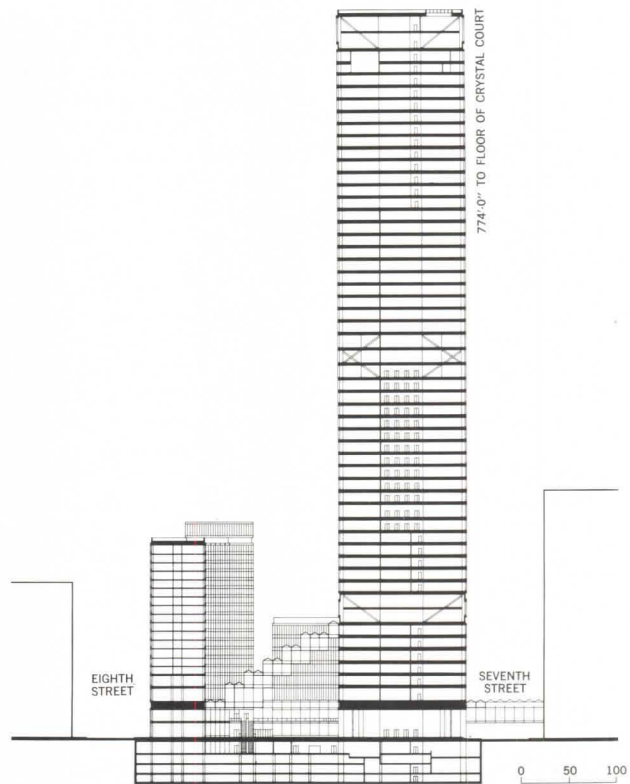
At IDS, however, the space inside the site is, in effect, the central idea. The four buildings—the tower, a 19-story hotel, an eight-story office building and a two-story store—are grouped around a central covered court. Each building is accessible from the street as well as the court, and there are four entrances to the court right from the street itself.

Johnson has described the spatial arrangement here as "turning the Seagram Building inside out," which, however flip-pant, is as fair an analysis as any, for the central space at IDS functions much like the plaza in front of Seagram: it is

a public place which serves the dual function of providing civic space and enhancing the private spaces of the structures for which it provides a processional entrance. But at IDS, Johnson has moved a long way from Mies' Seagram prototype: the IDS space rejects Seagram's symmetry for a playful, active irregularity. There are no straight lines here, only diagonals, and the IDS court has none of the overpowering directional force of the Seagram Plaza, which pulls the visitor toward the front entrance. The forces in the IDS court are more subtle: they result from the tension between the entrances to the various buildings around the court and to the street, which balance well around the irregular space. An escalator to the second floor shopping level rises just off the center of the court, providing another focal element. The street entrances are irregular, too: the outside walls form funnels, or V-shapes, pulling the pedestrian off the street into the space.

The Crystal Court (as IDS has named the central space) is perhaps most successful in plan. But the space itself is an exciting, dramatic room, full of vertical as well as horizontal movement—the roof, made up of a pile of glass and steel pyramids, mounts toward the southeast corner of the court, reaching 121 feet at its highest point. The slabs of the tower and the hotel are visible through the glass roof, creating an inside-outside tension within the enclosed plaza. The court is ultimately like a great glass circus tent pitched in the center of the complex—and while it has the welcome excitement of that kind of space it also has the feeling of lightness of a circus tent, perhaps excessively so for a space that intends to be very much a permanent civic crossroads. Nonetheless it functions admirably, and on a recent visit before most of the center's facilities were open, the space was full of pedestrians eager just to walk through.





Mirrored facade of the 51-story IDS Tower rises above the Nicollet Mall, Minneapolis' famous pedestrian shopping street (above). Second floor enclosed walkways, part of Minneapolis "skyway" system, connect the IDS Center with its neighbors on all four sides (right).

The Crystal Court acts not only as a symbolic civic space, shopping mall and pedestrian entrance to the complex but also, to a lesser extent, as an extended lobby for the 51-story tower and the hotel. The hotel—which Johnson calls “just the opposite of John Portman’s big-lobby hotels”—lets the Crystal Court function as its major space. Two of its three restaurants are set on second and third floor balconies suspended over the court, and hotel guests tend to linger in the court as they would in a lobby. There is, in fact, no separate lobby as such for the hotel—guests arriving on foot or by car are whisked up the elevator to a small reception area off the third floor, which leads to the restaurants.

The hotel itself, like the Crystal Court, is most interesting in terms of plan. The rooms on each floor are set back sequentially, so that the corridor assumes a zig-zag shape. The device is striking: the hallways here are perhaps the first enclosed hotel corridors anywhere which manage to be interesting spaces in their own right, and their success is achieved entirely through plan. There are no new functions added (such as in hotels where the lobby is open to the roof and the corridors double as balconies) and the decor is low-key and obsessively repetitive, as if in deliberate contrast to the variety in plan.

The rooms themselves are generously large for a contemporary hotel, and the zig-zag plan gives most of them a corner window with a view down Seventh Street. The interiors are sleek, and the *piece de resistance* is a copy of an Andy Warhol print in every room—a gesture as successful as it is unexpected. (It is difficult not to feel that putting Warhol prints in Minneapolis hotel rooms was an act of more daring than putting a 51-story tower on a Minneapolis city block.)

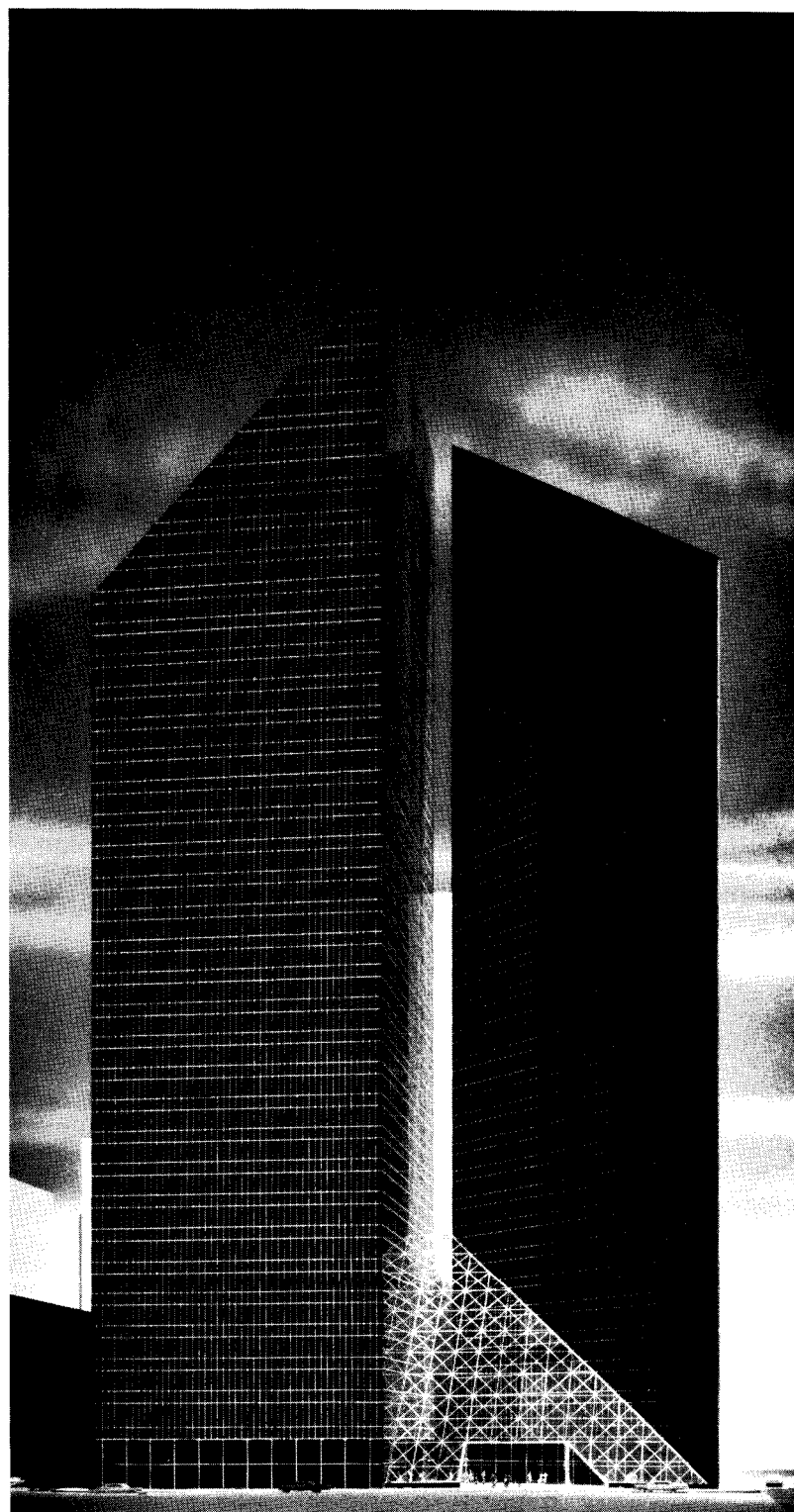
The office tower echoes the zig-zag theme of the hotel plan. Its shape is basically octagonal, with eight small setbacks along

each of the four diagonal sides to provide 32 corner offices per floor. The shape is effective in terms of reducing the large mass of the tower as seen from afar, and it also functions well in relation to the plan of the complex at ground level: the diagonals play a major role in shaping both the interior space of the Crystal Court and in forming the “funnels” which induce passersby to enter the Court from the street.

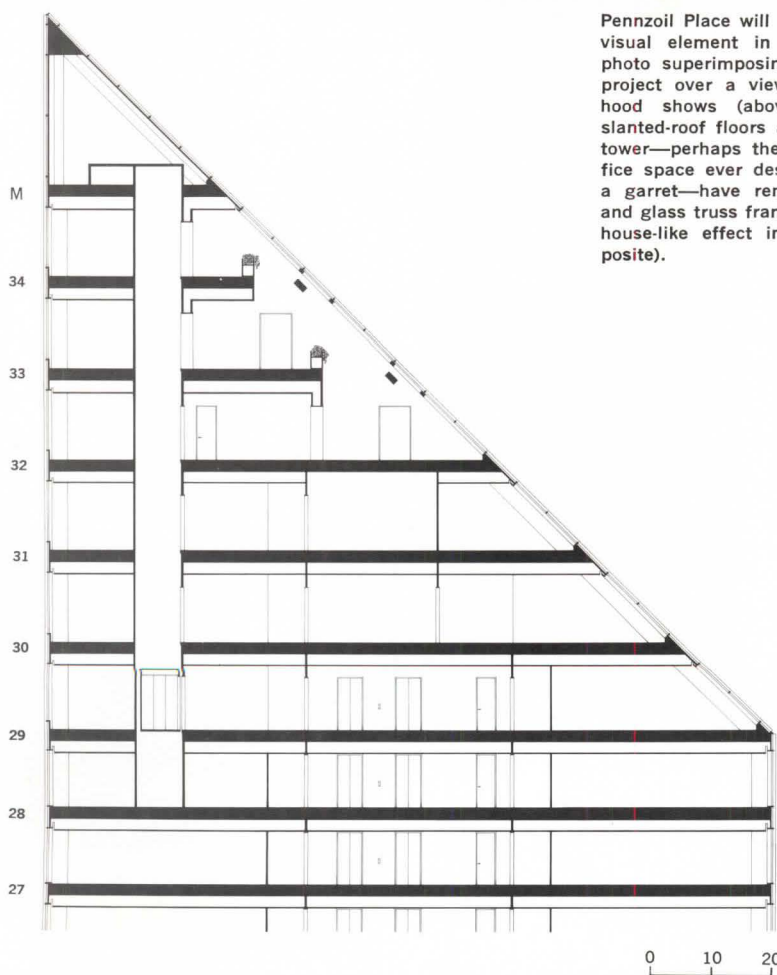
Despite the new shape, the building is, in many ways, descendant of Seagram. The elevators in the tower (as well as those in the hotel) echo the steel and copper wire pattern of the Seagram elevators, which by now has become a virtual Johnson trademark. And as at Seagram, the lobby is two stories high, with travertine walls washed by quartz downlights. The elevators are in line with both the tower’s street entrance and the Crystal Court entrance beyond, avoiding the useless 90-degree turn so common in office towers, another borrowing from Seagram. The overall effect of the tower is one of consummate elegance and taste—recalling, in this sense, early Philip Johnson as much as his current work.

Johnson used mirrored glass for both the tower and the hotel here. The mirror effect is made more complex through the use of a 2’6” module on the office floors, a successful device which creates a cage effect in the facade. Johnson has been experimenting with alternatives to the standard five-foot office module—“which I am so sick of,” he says—since Asia House, of 1960, and hit upon the present size as an ideal way to break away from the standard and provide an active enough facade to offset the mirror effect.

The program is somewhat more limited in scope at what will be Johnson and Burgee’s second major skyscraper project, the twin-towered Pennzoil Place now under construction in Houston. Here, the clients wanted only a major office structure and, uncharacteristically for Texas businessmen, were not in-



Two trapezoidal towers of mirrored glass are joined by a common glass-enclosed lobby at Pennzoil Place, now under construction at Houston. The two towers are planned so as to reflect each other's facade.



Pennzoil Place will clearly be a major visual element in Houston, as this photo superimposing a model of the project over a view of its neighborhood shows (above). The seven slanted-roof floors at the top of each tower—perhaps the only high-rise office space ever designed to look like a garret—have rented quickly. Steel and glass truss frames create a greenhouse-like effect in the lobbies (opposite).

sistent on having the tallest building in Houston (although it will be the largest). Johnson based the Pennzoil plan on the same principle that is behind the IDS design: he filled the site with the building and created a monumental interior lobby-plaza. "Our point here is that in a city, what's left over in front outside has no meaning," Johnson has said. "And when we fill the site, we can get away without as much height."

The plan here is based on simpler geometries than at IDS. The two towers are each trapezoidal in shape, placed so as to leave two triangular areas open on the site. These areas are covered with steel-and-glass truss frames which create two vast, greenhouse-like spaces. These interior plazas connect through the narrow slit between the two towers, which are not themselves joined at any other level. Elevator lobbies for both towers open off the plaza court which, as at IDS, also serves as an urban passageway connecting opposite streets.

It is the overall form of the buildings, though, that is most worthy of note here. Both towers have slanted roofs which begin at the 29th floor and continue up sharply to peak at the 36th floor. Johnson has planned a 40-ft. high conference room for Pennzoil to occupy the top floors of one of the towers, and much of the rest of the slanted-roof space—perhaps the only high-rise office space that has been designed to look like a garret—has already been rented to tenants.

The formal basis here is clearly Johnson's sculpture gallery at New Canaan of 1970 (page 27), which marked his first experiments both with sharp, projecting diagonal forms and with a greenhouse-type roof. Yet at Houston, Johnson has taken these forms and applied them to an altogether different problem—that of breaking out of the Miesian box of the skyscraper vernacular. The size here is so enormous as to make the slanted roofs appear, at first glance, almost a bit grotesque; all of the

sculpture gallery itself, which is such an important antecedent, could fit into the massive "garret" with ease. Yet these angled towers will breathe more than a little life into Houston's dull boxy skyline, and the spaces inside the garret floors may well be more interesting, if not more versatile, than any high-rise rental space yet constructed. Pennzoil is surely a more effective means, from an urbanistic standpoint, of breaking out of the box than Skidmore, Owings and Merrill's sloping-facade towers of the past few years. Its sheer walls respect the street, its scale at street level is modest and attuned to the surrounding street life (what little of it there is in Houston), and the dramatic, monumental spaces of its glass-enclosed plazas do not overwhelm neighboring structures but huddle, almost hidden from some angles, between the two towers.

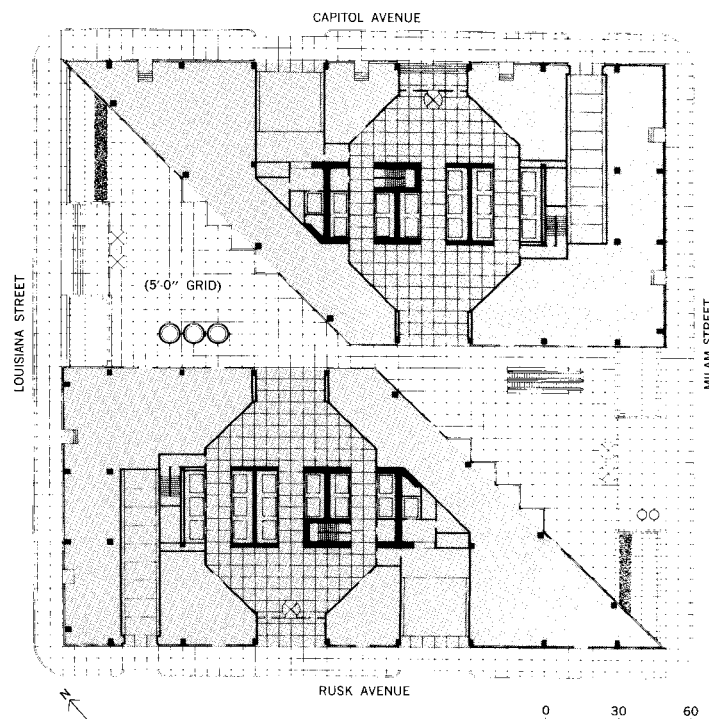
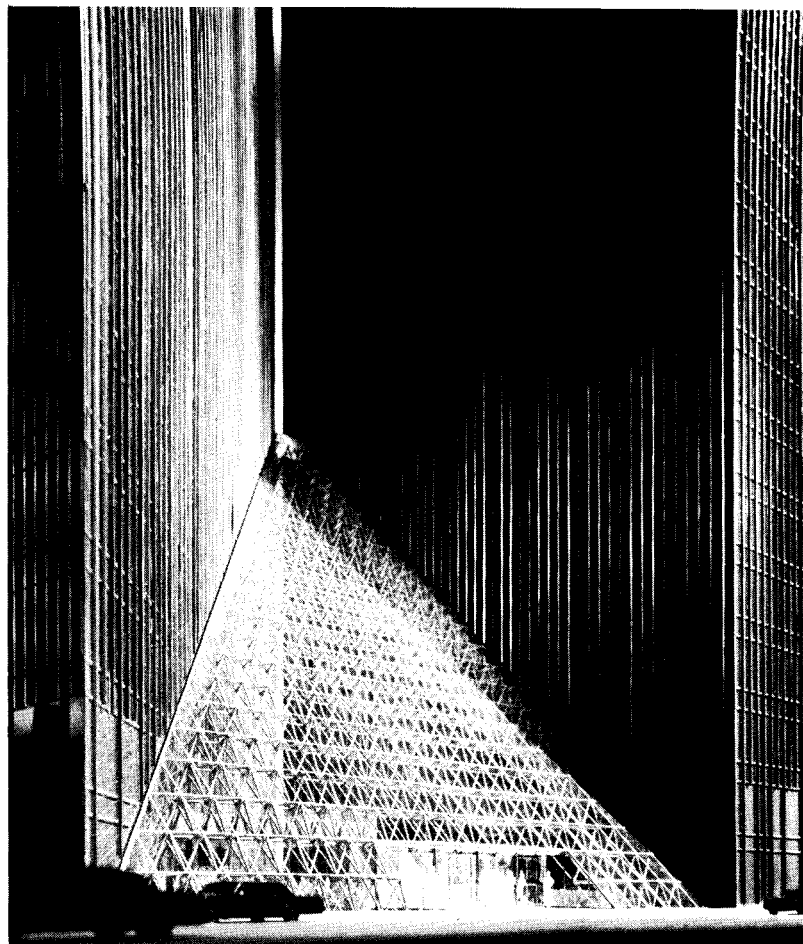
Johnson's attempt to break away from the glass slab for both formal variety and better urbanism is evident in two other major projects, neither of which, unfortunately, appears likely now to be built. The skyscraper for Lehman Brothers (page 40), which was designed in 1970, was to be set on a tightly constricted site off Broad Street in New York's financial district (it is now a parking lot). At IDS, Johnson avoided the box by creating a zig-zagged octagon; at Pennzoil, he sliced off the top at a sharp angle; at Lehman, he doubled the corners, placing a v-shaped indentation in each of the four corners of the 41-story tower. Here, as at Minneapolis and Houston, the skin is stretched taut, with narrow mullions providing an intricate, almost delicate, pattern over the vast expanse of glass.

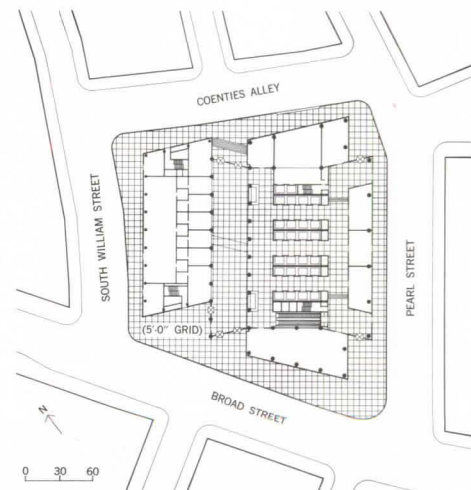
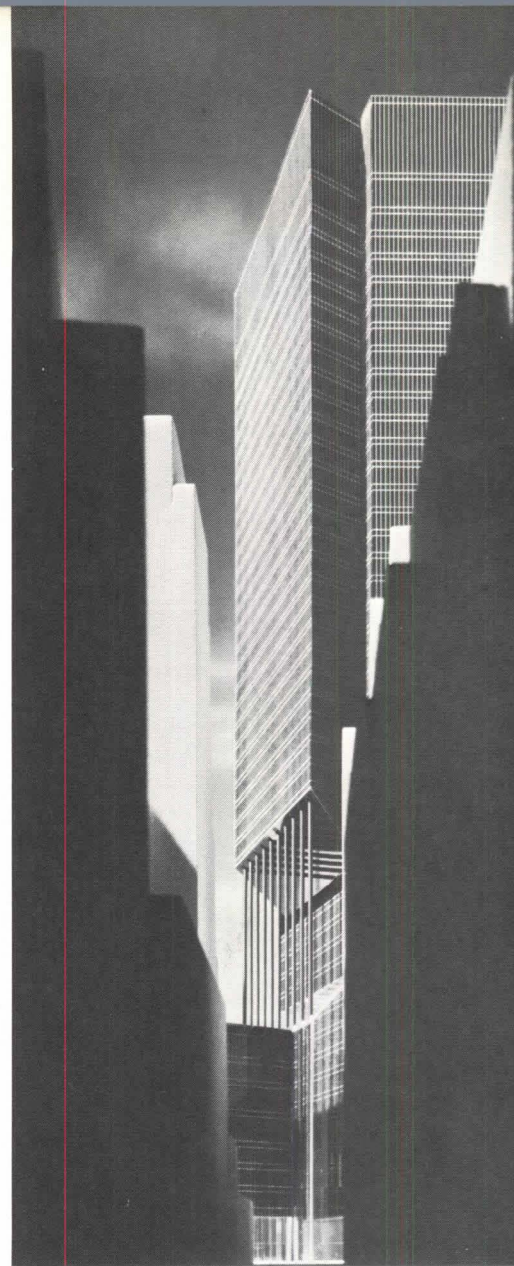
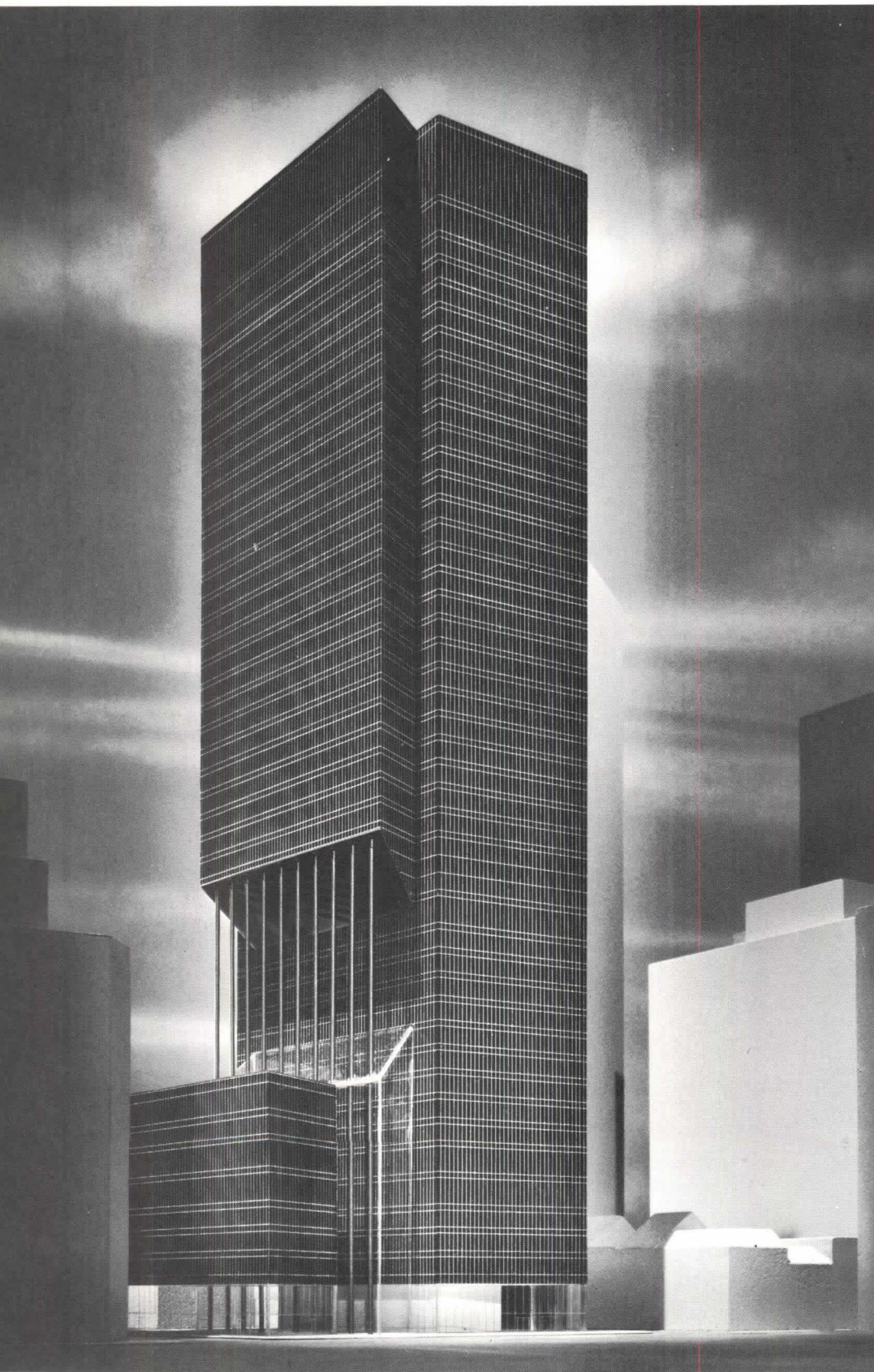
Although the Lehman Brothers project does not fill its site as completely as do IDS and Pennzoil, it, too, rejects the Seagram-type plaza which still sees such frequent (and inept) imitation, in favor of an inward focus. Here, Stone Street, a narrow byway running between

the tower and a small adjacent eight-story wing, became a galleria-type passage, slid under a projection of the main tower and lighted from above; the cantilevered floors of the projecting wing on the galleria side do not begin until the 19th floor to allow sufficient light to pass beneath.

Also never built was Logan Towers, a double-towered complex slated for Logan Circle in Philadelphia. The project (page 41), which was to contain a hotel and a condominium, with apartments priced up to \$135,000, shares with Johnson's other recent high-rise structures the thin, carefully detailed mirror-glass skin as well as a central plaza, although here the plaza space was to be left uncovered. The massing of the Logan complex is a curious cross between 1930's setback design and Johnson's current use of diagonal forms; the buildings set back in steps and, with each consecutive setback, turn slightly around a corner. The end result is a grouping that turns its best face toward an existing, and venerable, open space—Logan Circle—by stepping down toward it, as it inflects in its overall massing toward the Benjamin Franklin Parkway beyond.

The processional element is, clearly, a unifying theme in all four of these projects. In each case the entrance becomes a major part of the architectural statement, and sequential movement is carefully controlled; one might almost say that Johnson is as concerned with the order in which things are experienced as he is with the things themselves. He feels strongly enough about this processional theme to say it "outlives the forms" and indeed, considering the new forms to which he has recently begun to apply his familiar processional principles, this can hardly be denied, at least in terms of his own work. The processional notion is relevant as well in a number of projects much smaller than the aforementioned skyscrapers—particularly, his recent small museums.



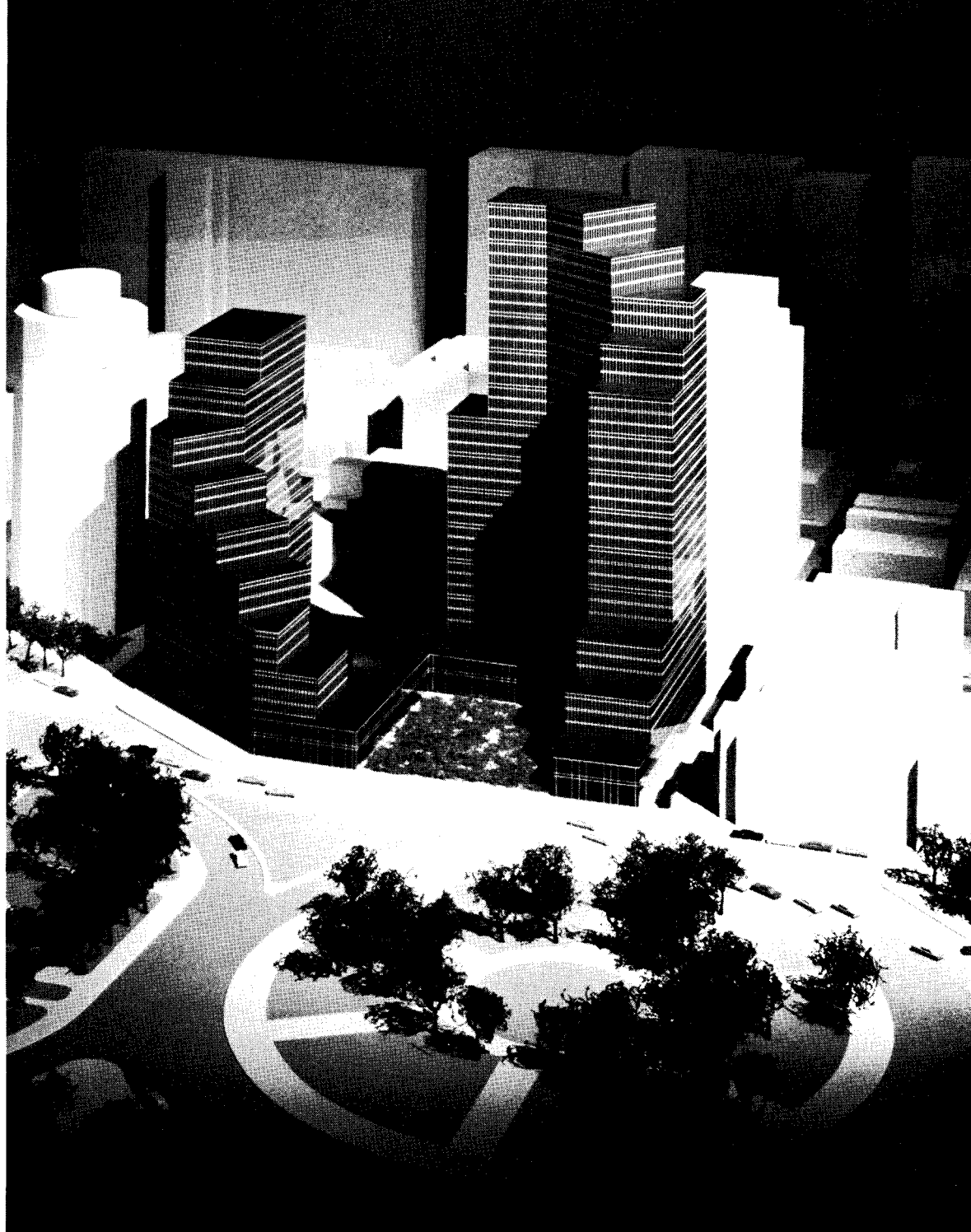


Johnson and Burgee's 1970 design for Lehman Brothers headquarters in New York's financial district was an early attempt to break out of the glass box. The project's central space was a galleria-type arcade, linking ends of narrow Stone Street (see plan above). Cantilevered floors extended out over the galleria (left and above).

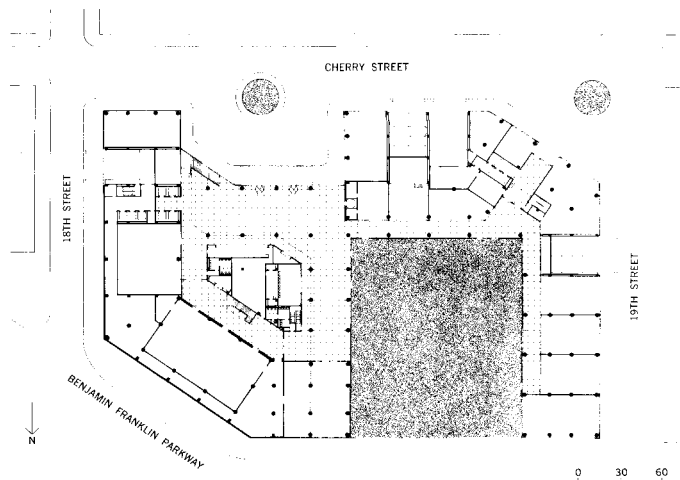
Philip Johnson has been noted as a museum architect for some time. But with the exception of the new wings and sculpture gardens for the Museum of Modern Art—and his own museums at New Canaan (pages 30 and 31)—Johnson's museum work has dated largely from his middle period, of which the classicizing forms and perhaps overly delicate detailing of the Sheldon Art Gallery at the University of Nebraska are typical. Two new museums and two college art centers bring his museum oeuvre up to the present. At least three of these—the Art Museum of South Texas at Corpus Christi, the Roy N. Neuberger Museum of the Visual Arts at the State University of New York campus at Purchase, and the Muhlenberg College Fine Arts Center—are worthy of an extended look.

The museum at Corpus Christi opened last October, just after Louis Kahn's Kimbell Art Museum opened at Fort Worth; the double event led to some unnecessary comparisons. Johnson's museum (page 42) is as much a community art center as anything else. Unlike the Kimbell, with its collection of old masters and extensive research facilities, the Museum of South Texas has no permanent collection at all. It is a small building, built at a total cost of \$1.3 million.

Despite its size, the museum may well be Johnson's most significant recent work, and it is surely the most interesting in terms of the formal directions in which it suggests he may move. The museum is a sharp, crisp, all-white building, beautifully sited just at the edge of the water. Its geometric forms slide together in perhaps the most sophisticated use of the diagonal in all of Johnson's current experiments with form. The museum owes a certain debt, as with much of Johnson's recent work, to the sculpture gallery at New Canaan. Here it was not the greenhouse roof that was picked up but the sense of sharp, angular forms in tension



Logan Towers, which was never built, represented a sort of combination of 1930's setback design and Johnson's current use of diagonal forms. The project was planned to include a condominium apartment tower and a hotel; its unique massing inflects toward Logan Circle and Benjamin Franklin Parkway, beyond.





The crisp, all-white form of the Art Museum of South Texas, sited just at the edge of the water in Corpus Christi, owes some formal debt to Johnson's sculpture gallery at New Canaan, but is clearly a major work in itself. The opening exhibition last fall featured, among other works, Andy Warhol's series of flowers (right).

with one another. The gallery is an all-white building too, suggesting comparison with the "pure esthetic objects set down in the landscape" (to use Reyner Banham's term) of early Le Corbusier, or perhaps with much of Richard Meier's current work. But at least as relevant a comparison is to Charles Moore's Sea Ranch, of 1965, a casual, almost slapdash structure of wood without the elegance of early Corbu or Meier, but with sharply sloping roofs whose diagonals surely prefigure the overall forms of the sculpture gallery and the museum at Corpus Christi.

In terms of the plan and interior space, however, the buildings at New Canaan and Corpus diverge sharply. The sculpture gallery is a spiral plan, with irregular, sharply angular display areas pivoted downward around a central space, like a small, crystallized Guggenheim. At Corpus Christi, the sense is much more of separate rooms: there is a main hall, which doubles as an exhibition area and central space, an auditorium, a small side gallery off the main hall and another separate exhibit gallery upstairs. The upstairs

gallery—lighted by skylights and reachable by a 60-foot bridge (page 44) which doubles back over the main hall—is probably the most versatile, and conventionally successful, exhibit space.

The interiors, like the exterior, are all painted white here. Daylight is handled flamboyantly—dangerous in any building under the bright Texas sun, let alone a museum. But it is all to the good; as in baroque churches, light washes down from several clerestories, and an enormous square picture window, facing directly onto the bay, is a main feature of the central space. The effect of the window—which is of smoked glass, to darken it in contrast to the brighter light streaming down from above—is to frame the scene on the bay, freezing the movement of the passing boats, and rendering the ordinary bay activity which local visitors never glance at outdoors. It is a picture in itself. Johnson restricts his adventures with light to the main hall; the two exhibit galleries are left with more conventional lighting.

The main hall, which is probably the least versatile exhibition area, may well be as good a medium-sized space as John-

son has done. The room has no strict axes; it is a central gathering place, more or less, for the forces beckoning the visitor toward the window on the bay at the far end, to the low exhibition gallery, to an alcove area, or to the stairway beside the entrance. The stairway curves upward past a Ronchamp-like landing awash with light to the long bridge leading to the second floor exhibit space. The experience of walking along the bridge's promenade adds a sense of excitement and anticipation as the second floor gallery (which could have been reached more easily, but happily is not) is approached. And it adds considerably to the experience of the main hall's space itself.

The museum at Purchase, N.Y., (page 46) is clearly a product of the same concerns which motivated the Corpus Christi design—providing an interesting series of gallery spaces which come together to create a successful processional experience for the visitor, yet without using overwhelming forms or scale. Purchase is, however, a slightly earlier solution to the problem. It is, like Corpus, a clean, almost abstract geometric form,





The upper gallery room at Corpus Christi is reached by a long bridge which crosses the main room, creating one of Johnson's and Burgee's best interior processional sequences.

but the form here is a simpler one—just boxes carefully slid together. The overall effect is one of a much more matter-of-fact building than at Corpus—for which reason, it might almost be argued, this building should be placed farther from and not nearer to Johnson's early work than the museum at Corpus Christi. In any event, it is the plan that is most interesting here: a 300-ft. central corridor runs the length of the building, and small galleries open from it, alternately to the left and right, like a crankshaft. The dimensions of the galleries vary considerably, even to height, but the corridor, which functions as a sort of interior street, unifies them all.

The interior street idea is behind the plan for the Arts Center at Muhlenberg College, not as yet under construction (page 47). Here, though, the street is a major space unto itself—it is a glass-covered galleria unifying a number of different-sized boxy wings set along its

length at 45-degree angles to their axis. Here the corridor also slopes downward, following the contour of the site.

In view of his current formal preoccupation, one might almost go so far as to suggest that there is some sort of "new" Philip Johnson. However refined and studied the current projects are—the sculpture gallery at New Canaan, the museum at Corpus Christi—they seem unlikely descendants of the Glass House, the New York State Theater, or the Sheldon Art Gallery. One is hard-pressed to attribute many of the newer projects to the same worldview that motivated Johnson's earlier work, the notion, as a cynic might describe it, of the world as some sort of esthetic playpen. Surely if even forms thought to resemble those of Roche, Stirling and Moore, could enter Johnson's work, they must, after all, signify something.

If anything, though, it signifies *plus ça change* . . . more

than anything else. For Johnson's mind—which Vincent Scully once called "admirably lucid, unsentimental, and abstract"—has always been an extraordinarily open one, eager to receive, to sift, to assimilate. His forms have always been highly sensitive to what has been going on around him in the current architectural scene. It is natural that over the past few years, when American architecture in general has undergone so many changes, Johnson's litmus-paper drafting board should take notice of them. Nonetheless, Johnson's main preoccupation has not really shifted at all. He remains concerned with architecture as an art, and if today he would not quite prefer "to sleep in Chartres Cathedral with the nearest toilet two blocks away than in a Harvard dormitory with back-to-back bathrooms" (as he told Harvard students in a 1954 speech), it is only because he has, over the years, grown at least a little more practical. (He admits to an

extreme fondness for the plan of a Robert Venturi house in which the front vestibule is used as a laundry room, for example, and he has given up all pretense of pretending that the Mies chairs in his house are even remotely comfortable.) But it is still monumental architecture which fascinates Johnson, and to which he aspires; it is ironic that he has, on occasion, begun to turn to the forms of consciously anti-monumental architects to achieve this. But he has taken these forms and refined them into something really quite different—inside the casual exterior of the sculpture gallery, a grand, powerful space; inside the almost slapdash Texas museum, an intricate spatial sequence. These buildings are, in the end, pure Johnson, as much as the Glass House itself. It is typical of Johnson's mind that he sees monumentality where none is expected or intended; his own definition is inclusive enough so that his pleas for a more monumental architecture are never prescriptions for a more traditional architecture.

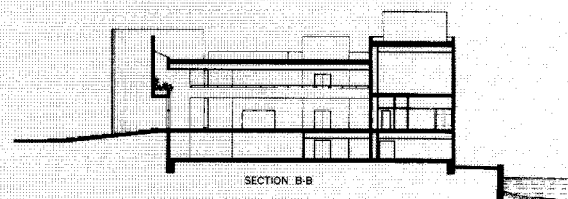
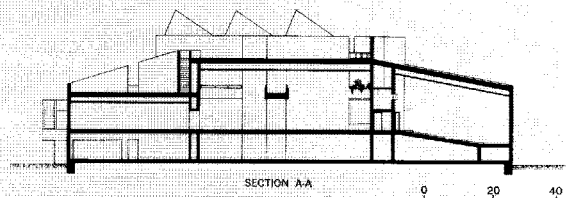
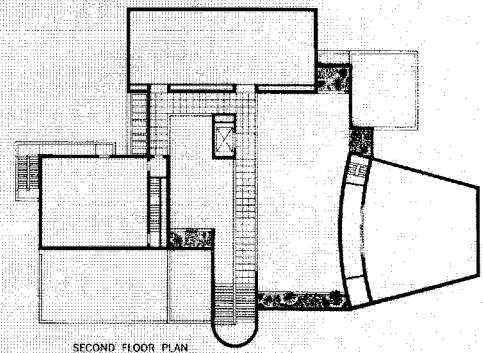
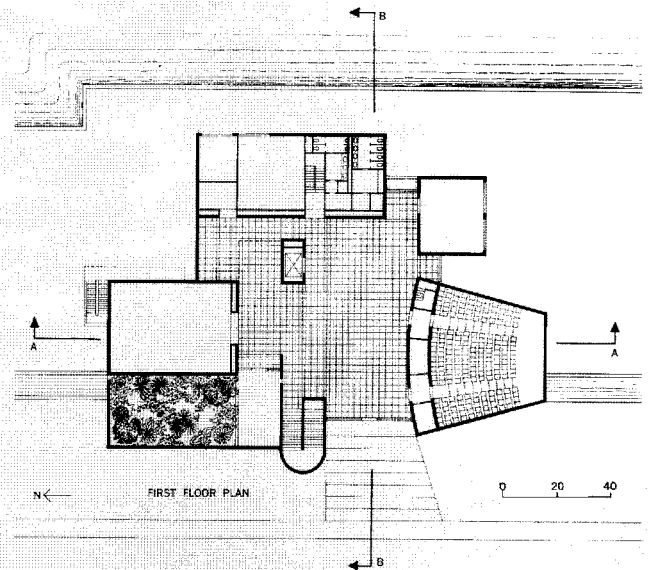
Johnson's current work is not without its more traditionally monumental examples, however. Two major projects nearing completion — both libraries, and worth comparing — are built around massive interior courts, one twelve stories high and the other six. More than anything else discussed, these buildings fit what seems to be the current public image of Johnson's buildings as monumental sculptured masses.

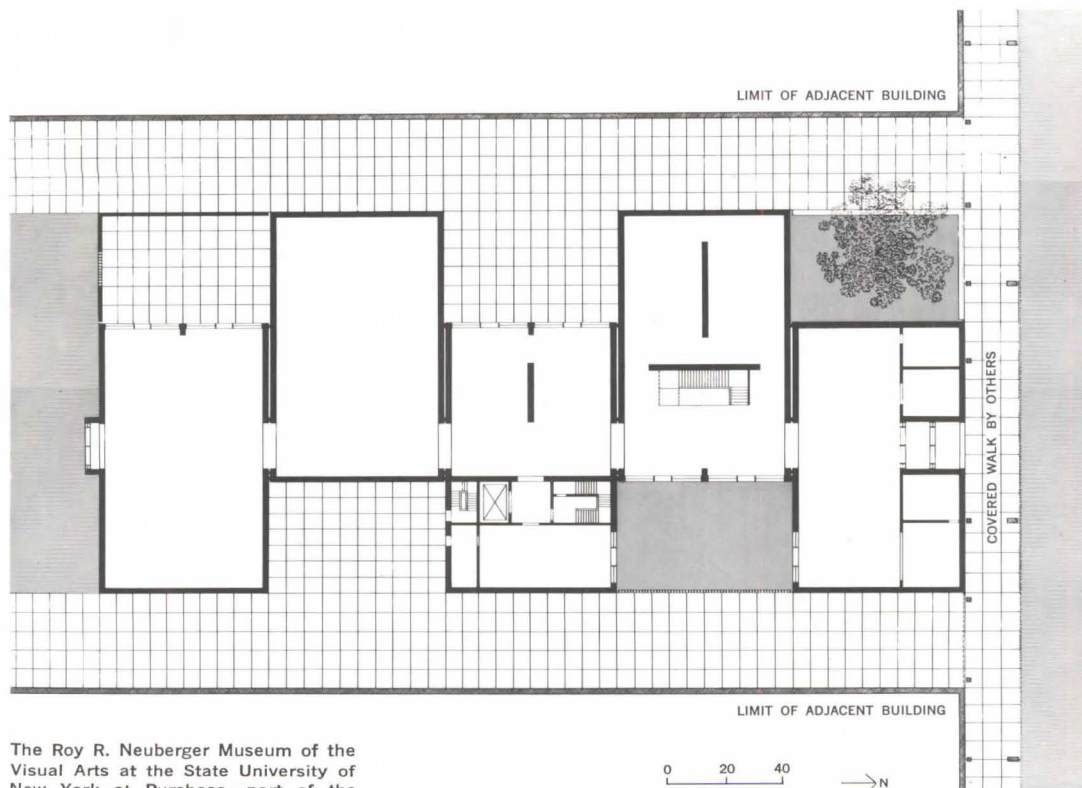
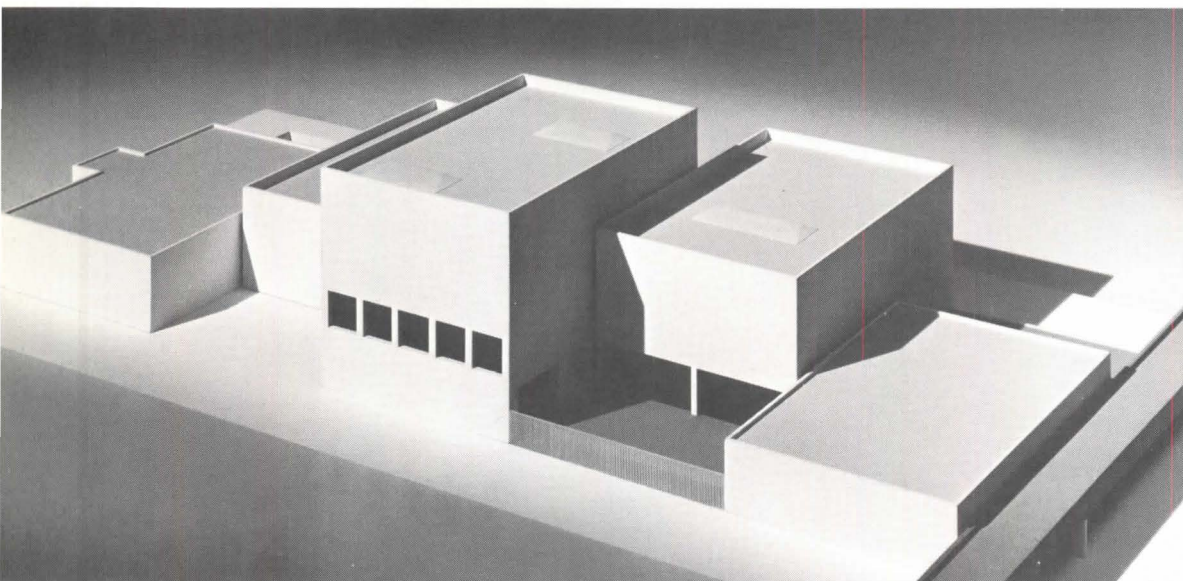
The Elmer Holmes Bobst Library for New York University, which was designed in association with Richard Foster, is a huge, 12-story mass of red sandstone (page 49) which sits at the southwest corner of Washington Square. The library is planned around a central 100-ft. square court, which rises to the full 150-ft height. It is elegantly detailed, though perhaps much too lightly in contrast to the weightiness of the exterior. The main decoration is the array

of stairways which form a diagonal pattern up one side of the vast space. Johnson has intended the court to become "a symbolic space that will say NYU the way McKim's Low Library space says Columbia." He admits that Low Library has never been noted for its functional success, but this problem seems to trouble him less here than in so many of his more recently designed projects. Indeed, Johnson's defense of the Bobst Library design is more typical of his writings and talks on architecture in his early years of practice than it is of his more recent statements: "I think we've gone too far the other way in reaction to McKim, to Low Library. You need something more than utility in the design—something to make you think more of the library. The utilitarian aspects of the library will adapt themselves."

The library is part of Johnson and Foster's master plan for NYU which, in view of the university's financial crisis, will probably never be completed. But while the red sandstone facing, which may be the most positive aspect of the library's exterior, will in all likelihood never come to cover the entire campus, it has been used in a number of other new Johnson buildings for NYU. Perhaps the most successful is the Hagop Kevorkian Center for Near Eastern Studies (page 49), a crisp, clean building that achieves urbanistic success through its streetside scale. Ironically, the strong, abstract composition of Kevorkian's asymmetrical granite facade gives that much smaller building a monumentality that is at least as powerful, and surely less strained, than that of the library.

Also virtually complete now is the addition to the Boston Public Library (page 52), the first designs for which date, like those for the NYU library, from 1964. The challenge here was at least as difficult as at Washington Square: to provide a major structure that would complement, but not overpower, Mc-



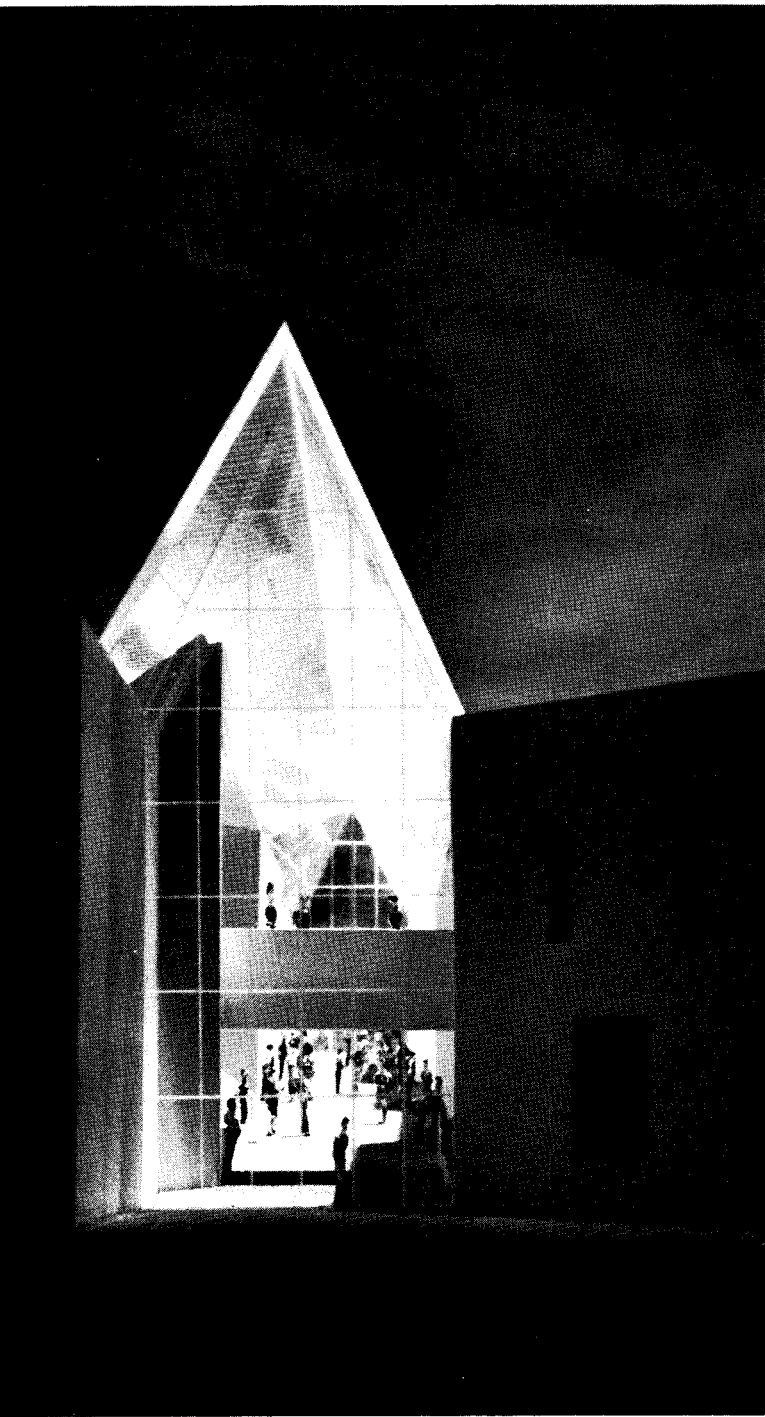


The Roy R. Neuberger Museum of the Visual Arts at the State University of New York at Purchase, part of the new campus planned in accordance with Edward L. Barnes' scheme, is a series of boxes carefully slid together. Johnson's and Burgee's plan (above) is like a crankshaft; the various exhibit areas open alternately to the left and right off a central corridor.

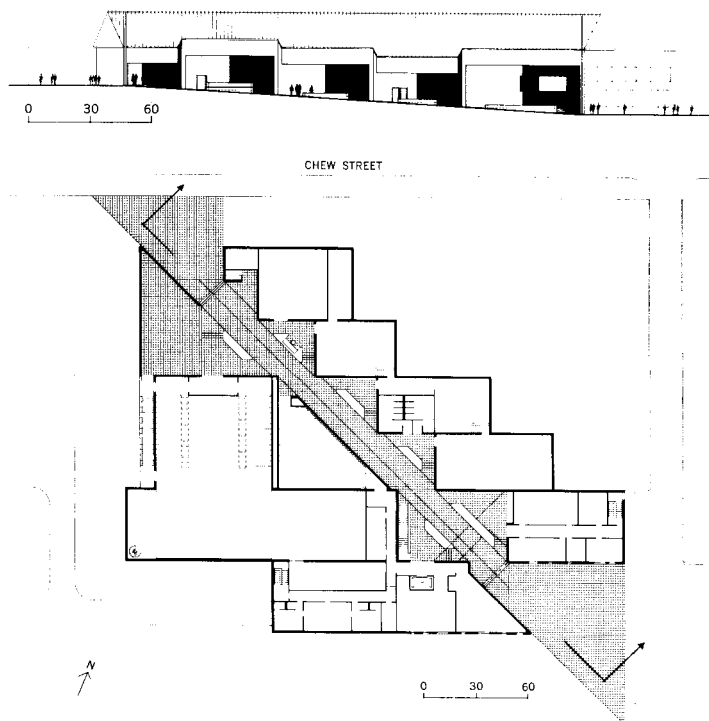
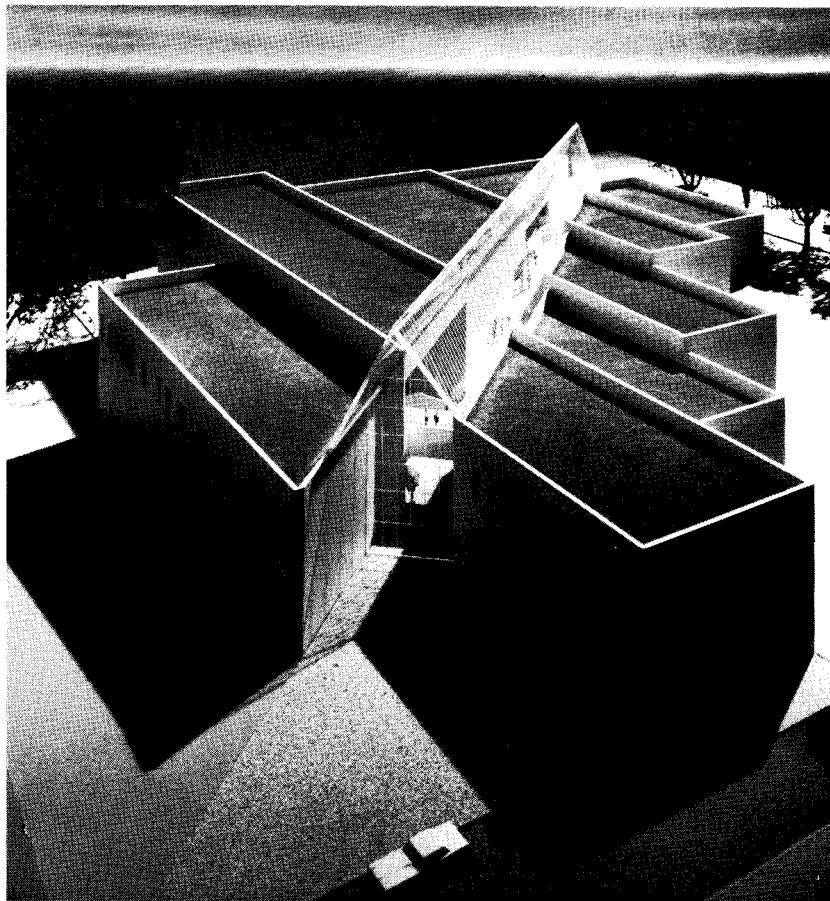
Kim's Public Library (1888-95), a building which Johnson himself has called "the finest public building in the United States."

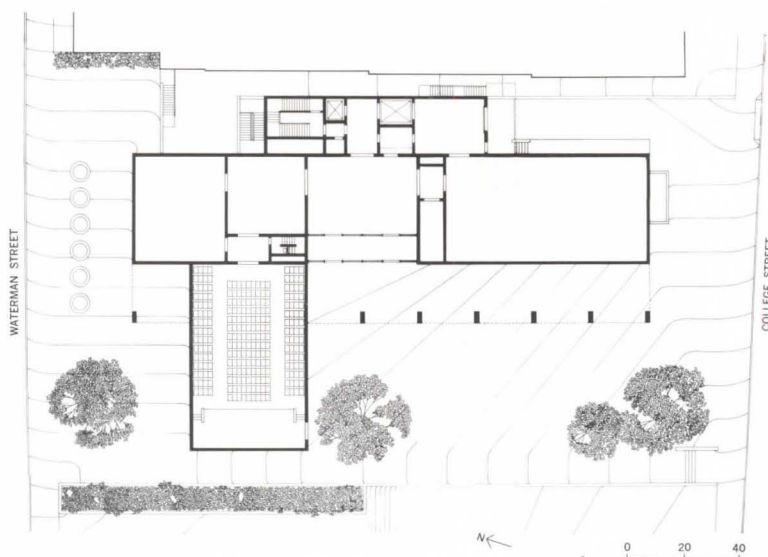
The solution is a complex building which looks like a simple one. The facade of bold, simple shapes in complex combination echoes the classicism of McKim's Renaissance palace and symbolizes, through its glass expanses and the long spans of its arches, the technology of today. The continuation of McKim's cornice line, the duplication of his pitched roof and the use of the same material in the new building as the old all counteract the natural tendency of the new library's large scale to overpower McKim's facade, and the result is that the two buildings coexist with considerable success. Their compatibility is not based upon the easy solution of imitation, but on a much more subtle attempt to reproduce McKim's spirit in a kind of modern geometry. The forms of the facade bear only minimal relationship to the functions within, although they do express interior use somewhat; their main intent is clearly to relate to the McKim facade.

The simple geometries of the facade are echoed in the plan, which, recalling Johnson's Munson-Williams-Proctor Institute at Utica in 1960, consists of nine squares. At Boston, however, the squares are of equal size, and the central square is left open to the roof, where the skylight repeats the nine squares theme; the small glass panels, set within it, echo the triangular windowpanes in the original library. The central court is bigger than any circulation space in McKim's building, but Johnson's ability to control scale is clearly apparent, and the room is never overpowering. Here once again as at Utica, Corpus Christi, Minneapolis and NYU, Johnson has made the primary thing the act of transversing—rather than simply perceiving—the great central space. A splendid double staircase, taut, sharp, almost industrial-looking, makes its way up both sides



At the Fine Arts Center for Muhlenberg College, Johnson and Burgee made an interior street out of the central corridor (above). Wings housing different functions—theatre, recital hall, museum, studios, classrooms—open off the central space at 45-degree angles (above right).





The Albert and Vera List Art Building for Brown University, built on what Johnson has called an "impossible site," is a sort of propylaeon to Brown's hilltop campus. The tall building is only one room deep; exhibit areas are in the lower floors, with painting studios at the top.

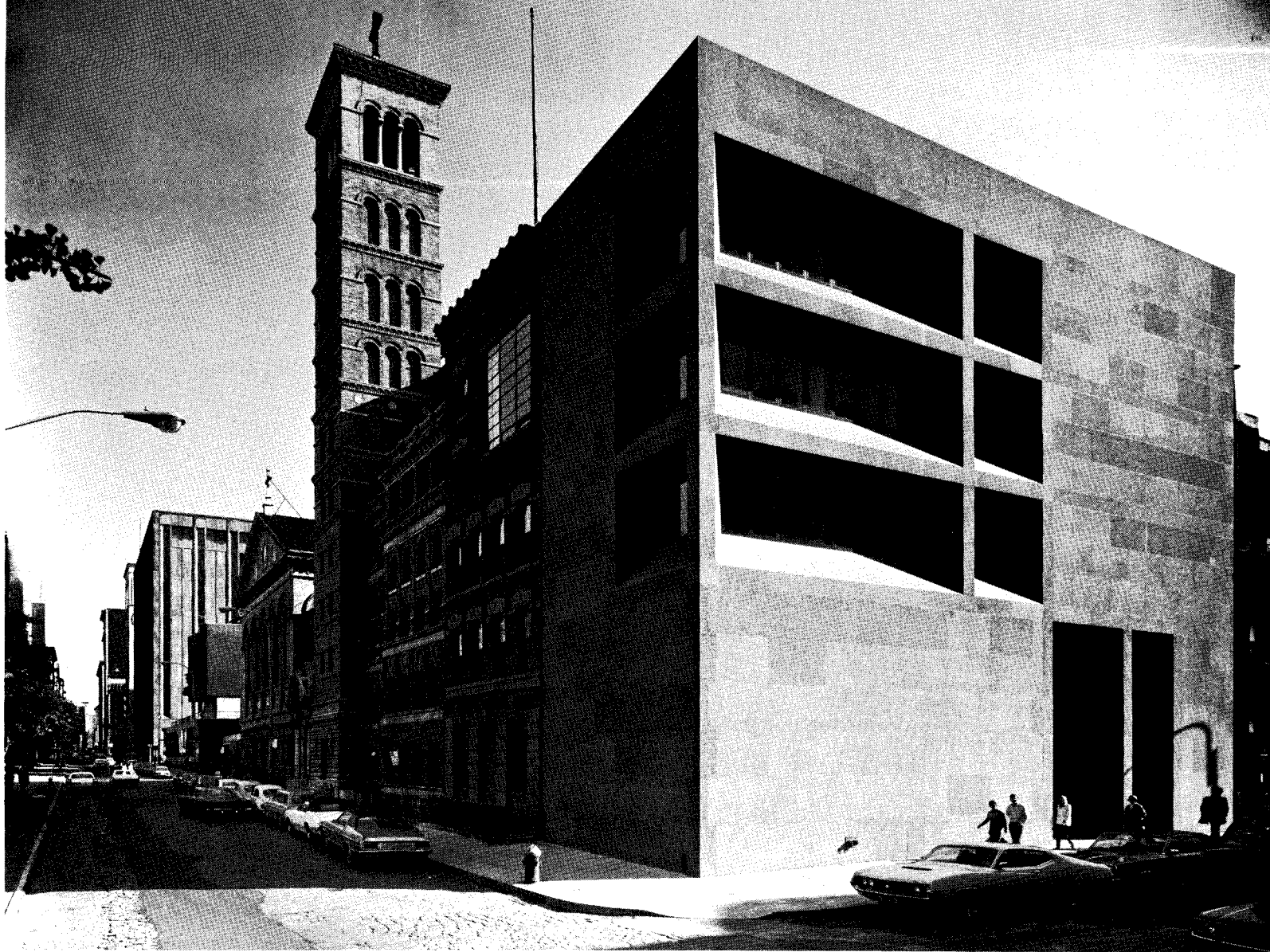
of the court to a central third-floor landing.

From the court, virtually all of the public areas of the building can be seen; there are no secret spaces in this plan. The court also makes a number of the building's formal themes more comprehensible: its walls slope inward above the third floor, repeating the angle of the slope of one story of the facade; and the pattern of the stairs rising against the far wall of the court echoes the silhouette of the pitched roof.

Johnson began his career by opting strongly for the role of artist-architect. And despite his reputation as a major figure in the architectural establishment of today, he has more or less kept to that artist's role. If he is not the most daring of experimenters, he is surely even less the development-oriented corporate architect. His concerns, as discussed above, remain those of winnowing and refining ideas.

The last several years have not been without their major, multi-building commissions, however, and it is interesting to observe that Johnson's concerns on an urban scale are notably similar to those in his single-building projects.

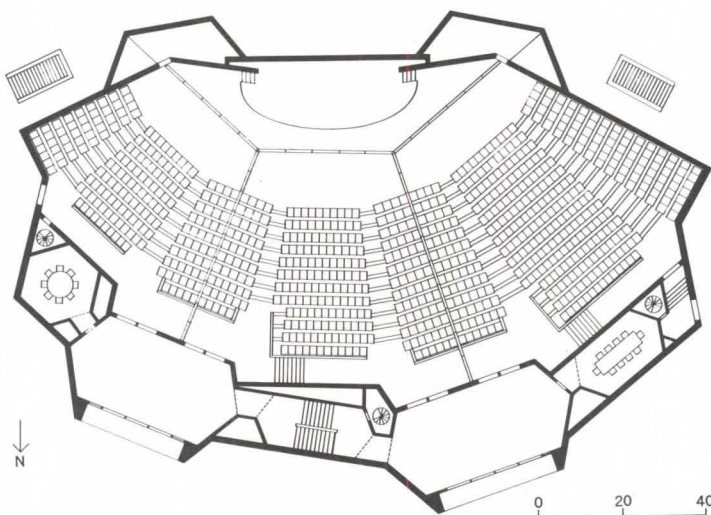
His most significant effort at urban design, the 1968 Urban Development Corporation's plan for New York's Welfare Island (page 60), is a complex but comprehensible sequence of urban spaces, containing a covered galleria, a twisting Main Street, and two important outdoor civic squares. The island town, unlike the rest of New York City, emphasizes its waterside location; the housing—of which 5000 units for low, middle and upper income groups were planned—faces the water, as do the two major outdoor spaces, the "Town Square" and the "Harbor," which are connected by the gallery arcade to form the town center. The town was intended to function with minimal use of automobiles, and the plan provided a remarkably varied array of processional experiences for



Hagop Kevorkian Center for Near Eastern Studies (above), an academic building for New York University, sits at the edge of Washington Square, as does the Elmer Holmes Bobst Library (left). Both N.Y.U. structures were designed in association with Richard Foster, with whom Johnson prepared a master plan for the University. The library is planned around a central court which rises to the building's full height of 150 feet.



Burden Hall at the Harvard Business School (above) was designed as a simple "nonbuilding" largely because, as Johnson has said, "there were too many 'building-buildings' around." The auditorium is divisible into sections (see plan), and it is mostly underground (bottom). With 1,000 seats, it is the largest auditorium at Harvard University.

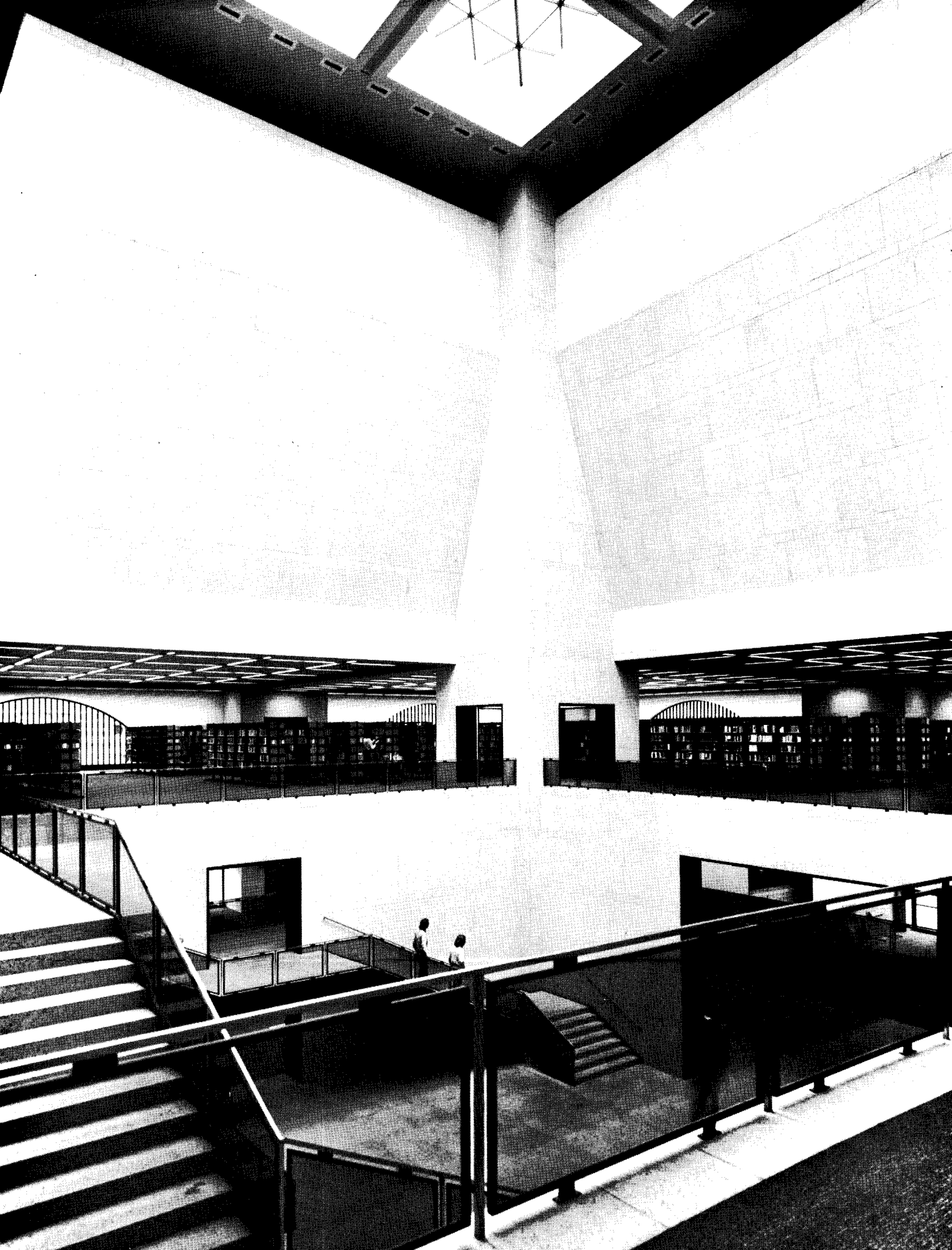


the pedestrian. Its ultimate success would, of course, have depended upon the architecture of the specific buildings, which was not Johnson's responsibility; nonetheless, the plan provided a groundwork that would have made it difficult for the community to really fail architecturally.

The future of Johnson's various urban design schemes ranges from the almost-certain-to-be-built all the way to projects that will probably never get beyond the model stage. Welfare Island is now underway, although that project has not been kept precisely to Johnson and Burgee's plan. Franklin Town—a major development for Philadelphia, the spine of which is to be a thousand-foot diagonal avenue culminating in a park (page 62)—remains uncertain, as does the New York State Office Building complex in Harlem (page 63), where the spaces between a group of buildings of varying success individually come together to form a superb block-long processional experience of changing heights, directions and scales. Definitely dead, unfortunately, is the Broadway Junction project for Bedford-Stuyvesant, Brooklyn, a multi-level complex of transportation nodes and retail space with a thousand-foot long promenade (page 66) that was to be covered with a series of glass tent-like roofs which prefigured the use of glass at Houston and Minneapolis.

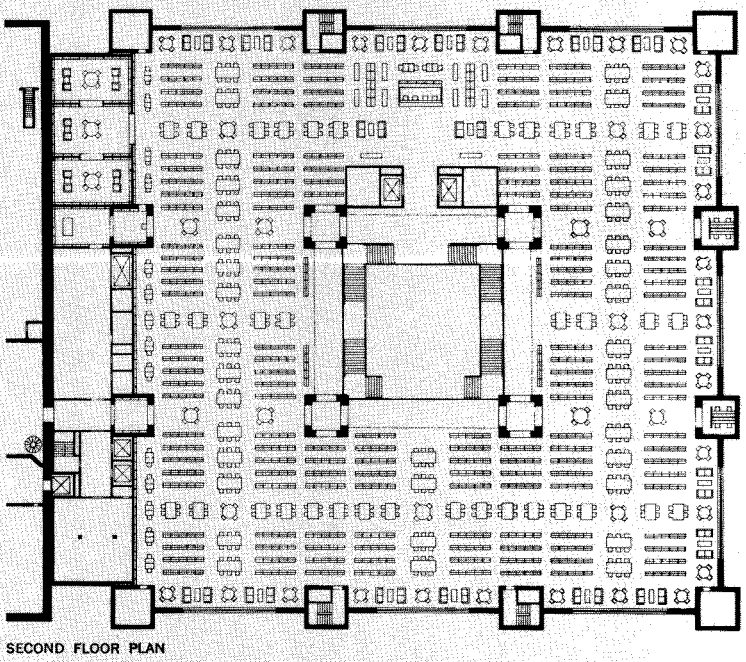
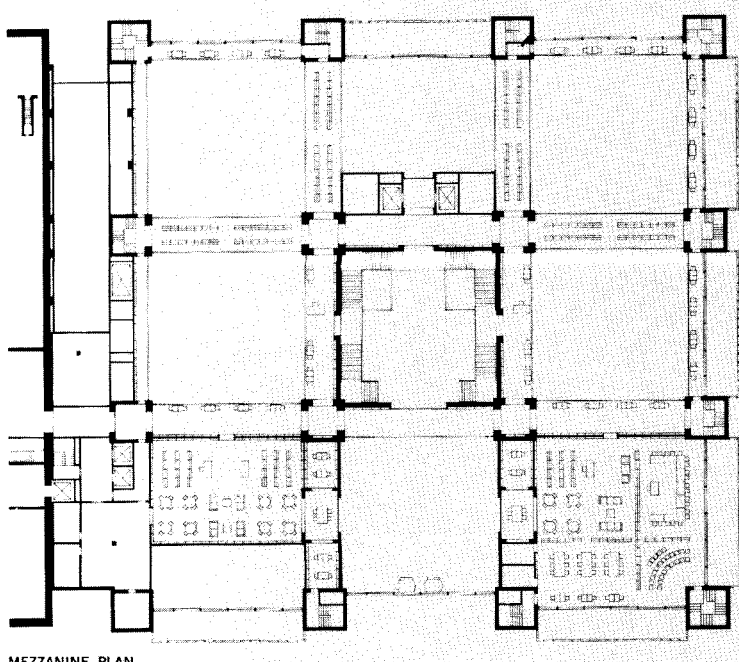
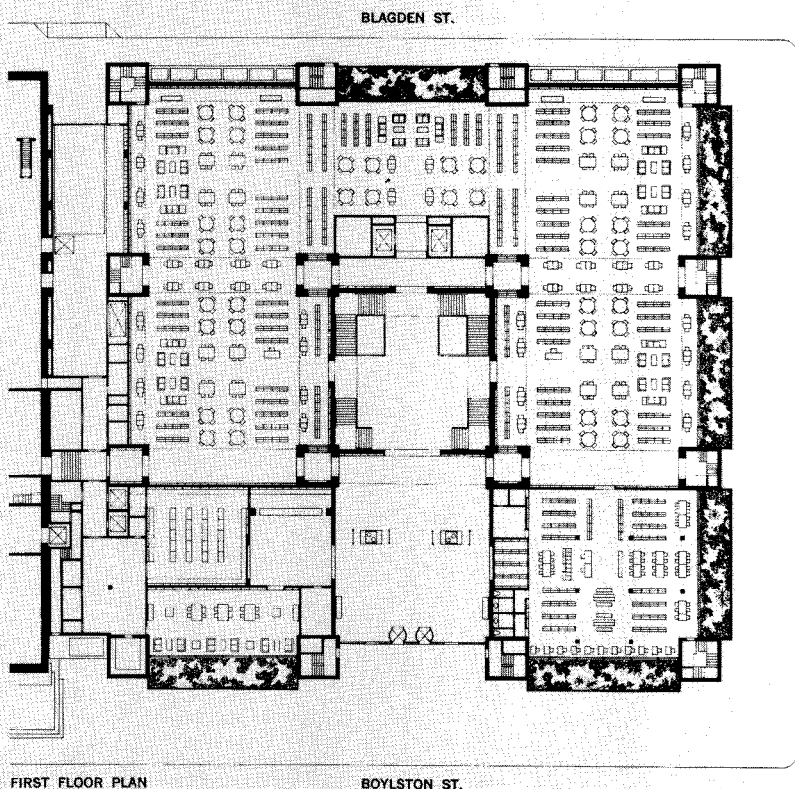
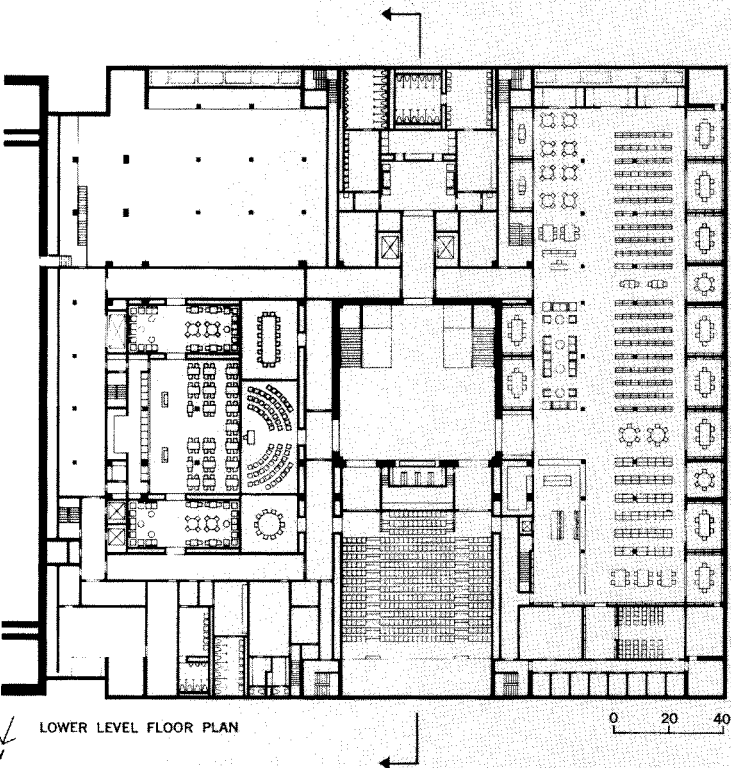
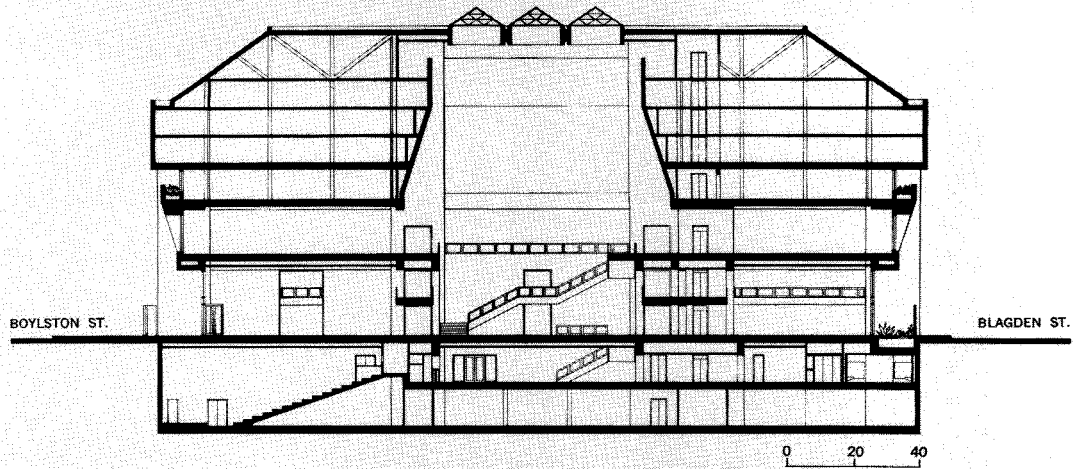
History generally judges architects by their completed works, not by their projects and dream-schemes, and it is ironic that much of Johnson's urban design work will probably not pass beyond the design stage. For despite its formal origin in Johnson's processional studies, it indicates, especially at Welfare Island, a clear understanding of larger urbanistic concerns.

These concerns have been delineated powerfully, even lovingly, by Philip Johnson—an intensely urbane man who began studying history, and who has ended up making it.





The addition to the Boston Public Library is, like the Bobst Library at NYU, built around a central court (see preceding page). The facade (opposite page, above) echoes the classicism of the original McKim, Mead and White building. The plan is more frankly classical (below), consisting of nine squares, including the court. A typical square is the reading room with open stacks (opposite page below).



BEYOND MONUMENTS

BY PHILIP JOHNSON

It is a milestone of sorts to be invited from the provinces to speak in America's first city of architecture. For fifty years I have been coming here from the second city (or shall we call it the third or fourth city today?) to admire your three generations of architecture. In no other city of the world in the eighty years from 1885 to 1965 could one see buildings comparable to those here of H. H. Richardson, John Wellborn Root, Louis Sullivan, Frank Lloyd Wright, and Mies van der Rohe.

I keep asking myself: What have you got that we do not have? Why did Richardson do his best work here? Why was Mies so "at home" with you? It can't be Mayor Daley, even he is not old enough. Is it your wind? your cattle yards? Fortunately, for the art of architecture, we do not need to know why—only to be thankful.

My simple theses are three: One, that in spite of non-architectural and anti-architectural movements that extend even to our schools of architecture, we nevertheless have an art of architecture.

Second, that the anti-art movements so popular now are really crutches to keep us from facing the real problems of creative art; the easy solutions instead of the hard realities; third, we have an architecture today comparable to other times—architecture of the kind defined by Le Corbusier: "Architecture, c'est le jeu—savant, correct et magnifique—des formes sous la lumière." Architecture is the play of forms under the light—a play of forms—wise, correct, magnificent. We still have a monumental architecture. To me the drive for monumentality is as inbred as the desire for food and sex, regardless of how we denigrate it.

All cultures that can be called cultures have built, and all that have built have built monuments

—that is, buildings of unusual size and expenditure of effort that have roused pride and enjoyment as well as utility. I think of the chiefs' huts of straw in Central Africa. I think of the Great Wall of China—buildings all the way from Chartres Cathedral to the buildings in my hometown of New London, Ohio, with its trinity — Post Office, High School, and Carnegie Library. From Versailles to the Farnsworth House, you could even live in monuments.

Certainly civilizations have been remembered for their monuments and, in some cases, only for their monuments. Who, for example, were the people of Teotihuacan? No writing, no name even. Who knows even who they were? Only that they must have been a great people, otherwise how could they have built such a very beautiful city? We revere them for their monuments. With the honorable exception of Chicago, no one is going to remember us for our buildings. Perhaps for our broken concrete roads or our twisted rusting steel skeletons; but, unlike Cambodian Khmers for their temples or the Moguls for their palaces or the Romans for their forums, we will not be remembered for our buildings.

I have chosen the "bad" word "monument" intentionally to stress the attitude behind architecture as an art with its own reason to exist as against the attitude that architecture is a servant technique for aims outside itself.

The semantics of the word "monumentality" is funny. It is never used in common parlance except in a pejorative sense. Monumentality in architecture spells wasted space, wasted money, pompous facades, empty central courts, forced axial symmetry, false stone veneer—whatever crime against the modern canon one chooses to ascribe to it.

Look at it another way. I use the museum as an example. The uses of monumentality are legion. Ironically, but aptly, functionalism actually demands

monumentality in an art gallery. 1) Pictures hardly ever need a ceiling over 10 feet high, yet most paintings look crushed in such a low ceiling room. 2) It is hard to hang pictures in a central court, but orientation of the visitor is a requisite for enjoyment of a museum. 3) Pictures do not need grand rooms, but the general public won't often visit an art museum in a loft building—the case of the Museum of Modern Art notwithstanding. A museum can function on the lower floors of an office building, but most of us agree it should have more gracious, ample, identifiable — in other words, more monumental—quarters.

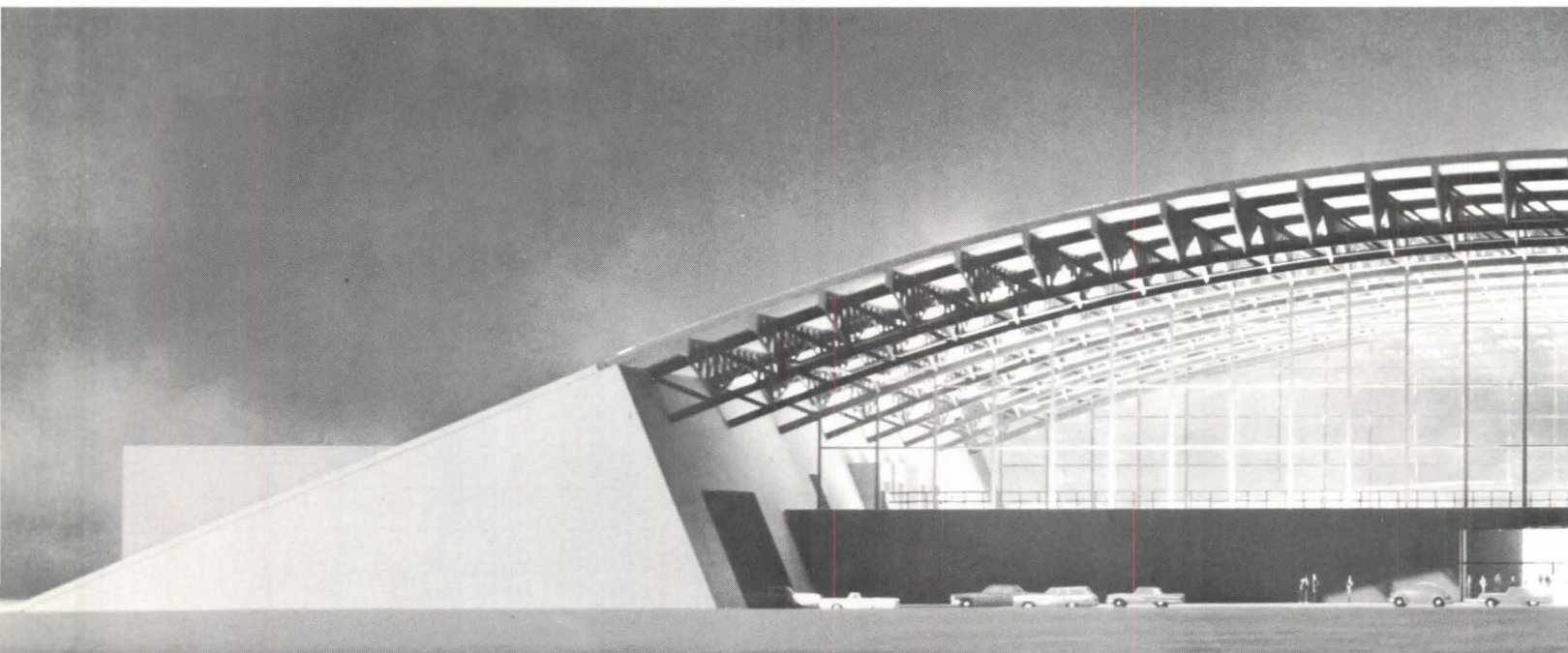
Another example of the usefulness of monumentality: there is no plaza in modern business architecture more monumental than the granite plateau in front of Mies' Seagram Building in New York. It is a contrast indeed with informal plazas we see more and more of, with kiosks and benches and seats and sitting groups. It is stark, uncompromising, and Mies actually felt that the pools of water should touch the marble ledges so that people would not try to sit on them. The exact opposite happened, and the *New York Times* ran an article by our most ecologically-minded writer on architecture, William H. Whyte, that demonstrates that Mies' plaza is the most useful one in New York for sitting, shmoozing, eating, and other pleasant urban habits. He says it "is one of the great urban places of the world, as significant as the Piazza San Marco in Venice." Ah, the uses of monumentality.

But often architects know not what they do. They make artistic monuments and think they are being severely technological. Witness Le Corbusier: he spent no creative time on the machine-to-live-in he preached and a great deal of time on painting pictures and utilizing the formal results for his formal architecture.

The best example of this schizoid attitude toward art was

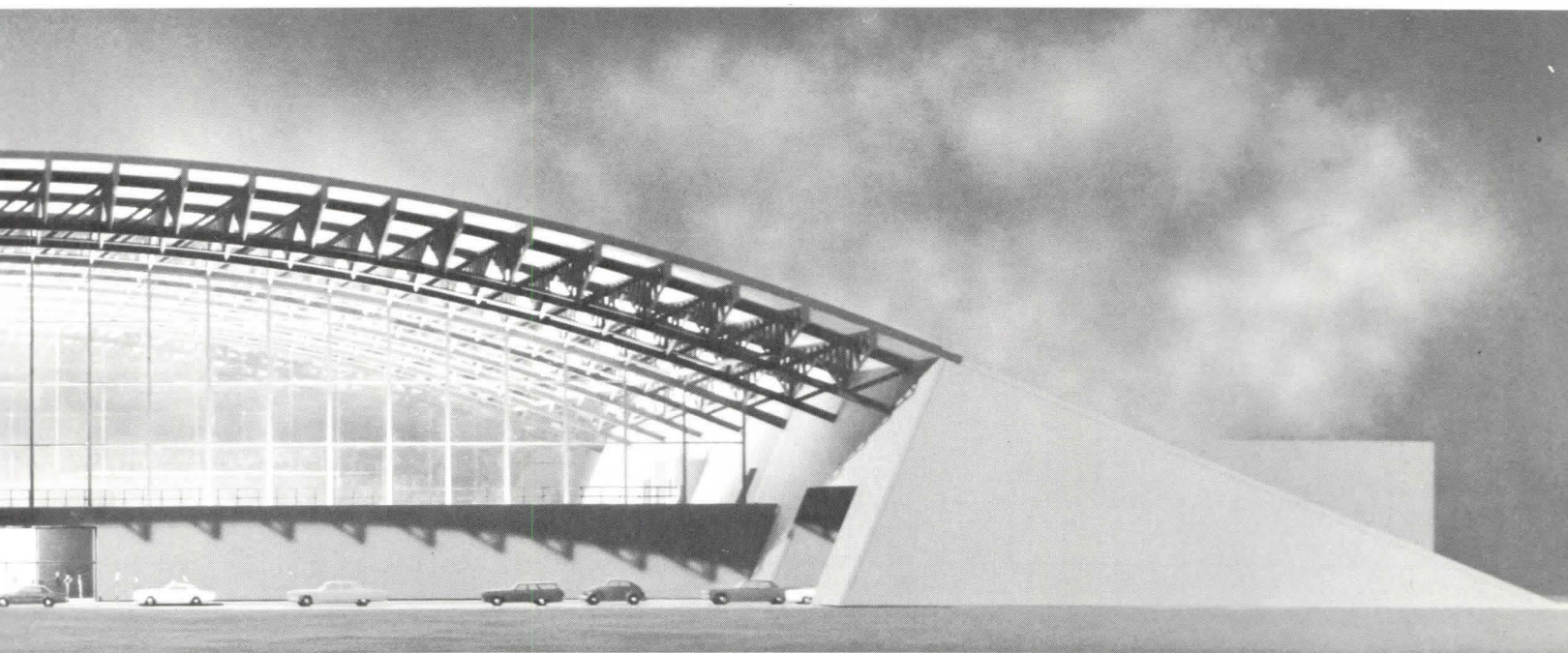
This text is adapted from Mr. Johnson's Graham Foundation lecture delivered to the Chicago Chapter, American Institute of Architects, 15 Dec. 1972.





the architecture of the twenties, that decade of the International Style development.

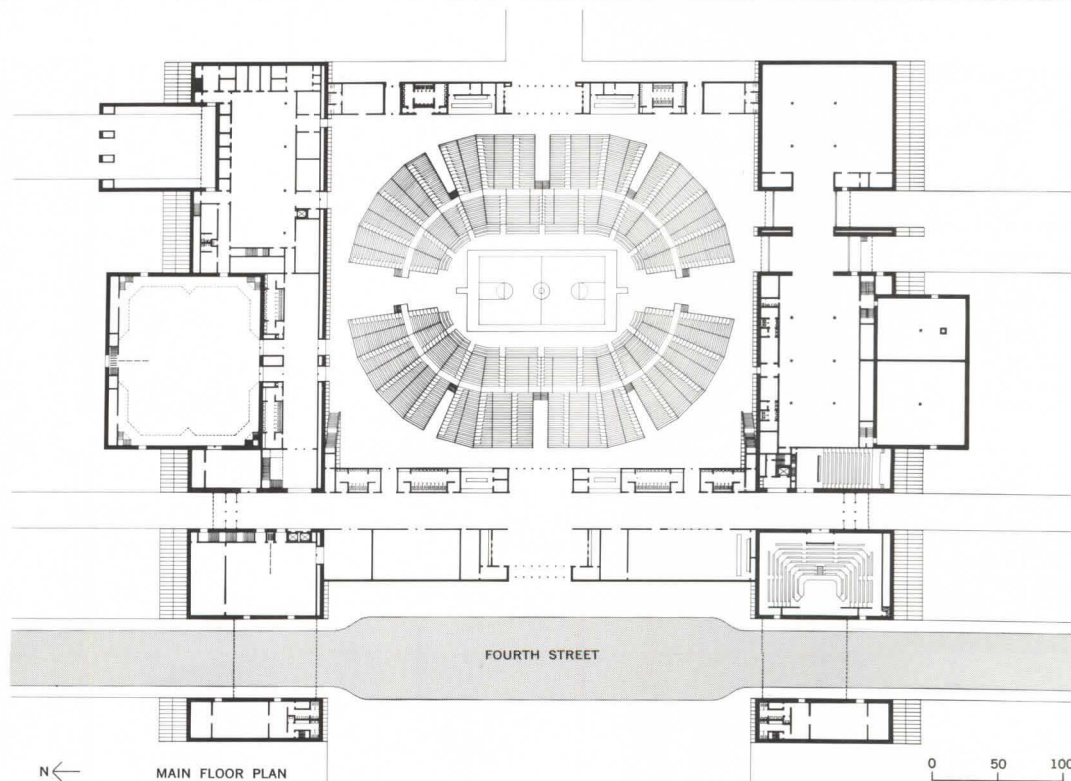
In those days about a half century ago, the battle lines were roughly similar to our own. I remember the grouping. There was CIAM, with the critic Giedion and the prophet Le Corbusier as intellectual guides. There were the Communists, Marxists, extreme leftists with political axes to grind. There were "pure" (shall we say) architects like Mies van der Rohe and J. J. P. Oud in Holland with the traditional view of architecture as an art. In all groups there were excellent designers. Even Erich Mendelsohn, who belonged to no group, trying to be a modern businessman architect, was a good designer. The battles were glorious. Hannes Meyer as director of the Bauhaus was dismissed for having too many Communists around. Mies was criticized for using wall to wall silk curtains in his interiors and for using book-matched marble slabs in the Barcelona Pavilion. Gropius worked hard at the aim of the day—designing minimum dwellings—Wohnungen fuer das Existenzminimum. Mies thought these aims of minimalization de-



meaning. His designs for mass housing were elegant. When asked what his solution was for housing, since obviously his were expensive, he replied: Why don't they give the workers more money?

But for all the differences in ideologies throughout the 20's, there were great architects. One of the great was Hannes Meyer, who believed in political not artistic inspirations for his work, yet in his design of 1927 for the League of Nations competition, he made further strides in the art of architecture than even Le Corbusier. His isometrics, his arbitrarily broken-up massing of glass-clad elements has more to do with English modern, let us say, than with the International Style cliches of Le Corbusier's entry. Hannes Meyer could design monumentally though he was ideologically against monuments.

Similarly today the architects of the Pompidoglio, as the French call the arts center M. Pompidou ordered built at Plateau Beaubourg in Paris, Messrs. Piano and Rogers, claim they wish to build no monument, just a place for the French people to visit. Fortunately, they are



The unfinished Convention Center for Niagara Falls is an attempt to create an automobile-oriented processional experience (above and preceding page). The approach road carries cars under the vast arch which is an extension of that covering the 100,000 square-foot main exhibit space. The center also contains a 2000-seat ballroom, a 400-seat thrust stage theater and large and small meeting rooms.

also building an architectural monument. The design, which won the prize in an international competition (I was on the jury) is at first glance very ordinary—just as if Piano and Rogers were correct—namely, that it is non-architecture. It looks much like non-design, a factory—a hulk of steel and glass without distinguishing features, just the opposite of what we have come to expect as modern design—expressive cantilevers, sloping walls, 45 degree angles in plan, etc.

It is reported that President Pompidou, who is devoted to modern art, was disturbed at the crudeness, the lack of obvious design features. We in the jury, on the other hand, were charmed. It is a new kind of loft building built, instead of in the great American idiom of cast iron, in steel framing with huge exposed trusses and exposed water-filled pipe columns, five feet in diameter. The system is further decorated with exposed escalators, enormous mechanical ducts. Great 150-foot spans on the empty ground floor create rooms without glass. The Plateau Beaubourg is a sophisticated updating of the Crystal Palace of 1851. Paxton may have been a greenhouse designer, but he almost made architecture. Piano and Rogers think they are factory designers, but they have designed a work of architecture in the great iron Eiffel Tower tradition of the French nineteenth century.

We still have good architecture. In nostalgic architecture circles, it is fashionable to talk of the past as the good old days. No one likes it more than I. After all, I was there—in the great times of Mies, of Le Corbusier, of Wright. It is fashionable now to claim there are no successors to them as artistic revolutionaries, as form givers, as founders of a new style of architecture. So fashionable indeed are the 20's, that many of our younger designers make direct allusions to Le Corbusier and Gropius in their work. Richard Meier's elegant houses come

to mind.

I believe (and again, I was there) that it was not better in those old days: it was different, yes. The fact is that the old masters lived in revolutionary times and that we do not. That alone does not make all of us mere epigones, mere shadows of the masters.

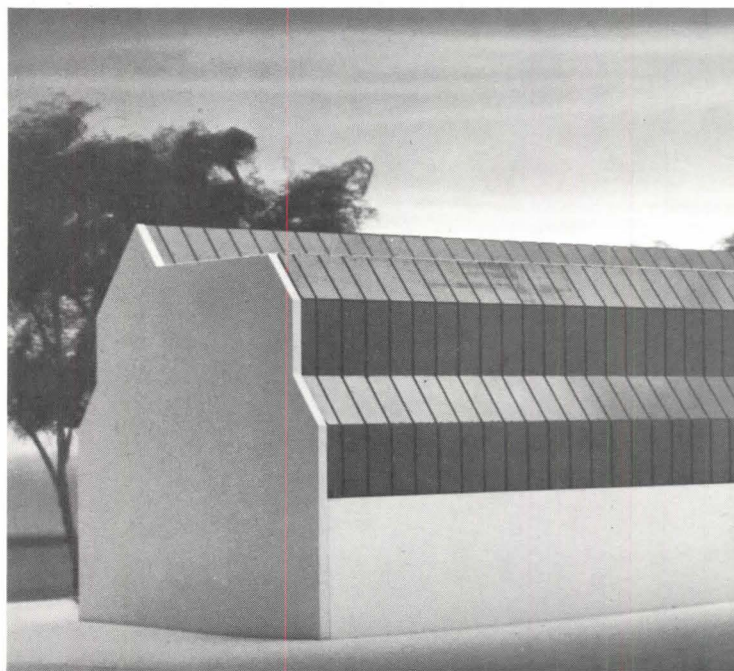
It would be interesting to try to pick out of the last decade post-International Style buildings as exciting as the early works, let us say, of the 20's.

Admittedly it was easier then. The International Style covered very few years, and was very easy to recognize because it had such a restricted palette. It was not a rich style, it was not decorated, it had no sloping roofs or shaggy surfaces. It was not a lot of things. And it had easily recognizable leaders. Le Corbusier with his Cubist background and Mies with his Dutch de Stijl background were already, by 1922—50 years ago—clearly in the vanguard.

When Russell Hitchcock and I were forced to choose eight outstanding modern architects for the exhibition at the Museum of Modern Art 40 years ago, part of the job was quite simple. We were to pick four non-Americans. And, out of misbegotten nationalism or, rather, a desire to encourage lagging American design, we arbitrarily decided to include four Americans.

The Europeans picked themselves: Gropius, Mies, Le Corbusier, and J. J. P. Oud. Each we knew through a great building: the Bauhaus, the Barcelona Pavilion, the Savoye House, and the Hook of Holland housing group. We visited all of them, except, of course, the Barcelona Pavilion, the only building that we can judge by pictures and plans.

We had more trouble with the Americans. The International Style here was an import. And by trying to play Procrustes, I got into trouble. Frank Lloyd Wright, I blush to admit, I thought was the greatest architect of the nineteenth century,

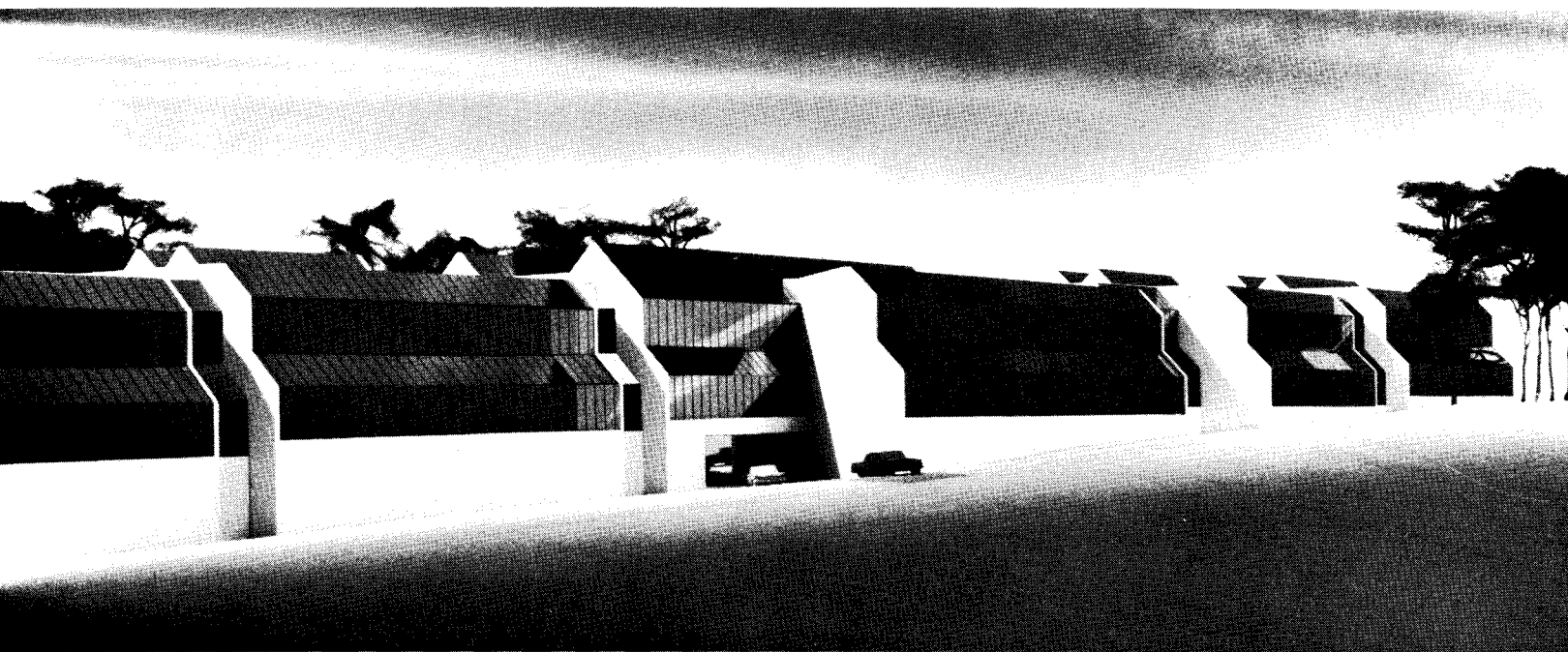


an historic figure but out of touch with modernity. He was included nonetheless. Next I put Richard Neutra, an Austrian, the only International Style practitioner amongst us. A questionable choice. Schindler, I feel now that I have seen more, was at least as great an architect. Next I put Raymond Hood; not a design innovator but an astute planner. His personal solution of Rockefeller Center, buried as it was under committee decisions (Rockefeller Center was equalled in smothering ability only by Lincoln Center), was a brilliant diagonal crossroads plan worthy of any new city center design of the 70's. Last, I chose the Bowman Brothers of Chicago, a very young International Style-minded team who made seductive sketches. I had no executed designs to choose from. They did not turn out exactly world famous. They worked then, and work even today, so far as I know, in Chicago, but few have followed their careers. It proves (besides my own innocence) only how very few International Style designers there were to pick from in 1931.

Parenthetically, hindsight can

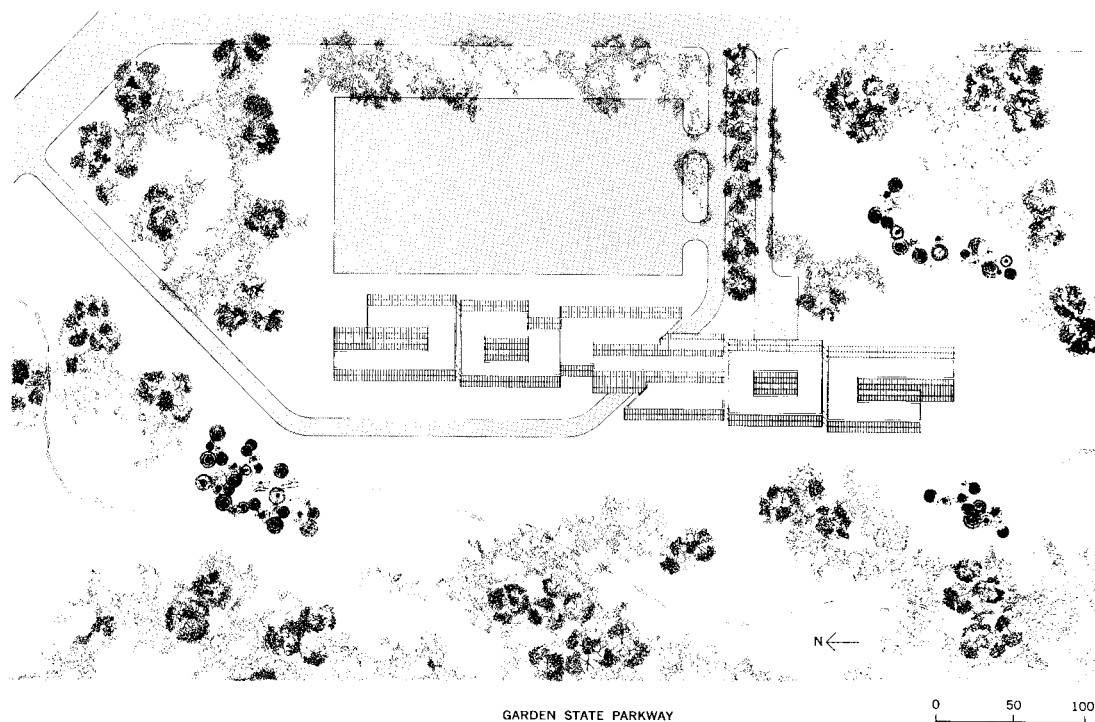
easily point out that, in 1932, it was not the International Style which was of interest in the design world—it was the Paris 1925 style (absurdly labeled today as *Art Deco*) that fascinated contemporaries and fascinates collectors today, from Andy Warhol to Barbra Streisand. At the Chicago Fair of 1933, for example, we at the Museum of Modern Art were more interested, rightly or wrongly, in George Fred Keck than in the big Art Deco buildings. Le Corbusier had become a blinding influence. And in the world of Industrial Design, the accepted style was the “moderne” of the teardrop shape, applied even to toasters and refrigerators—not the Bauhaus machine art we at the Museum favored.

Today, 40 years later, what would an aspiring young museum curator pick out? Personally, I cannot see the forest for the trees. Besides, I am no longer a critic. I am too prejudiced by my own work to be fair. Yet, even though I am a “senior citizen,” I still look around. There are a great number of buildings I see from time to time, and there are more than enough to make an

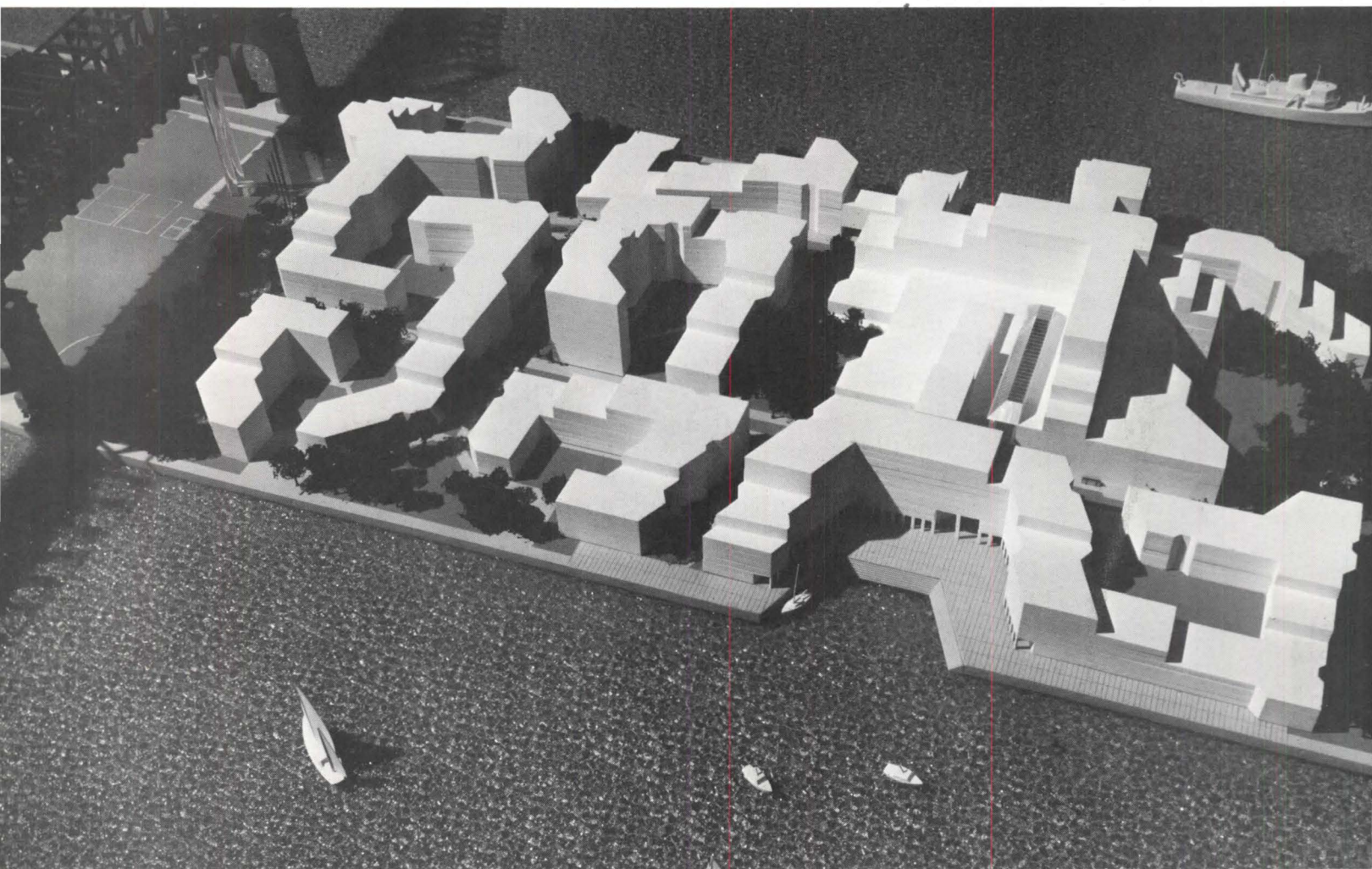


architecture. They don't add up to a style, or a movement even. Their common denominators are unclear. So what. The creation of a new corpus of stylistic similarities occurs rarely in our field of art and, besides, when we are in the midst of work, who among us tries to pin labels or to guess what labels historians are going to pin on us. Everyone hated the label "International Style" when Russell Hitchcock invented the rubric. The architects of the 20's worked and let Hitchcock and Johnson worry about names.

Here is my young curator's choice. The list includes only what I have visited. The accident of having seen or not having seen modern buildings, therefore, adds to the haphazard nature of the choice. There is no objectivity of judgment whatsoever. Any architect and all critics would make a different one. In addition, I refuse to consider Chicago architects in this summary because I refuse to pick and choose among my hosts, some of whom may be here. There is even a possibility that, since Mies' death, good architecture is no



Johnson and Burgee's unbuilt scheme for the headquarters for Mercedes-Benz at Montvale, New Jersey, would have been a stretched structure of mirror glass sited along the Garden State Parkway. The building was divided into pavilions for flexibility. Mercedes built a different headquarters designed by the Grad Partnership (FORUM, Nov. 1972).



Johnson and Burgee's master plan for the Welfare Island Development Corporation was based on a central pedestrian axis (above, right of photo) which connects two public areas overlooking the river. Automobile streets are at right angles to the pedestrian axis, which would contain schools, restaurants, shops and apartments (plan, opposite page).

longer peculiar to Chicago. Other centers, or perhaps no specific centers, have appeared. Perhaps as more magazines come out faster and faster, more clients can be on the long distance phone in fewer seconds; the world may be our new city.

I pick the first six that come to mind—buildings that gave me a thrill when I visited them. Like music, architecture, which is, after all, “frozen music,” should give me a stab in the gut.

Item: Lou Kahn's Richards Laboratories in Philadelphia. This is the new sculptural architecture—tight chimney-like shafts, beautifully overscaled diagonal entranceways, stepped window slots—design elements that surprised us all. It was the first

building that shook my faith in strict glass box architecture. Kahn showed us the route to freedom from the International Style.

Item: Paul Rudolph's Hirsch House in New York. The house has a living room intricate enough in conception to defy description—intimate and lofty at the same time, cozy and formal at the same time, comfortable and rigidly designed at the same time. Space is played with, pushed and pulled, overhung with balconies, accented by varying floor levels, marked with flights of steps.

Item: Charles Gwathmey's house and studio for his father on Long Island—a fine double-scale antiphony of half cylinders and cubes. The International

Style is warped and extended into new geometrics.

Item: Kevin Roche and John Dinkeloo's College Life Insurance group in Indianapolis. Repeated, isolated tapering towers float in the landscape and seem to have more to do with Druid stonescapes than with modern architecture, but actually create a new romanticism welcome in the drear International Style.

Item: James Stirling's Engineering Lab at Leicester University, England (no romanticism here)—an extreme and free melange of glass, and masonry and cantilevers and circular stairs and sloping soffits and 45 degree points. My first view was of chaos; the new underlying order appeared only gradually.

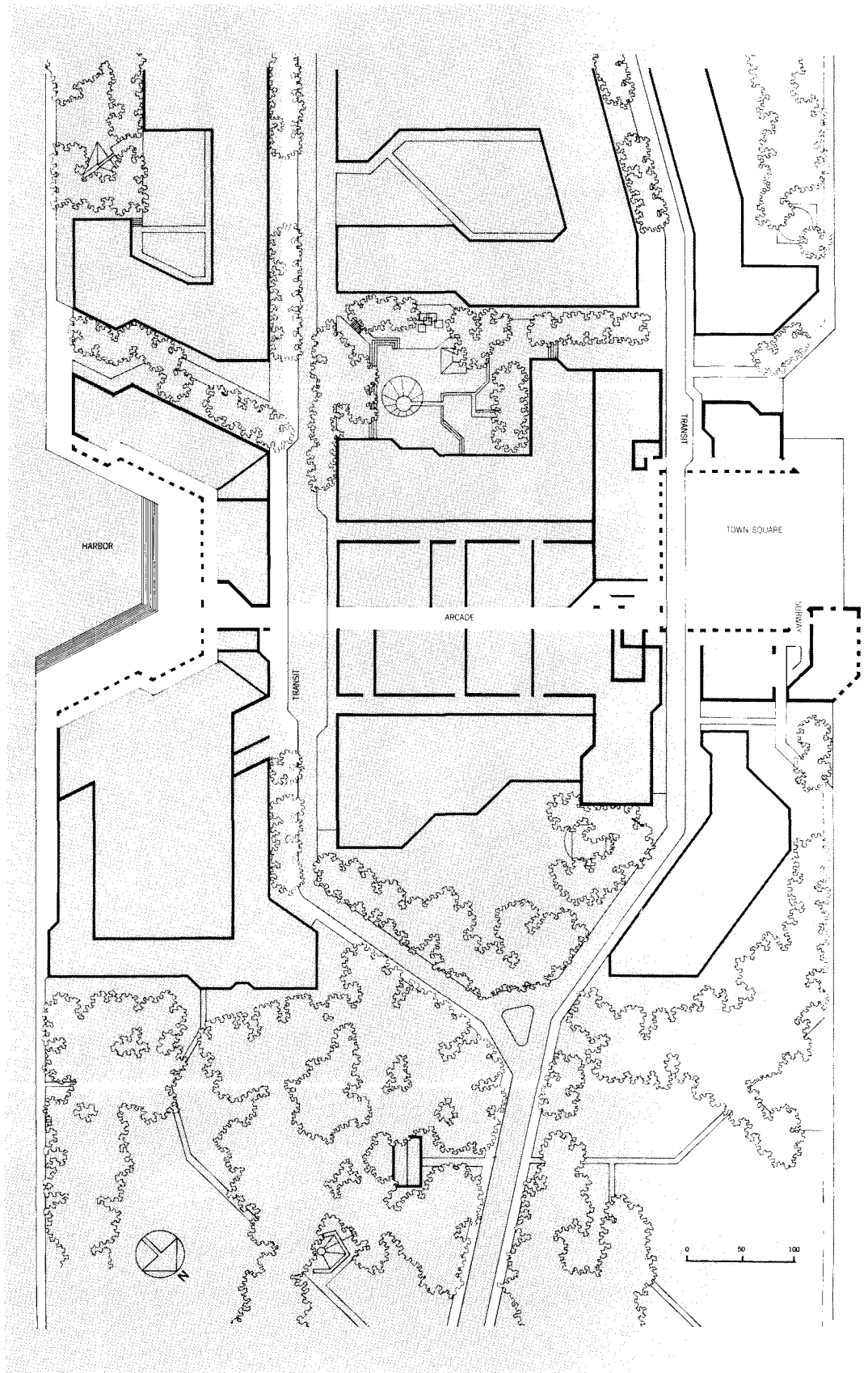
Item: John Andrews' Gund Hall at Harvard. The great hall is a new kind of huge space. The sloping trusses are just a bare 10 feet above the edges of the balconies, each of which creates an overlapping terrace. The effect is intimate, yet the room is vast enough to include all the operations of the school. This is the first time, I believe, that such square footage—without partitions, without columns—has been designed with a resulting space so easily divided, so low-scaled, so private.

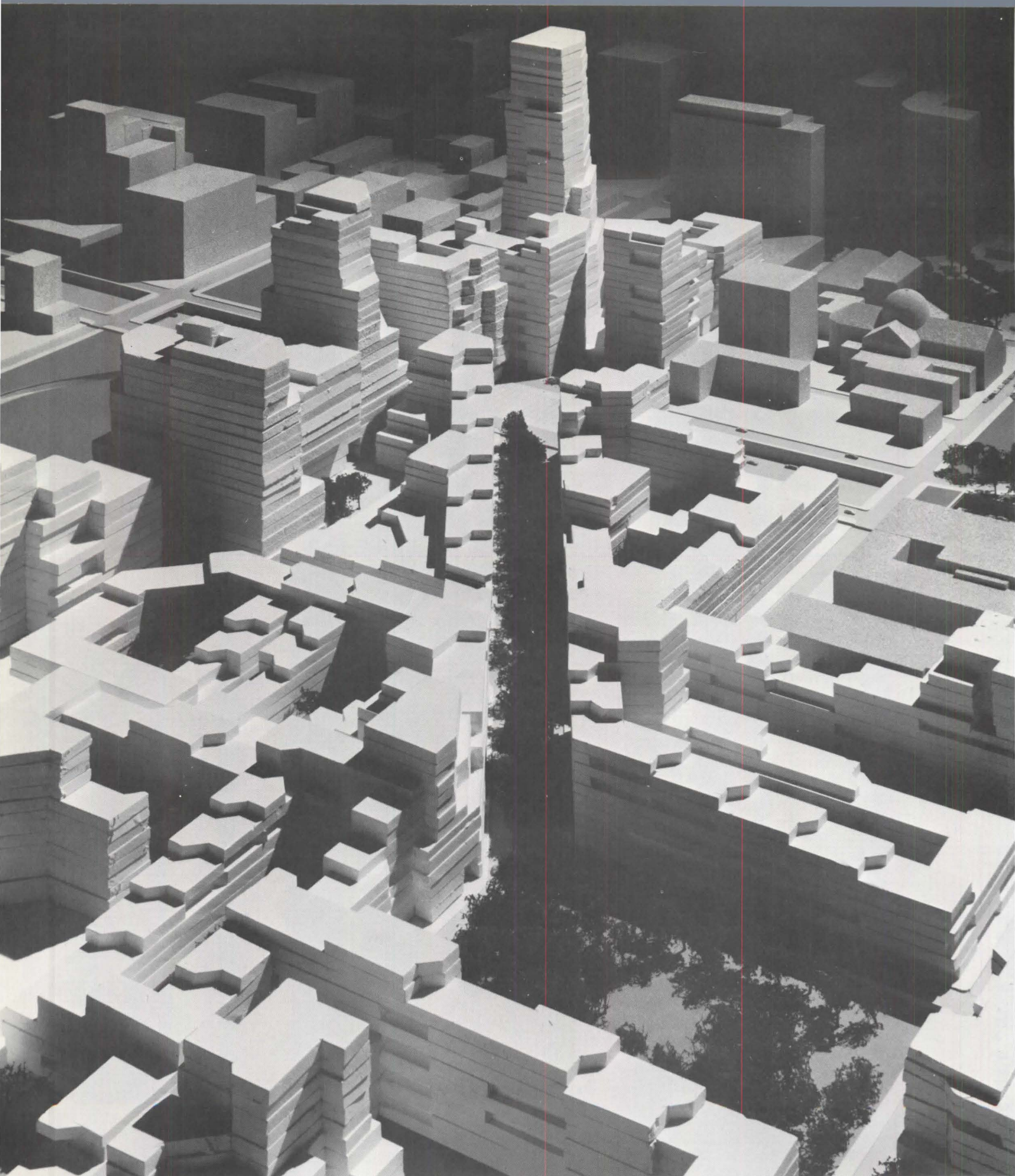
There are many buildings and rooms I have left out, many more I have not seen. For example, I love the floor plans and sections of Venturi's projects. I love the suspension purity of Frei Otto, the tough concrete of Morandi's bridges, the delicate tracery of a Bucky dome, the hilltown concepts of GianCarlo de Carlo and, as you know, the new Paris design of Piano and Rogers.

So I am much encouraged about the future of our art. But right now, in 1972, there are terrible stumbling blocks. The one that bothers me most, and there is no remedy, is the low position we architects have in society. I used to say that we seem to have a place halfway between the family lawyer and the Fuller Brush man in society's pecking order. But now we have descended the scale. The word "architect," the practitioner of the mother art, used to be proudly displayed after our names on our glass entrance doors. Nowadays the glass door has ENVIRONETICS in headline type, then below, after Engineer, Industrial Designer—"Architect" is perhaps modestly placed between Planner and Interior Designer.

You can only be successful as an architect, it seems, by being a speculative developer first, then a city planner, then a landscape architect, and after that, architect.

Parenthetically, the profession of landscaper has risen far above its lowly origins. The profession used to have to do with





The Johnson and Burgee plan for Franklin Town in Philadelphia is based on a wide diagonal spine which culminates in a small, almost intimate enclosed park. The project is planned to include a variety of residential and commercial facilities.

plants and trees and parks; now the world is their oyster. The public interest in ecology helps, but mainly they seem to be brighter than we. They now design roads, buildings, and cities. Larry Halprin is now "architect." The landscape students at Louisiana State University visiting me said, only half jokingly: "We are also going to build buildings, just to show you." More power to them. I am not AIAish enough to think you must have a license to practice (I myself did some of my best houses before I could manage to pass the State exam on "design.") After all, Mies never went to school; Le Corbusier never went to school. All power to the landscapers then—but what of us? We lose credibility year by year: only John Portman among us is gaining. The gurus are almost gone: Lou Kahn keeps the mantle of "maestro," but is there a successor? Or is it our own fault for just not being good enough? None of us would or could admit it. Is it the lack of the J.P. Morgans who gave the Stanford Whites such great support? Is it lack of patrons?

Actually our noble profession has many traits in common with the world's oldest. Like good prostitutes, we do our stuff when we are paid; we try to do it well for whoever will pay. There may be a difference in that we enjoy our work hugely, but then so do the great courtesans.

More than most professions, we depend on the clients who employ us. *Architectes du roi*, fine. But who is king? Good king, good architecture. In the Middle Ages, good bishop, good architecture. In plutocratic times, good Medicis, good architecture. In business times, good real estate developers, good architecture. In return we may be able to help our patrons. Michelangelo's ceiling did nothing to dampen the fame of Pope Julius. Mies' great architecture makes famous the name of Seagram. Sometimes it is true the boughten architect is remembered more than the man who hired him. I must confess I do not know

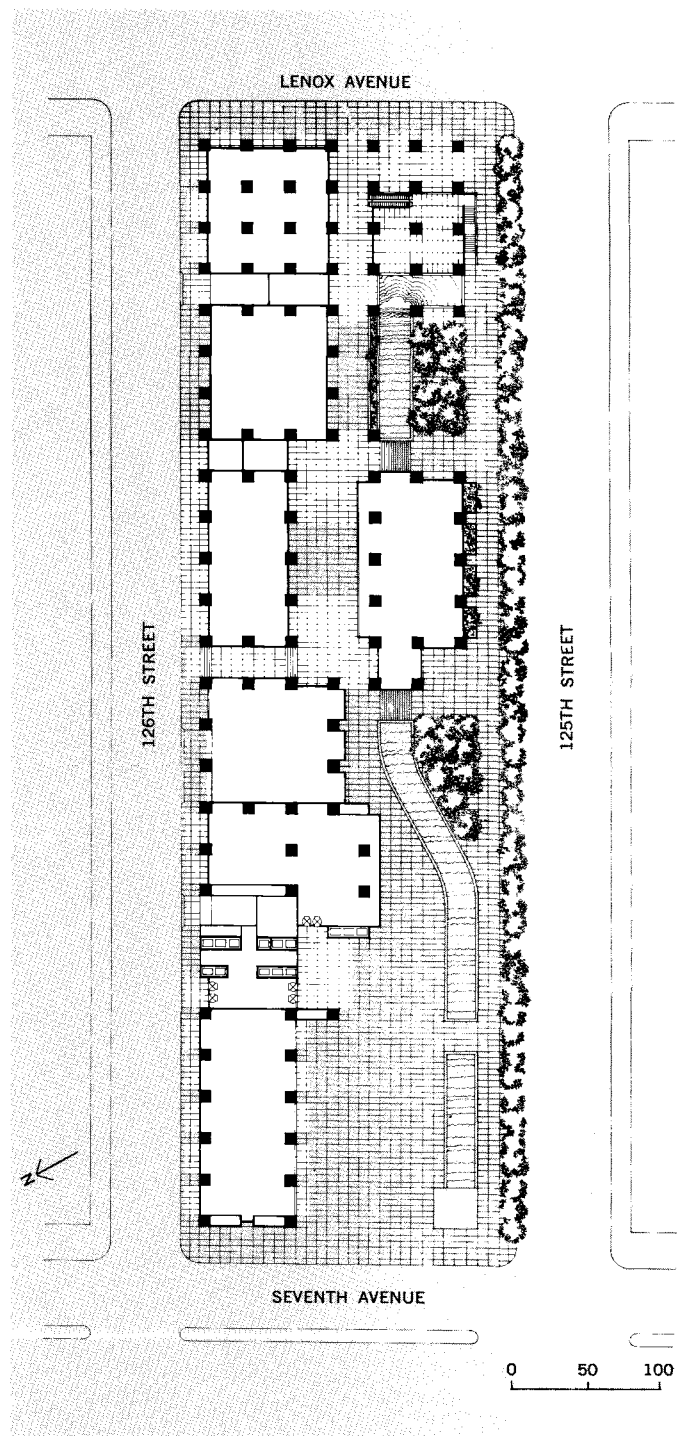
the name of the developer who commissioned my favorite Chicago School building, the Monadnock Block; the name John Well-born Root I revere.

Once in a millenium, an architect comes along, rising above the usual. Michelangelo was called "the divine" in his lifetime. Imhotep was both the king and architect of Third Dynasty Egypt when he built Saqqara. We cannot even imitate the comparatively modest career of Thomas Jefferson, who attempted to be his own architect.

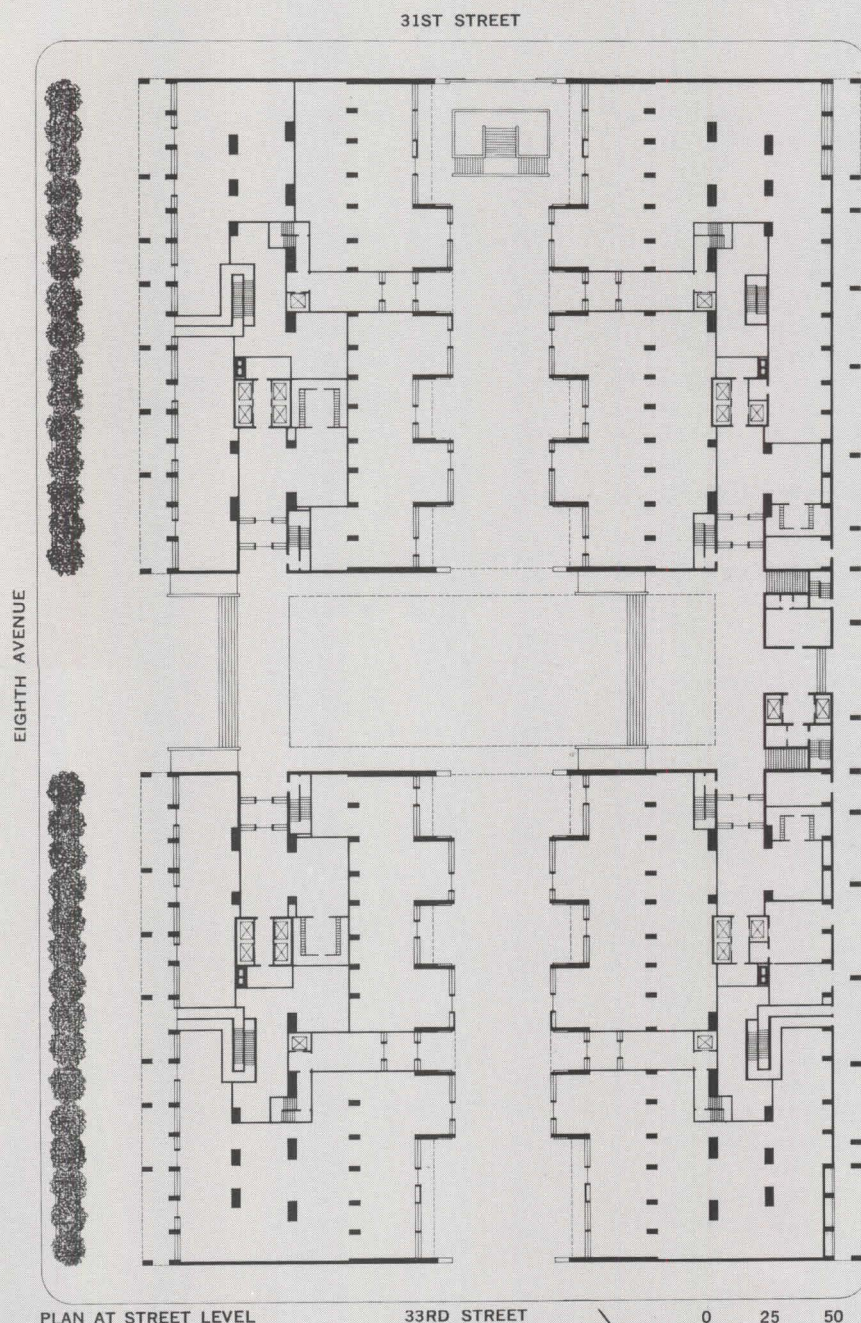
Yet we cannot blame everything on our patrons or merely envy the *luck* of Imhotep or Michelangelo, or blame an in-artistic business age for not taking us more seriously. We ourselves are not serious enough, perhaps, about our calling. We ourselves use extra-artistic rationalizations for our work. We even seem to seek out extra-architectural aims and excuses. I call these crutches, ideas to keep us from the agony of art, crutches to keep us going in the world of affairs.

Four of these directions seem the most dangerously attractive today.

Item: The worship of design science. I use Bucky's phrase. As you know he is naming his new institute in Washington the Institute of Design Science. The implications of this phrase are fascinating. Can it really mean anything except that science is the way to the world of design, that design can be a science and results be reached by the methodology of science, that design is subject to the rigors of objective checking like science? If that is what Bucky means, I respectfully submit that there is no such beast. But technology has long been a haven of refuge for architects. The beauty of the machine has been a cliché for the arts at least as far back as the pre-World War I Futurists in Italy. To believe that if it's technologically attractive it must be architecture is all too easy. Technology is useful for architecture but only an architect can "transcend" it into real



Johnson and Burgee's project for New York State offices in Harlem included a block-long processional sequence of changing heights and scales (above). A different tower design by Ifill and Johnson is now nearing completion. Although this finished work reflects something of the initial, processional plan, the intent of the Johnson and Burgee design, as a whole, will not be built.



PLAN AT STREET LEVEL

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Chelsea Walk (opposite page) is a high-rise apartment development for midtown New York designed when, as Johnson says, "balconies were a plus item in room counts." This pragmatic approach was a major factor in creating the form of the project, which will not be built. It resembles Johnson's other work more closely in plan (above). The buildings, designed with Samuel Paul and Seymour Jarmul, were to be sited along a two-block private pedestrian street.

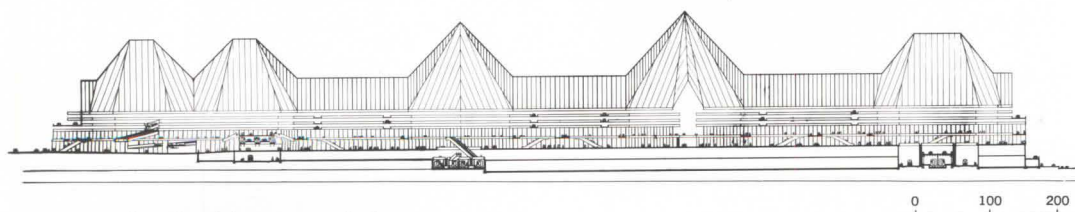
art, to use Mies' awkward but memorable phrase.

Bucky may mean by design science something akin to Mies' transcendence, that if science and technology are pure enough and great enough, beauty will be the automatic corollary. I, however, agree with Mies: art must transcend technology. Bucky we love as a prophet and poet, and to his credit he has never said he was an architect. I have even heard him in private castigate the profession. It must be part of our profession's suicidal self-denigration to give him architectural gold medals.

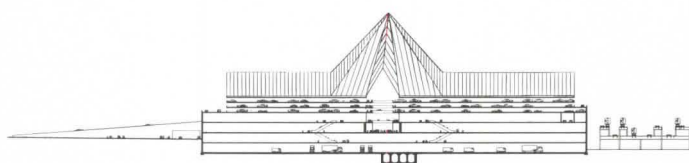
Item: A second crutch, which should be perhaps listed as a subhead under design science, is the religion of computer design. Ah, if this were only a true religion, how happy we architects would be; turn on the machines and pray. It is tempting to believe. I have just finished my first computer design. It was great. It, the machine, told me that what I wanted was an Archimedean screw, not a logarithmic spiral. I was delighted. The computer was so much more accomplished than my slide rule. Unfortunately, my joy in the machine was tempered by the fact that the talented mathematician behind the machine had to tell the machine what to do. And even though it drew very pretty pictures for me also, it could not tell me what happened "design-wise" at the bottom of the spiral or the top. The computer, alas, is not our salvation.

Item: A more seductive way of life than science, however, a more attractive sinful siren for architects is the counter-culture—our anti-technological culture. We are to return to the land and build labor-intensive buildings, Thoreau-like, in the wilderness. I am glad we are an affluent enough society so that some of us can escape for this kind of contemplation, but it is hard to see what kind of future for our art there is in the countryside. Perhaps this is the wave of the far future, but we are not post-industrial enough to go





Broadway Junction (above), a project begun under the aegis of Senator Robert Kennedy's Bedford-Stuyvesant Restoration Corporation, was to have contained a shopping center connecting four transportation systems (including city subways and commuter trains) set in "nodes" along the processional space of the shopping gallery.



"primitive," except as an escape — a copout. We have too much to solve at home. Further, can we really have a primitive architecture? The great villages of the troglodytes or the Africans were not built self-consciously by the wishful sons of the rich capitalists of the USA. It is intellectually hard to will oneself primitive. Architecture has to come from the existing culture, however disappointing that culture may seem to many of us.

Item: The fourth temptation is the opposite of the dropout approach. The *socio-political* architect, what the French call the *engage*, who serves social programs in his work, is the one for whom true architecture consists of revolutionary, or at least progressive, social action. In the presence of the advocacy planners, to give them their correct name, I feel not only effete, but positively establishment. They glower at me from the audience in universities; or worse, they laugh at me for my old-fashioned views. They seem to have preempted the whole province of future building for themselves. To them, building monuments when the poor are ill-housed is nearly a crime. A very good argument. To build what the people want is imperative. Another sound argument. To find out what the people want, to find better ways of fulfilling that purpose, is the main task. They spend evenings and weekends with endless community meetings. The New Left would go further and say architecture should serve the purpose of revolution, should directly help social progress.

The Italian activists in the recent show at the Museum of Modern Art refused to submit actual designs but wrote pamphlets (very difficult to read) about their place as the "first line of the fight against. . . ." I have, I regret, forgotten against what. The Italians, at the same time as they protest, design great objects. I just happen to have here the greatest fountain pen of our time de-

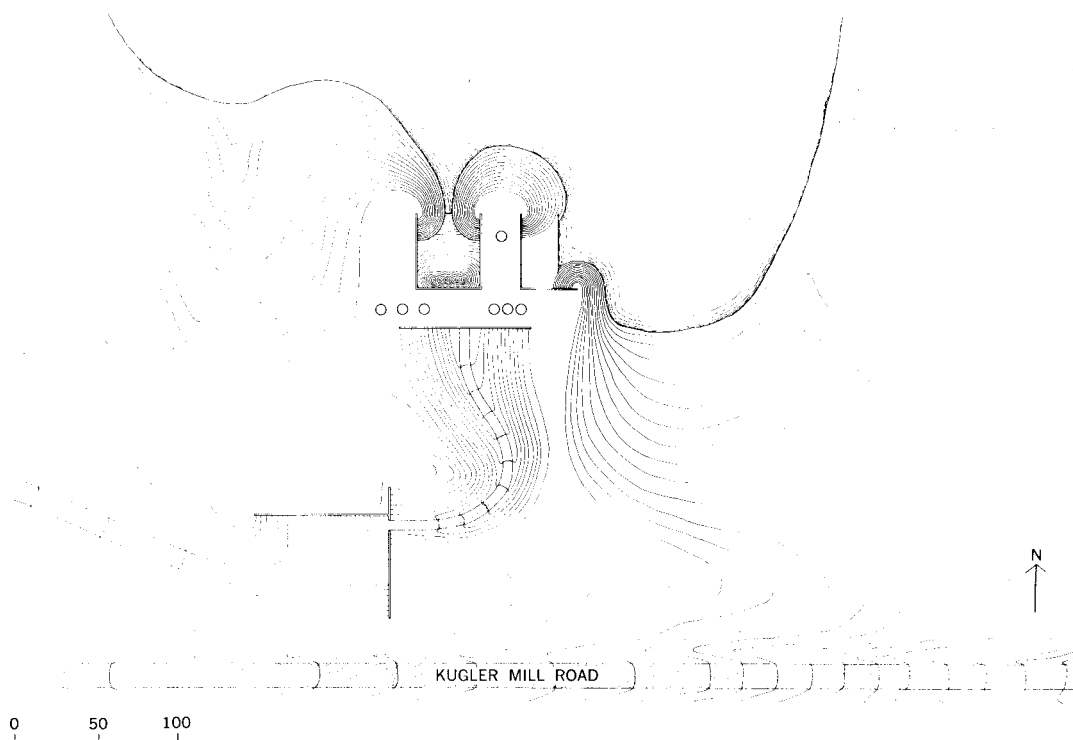
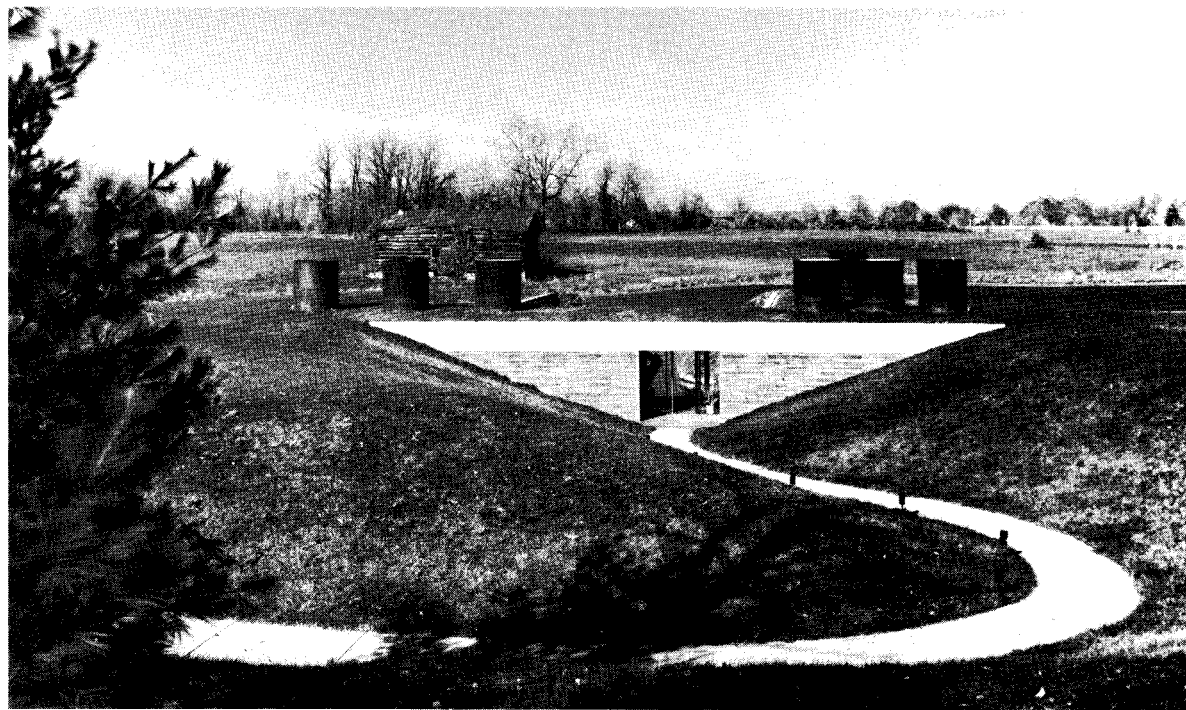
signed by Marc Zanuso, who many believe to be one of the geniuses of Italy and who, nevertheless, is devoted to advocacy planning. In the 20's, the Marxists Mart Stam and Ernst May were aesthetic leaders of the modern movement as well as revolutionary Marxists. *Plus ça change.*

The question of whether architecture can really ever help social progress or whether social changes occur and the commissions for the art of architecture result is moot. Many believe with Herbert Gans: "If you designers want social change, get involved in politics"; "[Design] has nothing much to do with social change at all. All the designer is doing is designing. . . ." And some of us may agree with the brilliant radical MIT designer Michael Sorkin: "This is nonsense" [that architects are going to bring about social change through their design]. "Architecture doesn't change society," Sorkin contends, "Society changes architecture."

I find myself on the side of the radical. Politics is beside the point. As a private, voting American I will vote for reform or not and better housing or not, let us say. As an artist, I can be commissioned, indeed am commissioned, by conservatives and liberals.

I have in 1972 a feeling of *deja vu*, having lived through similar battles fifty years ago. I see MIT and its computer doing design projects and the Harvard School of Design with a Business School professor as dean. Yet I see Andrews' building for the same School. The art of architecture lived through the 20's. It is still with us today.

Forty years ago Russell Hitchcock and I ended our polemical book against functionalist theories of the time with the claim: "We have an architecture still." I can only paraphrase. In spite of the decline of the profession in the public eye; in spite of theories that make para-architectural occupations superior to ours—social planning, landscap-



The Geier House, built in 1965 in Cincinnati, is set into a hill with its floor six inches above a man-made lake. Rusting steel cylinders enclosing exhausts and chimneys form part of the sculpted landscape. It is much in character with Johnson's own underground Art Gallery, which was conceived for his New Canaan estate about the same time.

ing, ecology studies, regional planning — theories strong enough indeed to make venerable schools like Harvard and Berkeley remove the very word architecture from their names; in spite of anti-establishment disgust with us architects along with their disgust with technology, finance, and even science; in spite of anti-architectural stances among many of our greatest philosopher-thinkers, like Bucky Fuller, we have an art of architecture still.

And now where? What are the tasks? We have the architecture. What can we do with it? What will our masters—the public—do with us?

What — to paraphrase Lou Kahn—do our buildings want to be? It strikes me we have only one great field for our art—dwellings for people, the coming millions of people. It is said we Americans must build more in the next ten years than in the whole history of the country. That means surely not office buildings but housing. OK. Now what kind?

Instead of making our housing cheaper and cheaper and uglier and uglier, why not give beautiful, i.e. monumental, housing to the people? We give roads to automobile owners, we give education, more or less, to all. Is housing less important? And a question of interest to architects: Is beautiful housing unimportant? Maybe we have had enough ugly. A sad example: There was an exhibit last year of the new work going up in the State of New York under the aegis of our resident genius Ed Logue. The housing was designed by a distinguished group of younger New York State architects. The overall effort was depressing. No money. It would be hard to give an architectural prize to an apartment complex in our era, even such an outstanding job as Mies' in Newark.

Housing gets cheaper and cheaper. As inflation goes up the search for cheaper materials grows. As an architect develops a brilliant use of bricks, con-

crete blocks take over. Now that many have shown good use of blocks, we look for cheaper units. The Russians so far have the ultimate ugly concrete panels. It is a sort of Gresham's law of architecture.

In reverse of Augustus of Rome, who found Rome of brick and left it of marble, we could say today our generation started with stone and brick and ended with cinder block, corrugated asbestos, and prefab panels. Our ceilings are too low to stand up in, our partitions too flimsy for privacy, our bedrooms too small to sit down in. Minimums become standards, architecture becomes a luxury we can't afford. What is the answer? Simple—let us build monuments for the masses, beautiful buildings for the people.

Monuments differ in different periods. Each age has its own, depending on the culture. Kings build palaces; religions, churches; American business, skyscrapers. Since the great skyscraper age, we have turned to culture. In the 50's and 60's we built schools and universities and museums. In the 70's maybe, just maybe, we shall at last come to care for the most important, most challenging, and surely the most satisfying of all architectural creations: building cities for our people to live in. Our cultural ambitions may turn from banks and business, from automobiles and highways, to cities of beautiful dwellings, where a new Augustan age could find an America of concrete paving and leave it an Eden of green and pleasant places for people. This is no Utopia—the techniques are here, the labor force at hand. Our values of life have changed before. Witness the current ecology kick, new in the last decade. Let us now have a building-for-the-people kick. People enjoy beautiful automobiles, beautiful and expensive clothes. I am sure they could develop a taste for beautiful—yes, monumental—houses. As Mies said: Why not—in one form or another—give the workers more money?

PHOTOGRAPHS: Page 32, 33, 34, 36, 48, 49, 52 (top), Nathaniel Liberman. Page 37, 40, 41, 46, 47, 56 (top), 58, 60, 62, 65, 66, Louis Checkman. Page 38, 39, 42, 43, 44, 50, 51, 52 (bottom), 55, 56 (bottom), 67, Ezra Stoller. Page 56 (middle), Ray Crogan. Page 69, William Marlin. Page 27, 29, 30, 31, Yukio Futagawa.



PROJECT CREDITS

I.D.S. Center, Minneapolis, Minn. (1973). OWNER: I.D.S. Properties, Inc. ARCHITECT: Philip Johnson & John Burgee, and Edward F. Baker Associates, Inc. ENGINEERS STRUCTURAL: Severud - Perrone - Sturn - Conlin-Bandel. MECHANICAL: Cosentini Associates. ELECTRICAL: Eitington & Schlossberg Associates. INTERIOR DESIGNER: Philip Johnson & John Burgee, Architects. CONTRACTORS GENERAL: Turner Construction Co. MECHANICAL: Kerby Saunders/Egan & Sons. ELECTRICAL: Fischbach-Moore/Commonwealth. OTHER CONTRACTORS: Flour City Architectural Metals (Curtain Wall). Paper Calmenson, Maxson Corp. (Structural Steel). CONSULTANTS: Lighting—Kilpatrick & Gellert; Acoustical—Ranger Farrell; Curtain Wall—E.O. Tofflemire; Graphics—Hauser Assoc. ● **FOUNDATION WATERPROOFING:** Phillip Carey. WATERPROOFING: Koppers/Masters Mechanics. CONCRETE AND CEMENT: Dewey Portland Cement. BRICK, BLOCK, AND STONE: Hanley/Twin City Marble/Cold Spring Granite. STRUCTURAL STEEL: Commercial Steel/Crown Iron Works/Star Iron Works. CURTAIN-WALL: Flour City Architectural Metals w/Tremco Sealants. FLOOR AND DECK SYSTEMS: Inland-Ryerson/Walter Parkersburg/Barger Mtl. Co. ROOF MATERIALS (ROOFING, GUTTER): Barrett. THERMAL INSULATION: Johns-Manville/Firebar/Monocoat. ACOUSTICAL MATERIALS: Owens - Corning / Keene. FENESTRATION: Fentron. GLASS: L.O.F. & Pittsburgh. INTERIOR PARTITIONS: National Gypsum. ELEVATORS AND ELECTRICAL STAIRWAYS: Westinghouse/Tyler. DOORS (EXTERIOR AND INTERIOR): Pioneer / Firedoor Corp. of America. HARDWARE (LOCKSETS, HINGES, CLOSERS): Sargent/Heager/Rixon. INTERIOR MATERIALS (TILE, PLASTIC): American Olean w/T.E.C. Grouts. PANELING: Pauls Woodcraft. PAINT: DeVoe. ELECTRICAL DUCTS AND WIRING: Hubbel/Chromalox. ELECTRICAL EQUIPMENT (SWITCHES, BREAKERS): General Electric. LIGHTING FIXTURES, LAMPS: Sunbeam, Columbia, Lightolier, Stonco, Omega. PLUMBING FIXTURES, TOILET SEATS: Crane/Sanymetal/Speakman. PIPING: Youngstown, Republic/U.S.S. STEAM BATH UNITS: Thermasol. HEATING BOILERS: Combustion Engrs. UNIT HEATERS: Airflex. UNIT VENTILATORS, RADIATORS, CONVECTORS: Trane. HEATING VALVES, PIPING, CONTROLS: Klockner-Moeller. AIR CONDITIONING COMPRESSOR, FAN UNIT: U.S. Electric Motors. UNIT AIR CONDITIONERS: Trane. DIFFUSERS, DUCTS, PUMPS, ETC.: Krueger / Worthington / Korfund. SPECIAL FANS AND VENTILATORS: Strauss/Hays/Allis Chalmers. INTERCOM SYSTEMS: Bellcaptain International. RADIO AND TV SYSTEMS: R.C.A. AUDIO VISUAL EQUIPMENT: Honeywell. PNEUMATIC TUBES, CONVEYORS: Lamson. SPRINKLER SYSTEM AND FIRE PROTECTION EQUIP.

Grinnell/Star. CEILING MATERIALS: Keene and U.S. Gypsum. WATER COOLERS: Filtrine. MOVABLE PARTITIONS: I.A.C. Trackwall. MAIL BOXES AND CHUTES: Cutler. VENETIAN BLINDS AND SHADES: Alcan. KITCHEN, LAUNDRY, LABORATORY EQUIPMENT: Dwyer. FINISH FLOORING AND CARPETING: Armstrong, Magee & Karastan. FURNITURE AND SEATING: Flexsteel. FABRICS: UPHOLSTERY AND DRAPERIES: Stevens & S.M. Hexter. DRAPERY HARDWARE: Kirsch. ROLL-UP GRILLS: Cookson/Kinnear. WINDOW WASHER: Stryco. LIGHTNING PROTECTION: Thompson. SKYLIGHTS: Rohm & Haas w/3M Gutterliners. REVOLVING DOORS: Midwest Iron. SIGNS: Nordquist. LAUNDRY CHUTE: Wilkinson. BATHROOM ACCESSORIES: Parker.

Art Museum of South Texas, Corpus Christi, Texas (1972). OWNER: Corpus Christi Art Foundation. ARCHITECT: Philip Johnson and John Burgee. ASSOCIATE ARCHITECT: Barnstone & Aubry. ENGINEERS STRUCTURAL: Cunningham & Lemus, Inc. MECHANICAL: Thomas John & Assoc. ELECTRICAL: Thomas John & Assoc. CONSULTANTS: Architectural Concrete Consultants, Inc.; Lighting—Kilpatrick & Gellert. CONTRACTORS GENERAL: Burnett Construction Co. MECHANICAL: W.R. Cook Air Conditioning Co. ELECTRICAL: Clements Electrical Co. ● **PILING:** Raymond International. WATERPROOFING: Carlisle Tire & Rubber Corp., South Texas Materials Co. CONCRETE AND CEMENT: Trinity White Cement. STRUCTURAL STEEL: Gulf Iron Works. FLOOR AND DECK SYSTEMS: The Ceco Corp. Forms. ROOF MATERIALS (ROOFING, GUTTER): Neo Guard. THERMAL INSULATION: Neo Guard Foam Urethane. FENESTRATION: Stanlock. GLASS: P.P.G. ELEVATORS AND ELECTRIC STAIRWAYS: Dover/Hunter Hayes—Elevator Elison Bronze, American Metal Inc. and North American. HARDWARE (LOCKSETS, HINGES, CLOSERS): Sargent, Stanley, Norton. INTERIOR MATERIALS (TILE, PLASTIC): Monarch Tile. PAINT: DeVoe. ELECTRICAL EQUIP. (SWITCHES, BREAKERS): Westinghouse. LIGHTING FIXTURES, LAMPS: Edison Price, Prescolite, Lightolier. PLUMBING FIXTURES, TOILET SEATS: American Standard, Kohler, Church Seats. HEATING BOILERS: Wiel McLain. HEATING VALVES, PIPING CONTROLS: Walworth, Powers Regulator Co. UNIT AIR CONDITIONERS: Trane. DIFFUSERS: Titus. PUMPS: Peerless. SPECIAL FANS AND VENTILATORS: Acme Engineering & Mfg. Corp. SPRINKLER SYSTEM AND FIRE PROTECTION EQUIP.: Simplex Fire Alarm System. CEILING MATERIALS: Armstrong. WATER COOLERS: Halsey Taylor. VENETIAN BLINDS AND SHADES: Levolor Lorentzen Corp. FINISH FLOORING AND CARPETING: Oxford & Stratton. FURNITURE AND

SEATING: American Seating. FABRICS: UPHOLSTERY AND DRAPERIES: U.S. Royal Naugahyde. EXTERIOR WALL HEATING: Electric Heaters, Inc. SKYLIGHTS: Super Sky Products.

Boston Public Library Addition, Copley Square, Boston, Mass. (1972). OWNER: Trustees of the Public Library of the City of Boston. ARCHITECTS: Philip Johnson and John Burgee. ASSOCIATE ARCHITECT: Architects Design Group, Inc. ENGINEERS STRUCTURAL: LeMessurier Assoc. Inc. MECHANICAL: Francis Associates. ELECTRICAL: Francis Assoc. INTERIOR DESIGN: Architectural Interiors. CONSULTANTS: Acoustics-R. Farrell; Graphics: W. Kacik; Lighting-Kilpatrick & Gellert J. Bensen. CONTRACTORS GENERAL: Vappi & Co., Inc. MECHANICAL: Limbach Co. ELECTRICAL: Genes & Co.

● **FOUNDATION WATERPROOFING:** The Waterproofing Co., Master Builders Co. WATERPROOFING: Toch Bros. Corp., The Waterproofing Co., Sonneborn Building Products, Inc. CONCRETE AND CEMENT: Atlantic, Dragon. STONE: Milford Pink Granite (Castellucci & Sons). STRUCTURAL STEEL: Bethlehem Steel. ROOF MATERIALS (ROOFING, GUTTER): Koppers Co. (Built up roofing), Buckingham (slate roof), Products Research Corp. (liquid membrane roofing). THERMAL INSULATION: Dow. ACOUSTICAL MATERIALS: Consolidated Kinetics. FENESTRATION: Michael Art Bronze Co. GLASS: Pittsburgh Plate Glass Co. ELEVATORS AND ELECTRIC STAIRWAYS: Otis. DOORS (EXTERIOR AND INTERIOR): Superior Fireproof Door and Sash Co.; Michael's Art Bronze Co. HARDWARE (LOCKSETS, HINGES, CLOSERS): Locks: Sargent; Hinges: Stanley; Closers: Von Duprin. INTERIOR MATERIALS (TILE, PLASTIC): American Olean Tile. PANELING: Albany Milling Co. PAINT: Merkin. ELECTRICAL DUCTS AND WIRING: Walker (ducts), Phelps Dodge (Wiring), ELECTRICAL EQUIP. (SWITCHES, BREAKERS): Federal Pacific. STANDBY EMERGENCY POWER: Cummins. LIGHTING FIXTURES, LAMPS: Curtis Electro, Smithcraft, Miller. PLUMBING FIXTURES, TOILET SEATS: American Standard Fixtures. HEATING VALVES, CONTROLS: Johnson Service. STEAM ABSORPTION MACHINES: Trane Co. COOLING-TOWERS: Baltimore Air Coil. UNIT AIR CONDITIONERS: Buffalo Forge. DIFFUSERS, DUCTS, PUMPS, ETC.: Titus Diffusers, Weinmann Pumps. SPECIAL FANS AND VENTILATORS: Buffalo Forge Fans. RADIO SYSTEMS: Multitone Electronics. PNEUMATIC TUBES, CONVEYORS: Lamson, Inc. SPRINKLER SYSTEM AND FIRE PROTECTION EQUIP.: Seco Manufacturing Inc. WATER COOLERS: Halsey-Taylor Filtrine. VENETIAN BLINDS AND SHADES: Louver Drape. KITCHEN, LAUNDRY, LABORATORY EQUIPMENT: Hobart, Traulsen. FINISH FLOORING

AND CARPETING: VAT—GAF. CARPETING—Stevens Gulistan, Philadelphia. FURNITURE AND SEATING: Gunlock, Turner, Roffman, Probbler, Stendig. FABRICS: UPHOLSTERY AND DRAPERIES: Knoll & Design—Tex. DRAPERY HARDWARE: Kirsch. SECURITY SYSTEM—Schultz Electronics.

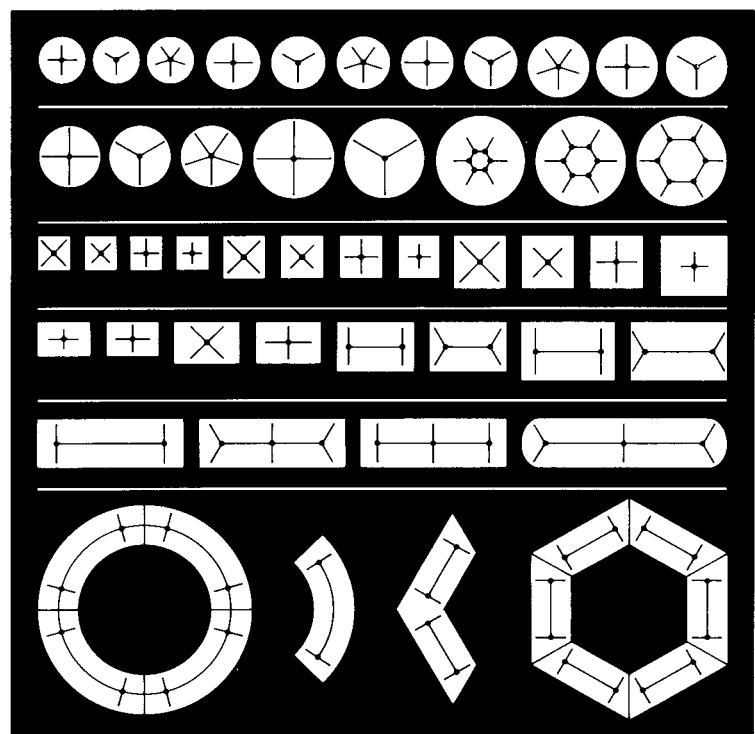
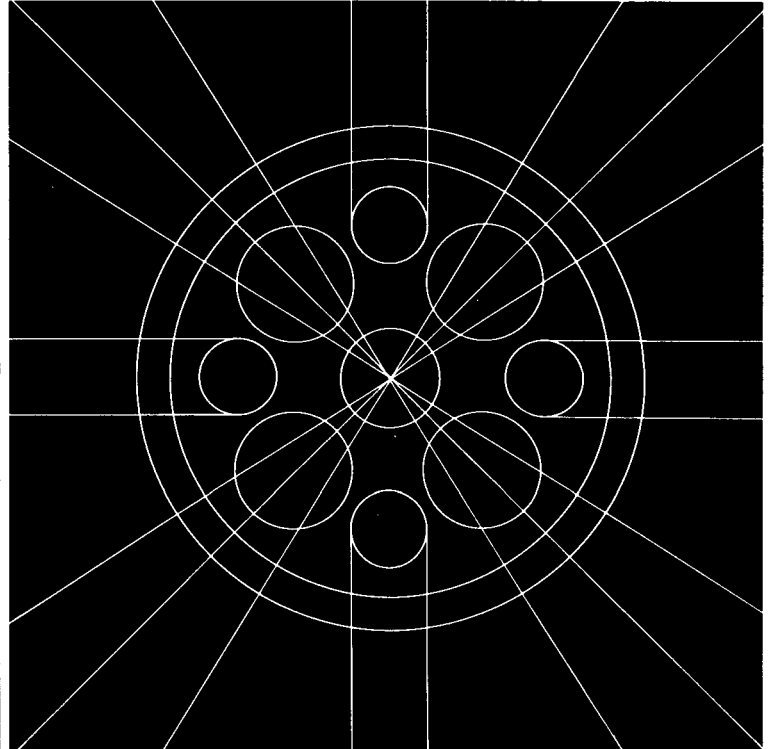
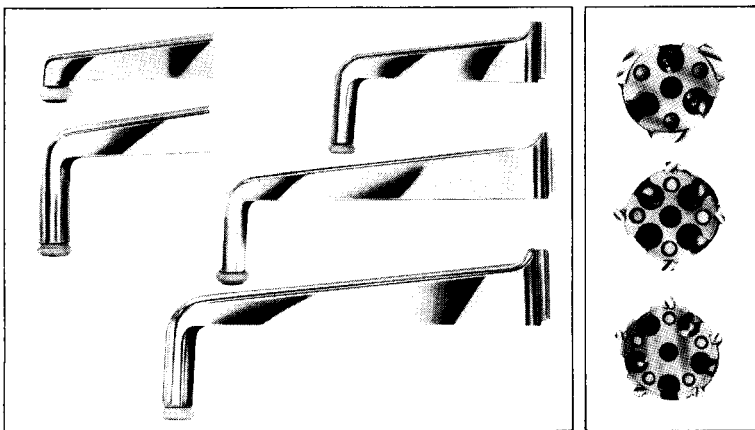
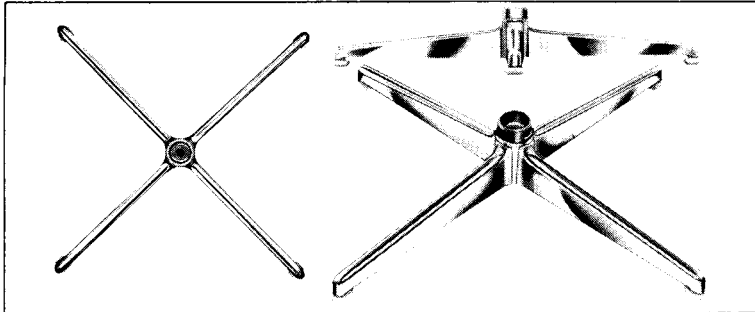
Niagara Falls Convention Center, Niagara Falls, N.Y. (1973). OWNER: City of Niagara Falls, New York. ARCHITECTS: Philip Johnson and John Burgee. ENGINEERS STRUCTURAL: Lev Zetlin Associates, Inc. MECHANICAL: Syska & Hennessy, Inc. ELECTRICAL: Syska & Hennessy, Inc. CONTRACTORS GENERAL: Pigott Construction International Ltd. MECHANICAL: Novamech Corporation. ELECTRICAL: Ferguson Electric Construction Co., Inc.

● **FOOD SERVICE EQUIPMENT:** Ruslander & Sons, Inc. ACOUSTICS: Ranger Farrell and Associates. FOOD FACILITIES: Howard L. Post Associates, Inc. LIGHTING: Kilpatrick & Gellert. PILING: Wright & Kremers, Inc. WATERPROOFING: Gacoflex. CONCRETE AND CEMENT: Master Builders, W.R. Grace, Sonneborn. BRICK, BLOCK AND STONE: Hohmann & Barnard, Hanley, AA Wire, Indiana Limestone. FABRICATOR & ERECTOR STRUCTURAL STEEL: Canron, Ltd., Canada. CURTAIN-WALL: Fentron Arch. Metals, Tremco. FLOOR AND DECK SYSTEMS: Inland Ryerson. ROOF MATERIALS (ROOFING, GUTTER): Barrett, Philip Carey, Overly. THERMAL INSULATION: Uniseal, UF Chemical Corp., Celotherm. SEALANT MATERIALS: PPG Glass Fiber, Products Research & Chem. Corp. FENESTRATION: Pecora, Tremco. GLASS: LOF, Rohm & Haas. FIRE-PROOFING: CAFCO/US Mineral. ELEVATORS AND ELECTRIC STAIRWAYS: Campbell Elevator. DOORS (EXTERIOR AND INTERIOR): Superior, North American. HARDWARE (LOCKSETS, HINGES, CLOSERS): PF Corbin, Stanley, Brookline. INTERIOR MATERIALS (TILE, PLASTIC): American Olean. PAINT: PPG. ELECTRICAL DUCTS AND WIRING: Conduit—Kaiser, Pittsburgh Standard, Triangle Kaiser, Okonite, Crescent, PWC. ELECTRICAL EQUIP. (SWITCHES, BREAKERS): General Electric. STANDBY EMERGENCY POWER: Cummins. LIGHTING FIXTURES, LAMPS: Molcast, Revere, Hub Electric, G.E. Curtis Electro, Prescolite, Perfect-lite. PLUMBING FIXTURES, TOILET SEATS: Kohler, Beneke Corp. Speakman, Sloane. PIPING: Republic. HEATING BOILERS: Cleaver—Brooks. UNIT HEATERS: Trane Co. UNIT VENTILATORS, RADIATORS, CONVECTORS: Walworth Co. HEATING VALVES, PIPING, CONTROLS: Republic—Hone-wall. AIR CONDITIONING COMPRESSOR, FAN UNIT: Trane Co. UNIT AIR CONDITIONERS: Trane Co. DIFFUSERS, DUCTS, PUMPS, ETC.: Taco—Duct Fabricators, Tuttle & Bailey & Barber Colman. FANS: Trane Co. &

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PROJECT CREDITS

(continued from page 70)

Joy Co. RADIO AND TV SYSTEMS: Jerrold. AUDIO VISUAL EQUIPMENT: Speakers—DuKane; Microphone—Shure, Langevin. SPRINKLER SYSTEM AND FIRE PROTECTION EQUIP.: Grimes (Alarm Valves). Walworth (Valves). Peerless (Fire Pump). Elkhart (Siamese). Worthington. (Compressor). MOVABLE PARTITIONS: Richards Wilcox. FINISH FLOORING: Armstrong Tile. TOILET PART: Sanymetal, Watrous Acces. PLASTER: National Gypsum.

Fine Arts Center, Muhlenberg College, Allentown, Pa. (1973). OWNER: Muhlenberg College. ARCHITECT: Philip Johnson and John Burgee. ASSOCIATE ARCHITECT: Coston-Wallace-Watson. ENGINEERS STRUCTURAL: Coston-Wallace-Watson. MECHANICAL: Coston-Wallace-Watson. ELECTRICAL: Coston-Wallace-Watson. INTERIOR DESIGNER: Philip Johnson and John Burgee, Architects. CONSULTANTS: Acoustics—Robert A. Hansen Assoc.; theater—Robert Brannigan; Lighting—Kilpatrick and Gellert.

● FOUNDATION WATERPROOFING: Dow Chemical. WATERPROOFING: Dow Chemical. CONCRETE AND CEMENT: Keystone Portland Cement Co. BRICK, BLOCK AND STONE: Glen-Gery. STRUCTURAL STEEL: Bethlehem Steel. FLOOR AND DECK SYSTEMS: Roll-Form Products, Inc. ROOF MATERIALS (ROOFING, GUTTER): Alcoa (coping), Barrett (Flashing). THERMAL INSULATION: Johns-Manville. ACOUSTICAL MATERIALS: Johns-Manville, L.E. Carpenter. FENESTRATION: Trio Industries (pivoted windows). GLASS: PPG, LOF. INTERIOR PARTITIONS: U.S. Gypsum. ELEVATORS: Haughton Elevator. DOORS (EXTERIOR AND INTERIOR): Fenestra, Kinnear, Ellison-Schacht. HARDWARE (LOCKSETS, HINGES, CLOSERS): Corbin, Rixson, Sargent, Stanley, Yale. INTERIOR MATERIALS (TILE, PLASTIC): American Olean, Formica. PANELING: Formica. PAINT: Glidden. ELECTRICAL DUCTS AND WIRING: General Electric. ELECTRICAL EQUIP. (SWITCHES, BREAKERS): Square D. STANDBY EMERGENCY POWER: Onan. LIGHTING FIXTURES, LAMPS: Miller. PLUMBING FIXTURES, TOILET SEATS: American Standard. PIPING: Taylor (copper) Bethlehem (steel). UNIT HEATERS: Trane. UNIT CONVECTORS: Hoffco. HEATING VALVES, PIPING, CONTROLS: Johnson Service Co. AIR CONDITIONING COMPRESSION, FAN UNIT: Trane. DIFFUSERS, DUCTS, PUMPS, ETC.: Tuttle and Bailey (diffusers), Owens-Corning (ducts). SPECIAL FANS AND VENTILATORS: Acme. INTERCOM SYSTEMS: Undetermined at this time. AUDIO VISUAL EQUIPMENT: Undetermined at this time. SPRINKLER SYSTEM AND FIRE PROTECTION EQUIP.: Grinnell Corp. CEILING MATERIALS: Armstrong, U.S. Gypsum. WATER COOLERS: C.E.B. Corp. FINISH FLOORING AND CAR-

PETING: Armstrong, Hastings, Millikan. FURNITURE AND SEATING: American Seating (Stellar series). FABRICS: UPHOLSTERY AND DRAPERIES: American Seating. SKYLIGHT: Super Sky Products. SEALANTS & CAULKING: Thiokol Corp. SPRAY-ON FIREPROOFING: W.R. Grace. THEATER EQUIPMENT: Pittsburgh Stage, Inc.

Burden Hall, Harvard University—Graduate School of Business Administration, Cambridge, Mass. (1972). OWNER: The President and Fellows of Harvard College. ARCHITECT: Philip Johnson and John Burgee. ENGINEERS STRUCTURAL: Zetlin, Desimone, Chaplin & Associates. MECHANICAL & ELECTRICAL: Jaros, Baum & Bolles. CONSULTANTS: Audio-Visual—Ranger Farrell & Associates; Lighting—Jack Kilpatrick. CONTRACTORS GENERAL: George A. Fuller & Co.

● FOUNDATION WATERPROOFING: The Waterproofing Co. WATERPROOFING: St. Regis Sisalkraft Division. CONCRETE AND CEMENT: The Boston Sand & Gravel Co. BRICK, BLOCK, AND STONE: Grande Bros. (Subcontractor) Spaulding Brick Co., Inc. STRUCTURAL STEEL: A. O. Wilson, Bethlehem Steel Corp. FLOOR AND DECK SYSTEMS: Longspan Joists—Ceco Corp.; Steel Deck—Inland-Ryerson. ROOF MATERIALS (ROOFING, GUTTER): Federal Sheetmetal & Roofing. THERMAL INSULATION: Eckel Industries Inc. ACOUSTICAL MATERIALS: Armstrong Acoustical Tile. GLASS: Salem Glass Co., Pittsburgh Plate Glass Co. DOORS: Exterior-Trio Industries; Interior Hollow Metal—Williamsburg, Stanley. HARDWARE (LOCKSETS, HINGES, CLOSERS): David E. Thompson, Inc. von duPrin, Zero, Rixon, Brookline, & Russwin. INTERIOR MATERIALS: Tile-American Olean. PANELING: Albany Milling Co. PAINT: Johnson-Foster Co. ELECTRICAL EQUIP. (SWITCHES, BREAKERS): Federal Pacific Electrical Co. STANDBY EMERGENCY POWER: Onan Studebaker Corp. LIGHTING FIXTURES, LAMPS: Prescolite, Kurt Versen, Lightolier, Sylvania, McPhibben Westcraft, Stonco, Hub, Curtis-Electro. PLUMBING FIXTURES, TOILET SEATS: Kohler of Kohler, Church. PIPING: Jenkins Valves. UNIT HEATERS: Trane. CONVECTORS: Trane. HEATING VALVES: Controls—Honeywell; Heating Valves—Jenkins. AIR CONDITIONING COMPRESSOR, FAN UNIT: Trane. UNIT AIR CONDITIONERS: Trane. DIFFUSERS: Titus. PUMPS: Worthington. AUDIO VISUAL EQUIPMENT: Da-Lite Screen Co., Inc. PNEUMATIC TUBES, CONVEYORS: Lake Systems Inc. CEILING MATERIALS: Armstrong tile. WATER COOLERS: Halsey Taylor. MOVABLE PARTITIONS: Richards—Wilcox Division, Hupp, Inc. FINISH FLOORING: Vat. CARPETING: Stratton Industries. FURNITURE AND SEATING: Lecture Hall Seating, Heywood-Wakefield Co. FABRICS, UPHOLSTERY AND DRAPERIES: I. Weiss & Sons.

The Roy R. Neuberger Museum of Visual Arts, College at Purchase, Purchase, N.Y. (1972). OWNER: S.U.N.Y. ARCHITECT: Philip Johnson and John Burgee. ENGINEERS STRUCTURAL: Weiskopf & Pickworth. MECHANICAL: Segner & Dalton. ELECTRICAL: Segner & Dalton. LANDSCAPE ARCHITECT: Peter Rolland. CONSULTANTS: Kilpatrick & Gellert (Lighting). CONTRACTORS GENERAL: P.M. Hughes & Sons, Inc. MECHANICAL: Montagnon—Ricci, Corp. ELECTRICAL: Field Electric Co., Inc.

● FOUNDATION WATERPROOFING: Toch Bros. & Flintox. WATERPROOFING: Toch Bros. BRICK, BLOCK AND STONE: Belden-Stark, Ebony Black Pavers. STRUCTURAL STEEL: Portchester Iron Works. FLOOR AND DECK SYSTEMS: Vulcraft Joists & Toby Form Service, Inc. ROOF MATERIALS (ROOFING, GUTTER): Barrett & Wasco. THERMAL INSULATION: All-Weather Crete & Styrofoam SM 1". ACOUSTICAL MATERIALS: Armstrong Cork Co. FENESTRATION: Trio Industries. GLASS: P.P.G., Solar Gray. INTERIOR PARTITIONS: Sheetrock—Georgia Pacific Corp. ELEVATORS AND ELECTRIC STAIRWAYS: Armor Elevator. DOORS (EXTERIOR AND INTERIOR): Trio Industries & Pioneer Fireproof Door Co. HARDWARE (LOCKSETS, HINGES, CLOSERS): Yale & Towne, Rixon, Stanley. INTERIOR MATERIALS (TILE, PLASTIC): American Olean. PANELING: Hatfield Bros. PAINT: DeVoe & Pratt & Lambert. ELECTRICAL DUCTS AND WIRING: Jones & Laughlin. ELECTRICAL EQUIP. (SWITCHES, BREAKERS): Westinghouse. LIGHTING FIXTURES, LAMPS: Silvray-Litecraft, Gruber, McPhibben, Lightolier, Stonco, Day-Brite, Omega. PLUMBING FIXTURES, TOILET SEATS: American Standard & Church. UNIT VENTILATORS, RADIATORS, CONVECTORS: Thermal Engineering. HEATING VALVES, PIPING, CONTROLS: Johnson Service. AIR CONDITIONING COMPRESSOR, FAN UNIT: Peerless & Carnes. DIFFUSERS, DUCTS, PUMPS, ETC.: Diffusers—Tuttle & Bailey. Pumps—Weinman. SPRINKLER SYSTEM AND FIRE PROTECTION EQUIP.: Simplex & Coker Fire Ext. & Hodgman Mfg. Co., Inc. CEILING MATERIALS: Armstrong—Fine Fissured Design. WATER COOLERS: Halsey Taylor. VENETIAN BLINDS AND SHADES: Verticals, Inc. KITCHEN, LAUNDRY, LABORATORY EQUIPMENT: Dwyer. FINISH FLOORING AND CARPETING: Carpeting—Woodland by Stratton Industries V.A.T.—Flintkots CP-90 & Boiardi. FURNITURE AND SEATING: Collegedale Cabinets, Inc.

Sculpture Studio, Philip Johnson Estate, Ponus Ridge Road, New Canaan, Conn. (1970). OWNER: Philip Johnson. ARCHITECT: Philip Johnson. CONTRACTORS GENERAL: E.W. Howell Co.

● FOUNDATION WATERPROOFING: Sonneborn-Owen Corning. WATER-

PROOFING: Thiokol. CONCRETE AND CEMENT: Keystone Co. BRICK, BLOCK AND STONE: Glen-Gery Corp., Alwine. STRUCTURAL STEEL: Bethlehem. FLOOR AND DECK SYSTEMS: Flexicore. ROOF MATERIALS (ROOFING, GUTTER): Calisle Corp., Bethlehem. FENESTRATION: Custom made. GLASS: LOF. DOORS (EXTERIOR AND INTERIOR): Pioneer. HARDWARE (LOCKSETS, HINGES, CLOSERS): Stanley. PAINT: Reardon Co., Pratt & Lambert. ELECTRICAL DUCTS AND WIRING: Plastic Wire and Cable. ELECTRICAL EQUIP. (SWITCHES, BREAKERS): G.E. LIGHTING FIXTURES, LAMPS: National Cathode Corp. HEATING BOILERS: A.O. Smith. UNIT VENTILATORS, RADIATORS, CONVECTORS: Chromalox. HEATING VALVES, PIPING, CONTROLS: Honeywell. AIR CONDITIONING COMPRESSOR, FAN UNIT: Singer. SPECIAL FANS AND VENTILATORS: Singer. OTHER PRODUCTS: Fisher Skylights. ROOF VENT OPERATORS: Lord and Burnham. PIPING: Youngstown Sheet & Tube.

Albert and Vera List Art Building, Providence, R.I. (1971). OWNER: Brown University. ARCHITECT: Philip Johnson. COORDINATING ARCHITECT: Samuel Glaser & Partners, Boston. ENGINEERS STRUCTURAL: Albert Goldberg & Associates. MECHANICAL: Buerkel & Co. ELECTRICAL: Thompson Engineering. LANDSCAPE ARCHITECT: Sasaki, Dawson & DeMay Associates. CONTRACTORS GENERAL: Dimeo Construction Co. BUILDING AREA: 62,550 sq. ft.

● FOUNDATION WATERPROOFING: Karnak Chemical Corp. WATERPROOFING: Tremco (caulking and sealing); Ironite; Carlyle Tire and Rubber Division. CONCRETE AND CEMENT: Penn-Dixie, type IL Buff. BLOCK: Masslite Brick, Hasting Pavement Co. STRUCTURAL STEEL: Plantation Steel Co. ROOF MATERIALS (ROOFING, GUTTER): Hypalon Finish, Butze; Carlyle Tire & Rubber Division. ROOF INSULATION: Apache. ACOUSTICAL MATERIALS: Armstrong. FENESTRATION: Window Walls—Trio Industries Inc.; Operating sash-Ceco Corp.; Arcadia Sliding Doors. GLASS: PPG. INTERIOR PARTITIONS: Gypsum Dry Wall & Metal Studs, Global (toilet partitions). ELEVATORS: Armor. DOORS: County Fire Door Corp. HARDWARE: Stanley (Hinges); Rixson (locksets); LCN (closers); Von Duprin (Exit Devices). INTERIOR: Materials (TILE, PLASTIC): Chromosaic; USS Ceramic Tile. PAINT: Kyanize Paint Co. ELECTRICAL DUCTS AND WIRING: Arrow Hart Co. ELECTRICAL EQUIPMENT: General Electric. STANDBY EMERGENCY POWER: ONAN Generator Co. LIGHTING FIXTURES, LAMPS: Lightolier, Omega, Curtis Electro. PLUMBING FIXTURES: American Standard. TOILET SEATS: Church. UNIT HEATERS: Singer (Electric); Trane (Hot Water). HEATING VALVES: Walworth & Sarco. CON-

(continued on page 74)

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PROJECT CREDITS

(continued from page 72)

TROLS: Minneapolis-Honeywell. UNIT AIR CONDITIONERS: Trane. DIFFUSERS, DUCTS: Agitair. PUMPS: Chicago Pump, Bell & Gosset. SPECIAL FANS AND VENTILATORS: Exitaire. INTERCOM SYSTEMS: DuKane Co. SPRINKLER SYSTEM: Automatic Sprinkler Corp. of America. FIRE PROTECTION EQUIPMENT: Simplex. CEILING MATERIALS: Armstrong Tile. FINISH FLOORING AND CARPETING: AMTICO. SEATING: American Seating.

Hagop Kevorkian Center for Near Eastern Studies, Sullivan Street, New York, N.Y. (1972). OWNER: New York University. ARCHITECT: Philip Johnson and Richard Foster. JOB CAPTAIN AND ASSOCIATE-IN-CHARGE: Michael Forstl. ENGINEERS STRUCTURAL: Zoldos and Silman. MECHANICAL: Robert K. Bedell. ELECTRICAL: Robert K. Bedell. CONTRACTORS GENERAL: Roberts Nash Construction Corp. MECHANICAL: S.J. O'Brien Company. ELECTRICAL: T. Frederick Jackson Inc. BUILDING AREA: 11,147 square feet.

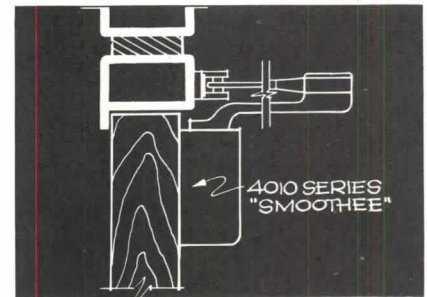
● FOUNDATION WATERPROOFING: Metallic Waterproof, Pardee. PILING: Steel H piles. WATERPROOFING: Silicone above grade, Sonneborn. CONCRETE AND CEMENT: Portland Cement. BRICK, BLOCK AND STONE: Pumice Masonry, Granite, Swenson. STRUCTURAL STEEL: Elmhurst Iron Works. FLOOR AND DECK SYSTEMS: Cofar Metaldecking. ROOF MATERIALS (ROOFING, GUTTER): Asphalt, felt, gravel. THERMAL INSULATION: Permalite, Grefco. FENESTRATION: A & E, Wausau Metal Corp. GLASS: Plate glass. INTERIOR PARTITIONS: Metal Stud and Sheet Rock, U.S. Gypsum. ELEVATORS AND ELECTRIC STAIRWAYS: Otis. DOORS (EXTERIOR AND INTERIOR): HM, Pioneer. HARDWARE (LOCKSETS, HINGES, CLOSERS): Corbin. INTERIOR MATERIALS (TILE, PLASTIC): Stylan. PAINT: Pittsburgh Paint. ELECTRICAL DUCTS AND WIRING: Anaconda (Sealtite). ELECTRICAL EQUIP. (SWITCHES, BREAKERS): Arrow, Harb-d'Hegeman. LIGHTING FIXTURES, LAMPS: Gotham, McPhilliben, Solux. PLUMBING FIXTURES, TOILET SEATS: American Standard, Bradley. PIPING: Cast Iron, Galv. steel, red brass 1 PS. HEATING BOILERS: Steam from main heating plant. UNIT HEATERS: Trane. UNIT VENTILATORS, RADIATORS, CONVECTORS: Trane. HEATING VALVES, PIPING, CONTROLS: Ketchum Pump Co., Weksler, Honeywell. AIR CONDITIONING COMPRESSOR, FAN UNIT: Trane. UNIT AIR CONDITIONERS: Trane. DIFFUSERS, DUCTS, PUMPS, ETC.: Krueger, I.T.T. SPECIAL FANS AND VENTILATORS: Trane. SPRINKLER SYSTEM AND FIRE PROTECTION EQUIP.: Automatic Sprinkler below grade. CEILING MATERIALS: Acoustic tile, National Gypsum. WATER COOLERS: Filtrine. VENETIAN BLINDS AND SHADES: Flexalium Venette Blind, Alcan. KITCHEN, LAUNDRY, LABORA-

TORY EQUIPMENT: Dwyer. FINISH FLOORING AND CARPETING: Vinyl tile, Azrock floor Prod. SMOKE DETECTORS: Pyrotronic.

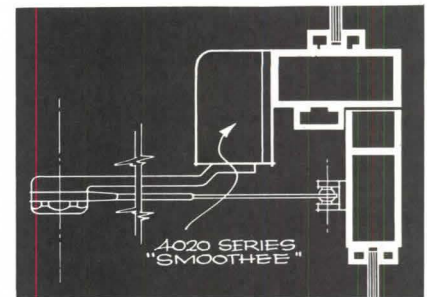
Elmer Holmes Bobst Library, Washington Square South, New York, N.Y. (1973). OWNER: New York University. ARCHITECT: Philip Johnson & Richard Foster. ENGINEERS STRUCTURAL: Severud-Perrone-Sturm-Bandel Associates. MECHANICAL & ELECTRICAL: Jaros, Baum & Bolles. INTERIOR DESIGNER: Philip Johnson & Richard Foster. CONSULTANTS: Lighting-Kilpatrick & Gellert. CONTRACTORS GENERAL: Diesel Construction Co. MECHANICAL & ELECTRICAL: Jaros, Baum, Bolles. BUILDING AREA: 426,000 sq. ft.

● FOUNDATION WATERPROOFING: Anthony Muratore Contracting Co. Inc. WATERPROOFING: Slint Kote-Munro Waterproofing Co. CONCRETE AND CEMENT: Julius Nasso Concrete Corp. BLOCK: S.A.F. LaSala Corp. STONE: McCormick Longmeadow Stone Co., Cosentino Stone Setting Corp. STRUCTURAL STEEL: Bethlehem Steel, Simon Holland & Son Inc. CURTAIN-WALL: Fentron Architectural Metals Corp. FLOOR AND DECK SYSTEMS: Flat slab reinforced concrete, Julius Nasso. ROOF MATERIALS (ROOFING, GUTTER): Wolkow Braker Roofing Corp. FENESTRATION: Fentron. GLASS: Sigla-Fentron. ELEVATORS: Haughton Elevator Co. DOORS: Williamsburg Steel Products Co. (Interior); Fentron (Exterior). HARDWARE: Charles Kurzan Inc., Corbin (Locksets); Rixon (Closer & Hinges). INTERIOR MATERIALS (TILE, PLASTICS): Collins and Arkman, Vermont Marble Co. PANELING: General Tire and Rubber Co. PAINT: Pratt and Lambert; L & L Painting Co. Inc. ELECTRICAL DUCTS: Minneapolis-Honeywell. ELECTRICAL EQUIP., SWITCHES, BREAKERS: Federal Pacific. LIGHTING FIXTURES: Curtiss-Electro; Simes Co. Inc. PLUMBING FIXTURES: American Standard; Global Steel Products Corp. Par Plumbing Co. Inc. HEATING VALVES: Jenkins Valves. AIR CONDITIONING COMPRESSOR, FAN COIL UNIT: Martin Mechanical Corp. DUCTS: Alpine Sheetmetal & Ventilating Co. Inc. PNEUMATIC TUBES: Powers Regulator Co. CONVEYORS: Olson. FIRE PROTECTION EQUIP.: Acme Fire Alarm Co. SMOKE DETECTION: National Sprinkler. CEILING MATERIALS: Armstrong Acoustical Tile; Mosaic Tile—Wilkinson. WATER COOLERS: Filtrine. MOVABLE PARTITIONS: Transicoil Corp. MAIL BOXES AND CHUTES: Cutler Mail Chute Co. VENETIAN BLINDS: Louverdrape Inc. KITCHEN: Heifitz Metal Crafts Inc. FINISH FLOORING: GAF, Henraux Marble. FURNITURE AND SEATING: Library Bureau, Remington Rand; Gunlocke Co. OTHER PRODUCTS: Annunciator Board; Curtiss Electro. Console Unit: Commercial Radio & Sound.

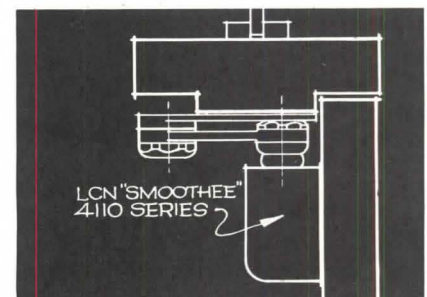
Moraine Valley Community College
Palos Hills, Illinois
Caudill Rowlett Scott, Architects
Chicago, Illinois



FOR HINGE-FACE OF DOOR, LCN 4010 SERIES "SMOOTHEE" AS SHOWN IN PHOTOGRAPH.



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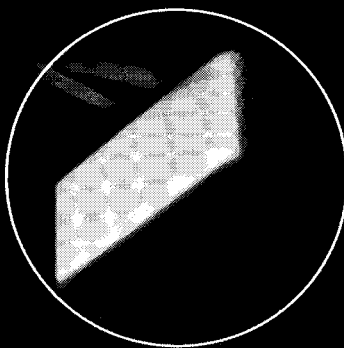


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FACETS

(continued from page 22)

Western powers abstained, as did Russia and all European socialist countries except Rumania and Yugoslavia. China voted in favor of Nairobi.

The opponents of the Nairobi location felt for reasons of economy and efficiency that the secretariat as a coordinating body should be in Geneva or New York, or in any of several cities on more traveled routes including: London, Madrid, Vienna, Malta, Kampala, New Delhi and Mexico City. It is true that the day's traveling time both to and from Nairobi, plus jet lag, will tax some busy Western environmentalists but, since the world is round and, hopefully there will be an increasing number of third world environmentalists, Nairobi seems potentially convenient enough.

It was the concerted effort of the third world countries—known as the Group of 77 although there are far more than 77 members now—which gave the plum to Nairobi. One of the sillier arguments which this fact apparently provoked was that sheerly by being located in Nairobi the secretariat's policies would be more prone to favoring development—i.e. rampant industrialization—than environmental balance.

Also aired in this controversy was another childish, if not so magical, view which may not be unwarranted. Many underdeveloped nations feel the industrialized powers, now that they have their progress, want to curtail the progress of others to

prevent them from becoming competitive, and are using environmental arguments as tools towards this end. It is a sorry thing to read of the generous and cooperative intents and efforts of something like the UN Conference On The Human Environment, which established the secretariat and other machinery for the coordination of UN environmental activities, realizing that much of what it will all come down to is so much hair pulling.

Maybe there will be something new in the Nairobi air that will sustain humane consideration of environmental problems. If only there could be a consensus that to be human is more profitable than making money. Perhaps the respect the environment is demanding of us because of the blatantly evil consequences of our disrespect for it, is apt, more than anything else, to bring us to value mutually supportive rather than exclusive life.

PLANNING

OVERRULED

Rules were either made to be broken or broken before they were made. In Des Moines the rule is that gravestones in municipal cemeteries are to be made of granite or bronze. But Mrs. Cindy Frederick, whose two children died shortly after birth from a lung disease, did not have the money for commercial monuments. So she and her father made gravestones of poured concrete, polished to stone smoothness, with hand-carved lettering, and eight coats of sealer. Cemetery employees removed the gravestones be-

cause they did not comply with the city ordinance; and the Park Board's cemetery committee decided that Mrs. Frederick should not be allowed to replace them. However, the full Park Board then voted 8 to 1 with one abstention to allow the markers to be reset.

The cartoon (below, left) was prompted by the remark of a funeral home president and cemetery committee member: "I have as much compassion for this lady as anyone, but we must have orderly development in our cemeteries. We have got to hold the line."

RECOVERY FROM AGNES

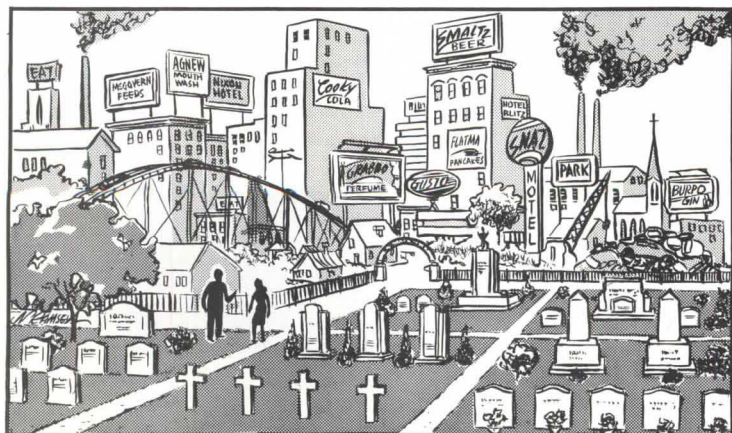
"We're suffering more from urban renewal than we did from the flood," says a Corning, New York resident. A sympathizer in nearby Elmira calls urban planners "clowns."

State and federal agencies have moved into the area with the Feds huddling like a circus in Elmira's armory. HUD, EPA,

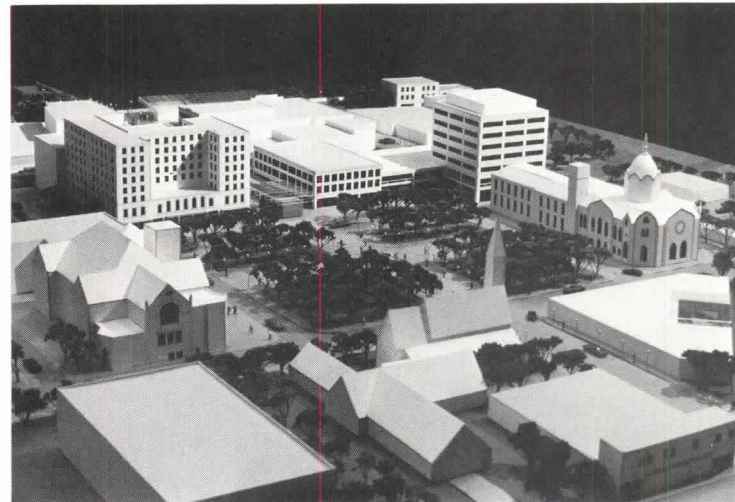
OEPNONS, the HEWATOTS, the DOTAWATOMIES, the EPAHAHA's, the SBANAWS and the HUDAGOOKS (including the FHANOLES)."

With this clogging of the weirs, and the prevalent feeling that nothing is happening, officials are resorting to rather lame psychological lifts for the populace; for instance, stenciling "Comeback '72!" on T-shirts.

However, something is being done. UDC claims to have telescoped two years of planning into 10 days, developing a plan for nearby Painted Post. Its damaged shops are to remain in operation while, behind them, a new shopping mall is constructed. As the new units in the mall are occupied, each old shop will be demolished for parking. Ultimately the town will have a completely new commercial center, with only the Baptist church and a sturdy Wisconsin limestone house remaining. The plan hinges on the cooperation of merchants



"... we must have orderly development in our cemeteries."



Elmira, New York Town Center

OEO, HEW, and DOT are there along with ARC (the Appalachia Regional Commission) and SBA (Small Business Administration). The state agencies include UDC, which is acting as the renewal agent for four towns to apply for HUD funds; and STCRPDB (Southern Tier Central Regional Planning and Development Board) may also funnel federal funds.

A HUD staffer recently wrote to a disgruntled urban renewal director, "Among the Grand Confederation, this office (and no doubt your agency) is having difficulties in coordinating the conflicts in and among the

who sometimes prefer going out of business.

In Corning, Penn Central is the villain. Its tracks bisect the northern half of the community and have two particularly objectionable grade crossings. When the wash-out of a bridge provided a chance to remedy the situation, Penn Central hastily rebuilt the bridge and convinced local authorities that relocating the tracks would be too costly. So it just keeps rolling along right through town.

It seems that even when a flood cleans many problems off the planners' slate ye olde mud

(continued on page 78)



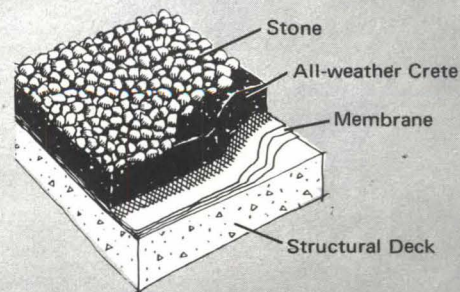
freezing water will never reach this roof membrane to tear the guts out of it!

That's because it's protected with the All-weather Crete Insul-top System! This new concept places the insulation over the waterproof membrane (where it belongs) to protect it from extreme temperature cycling. The major cause of stress on roofing membranes is the expansion and contraction due to temperature changes. An unrestricted membrane can move 2½" in 100' during a temperature change of 130° and progressively shrinks slightly each time! This permanent deformation is one of the leading causes of water leakage where the membrane has pulled away from flashing and parapets.

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 **All-weather Crete® Insul-top System**



On Reader Service Card, Circle 321

FACETS

(continued from page 76)

settles rather thickly and fast.

Elmira is another story. It is seeking \$78 million of the \$138.4 million in HUD funds being sought by six neighboring towns. Its rebuilding efforts cover an area which is believed to be greater than any urban renewal undertaking ever proposed in this country. More than half of Elmira, approximately 2000 acres, was affected by hurricane Agnes floodwaters.

The redevelopment plan has been expedited and financed by the New York State Urban Development Corporation with the assistance of two consulting firms. Welton Becket and Associates was responsible for the conceptual planning with particular emphasis on the central business district. And Raymond, Parish and Pine, Inc. was responsible for overall land use planning, surveys, acquisitions, and the required applications for federal assistance. In 60 days UDC and the consultants completed research and proposals that would normally have taken two years.

Planners estimate that the \$70-million-plus project will involve later investment of an additional \$300-\$400 million in private and public money over the next five to ten years. The \$70-million will cover land acquisition, demolition, new streets and utilities, administration and technical services, interest and contingencies.

In addition, the plan proposes 100 percent payment by the federal government of over \$9-million to relocate families displaced by the project; and \$875,000 to home owners who want to rehabilitate their properties. If the city's renewal application is approved, the federal government will pay three-fourths of preparatory expenditures, and the rest (over \$17 million) would be paid by the state and the city, sharing 50-50.

The main features of the plan include early action on the construction of 600-700 new housing units, extensive redevelopment of the central business district, the creation of four industrial park areas, transpor-

tation and social service centers, and new and enlarged parks. One of the major aspects of the plan is "for the downtown area to literally turn and face the river and signal the start of the city's economic turnaround," as David Beer of the Becket office put it. Several waterfront buildings—which had their back to the river—will be demolished and replaced by a restaurant, plaza, promenade and parking facilities. The planners feel that the renewal efforts can enable the town to reverse its decline in population and business. Highway construction and parking facilities in the central business district will make it competitive with outlying shopping centers.

CONFABS

• On April 15-18 the fourth international conference of the Environmental Design Research Association will take place at Virginia Polytechnic Institute and State University in Blacksburg, 35 miles from Roanoke.

The conference will be composed of three types of presentations. The symposia with invited papers will deal with the following topics: Environmental Design Research in the Social and Political Context; Theory of Man-Environment Relations; Environmental Cognition; Selected Instruments and Measures in Environmental Analysis; a Methodological Critique; Design Languages and Methods; and For the Environment—Major Thrusts in Computing Activity. Workshops will be conducted under the following heads: Action Research in Man-Environment Relations; Environmental Management; The Service Institution-Clinic Concept of the School of Architecture; and Gaming Techniques. There will also be Paper Sessions wherein some 40 selected, solicited papers will be summarized and discussed.

The registration fee will range from \$20 to about \$60 including the two-volume proceedings. Rooms from \$11 up will be available as will more inexpensive student accommodations. For detailed information and reservation forms write to Wolfgang F. E. Preiser, EDRA Conference Chairman, College of Architecture, Virginia Polytechnic Institute and State Univer-

sity, Blacksburg, Virginia 24061. Phone 703 951-5506.

• The National Association of Regional Councils will hold its annual conference in Minneapolis, Sunday-Tuesday, February 25-27, and in Washington, February 28-March 1. At the business meeting on Monday the membership will adopt action proposals to pursue with their governors, state legislatures and the federal government, based on the results of six regional fall workshops. In Washington, regional council representatives will meet with top officials of the administration and Congress to encourage their support of policies adopted in Minneapolis.

For registration forms contact: Annual Conference, National Association of Regional Councils, 1700 K Street, N.W., Suite 1306, Washington, D.C. 20006. They must be postmarked before January 19th to be eligible for the early-bird registration rate and the Washington leg of the trip. Otherwise later registration is possible. But to assure accommodation the hotel reservation form should be returned to the Radisson Hotel Reservation Department, 45 South 7th Street, Minneapolis, Minnesota 55402, by February 2.

COMPETITION

The National Sculpture Society is seeking nominations for the Henry Hering Medal, presented only as the occasion warrants, for outstanding collaboration between architect, owner and sculptor, in the distinguished use of sculpture in an architectural project. Nominations are due in the Society's offices, 250 East 51 Street, New York City 10022, by March 2, 1973. They are to include a portfolio describing the nature of the project, photographs clearly showing the site of the sculpture, the names of the architect, sculptor and owner. The medal is given in triplicate to all three.

PEOPLE

Architect Hans Scharoun, who had worked in Berlin since 1932, died in November. He had an aversion to the box which can be seen in his best known building, the Philharmonic Concert

Hall in Berlin. Frei Otto called it "the room of a thousand angles."

APPOINTMENTS

The Building Research Advisory Board of The National Research Council of The National Academy of Science has ten new appointees: Brian J. L. Berry who is Chairman of the Urban Studies Training Programs in the Department of Geography at the University of Chicago; Patrick J. Cusick, Jr., President of the Greater Hartford Community Development Corporation; Charles P. Graves, professor of architecture at the University of Kentucky; Matt M. Jetton, President of Sunstate Builders Inc.; Rudard A. Jones, AIA, professor of architecture at the University of Illinois, Champaign; Kenneth G. McKay, Vice President, Engineering, American Telephone and Telegraph Company; Charles E. Schaffner, Vice President, Syska and Hennessy, Inc.; John F. C. Turner, Department of Urban Studies and Planning, MIT; Beverly Willis, AIA, San Francisco architect and environmental planner; and Joseph H. Zettel, Vice President, Johns-Manville Products Corporation.

Board members, totalling 36, are highly qualified individuals from segments of industry, government, and the academic and research communities interested in building. They are appointed on a rotating, overlapping basis for terms of up to three years by the Chairman of the Division of the National Academy of Sciences. BRAB provides advice on research and technical problems, stimulates and monitors research, organizes conferences, correlates information, and explores subjects related to building.

ADDENDUM

Photographs in the article "Landscapes for Urban Play," which appeared in the October issue of FORUM, were taken by the author, Nanine Clay. Mrs. Clay is former executive secretary of the Citizens Metropolitan Planning Council and was a member of the Kentucky Governor's Action Committee on Leisure and Youth, 1969-70.

PHOTOS, p. 20 (top) Gale Brooks, p. 22 Authenticated News Intl.-Keystone. CARTOON, p. 76 Norman Ramsey, Cedar Rapids Gazette.

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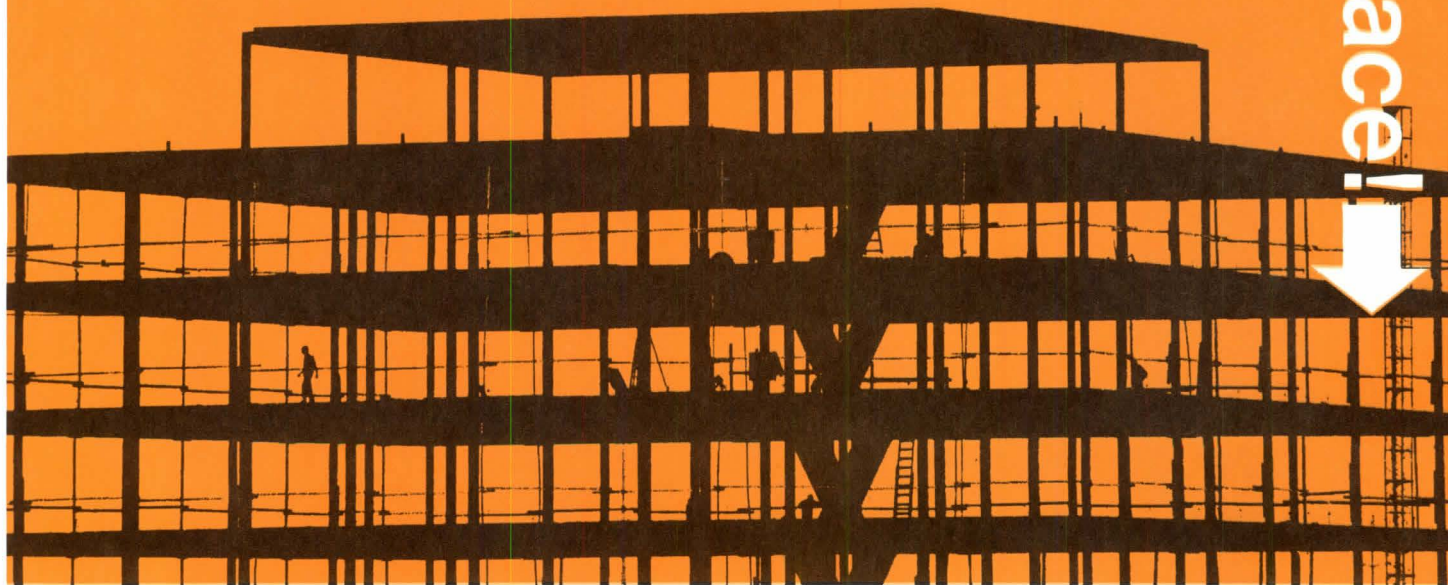
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On Reader Service Card, Circle 322

PRODUCTS

This month's Product Review concentrates on modular lighting, ceiling and wall systems.



WITHIN EAR REACH

The so-called "open office" is here to stay. The question is, how long can office workers put up with open noise before they go stark raving mad?

Naturally, this brings up the element of acoustics. And when you bring up acoustics, you almost have to bring up Owens-Corning Fiberglas Corporation—an amiable outfit which likes letting people know what they are *thinking* in addition to, of course, what they are manufacturing.

Now, a new Fiberglas ceiling panel may not exactly send you up a wall. But it should, at least, make you pause if, in fact, acoustical qualities are on your mind, or open offices on your drawing board.

Owens-Corning has come out with a new panel. They call it "Nubby II." It is two inches thick, and it comes in several sizes—24- x 24-inches; 24- x 48-inches; and 48- x 48-inches. It has a *rich, rough texture*, and its white facing of glass cloth resists damage and heat. Furthermore, "Nubby II" can take the humidity levels normally found during construction; which, of course, makes it possible for owners to move in sooner.

But the really important thing

about this new panel is its acoustical qualities. For one thing, it is absorbent; sounds striking its surface tend to stay put; or, stated professionally, "Nubby II" has "low specular reflection."

For another thing, this panel lets people carry on a normal office conversation without driving everyone else to distraction. An open office can have all the equipment, plants, and art work imaginable and *still* fail if people can't hear each other comfortably when they need to—or can hear each other when they don't want to.

Owens-Corning decided to look into these nuances, and hired Geiger & Hamme, an independent acoustical testing laboratory in Ann Arbor, Michigan, to find out how to make open offices where people can be seen and not heard—except, of course, when needed.

The result, so the Geiger & Hamme report indicates, was that "Nubby II" outmatched several other ceiling products—all of which were tested under the same conditions—in terms of what is called "attenuation," which is (for people who don't know about things like this) a measure of noise nine to 12 feet from its source. In other words, if a space has "high attenua-

tion," office workers will tend not to be disturbed by a conversation outside their immediate area; nor would they be able to understand the sense of that conversation.

While open offices lighten up the work day, encourage a more spontaneous exchange of ideas and information and are economical to build and, later, to adapt, the fact is that acoustical privacy has too often been sacrificed. When "specular reflection" is high, or "attenuation" is low, people start getting distracted; or they feel put upon; or they clam up as they might, say, in a crowded elevator. All such reactions, in turn, tend to undermine attention to the job at hand and, as a result, overall productivity.

Owens-Corning hopes that "Nubby II" will be part of the answer to this problem. And the trouble which they have gone to in testing this panel is part of the increasing trend among product suppliers to discuss a product in the context of wider issues—including, not least of all, the *human* ones.

So, if you are interested in "tuning" your spaces, and in tailoring noise to an acceptable level, one place to get further information is Fiberglas Tower, out in Toledo, Ohio.

As someone once said, or at least we *think* they did, "Send not to know for whom the decibels toll." Send, instead, for someone who knows about acoustics.

On Reader Service Card, circle 101.

LIGHTS-OUT

Offered by J.H. Spaulding Company, "Designer Group" is a multi-component system featuring 13 lighting groups and 5 street furniture concepts. The idea is to interchange the parts to create packages for communities, plazas, parks, campuses, and residential developments. Aluminum, wood and steel pole/bracket assemblies are available in a variety of colors and finishes. Street furniture systems feature signage, artificial planters, poles and wood benches in several arrangements and can be coordinated with almost any luminaire in the "Designer Group."

On Reader Service Card, circle 102.



THE 1000

An integrated modular ceiling system which is pre-engineered and factory built from a single source manufacturer has been introduced by National Ceiling Systems. Called the "1000 Ceiling System," it is a modular grid made from roll formed steel with baked white enamel finish or extruded aluminum with anodized or baked white enamel

finish. All runners have revealed slots to receive a demountable wall or a lineal air diffuser, enabling the pattern to be continuous throughout the building. Sliding black filler strip conceals the slots not in use. Sprinkler systems and acoustical panels can be plugged into the grid line.

On Reader Service Card, circle 103.

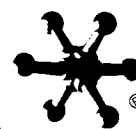
(continued on page 82)

Expand your design imagination

Abstracta opens up an adventurous new approach to functional elegance for the realistically designed interior



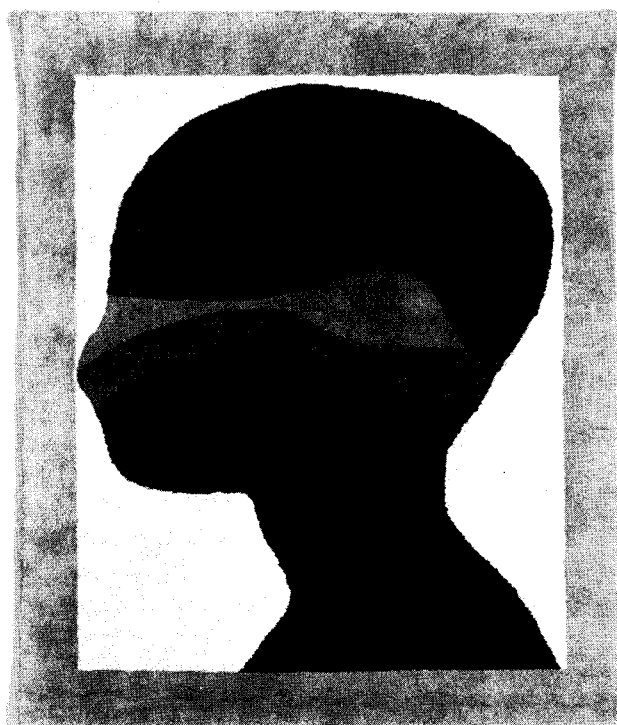
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The Un-Cloistered Tapestries

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PRODUCTS

(continued from page 80)



SSTR

Reynolds Metals Company has announced a farm roofing and siding called SSTR—which means Super Strength 'Thrifty Rib.' Sheets are long, wide, lightweight and diamond embossed, providing net coverage of 48 inches and lengths up to 30 feet. They can be put on purlins up to 24 inches on cen-

ter. The presence of high strength alloys increases the tensile yield strength found in regular 'Thrifty Rib.' Sheets are corrosion resistant and highly resistant to hail damage. There is a weather-tight side lap which protects building interiors from the elements.

On Reader Service Card, circle 106.



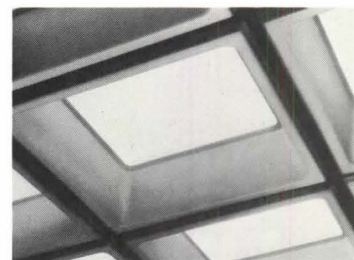
LIGHTING-UP

The Mod-U-Line lamp is General Electric's newest "U"-shaped 40-watt fluorescent lamp designed for symmetrical fixtures which blend with modular ceiling systems. It is the companion of an earlier version which has a 3 5/8" leg-center spacing. This model has a 6" spacing to permit design flexibility. Both lamps have an average initial light output of 2800 lumens and have extra glass thickness to insure bulb strength. Metal braces across the open end of the "U" are for further fortification.

On Reader Service Card, circle 105.

OVERKRYLL

A one piece low-brightness light source ceiling called Dimension-Plus is offered by United Lighting and Ceiling Corp. Available in modules from 2' x 2' to 5' x 5', it features opaque collars of grey-white acrylic, antique gold, metallic gold and aluminum. Collars provide a shield to white matte acrylic diffusers which are above the ceiling plane. The plexiglas acrylic panels shouldn't discolor, fade, or distort. Alumi-



num or steel tee bars, as well as air-tees or linear air diffusers, are available.

On Reader Service Card, circle 104.

(continued on page 84)

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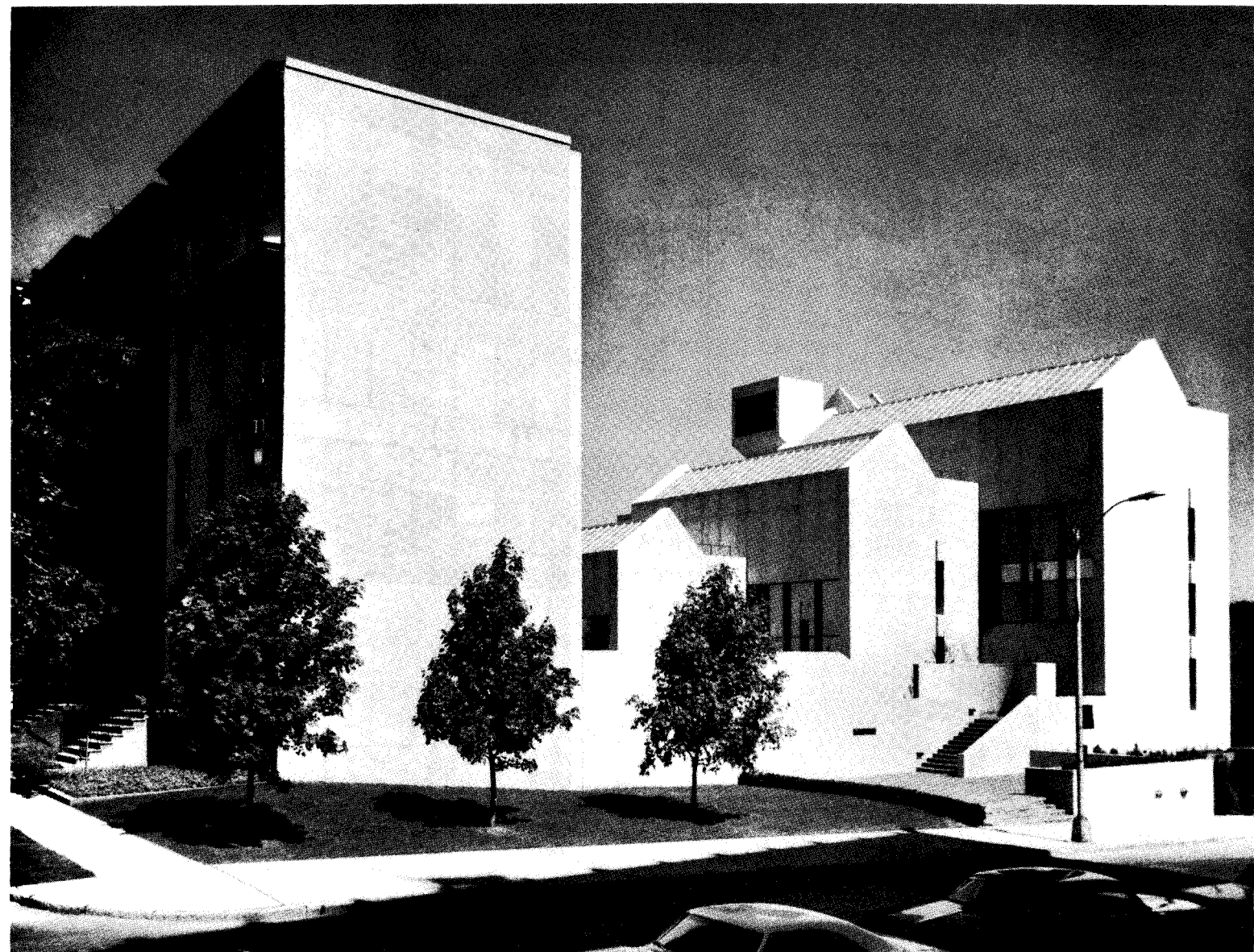


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Architects: James Stewart Polshek and Associates, New York, N.Y.

Photographer: George Cerna

TCS ... and a "lesson in civilized architecture"

"The headquarters of the New York State Bar Association," as a most distinguished critic recently wrote, "is an object lesson in how to build intelligently, sensitively and well . . . In a happy alliance, the lawyers and the architects, James Stewart Polshek and Associates, have preserved a row of handsome 19th-century town houses and incorporated them, not as a false front, but as a working part of a completely and strikingly handsome contemporary complex built

behind them. The words that come to mind are skill, imagination and taste, qualities not encountered too often on the urban scene."

We at Follansbee Steel are particularly gratified that Mr. Polshek specified TCS (Terne-Coated Stainless Steel) for all pitched-roof areas on this outstanding building in which originality of design and integrity of site are so felicitously coupled.

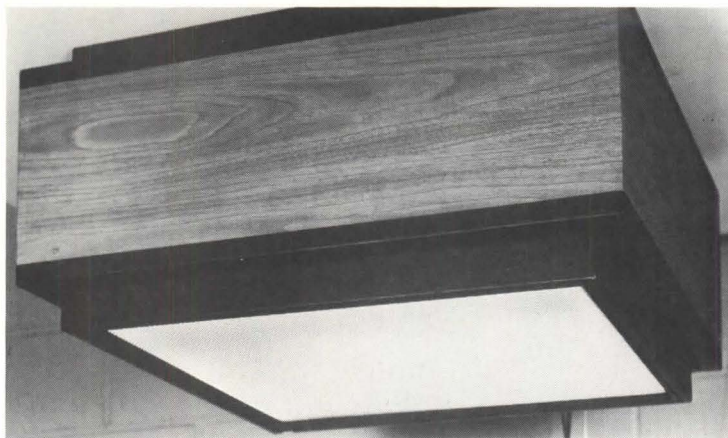
FOLLANSBEE STEEL CORPORATION

Follansbee, West Virginia

On Reader Service Card, Circle 326

PRODUCTS

(continued from page 82)



MOD-U-LIGHT

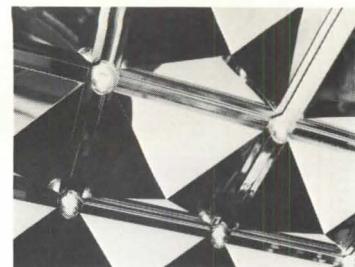
GTE Sylvania has developed the Modular Surface Vanguard fixture for commercial spaces. It's a 2' x 2' unit only 13" high, with offsets at top and bottom to reduce the overall apparent height. The integral ballast assembly is separate from the fixture housing and is of heavy aluminum extrusion. A 12" x 12" tempered glass thermal barrier is installed between the lamp and

acrylic shieldings when glass is not used. Extra quiet ballasts are available for noise control, and tungsten-halogen systems are offered to provide safety lighting when energy becomes available after momentary power failures. The fixture will accept 175-, 250-, and 400-watt mercury lamps and 400-watt Metal-arc units.

On Reader Service Card, circle 109.

PYRA-MIRROR

Introduced by Integrated Ceilings Inc., Pyra-Mirror is a lighted ceiling system designed specifically to add decorative visual excitement to public areas. The system doesn't pretend to solve heavy lighting problems, it just hopes to make arcade corridors, restaurants, reception lobbies and store interiors more playful places. It features inverted mirror-bright stainless steel pyramids in 18" or 24" modules. The exposed

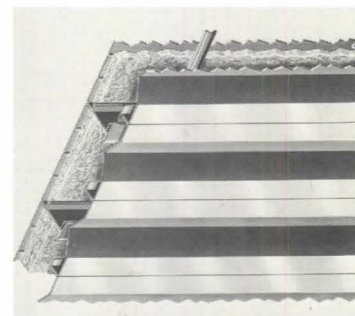


incandescent lamp filaments against the reflective surfaces of the pyramids give off sparkling vibrations.

On Reader Service Card, circle 107.

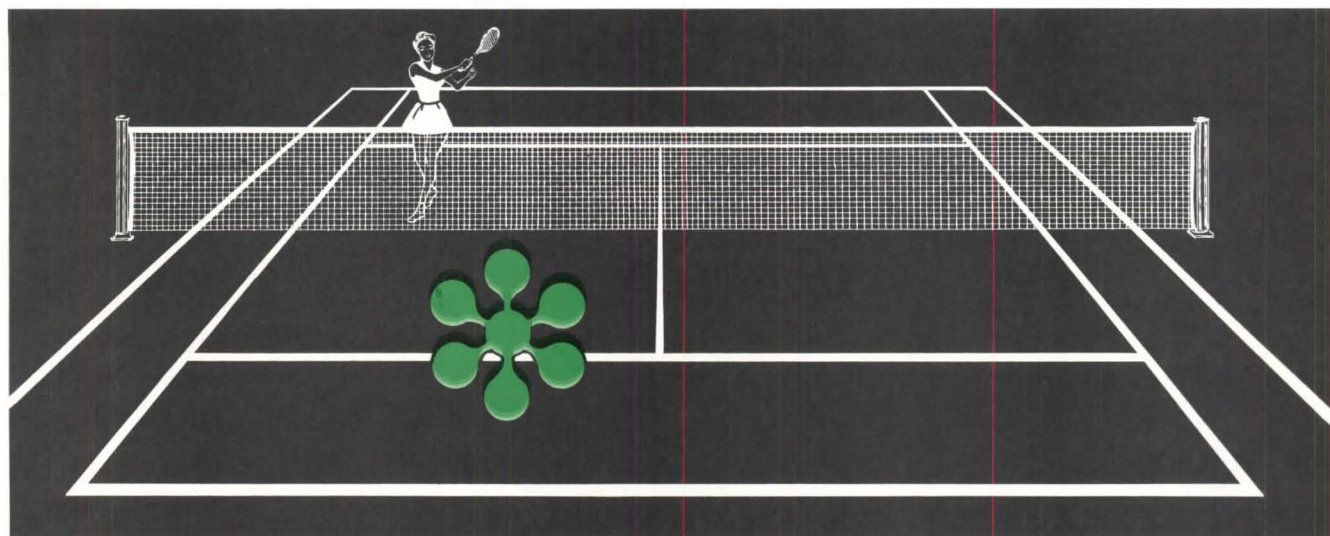
PANEL WALL

Varispan Panel System is a metal wall system available from the Elwin G. Smith Division of Cyclops Corporation. The system is available in linear panels with depths of 3", 4½" and 6", and can cover a single span in excess of 30'. The linear panels can be used vertically or horizontally in an insulated wall system, or in the vertical position as a non-insulated exterior panel. Varispan is furnished in galvanized or aluminized steel linear panels with exterior panels in aluminum, or galvanized,



aluminized, or stainless steel. All metals can be plain or embossed.

On Reader Service Card, circle 108.



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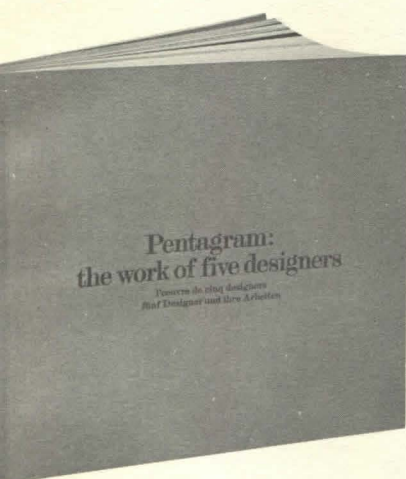
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Watson-Guptill Publications has enlarged its publishing program to include these highly successful books on architecture and design.

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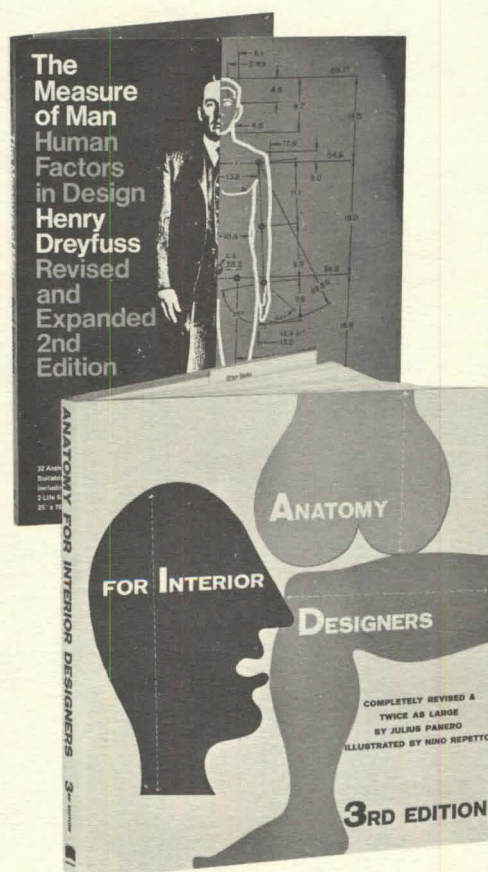
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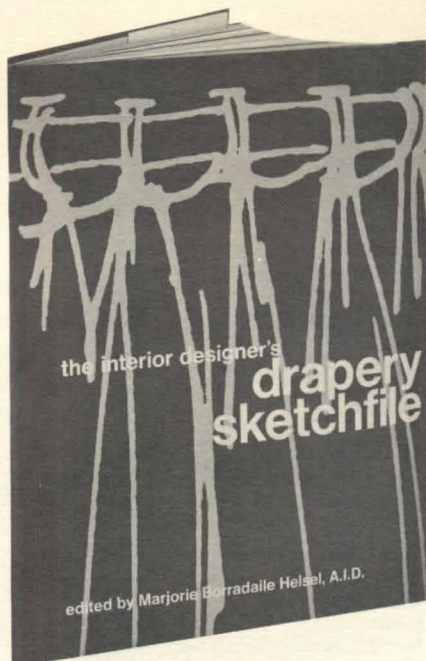
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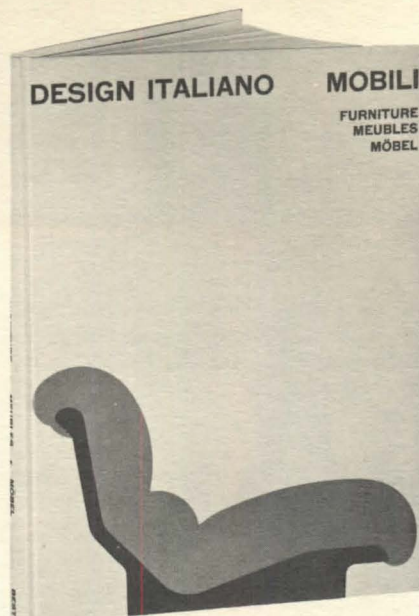
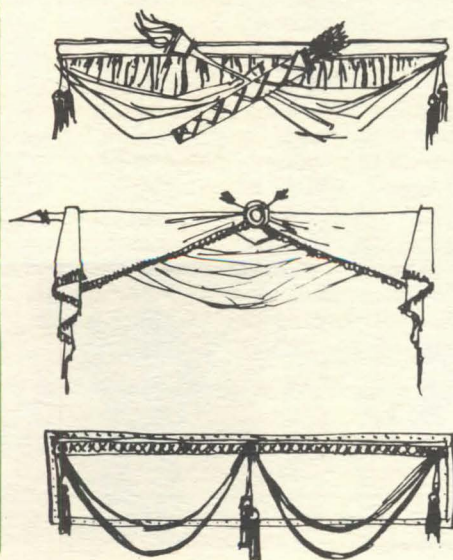
Any of the books described on these pages are available at your local bookstore, or may be ordered directly from Watson-Guptill Publications, 2160 Patterson Street, Cincinnati, Ohio 45214.



THE INTERIOR DESIGNER'S DRAPERY SKETCHFILE

BY MARJORIE BORRADAILE HSEL. This book is a comprehensive collection of drapery designs that can be used as a working tool, catalog, or design idea book. Sketchfile tracings can be used to substitute for designer sketches. It contains an impressive selection of drapery designs you can "show" without time consuming sample collecting or expensive sketches. The author has arranged the book by broad, simple idea categories: period designs; formal designs; casual designs; tie-backs; and valances. The drawings are annotated only where it is necessary to supplement the meaning or suggest a certain material. All in all, there are 292 different sketches. This book is the most complete sketchfile of its type and is a must for the library of the student or professional designer.

188 pages. 8 1/2 x 11. 292 illustrations. Index. ISBN 0-8230-7289-4. **\$10.00**

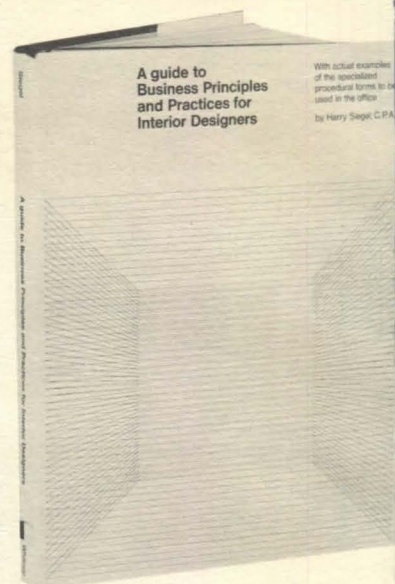
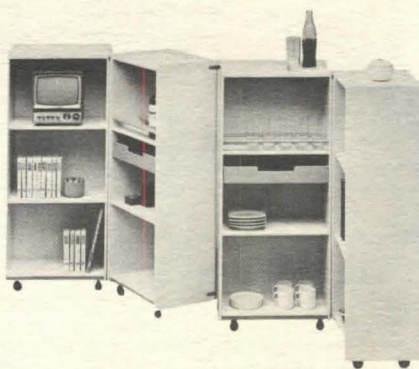


DESIGN ITALIANO: MOBILI

ITALIAN DESIGN: FURNITURE

EDITED BY ENRICHETTA RITTER. GRAPHIC DESIGN BY BRUNO MUNARI. This book comprises a comprehensive collection of all the award-winning contemporary Italian furniture designs that have revolutionized the entire design world and revitalized interior design. These designs, including those of Colombo, Vigano, Sotsass, Gardella, Scarpa, and many, many others, offer a fascinating and ingenious collection of stack-ups, horizontal wall-hungs, and transformable kitchens that offer the comforts of home to a mobile, affluent society. While most of the furniture in this collection consists of compact, self-sufficient systems, rather than of free-standing one-of-a-kind pieces, elegance of fine woods and gleaming chrome are as evident as vivid lacquer and plastic. Also included are prototypes, interesting because of their novelty and exceptional design.

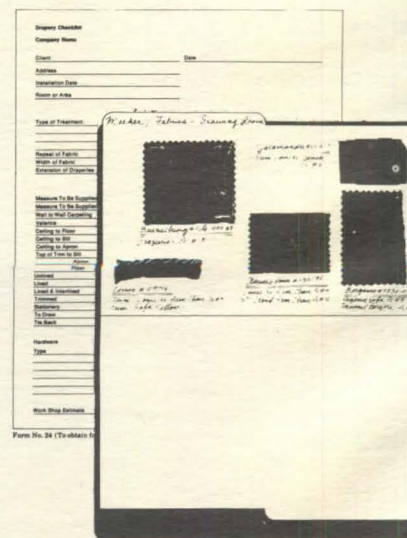
206 pages. 8 1/2 x 12 1/2. 258 illustrations. Text in English, Italian, German, and French. List of Manufacturers. ISBN 0-8230-7144-8. **\$14.00**

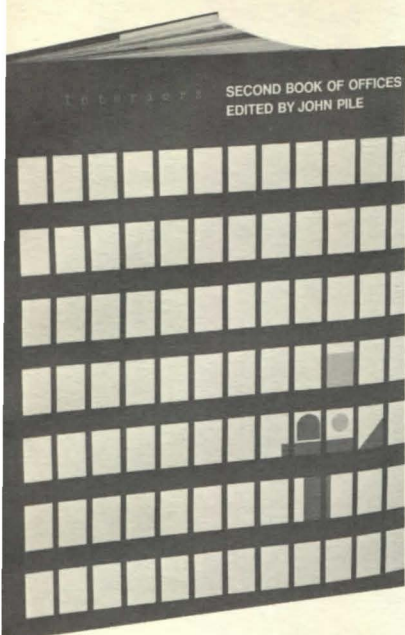


A GUIDE TO BUSINESS PRINCIPLES AND PRACTICES FOR INTERIOR DESIGNERS

BY HARRY SIEGEL, C.P.A. This book is a must for those who know much about designing but not enough about making money. The author explains everything from the mechanics of setting up as a professional to estimating job time, billing, and collecting. This guide includes actual samples of specialized work forms, letters of agreement, and contracts. Siegel sets forth the basic principles, procedures, and office systems designed to bring order out of chaos, to solve the financial and operational problems of interior designers in a logical way, to protect them from financial hazards, and to assure them reasonable remuneration for their knowledge. The author, a consultant to interior design firms, has spent the last twenty years in solving the business problems of the independent designer.

176 pages. 9 x 12. Over 40 illustrations. ISBN 0-8230-7251-7. **\$13.95**

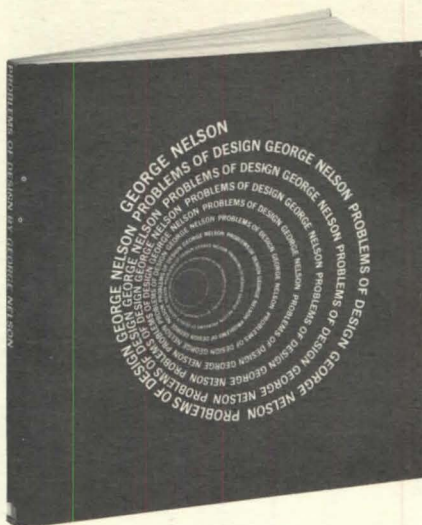




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288 pages. 9 x 12. 486 illustrations. List of data and standards. Index of designers, planners, and architects. ISBN 0-8230-304-1. **\$19.95**



PROBLEMS OF DESIGN

BY GEORGE NELSON. This is a book that brings understanding of those areas of the modern world having to do with architecture, the arts, and design. Its 26 essays offer factual information, appropriate illustration, and clear analysis of the world of modern design. Included are chapters on: problems of design; art; architecture; planning; and interiors. Mr. Nelson's authority is based on his achievements as an architect and designer. His prominence in the field is evidenced by many books and articles on architecture, design, and the arts. He has also taught at Yale, Columbia, and Pratt Institute. This is a book that will be invaluable to every practicing designer, student, and interested layman.

206 pages. 8 1/2 x 8 1/2. 116 illustrations. Soft Cover. ISBN 0-8230-7440-4. **\$3.95**



DRAWINGS OF ARCHITECTURAL INTERIORS

EDITED BY JOHN PILE. Only the realism of a sketch, perspective, or "rendering," showing a space in more or less realistic fashion, can become the basis for explaining a design proposal. For students and serious designers, drawings play a vital part. They give the first—and sometimes the only—true visual reality to design ideas. This handsome book, compiled by an architect, designer, writer, and teacher, contains a rare selection of sketches representing the work of 89 outstanding architects and illustrators, among them Le Corbusier, Florence Knoll Bassett, Frank Lloyd Wright, Walter Gropius, Mies van der Rohe, Richard Neutra, and I. M. Pei. The reader will see creative design through the eyes of the creator, discover new ways to make his own ideas visual, and present them with clarity and drama. The text traces the historical, pioneer modern, and contemporary evolution of this vital element in architectural design.

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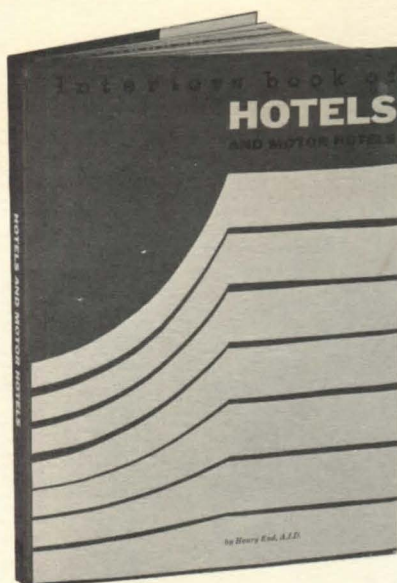
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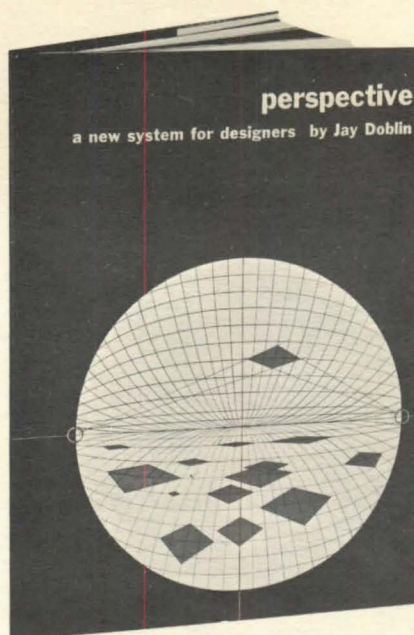
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BY HENRY END. The author, a leading professional in the field has chosen the survey as the format for this commentary on the design of hotels and motor hotels. Intended specifically for designers, architects, and hotel men, this book examines the design principles of in-town, resort, and international hotels and motels. Each of the chapters is accompanied by a photographic portfolio of the particular hotel or motel type. Text and photographs are arranged that separate or simultaneous study may be made. A special section on procedures ties together and points up the essentials of design. The last chapter deals with the future of the hotel industry and its design.

264 pages. 9 x 12. 256 illustrations, 3 in color. Bibliography. Index. ISBN 0-8230-7280-0. **\$16.50**



PERSPECTIVE

A New System for Designers

BY JAY DOBLIN. The serious designer, faced with the problems of solidifying and transmitting design ideas, finds no single tool more effective than skill in perspective drawing. This book is not just another text on the subject, it is a unique development, created by a practicing designer for his own use in the classroom, calculated to exclude error and develop freehand drawing skills. For designers it offers a simple method of visualizing any three-dimensional object accurately and quickly and eliminates complex mechanical drawing. For students it is a complete exposition of perspective drawing—a comprehensive and basic text for study. For draftsmen it helps develop the freehand skill and judgment that any good student of perspective must have. For all who use perspective this book makes a fundamental contribution to the theory of perspective, bringing up points that are not covered in any other text. *Perspective* has been adopted as a text by many of the country's leading design schools.

68 pages. 9 x 12. 150 illustrations. ISBN 0-8230-7419-6. **\$6.50**



PHOTOGRAPHING ARCHITECTURE AND INTERIORS

BY JULIUS SHULMAN. This is the basic "how to" book for amateur and professional photographers. The author explains the hand camera, the view camera, the principles of composition in general, and those of architectural photography in particular. The liaison between photographer and architect or designer is thoroughly explored as well as rates and rights for photographic work. All designers of buildings and interiors can learn from this book how to make the most of photography in recording and promoting their work. Contents include: the photographer and architect; the nature and scope of architectural photography; the designer's use of the architectural photograph; tools and equipment; techniques; a photographic case study; the profession of architectural photography.

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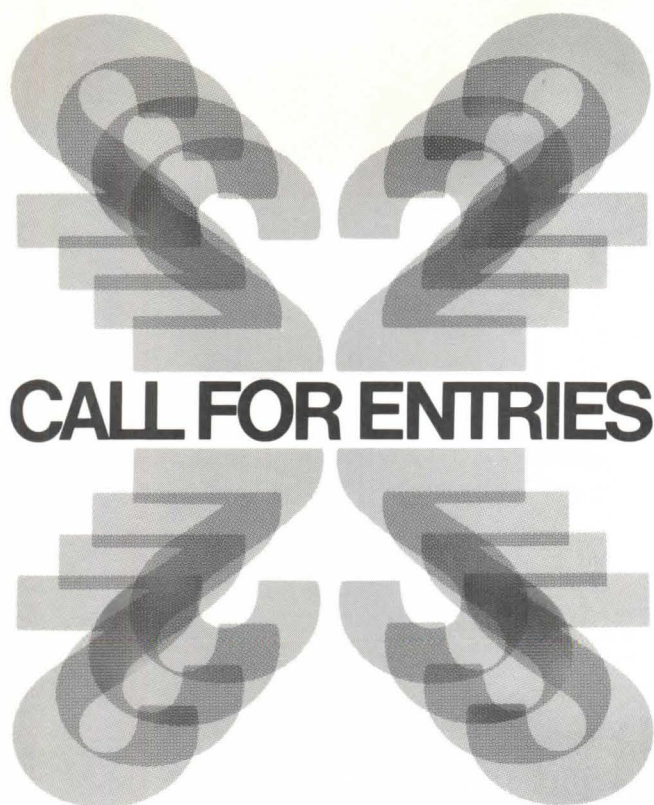
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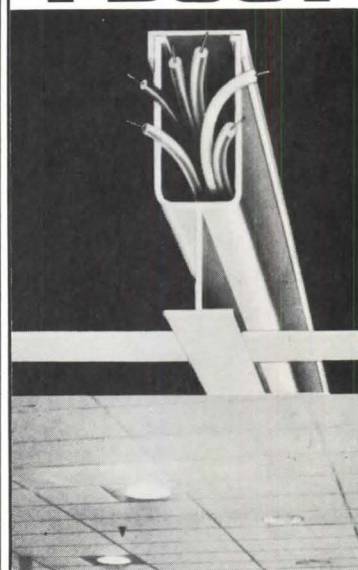
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David Levow, Inc. has issued a new catalog describing their Fitrite Snow Guards. The catalog has a complete description and specifications of Snow Guards that are suitable for slate roofs, corrugated roofs, tile roofs, or metal and composition roofs. On Reader Service Card, circle 202.

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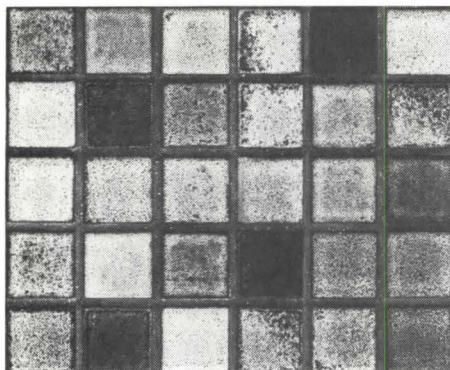
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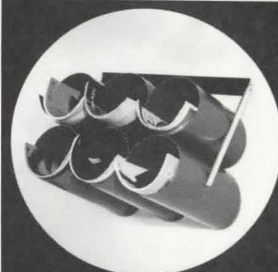
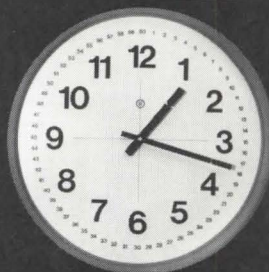
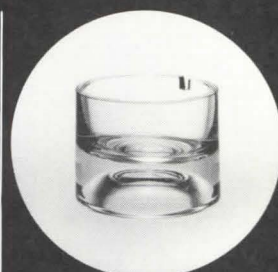
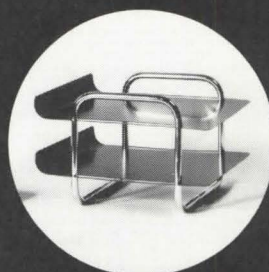
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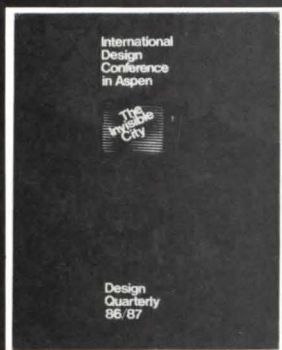
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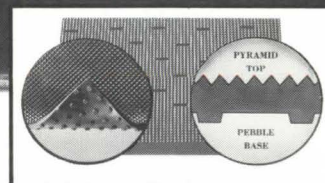
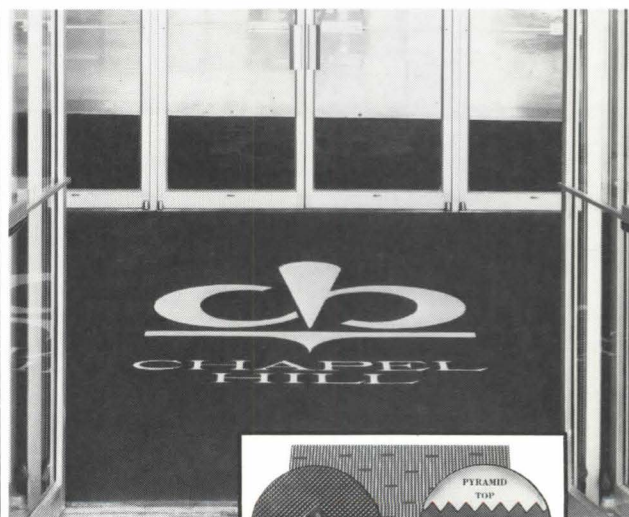
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ARCHITECTS, DESIGNERS, PLANNERS

Aillard, E., Housing development, Grigny, France, Jan./Feb.	6	Noyes, Albie Booth Memorial Boys Club, New Haven, Conn., Mar.	5	Harvard & Jolly, Tourist Center, St. Petersburg, Fla., Oct.	8	seum, Univ. of Pa., Phila., Pa., Mar.	40
Anderson, Nottter Associates, Old City Hall, Boston, Mass., Sept.	26	Design Environment Group Architects, Inc., Our Savior Lutheran Church, Louisville, Ky., Mar.	6	Hellmuth, Obata & Kassabaum, Equitable Life Assurance Soc., St. Louis, Mo., Apr.	7	Miyawaki, M. & Assocs., blue and green house nr. Tokyo, Japan, Apr.	6
Andrews, Anderson, Baldwin, Gund Hall (Harvard Graduate School of Design), Cambridge, Mass., June	7	Diamond, A.J. & Barton Myers, Myers House, Toronto, Can., Apr.	62	Hellmuth, Obata & Kassabaum, Inc./Brodsky, Hopf & Adler, with Preston M. Geren, Jr.; Harrell & Hamilton, Dallas/Ft. Worth Regional Airport, Tex., May	24	Morey, A. Warren & Assocs., Dallas Cowboys Stadium, Tex., Apr.	6
Andrews, Anderson, Baldwin, George Gund Hall (Harvard Graduate School of Design), Cambridge, Mass., Dec.	50	De Carlo, Giancarlo, Housing at "La Pineta," Urbino, Italy, May	50	Hellmuth, Obata & Kassabaum, with Neuhaus & Taylor, The Galleria, City Post Oak Urban Ctr., Houston, Tex., Apr.	30	Mouette, Henri and Jean-Francois L'Ollivier, with Pierre Szekely, resort on the seacoast, Brittany, France, May	5
Arnott, Gordon R. and Associates, Midtown Plaza, Saskatoon, Canada, Apr.	5	Durrant, Deininger, Dommer, Kramer, Gordon, associated with Caudill, Rowlett & Scott, Sauk Valley College, Dixon, Ill., Apr.	40	Hellmuth, Obata & Kassabaum, Dulles Airport expansion proposal, Wash., D.C., May	24	Muchow Assocs., Financial Program Bldg., Denver, Colo., Sept.	8
Aquitaine Architectes Assoc., Hotel, nr. Bayonne, France, Apr.	6	Ellwood, Craig, Airport Business Center, Newport Beach, Cal., May	54	Hellmuth, Obata & Kassabaum, Nat'l Air & Space Museum of the Smithsonian Institution, Wash., D.C., Dec.	14	Murphy, C.F., Assoc., FBI Bldg., Wash., D.C., Apr.	44
Bancroft, John, for Dept. of Arch. & Civic Design For Inner London Education Authority, Pimlico School, London, England, Dec.	6	Fleischman, Richard & Assocs., Church of the Covenant, Cleveland, O., Sept.	6	Hilgenhurst, Charles G. & Assocs., Hilgenhurst residence, Arlington, Mass., Mar.	58	Murphy, Ronald E. & John Andrews, D.B. Weldon Library of the Univ. of Western Ontario, London, Canada, Nov.	6
Barber & McMurry, Inc. with David Liberman, Regency Hyatt Hotel, Knoxville, Ky., July/Aug.	8	Flynn, Dalton, Van Dijk & Partners, Cleveland Clinic Fdn. Parking Garage, Cleveland, O., Dec.	5	Hoberman & Wasserman, N.Y.S. housing projects, Nov.	42	Nehrbass, Frederick J. and Neil M., Comeaux High School, Lafayette, La., Mar.	56
Barrett, Daffin, Figg, Office headquarters, Tallahassee, Fla., Jan./Feb.	9	Franzen, Ulrich & Assocs., Research lab, Philip Morris, Inc., Richmond, Va., Sept.	6	Hodgkinson, Patrick with Sir Leslie Martin, Brunswick Centre, London, England, May	7	Neuhaus & Taylor, with Hellmuth, Obata & Kassabaum, The Galleria, City Post Oak Urban Center, Houston, Tex., Apr.	30
Becket, Welton & Assocs., Disney World Hotel, Orlando, Fla., Jan./Feb.	5	Fuller, R. Buckminster, "The World of Buckminster Fuller," Jan./Feb.	49	Jones, Walk/Francis Mah, Inc., Orange Mound Day Nursery, Memphis, Tenn., Oct.	8	Niemeyer, Oscar, Communist Party Hdqtrs., Paris, France, Sept.	5
Becket, Welton & Assocs., Dudley Wright Knox Library, U.S. Naval Postgraduate School, Monterey, Cal., Oct.	6	Gabriel & Martin (Bros.), Church of the Benedictine Monastery, Las Condes, Chile, Nov.	7	Kahn, Louis I., "The Mind of Louis Kahn," July/Aug.	42	Onarato / Panko / Sinclair, Arthur Court Gallery Entrance Park, S.F., Cal., Oct.	5
Becket, Welton & Assocs., Walt Disney World Hotel, Orlando, Fla., June	24	Geddes Brecher Qualls Cunningham, Marion Angell Boyer Hall of Science, Beaver College; Classrooms & Commons, Rutgers Univ., Newark, N.J.; Southern Ill. State Univ. Faner Hall; Fine Arts Bldg., Goucher College; Inst. for Advanced Studies, Princeton Univ., N.J.; Sept.	34	Kalish, Jacques, with Roger Salem, Ecole d'Architecture de Nanterre, Paris, France, July/Aug.	5	Otto, Frei, Olympic Stadium, Munich, Germany, Oct.	26
Behnisch, Gunther, Olympic Stadium, 1972 Olympics, Munich, Germany, Oct.	26-33	Geddes Brecher Qualls Cunningham, Trent Place, Trenton, N.J., Apr.	18	Ketchum, Morris, Jr. & Assocs., World of Birds, Bronx Zoo, N.Y., Sept.	62	Owings, Nathaniel (Skidmore, Owings, & Merrill), Owings house, nr. Santa Fe, N.M., Sept.	42
Berglund, Staffon, House for Simon Spies, Sweden, Mar.	6	Geren, Preston M., Jr.; Harrell & Hamilton, with Hellmuth, Obata, & Kassabaum, Inc./Brodsky, Hopf & Adler, Dallas/Ft. Worth Regional Airport, Tex., May	24	Kiminsky & Shiffer, West 80th St. Community Child Day Care Center, N.Y., Jan./Feb.	6	Pacheco & Graham, Navajo School, Rough Rock, Ariz., Sept.	54
Berman, Peter Anthony, Rubin Residence, Martha's Vineyard, Mass., Dec.	24	Grad Partnership, Mercedes Benz Hdqtrs. for N.A., Montvale, N.J., Nov.	6	Kivett & Myers, Kansas City Int'l Airport, Kansas City, Mo., May.	24	Pereira, Wm., Houston Ctr., Houston, Tex., Apr.	34
Bindon & Wright, The Everett Federal Savings & Loan Assoc.'s Silver Lake Branch, Everett, Wash., Dec.	7	Guislain, Claude, with Pierre Szekely, Carmelite chapel, Valenciennes, France, Jan./Feb.	6	Kling Partnership, Nat'l Assn. of Homebuilders Hdqtrs., Nov.	16	Perry, Charles, His sculpture and uses of solid geometry, Apr.	56
Boignon & Heinonen, Atmospheric Environment Svce. Lab and Hdqtrs., Toronto, Can., Jan./Feb.	9	Harbeson, Hough, Livingston & Larsen, Phila. Elec. Co. office bldg., Phila., Pa., Mar.	6	Klipfel, Arthur A., III, Neil Armstrong Air & Space Museum, Wapakoneta, O., Oct.	5	Peters and Martinsons, Inc., Wisc. Farm Bureau Bldg., Madison, Wisc., June	6
Brenner-Danforth-Rockwell, Glessner House restoration and renovation, Chicago, Ill., Nov.	34	Harrison & Abramovitz, Albany, N.Y. Mall, May	7	Kurokawa, Kisho, Prefab capsule apts., Japan, May	6	Prentice & Chan, Ohlhausen, New Admin. Bldg., Middletown State Hosp., Middletown, N.Y., Nov.	64
Breuer, Marcel, "A Client and His Architect," by Rufus Stillman, Sr. VP of Torin Corp., Mar.	46	Harrison & Abramovitz, Audrey Bruce Currier House, Radcliffe College, Cambridge, Mass., June	52	Liberman, David with Barber & McMurry, Inc., Regency Hyatt Hotel, Knoxville, Ky., July/Aug.	8	Pym, Francis & Chief Archs. Branch of the Works Div. of the Min. of Finance for the Gov't of Northern Ireland, Ulster Museum Extension, Belfast, Northern Ireland, Dec.	7
Carson, Lundin & Shaw, Seamen's Bank for Savings, N.Y.C., June	60	Hartman-Cox, Euram Bldg., Wash., D.C., May	32	Loeb, Schlossman, Bennett & Dart, St. Procopius Abbey, Lisle, Ill., Dec.	40	Renton Howard Wood Assocs., New Sheffield Theater Trust, England, Sept.	6
Carter & Woodruff, New Bank, Manchester, N.H., May	6	Hartman-Cox 1972 Bricklayers, Masons & Plasterers Int'l Union, Louis Sullivan Award for Architecture, Oct.	6	Logan, William (of Neil Noll, Mike Lee Assocs.) Vacation house, Monterey Bay, Cal., May	6	Rhones & Iredale, Westcoast Bldg., Vancouver, B.C., Can., May	36
Caudill, Rowlett & Scott, with Durrant, Deininger, Dommer, Kramer, Gordon, Assoc. Archs., Sauk Valley College, Dixon, Ill., Apr.	40			Mahony & Zvosec/Kenneth DeMay, Admin. Bldg., Ramapo College, N.J., Dec.	6	Richardson Assocs., Seattle-Tacoma Int'l Airport Parking Terminal, Seattle, Wash., Nov.	5
Copelin & Lee, Golf club, Hilton Head Island, N.C., Jan./Feb.	9			Martin, Sir Leslie, with Patrick Hodgkinson, Brunswick Centre, London, England, May	7	Roehl, Wm. Hamilton, book stalls, Central Pk., N.Y., July/Aug.	6
Dattner, Richard, Residence, Amagansett, N.Y., Oct.	61			Mayers & Schiff, The Acorn School, N.Y.C., Nov.	56	Rudolph, Paul, Oriental Masonic Gardens, New Haven, Conn., June	48
Davis, Cochran, Miller, Baerman,				Meier, Richard & Assocs., Pound Ridge House; Bronx State Schol for Retarded; industrial bldg. prototypes, Mar.	30	Rudolph, Wm., Leonides Guadurama & Melvin Grossman, Princess Hotel, Acapulco, Mex., Mar.	7
				Mitchell/Giurgola Assocs., New Academic Wing, The Univ. Mu-		Samuelson, Sten, Frigoscandia AB Hdqtrs., Helsingborg, Sweden, Sept.	8

- Saulnier, Jules, Menier Chocolate Mill (1877), Noisiel-sur-Marne, France, May 20
- Schnebli, Anselevicius, Montgomery, Seeley G. Mudd Law Bldg. and Soc. Sci. Bldg., Washington Univ., St. Louis, Mo., June 54
- Simounet, Roland, City Univ. dormitory, Tananarive, Madagascar, July/Aug. 8
- Siqueiros, Cultural Polyforum, Mexico City, Mex., Sept. 8
- Skidmore, Owings & Merrill (Chicago) with Wilson, Morris, Crain & Anderson, One Shell Plaza, Houston, Tex., Apr. 26
- Skidmore, Owings & Merrill (New York), Uris Hall, Cornell Univ., Ithaca, N.Y., Dec. 6
- Skidmore, Owings & Merrill (S.F.), Weyerhaeuser Hdqtrs., Tacoma, Wash., Mar. 20
- Skidmore, Owings & Merrill (Chicago), Winnebago Children's Home, Neillsville, Wisc., June. 62
- Smith, Barker, Hanssen, Corte Madera Library, Corte Madera, Cal., May 58
- Smith, Barker, Hanssen, York School Library, Monterey, Cal., Apr. 7
- Sprague, Chester, of Pacheco & Graham, Navajo School, Rough Rock, Ariz., Sept. 54
- Stahl Assocs., Vendome Hotel restoration and renovation, Boston, Mass., Sept. 30
- Steele, Philip & Assocs., Chester Cty. Fed. Savings & Loan Assn., Oxford, Pa., June 6
- TAG—The Architectural Group, Lincoln Hts. Community Facilities Bldg., Cincinnati, O., Oct. . 6
- Tabler, Wm. B., Archs., Houston Airport Host Int'l Hotel, Houston, Tex., Jan./Feb. 6
- Taillibert, Roger, "Pool Parti," Paris, France, Oct. 50
- Thompson, Ventulett & Stainback, Inc., Arena, Atlanta, Ga., Mar. Up, Kim Chung, Chejoo Nat'l Univ., Korea, July/Aug. 8
- Venturi, Robert and Denise Scott Brown, decorated shed theory, Apr. 60
- Vignelli, Lella and Massimo, Knoll Int'l exhibit, Musee des Arts Decoratifs, The Louvre, Paris, France, Mar. 5
- Walt Disney Enterprises, Walt Disney World, Orlando, Fla., June 24
- Ward, Jasper, St. Charles Borromeo Catholic Church, Louisville, Ky., Mar. 7
- Ward, Robertson, Jr., Dickinson Sci. Bldg. & Tishman Lecture Hall, Bennington College, Bennington, Vt., Apr. 46
- Warnecke, John Carl, N.Y. Tel. Co. switching ctr., N.Y.C., Apr. Wiens, Clifford, Catholic Chapel, Saskatchewan, Can., Sept. 8
- Wilke, Heinz, Dusseldorf Fair, Germany, Apr. 5
- Williams & Tazewell, SCOPE, Norfolk, Va., July/Aug. 6
- Wilson, Morris, Crain & Anderson, with Skidmore, Owings & Merrill (Chi.), One Shell Plaza, Houston, Tex., Apr. 26
- Wittenberg, Delony & Davidson, Citizens Bank (renovation), Marshall, Ark., Apr. 7
- Wright, Frank Lloyd, "Rethinking Wright," June 42
- Wurman, Richard Saul, the environment as a place for learning, May 40
- ARTS AND ARTISTS**
- Baird, Ron, Atmospheric Environment Svce., Toronto, Can., Jan./Feb. 9
- Da Vinci, Leonardo, Palace at Romorantin, France, Nov. 62
- Dzamonja, Dusko, Yugoslav Nat'l Liberation Army Memorial, Barletta, Italy, June 5
- Knoll Int'l Exhibit, Musee des Arts Decoratifs, The Louvre, Paris, France, Mar. 5
- Le Corbusier, "Legacy in Limbo," Dec. 20
- Perry, Charles, His sculpture and the uses of solid geometry, Apr. 56
- Siqueiros, Alfaro, Cultural Polyforum, Mexico City, Mex., Sept. 8
- Szekely, Pierre, Resort on the sea, Brittany, France, May 5
- Szekeley, Pierre, Carmelite Chapel, Valenciennes, France, Jan./Feb. 6
- BOOKS**
- American Building 2: The Environmental Forces that Shape It, by James M. Fitch, rev. by Ralph Knowles, July/Aug. 12
- Architectural Index for 1971, edited and published by Ervin J. Bell, Jan./Feb. 12
- Architectura Navalis Mercatoria, by Fredrik Henrik, rev. by Carl Koch, Sept. 12
- Autokind vs. Mankind, by Kenneth R. Schneider, rev. by Robert C. Weinberg, June 8
- CPM in Construction Management, by James J. O'Brien, A technology article by James Baker, based on this book, Apr. 66
- Defending the Environment: A Strategy for Citizen Action, by Joseph L. Sax, rev. by Michael Frome, June 8
- A God Within, by Rene Dubos, rev. by Fran P. Hosken, Nov. . 20
- The Ideal Communist City, by Alexei Gutnov, A. Baburov, G. Djumenton, S. Kharitonova, I. Lezava, S. Sadovskij of Moscow Univ., trans. by R.N. Watkins, rev. by Kenneth Frampton, Mar. 13
- Inside the Third Reich, by Albert Speer, rev. by Willo von Moltke, May 8
- Lived-in Architecture: Le Corbusier's Pessac Revisited, by Philippe Boudon, rev. by Stuart E. Cohen, Sept. 14
- New Towns Research Seminar, Volume I: New Community Development: Planning Process Implementation and Social Concerns, Center for Urban and Regional Studies at Univ. of N. C., rev. by Albert Mayer, Oct. 17
- Planning Cities, by Frederic H. Bair, Jr., rev. by H.H. Waechter, Sept. 12
- The Prairie School: Frank Lloyd Wright and his Midwest Contemporaries, by H. Allen Brooks, rev. by Wilbert R. Hasbrouck, Dec. 12
- A Proposal to Change the Structure of City Planning: Case Study of New York City, by Beverly Moss Spatt, rev. by David K. Shieler, Mar. 15
- Symbol Sourcebook: An Authoritative Guide to Int'l Graphic Symbols, by Henry Dreyfuss, Apr. 10
- Walter Gropius and the Creation of the Bauhaus in Weimar, by Marcel Franciscano, rev. by Ise Gropius, Jan./Feb. 16
- ARCHITECTURAL DESIGN THEORY**
- "The Case for the Big Duck," Discussion by James Wines of the Venturi "Decorated Shed" theory, Apr. 60
- "An Urban Planet?" reprint from An Urban Planet?, by Barbara Ward, Dec. 30
- "Theory in Practice," the dual values of practitioner and teacher (illus. of college bldgs. by author), by Robert L. Geddes and Wm. LaRiche, Sept. 34
- "Theory in Practice, Part 2" (concentration on Dining Hall, Commons and Academic Bldg. of Inst. for Advanced Study, Princeton, N.J.), by Robert Geddes, with intro by Carl Kaysen and critique by Kenneth Frampton, Oct. 52
- ARCHITECTURAL HISTORY**
- Menier Chocolate Mill, Noisiel-sur-Marne, France, Jules Saulnier, by Cervin Robinson, May 20
- Palace at Romorantin, France, Leonardo Da Vinci, "Leonardo's Last Design," Nov. 62
- AWARDS**
- Bricklayers, Masons & Plasterers Int'l Union, Louis Sullivan Award for Arch., Hartman-Cox of Wash., D.C., for Mt. Vernon College in Wash., D.C.; dormitory and chapel, Oct. 6
- New Jersey AIA Award 1972, Mahony & Zvosec/Kenneth DeMay, for Admin. Bldg., Ramapo College, N.J., Dec. 6
- Prestressed Concrete Institute Award 1972, Flynn, Dalton, Van Dijk & Partners, for Cleveland Clinic Fdn. Parking Garage, Cleveland, O., Dec. . 5
- Prestressed Concrete Institute Awards Program**, Ronald E. Murphy & John Andrews, for D.B. Weldon Library of U. of Western Ont., London, Canada, Nov. 6
- 1972 Royal Institute of British Architects Award**, John Bancroft for Dept. of Arch. & Civic Design for Inner London Education Authority, for Pimlico School, London, England, Dec. 6
- 1972 Royal Institute of British Architects Award**, Francis Pym & Chief Archs. Branch of Works Div. of Min. of Finance for Gov't of N. Ireland, for Ulster Museum Extension, Belfast, N. Ireland, Dec. 7
- Seeley G. Mudd Law Building and Social Science Building**, Wash. Univ., St. Louis, Mo., Schnebli, Anselevicius, Montgomery, June 54
- BUSINESS AND FINANCE**
- "How to Have Your Cake and Eat It Too," A new tax proposal that helps the cities yet costs the local taxpayers virtually nothing, by Peter Marcuse, Mar. 28
- "Preservation of Urban Landmarks," The Chicago Plan: a proposal for safeguarding the architectural heritage of American cities, by John J. Costonis, Mar. 38
- "Women in Architecture," Sept. 46
- COMMERCIAL BUILDINGS**
- Arthur Court Gallery Entrance Park, S.F., Cal., Onarato/Panko/Sinclair, Oct. 5
- Book Stalls, Central Pk., N.Y.C., Wm. H. Roehl, July/Aug. 6
- The Galleria, City Post Oak Urban Ctr., Houston, Texas, Hellmuth, Obata, & Kassabaum with Neuhaus and Taylor, Apr. 30
- CULTURAL**
- Cultural Polyforum, Mexico City, Alfaro Siqueiros, Sept. 8
- Inner Harbor Project I, Baltimore, Md., Louis I. Kahn, July/Aug. 78
- Kimbell Art Museum, Ft. Worth, Tex., Louis I. Kahn, July/Aug. 56
- National Air and Space Museum of the Smithsonian Institution, Wash., D.C., Hellmuth, Obata, & Kassabaum, Dec. 14
- Neil Armstrong Air & Space Museum, Wapakoneta, O., Arthur A. Klipfel, III, Oct. 5
- New Academic Wing, University Museum, U. of Pa., Phila., Pa., Mitchell/Giurgola Assocs., Mar. 40
- New Sheffield Theater Trust Ltd., England, Renton Howard Wood Assocs., Sept. 6

MEDICAL BUILDINGS

- Middletown State Hosp.-New Admin. Bldg., Middletown, N.Y., Prentice & Chan, Ohlhausen, Nov. 64
- Winnebago Children's Home, Neillsville, Wisc., Skidmore, Owings & Merrill (Chi.), June .. 62

MEMORIALS

- Yugoslav Nat'l Liberation Army Memorial, Barletta, Italy, Dusko Dzamonja, June 5

OFFICES

- Airport Business Center, Newport Beach, Cal., Craig Ellwood, May 54
- Albany Mall (office complex), Albany, N.Y., Harrison & Abramovitz, May 7
- Barrett, Daffin, Figg Hdqtrs., Tallahassee, Fla., Barrett, Daffin, Figg, Jan./Feb. 9
- Chester City, Fed. Savings & Loan Assn., Oxford, Pa., Philip Steele and Assoc., June 6
- Citizens Bank (renovation), Marshall, Ark., Wittenberg, Delony & Davidson, Apr. 7
- Communist Party Hdqtrs., Paris, France, Oscar Niemeyer, Sept. 5
- Equitable Life Assurance Soc., St. Louis, Mo., Hellmuth, Obata, Kassabaum, Apr. 7
- Euram Bldg., Wash., D.C., Hartman-Cox, May 32
- The Everett Fed. Savings & Loan Assn.'s Silver Lake Branch, Everett, Wash., Bindon & Wright, Dec. 7
- Financial Program Building, Denver, Colo., Muchow Assocs., Sept. 8
- Frigoscandia Hdqtrs., Helsingborg, Sweden, Sten Samuelson, Sept. 8
- Kansas City Office Building, Kansas City, Mo., Louis I. Kahn, July/Aug. 74
- Mercedes Benz Hdqtrs. for N.A., Montvale, N.J., The Grad Partnership, Nov. 6
- Middletown State Hosp., Admin. Bldg., Middletown, N.Y., Prentice & Chan, Ohlhausen, Nov. 64
- Nat'l Assn. of Homebuilders Hdqtrs., Wash., D.C., The Kling Partnership, Nov. 16
- New Bank of New Hampshire, Manchester, N.H., Carter & Woodruff, May 6
- N.Y. Tel. Co. Switching Ctr., N.Y.C., John Carl Warnecke, Apr. 7
- One Shell Plaza, Houston, Tex., Skidmore, Owings & Merrill (Chi.), with Wilson, Morris, Crain, and Anderson, Apr. 26
- Philadelphia Electric Co. Hdqtrs., Phila., Pa., Harbeson, Hough, Livingston & Larson, Mar. 6
- Seamen's Bank for Savings, N.Y.C., Carson, Lundin & Shaw, June 60
- Torin Corp. Bldgs., Marcel Breuer, Mar. 46
- Westcoast Building, Vancouver,

- B.C., Can., Rhone & Iredale, May 36
- Weyerhaeuser Hdqtrs., Tacoma, Wash., Skidmore, Owings & Merrill, Mar. 20
- Wisconsin Farm Bureau Bldg., Madison, Wisc., Peters & Martinsons, Inc., June 6

PARKING

- Cleveland Clinic Fdn. Parking Garage, Cleveland, O., Flynn, Dalton, Van Dijk & Partners, Dec. 5
- Seattle-Tacoma Int'l Airport Parking Garage, Seattle, Wash., The Richardson Assocs., Nov. 5

PLANNING

- Albany Mall, Albany, N.Y., Harrison & Abramovitz, May 7
- Brunswick Centre, London, England, Patrick Hodgkinson, with Sir Leslie Martin, May 7
- "Future Shock Absorber," John Naisbitt's service to detect trends by media compilation, Dec. 46
- Houston, Texas, "Supercity" (includes Galleria by HOK; One Shell Plaza by SOM; Pereira plan; others), Apr. 24
- Inner Harbor Project 1, Balto., Md., Louis I. Kahn, July/Aug. . 78
- Lincoln Heights Community Facilities Bldg., Cincinnati, O., The Architectural Group ("TAG"), Oct. 6
- Midtown Plaza, Saskatoon, Can., Gordon R. Arnott & Assocs., Apr. 5
- Philadelphia Bicentennial, Proposal for Phila., Louis I. Kahn, July/Aug. 84
- Pilot Center, Cincinnati, O., Evans Woolen, May 46
- Planning projects, R. Buckminster Fuller: Japanese Tower (with Shoji Sadao, Geometrics, and Simpson, Gumbertz & Heger); Harlem Project for Esquire Magazine; E. St. Louis project (with Wash. Univ. and Howard Univ.); Toronto's Spadina proposal (Fuller & Sadao); Tetrahedral City, Japan (Fuller & Sadao); Triton City (Fuller; Geometrics; Sadao), Jan./Feb. 88
- Prague, Czechoslovakia, Fran P. Hosken, author: "Prague Letter," Dec. 56
- "Rethinking Wright," by Jonathan Barnett on rediscovering Frank Lloyd Wright's views on society and cities, June 42
- Trent Place, Trenton, N.J., Geddes, Brecher, Qualls, Cunningham, Apr. 18
- Walt Disney World (and Lake Buena Vista), Orlando, Fla., June 24

PRESERVATION

- The Chicago Stock Exchange,

- Chicago, Ill., Louis Sullivan, Nov. 28
- Glessner House restoration and renovation, Chicago, Ill., Brenner-Danforth-Rockwell, Nov. . 34
- Old City Hall, Boston, Mass., Anderson, Nottter Assocs., Sept. 26
- "Preservation of Urban Landmarks," The Chicago Plan: a proposal for safeguarding the architectural heritage of American cities, by John J. Costonis, Mar. 38
- Vendome Hotel restoration and renovation, Boston, Mass., Stahl Assocs., Sept. 30

RECREATION

- Albie Booth Memorial Boys Club, New Haven, Conn., Davis, Cochran, Miller, Baerman, Noyes, Mar. 5
- Arena, Atlanta, Ga., Thompson, Ventulett & Stainback, Inc., Mar. 7
- Arthur Court Gallery Entrance Pk., S.F., Cal., Onarato/Panko/Sinclair, Oct. 5
- Dallas Cowboys Stadium, Tex., A. Warren Morey & Assocs., Apr. 6
- Disney World Hotel, Orlando, Fla., Welton Beckett & Assocs., Jan./Feb. 5
- Dusseldorf Fair, Germany, Heinz Wilke, Apr. 5
- Golf club, Hilton Head Island, N.C., Copelin & Lee, Jan./Feb. 9
- "Olympiastadion," Munich, Germany, Gunther Behnisch, Oct. 26
- "Landscapes for Urban Play," by Nanine Clay, Oct. 34
- "Pool Parti," Paris, France, Roger Taillibert, Oct. 50
- Resort on the seacoast, Brittany, France, Henri Mouette and Jean-Francois L'Ollivier, with Pierre Szekely, May 5
- SCOPE, Norfolk, Va., Williams & Tazewell Partnership, July/Aug. 6
- Tourist Ctr. for St. Petersburg, Fla., Harvard & Jolly, Oct. 8
- Vacation Community Hotel nr. Bayonne, France, Aquitaine Architectes Associes, Apr. 6
- Walt Disney World, Orlando, Fla., June 24
- World of Birds, Bronx Zoo, N.Y., Morris Ketchum Jr. & Assocs., Sept. 62

RELIGIOUS BUILDINGS

- Carmelite Chapel, Valenciennes, France, Claude Guislain, with Pierre Szekely, Jan./Feb. 6
- Catholic Chapel, Saskatchewan, Can., Clifford Wiens, Sept. 8
- Church of the Benedictine Monastery, Las Condes, Chile, Brothers Gabriel and Martin, Nov. 7
- Church of the Covenant, Cleveland, O., Richard Fleischman & Assocs., Sept. 6
- Hurva Synagogue, Jerusalem, Israel, Louis I. Kahn, July/Aug. . 68

- Our Savior Lutheran Church, Louisville, Ky., Design Environment Group Archs., Mar. . 6
- St. Charles Borromeo Catholic Church, Louisville, Ky., Jasper Ward, Mar. 7
- St. Procopius Abbey, Lisle, Ill., Loebli, Schlossman, Bennett & Dart, Dec. 40

REMODELING

- Glessner House Restoration and Renovation, Chicago, Ill., Brenner-Danforth-Rockwell, Nov. . 34
- West 80th St. Community Child Day Care Ctr., N.Y., Kaminsky & Shiffer, Jan./Feb. 6

RESEARCH LAB

- Atmospheric Environment Svce. Hdqtrs., Toronto, Can., Boignon & Heinonen, with Ron Baird, Jan./Feb. 9
- Research tower for Philip Morris, Inc., Richmond, Va., Ulrich Franzen & Assocs., Sept. 6
- Salk Institute, La Jolla, Cal., Louis I. Kahn, July/Aug. 85

TECHNOLOGY

- "Aerodynamics: New Design Criteria," by Walter G. Hoydysh, Sept. 58
- Airport Business Center, Newport Beach, Cal., Craig Ellwood, May 54
- "Highrise Fires Alarm the Building Industry," Mar. 52
- "Olympiastadion," Munich, Germany, Gunther Behnisch, Oct. 26
- Oriental Masonic Gardens, New Haven, Conn., Paul Rudolph, June 48
- "Pool Parti," Paris, France, Roger Taillibert, Oct. 50
- R. Buckminster Fuller, "The World of Buckminster Fuller," Jan./Feb. 49
- "Re-examination of critical path techniques," by James Baker, based on James J. O'Brien's book, CPM in Construction Management, Apr. 66
- Walt Disney World, Orlando, Fla., June 24

TRANSPORTATION

- Dallas/Ft. Worth Regional Airport, Texas, Hellmuth, Obata & Kassabaum, Inc./Brodsky, Hopf & Adler, with Preston M. Geren, Jr.; Harrell & Hamilton, May . 24
- Dulles Airport Expansion Proposal, Wash., D.C., Hellmuth, Obata & Kassabaum, May . 24
- Kansas City International Airport, Kansas City, Mo., Kivett & Myers, May 24
- "People Movers," Dusseldorf Fair, Germany, Heinz Wilke, Apr. . 5
- Seattle-Tacoma Int'l Airport Parking Garage, Seattle, Wash., The Richardson Assocs., Nov. 5
- Walt Disney World, Orlando, Fla., June 24

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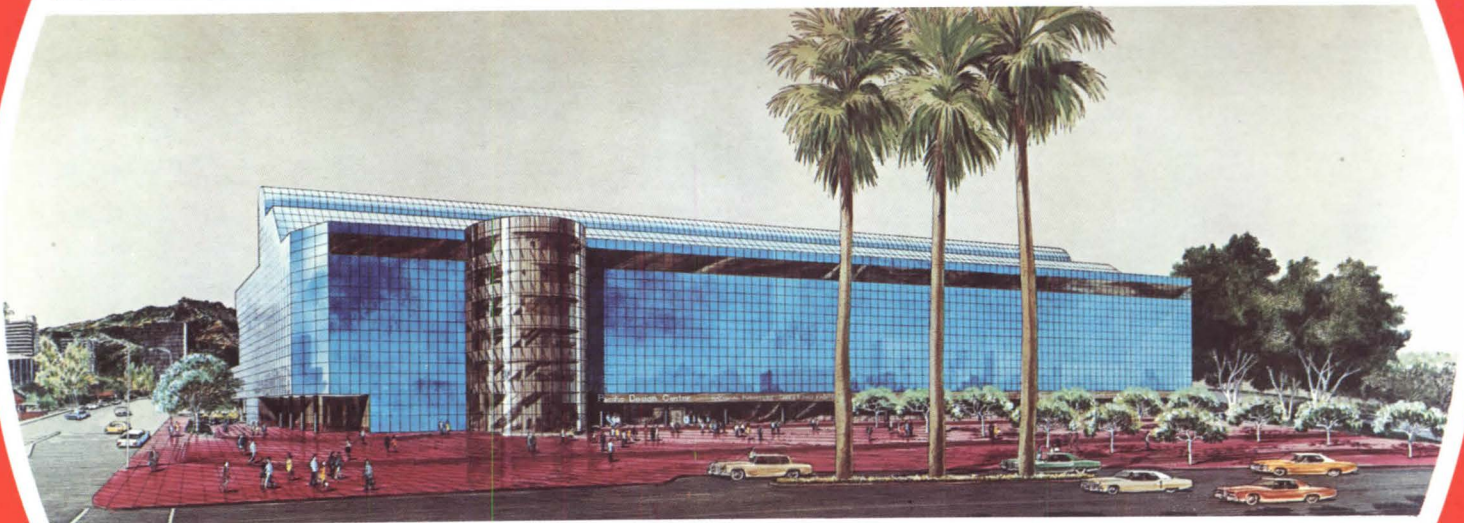
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