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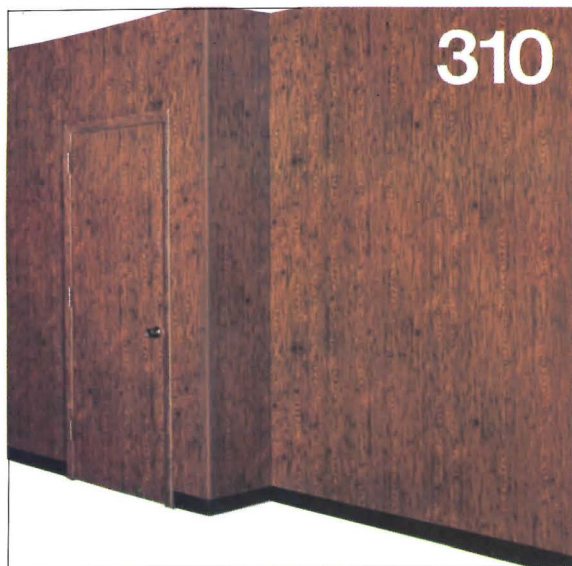
Wilsonwall System 610 Specifications

Panels:
thickness: nominal 7/16"
surfacing: 1/32" Wilson Art fire retardant laminate (LD1-1971), Velvet finish, all Wilson Art woodgrains and solid colors
core: 3/8" mineral composition
back: .020" fire retardant backing sheet
sizes: 47½" x 96" and 47½" x 120" (other sizes quoted on request)
moldings: extruded aluminum (hidden base moldings, mill finish; face moldings, acrylic coated, standard in Lt. Bronze, Dk. Bronze, Brown and Black)



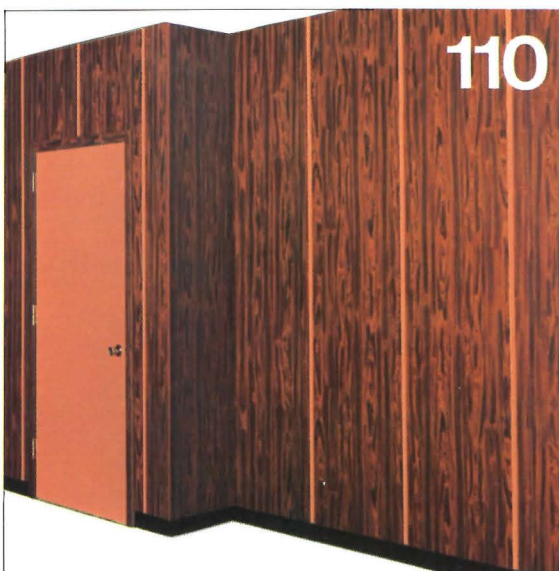
Wilsonwall System 310 Specifications

Panels:
thickness: nominal 7/16"
surfacing: 1/32" Wilson Art laminate (LD1-1971), Velvet finish, all Wilson Art woodgrains and solid colors
core: 3/8" particleboard (CS-236-66)
back: .020" backing sheet
sizes: 48" widths; 96" and 120" lengths (other sizes quoted on request)
moldings: extruded aluminum, mill finish
 NOTE: Upon request, panels meeting Class I or Class II fire hazard classification depending upon specific code requirements.



Wilsonwall System 110 Specifications

Panels: **thickness:** nominal 7/16" **surfacing:** 1/32" Wilson Art laminate (LD1-1971), Velvet finish, all Wilson Art woodgrains and solid colors
core: 3/8" particleboard (CS-236-66)



back: .020" backing sheet
sizes: 15½" and 24" widths; 96" and 120" lengths (other sizes quoted on request)
reveal strips: 1/16" thick Wilson Art laminate; 1/2", 3/4" and 1" widths; 96" and 120" lengths
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Wilsonwall System 210 Specifications

Panels:
thickness: nominal 7/16"
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core: 3/8" particleboard (CS-236-66)
back: .020" backing sheet
sizes: 15½" and 24" widths; 96" and 120" lengths (other sizes quoted on request)
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The Farm Bureau Build-

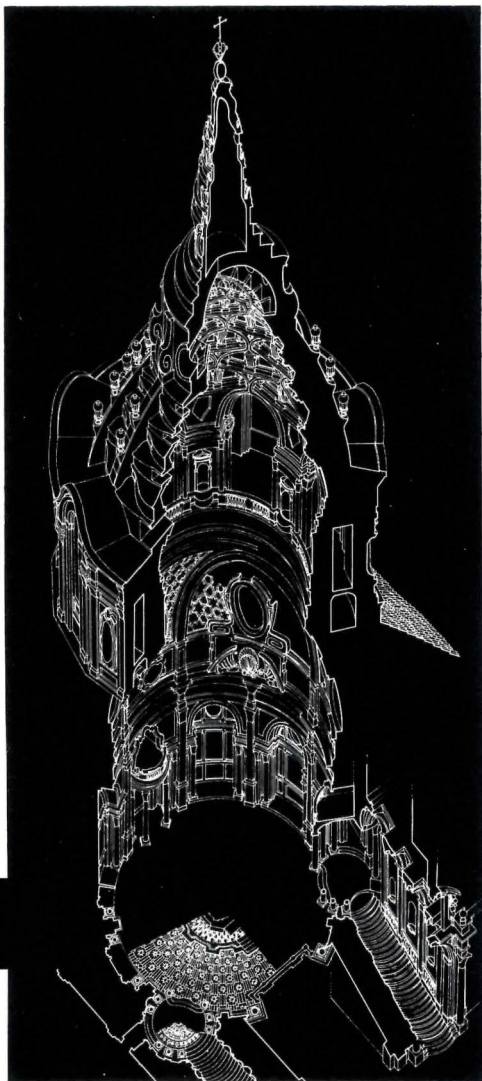
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Baroque Architecture by Christian Norberg-Schulz. Published by Harry N. Abrams, Inc., New York, 1972. 407 pp., 395 illustrations. \$28.50.

Reviewed by Harry Seidler

This beautifully illustrated book goes far beyond being a glossy ornament for the coffee tables of the fashionable. It can serve that purpose admirably, but, contrary to most such books, it does not rely solely on its visual impact. It is penetratingly written, with text and pictures jointly creating a vivid, fascinating portrayal of a great era.

Pier Luigi Nervi, general editor of the series of which this book is a part, tells us in his preface

Harry Seidler, one of whose passions is the Baroque, is the principal partner of the Australian architecture and planning firm of Harry Seidler and Associates. His Trade Group office building in Canberra was shown in the first issue of Plus.

to look deeper than the surface stylisms of the past and to search for the hidden bond between appearance and substance that underlies the Baroque. If we did, he suggests, the shallowness of our own time, causing the "disastrous haste with which our architecture is rushing toward an empty, costly and at times impractical formalism," would become painfully obvious.

The Baroque period was an exuberantly creative time in western culture, full of new freedom of choice and expanded sensibilities after the absolute system of the Middle Ages had disintegrated during the Renaissance. In its town planning, the seventeenth century was one of expansiveness and visions of great public spaces which make the efforts of our time seem puny and self-righteously pretentious—not to say plain dull.

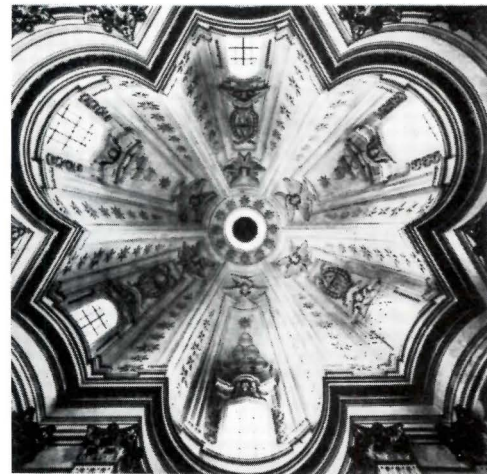
The grandeur of the time is shown in pictures and in painstakingly detailed, yet surprisingly readable, text. The printing quality of the illustrations gives them the appropriate character of engravings, but their success is due to that superbly sensitive eye behind the camera. Samples of the best: fish-eye views looking down through the cupola of Borromini's S. Carlo, the same in multiple exposures looking up at its dome, and the reverse curves of S. Ivo's dome seen from some unlikely, progressively rotated positions, frozen in space. These are great images, not destined (as in so many historical picture books) just for passive enjoyment, but compelling an actively involved absorption which makes any designer feel that "this concerns me today." The book is a powerful reminder of the barrenness of our age, our "crutches," our tasteless excesses catering to the whims of visually illiterate commercial patrons.

Borromini had problems of this kind, too, but in the few buildings illustrated, he settled for nothing less than poetry. His structural innovations are matched only by the positively breathtaking consequentiality and subtlety of his geometry. Whoever said that modern architecture invented space!

And talk about the jobs that didn't go ahead—there are scores of never-before-published sketch designs by Guarini which are highlights of the book, as are also the axonometric drawings, and the simplified diagrams reducing plans to their visual essentials.

If one could level any criticism at this book, it would be the fact that text and illustrations are out of phase and don't relate in sequence. Although this tends to confuse, it does compel one not only to read captions but also to get drawn deeply into the text at every inquiring glance into the book.

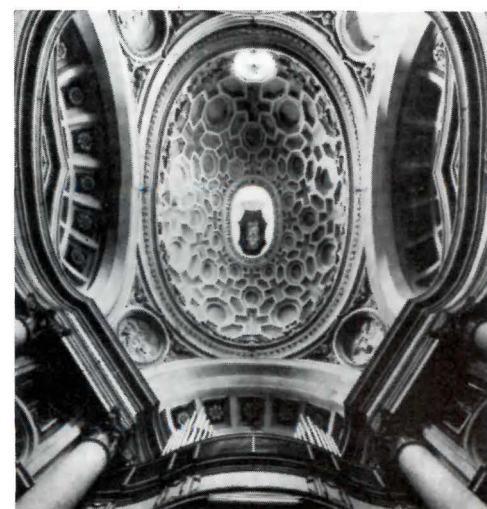
Even if one has visited many of the buildings illustrated, this book brings them alive in a very special, visually interpretative and comparative way. Finally, one is left with the wish to go back to explore and see more—endlessly more.



Above, S. Ivo alla Sapienza, Rome
Left, Cathedral, Turin



Above, Palazzo di Propaganda Fide, Rome
Below, S. Carlo alle Quattro Fontane, Rome



Bucky, a Guided Tour of Buckminster Fuller by Hugh Kenner. Published by William Morrow and Company, Inc., New York. 1973. 338 pages. Illustrated. \$7.95.

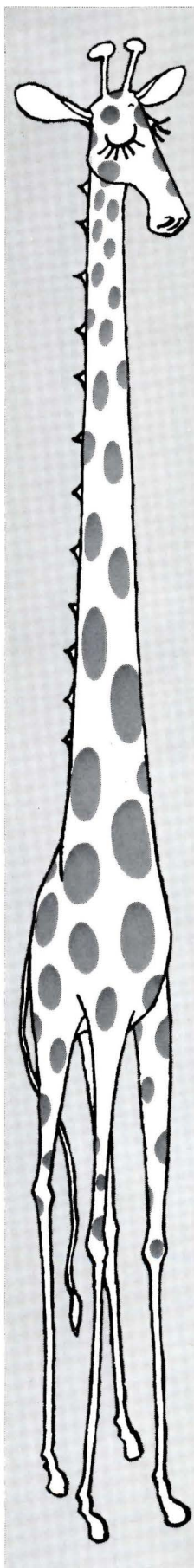
Reviewed by Francis Mason

Buckminster Fuller has so fine a mind that no guided tour can violate it. This particular tour by Hugh Kenner, a master guide to other poets, is of inspirational use to the curious and uninitiated, and of real use to those who won't make any kind of effort to approach this or any other poet. "Read it? On *paper*?! Are you kidding?" Kenner fills the gap. What would a newcomer do in a bookshop, confronted with ten Fuller paperbacks, wanting to know where to start?

Kenner does not, alas, answer that question; he poses others he does answer, and with personal conviction and illumination. Like the rest of us who have been held in thrall by Fuller speaking, he wants at once to share. Who has heard Fuller speaking and not regretted that the rest of the world was not there? Kenner alludes to the Columbia mathematics professor who said after a Fuller lecture, "My only regret is that Euclid and Pythagoras could not have been here." My only regret is that in his commendable effort to convey the Fuller character and to clarify, Kenner resorts to an arch, quasi-technological mateyness that sets the teeth on edge ("Have we spot-welded about ourselves a world we can't think about? Must you just let it hit you?"). One of the magnificent things about Fuller in the spoken word is that he doesn't talk chummy down-to-earth but directly *out*, toward a responsibility to the universe, and himself. He is so good in person that film and television can't catch him, though they don't try often enough. No wonder, then, that Kenner is not his Plato; more like what Stokowski was to Bach, when much of Bach was inaccessible in performance. Fuller *is* accessible, thank God. My fifteen-year-old son, after ten pages, said, "What's the use of all this when you can *hear Mr. Fuller*?"

But Fuller is nevertheless a mystery to many, and Kenner guides us through lively exegeses on the leitmotifs of the lectures and the books, leaving full biography aside. He clearly enjoys sharing all he has learned about synergy, the *pi* problem, the Tensegrity sphere, the Dymaxion house and the domes. There is a splendid section on model-making and, toward the end, a vigorous dialogue, far the best part of the book, between an acknowledged, baiting skeptic and a non-cultist Fullerian. Kenner's passing the word on Fuller at Watergate time causes this reader to wonder what would happen if we all had a chance to listen with the same care and for the same length of time to the Master himself.

Francis Mason, Assistant to the President of Steuben Glass, is Chairman of the Board of Trustees of the New York Studio School.



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O'Hare

International Tower Hotel.



Interior design: Norman de Haan, A.I.D., Norman de Haan Associates, Inc.
Architect: C. F. Murphy Associates

Only Simmons could put together a package deal like this one—from conception to installation in just 10 months.

In April of 1972, Norman de Haan Associates, Inc., were brought in by Madison Square Garden Corporation to create the interiors of the new O'Hare International Tower Hotel. When plans were finished, in an incredibly short 8 weeks, all guestroom furnishings had been custom designed.

Simmons made them all. Delivered them on time. And worked out a tight installation timetable that allowed the hotel to open in February of 1973, just 10 months from project start.

The Tower presented unusual problems that demanded unusual custom solutions. Noise level was a big one. Simmons helped to solve it with sound-absorbent draperies from Bloomcraft. Carpeting has thick padding as part of the sound-control measures. And all furnishings meet the new flammability standards.

The 981 guestrooms have five carpet colors and six alternate Bloomcraft bedspread and drapery schemes, a tricky record-keeping challenge that Simmons handled without a hitch.

The unusual shape of the building, plus the need for a given number of rooms, made each room relatively small. Headboards with attached lights from Raymor/Richards, Morgenthau that also serve as bedside tables maximize the floorspace. Beds are on easily maintained plinth bases that conserve space. And all bedding is Beautyrest by Simmons.

Thonet created the sleek guestroom case goods. The handsome chairs are by Simmons Living Room Division. Both custom-designed by Norman de Haan, A.I.D. Much of the seating in public areas is from Selig and Thonet.

The lobby is rather long and narrow with glass walls on two sides. Mr. de Haan visually stretched the area with low profile Thonet fiberglass chairs and a Simmons geometric carpet spread throughout the entire area.

In addition there are 63 conference rooms, 18 meeting/banquet rooms, a mezzanine and seven restaurants. Furnished and accessorized for the most part with Simmons products.

The entire interior installation was coordinated by Simmons. It was done in vertical thirds as each section of the hotel was completed, making warehousing, delivery and scheduling of installation operations critical.

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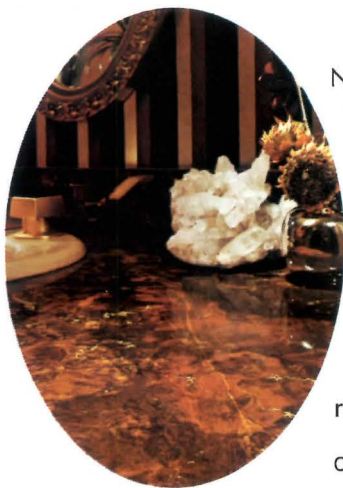


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Fire Agate, 820

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This imitation Statue of Liberty, about four ft. high from top of pedestal, is located in front of the State Capitol in Cheyenne, Wyoming. A number of them are scattered throughout Colorado and Wyoming.

The American Revolution Bicentennial Commission was established in 1966 to plan a celebration—or something worth celebrating—in 1976. Now, seven years later, it has accomplished nothing. There have been several proposals, some inspired, others insipid. Usually, these proposals were first announced with typical fanfare at some unconvincing press conference; they were then subjected to elaborate “feasibility studies” (bureaucratese for mercy killing); and then the proposals were quietly buried in some Washington, D.C., potters’ field reserved for cosmic visions snuffed out by government commissions.

We made a modest suggestion ourselves to the ARBC some time ago—i.e. that the people of the U.S. and their public servants might commit themselves simply to cleaning up the mess that is man-made America by July 4th, 1976—but the ARBC couldn’t be bothered to look into that, although some very admirable people had joined us in our proposal, and although the scheme wouldn’t have cost much in public funds, and would have involved all Americans in a very personal way. Too bad.

Last month, it was reported that a group that includes such luminaries as Bob Hope, Billy Graham, and Hobart Lewis (of the Readers Digest) was planning to build a duplicate of New York’s Statue of Liberty on the West Coast. The San Francisco Bay is the presently favored location for the new Miss Liberty, and Alcatraz Island springs compellingly to mind.

We would like to be the first publication to endorse this proposal, and we would like to suggest that Miss Liberty (West) be constructed by the sculptor Claes Oldenburg, long an admirer of her New York sister. We would also like to point out that if the sponsors of this inspired proposal should fail to raise enough cash to do the *entire* job properly, they could always ask Oldenburg to make his version top- or bottom-less—which would give the lady a certain vernacular quality, easily recognized by devotees of the city’s performing arts.—PETER BLAKE.

Java temple rescue

Unesco, whose near-miracle rescue operations have saved several of the world’s treasured monuments from oblivion—some of them virtually at zero hour—is turning now to the Temple of Borobudur on the island of Java, a sanctuary considered by archaeologists to be the most beautiful and most ancient monument in the Hemisphere.

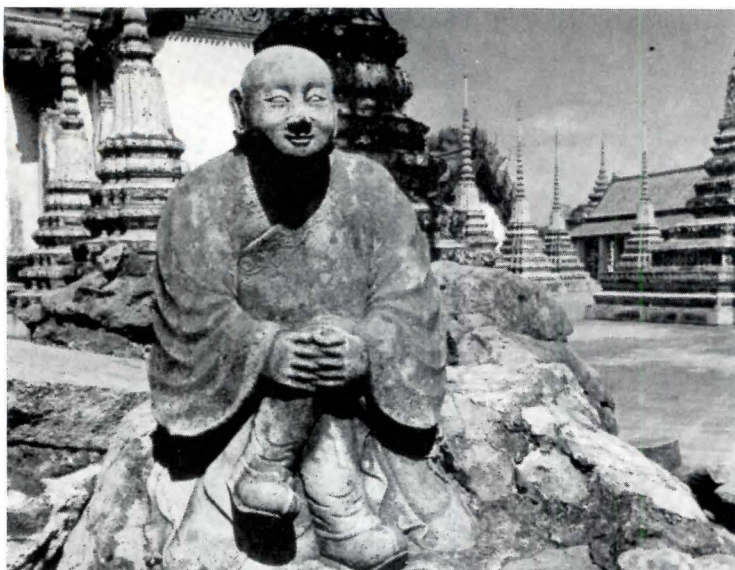
This Buddhist temple was founded by the powerful Sailendra Kings who ruled over the island empire of the Southern Seas in the 8th century. At that time it

was the world’s greatest sanctuary.

The base of the temple measures 117 meters square, rising in four terraces, each terrace identical in design but smaller than the preceding one, to form a pyramid. At the top is the *Great Stupa*, a hollow meditation chamber, its peak 40 meters from the ground.

The artists who carved the many statues in the temple also covered walls with *bas-reliefs*, tracing the life of Buddha. There are so many of these carvings (at least 1,460) that if they were stretched in a line,

Many of the news reports and comments are from our regular field editors: John Donat (London), Gilles de Bure (Paris), Detlef Schreiber (Munich), Vanna Becciani (Milan), Charles Correa (Bombay), Neil Clerehan (Melbourne), Yasuo Uesaka (Tokyo), and Leonardo Aizenberg (Buenos Aires). Plus editors are identified by their initials; all other contributors by their full names. The remainder is contributed by our New York staff.



One thousand monsoons have weakened a temple of unsurpassed beauty

they would be more than three miles long. French historian René Grousset has written, "These groups of stone frescoes are so perfect and of a compositional balance so harmonious that the art historian dreams of the doors of the Baptistery of Florence, by Ghiberti."

The temple is now crumbling and decayed, and leans over at such a tilt that no one can understand why it hasn't collapsed already. Its architecture is in a state of partial collapse. Twelve centuries of rain have infiltrated the porous stone. Bacteria, moss and lichens cover the walls.

Many statues have been removed to a museum for safekeeping during the salvage work, a project which will involve dismantling the lower terraces and balustrades of the monument, building a reinforced concrete substructure, cleaning the stones, and reassembling the balustrades and terraces. Pains-taking preliminary studies have

been done by archaeologists from the Netherlands in cooperation with the Republic of Indonesia.

A Fund for Borobudur has been set up to raise money for the restoration of this masterpiece of Hindu-Javanese art, built toward the end of the eighth century when Indian civilization dominated the whole of Southeast Asia. Agreements have been signed between René Maheu, director-general of Unesco, and several donor countries, in keeping with the international character of the operation. As part of these agreements, Unesco will attempt to raise \$5 million from Member States of the UN over a five-year period. Already pledged are \$1.5 million, from Belgium, France, Germany and Japan.

Director-General Maheu has issued an urgent plea to the Member States to "save a monument whose disappearance would impoverish all men."

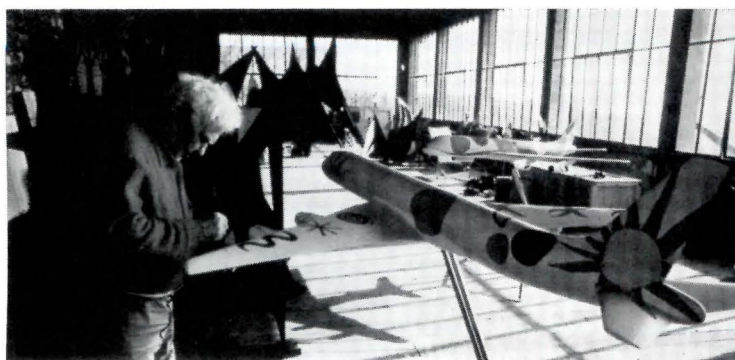
More mobile than ever

Alexander Calder, creator of the mobile, has a new field to conquer. Braniff International Airways has commissioned him to paint an entire airplane, a DC-8 jet which will fly between the United States and South America. Already at work in his Satchel, France, studio on six-foot-long models of the air-

craft, Calder will fly in October to Braniff's Dallas headquarters for the execution of his design.

Owners of buildings, please note this further proof of Braniff's enlightenment: the plane will be identified only with Calder's art work and with his signature, not with any Braniff insignia.

Alexander Calder painting giant dots on a plane



Conference opens domed campus

The first U.S. National Conference on Air Structures in Education held late in May inaugurated the new Columbia, Maryland campus of Antioch College. The campus is the first to be entirely covered by an air-supported roof. Almost 400 people interested in inflated structures visited the dome during meetings to discuss the future of this vigorously developing branch of building technology.

The virtues of such roofs—their economy and responsiveness to open planning for education—were obvious to the conferees but so was the principal drawback. Temperatures rose inside the dome during the day to levels that forced the daily sessions of the conference, sponsored by the Educational Facilities Laboratory of the Ford Foundation and the Building Research Institute of the National Research Council, to be held elsewhere. Nonetheless, the enclosed campus proved a comfortable place for evening sessions and most visitors were fascinated by the multi-level interior, 180 feet square,

which will accommodate 75 students.

But not everyone is charmed. Rurik Ekstrom, the architect of the dome which is surrounded by a substantial berm and kept inflated by a pair of 4 H.P. fans, is one of them. He was quoted in the Washington Post as saying that the original intention to use the construction process as part of the education process was forgotten in the final rush to ready the building for the conference. "A lot of what we've been doing is a fraud," he said. Faculty and students were also quoted. One said that the dome seemed to be "more a piece of art than a functional work of environmental design."

It remains to be seen, as the emotionally-involved people who built the project are replaced by those who merely use it, how well the design works as an education environment. Thorough behavioral science studies over the next three or four years will be invaluable in shaping the future direction of inflatable structures for human use.—J.D.M.



A knell for a mall

New York City's Board of Estimate last month finally killed any hope that Madison Avenue would be transformed into a pedestrian mall this fall (April issue, p. 42). Despite strong lobbying by the city's lame duck mayor, John Lindsay, the mall has been successfully opposed by the taxi industry, some political interests and by rival business groups almost from its inception. But even after a group of businessmen from New York's most prestigious shopping strip, Fifth Avenue, (adjacent to Madison), obtained a court injunction this spring against the Madison Mall, the city administration remained publicly optimistic that the plan would go through. This last action by the Board of Estimate, however, is the death knell. (The Board's opposition was led by Abraham Beame, leading mayoral candidate. One wonders if the mall's death may be an indication of the city's fortunes as well.)

The mall (designed by the city's Office of Midtown Planning and Development) would have con-

sisted of 13 blocks of Madison Avenue, from 44th to 57th Street. The immediate plan, scheduled to start in September (after several postponements), was for a three-month experiment. It would have left cross streets open, but closed the avenue to all traffic but buses and specially authorized vehicles. Amenities would have included benches, planters, special graphics and charming bus stops. Had the experiment proved successful, the midtown planners hoped to make the mall permanent.

The permanent version would have added minibuses and more extensive recreation areas and landscaping. The entire 13-block area would have been repaved, with only a single bus lane open.

Much of the opposition seemed rooted in very parochial desires to maintain the status quo for the benefit of certain industries and individuals. How sad that these interests prevailed so that broader concerns could never even be tested to see if they were valid or not.—M. V.

Dixie Kid Socko on Great White Way

Atlanta architect-entrepreneur John Portman has effected a minor revolution in hotel design by conspicuously wasting space. His first hotel, the Regency Hyatt House in Atlanta, broke with accepted formulae by providing rooms on only one side of the corridors and by wrapping the corridors around an enormous central atrium. The extravagance paid off (with occupancy consistently better than 90 percent ever since opening), and the Atlanta hotel was followed by others in Chicago and San Francisco.

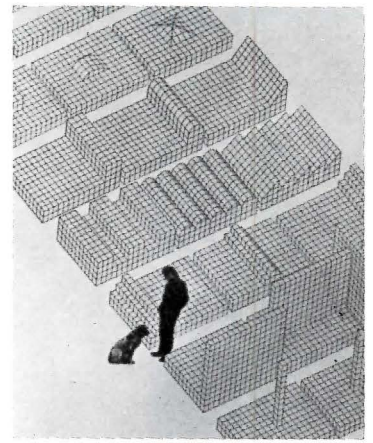
Now Portman has brought his bravado to New York, specifically on Broadway between 45th and 46th St. at naughty/nice Times Square, in the form of a 2,020-room hotel which Portman himself will own jointly with New York real estate developer Peter Sharp, and which will be operated by United Air Lines' subsidiary, Western International Hotels. The new \$150-160 million hotel will be Western's first New York adventure since its Savoy Plaza was replaced by the General Motors Building.

The proposed hotel tops Portman's earlier effects by providing two large atriums—a lower one for retail spaces and restaurants, and an upper one for the hotel. Both atriums have intriguingly shaped sections and are connected with a circular core of glass elevators. If

Portman's hotels have sometimes presented us with a surfeit of dramatic features—bars on raised platforms, bars hung from the ceiling, bars that revolve—the power of his overall conceptions has always been great enough to overcome any sense of hokum, and what would Times Square be, after all, without showmanship?

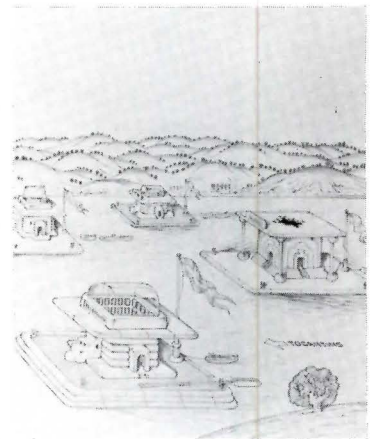
The building is designed in accordance with the Special Theater District Zoning provisions devised by Mayor Lindsay's City Planning Commission—in particular, the Office of Midtown Planning and Development—to save New York's theater district. To offset the destruction of existing theaters which new construction inevitably brings (in this case, the Helen Hayes, the Morosco, the Bijou, the Astor and the Victoria will be razed), the city rewards the building of new theaters. The hotel will include a new 400-seat movie theater and a new 1,050-seat legitimate theater; as a result, they will be allowed to build a total floor area 21.6 times the area of their site, rather than the area of 18 times the site which is standard for the district. The plans have begun their tedious rounds for approval by various city agencies, and, if all goes well, demolition will begin by the end of the year, construction in 1974.

For all its vigor and rich mix of uses, however, the hotel threatens to effect, at street level, a weakening rather than a strengthening of Times Square vitality. A revolving drum of tasteful graphics (with a bar inside) at the eighth floor level is a minimal concession to the square's tradition of flamboyant advertising; the building's legitimate theater is underground; the shopping facilities, while surprisingly abundant (200,000 sq. ft. on seven levels) are lifted an escalator ride above the street level; and a single ground-floor restaurant in the block facing Broadway will hardly be as lively as the funky jumble it is to replace—two movies, the Victoria Camera Shop, the Plaza de Athena Greek-Italian Restaurant, the Broadway Book Shop, Gaiety Music, The Spot ("souvenirs, gifts, cutlery"), Arrowsmith Shoes, and Queen's Snacks. The hotel project demonstrates some very welcome faith in the future of Times Square on the part of its developers; that faith would be more strongly evident if the design did not hedge its bets by being so introspective and by so cautiously raising itself above the street. But this is a detail which may still be altered, and, in general, the project is undeniably exciting. On the basis of the success of its out-of-town tryouts, we predict that a smash hit is coming to Broadway.—S. A.



One of a series of drawings on the theme of the "neutral surface"

Rafts for listening to chamber music or looking at the birds of Paradise



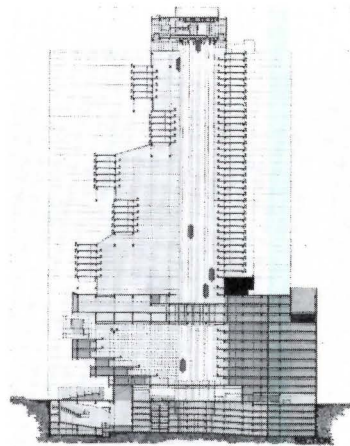
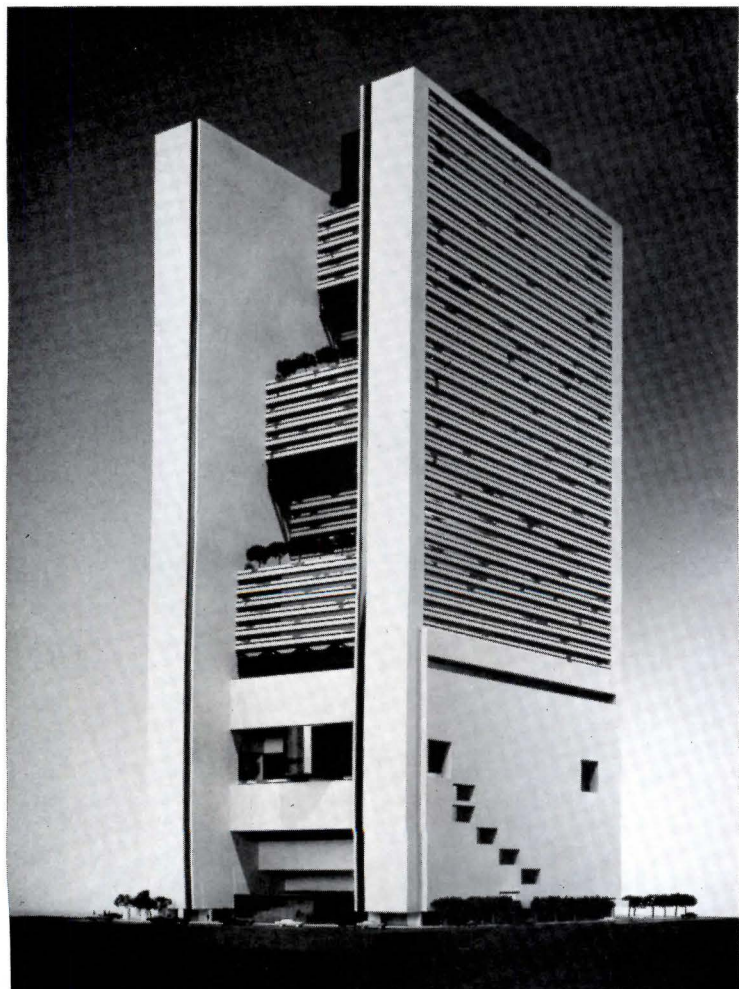
Italian spirits

Sottsass and Superstudio: Mindscapes is an exhibition of Italian conceptual architecture which will be on display at the Walker Art Center in Minneapolis from August 12 through September 23. In sixty drawings, lithographs, and photomontages, Ettore Sottsass, Jr. and Superstudio, five Florentine architects who work communally, elaborate on some of the themes they presented at the 1972 Museum of Modern Art show, *Italy: The New Domestic Landscape*, although none of this work has been previously seen in the United States.

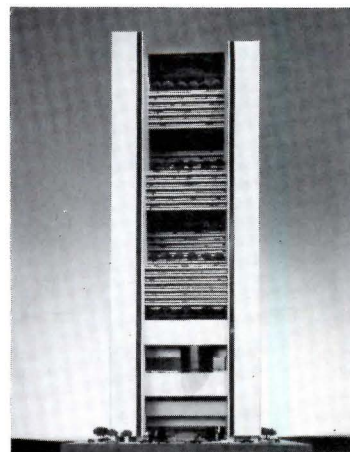
Sottsass, known especially for his Olivetti office equipment designs, has been increasingly drawn to an expression of the spiritual element of objects. His fanciful conceptions spring from that source.

Superstudio, which includes Piero Frassinelli, Alessandro and Roberto Magris, Adolfo Natalini, and Cristiano Toraldo di Francia, operates on a much more architectural basis. Their work in the show concentrates on futuristic images—parables of urban life and cities which transcend concepts of community as understood today.

The show will also be seen at museums in Cincinnati, Ohio, Syracuse and Ithaca, New York, Long Beach, California and Corpus Christi, Texas.



Section and model of the proposal for Broadway, 45th to 46th Street



Breast-baring at Aspen

Over the past 23 years, ever since a handful of interesting people like Walter Paepcke and Herbert Bayer started the International Design Conference in Aspen, it has become increasingly difficult to tell one conference from the next: the subjects were rarely memorable, the setting (which was) remained uniformly spectacular, and the speakers seemed, roughly, identical—though some were more hirsute than others. Most of the action, invariably, took place on the outer edges of the formal proceedings; and one felt, occasionally, that IDCA had quietly ceased to serve any useful function other than to offer a (tax-deductible) vacation to some 1,200 designers, architects and students and their various hangers-on.

The 23rd IDCA, held in the third week of June, differed from its predecessors in at least one respect: it was—for better or worse—eminently memorable.

The theme was "Performance," and it was staged by two brilliant directors: Milton Glaser, co-founder of Push Pin Studios and art director for *New York, Paris Match*, etc.; and social planner Jivan Tabibian, a seemingly untrustworthy individual who teaches at the California Institute of the Arts (CIA), and who has long commanded the English language with enthusiasm, bravado, and vast improvisation, to advance in directions few others would dare to pursue.

Glaser and Tabibian assembled some unusual "performers," many of them not previously encountered at Aspen Design Conferences. To wit:

- Miss Georgina Spelvin, an actress who plays the lead in the porno flick, *The Devil in Miss Jones*; she was not physically present, alas, but was presented, on film, by *New Yorker* Critic Brendan Gill, who introduced her "performance" with a witty and impassioned defense of fun and games. (The next day, the U.S. Supreme Court, having failed to rule on such minor issues as the constitutionality of undeclared war, bestirred itself mightily to condemn pornography for the evil it surely is.) Gill's (or Miss Spelvin's) "performance" was staged in sub-zero temperatures in the Aspen tent, at night, a fact which severely blunted its salacious impact.

- Antoni Miralda, the Barcelona-born, New York-based artist, who specializes in creating poisonous-looking food (died with brilliant reds, blues, yellows, and greens); he *was* physically present (although he had to be carried out, in a catatonic state, during Miss Spelvin's "performance"), and he

and about fifty helpers produced an absolutely unbelievable food festival on the last day of the conference—a joyous procession down Aspen's Main Street, of dozens of yellow stretchers, carried by dozens of bearded chefs, and filled with specially baked breads and bagels of the most sickening colors in Miralda's palette—plus screaming red and screaming green and yellow "natural" foods! The procession converged upon Aspen's Paepcke Park, where everybody ate and (occasionally) regurgitated at leisure; while the official caterer, who had innocently and freely dispensed some wine to the celebrants, was charged with violating Colorado's liquor laws by the local Chief of Police (one of whose intrepid predecessors was bitten in the leg by an irritable Berkeley student at another IDCA a couple of years back).

- Robert Rauschenberg, the New York-based artist, who assembled a dozen or more helpers in a parking lot outside the Aspen tent; Rauschenberg then set out to collect garbage from the local dumps, and proceeded to assemble same garbage, over the week's duration of the conference, into a large, three-dimensional collage—a sort of Monument to the Unknown Sanitation Man. When last seen, the MUSM was trying hard to sustain its aura of genteel decline, but disintegrating rapidly.

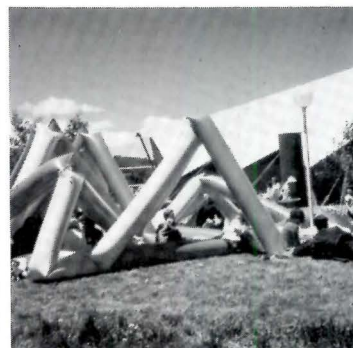
- Paul Friedberg, everybody's favorite land and city-scaper, who also assembled crews of volunteers and put them to work; Friedberg had collected quantities of cardboard tubing, paint, mylar, inflatable, and God-only-knows-what, and created, with vast energy and imagination, an instant playground in the meadows surrounding the Aspen tent—a happy place for young and old alike.

- The American Brass Quintet, a delightful band, which rehearsed throughout the week, providing a marvelous and ever-present background melody to the zany proceedings; the Quintet reached its crescendo during Miralda's food procession, when it finally imparted its tunes, perfectly, to the clear and sunny Aspen air.

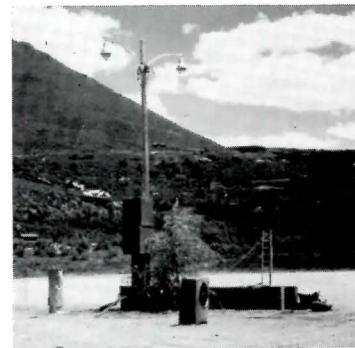
And there were many other performers, inside and out: John Simon, the theater critic for *New York* magazine, "performed," as it were, by delivering a brilliant and devastating critique of today's relationship between performers and their audiences in virtually all the arts; in a nearby auditorium, film footage dealing, almost exclusively (it sometimes seemed), with the clinical details of childbirth, was shown at appalling length and repeatedly, giving the conference some of the unsettling



Antoni Miralda designed a feast of many colors



Friedberg's landscape



Rauschenberg's collage

atmosphere of a convocation of obstetricians; elsewhere, there were public self-shrink sessions, at which prominent designers were asked by a TV-talk-show-type inquisitor to Tell The Truth about their Innermost Selves—a remarkably indelicate proposition, even in the context of a conference not distinguished by its delicacy; and there were actors, politicians, scientists, ego-trippers, and even architects—all of them performing, all of them revealing something unexpected about themselves. There was also the usual Token Black, and a couple of Token Chicks—but, for a conference that has been avowedly committed to human equality for some time

now, IDCA's "performance" in those particular areas was embarrassing.

What this year's conference demonstrated, of course, was this: it really doesn't matter what IDCA's theme is, or what happens on those audio-visualized platforms; the *raison d'être*—the only one—for this sort of conference is the interaction of a great many congenial people, temporarily lifted out of their squalid, daily environments. To the extent that Directors Glaser and Tabibian were able to lift their audience out of itself, and turn it into performers, they enriched the lives of everyone who showed up, for a brief but precious moment.—P. B.

Need a lift?

Washington, D.C. is building its first underground transportation system with slightly more than the usual and expected headaches encountered in such a vast project. The latest wrinkle is a decision by U.S. District Judge William B. Jones requiring the Metro to install elevators in all its stations, to allow people in wheelchairs to travel.

"It is up to the Metro board to find the money (\$65 million) to do

the job," Jones said. Both houses of Congress have voted to authorize the expenditure, but it is part of the Federal Highway Act now stalled by a deadlock between Senate and House.

Richard Hedding, a federal employee who uses a wheelchair (and who was one of the plaintiffs in the suit against the Metro board), hailed the decision as a "complete victory."

More is less

When you drive through the desert and up into the mountains from Scottsdale, Arizona, you have to pass a high voltage transmission line before you reach the gates to Taliesin West. That transmission line is such an eyesore that Taliesin's builder, Frank Lloyd Wright, seriously thought of abandoning his place after those high voltage wires were strung. He died before making up his mind.

Three months ago, the American Institute of Architects announced that Taliesin West was the best U.S. building of the past 25 years—a generous thought, especially since Taliesin West had been (substantially) built in the 1930s.

But while the AIA was honoring Taliesin West, the U.S. Bureau of Reclamation (reclamation of *what*, precisely?) announced that it was about to construct an earthen and stone dike, 37 ft. high,

200 ft. wide, and 13 miles long, to protect (from rain waters) the main Central Arizona Project canal which the Bureau plans to construct between the Colorado River and Phoenix. This proposed canal will cut a 300-ft.-wide swath through the mesa that surrounds Taliesin West.

So far, so bad—but you haven't heard anything yet: There will not only be that 13-mile-long dike, and that canal, but also a six-lane superhighway on the canal's right-of-way, to serve the City of Scottsdale. After which, we suspect, Taliesin West may have to be turned into a service station to supply aid and comfort to the Bureau's latest project. In any event, a Chicago entrepreneur is currently planning a 124-unit housing development at Taliesin's doorstep.

There are several ways of looking at this report, none of them particularly encouraging. Perhaps

a nation that seems determined to defile itself deserves its future. That, we think, Mr. Wright might have suggested—only in more saucy terms...

Meanwhile, up in Allentown, Pennsylvania, the local Art Museum has announced that (thanks to the devoted work of Wright's ex-apprentice, Edgar Tafel) it has been able to acquire the entire library (woodwork, paneling, and leaded glass windows) of Wright's Francis W. Little House (1912) near Minneapolis. Most of the house has been transferred to Manhattan's Metropolitan Museum, but odds and ends were left over, and the Allentown Art Museum acquired one of those.

This, like almost everything about preservation, moves us deeply. And we would like to suggest that the U.S. Bureau of Reclamation might now like to distribute pieces of Taliesin West to the National Gallery, the Metropolitan

Museum, and to the One Nation Under God exhibit at Disney World, Florida. On some future occasion, stanchions from that high voltage transmission line could, of course, be peddled on Portobello Road, in London—suitably dissected and antiqued.

Finally, we have a report from an unimpeachable source in Barcelona, to the effect that Gaudi's best buildings are either being torn down or defiled. The Casa Milà—one of Gaudi's two or three best jobs—is being cut up into "studio apartments," and additional "studios" are being built on the roof among Gaudi's wonderfully sculptural constructions. Good-bye Barcelona; good-bye Minneapolis; good-bye Arizona; good-bye Paris and London and Milan and Rome; good-bye to whatever it is that gave us strength out of our past—good-bye unless we make preservation the issue it deserves to be. —P. B.

The mayor sees red

On the mall outside City Hall in Hartford, Conn., a 50-ft.-high, heavy steel plate stegosaurus has appeared, and looks as if he has no intention of departing. That, however, is precisely what His Honor, George A. Athanson, the mayor of that city, would like him to do. He hates the sculpture: "One day I'm sitting here and clang, clang, clang, I looked out and saw this *thing* going up." He further observes that the original stegosaurus was a dinosaur weighing two tons and had a brain that weighed two ounces; it is now extinct, he points out, and says, "This thing may become extinct, also," a distinct threat in his voice.

Sculptor Alexander Calder was commissioned to make the stabile for the Alfred E. Burr Memorial Mall located between City Hall and the Wadsworth Atheneum, a private museum. The site now contains an oval reflecting pool, a

fountain and fuchsia azaleas.

James Elliott, director of the Atheneum saw "Stego" assembled in Waterbury, Conn. at the Segre Iron Works, before it was transported to the mall. "In spite of its lumbering primordial quality, it is beautifully realized in semi-abstract form," he said.

The mayor has to look at the "hulking orange-red thing" all day. A suggestion that he turn his desk around was vetoed: "I'm not going to move my desk, I'm going to close the curtains."

Webster's dictionary tells us that a stegosaurus is an herbivorous dinosaur about 30 feet long, with enormous bucklers, some of which have spines; a member of the Jurassic family of the therapsaurian dinosaurs with restrose ischia meeting in midline, and short metatarsals. Under those circumstances, Mr. Calder has come up with a very good likeness.

Mayor calls hot orange stegosaurus a candidate for extinction



Musicians play "find the false note"

Up against the wall, Ravel!

The Schmitt Music Company of Minneapolis, in an effort to spruce up their parking lot wall, embarked on a heady scheme and created a vast expanse of sheet music. The score is part of "Scarbo," the third section of Maurice Joseph Ravel's "Gaspard de la Nuit," composed in 1908, and inspired by three poems of Aloysius Bertrand.

The idea for the music wall was Robert P. Schmitt's, president of the company. Jill Rivard Sprangers, the firm's young (23) advertising art director, chose the Ravel piece for its "visual appeal."

The notes were projected, measure by measure, onto long sheets of paper; the projection then traced in reverse with a heavy

graphite marker. Then the papers were pressed against the wall, transferring the graphite. Somehow in the final application a few musical errors appeared, but nobody seemed to mind much. Musicians play "find the flaw."

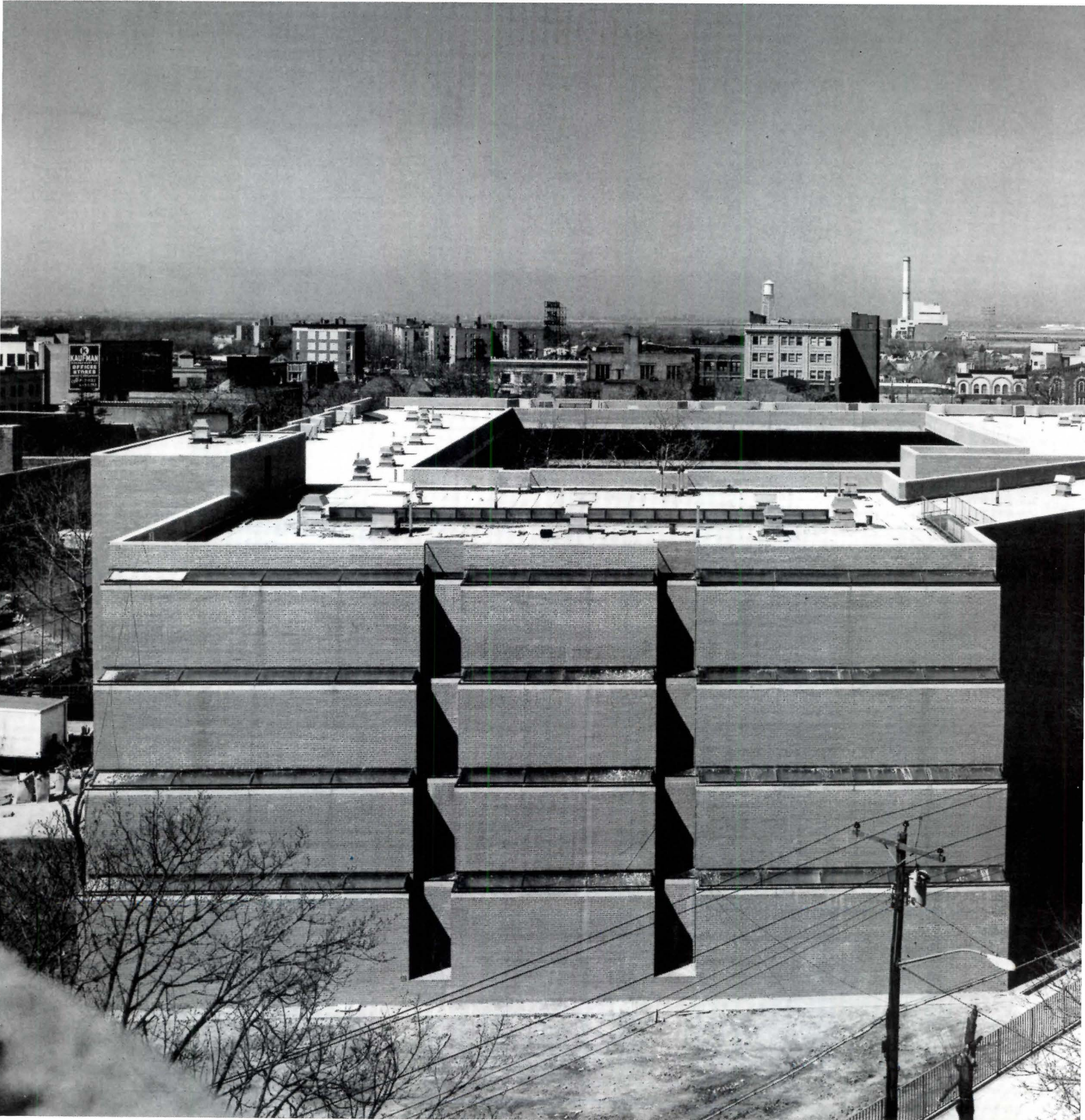
The project took ten days. It cost \$12,000 to brick up 32 windows, point the bricks and apply two coats of offwhite gloss. Application of the notes cost \$5,500.

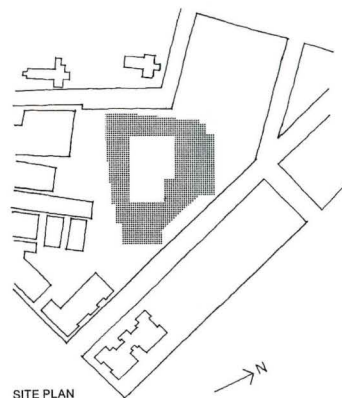
One anxious moment occurred when a representative of the U.S. distributor for the French music publishing firm holding the Ravel copyright threatened to sue, for overexposure or whatever. However, he changed his mind, and all ended on a happy note.

continued on page 66

The public school architecture

The big-city education bureaucracy,
hard-pressed and hard-nosed, is
an unlikely sponsor of thoughtful design.





New York City's Board of Education is not known as a patron of the art of architecture. In 1968, when Victor Lundy was asked to design a school in the borough of Queens, another architect said "God help you!" It is common belief that an architect can lose his shirt, or at very least his disposition, dealing with the Board of Education and its design department.

But Lundy's school now exists—in substantially the same form and materials in which he designed it. "This one slipped through the system," he says. This one is a tribute to the single-mindedness of one artist, who wanted to make a beautiful building, and to the encouragement he received from the bureaucracy that many architects love to hate. ("They were very reasonable with me," says Lundy.)

Intermediate School 53 is in Far Rockaway (near Kennedy Airport) in a neighborhood with a familiar small-town feeling in many of its streets and buildings, and a familiar big-city situation of blacks moving in and whites moving out. Anger that is expressed in many ways is a daily fact of life. So too is a certain feeling of impotence, among black and white alike. It is not easy to be a young teenager in Far Rockaway, nor to be the architect of a school for this community.

"I always thought of the kids as my clients," says Lundy; "I wanted to make a world of experience for them in this bleak environment." To avoid a monolithic mass, he broke the building into parts—an L-shaped classroom wing, a gym and auditorium block, and a wing for offices and special classrooms—and wrapped the parts around a court. The result is a sculptural composition of richness and subtlety, and a school with unique possibilities for use. The neighborhood has direct access to the court from outside, and the students have several points of access from within, as well as many points of visual contact. The fact that it was thought necessary to bar the route from the neighborhood by a portcullis (handsome but impenetrable) and to keep students out of the court by locked doors, will explain why some architects are not eager to design New York City schools.

Breaking up the school conforms to surroundings that are "gentle in scale," says Lundy. The immediate area has an old tradition of two-to-three-story houses, and the start of a new tradition of six-story

apartment buildings. The odd-shaped site was another cue to the architect. "The site is acted on by a multi-angled confluence of streets," he wrote in his first observations. It became apparent, he said, "It called for a piece of sculpture."

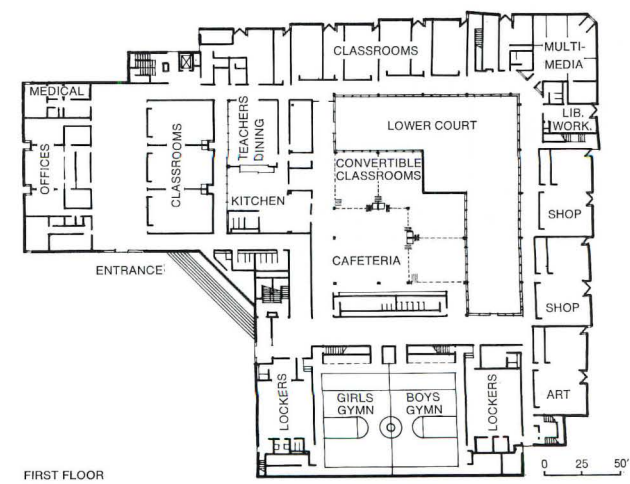
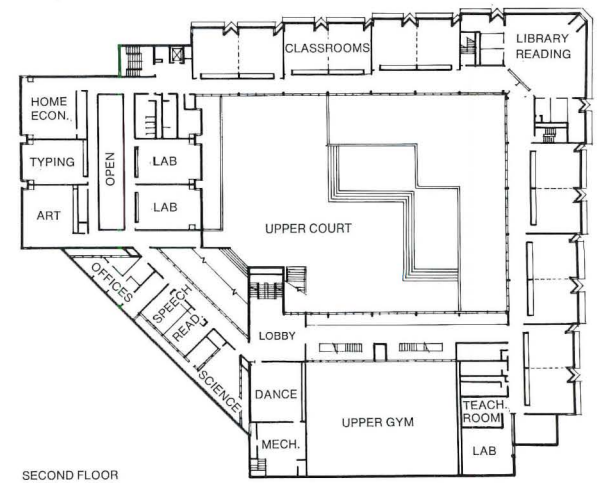
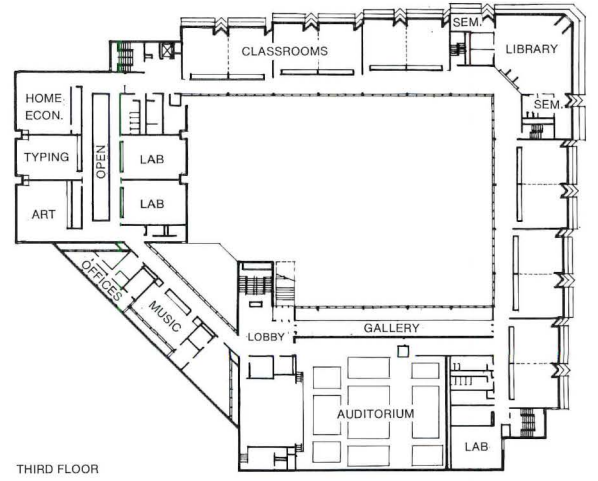
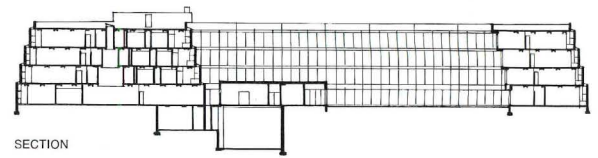
Lundy's aim is ultimately sculptural. He delights here in the shadows on a facade, in the light that bathes the wall of a classroom, in the tension between right angle and diagonal, in the play of solids and voids, in the sense of "purposeful movement." His efforts are always toward "a serenity, a simplicity, an understandability." He shuns oversimplification.

But he knows that architecture is not simply sculpture: "You *enter* architecture." And to Lundy, "architecture must be equal inside to the promise given outside." It is always the human being who enters: Lundy believes that a person must have "an awareness of where he is in the total scheme, any where in the building." No one should be "lost somewhere anonymously, in blind in-human corridors, directionless." He believes too that a person must have "an awareness of all the human points of reference, the sky, the trees." These two concerns for the human being—relationship to the man-made and the natural—are seen in many ways in this school.

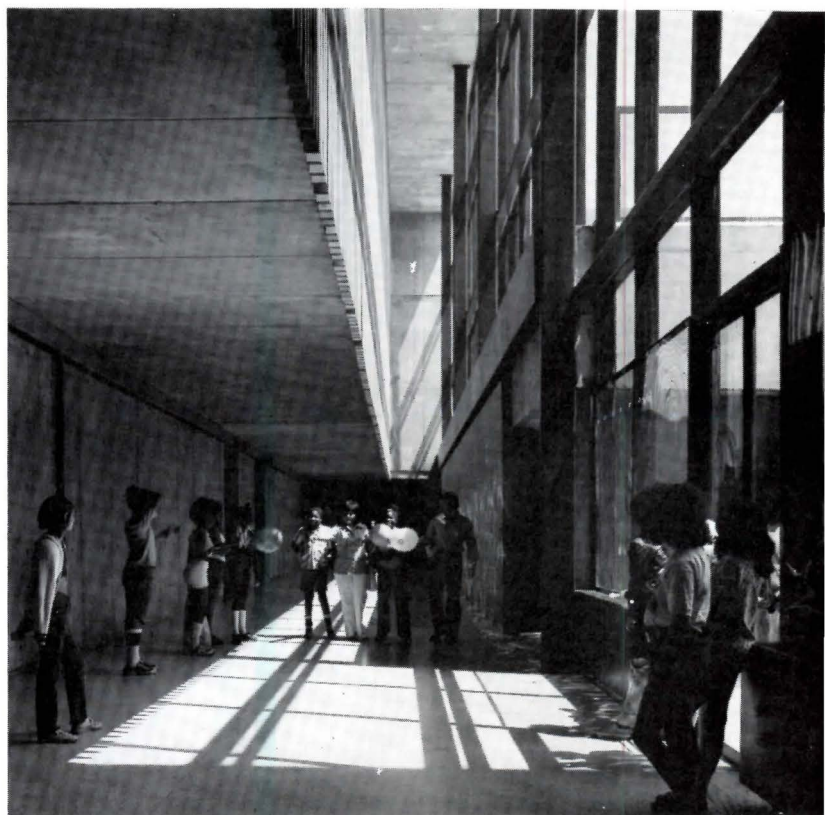
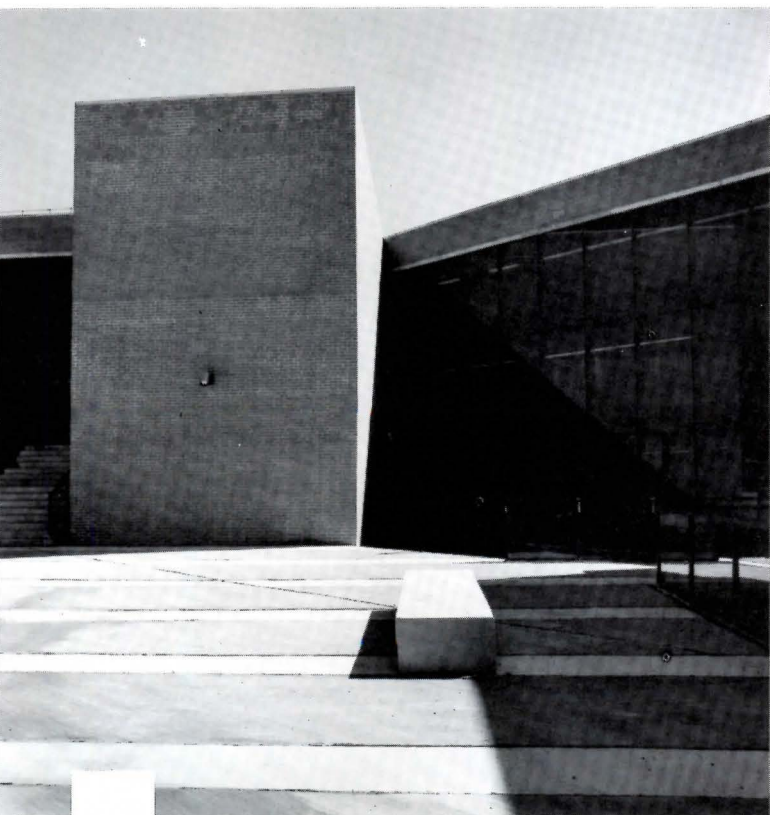
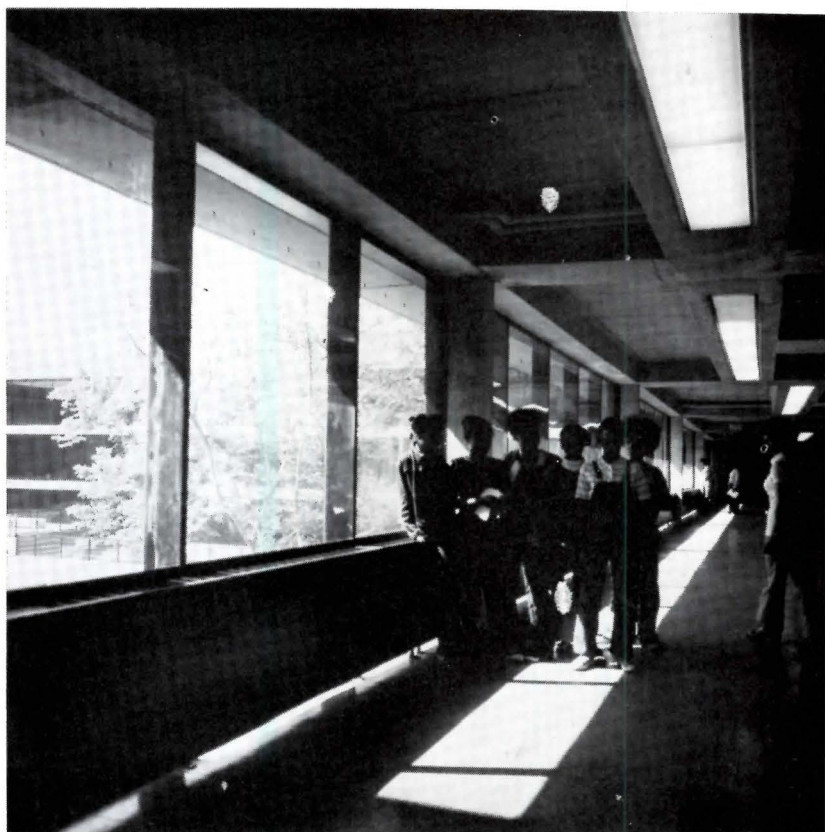
Sculpting with light is a particular talent of Lundy's. Two outstanding examples appear in this school: (1) the long public hall rising the full height of the building, a pyramid of space cut from the area between the corridors on each administrative floor; and (2) the serene classrooms, open to light but not to distraction with a composition of skylight at the outer wall and its flanking side windows.

The building is new and reactions vary: the adults thank Lundy for a beautiful school, and the students ask him why they can't go into the court. He hears the view that "the kids won't appreciate it, they should just have barracks," and he winces over last-minute additions to make the building "safe." Lundy deplores the preoccupation with damage. He hopes that the students will *use* the building, will know it is theirs and be proud of it, and that it will become "a force to unite the neighborhood and ease the angers that separate people." That is asking a lot of the building, but Lundy has given a lot to it.

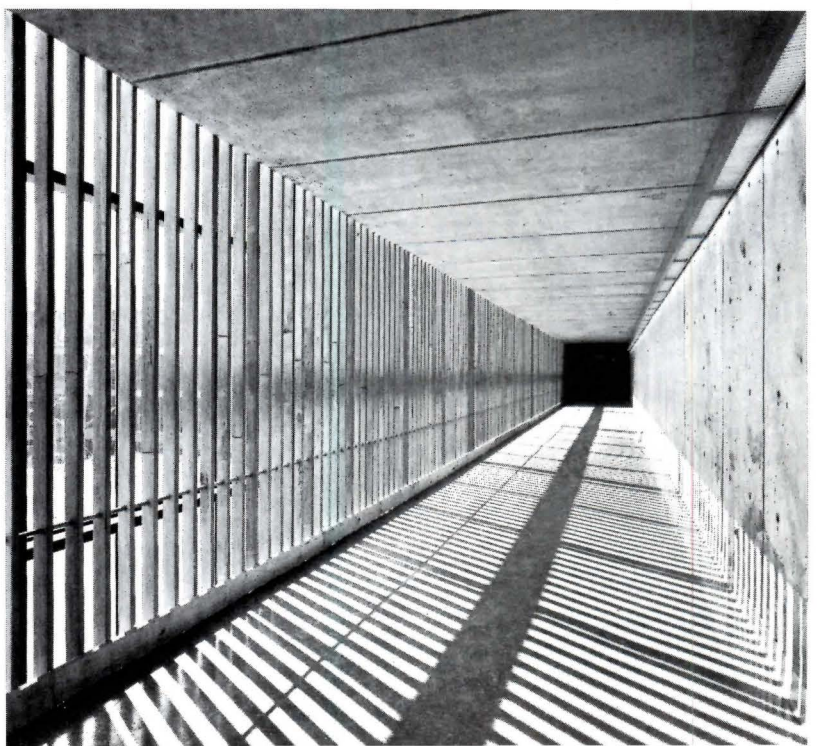
—ELLEN PERRY BERKELEY



The school is four stories high, each of the top three floors an independent subschool for 600 students. The L-shaped classroom wing focuses on a corner library; the entire school focuses on an interior court that is intended to be the heart of the school and another exterior space for the neighborhood. Across page: the stairway from the neighborhood, a dramatic entry point. Below: the court is never far from view. The neighborhood can go directly from the court into the auditorium, and the students have several points of access to the court and many points of visual contact. The court is a two-level space, enriched by three large existing trees.







Lundy says, "I don't believe that the windowless classroom is sound. It is a human necessity to relate to the sky, the sun, the time of day, the weather." Each classroom is lighted in part by the continuous skylight that is created by offsetting each floor from the one below. The skylight is flanked by two side windows. The classrooms are thus free of distraction; they are "for learning, for calming down." The windowless facade has a pleasant scale; Lundy was concerned to keep the school "in scale with the 'village' atmosphere of the neighborhood and site."

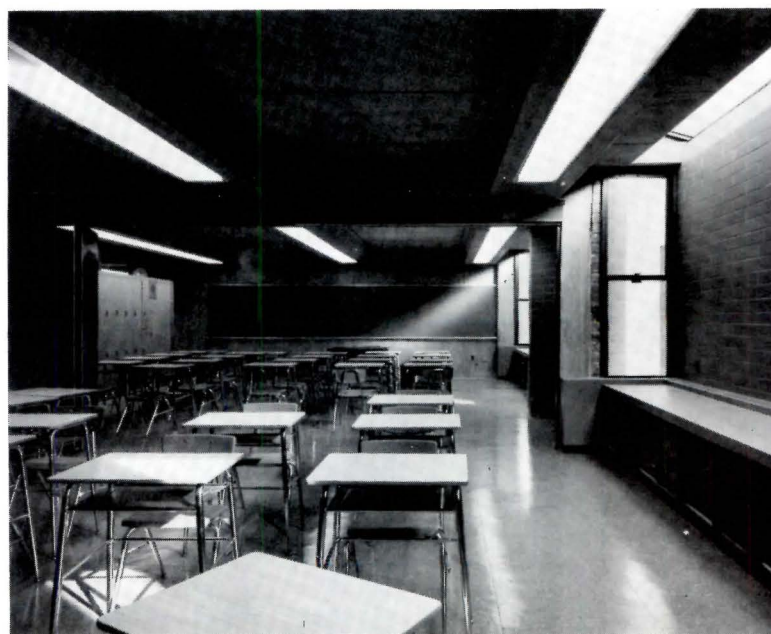
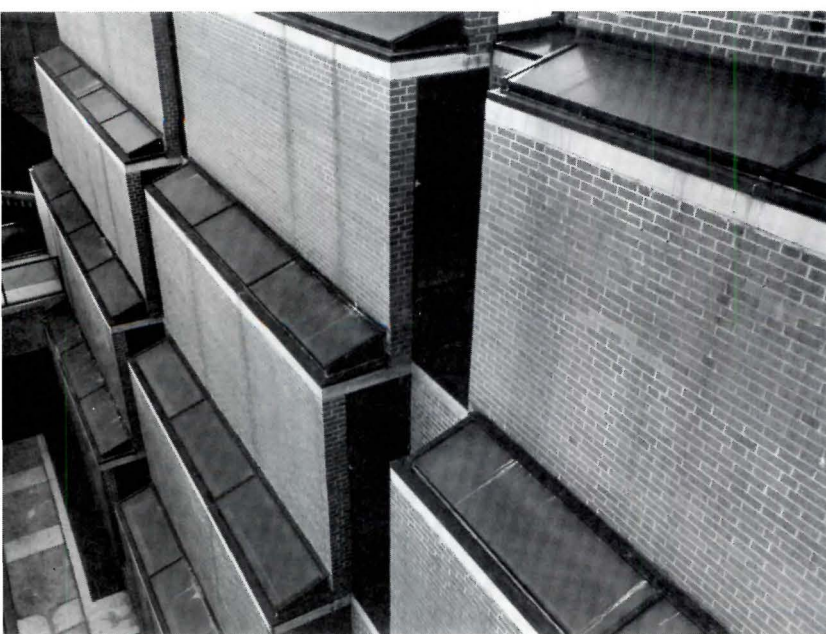
Facts and Figures

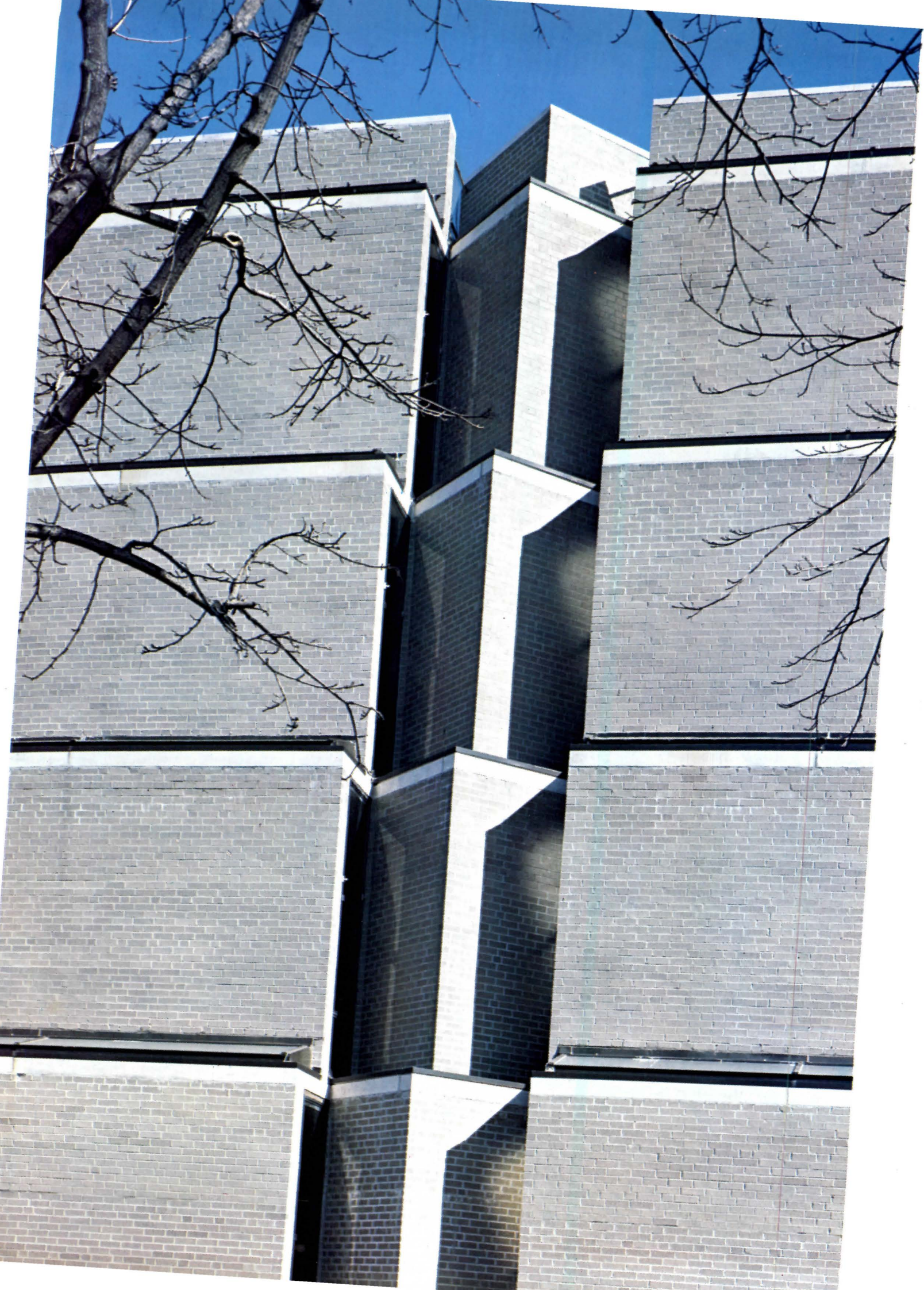
Intermediate School 53, Borough of Queens, New York City; Nameoke Street between Cornaga Avenue

and Beach 18th Street, Far Rockaway, N.Y. Owner: Board of Education of the City of New York. Architect: Victor A. Lundy. Engineers: Severud-Perrone-Sturm-Bandel (structural); Syska & Hennessy, Inc. (mechanical and electrical). General contractor: Mars Associates, Inc. & Normel Construction Corp. Building area: 182,165 sq. ft. Building construction cost: \$7,874,800.

Photographs: George Cserna, except page 20 upper left, page 21 upper right and page 23 lower left, by Victor Lundy.

Building Suppliers listed on page 79.





Furness in '7

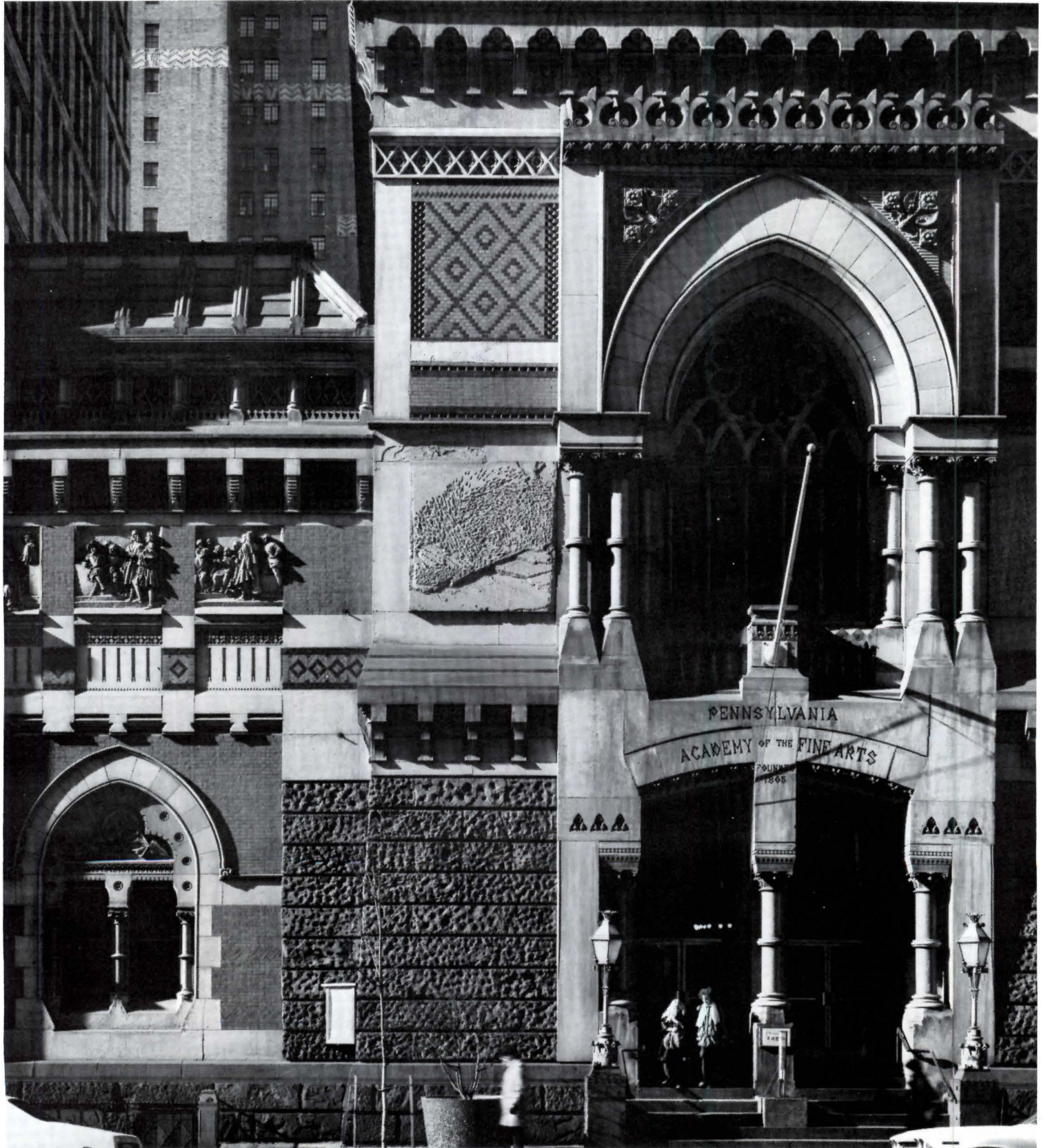
Text and photographs by Cervin Robinson

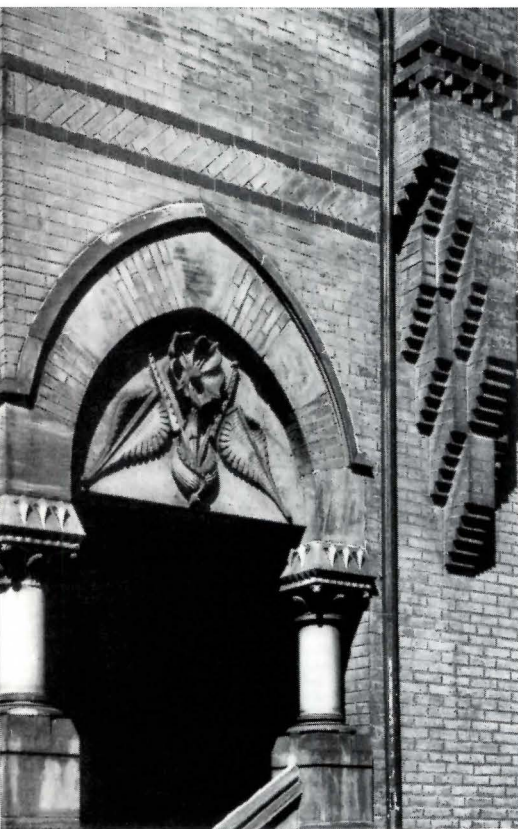


Most of us knew almost nothing of the work of Philadelphia architect Frank Furness (1839-1912) until 1952. In that year *The Architectural Review* published an article by William Campbell that described Furness's career, showed illustrations of eight buildings and mentioned a ninth. In 1960 a second piece appeared, this time in *The Architectural Forum* and in the form of a "gallery" of photographs and a short essay by Walter McQuade. One might at first glance take these two articles merely as an indication that, alongside the bland curtain walls of the time there existed a place for a man who had not just tasted the forbidden fruit of The Styles but had gorged himself on it. That may well have been the explanation for the *Forum* article, but the pages of

Cervin Robinson, an architectural historian, writer and photographer, is the American correspondent for The Architectural Review as well as a frequent contributor to other professional publications.

The Pennsylvania Academy of the Fine Arts was built in 1872-1876 after a limited competition to designs of Furness and Hewitt. The placing of High Victorian ingredients in a French classical framework, inside (left) and out (right), made this building seem perverse twenty years ago. But it was the arched main entrance with central support which particularly set the teeth of the tasteful on edge, both for stylistic reasons—this particular arch is of 18th, while its support is of 13th Century derivation—and for structural reasons—a keystone should need no prop.





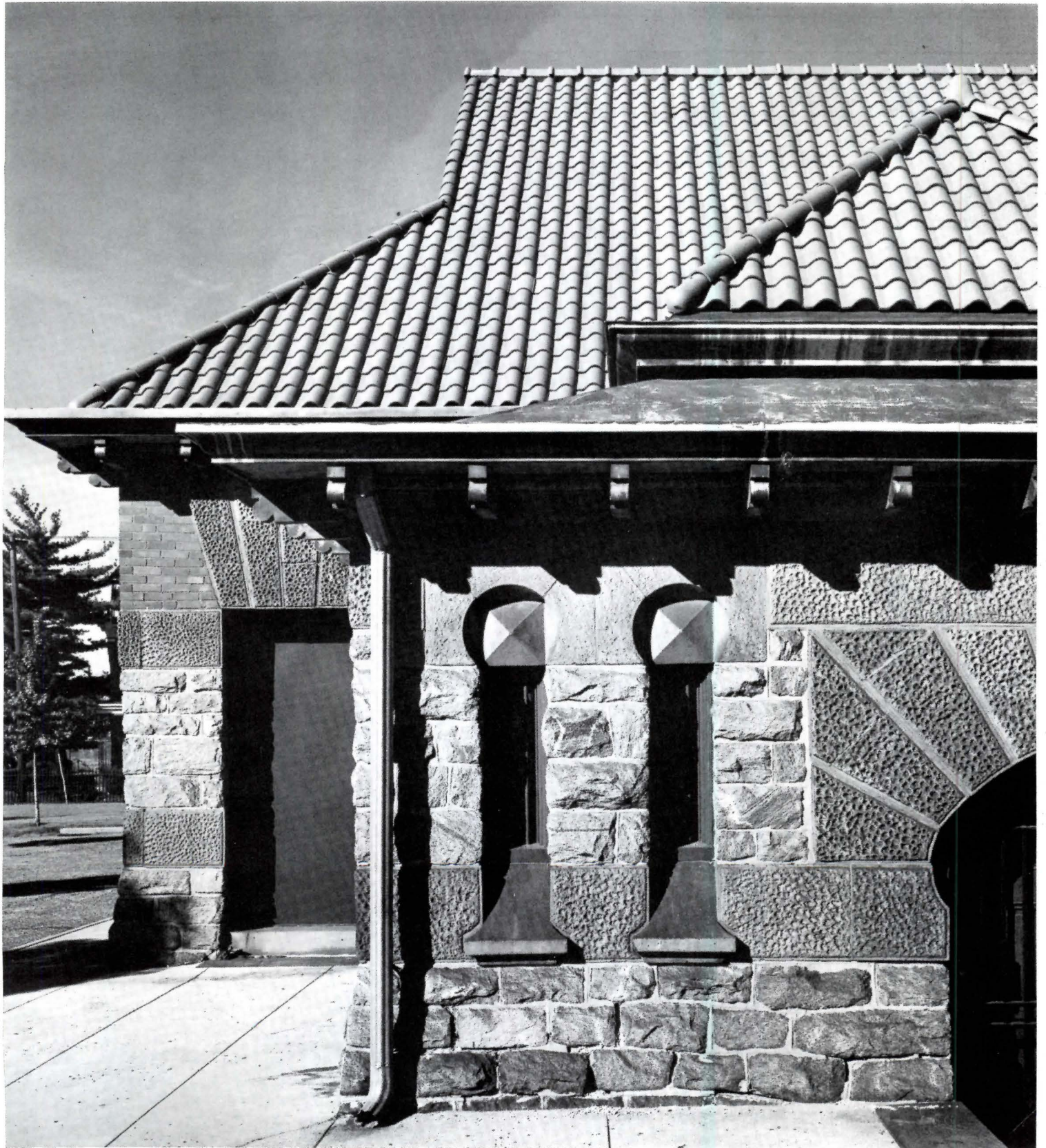
the *Review* in those years were often enticingly rich with older buildings and with Townscape.

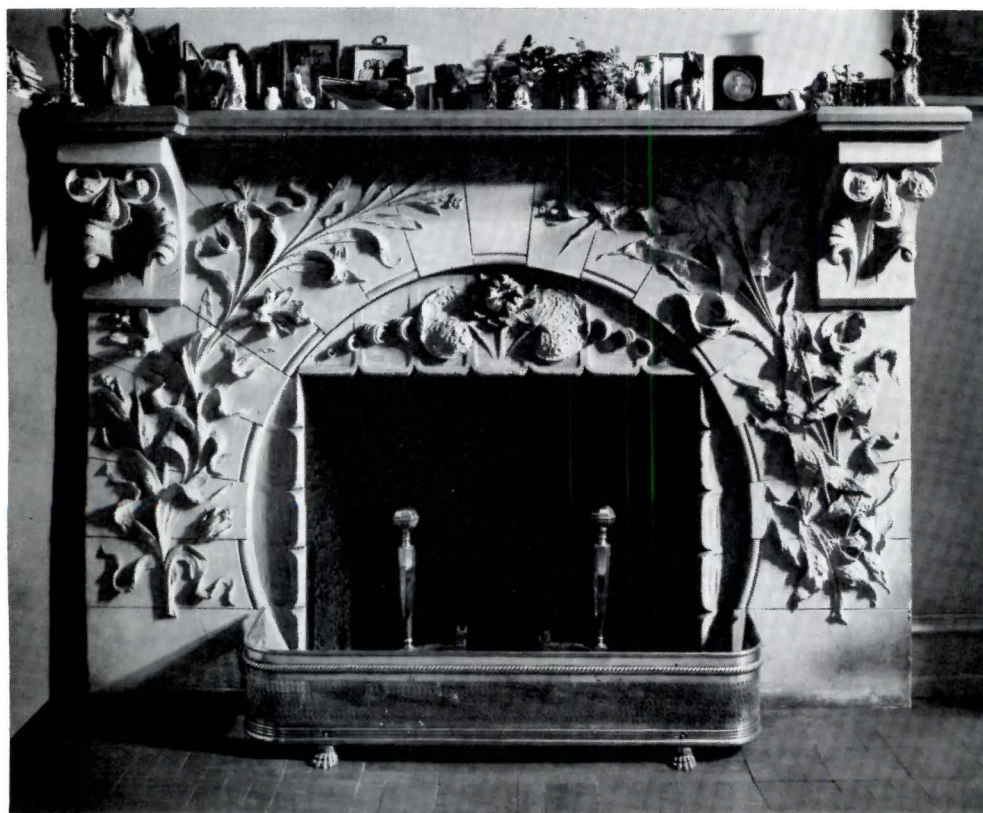
It is the parenthetical notes with which the *Review* article was introduced that now strike us as significant. The article was subtitled "An American Pioneer," and the reader reminded that "Frank Lloyd Wright was the pupil of Louis Sullivan. Louis Sullivan was the pupil of Frank Furness." The curious implication was that Furness was, therefore, an American pioneer of the modern movement. In captioning the accompanying photographs, the *Review* said that they illustrated a cult of the ugly. Furness's forms were described as "ostentatiously crude," and there was mention of "perverse delight."

The *Forum* piece was even less worthwhile as history. For one thing, it illustrated some eight buildings, three of which are not now attributed to Furness, and one of the buildings illustrated—which Furness did do—was misidentified. The short essay was not very accurate. Nevertheless, it was in some ways more interesting than what the *Review* had to say. McQuade, as an American brought up on the leap-frogging history of Giedion's *Space, Time and Architecture*, said that Furness was a Brutalist. Now, whatever "New Brutalism" may have meant in Britain, in America it has meant "new picturesque." If a man's work were picturesque and you called it that, he might very well take a swing at you; call him a New Brutalist, and he would be flattered. But this insight of McQuade's told us more about American Brutalism than about Furness. He went on to describe Furness's work in terms that outdid the *Review*'s: Furness buildings were "monstrous, brooding," "shocking" structures of "stirring ugliness." Gosh.

Today Furness's work is included in the standard texts on American architecture, such as those of Hitchcock and Scully. In addition, a younger generation of researchers, including notably James Massey and George Thomas, have followed Campbell's lead in the years since 1952. What do we make of Furness's career today? Three hundred and sixty-six jobs are now attributed to him, perhaps half of them falling in the 1890s and after (although a significant number of his late works were alterations or additions). The volume of his work, or his firm's (he almost always worked with part-

A Furness entranceway and a Furness window (opposite, top) both contain floral forms that Ruskin advocated; the one is to the Thomas Hockley house (Furness and Hewitt, 1875), the other is on the Pennsylvania Academy. Fireplaces with window openings directly above them were not the invention of Furness, but they were a witticism that appealed to him. This one (opposite, bottom) is in the Parish House of the First Unitarian Church (Furness and Evans, 1883-1884). A variety of capricious and mostly Moorish, arched openings in terra cotta (below) appear on the Chapel at Mount Sinai Cemetery (Furness, Evans and Co., 1891-92).





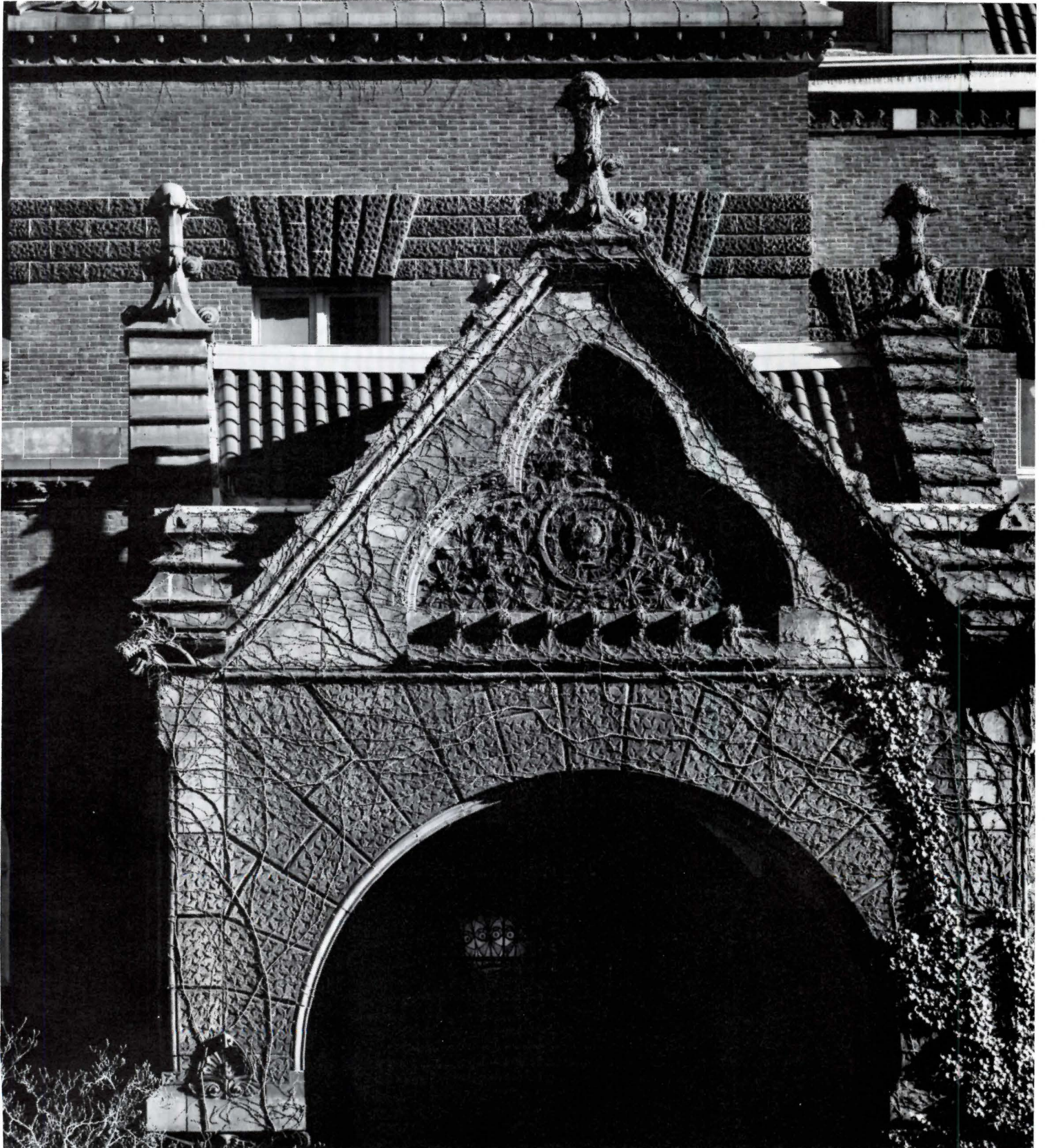
ners), remained high from the beginning of the '70s into this century. The meanest of historians would now say that its quality remained high into the middle '90s.

What of its character? The forms Furness used vary considerably from building to building. If we like one Furness building and expect the others to look like it, we will be disappointed. The sources of Furness's forms were, to oversimplify considerably, John Ruskin and William Butterfield (against whom in the 1940s the charges of willful ugliness were originally made) on the one hand, and, on the other, French mid-century architecture and the books of Viollet-le-Duc. European movements characteristically suffer a sea change in being transferred from the old world to the new, of course, and Furness seems to have used his sources merely as colors on his palette.

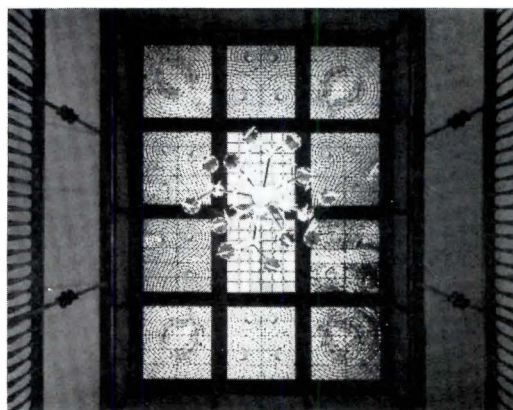
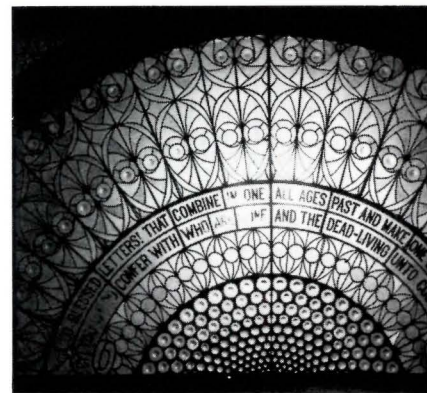
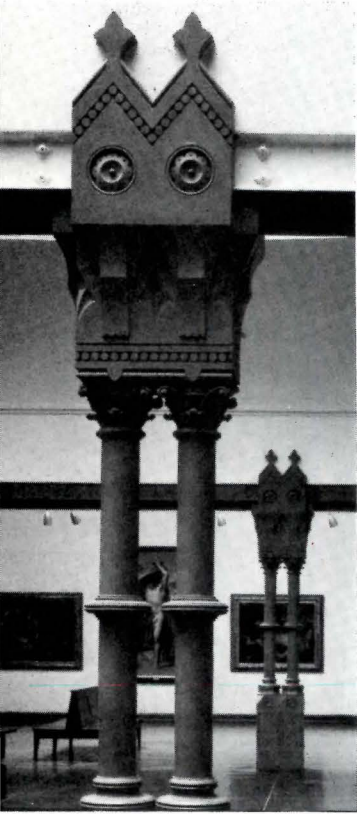
In the last few years a revolution has been taking place in our attitude towards the late 19th century. As Paul Thompson's new book on Butterfield (*William Butterfield*, Cambridge, Mass.: MIT Press) has demonstrated, the work of the High Victorians no longer looks tasteless, even in England. The late 1870s and the 1880s in America no longer seem populated solely by simple engineers of genius and by perverse architects of the ugly. What looked like ugliness is now beginning to look like wit.

In 1952, we thought we had reached the promised land. "In spite of [Furness's] evident desire to break with tradition," Campbell wrote in that first article, "tradition was too strong for him, and no complete break ensued. Still, those who today rejoice in a complete freedom finally conquered in the course of long struggles should not forget that to reach Wright, Sullivan was necessary, and to reach Sullivan perhaps Furness." Today, if we were concerned that Furness may have had some influence on architects who followed him, we would probably tend to think of Louis Kahn or Robert Venturi rather than Sullivan. But we no longer need to justify an interest in his work by citing his influence. In 1973 we see Furness's work by way of the large traveling show which the Philadelphia Museum of Art has mounted (and for which the photographs reproduced here were taken). No parenthetical apologies are needed. It is evident that Furness may well have come closer to succeeding in the struggle than we have.

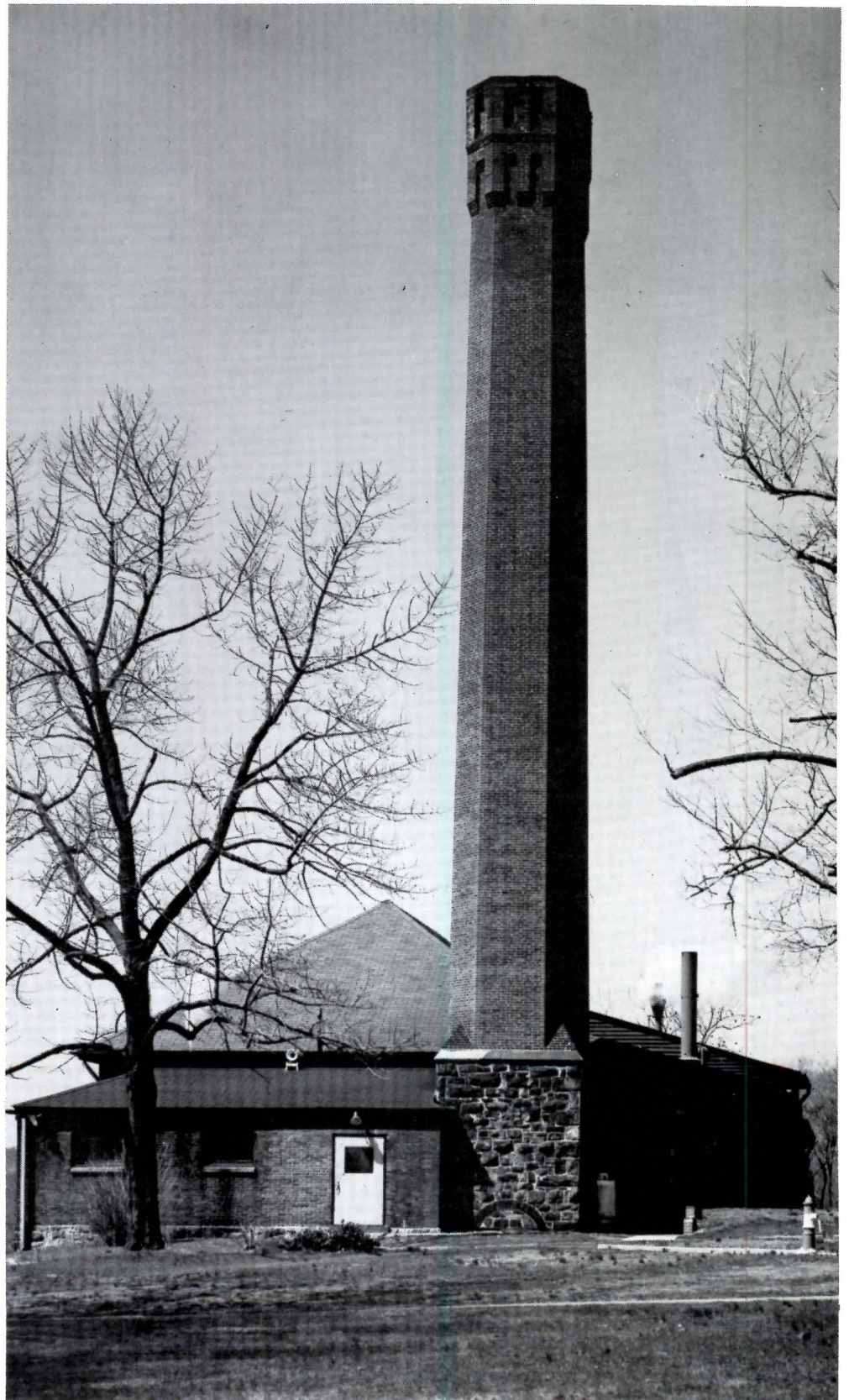
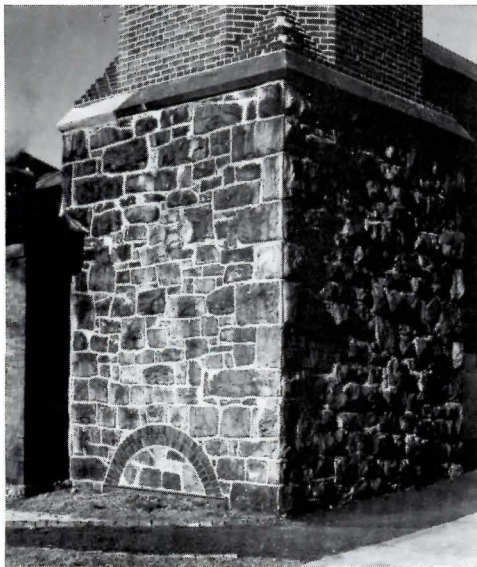
Both at Furness, Evans and Co.'s Library for the University of Pennsylvania—the entrance to which is shown below and part of the reading room, top left—of 1888-1891 and underneath the Main Line *stille floerale* of a fireplace (opposite page, bottom) in Furness and Evans' Clement Griscom house, 'Dolobran,' from the 1890s, the terra-cotta voussoirs, the radiating units of which the arches are composed, extend to fill rectangular fields to the point where the arches read more as wall hangings than as structural elements.



Columns by Furness (top) from the Academy of Fine Arts, from the library at Penn (more of which is shown on two previous pages), and from the Philadelphia Savings Fund Society Building, the latter of 1897-98. A pair of windows from the chapel at Mount Sinai Cemetery, and two, each with its message, from the library at Penn. A skylight (bottom, middle) from the Horace Jayne house of 1895, and a detail of the staircase wall of the Academy.



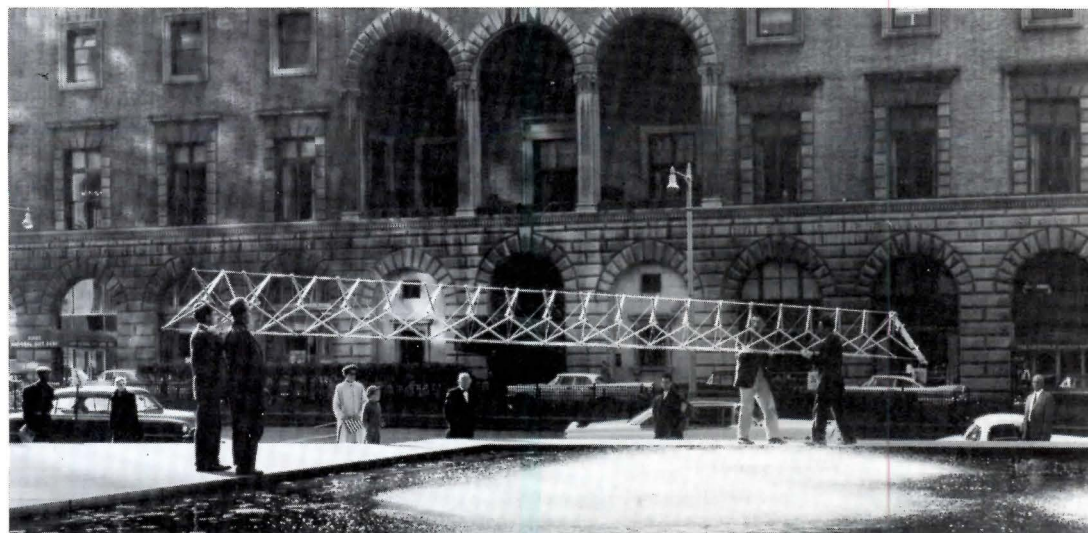
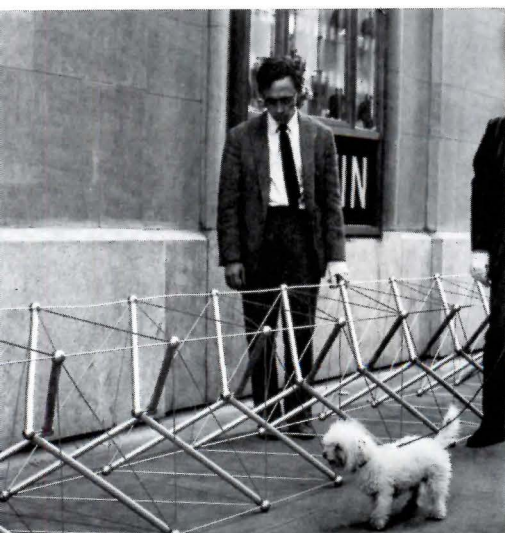
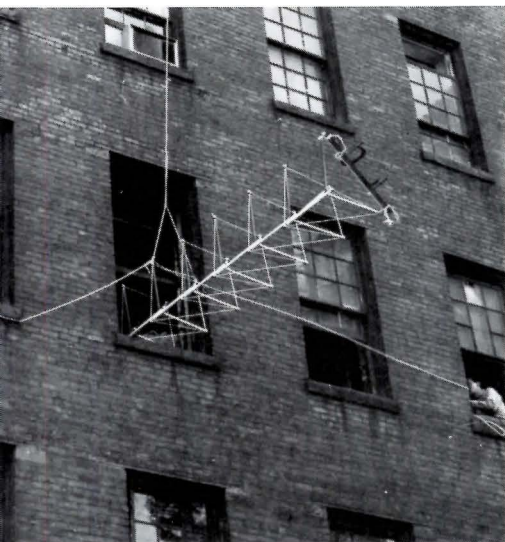
In some buildings Furness made expressive use of exposed structural metal (as Viollet-le-Duc had advocated). In others he seemed to enjoy as a private joke supporting large masses of masonry on small, barely noticeable metal members. Here at the Williamson Free School of Mechanical Trades (Furness, Evans and Co., 1889-91) a diminutive I-beam is just visible at grade at the base of the powerhouse stack.



Edison Price having a close look at one of his Uminair ceiling fixtures.



The Buckminster Fuller Tensegrity Mast for the 1959 exhibition in the garden of the Museum of Modern Art was constructed by Price in his own workrooms, then guided through the window and delivered by hand (to the curiosity of people and poodles) through the New York streets.



The special lighting demands of exhibitions and of building types such as libraries and museums are often answered by Edison Price fixture designs. Examples include: (1) Philip Johnson's Munson-Williams-Proctor Institute, Utica, N.Y.; (2) SOM's Kalamazoo Institute of Art, Kalamazoo, Mich.; (3) Marcel Breuer and Hamilton Smith's Whitney Museum, New York; (4) SOM's Beinecke Rare Book and Manuscript Library, New Haven, Conn.; (5) SOM's Albright-Knox Gallery, Buffalo, N.Y.; (6) Marcel Breuer and Hamilton Smith's Cleveland Museum of Art, Cleveland, Ohio; (7) the 1958 Jean Arp exhibition at the Museum of Modern Art, New York; (8) I. M. Pei's Columbus, Ind. Library.

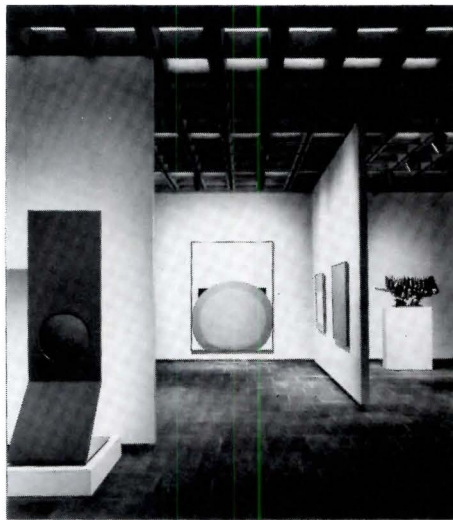
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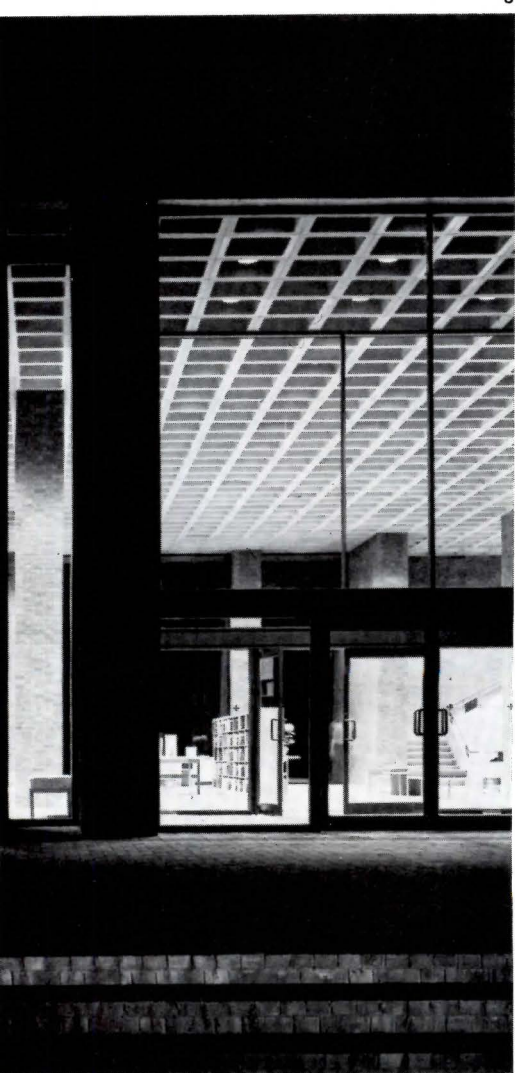


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sometimes undermines his own profit. For one area of the Connecticut Mutual building by SOM Chicago, preliminary plans called for recessed downlights five ft. on center; Price devised a fixture which could produce the desired effect *ten* ft. on center, thereby gaining efficiency and losing three-quarters of his possible sales.

Having worked with architects for years, Price has few illusions about *their* concern for efficiency. When working with Louis Kahn on an early version of the Salk Institute, he remembers, he was shown Kahn's sketch of a square laboratory tower encased in a larger circular tower occasionally pierced with openings. Asked the purpose of the circular tower, Kahn replied that it was for sun control, shielding the laboratory windows from direct light. Price pointed out that some windows would have a view of a light-colored concrete wall on which the sun might be shining; the glare would be awful. After some discussion it was agreed that Price should study the forms and calculate for Kahn where the openings in the outer form might best be located. But then came the real test: "What if our studies show," Price asked, "that the outer cylinder is a detriment, rather than an asset, to sun control? May we then assume that you will eliminate it?" "Over my dead body," said Kahn.

Edison Price, Inc., is not, of course, a one-man operation. Former associates include Shoji Sadao, an architect now a partner with Buckminster Fuller in the firm of Fuller and Sadao, and Carroll Cline, who was "loaned" to Edison from SOM, stayed twelve years, and is now a lighting consultant on his own. In addition to a machine shop full of real craftsmen, current associates include Bill Turner, a graduate of the machine shop now manager of production and a vice-president of the firm, two crack designers (who, Edison says, do the work of six), Frank Abad and Fulgencio "Bengo" Bengochea, and an Argentina-born engineer and mathematician, Isaac Goodbar. No one I have talked to about the Price firm has described Goodbar without using, in his first sentence, the word "genius," and it is primarily Goodbar who presides over the firm's teletype connections to various computer services. Finally, at the eye of the hurricane, there is the firm's secretary-receptionist Dena Richardson, whose gentle "One moment, please,

for Edison Price," is so often the calm before the storm.

For the most part, Edison Price fixtures are designed to produce their effects as unobtrusively as possible. As Paul Mayen of Habitat characterizes Price, "He's interested in *light* rather than *lights*." The perfect example, which Mayen (and everyone else in the lighting field) points to as being profoundly significant, is Price's pioneering work in low-brightness incandescent and fluorescent fixtures (his patents for these developments, held jointly with Isaac Goodbar, are under the name "Darklite"). Put simply, Price took a typical glaring ceiling-recessed downlight and transformed it so that, seen from any angle except almost directly beneath, it appeared as a black hole in the ceiling. Later refinements made his fixtures even less visible—not glaring, not black, but matching the illumination level of the ceiling around them.

The elegant Edison Price track systems are also less visible than their competitors. Whereas the ends of earlier tracks are complicated with junction boxes below the ceiling, the Price version puts everything up into the track, including fuses. Similarly, a great virtue of his line of downlights and wall washers is that a range of many different fixture types are made so that, from below, they are all identical in appearance, a simple modification but one of inestimable help to many a reflected ceiling plan.

He has even, at times, taken part in the design of lighting fixtures that are actually meant to be seen—work with Richard Kelly on a highly innovative chandelier for New York's Barbizon Plaza hotel, for example; work with both Kelly and Philip Johnson on a standing floor lamp with metal reflector top; and independent work on some handsomely simple rectangular chandeliers (using tiny light bulbs manufactured in Japan) for the private dining rooms of Pei's John Hancock tower.

No simple enumeration of fixture types can indicate Edison's abilities, however, because so many of his inventions arise from peculiarly demanding "custom" situations—at Pei's Place Ville Marie in Montreal, wall washers that spread an even wash of light for an incredible height of 50 ft., and, at the Dow Chemical development planned by SOM Chicago, lamps that light vast parking areas from a height of 110 ft. and *without glare*.

Because of Edison's ability to respond to problems, he is often consulted early in the design phase. His ingenious baffle for the lights at the apexes of the ceiling pyramids in the Upjohn building, SOM's Bruce Graham says, was a key part of the building's design. Again, when Chuck Bassett of SOM San Francisco was designing the Tenneco building in Houston, he expressed to Edison his feeling that the exposed soffit around the recessed lower floors should seem "not like a ceiling" but like "the underside of the building." Edison devised a soffit that was gently luminous, with lighting for the bank and plaza below it which was independent of that luminosity. A full-size mock-up was made in Edison's New York workrooms (the ceilings there are 18 ft. high), and Bassett came to see it. Bassett lay down on the concrete floor and, for what seemed a very long time, stared up at the glowing mock-up. "Widen the dividing strips to three-quarters of an inch," he finally directed, and, with that one change, Tenneco had its "underside." Happily, this is one custom fixture that has been re-used: the discriminating Office of Mies van der Rohe has adapted it for the ceiling of Canada's Toronto Dominion Bank.

Solutions for general lighting needs, particularly those in office spaces, may be Price's most influential contributions, but his eminence in the specialized and highly sensitive field of museum lighting is perhaps even more telling. Price fixtures were used by Cambridge Seven Associates in the U. S. Pavilion at Expo '67 in Montreal, a Buckminster Fuller dome that presented some unprecedented lighting problems. They were used by Marcel Breuer in his Whitney Museum and again in his Cleveland Museum. They are in Philip Johnson's new wing (and in the remodeled old wing) of the Museum of Modern Art in New York, as well as in Alfonso Reidy's Museum of Modern Art in Rio de Janeiro; in Gunnar Birkerts' Houston Museum of Contemporary Art, and in John Andrews' Mirvish Gallery in Toronto. Almost seventy museums and galleries are lighted with Edison Price fixtures, and the number is growing.

Just as it seems appropriate for a lighting manufacturer to be named Edison, Price has his critics and competitors who would suggest that his last name is also appropriate. Most are forced to add, though, that even in cases when Price fixtures are

expensive, the expense is justified by their quality, and that in many cases their efficiency actually results in savings. Whatever their costs, Edison's fixtures have, so far, earned him more respect than wealth, and the firm has come upon hard times more than once. One explanation may be that, strange as it may seem, Edison Price, Inc., has never quite managed to compile any sort of catalog of its fixtures. The reason is simple: Edison never leaves a fixture alone, but is continually refining it and then further refining it. If nothing remains constant, how can anything be catalogued?

Another explanation, perhaps, is Price's rather maverick attitude towards distributors. These middle-men are seen by many in the lighting field as unnecessary parasites, but few other than Edison have such strong convictions about them. At the expense, probably, of quite a few sales, he has as little as possible to do with them. He values direct contact with the foreman running each job, and Edison Price fixtures are almost always bought only from Edison Price, Inc., never as part of a lighting "package."

Also, the pursuit of perfection has not always, in the past, been compatible with the meeting of construction deadlines, but the company, in recent years, has made a conscious (and impressively successful) effort to perfect its delivery timing as well as its product. The number of back orders is now twice that of a year ago, and the present volume makes Shane O'Neill's \$2,500 look like a pretty sound investment.

One indication of the growing strength and influence of Edison Price, Inc., is its recent granting of franchises to foreign manufacturers. Onecor, S.A., of Buenos Aires, has been producing Edison Price designs for years, and there are working agreements now with Australia's Crown Corning, Ltd., and with Germany's Erco-Leuchten K.G. as well. Negotiations are under way for a fourth franchise (this one for the Asian market) to Iwasaki Electric of Japan.

Edison Price's work is founded on brilliant ingenuity, there is no doubt of that. And, to end this sketch on an even more hortative note, it is also founded on independence, on frankness, and on a commitment to quality so complete that it may sometimes exasperate his associates but from which he never deviates. "He's *stubborn*," Gordon Bunshaft says, but he smiles appreciatively when he says it.

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General office spaces and small conference rooms, as well as large public spaces, have been lighted by Price. Shown here are: (1) SOM's Upjohn Co. headquarters, Kalamazoo, Mich.; (2) Louis Kahn's Yale University Art Gallery, New Haven, Conn.; (3) Eliot Noyes' showroom for IBM in New York; (4) Philip Johnson's New York State Theater at Lincoln Center; (5) The Office of Mies van der Rohe's One Illinois Center, Chicago; (6) a conference room for Houston First Financial in SOM's One Shell Plaza, Houston; and (7) I. M. Pei's National Airlines Terminal at Kennedy Airport, N.Y.

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Long :al works

Text and photographs by John Donat



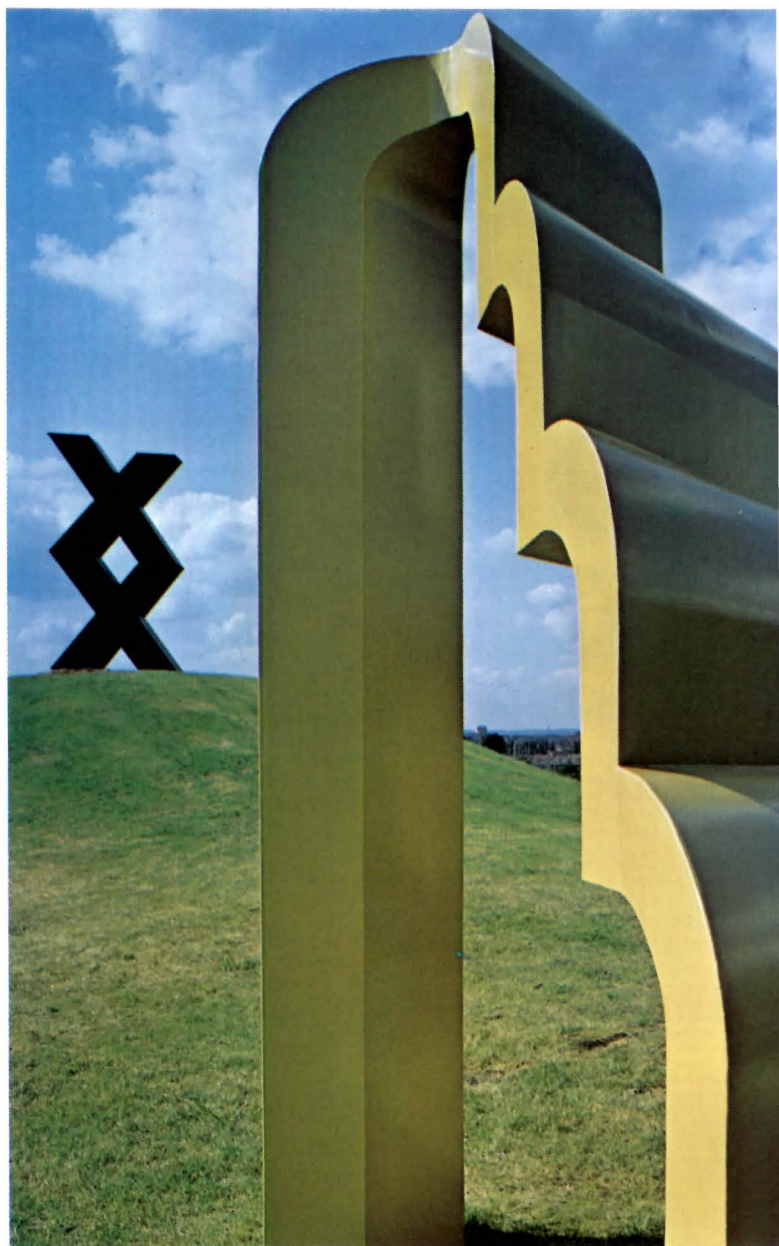
Bernard Schottlander's work has appeared in many group shows and is represented in five public collections. He has had three one-man exhibitions including the one on an open-air site at Park Royal, London, where all these pictures were taken. He was also one of seventeen sculptors commissioned by the Peter Stuyvesant Foundation for the City Sculpture Project: "relating new sculpture to urban environments." The great black double cross (above; detail top right) has just been bought and given to the University of

John Donat is the Field Editor in London for Architecture Plus magazine.

Tel Aviv in Israel as a memorial to the victims of the attempted kidnapping at the Munich Olympics.

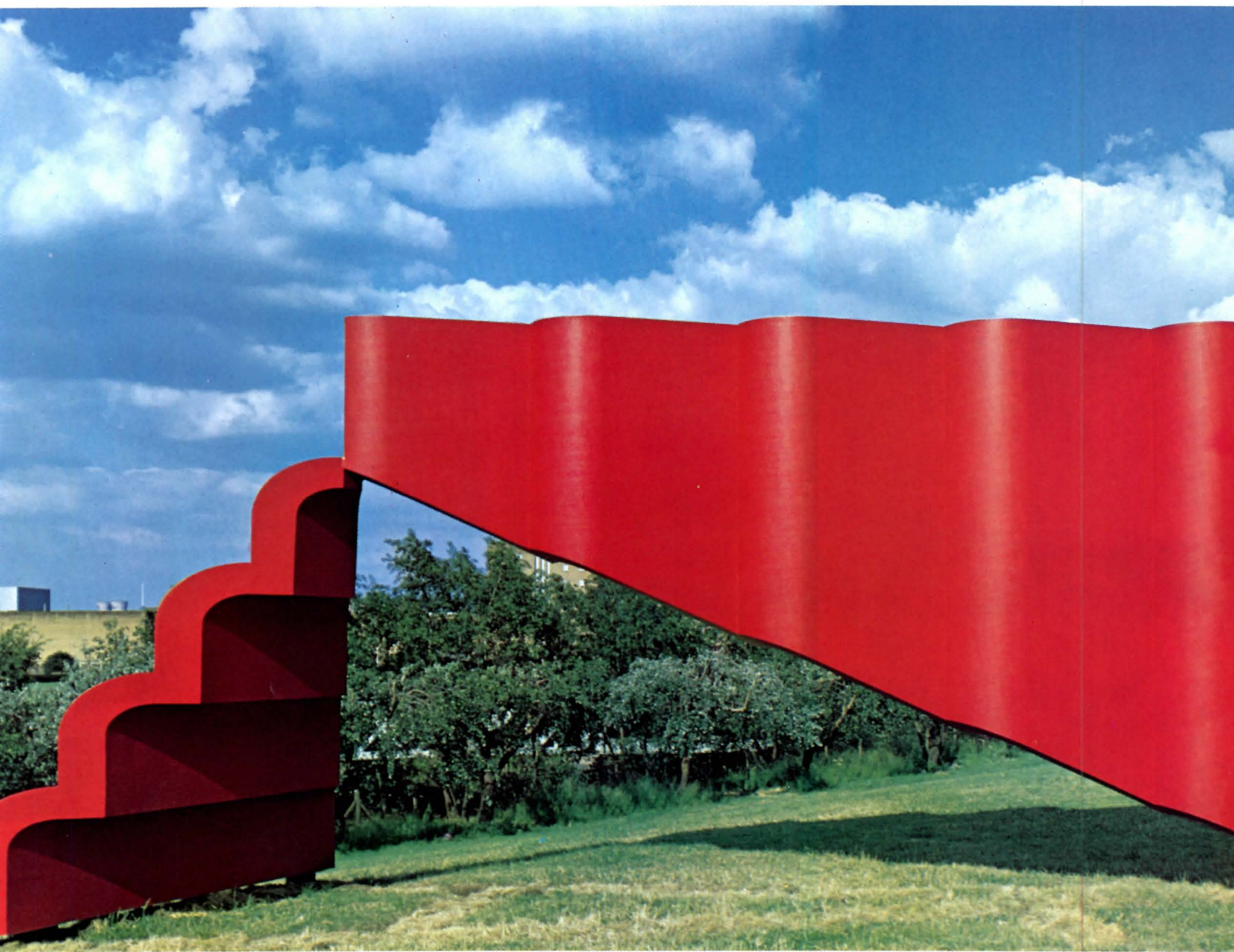
Writing of Schottlander, Theo Crosby has said, "Bernard Schottlander became well-known as an industrial designer in the early fifties, and for many years ran a metal workshop producing light fittings and such things. Trained as a sculptor, he took this method of establishing himself in preference to the usual part-time teaching post. He has come to full-time sculpture only in the last few years (1963), but brings to it a superb craftsmanship in welding and the working of sheet metal. He shares with most young sculptors a





concern for ambivalent volume and for colour, though his work is informed by a relentless geometry, a kind of heraldry of the machine age."

Having begun his career as a metal worker in a structural steel fabrication shop 30 years ago, Schottlander is a sculptor who likes to think of himself as outside of the "Art racket." He calls himself a fabricator of "really large permanent things made of metal," and says, "What you pay for is the fabrication. You get the Art thrown in." The sculptures shown on these pages are untitled and they speak for themselves.





By Robin Boyd

Robin Boyd, who was a close friend of the editors of this magazine, died in October, 1972 in his native Melbourne, Australia. He was at work on this last piece of critical writing when he died. Boyd, one of the century's most perceptive critics, was honored by the American Institute of Architects at the recent San Francisco convention, where Boyd's widow accepted the Institute's Architecture Critics' Medal awarded posthumously to her husband. The Opera House, incidentally, will be formally opened by Queen Elizabeth II on October 20. We are publishing this article, in its unfinished form, both as a tribute to its author and also as a tribute to Jørn Utzon, Sydney Opera House's architect.—ED.

The Sydney Opera House, the only building in Australia which is known in other parts of the world, acquired its almost Taj Mahal status long before completion. It would have been famous for its external design alone, but then it became notorious because its cost appeared to rise at least tenfold during construction, and scandalous because its architect was cast overboard in mid-stream in circumstances of great acrimony and unfathomable personal motivations.

Now it appears from the outside to be almost finished, and to the average Sydney-sider it is as good as finished, and all the argument and *angst* are almost forgotten. The man in the Sydney street likes it. (As a matter of fact, I've hardly heard anyone say, now that it is a reality, that he dislikes it—as a shape beside the harbour, against the comparatively businesslike skyscrapers of the city. It is quite breathtaking at first sight, unique and so commanding as to seem axiomatic.) Sydney enjoys its being there and is totally unconcerned about what happens inside. It might just as well be empty, like the Taj, and perhaps even would be better so. Standing there by the deep water, essentially complete while massive tinkering continues inside, the great white ravishing construction-form acres of ceramic tiles on fragmented spherical vaults raise a number of universal questions. These include the efficacy of open and international competitions, the delicacy of architect-client-consultant relationships, and the insecurity of architectural philosophy today.

To begin with the question of competitions: here I must tread carefully, for the reason I am in London now is to join my colleagues on the jury of an international, or inter-Commonwealth competition [for

the design of a new office building for the Members of Parliament]. However, I can't let that inhibit me. I can only assume that the following thoughts were formed years ago and have not been affected one way or the other by the present competition.

The myth of architectural competitions is that they are held in order to find the best possible design for the problem in hand. I think the public generally believes that to be the case. In fact all architects know that the main reasons for holding competitions have nothing directly to do with design; the reasons are political. Everyone hopes, of course, that a good design will come out of it, but everyone knows or should know that direct appointment of a good architect is a surer, faster, and cheaper way of achieving a better design. That's not to deny that direct appointments are out of the question in some circumstances—because the politics demand that untried architects be given a chance, or because the building is nationally important and the holding of a competition celebrates it, or just because the sponsors are realistic enough to know that they would never agree among themselves on a direct appointment. There are many valid or excusable reasons, and with luck good design can result from them, but it is worthwhile to remember that good design is not the prime reason for holding a competition—unless the promoters are very naive.

On top of all the political reasons for holding a competition which any country may have, a young and terribly isolated country like Australia has other, private reasons. Australia uses the international competition to try to drag herself into the world. She realizes that the project must be big enough to interest the world, so she doesn't do it every day; but she did it in 1911 for the plan for Canberra and in 1956 for the Sydney Opera House. She has an-



other, subtler reason. She wants to have her standards confirmed. That's necessary when you are as isolated as we are. Australia feels that her best architects (or scientists or artists, etc.) are probably inferior to the best in the northern hemisphere, but she hopes not. Well, a competition might help to provide the answer.

The success of any competition, both in attracting good competitors and in producing a good result, rests largely on the individuals selected for the jury and therefore on the people who select them. The Opera House jury consisted of two men of Sydney whom one would have expected to be appointed *ex officio*. They were Professor Harry Ashworth (chairman of the assessors), Professor of Architecture at the University of Sydney, and Mr. Cobden Parkes, then head architect of the New South Wales Department of Public Works. There was a distinguished Englishman, Dr. (as he then was) Leslie Martin and a star American, the late Eero Saarinen.

Please let me say now that I don't intend to attempt to give a detailed or even authentic account of the history of the Opera House politics. I imagine that many know the broad outline of the story, and anyone who wants chapter and verse I advise to read John Yeoman's book *The Other Taj Mahal* (published by Longmans in 1968), which seems to be a professional journalist's very accurate, scrupulously fair, and certainly detailed account of the extraordinary events.

There's a story, various versions of which were widely circulated, concerning the crucial moment in the judging. In its cruellest form it is this: Saarinen, arriving late, found that the other judges had started, sorting the wheat from the chaff. "These are the possibles, those are the rejects," they told Saarinen, who promptly walked to the reject pile. After a quick look through it he came back bearing Utzon's thin sheets aloft and declared: "This is your Opera House, gentlemen." The story is a gross exaggeration, although there seems to be no doubt that Saarinen consistently advocated the Utzon design and acted throughout as a dominating force. Which will surprise no one who ever encountered him. Some of the other judges are very forceful people, yet Saarinen, with his gruff grunting manner and penetrating eyes, letting nothing impede the development of his idea of the mo-

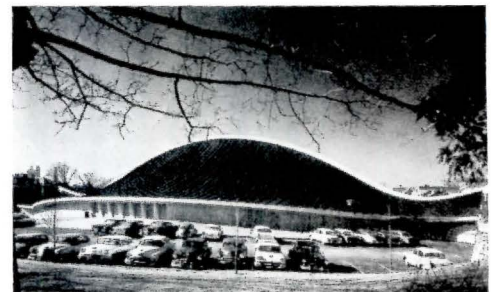
ment, was like a sensitive bulldozer. Yeoman quotes a nice little story from Cobden Parkes, the Government architect on the jury and an all-Australian man, son of one of the fathers of Australian federation, injured on Gallipoli. Parkes took Saarinen to lunch on the day he arrived and then walked him down the sloping park beside the city, which is known as the Domain, to show him the Opera House site. "As we strolled along," said Parkes, "I tried to point out Government House and a few other landmarks, but Saarinen said: 'No, never mind that! Don't let's think about anything but the Opera House site . . .'"

I met Saarinen in his office in Detroit when he returned from Sydney, and he was bursting with Opera House. One could see that he felt as personally involved in it as if it had been his own design (which I think he would have liked it to be).

The third main question which is raised by the Sydney Opera House, concerns the philosophy of architecture at this time; and the first thing that must be said is that the Opera House is not a product of this time. Because it is so big and complicated and because of the leisurely, idealistic air that surrounded it early in the construction, it has taken a long time to build—an unconscionably long time. Suppose it does open in 1973, as promised, that will be seventeen years after its conception in Jørn Utzon's mind, back in Denmark, back in another age, back in another generation of architectural vision. And it is a product, a prize example, of that age, which was the short lived romantic monumental revival of the 'fifties.

It is hard to remember that, shortly before that revival, the modern movement had been feeling a little guilty about its not having produced any really impressive monuments. Then suddenly there were dozens of them (mostly in the U.S.A., it's true, but elsewhere too) in considerable numbers. What made these buildings monumental was merely some simple 'pure' external form, based on geometry or on some structural engineering device such as tensile strength or on both. The high priest was Eero Saarinen, and when he was appointed to the jury of the competition for the Opera House every potential competitor architect must have had some idea of the visual style that would be most likely to win. Saarinen was not the only judge, of

course, but a second year student could see why he was invited. He was the man of the hour, the American star, the new master architect, the man in Time magazine; and he had achieved that position by building brainwaves. No doubt you remember the story, which Time told, of his designing the Kresge auditorium at M.I.T. by cutting three slices of his breakfast grapefruit hemisphere, and rushing it to his office wrapped in a table-napkin. At the time of the Opera House judging, when he took a few days off to dash to Sydney, he was building one of his most spectacular brainwaves: that structural tour de force, the Milwaukee War Memorial with its preposterous cantilevers. The builders were actually stripping the formwork at the time and Eero hurried anxiously to the 'phone more than once to receive progress reports from home. He was also deeply involved in designing the T.W.A. terminal at Kennedy Airport, New York—the famous 'Giant Bird'—and the Ingalls hockey rink at Yale. His means of designing these arbitrarily sculpted buildings, or of perfecting the design in his own



Left, two other products of the "romantic monumental revival," both by Eero Saarinen, one of the Opera House jury members: above, the Ingalls hockey rink, New Haven, Conn.; below, the T.W.A. Terminal, Kennedy Airport, New York. On this page, one of the stairways along the sides of the Concert Hall.





eyes, was to have one half of them modeled, at a scale of half-inch to the foot, against a mirror. The mirror became the centerline of the building and the model was completed in the reflection. It was a curious device, very revealing of him and of the shallowness of that romantic monumental revival. The romantic sculptural work was done freely, one might even say artistically, with modeling tools, while the glass centerline ensured traditional architectural symmetry. The monument built itself in the looking-glass. Utzon's design was directly, precisely in line with this phase of Saarinen's work, except that it was rather better: more subtle since it consisted of three symmetrical sculptures freely related, but it was no more rationally related to the planning below than any of Saarinen's monuments.

Utzon's design was really two designs, as I've mentioned. The sails, which grabbed the eye first, were romantic monuments chained to their period. The plan, which was even more beautiful and pure architecture, was a brainwave concept: a ridiculously simple, single-minded resolution of all the conflicts and complications of the program. These two elements had to be steered—though no one realized it at the time—through unimaginable difficulties into another age of architecture. It is ridiculous, no doubt, that architecture should be so unstable, changing radically every fifteen or twenty years, but serious architecture does that. (Commercial styling is much more reliable.) Architecture changes as it involuntarily follows the mood of society. Vietnam and the student revolt had their effects on architectural form; the change in attitudes to censorship and Women's Lib are ultimately expressed in window details.

First let's look at the sails. Originally they were to be of shell concrete. All architects at the time believed without question in shell concrete: no matter what shape we dream, the backroom boys will tell us how to build it. When difficulties appeared Utzon did not demand that Ove Arup's structural engineering firm should give him precisely the shapes he had drawn in the advanced sketches. He gave them a set of guide lines within which they could feel free to modify the shape to suit the stresses. For instance, he required the sides to spring vertically from the podium so that the inward curve would be kept as high as possi-

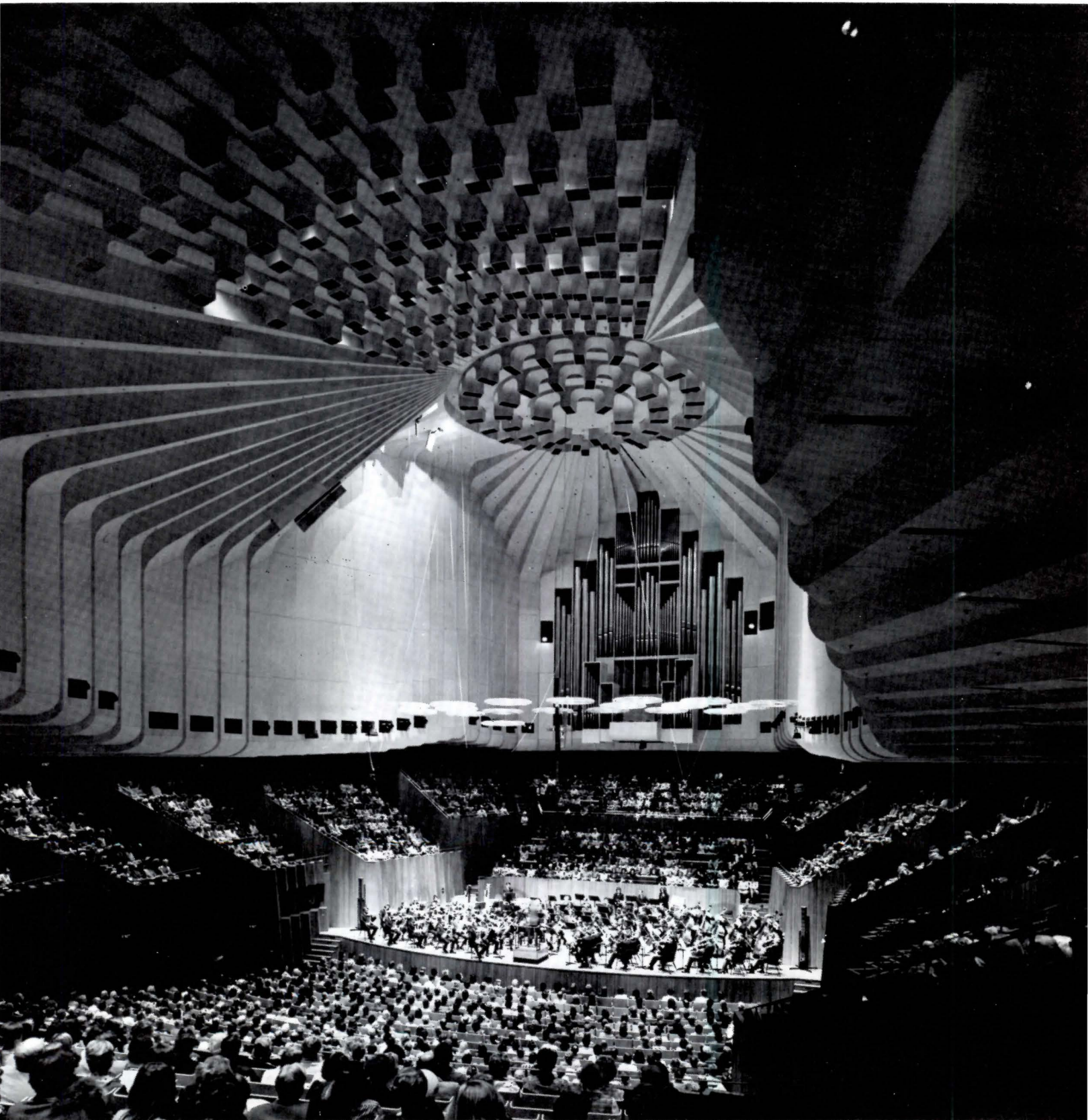
ble, out of the way. He also described the shape which he wanted, for purely visual reasons, the spine to take. Here is the design he submitted in the competition and the design which has been built. Many people have been critical of the change. The free, joyful, light and elegant original concept has become, they complain, static, mechanical, heavy and rather clumsy. That may be true, but the group of shapes has also become, fascinatingly enough, a thing of the seventies, just as the original scheme with its romantic leaping form and pretty arches is a thing of the fifties. This has happened because the imaginary freedom of shell concrete has been disciplined by Utzon's decision to make all parts fragments of the same sphere. The spherical discipline, permitting a structural system of prefabricated repetitive blocks, has given a crispness, a chunky almost down-to-earth look that belongs to the present. These are the feminine and masculine versions of the same concept. Or the feminine and the Women's Lib versions. Thus Utzon performed the unbelievable feat of dragging his design unbuilt through from the mid 1950s to the mid '60s while keeping it alive.

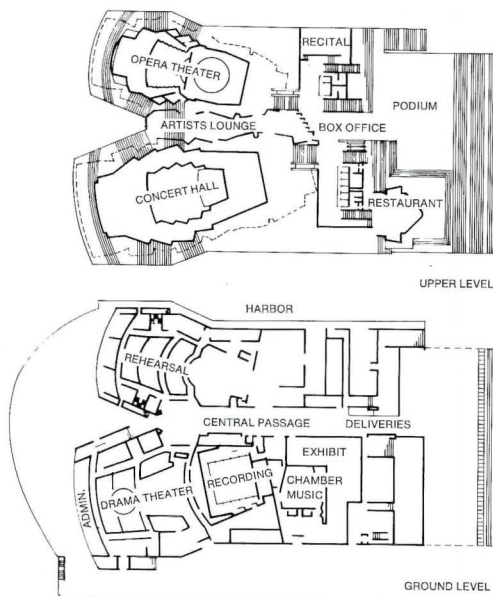
So the Utzon design was selected. But there were complications. Utzon's brainwave had been slammed down on about a dozen sheets of paper with the least possible drafting fuss. That might be fine for other architects, but the stylish sketchiness would never do for the public or the sponsors. So a fine architectural delineator of the old school (and a good architect), the late Arthur Baldwinson, raced to produce a fine colored architectural rendering, with sky and full reflection in a placid harbour. He worked from an Utzon side elevation, making minimal changes to create perspective. Understandably enough, some unsuccessful competitors later complained about Baldwinson's contribution. I cannot see that it was anything but a necessary expedient under the circumstances. However, the precise, defined lines of Baldwinson's perspective did have the effect of implying that the Utzon idea was a precise and definitive design. Then there was the cost estimate. The conditions of the competition had asked competitors "to use their discretion in submitting a design of the character and dignity associated with this kind of building. At the same time they should bear in mind the necessity for sound judgement as to the

financial implications." They did not set a cost limit and they did not ask for an estimate. There was a Quantity Surveyor standing by, Mr. Major of Rider Hunt & Partners, to give help to the jury if they needed it. He was shown the Utzon drawings. He could guess at the foundation structure, roughly measure up the seating and minor walls and so on, but when it came to the great sails, which were the walls and roof in one, he was stumped. Shell concrete was in its infancy, or rather its precocious adolescence, at the time, and there were as yet no examples of it in Australia. He asked Saarinen for guidance: "How do I estimate this?" Saarinen said: "There's nothing in it. These shells might be about three inches thick at the top, and say twelve inches thick at the base." No doubt he was thinking of the Kresge auditorium at M.I.T. which was only about half as thick as that (though it sagged, you'll remember, and had to be propped up with steel). Probably he had that deflection in mind when he doubled the figures. The Quantity Surveyor was doubtful, but he doubled Saarinen's figures again, to be on the safe side, when he calculated the concrete in the shells. With reservations, he was able to advise the jury to estimate the cost of the Utzon entry at \$7 million. That was never Utzon's estimate, though his own, if he had been obliged to give it, would probably have been about the same. He too thought that the shells would be about three inches thick.

Thus the people of Sydney were presented with what appeared to be a final design at a firm figure. And there were very, very few people in the world who would have known that it couldn't be done. Those very, very few were engineers like Candela who were working in shells and knew some of the subtleties and limitations of them. Some claimed to know at first glance that one can't create a shell along a spine. Others guessed that it would be extremely difficult but might be possible. Anyway, as we know, Ove Arup agreed to take it on, thus involving a team from his office in tedious months of computer work and old fashioned study before proving conclusively that indeed it couldn't be done—that's to say, the Utzon shapes could not be built in shell concrete or even in ribbed concrete within the limits of sensible economics. What was finally built—an economy version of the original shapes—will cost, when all is com-

Left, an early sketch of the roof "sails." Comparison with the present roof forms (p. 48) shows that some originally intended curved lower elements have been replaced by simpler, more angular shapes. Below, the interior of the Concert Hall.





plete, \$85 million. [The final cost is close to \$120 million.]

Then there was the seating. Utzon's design was just a matter of pretty shells, of course. These were just umbrellas over a most delightfully direct and simple plan, a perfect model of clarity in architectural thinking. In contrast to some competitors who tangled themselves and their building in knots trying to cope with the stairs, escapes and other conflicting requirements of the multi-auditorium complex, Utzon proposed a concrete hillside, as it were, under which all the minor requirements were swept and on top of which he laid the two main auditoria-opera, side by side, their steps and seating calmly climbing the hill. It was a beautiful concept, comprehensible from a glance at the plan only. To most architects it was every bit as satisfying, in an aesthetic as well as an emotional sense, as the sails above. But not to all architects. Many unsuccessful competitors had struggled for weeks to find a way to put the two main auditoria side by side, for that was the only way to combine the foyers and keep the whole reasonably untangled. But they had discarded the idea because they found there was not room for two, with the seating capacities demanded, side by side. The inflexible peninsula called Bennelong Point, which was the site, was unquestionably too narrow. Utzon's was not the only side-by-side solution, but nevertheless when the day of reckoning came about ten years later Sydney learned that it was true that the

two auditoria could not fit side by side. Or rather—because by then the vaulted roofs over the two had been built and it was too late to turn back—with the two side by side the number of seats that could be provided was cut drastically and there was no room for side wings to the stages. The competition conditions had called for the main auditoria to seat 3000 to 3500 people, and stressed the need for comfort for them. If one were to put comfortable seating (e.g. 36 inch row spacing) under the vaults now standing, and laid out that seating in accordance with the original Utzon concept, only about 1800 people could be seated. At the time Utzon left he had in hand plans to increase greatly this number by extremely tight seating (31 in. and 29 in. row spacing and no aisles).

Any promoter of any architectural competition is inclined to a slight fear—greatly magnified since the Sydney Opera House affair—that he may be landed with a design that is stunning in appearance, perhaps, but impractical, wildly extravagant, and not really what he wants. That is precisely what Sydney got, to the everlasting credit of the four brave men of the judging panel.

Any sponsor of a competition also fears that he will have lumped upon him an architect who is brilliant, perhaps, but young, preoccupied with design, and not in the least interested in or experienced in administration. Does this description fit Utzon?

I think it is fair to say that it did, at least at the time he won the competition. Of his outstanding brilliance there can be no doubt. During his worst days before he left Sydney many famous men supported him with telegrams: Neutra, Kahn, the Gropius team, Candela, Markelius. Giedion wrote an additional chapter for *Space, Time and Architecture* called "Jørn Utzon and the Third Generation." "In him," wrote Giedion, "several sensitive characteristics of the third generation are sharply delineated," and he went on to eulogize in cosmic prose. Utzon's brilliance—genius, if you like—is in his multiple-problem-solving ability. He analyzes the complex, conflicting series of problems which constitute practically any architectural brief and he comes up with a single answer which solves all of them simultaneously. (That of course, was the goal of all architecture until Robert Venturi decided it was just the opposite.) Arup said Utzon was probably the best designer he

had come across in his long experience of working with architects.

Utzon nevertheless, at the time of winning the competition, had nothing to show in the way of completed works bigger or more complicated than a housing estate. He was aged 38 and he was inexperienced, though he must feel an extremely experienced man now. How beautiful his drawings were! The geometrical diagrams of the shells, the enormously large scale plans and sections in meticulous detail. He was experienced enough, God knows, in every craft of architecture but he was inexperienced in the painfully essential tasks of administering the construction contracts of a big complicated building, and he was inexperienced in the subtle art of handling clients.

Sydney knew of his lack of experience in big buildings before it appointed him, and there were the usual safeguards in the competition by which the New South Wales Government could have insisted on a partnership between the winner and some firm of established authority. But Utzon flew in from Denmark, and nobody asked for such a partnership. Perhaps because he was so tall, so good looking, and so commandingly confident. And so, thanks to the judges and the winner himself, the Sydney Opera House competition provided the sponsors with the full family-size package of problems which cause international competitions to be feared. Sydney became involved for years with faction fighting, with stress and tensions between organizations concerned with the building, and with costs beyond its imagination. This is what it got from holding an international competition. It also got a building which will keep people talking, and thinking about architecture, till at least the end of the century. It didn't want any of these things. But it is a better place for having them.

I said that the second big question raised by the Opera House concerned the delicate relationships between a client, an architect, and the other main consultants: in short, the politics of building. The Opera House was from the beginning an intensely political object. It might have been born in a campaign led by the late Sir Eugene Goossens, then conductor of the Sydney Symphony Orchestra, for a center for the performing arts in Sydney, but its real function was to be a symbol . . .

The foyer at the rear of the Concert Hall
(and a similar, smaller foyer for the Opera Theater)
are roofed with glass and overlook,
from the top of the stairs, a view of Sydney Harbour.
Photographs: Max Dupain.





Big y be k

Chicago's Sears Tower is nine skyscrapers in one

If, for whatever reasons, one is compelled to put almost 5 million sq. ft. of office building into one downtown city block, the new 110-floor Sears Tower, in Chicago, demonstrates a good — even ingenious — way to do it. It uses less structural steel than many smaller buildings; it is more resistant to wind stresses and wracking of its frame than conventional skyscrapers; and its structural system can be duplicated in many configurations and heights (as Sears itself attests). Whether or not Sears could properly be called a beautiful building is a moot question because its greatest beauty is its potential as a prototype structure for other highrise buildings, from 50 stories to as high as society will allow and pay for.

In the case of Sears, society, by the name of the Federal Aviation Administration, would allow a building in Chicago no higher than 2,000 ft. above sea level, or 1,450 ft. That, not the height of New York City's World Trade Center, determined Sears' height. No one connected with the project set out to build the world's tallest building, but Sears, Roebuck & Co. had estimated its eventual floor space requirements at 4.5 million sq. ft. before the project started. When it hired the Chicago office of Skidmore, Owings & Merrill, architects, Sears expected to build a huge 40-story cube, with floors of about 110,000 sq. ft. The building would have been—and in its present form still is—the world's largest private office complex. But then it might also have been the world's clumsiest.

The cubic form, reminiscent of old Sears warehouses, was soon discarded, though not, primarily, for esthetic reasons. Sears had studied its office requirements and decided that 110,000 sq. ft. was the ideal size for its departments, but SOM performed some time studies that proved the company could save 30 percent of walking time if smaller floor areas were stacked. And so the building began to grow upwards, in concept at least. Another important factor was Sears' plan to occupy only 60 percent of its new headquarters initially and to rent the remainder until it needs it; there is not a big rental market for office floors as large as 100,000 sq. ft.

For a while it seemed that Sears really wanted two buildings—one for itself and one to rent. SOM seriously considered designing two towers, side by side. But then SOM began to work out a way to give its

client two, three and even four or more buildings in one structure.

The Sears Tower, as finally designed and built, provides its owner with a 50-story office building with floors of 52,670 sq. ft. Stacked on top of that are, in essence, a 16-story tower with 41,420-sq.-ft. floors; a 24-story tower with floors of 30,170 sq. ft.; and a 20-story version with floors of 12,283 sq. ft. Not only has Sears got what the rental market wants, but it has achieved these heights without paying a premium in structural steel costs. A traditional skyscraper uses 50 lbs. of structural steel per sq. ft.; Sears uses 33 lbs.

As plans for the tower went skyward, the combined lure of economic practicality and healthy corporate ego lent some emotional fervor to the project and Sears, which had at first resisted a very tall building, gave the word to go all the way.

It took a unique structure to make such a building possible, and this is the most significant aspect of the Sears Tower. SOM's only engineering partner, Fazlur Khan, a pioneer and recognized expert in highrise structural systems, evolved a system called "bundled tubes" for Sears. Khan had earlier developed the tube concept of highrise structure, starting with the Dewitt Chestnut apartment house in Chicago, in 1961. This 43-story apartment was designed as a hollow tube, with the exterior walls taking full wind loads and the frame designed as a cantilever from the ground. This particular kind of structure has a height limitation of about 400 ft. because it is subject to shear lag (see diagram), which means that the frame wracks and the columns at the corners have to take a disproportionately large share of the load.

One remedy for shear lag is to stiffen the walls with diagonals and SOM did just this when it built the John Hancock Tower in Chicago about three years ago. But Sears did not want another Hancock, nor did their space requirements suit such an approach; so Sears went a step further than Hancock in its structural development. Two additional web frames in each direction are engaged to the perimeter flange frames, so that transverse wind shears are transferred at 4 points on each flange face.

Sears is made up of nine structural bays, each 75 ft. square, and each structurally independent of the other. It is, in effect, nine skyscrapers of varying heights bundled

into one building. The height variations are possible because the system allows the architects to knock off one or more structural tubes almost at will, leaving integrity of the overall structure untouched. The primary requirement is that a height to width ratio of about one to eight not be exceeded.

SOM studied many tube sizes before picking the 75-ft. "megamodule." In general, the tubes became more efficient as they grew smaller, and 75 ft., for example, had a structural efficiency of 88 percent compared to 225 ft., which was only 61 percent efficient. Only two of Sears' megamodules rise the full 1,450 ft.

The columns are spaced 15 ft. on centers and are connected by deep steel beams at each floor level. There are belt trusses around each of the nine tubes, consisting of diagonal members between the columns, at the 29th, 31st, 66th, and 90th floor levels (mechanical areas). These trusses act as vertical shear diaphragms and reduce the dishing effect caused by differential column shortening at the setback floors (where most of the mechanical areas are located). The trusses also absorb large member shears in the vicinity of termination, and the lateral stiffness they contribute eliminates shear-frame displacements over the mechanical levels. Tubular efficiency, as well, is improved by the vertical shear diaphragms at those levels.

The floor trusses are 40 in. deep and their design is based on their composite action with the floor slabs, which are made of 3-in. composite metal decking and 2½-in. lightweight concrete, and span 15 ft. on centers.

The design was subjected to extensive wind tunnel and statistical wind study tests and the total building frame is the product of computer calculations and analysis. The project seems to have been efficient from beginning to end and has employed "fast tracking" and prefabrication in its construction.

Regardless of Sears' impressive structural features, it does not resolve the basic question of whether or not buildings of this scale are justified in today's cities. Critics will say the tower will inevitably use many more public services than it will pay for; that it will cause congestion and overcrowding on transportation corridors in the area; that such magnitude of scale is inhuman and inhumane; and that Sears

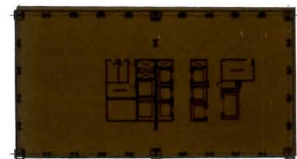
and other such large landlords are exploiting land values in the city and trying to make the most for their investment dollar, regardless of the consequences for the city as a whole.

Bruce Graham, the SOM partner in charge of the Sears design, and Khan are both quick to answer such charges. Graham cites the extensive transportation studies that Sears had done in the area, and says that the tower's site is uniquely at the focal point of many kinds of transportation networks, which can easily accommodate the new users the building will attract. He points out that the kinds of jobs that Sears will bring to the city will be suitable for low-skilled people and that the new site is in an underdeveloped, low-economic neighborhood that can profit from such a labor market and new physical development. Further, Graham believes that high-rise buildings are less of an environmental burden on a city than lowrise buildings, which occupy more ground, create more roof space and generate, rather than solve, transportation problems.

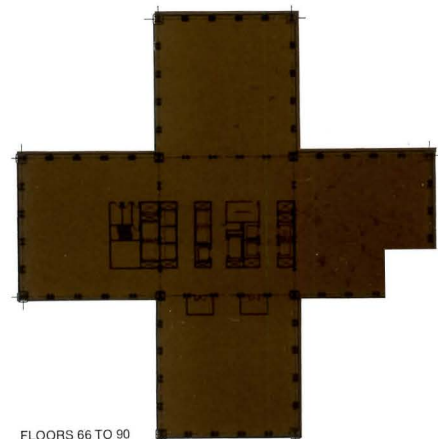
Khan is more philosophical. He thinks that current levels of industrialization leave us no choice but to concentrate in big cities, and he is convinced that tall buildings can be used to make cities more, not less, liveable. Efficiency and the American work ethic, says Khan, force people to concentrate in smaller areas, but structures such as Sears can be used to rid the skyline of straight-up-and-down towers of uniformly rectangular or square structures. Sears could become the "vocabulary" of a new kind of urban massing, he says.

Khan notes that changes in urban scale are necessary, starting with the city block, which is primarily obsolete in scale. He suggests that instead of building four 20-story buildings on each of four adjacent blocks, a developer be allowed to build one 80-story tower with parks surrounding it. (The parks, he said, must be designed "humanely" or they are worthless.) Khan continues by saying that the vertical megastructure will, he hopes, evolve into a multi-use structure that can function 24 hours a day. One building might contain offices, schools, play areas, apartments, shopping and hotels.

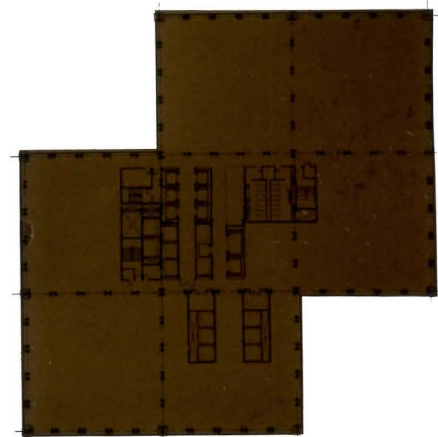
The technical problems seem easy, listening to Khan, but, he cautions, the social problems are just emerging.



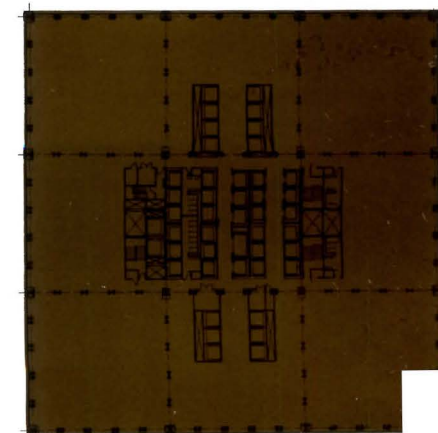
FLOORS 91 TO 110



FLOORS 66 TO 90



FLOORS 51 TO 65



FLOORS 1 TO 50

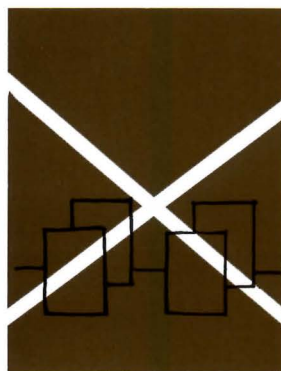
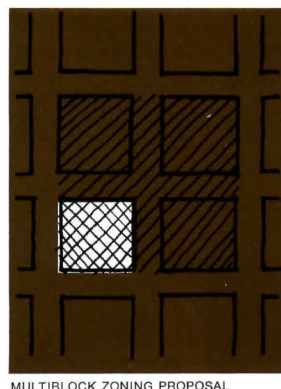
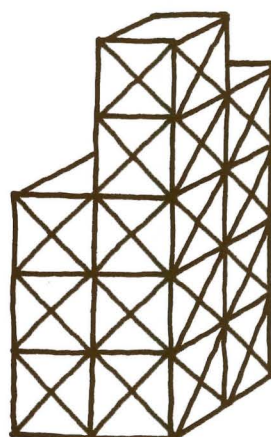
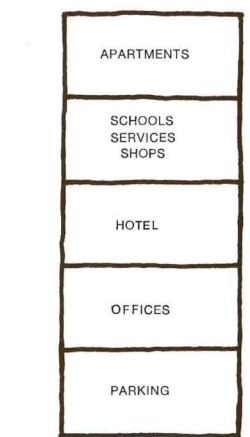
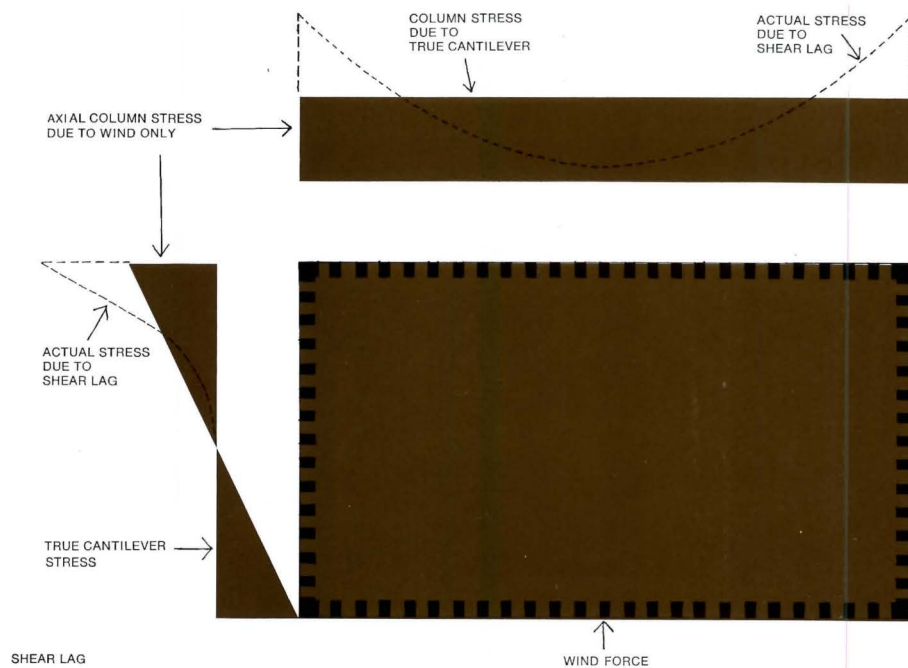
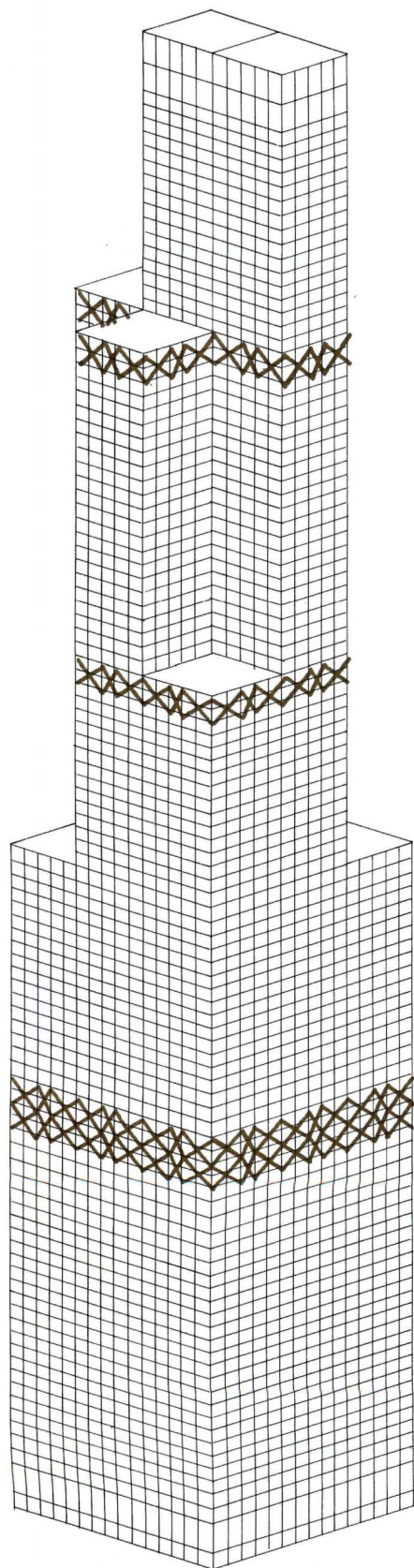
The isometric (below left) defines the nine towers of Sears and shows the diagonal members between columns at the 29th, 31st, 66th and 90th floor levels (primarily mechanical areas). At right (top) is a diagram of shear lag, wherein columns at the corners of a highrise structure tend to take on a disproportionately greater load than other columns and so lead to wracking of the building frame. The bundled tube structure of Sears minimizes this effect. The multi-use skyscraper and diagonalized tube structure sketched below are possible buildings of the future—the diagonalized tube concept can lead to even taller buildings than the Sears structure. At bottom is a sketch of the multi-block zoning proposal Fazlur Khan thinks might make cities more liveable.

Facts and Figures

Sears Tower, Chicago, Ill. Owner: Sears Roebuck & Co. Architects: Skidmore, Owings & Merrill (Ferd Scheeler, job captain; Richard Kreutz, associate in charge). Engineers: SOM (Hal Iyengar, structural engineer); Jaros, Baum and Bolles (electrical and mechanical). Interiors: Saphier, Lerner, Schindler, Inc. Environettics. Contractor: Diesel Construction, a division of Carl A. Morse, Inc. Building area: 4.46 million sq. ft.

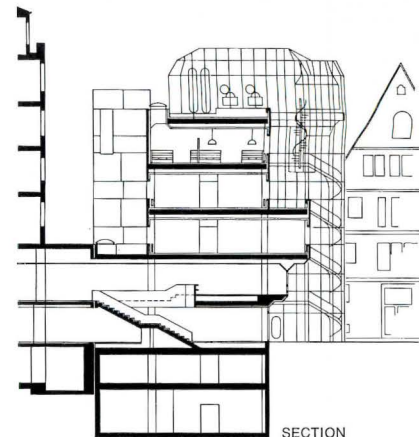
Photographs: Hedrich-Blessing.

Building suppliers listed on page 79.

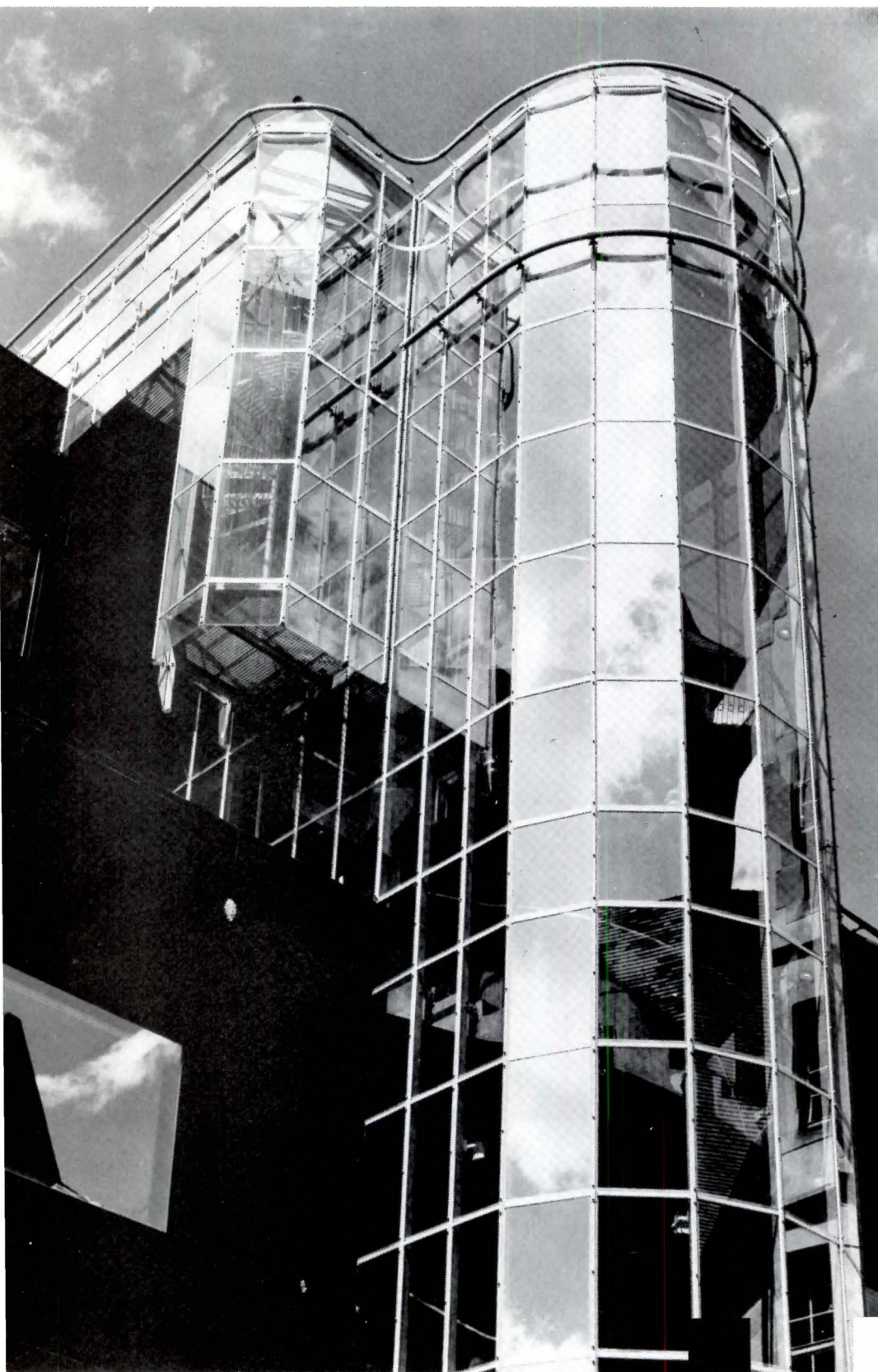


rrors othic

A new bank in Stuttgart
relates to its neighbors by reflecting them



SECTION



Architects Kammerer and Belz have produced a small administration building for the Commerzbank (Commercial Bank) in Stuttgart which nestles happily among a splendid collection of medieval structures. Not content merely to copy the existing style or to design a bland, background elevation for the new construction, the architects have made daring use of glass and curved forms. The gamble appears to have paid off for Stuttgart, a relatively conservative city, in that the reflections of the gothic *Stiftskirche* in the glass facades of the bank across the little square enhance the church rather than detract from it. And the rounded stairtower leads pedestrians into the square from the north in a dramatic way.

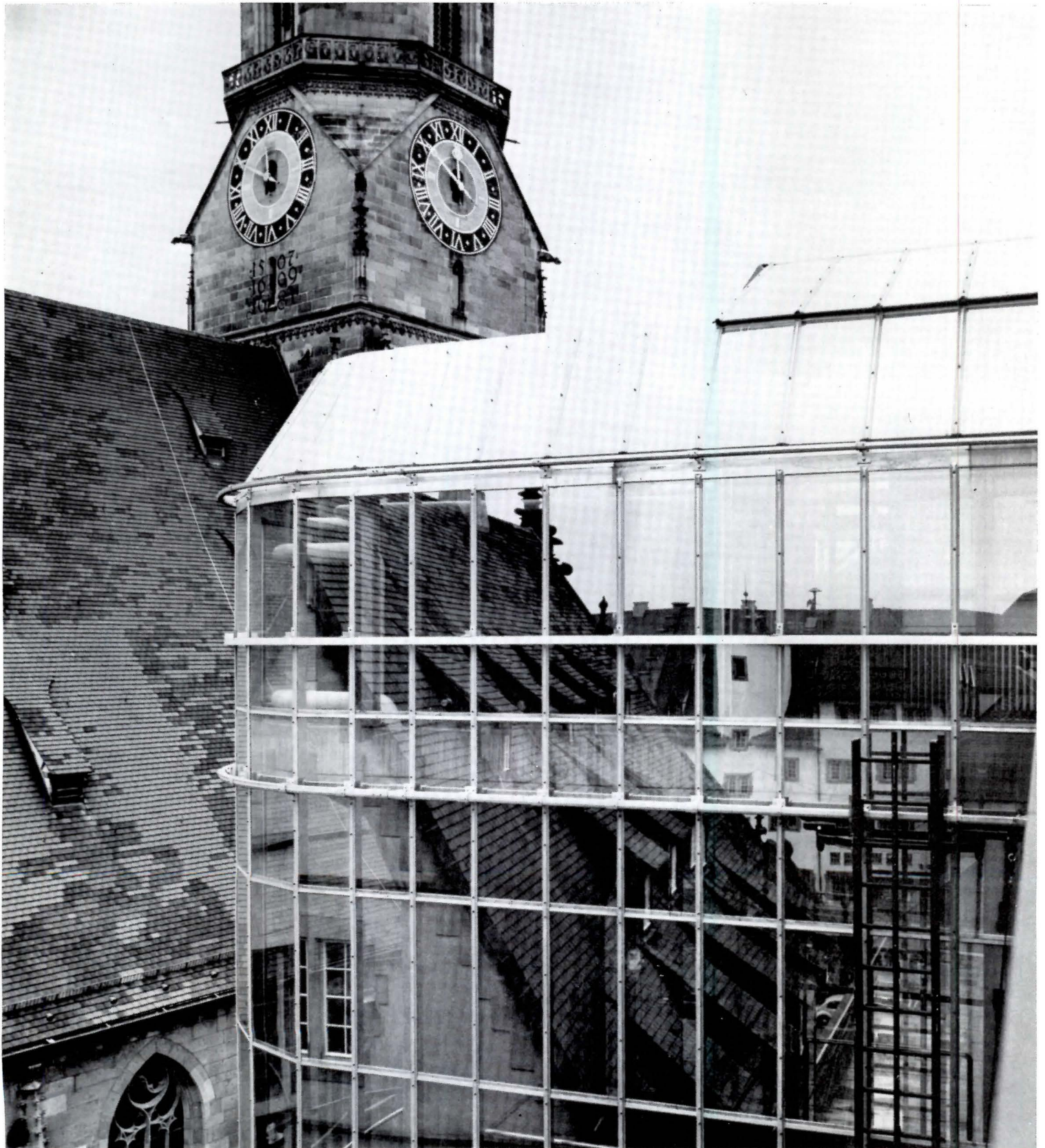
The program presented to the architects for the tiny, legally constricted site included several incongruous functions. First, expanded office space for the Commerzbank which connects to the new structure on the basement level. Second, dining rooms for the Commerzbank directors and employees. Third, commercial space on the ground floor and the first floor (a shoe store) and finally, garage space for the directors. All cars, including those presently parking in the square which the new building faces, will move to an underground garage which is under construction in the main square (north of the Lapidarium). The office space is on the second and third floors with the dining rooms on the fourth. The plans have a definite linear quality because of rear setbacks which assure adequate daylight for the existing Commerzbank offices.

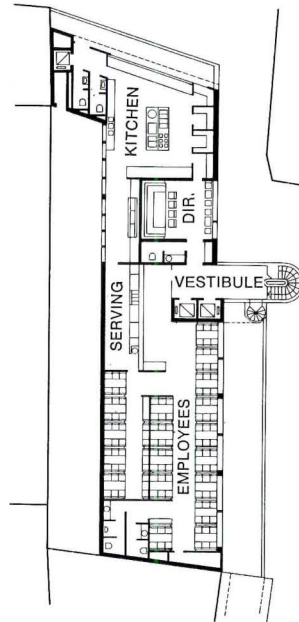
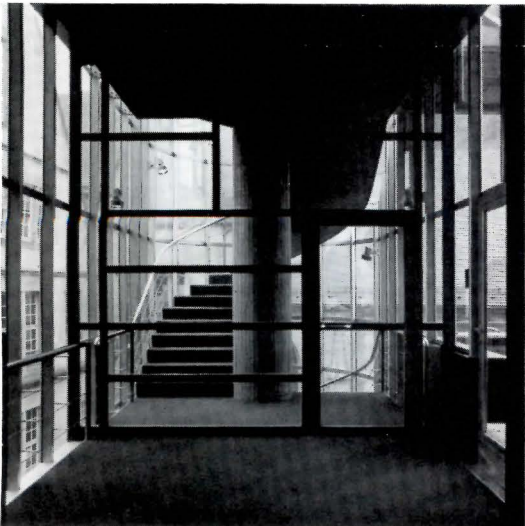
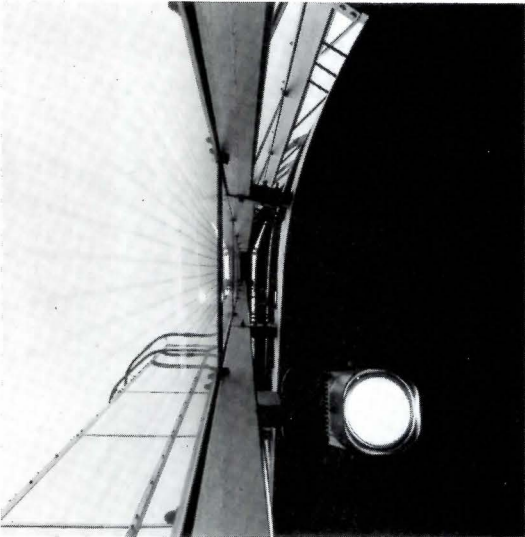
The glazed stairtower is, of course, the most spectacular element of the design. It encloses not only the principal staircase but elevators and a circular access stair from the fourth floor to the elevator machinery. The several horizontal rails at the top accommodate the window washing trolley. The mirrored wire glass in the stairtower is held in place by an anodized aluminum glazing system. Mirrored double glazing is used in the office windows.

Facts and Figures

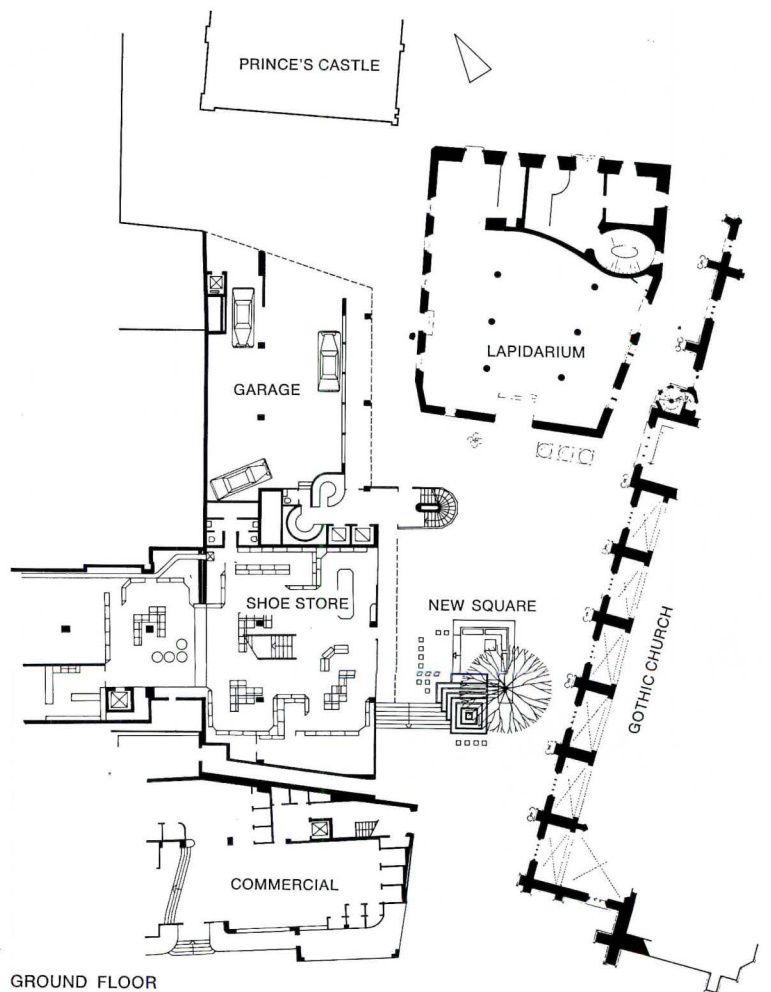
Administration building for the Commerzbank AG, Stuttgart, West Germany. Architects: Hans Kammerer and Walter Belz. Job captain: Wolfgang Erlekm. Engineers: Hans-Ulrich Schroeter and Karsten Thee. Photographs: Peter Walser

The principal church of Stuttgart and the other medieval buildings which surround a tiny downtown square are reflected in the mirror glass walls of the Commerzbank administration building. A faceted glass stairtower projects from its facade into the square (section left). Such an element of non-reflective material might well have drawn too much attention from its ancient neighbors and been intrusive. But because the glazing has been designed with care, the new building itself tends to disappear while the square is filled with gothic images on all sides. Furthermore, the mirrored glass tends to enlarge the space of the square itself.



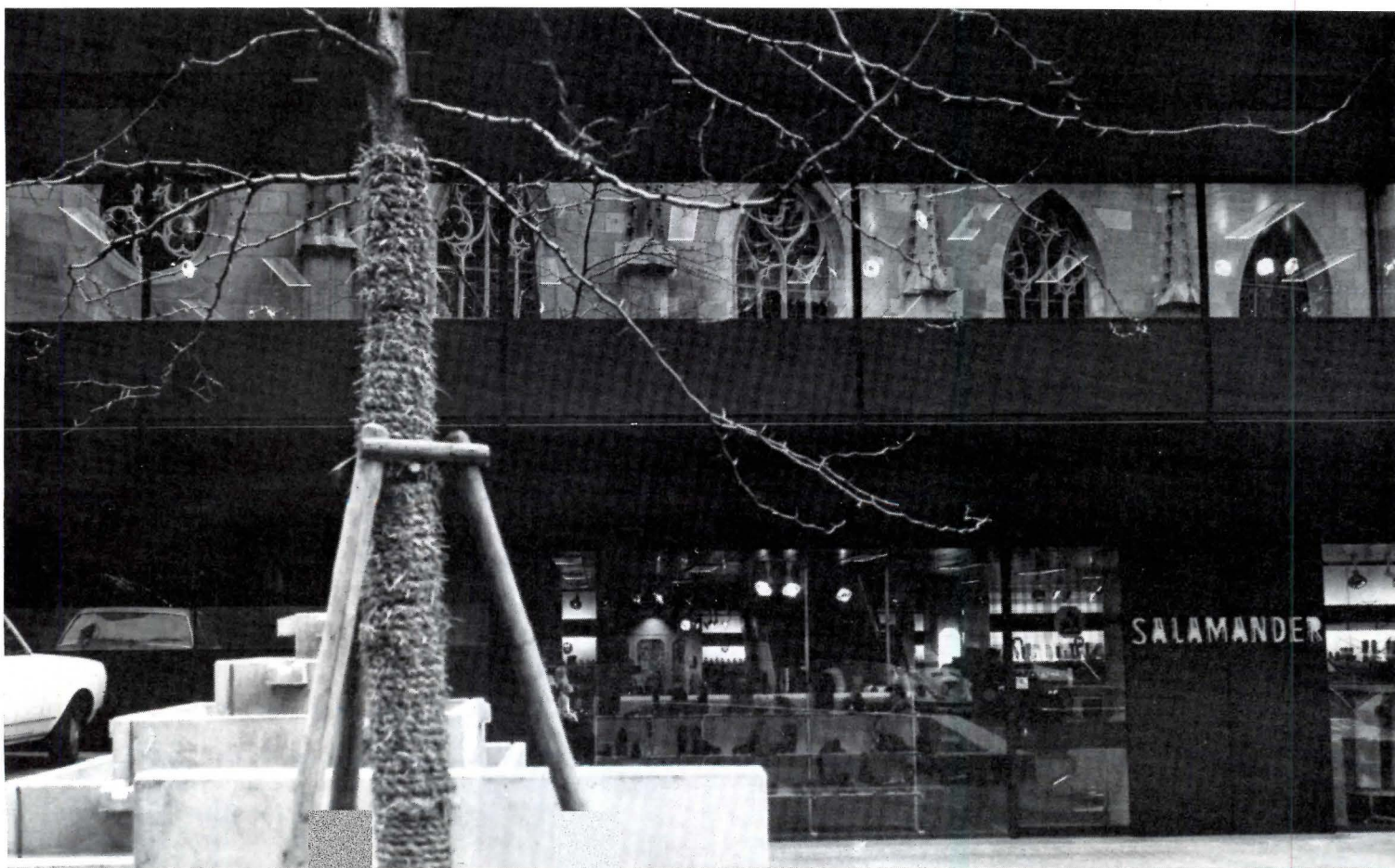
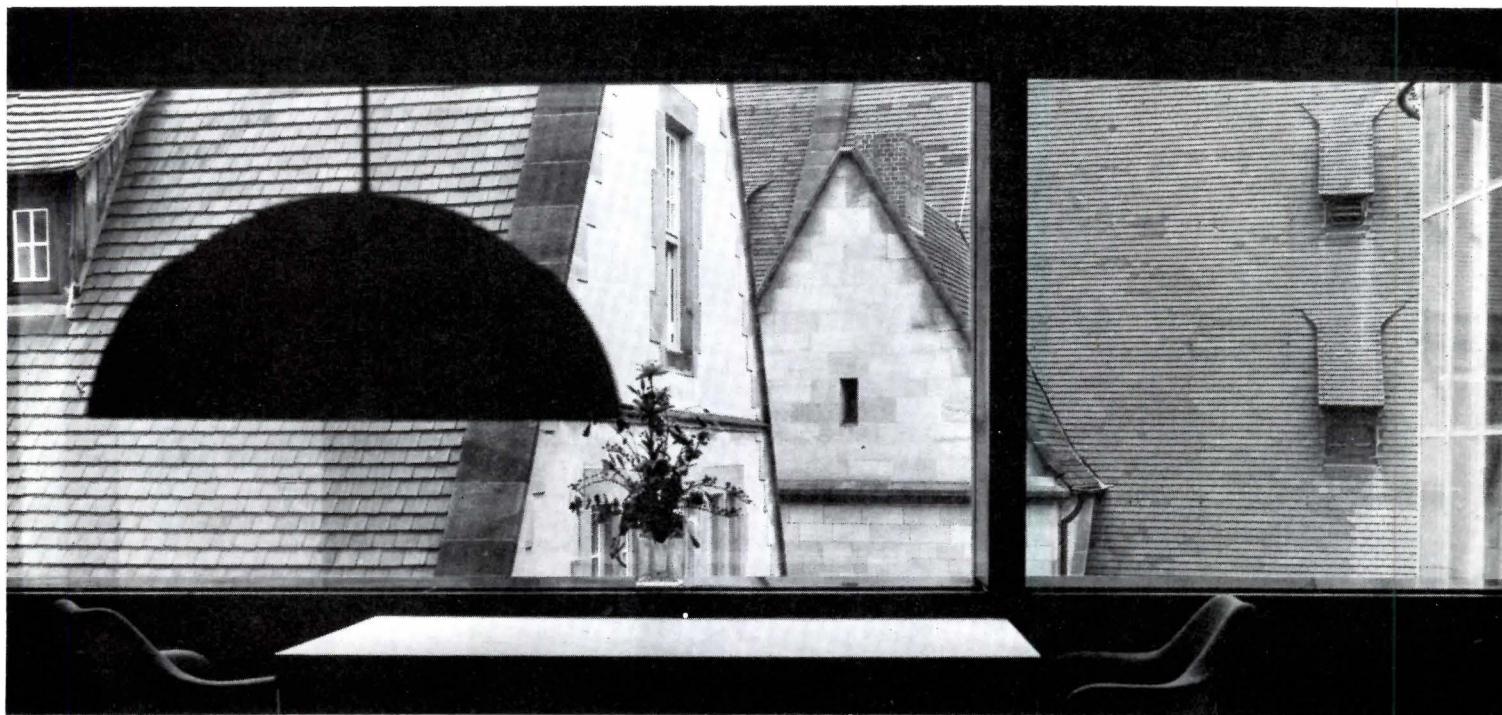


TOP FLOOR

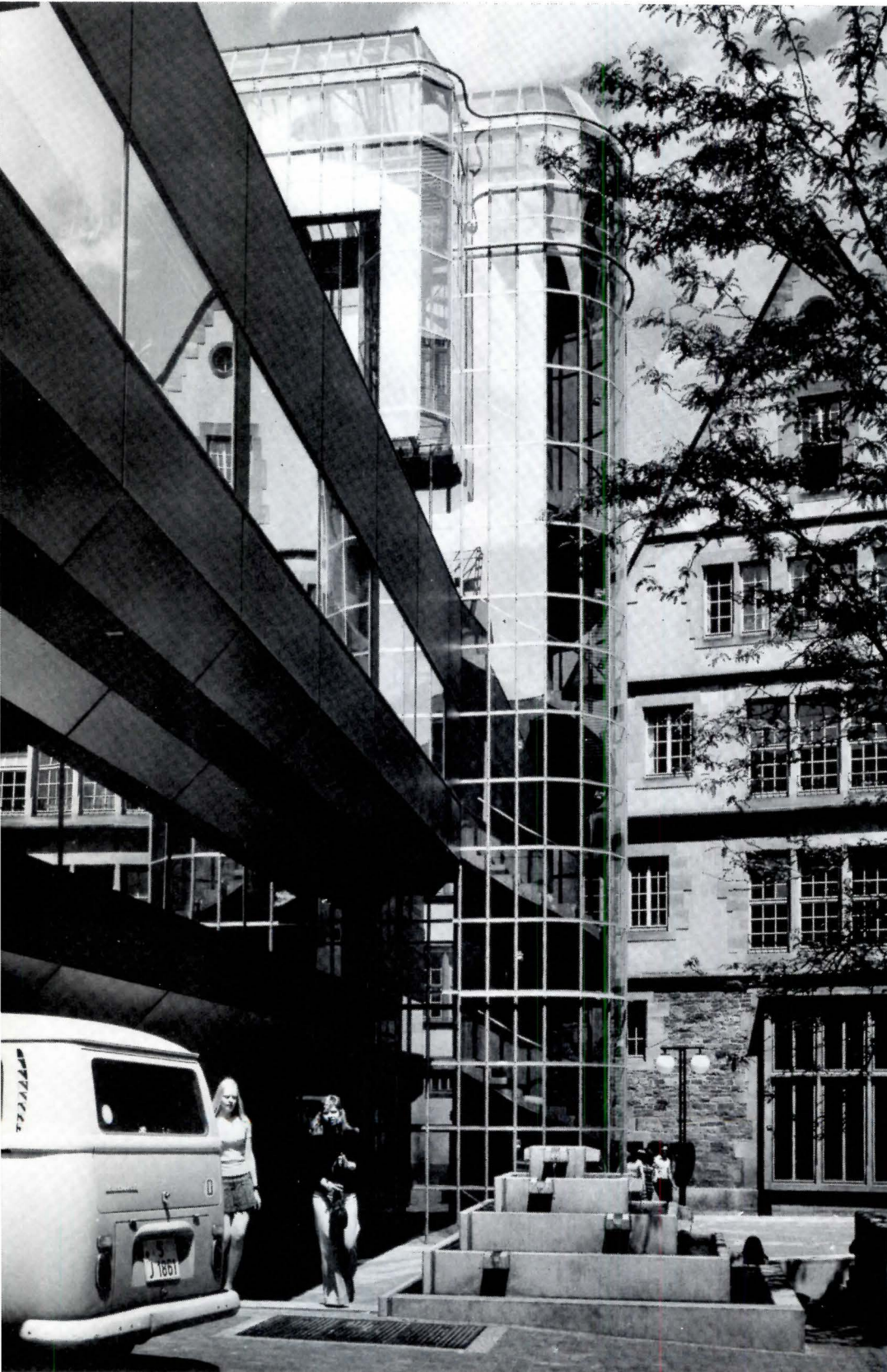


GROUND FLOOR

Details of the stairtower (far left) illustrate the attention given by the architects to this bold element. The major stair and the access stair to the elevator machinery (top left) are both expressed on the exterior as faceted forms. The detailing gives the stairtower an esthetic character which contrasts in its crispness with the softer masonry buildings around it yet recalls the clarity of gothic construction. Between the ground floor and the fourth floor (plans left), there are three floors used by the bank as additional office space. The connection with the existing offices is underground. The restrained facade of the new building (below) offers intriguing glimpses of its neighbors from inside.



The small fountain and sitting place adjacent to the shoestore entrance (below) were also designed by Kammerer and Belz. They provide a pleasant, useful focus for the square which will soon be without automobiles. Cars presently parking there will go to a nearby underground garage when it is complete. The entrance into the square from the north (right) is completely closed as the pedestrian approaches the stairtower wall. But the glazed surface gently opens to the left and provides a welcome feeling of surprise as it reveals the church adjacent to the open space.





Tel Aviv Congress

The 3rd World Congress of Engineers and Architects will convene in Israel on December 17, 1973 for one week. The congress, which will be under the auspices of the Association of Engineers and Architects in Israel, in cooperation with the International Technical Cooperation Centre, will have as its main theme, "Dialogue in Development—Natural and Human Resources."

Professional tours in Israel will be arranged as pre-congress events on December 14, 15, 16, 1973. For information, write 3rd World Congress of Engineers and Architects in Israel, 200 Dizengoff Street, P.O. Box 3082, Tel Aviv. All you lady architects and engineers will be pleased to learn that special ladies' programs will be arranged during the congress for those who may find the scheduled sessions a little too heavy.

Prize for Brasilia

The Academy of the Latin World recently granted the Calouste Gulbenkian prize in Paris to the Brazilian architect, author and urbanist, Lucio Costa, for the plan of the city of Brasilia. Originally designed to house 500,000 people, the new city was set in the heart of Brazil with the express purpose of developing the vast interior of the country.

Although the city has been both admired and criticized, as much for its plan as for the architecture of its buildings—many of them by Oscar Niemeyer—it is difficult to assert categorically, as André Malraux has at his inauguration as French Minister of Culture, that Brasilia is the first capital of civilization in the 20th century. It is, however, an experience of undeniable worth, justly recognized in this distinction given to Lucio Costa. —L. A.

RIBA and AIA hold hands

A joint venture has been agreed upon by the Royal Institute of British Architects and the American Institute of Architects; they will jointly publish a research journal, formerly produced by the RIBA alone.

Two editorial boards, one in Britain and one in the U.S., will screen research papers for the magazine, which will appear three times a year.

It is hoped that this will improve architectural research in England and the U.S. Inquiries about ART (Architectural Research and Teaching) should be directed to Don Conway, AIA, 1735 New York Avenue, N.W., Washington, D.C. 20006.



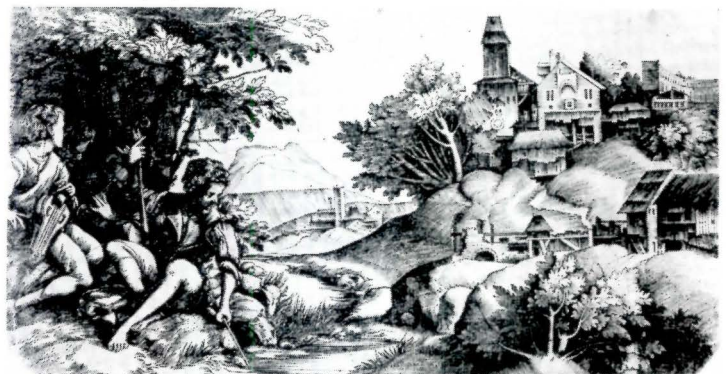
Battle of the Sea Gods, Andrea Mantegna

The Renaissance in Washington

An important exhibition of Italian Renaissance prints is being held at the National Gallery of Art in Washington, D.C., through October 7, 1973. More than 350 engravings, niello prints and woodcuts of the 15th and 16th centuries are on display, 200 of them from the National Gallery's own collection, and the rest borrowed from 15 major public collections in the U.S. and abroad.

The show celebrates the publication of an extraordinary book written by the art historians of the National Gallery, Jay A. Levenson,

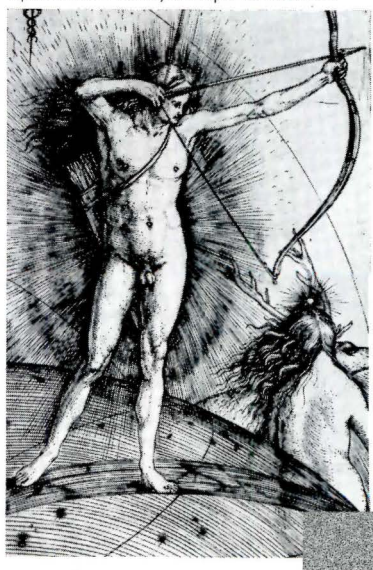
Sheehan. This book attributes early Florentine engravings until now marked "unknown," revises the order of Mantegna's engravings, and lists new chronologies for early 16th century masters such as Jacopo de Barbari and Giulio Campagnola. "Early Italian Engravings from the National Gallery of Art," a 580-page volume, is the product of many years of scholarly research and is likely to become a standard reference book for Renaissance scholars. A 32-page guide to the exhibition is available.



Shepherds in a Landscape, G. Campagnola

Apollo and Diana, Jacopo de Barbari

Ship Under Sail, anon.





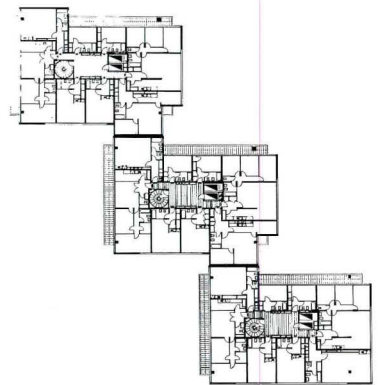
Saint Eloi

The architects of these housing units were faced with a delicate task—an urban renewal apartment project whose design had to blend with the character of the neighborhood, respecting the tenants' and owners' rights in the surrounding buildings of Saint Eloi, a small enclave in a neighborhood of Paris.

The plan chosen after many studies calls for three 20-story towers containing 430 apartments.

An interplay of masses and shapes will give an illusion of superimposition of villas, each with its own hanging garden—a vertical village. The image of the “small town” will become stronger when all three buildings are completed.

In the park below, patios and multi-level covered passages with boutiques and play spaces will carry out the village theme. The architects, Anger-Heymann of Paris, have attempted to retain the human scale in a very large project.



Chicago

An ambitious, all-encompassing plan, called “Chicago 21” (referring to the Chicago of the 21st century) has been unveiled.

An “elite” group of Chicago businessmen named the Chicago Central Area Committee, commissioned the architecture and planning firm of Skidmore, Owings & Merrill to do the study. The plan, focusing on 11 sq. miles, has as its aim making the central city such a nice place to live in that the now-decamping middle class will head back. All of this is to be accomplished without displacing any present residents in the process.

There are to be refurbished schools, enticing apartment opportunities and a mass transit network that is nothing short of heroic. This city thinks big, and the bill will be high: the plan mentions \$1 billion a year for 15 years.

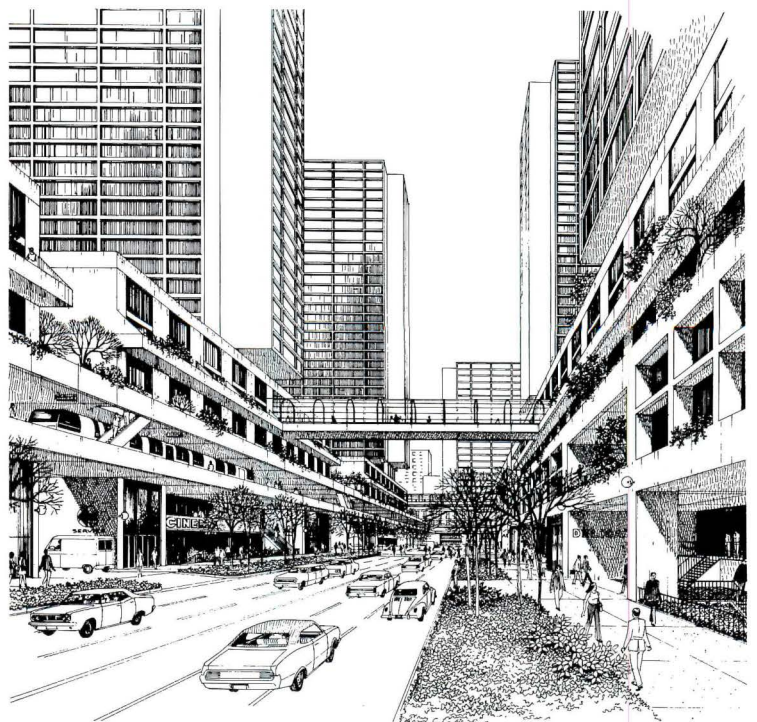
“Chicago 21” calls for a “new town in town” for 120,000 resi-

dents, to be built on 600 acres of abandoned railyards on the Chicago River, and a cleanup job for the river itself. The South Loop area will consist of superblocks (each one 16 acres with 3,000 apartments). Moving sidewalks will connect all the buildings at the second floor level. Finally, State Street will become a pedestrian mall, with massive landscaping and no vehicular traffic.

The orphan in the plan is the automobile. No highways are planned, though parking lots will be built at the terminal points of the new mass transit lines.

Public hearings will have to be held to allow Chicagoans to air their feelings about their all-new city.

To pay the bill, the Committee recommends cooperation between public and private interests. About \$15 billion worth of cooperation, that is.



Tokyo summer

While summer usually brings no more than the advent of the rainy season, this year a number of interesting events could be noted:

- Yamada Shomei, the lighting showroom began showing ten new fixtures designed exclusively for them by fashion designer, Pierre Cardin. All are commercial display lights in metal and plastic.

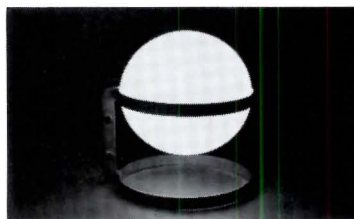
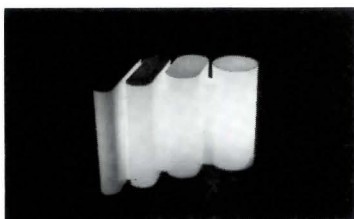
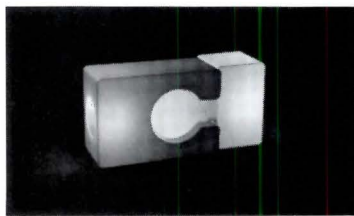
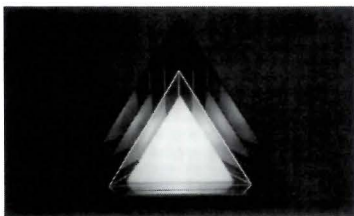
- Isamu Noguchi, the sculptor, who lives in New York much of the time, has had his first exhibition in Japan in almost 25 years. The show at Tokyo's Minami Gallery consisted of 20 pieces of smaller sculptures, black marbles, bronzes, bronze/chromes, executed since 1945, plus some very recent stone sculptures executed at the artist's studio on Shikoku Island. Shown is *Wet Stone*, granite, 1970.

- Claes Oldenburg's drawings and smaller objects followed the Noguchi show at the Minami Gallery. This is noteworthy since, to date, Japanese taste in art has run

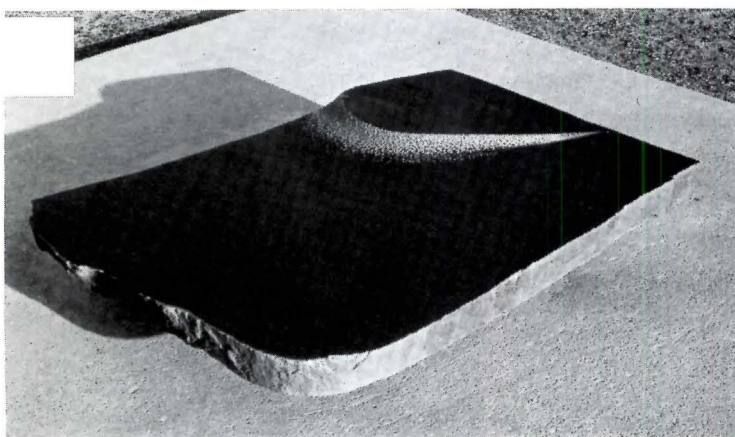
to French Impressionists and such. Perhaps the Oldenburg show was not considered "art."

- An exhibit of 236 archaeological treasures excavated in the Peoples Republic of China during and since the Cultural Revolution have been shown at the National Museum in Tokyo. The widely publicized and admired recent finds included such items as a latter Han Dynasty jade funerary garment (below), and many early silks, embroideries, lacquerware, porcelains and bronzes, some as early as the fifth century, B.C.

The exhibit was rounded out by fine replicas of Tang Dynasty (706 A.D.) murals from the tomb of Prince 1 Tê. The contents of the exhibition were accompanied by very good explanatory drawings. Unhappily, the National Museum did not do as good a job of physical presentation as it might have. Only bare space and security-proof cases were provided.—Y. U.

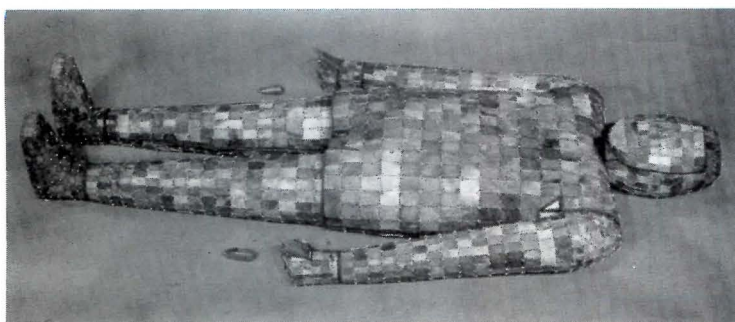


The fashionable lamps of Pierre Cardin



Noguchi's *Wet Stone*, above.

Han Dynasty death suit



MOMA on housing: nothing new

"Another Chance for Housing: Low-Rise Alternatives" is the presumptuous title of the latest in a series of self-congratulatory arrangements between the Museum of Modern Art and the Institute for Architecture and Urban Studies. The show purports to offer "new solutions for urban and suburban housing project design." In fact, it is about as original as the average B.Arch. thesis on the same topic. What is new, apparently, is that the New York State Urban Development Corporation (UDC) which sponsored the show, is ready to admit that not even in New York City should low- and medium-income families be housed in highrise buildings.

From prototypes developed jointly by IAUS and UDC two applications to actual sites were prepared by the IAUS staff. The urban proposal, for Brownsville, Brooklyn, has 626 units and commenced construction early in June. The units, 40 percent of which have three to five bedrooms, will cost an average of \$31,000. The suburban project, for Fox Hills, Staten Island, will not be built. Each consists of four-story bearing wall buildings containing a variety of dwelling unit types.

The most annoying thing about the show is that it fails to be informative to either the general museum-goer or the professional. To the former, the endless boards showing rendered elevations and unit plan types are meaningless. The few models are limited to exteriors of the buildings which are generally less interesting to laymen than interior arrangements in model form. The visiting architect finds inadequate statistics and unintelligible prose. The Brownsville scheme, the more convincing of the two, presents no tabulation of unit types, while neither discloses unit sizes or costs. The figures on the Brownsville given above, for instance, are not available at the show. Finally, no indication of building materials for these projects is given anywhere. It is a triumph of the "Cardboard Esthetic" so often touted by IAUS leaders. In short, the show has almost no relevance to the kind of research necessary to understanding today's housing needs.—J. D. M.

For another view of the MOMA housing show, we publish the following letter from one of our readers, Architect Thomas G. Kilian of New York:

An open letter to Arthur Drexler and the Fellows of the Institute for Architecture and Urban Studies:

Good show! It is a pleasure to see the Museum of Modern Art doing a serious exhibition on architecture after the earlier fiascos

(Johnson/Roche/Rudolph and Italian design). It is also encouraging to discover that New York may finally be getting some housing which can be called "architecture." The Museum's show is not the first sign of this new wave, but it presents a comprehensive view and reveals an unexpected level of scholarship which I thought only English architects could manage—the English influence is everywhere in the show, but as a positive element. For me one of the best projects is Richard Meier's, not least because it doesn't look like his houses, that is a witless version of Corbu 1925 (for a witty version see Venturi's Loeb house/Villa Savoye on Long Beach Island).

The institute's prototype and schemes for Brooklyn and Staten Island are the best of all—of course, one wants to see them built to learn if they are really good. Nevertheless, the large scale models are a knock-out. The inevitable Neo-plasticist/Purist esthetic is quite clear in these schemes, but the necessary repetitious elements forestall the ennui one feels from the excessive dependence on asymmetric composition always found in houses in this style. The day care center, unfortunately, isn't repetitious and betrays this Corbu 1925 copying.

But what is the justification for the Heroic Period symbolism? It is gratifying that this symbolism is explicitly applied so that one doesn't have to argue the propriety of applied symbolism.

It is also gratifying to see in the renderings some sign of attention to the life styles of the ghetto dwellers. Inevitably, one thinks of *Learning from Las Vegas* and wonders why not a greater variety of symbolism? Why not emulate the merchant builders' application of various styles to a limited number of models? They have done the market research on buyers' tastes. Why not a kit of parts to add to the facade like you can get for your car? Why not do like Soane and Nash? How about learning from Regent's Park!

Quality is the result of solving tough problems, not easy ones.—T. K.

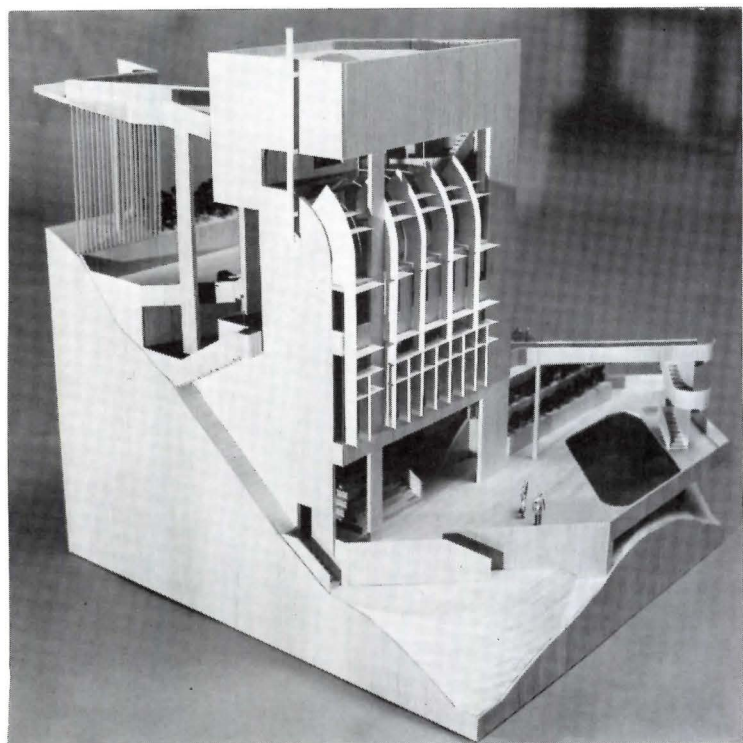
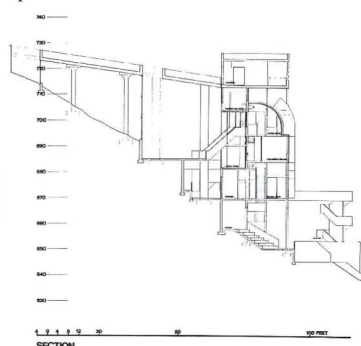
Too many Hiltons?

Brazil is going to be up to its castanets in Hiltons. The Hilton Hotels Corporation has entered into an agreement with Sisal, a Brazilian concern, for the construction of between 30 and 50 hotels across the country. Brazilian authorities have offered tax incentives to the hotel chain, which is investing \$120 million in a joint venture with Sisal.

Hong Kong highrise

Henry Liu, the New York-based architect and planner who contributed a detailed report on Mainland China to this magazine last February, has been at work designing what is likely to become a landmark in Liu's native Hong Kong: a six-story residence for one of those impossible cliff-hanger sites that abound in that port. The house will be reached by way of a bridge from an access road on the uphill side of the property; from that level, the site drops off 70 ft., and within that height Liu has sandwiched various floors, including a rooftop garage, a greenhouse-like living room with a spectacular view of Hong Kong Harbour, and different levels for children, master bedroom, family activities, and so forth. The complex section explains how the various levels will relate to each other. Hong Kong's zoning regulations limited land coverage to about 1,000 sq. ft., so

this large house had to be developed vertically, with different floors connected by bridges, ramps, interior and exterior stairs, and an elevator. The lowest floor contains a stepped-up loggia open to a cantilevered terrace complete with swimming pool. It is not often that an imaginative architect and some clearly adventurous clients join forces on so dramatic a site; but it seems to have happened here, with what promises to be a pretty spectacular result.



Serge Chermayeff

Golden rub

Serge Chermayeff, who was one of a very few in Britain during the 1920s and 1930s to battle for modern architecture, planning, and design—and who, subsequently, became one of the most irritating (and, hence, one of the most effective) teachers and writers on those subjects in the U.S. and the rest of the world, has finally been inducted into the Establishment: the Royal Architectural Institute of Canada has awarded him its 1973 RAIC Gold Medal, while thousands cheered. "I want to accept the Gold Medal," Chermayeff said, "not for myself alone, but for the innumerable students with whom I was privileged to rub minds for over thirty years." Had the innumerable rubbed (or grated) ones been present, they would have wished to return the compliment; for Chermayeff, who was and is among the most infuriating teachers of our time, was and is also among the very best. Too bad that the American Institute of Architects has, as usual, overlooked an opportunity to honor one of America's most perceptive minds.

The AIA, of course, has been having some difficulty identifying



Jacques Tati

worthy recipients of its particular honorific hardware. Wishing to be helpful, somebody suggested, several years ago, that the AIA's Gold Medal should go to pop singer Petula Clark, who had then just recorded her spectacular song, *Downtown*, which certainly did more for the future of our cities than was ever done by Doxiadis et al. Nobody paid the slightest attention—and look at what's happened to our cities since!

In that same spirit of Good Samaritanism, we now offer the AIA our other, helping hand: the 1974 Gold Medalist, obviously, should be Jacques Tati, whose 1958 movie, *Mon Oncle*, demolished the International Style. (The star of that movie, of course, was a magnificent Machine for Living in, gone berserk.) M. Tati has just polished off modern urban design, SOM-style, in a movie called *Playtime*, and the AIA might as well try to butter him up before he decides to polish off the AIA and similar clubs.

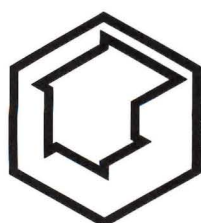
Or, perhaps, there should be a Double-Medal in 1974: Chermayeff and Jacques Tati. Like the twins in that chewing gum ad, the two almost look alike, at a distance.

Cadaques Portfolio One

A collection of 12 original silk-screen prints by artists from eight countries is being published in the village of Cadaques, Spain. Cadaques Portfolio One, dedicated to the memory of Peter G. Harden, was introduced at an exhibition in Cadaques this summer. The prints, all one-color, are works by: Sanae Ando, Lanfranco Bombelli, Mary Callery, Ivan Chermayeff, Xavier Corberó, Rita Donagh, Adolfo Estrada, Dario Grossi, Heijo Hangen, Max Huber, Richard Lohse and Bruno Munari.

The artists contributed their work without compensation, and the profits from the sale will be used for the benefit of the town.

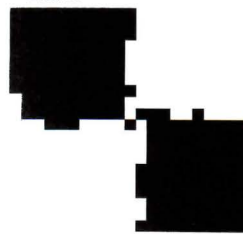
Grossi



Bombelli



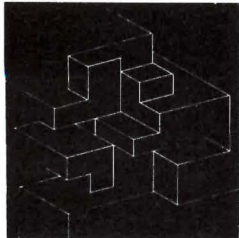
Lohse



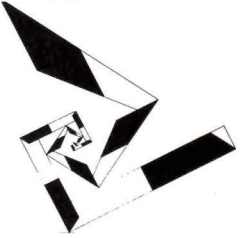
Corbero



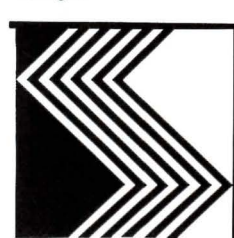
Ando



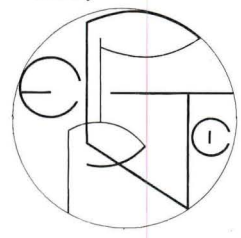
Huber

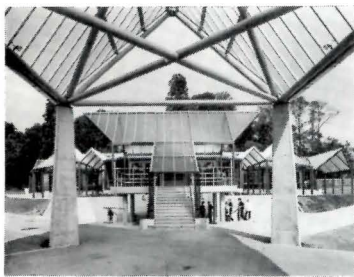


Hangen

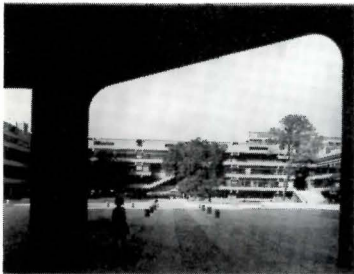


Callery

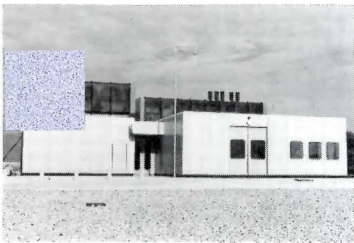




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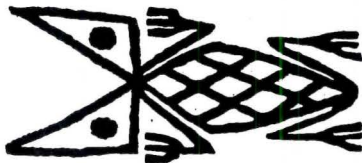
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RIBA awards for 1973

The Royal Institute of British Architects has selected seven buildings for their 1973 Architecture Awards as being "excellent of their kind . . . likely to remain fine works of architecture throughout their full working life." The awards were announced in London by Sir Hugh Casson, chairman of the RIBA Awards Committee, last month. The winners are:

1. University Theater, Newcastle-on-Tyne; Whitfield Partners, architects.
2. Chancellor's Court Yard, University of Leeds; Chamberlin, Powell and Bon, architects.
3. Gas Compressor Station, Peterborough; Architects Design Group, architects.
4. Bromley Ambulance Station; GLC Department of Architecture and Civic Design, architects.
5. National Motor Museum Complex, Beaulieu; Leonard Manasseh and Partners, architects.
6. Parke Davis & Company Building, Pontypool; Percy Thomas Partnership, architects.
7. Studio for Bernat Klein Design Ltd., Galashiels; Peter Womersley, architect.

Art of the Kadiués



The decorative beast above may be on his way to extinction.

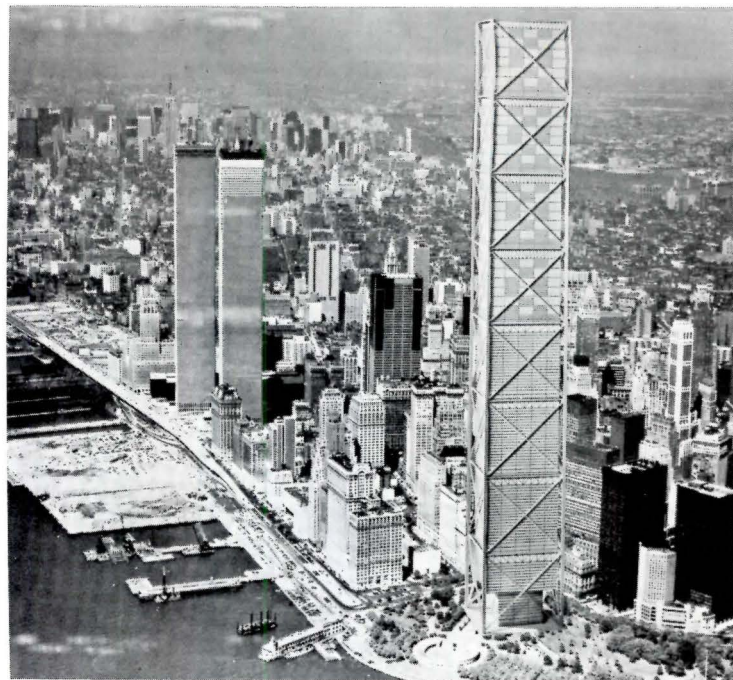
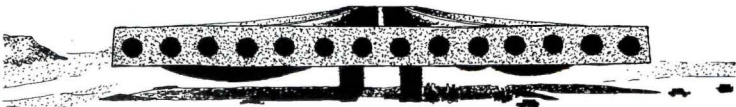
He is a typical example of the art of the Kadiués, who live along the Rio Paraná in Paraguay and in the Matto Grosso area of Brazil, and who today constitute a small group continuing to shrink in number.

In their tapestries, mats, ceramics, and in work on tanned animal skins, the Kadiués produce an art of restrained colors—mostly blue-black, vermilion and white—and abundantly inventive geometric abstraction. We must be grateful that these imaginative people are persisting in the maintenance of their culture.—L. A.

Brazilian testimony

Oscar Niemeyer has designed an arts center for his native Brazil which he says represents "a valiant testimony to the technological progress" of the country. Valiant indeed. Giant concrete pillars will support immense projecting beams between which will be housed

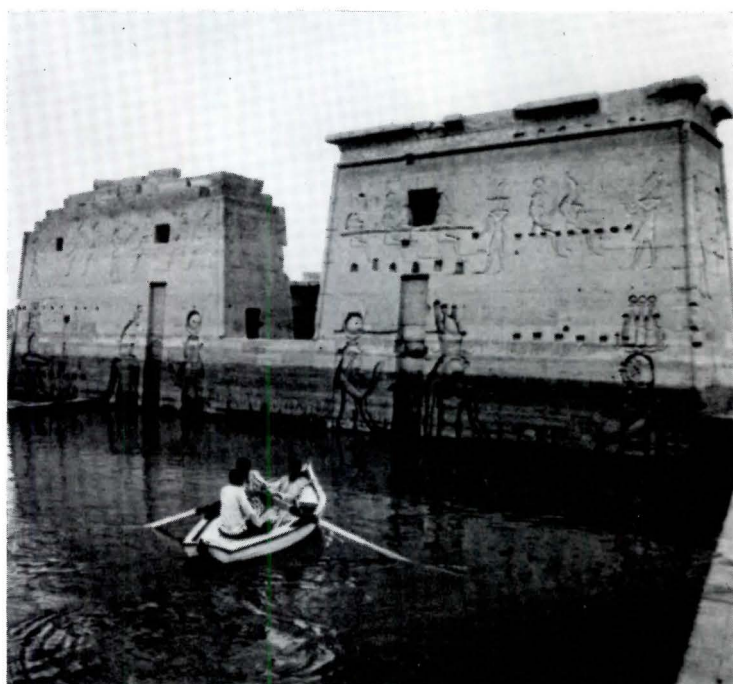
1,200-seat and 2,500-seat concert halls, a recital hall, and a music school. It is to be built adjoining the Museum of Modern Art in Rio de Janeiro. Jean Prouvé is the acoustical consultant, Pier Luigi Nervi the very busy structural consultant.—L. A.



"Make no little plans"

With the World Trade Center towers (those small ones on the left) still lumbering daintily towards completion, Charles Leyster, a fifth year student at Washington State's Department of Architecture, has rushed forward with a proposal for a 200-floor structure

of varied uses at the tip of Manhattan. Assistant Professor Peter C. Pran was Leyster's instructor, and, while the building's effect on transportation facilities might well be disastrous, we suggest that Leyster deserves at least a B for balls.—S. A.



Visitors rowing through the top of the temple

The lifting up of treasures

The temples of Philae in Upper Egypt, for centuries called the "pearl of Egypt," are going to be taken apart and re-erected on higher ground on Algilkia Island in the Nile, a project expected to take four years. The ancient temples (the oldest dates from 350 B.C.) are now 75 percent under water; they can be dismantled only after a coffer dam built around them allows workmen to pump out the

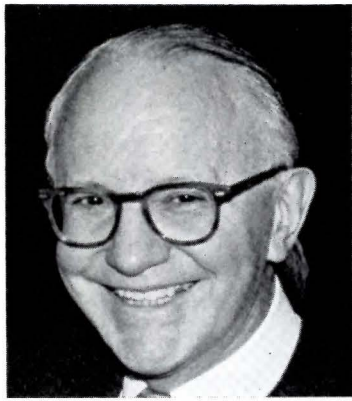
water surrounding them. In all, 40,000 tons of sandstone blocks must be moved.

Egypt is paying for one-third of the \$16-million project. Britain has given \$1.5 million from the receipts of the recent Tutankhamen Exhibition in London. The rest is being raised by Unesco.

An Italian consortium, Condotti D'aqua-Mazzi of Rome, is responsible for the work on the project.

Obit

John de Menil, who died on June 1, in Houston, Texas, was a very unusual man who used his great wealth to make a small part of our world a considerably better place. We did not know him or his wife, Dominique, very well at all; but we do know people who were close to John, and who now miss him very much. One of these people is Howard Barnstone, the Houston architect, who did a great deal of distinguished work for John de Menil, and who can speak about him in a way we could not.



John de Menil

I first met John de Menil in 1949, when his house by Philip Johnson was under construction in Houston. Fresh from Yale, I hovered round like an ant, as this was the first International School residence to be built in the West other than the California houses of Richard Neutra, designed and built before the war. It is in this house that John de Menil died and where, having been embalmed by a Black funeral home, his body was returned before the funeral mass on June 5, 1973.

My first commission from John de Menil was as fixer-upper of that house. The roof leaked at the gravel-guard, staining the acoustic plaster ceiling. The underground concrete duct-work for air conditioning and heating was full of water. Philip was entirely in accord with the arrangement, and I learned more in six months about detailing and water-proofing and, by osmosis, proportions than from four years of graduate studies in architecture at Yale.

My next commission was to design, along with Florence (Shu) Knoll, one-half of the ground floor of the 1938 Schlumberger Building in Houston. In those days, 1949-1950, the now billion dollar worldwide Schlumberger Limited was a series of family fiefdoms, and John de Menil was President of the Latin-American parcel. He later put all the pieces together and became Schlumberger's Executive Vice-President.

We were young squirts in 1950, Shu Knoll, Hans Knoll and I. There was a great joy working with Shu, later to become the giant of modern interiors and furniture. The client, John de Menil, gave us a free hand, yet expected the best.

Early in the 1950s, I got another commission from John de Menil, which was to build a series of modern houses in Trinidad, Venezuela, Peru and Comodoro Rivadavia in Argentina. The purpose was to create a high standard allowing Schlumberger to transfer field engineers from one country to another who could then expect more or less the same living conditions anywhere. My partner at the time, Preston Bolton, and I built small

two-story wood pavilions where one could watch the sugar cane process from early growth to the burning of the fields; but watch all this from the Mies van der Rohe bench and chairs by Le Corbusier.

John de Menil, a Roman Catholic, again commissioned Philip Johnson to do the master plan and first new buildings at the University of St. Thomas in Houston—then an uncertain small Catholic College whose president once confessed to me that, had the de Menils not come along when they did, the Order had planned to abandon their missionary work in Houston and retreat to home base in Canada.

From St. Thomas the de Menil influence spread to students at the two architecture schools in Houston, Rice University and the University of Houston. Both institutions at the time were still building bastard eclectic 1936 State Fair of Texas architecture. Daring to have a Miesian or Johnsonian campus was generally unthinkable, but not to de Menil.

In 1954, Jermaine MacAgy had just finished a brilliant stint at the Legion of Honor in San Francisco. She was asked by de Menil to come to Houston. At the Contemporary Arts Association in the early '50s, de Menil had already promoted some of the first exhibitions in the U.S. of Max Ernst, Calder, Van Gogh—you name it. De Menil, with MacAgy, created an art department at St. Thomas which was to rival all. The shows became more and more significant; the catalogs became scholarly books. When MacAgy died, Dominique de Menil stepped in to become the acting head of the art department. There she stayed until a break with St. Thomas in 1968, when the de Menil gifts were bought back and the art department moved to Rice University.

The directorship of the Houston Museum of Fine Arts became vacant in the late '50s, and John de Menil, as one of the trustees, wooed James Johnson Sweeney into coming to Houston. An incredible acquisition program was started largely by John de Menil, and he

encouraged others to begin a new program of large gifts to be chosen by Jim Sweeney. Almost the entire bulk of post World War II art in the Museum of Fine Arts, as well as the significant classic Greek and primitive art there, stems from the Sweeney period.

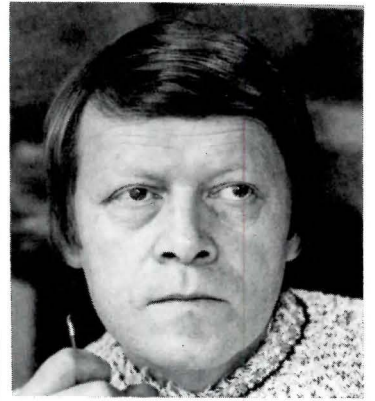
During the late '60s, my firm became the peace-maker between Philip Johnson and Mark Rothko. The original plan for the University of St. Thomas shows a Chapel at the south end. The Chapel was to be an octagonal brick building related historically to Jefferson's Rotunda at the University of Virginia and to the Pantheon in Rome. Johnson's plan was to have a huge multi-faceted truncated cone on the Chapel to give it the importance he felt it needed. Rothko, John and Dominique de Menil felt the building need not have the spire; so 1967 and 1968 were spent with weekly or bi-weekly trips to New York to work with Rothko. The model often occupied a seat next to me on the plane. I am given credit along with my then partner, Eugene Aubry, as architects for the Rothko Chapel. That's true—but the original floor plan was laid out by Philip Johnson and built on a different site, according to Johnson's plan, save for the spire.

The last full commissions Aubry and I had from John de Menil in 1968 were to build a temporary museum and a media center on the Rice campus. I fell ill in late 1968, and, in the early '70s, for de Menil, there was a sketch for a park in a black neighborhood and a sketch for a house on Montauk Point.

And so ends the story of the period of my life, 1949-1973, in which as an architect I was challenged, influenced, torn down, hired, fired—but I have lost my sharpest critic and my closest friend.

Seán Kenny, designer, man of the theater, died in London June 11, as he was about to begin rehearsals with actress Siobhán McKenna on a production of Juno and the Paycock at the Mermaid Theater. Creator of sets for many memorable productions including The Hostage by Brendan Behan, Oliver and Blitz, he also designed the Gyrotron in Montreal for Expo 67, an underwater restaurant in Nassau and a gigantic mechanical multi-level stage for a night club in Las Vegas. As a designer he was extrovert, extravagant, unashamedly theatrical, but he is remembered somewhat differently by his friend and co-worker, Siobhán McKenna:

"All the Irish are very shy," said Seán, and then he unfurled that slow smile of his and added: "that's why we sometimes take a jar." He had a wonderful simplicity about him. He was such fun to be with, at work and at play, and it was my



Seán Kenny

luck and privilege to spend the best part of the past three-and-a-half years in his company. We were in Oxford. Seán had designed the set and lighting for my one-woman show, *Here are Ladies*. I was struggling on, directorless. When I found that the dress rehearsal ran almost four hours, I was hysterical. Seán calmed me down, took me by the hand, and we sat down together to make some drastic cuts, with the public already arriving for the opening night.

Some days later I asked Seán if he had ever thought of directing plays: "Would you ever think of directing me in this?" Seán smiled and said, "I'll sit out front for rehearsals if you want me to, Sheevaun." He always pronounced my name like that—and that's how I discovered a beautiful director: we were so much on the same wave length, we would sometimes come out with the same words as well as the same ideas, and his sense of humor got us over many ditches. I chose him to direct *Juno and the Paycock* in Toronto last January for the Irish Arts Theater.

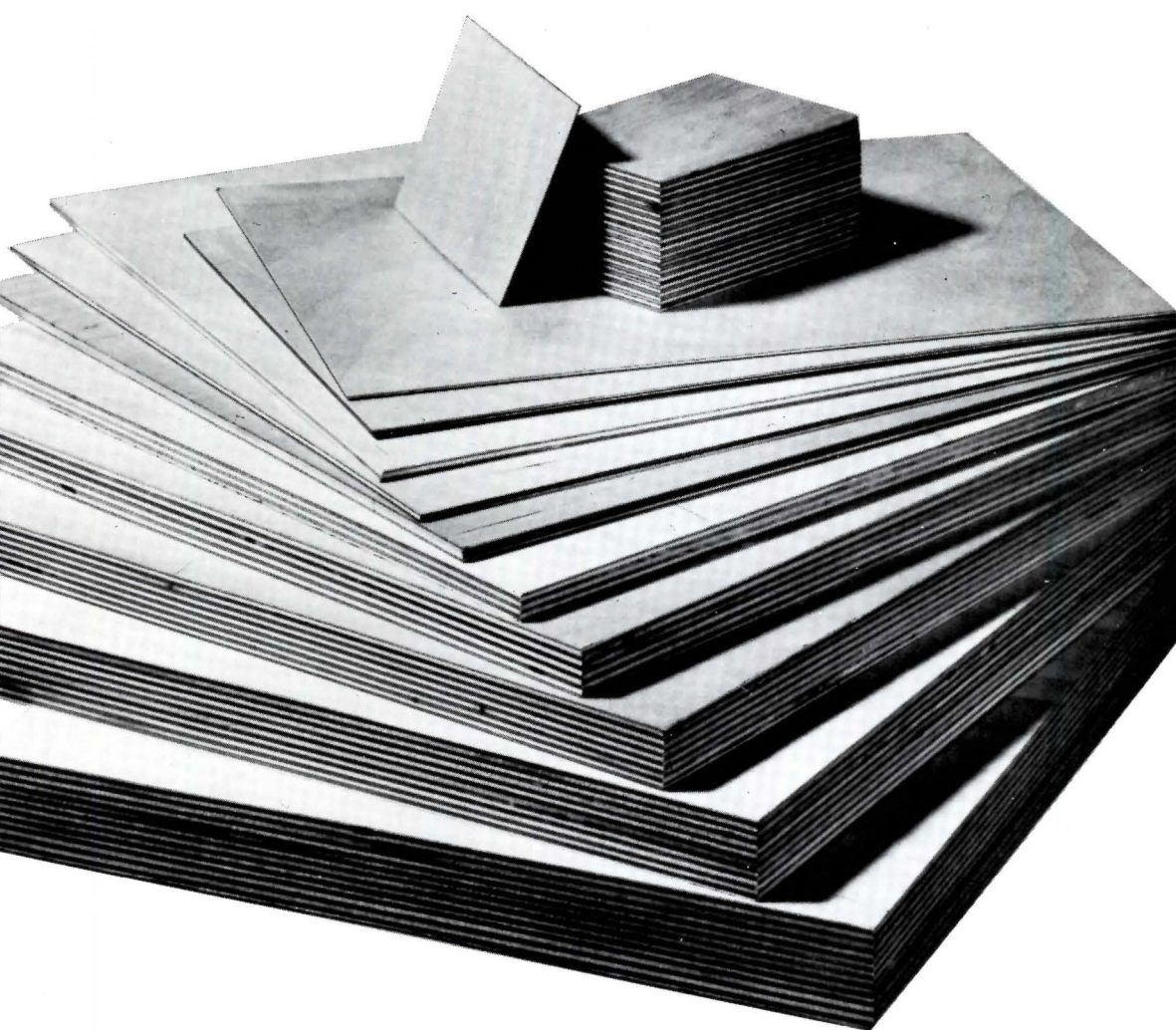
Seán and I had many plans to work together in the future. Some years ago I laid eyes on a disused quarry and thought to myself, "What a theater it would make! What a *Mother Courage* could be staged there!" I knew that Seán Kenny was the only person mad enough to join me in such a project. Now I feel bereft not only of a great friend but also of a great co-worker. From all over the world I have had letters from actors who knew him. One that I think Seán would have liked was from two of his favorite actors in Canada, and ended with a quotation: "As it had shined across him all his life, so understanding lighted that moment for Jonathan Seagull. He could fly higher and it was time to go home."

Photographs: Page 13 Telethon. Page 17 (left) George Cserna; (right) Norton & Peel. Page 67 (top) Michel Moch. Page 68 (sculpture) Michio Noguchi; (bottom) Benrido. Page 70 (1) Sam Lambert; (2,7) John Maltby Ltd.; (5) Colin Westwood; (6) Waverley Studios. Page 71 (left) Hickey & Robertson; (right) John Hippisley.

Footnote

Many of our buildings turn out to be dogs, but in this case that result was intentional. On U.S. highway No. 1 near Laurel, Maryland, it stood for years as the home of One-Spot Flea Killer, its sides imitating a giant spitz not only in silhouette but also in its rough white stucco finish. Both One-Spot and its symbol, having done faithful service, are now defunct. Photograph: Rolf Schneider





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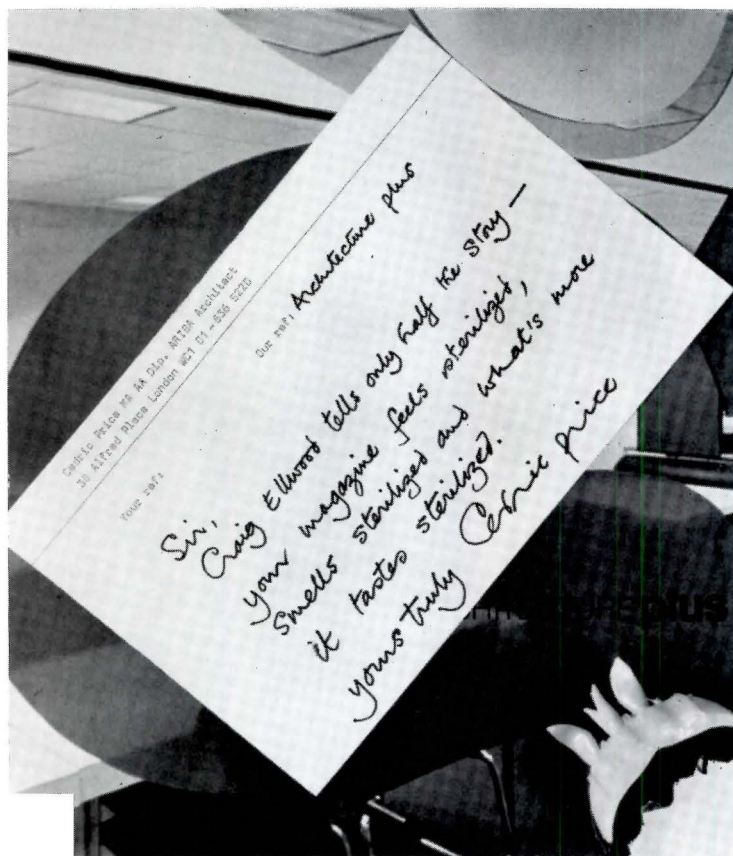
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In a recent letter to the Editor, Los Angeles architect Craig Ellwood stated that "Architecture PLUS looks clean. Reads clean. Is clean." The communication shown below was received, in response to Ellwood's letter, from London Architect Cedric Price, who apparently tested his new, upper dentures on our April issue, with the result visible here. We regret having sterilized our old friend, Cedric Price, and we are sending him a new set of fangs by registered mail.—ED.



Your first minus in creative sensitivity, to my mind, is the article "Art in the Wilderness." The architectural solution exhibits total disregard of the environment, both in terms of visual impact and energy usage. New York may appreciate the wilderness of New Mexico, but certainly New Mexico does not need the weirdness of New York. I would request that you exhibit a more critical eye toward your contributors.

DAVID WRIGHT
Architect, Santa Fe, New Mexico

Your forthright and pointed commentary on the AIA headquarters deserved to be made.

HARRY WEESE
Architect, Chicago, Ill.

In the April 1973 issue of your magazine, specifically on page 14, you cited the Chandigarh Project as honored by the Institut de la Vie in Paris. As a graduate student at the University of Virginia in Architectural History, I researched the writings and sketches of Matthew Nowicki, Polish architect (1910-1950), and I discovered that Matthew Nowicki, serving as a consultant to the New York firm of Mayer and Whittlesey, completed the initial study for the Chandigarh Project prior to the work of the Le Corbusier firm. Nowicki was killed in a plane crash on a return visit from India, so Le Corbusier's firm was employed to continue with the work.

I present this information in an

effort to establish the correct history of Chandigarh. This information, along with numerous photographs of the Nowicki work, are presently in the University of Virginia Library; and shortly, a publication on the career of Matthew Nowicki will be available to the public in book form.

BRUCE HAROLD SCHAFER
Assistant Director,
Federal Agency Liaison, A.I.A.,
Washington, D.C.

We are quite aware of Matthew Nowicki's contribution in the early stages of Chandigarh's development. For better or worse, his plans were not adopted. For parts of Chandigarh other than the principal public buildings, credit is also due, of course, to Maxwell Fry and Jane Drew of Britain, to Pierre Jeanneret, and to many others, among them several leading Indian architects.—ED.

Thank you for a magazine that is a treat. It is the only architectural magazine that I read cover to cover.

Mr. Brolin's article on Yemeni windows was a visual delight. You should consider covering some of the mud brick Kasbahs that exist south of the High Atlas mountains in Morocco before they are completely destroyed by the elements.

"More than you may want to know about a very significant chair" was fascinating but left out one point of information that would allow me to retrieve my forlorn sling chair from the back of the living room. In short, where can I now obtain a replacement leather cover for the Hardoy?

LAWRENCE J. BIOND
Architect, Philadelphia, Pa.

Leathercrafter, 303 East 51st St., New York, New York 10022, still makes leather replacements from the original Knoll pattern.

I congratulate you most sincerely for the "spirit" of Architecture PLUS. I hope very much that it will not be altered!

In a world whose architecture is so often indigent, it is a rare pleasure to find subject matter of such quality.

My best wishes for a continuously growing success.

NERSES BARTAU
Architect Chatou, France

I have just received your Architecture PLUS magazine which we have been anticipating.

The editing is marvelous and I am most happy that it has realized what we were seeking in an architectural magazine. Specially I was interested in the article featuring I. M. Pei.

My hearty congratulations.

S. AOYAGI
Managing Editor, Approach
Osaka, Japan

Let me thank you in this way for sending your excellent magazine. The standard of your magazine, the quality of its printing and, especially, the subjects included in it are highly interesting. That all demonstrates the perfect professional level of your publishing company.

BLAHA ČERMÁKOVÁ
Architect, Brno, Czechoslovakia

The International Magazine of Architecture PLUS is very useful for my activity and in this magazine I could find many useful ideas of city streets for people. Wishing you good luck in your achievements.

VLADIMIR PERCEAC
Architect, Pitesti, Romania

Architecture PLUS promises to be one of the most outstanding international architectural magazines yet published.

The need for such a magazine has been obvious for some years and we here believe that the coming of your magazine is an important event for the world architectural scene.

We wish you many fruitful years of effective publication.

S. A. ABRAMOWITZ
Architect, Johannesburg, South Africa

City Streets

"City Streets For People" is excellent. The cautions, pre-cautions and results are realistic enough to get through some of the tougher skins.

WARREN C. SUTER
Architect, Mission, Texas

Architecture PLUS confirms the old saying "The best things in life are free." Congratulations on putting together such a fine publication. The article "City Streets For People" in the April issue was extremely well done.

JOSEPH A. DONAHUE
Architect, Quincy, Mass.

White Towers

If Hirshorn and Izenour meant "Learning from Hamburgers" to be a serious study of vernacular architecture, they should have dealt with the racist character of White Tower's operation directly. As it is, their photographs of an all-white clientele and staff and their equating of the word "white" with "wholesomeness and cleanliness" speak loud and clear to those who are sensitive to this issue. If, on the other hand, the authors were indulging in "formalist analysis"—that is, discussing architectural form as if it existed independent of its social context, their mistake is more serious. Watergate demonstrates that professional immorality is no joke.

HARRIS STONE
New Haven, Conn.

I read with interest the article "Learning from Hamburgers" in the June issue of PLUS. I thought this photograph of a recent renovation we did to a White Tower might be of interest.

KENNETH WALKER
Designer, New York, N.Y.



Polshek

Your June story on James Stewart Polshek's mental health services center in Columbus, Indiana was of particular interest. Last year, a group of architects from the Atlanta Chapter, AIA made a trip to Columbus and, while there, saw the

"Bridge to Health" under construction. We were impressed by the siting of this stimulating building, which effectively connects the hospital with the center without imposing itself unduly on the natural beauty of the setting. While it might be agreed that Columbus is a "museum" of architecture, there is much to be said for a museum with such lively exhibits: "The unity is in the quality."

HENRI V. JOVA
Architect, Atlanta, Ga.

In the article "A Bridge to Health" (June PLUS), I expected to find, among other things, a serious critique of the site solution as it relates to questions of approach and entry both as functional and psychological experiences.

What appeared instead was a cryptic device that I had hoped never to see in PLUS; that is, the use of a severely cropped amateur photograph to legitimize a pompous oversimplification about humanistic concerns for people. This trick hardly represents the level of responsible architectural journalism to which we had become accustomed.

JAMES STEWART POLSHEK
Architect, New York, N.Y.

Senior Editor Jim Morgan and your staff did a good job in presenting a handsome coverage of James Polshek Associates' Quinco Consulting Center in Columbus, Indiana. The critical comments were, however, not adequately supported either by the photographs or the drawings presented.

The one photograph of the building's entrance bridge could have been taken by a small child, the level is so close to the ground! Also the view is so limited that the reader has little chance to relate the foreshortened scene to the rest of the building or site.

JOHN W. GRIFALCONI
Architect, Wakefield, R.I.

We regret that an inferior photograph had to be used to illustrate the major negative criticism of the article. But it was felt that the point to be made was important enough to justify its use. —ED.

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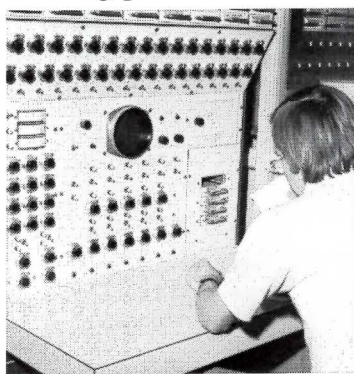


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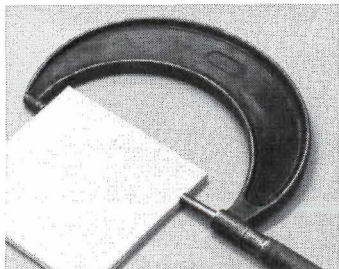
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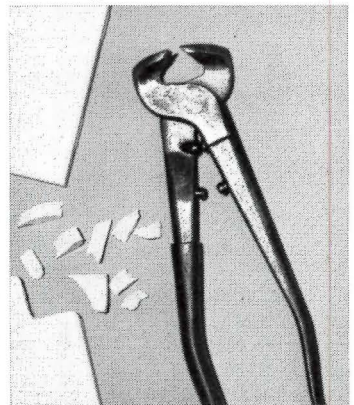
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Philadelphia Carpet Company has added linear textured stripes to their Sebege contract line of Antron II nylon carpet. Reader Service Number 239.

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Quality Marble & Granite Company now has available a new porcelain ceramic tile pattern called the Cypress Series. Reader Service Number 241.

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Dor-O-Matic, a Division of Republic Industries, Inc., makes available a specifications catalog covering door control devices and architectural door trim and hardware. Reader Service Number 246.

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A 15-page, fully illustrated catalog on its complete line of expanded metal products is now available from Keene Corporation's Metal Products Division. Reader Service Number 247.

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An updated edition of its 1973 illustrated price guide catalog has been published by the Stonco Lighting Division of Keene Corporation. Reader Service Number 256.

Wide-Lite Corporation's new Ellipta III floodlight offers modern ellipsoid styling plus proven floodlight performance. Reader Service Number 257.

J.W. Carroll & Sons, a division of U.S. Industries, offers technical information on a revolutionary new radial batwing lens system for fluorescent and H. I. D. luminaires. Reader Service Number 258.

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Copper Development Association, Inc. offers a newly updated edition of their application data sheet giving standard designations for copper and copper alloys. Reader Service Number 265.

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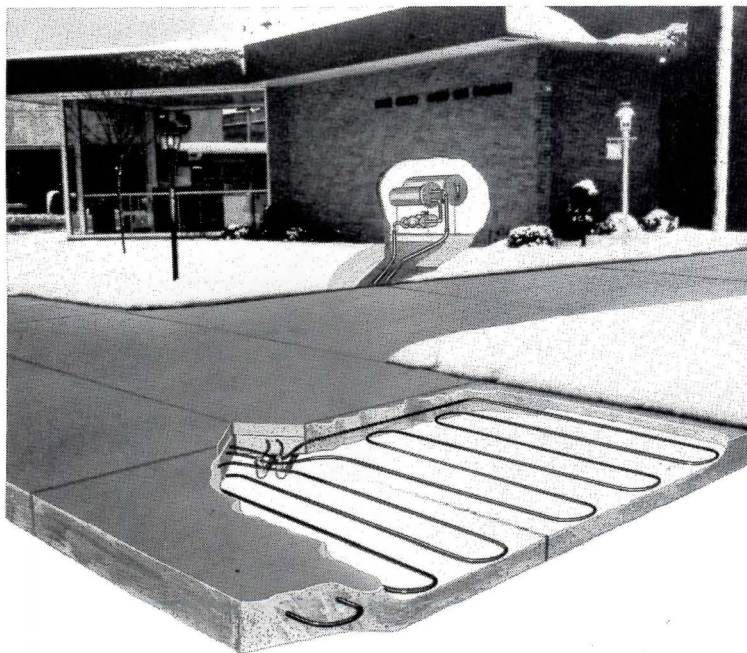
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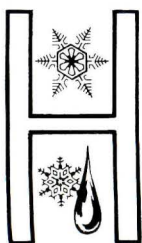
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Reader Service Card Instructions

Please use the attached card for additional product information

1. Note the advertiser's Reader Service Number under each advertisement or in the Advertisers Index on this page
2. Circle the corresponding Reader Service Number on one of the cards
3. Fill in your name and *complete* mailing address
4. Mail to us (the card is pre-addressed). No postage is necessary if the card is mailed in the United States or Canada. *Please affix proper postage if the card is mailed from outside the U.S. or Canada.*
5. We will then forward your request to each advertiser whose number is circled
6. Use the Reader Service Card for material described in the Product Literature section as well

Advertising Sales Offices

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Billdal, Sweden	John Bacos Scandic Trading Box 1010 Billdal, Sweden 43081
Chicago, U.S.A.	Robert A. Jobson 625 North Michigan Avenue Chicago, Illinois 60611 phone: 312-787-5858
Cleveland, U.S.A.	Charles S. Glass 32 West Orange Street Chagrin Falls, Ohio 44022 phone: 216-247-5461
Frankfurt, Germany	Manfred Wettlaufer 6232 Bad Soden/Ts. Postfach 1566, Germany regional phone: 06196 local phone: 26 3 26 telex: Frankfurt/Main 413569
Miami, U.S.A.	Hal Dawson 5995 SW 71 Street Miami, Florida 33143 phone: 305-666-4684
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