

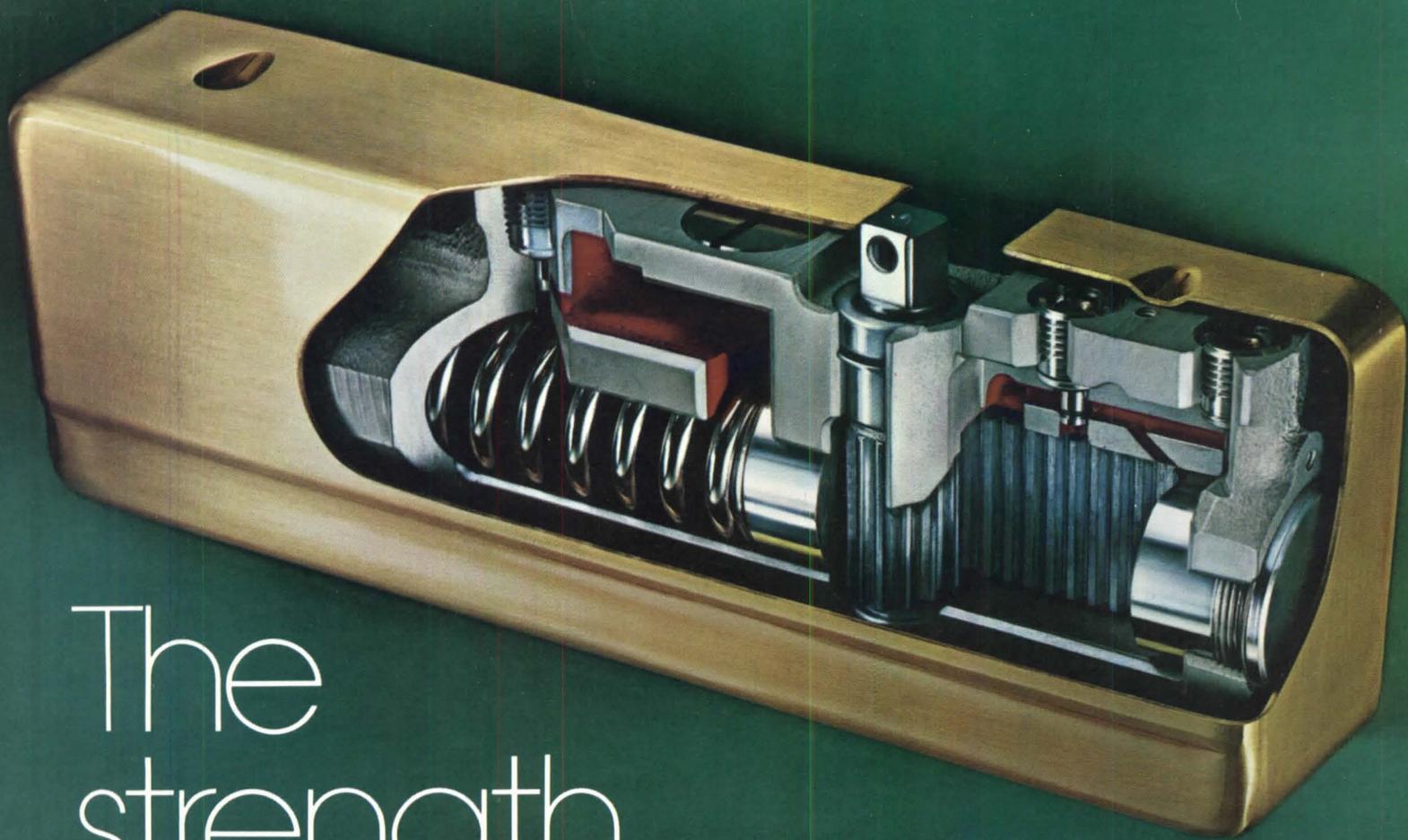
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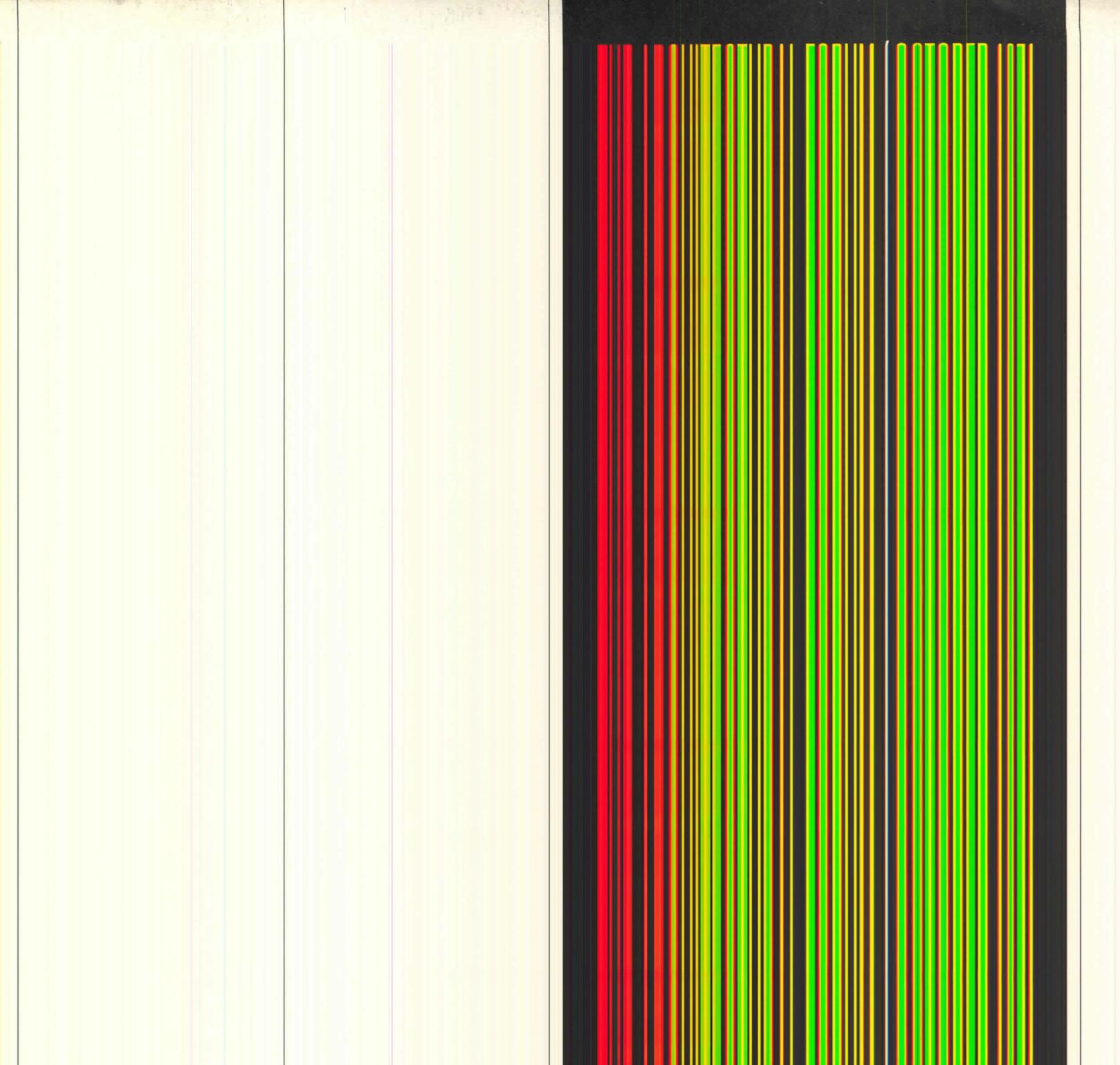
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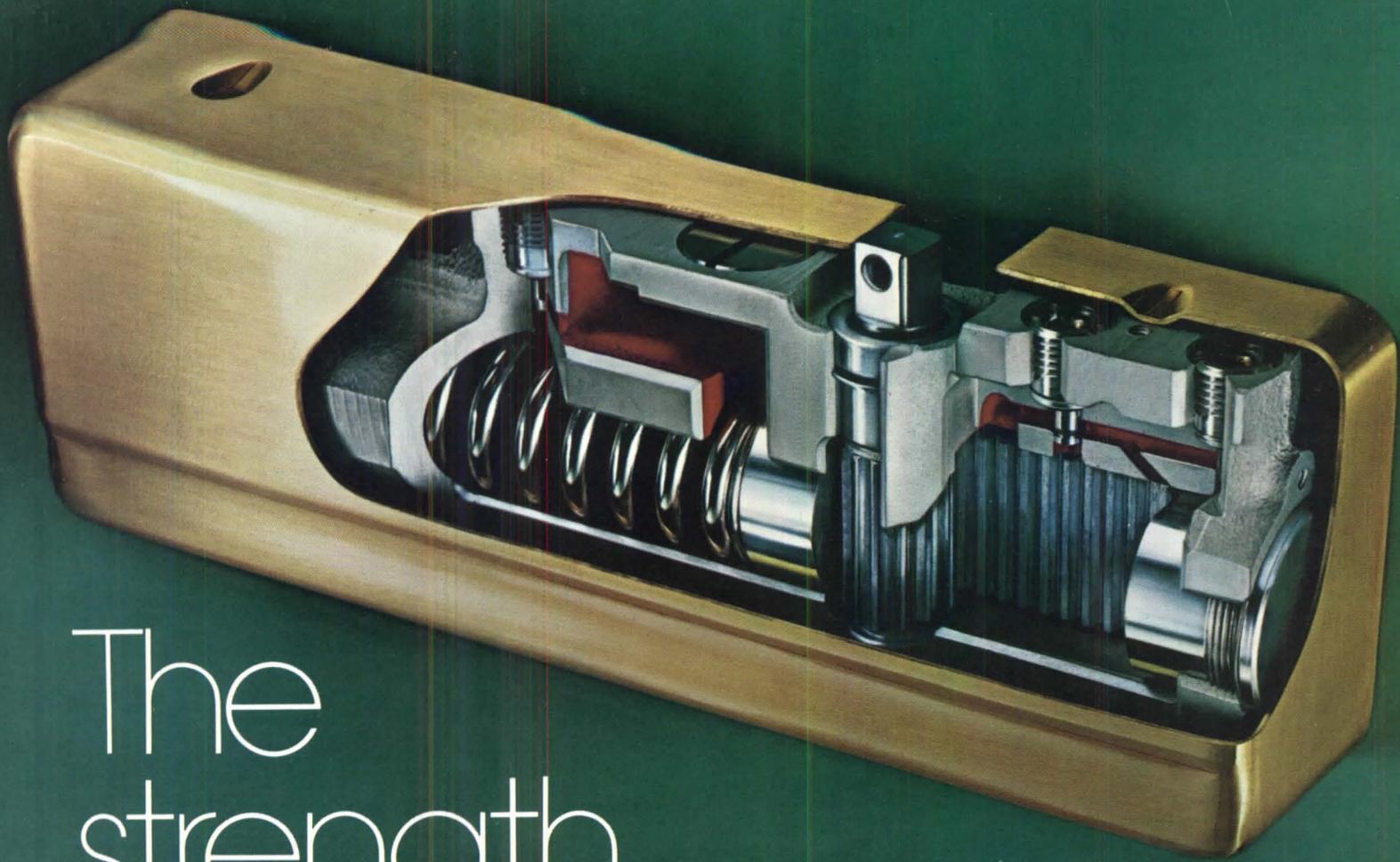
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Cover design by Charlotte Winter,
from a photo of the
viaduct at Genoa (p. 48)

THE ARCHITECTURAL FORUM Vol. 135 No. 3, October issue

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tion Company of Illinois, Inc., Des Plaines, Ill.
Nine Dover Oildraulic Elevators installed in various buildings of the
complex by Dover Elevator Company, Chicago.
Photographs: Hedrich-Blessing*

The buildings shown here are the first phase of a major research complex, one of the largest facilities of its kind conceived and built as a single project. Taste, scale and respect for function are embodied in the design.

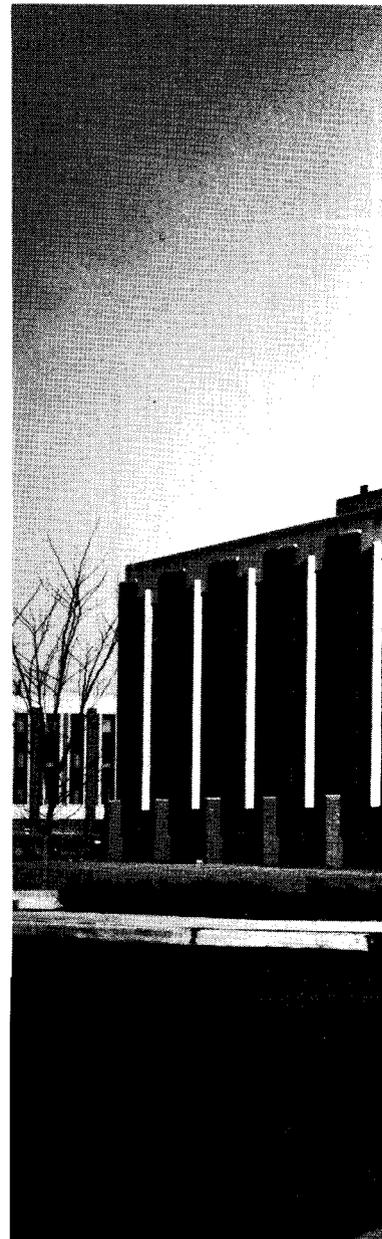
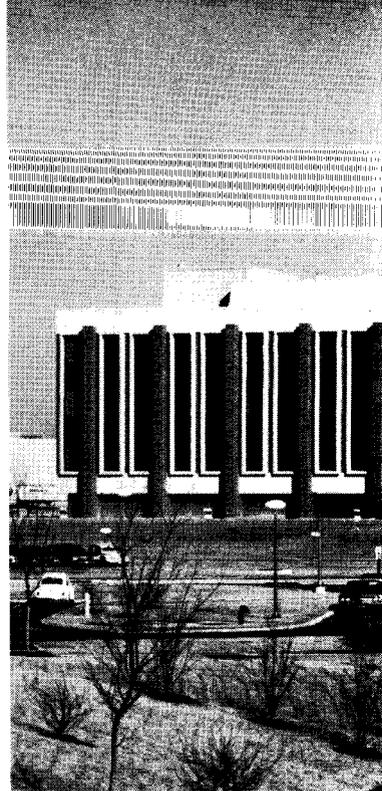
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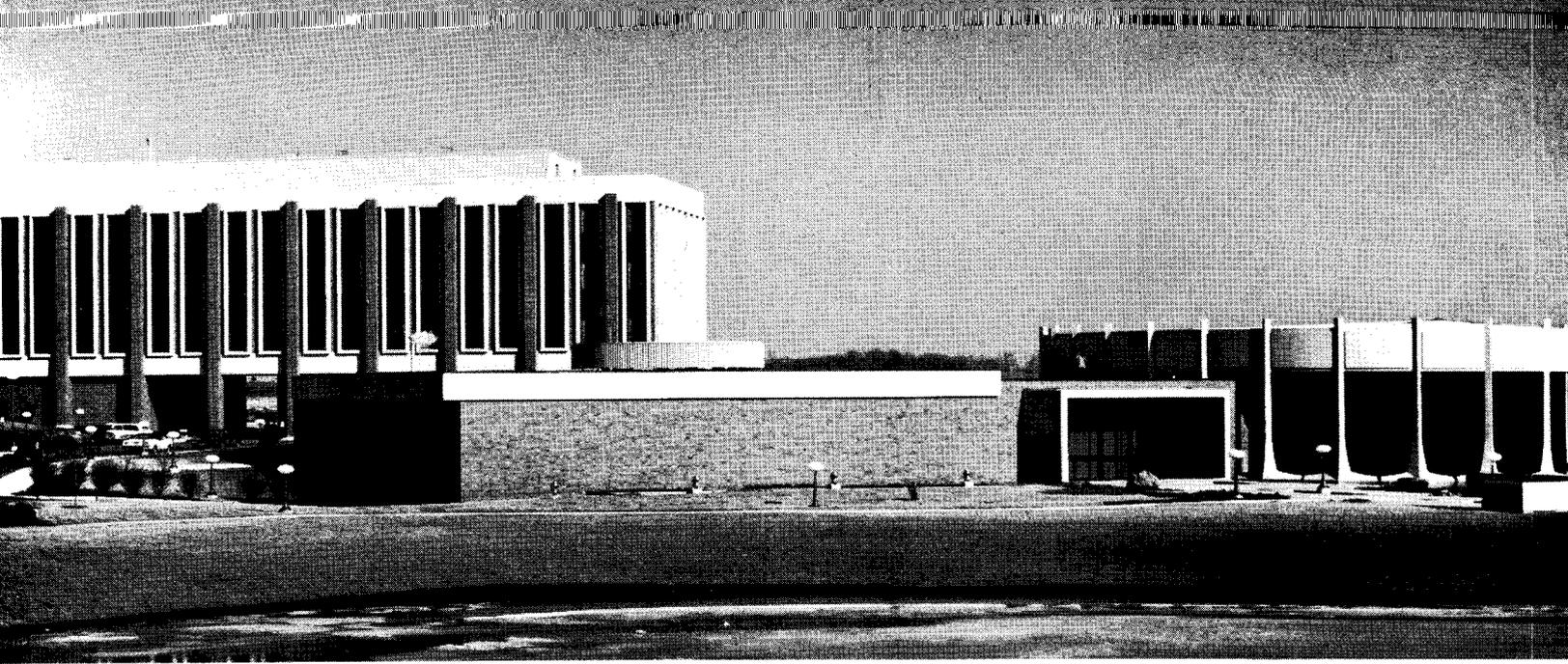
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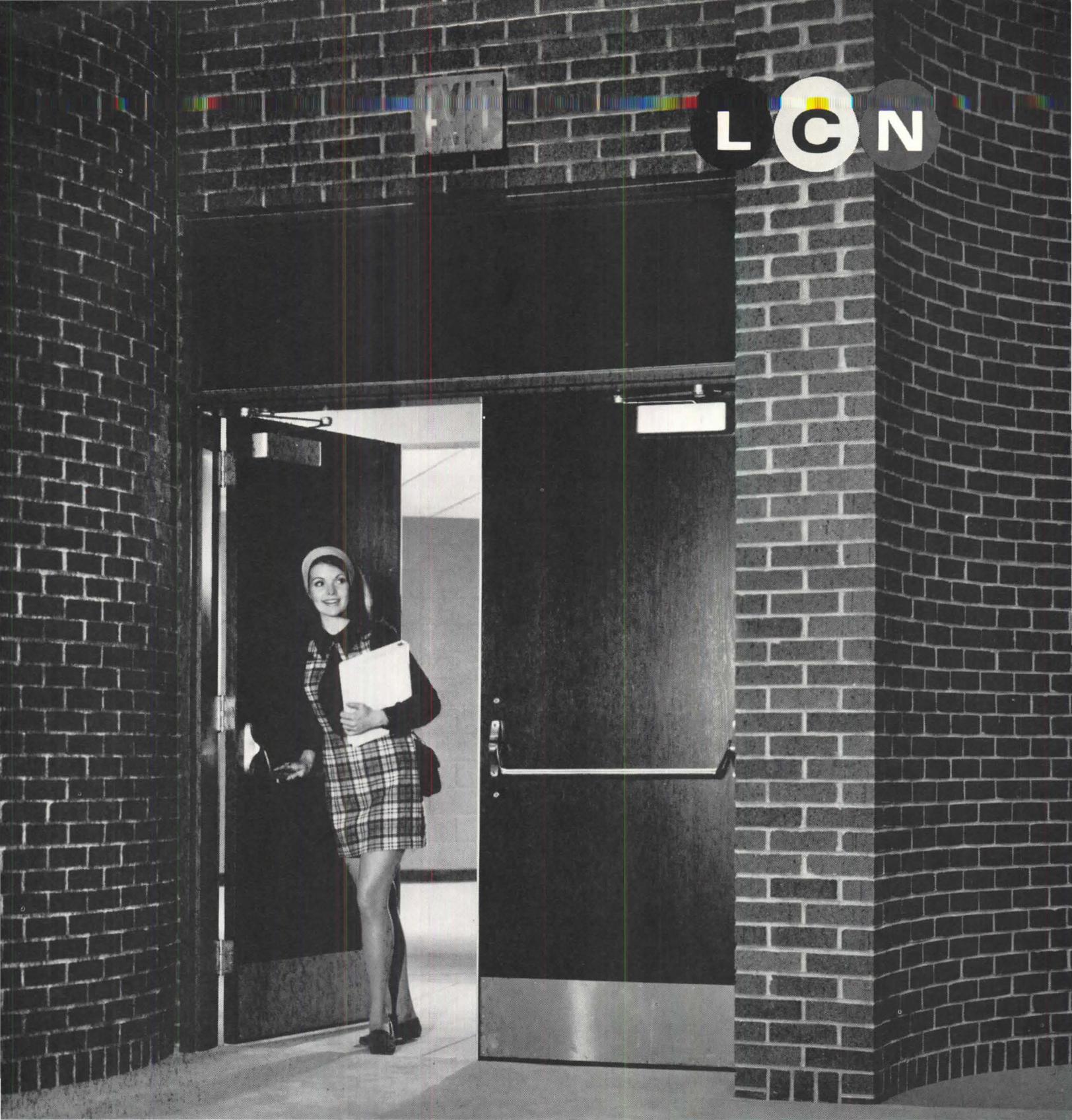
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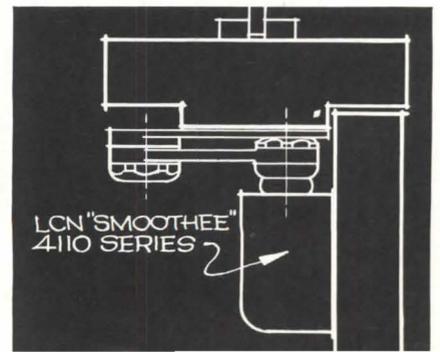


South Senior High School, Minneapolis, Minn.; The Cerny Associates—Caudill-Rowlett & Scott, Associated Architects.

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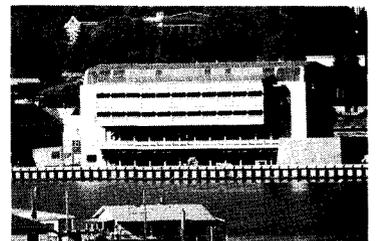
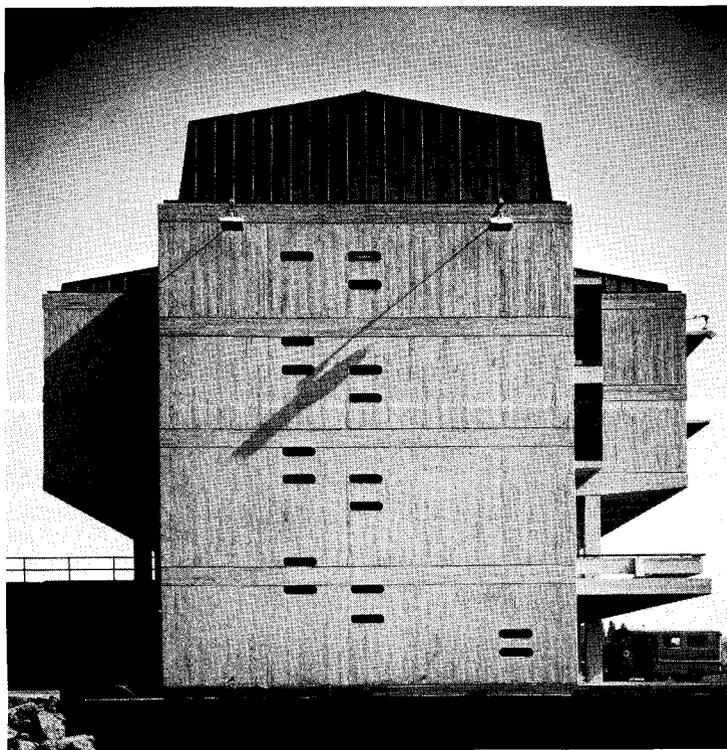


NEW COURT PRECEDENT

Already controversial is the recent Taos County Courthouse, in New Mexico. Conservative critics reject the building as too modern for its surroundings, where many buildings consciously try to maintain an historical

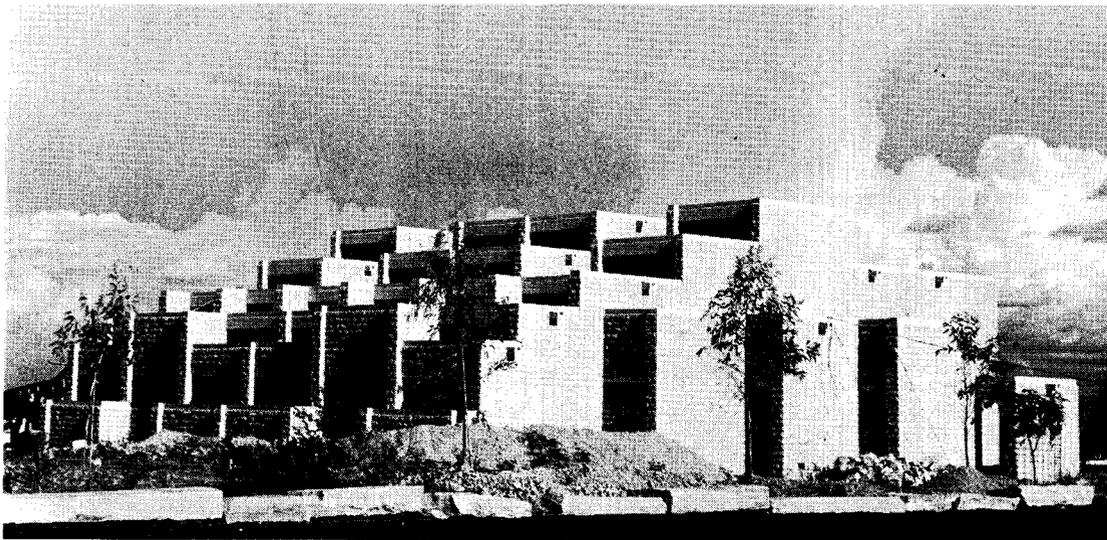
spirit. Others praise the building's sensitive and contemporary interpretation of the old concepts. The Architects, a Taos design firm, modeled the spatial logistics of the new courthouse similarly to the Taos Pueblo, where spaces were delineated,

then enclosed by a building. The courthouse has an attractive arrangement of interior spaces that determine the exterior form. The spaces revolve around four internal functions: county offices, courthouse, health center and jail.



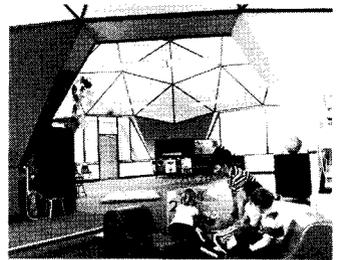
MARINE LIFE

The new Oceanography Research Building, at Seattle's University of Washington, is the first structure in a complex planned for the Marine Sciences. It was designed both to serve normal student/faculty study needs and to service and stage oceangoing research vessels. A plaza level one story above the staging separates the two functions. The laboratories of the building, which was designed by Architect Alan Liddle, are located in the central portion of the floor areas, with offices on the periphery. The primary material is board-formed concrete.



FACETED FUN

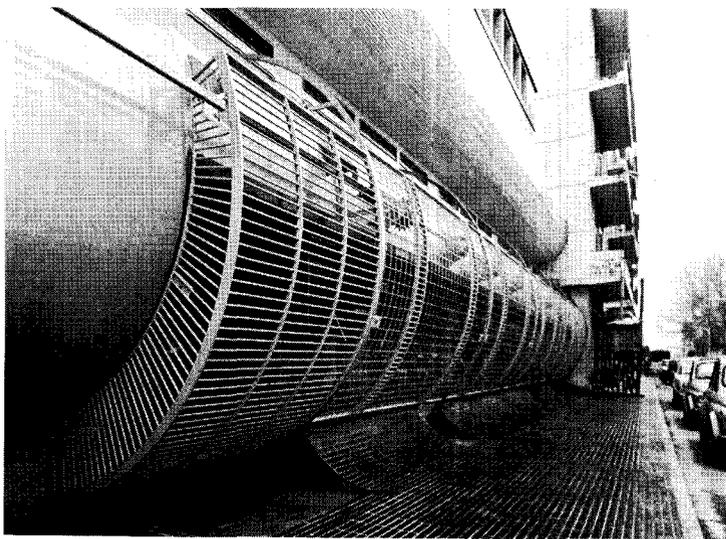
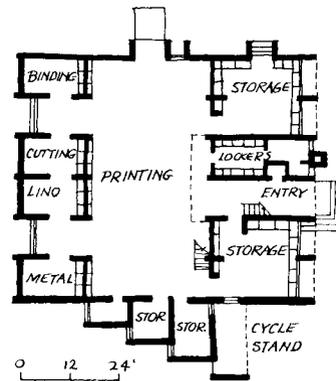
The new Sullivan Pre-School Center, in San Jose, uses six geodesic domes to create interesting and uncluttered classroom space. Except for three-foot base walls anchored to concrete slabs, the buildings are pure geodesic domes formed of equilateral triangular facets, and supplied by Geodesic Environments. Architect is Robert Joslin.



INDIAN PRINTS

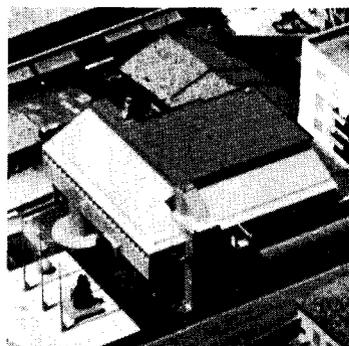
What looks like a clustered residential village is actually a new printing press for the University of Jodhpur, in Rajasthan, India. The internal space program largely determined the building's complex external form, which is built of indigenous yellow sandstone. The ground floor includes the stores, printing processes, cutting, warehousing, etc. The administrator and his staff for supervising printing

operations are located on the mezzanine. Inclined windows protruding into the printing hall facilitate supervision. Two stairways allow the staff either to enter the printing hall or leave the building directly, without crossing any operations area. Clerestory windows located between the different terrace levels bring natural light into the internal spaces of the building. Uttam C. Jain, of Bombay, is architect.



URBAN MACHINE

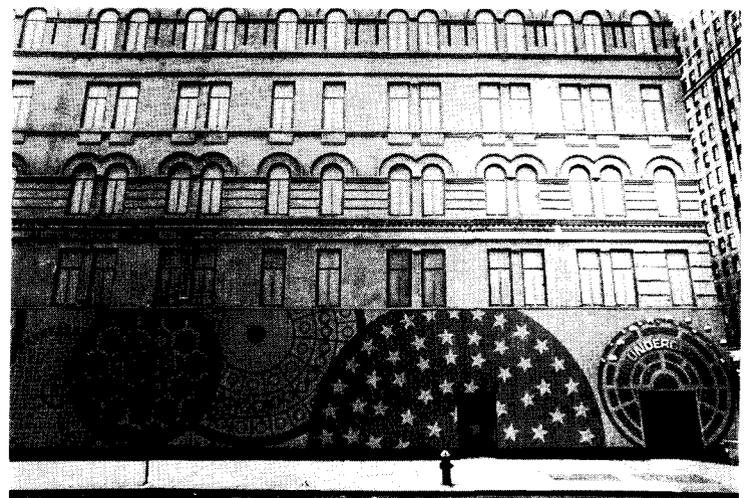
This multi-purpose building, with shops, offices, bar and restaurant, looks like a huge piece of urban equipment, with its mechanical and technical functions fully exposed and everything painted a very bright yellow. Designed by Iginio Cappai and Pietro Mainardis, the building is near Venice, where it forms a friendly public space between a growing suburban area and the 19th-century city of Brenta.

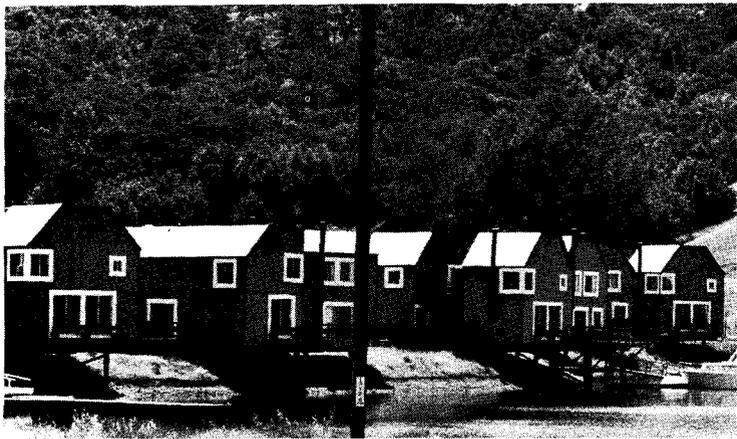


COVERS UP

Supergraphics have long been in fashion; now they help fashion a new look for Barney's men's store, in New York. Appropriately enough, this street mural of giant manhole covers gives entrance to Barney's new Underground, a shop with "revolutionary clothing for the young and brave." Not only are manholes enlarged and flipped onto the ochre-colored store facade, but

the motif is carried on inside, where the Underground floor is studded with them. The shop is designed like a huge cavern, with rough-hewn walls, exposed and brightly colored pipes, ducts and wiring, plus iron catwalks that provide multi-level hanging space for the clothing. Designed by George Nelson & Gordon Chadwick, the Underground is one small part of a total renovation at Barney's.

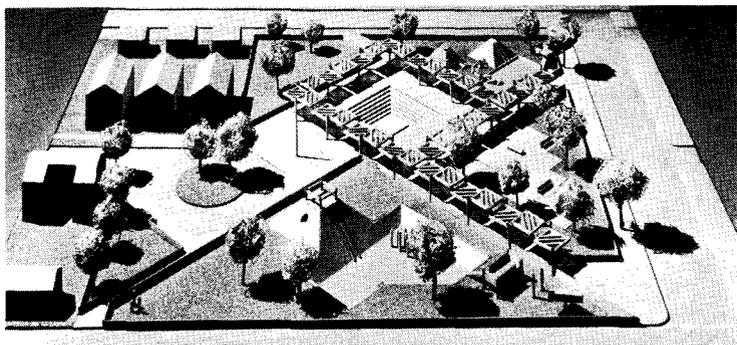




WATERFRONT DREAM

Townhouses and homes on tiered lots that step up from a small boat harbor to forested ridges make up the Bahia development of Hofmann Co., near Navato, Calif. All of the structures are made of wood to blend in with their settings and the project is

destined to grow to over 2,250 homes with over 84 acres of parks. Many of those already built were designed by Callister & Payne. Even the street lights are designed to harmonize with the natural beauty of the site; they are made of laminated wood.



NEIGHBORHOOD PARK

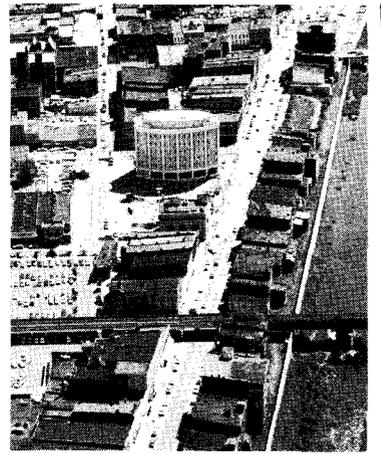
With help from the HUD open-space program, the town of Highland Park, Michigan, has built a \$350,000 park to suit all age groups. At the center of the park is an amphitheater with spray apparatus. The park also has a string of trellises in a lattice-work of heavy timbers. For children, there are cobblestone pyramids for climbing and

a cable-ride over 100 ft. long; for adults, there is a quiet sitting area. Activities are divided by the diagonal walks leading into the park from two corners. The surrounding neighborhood is middle-class, mostly black. Architect: Richard Dattner.

PHOTOGRAPHS: P. 5 (lower) Morley Baer. P. 6 (top right) and p. 7 (top left) courtesy Koppers Company; (middle right) Steiner Studio

THE GOLDEN ORANGE

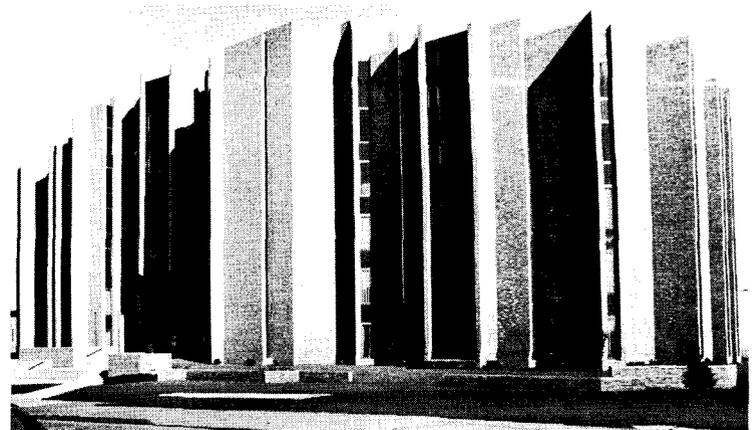
Few people can miss the new Chemung Canal Trust Co. building if they visit Elmira, N. Y. It is a truncated six-story ellipse that glistens in tones of golden orange, trimmed in white and highlighted by a golden screen around its mechanical system's penthouse. The building is not only a scenic wonder, says the company, but a boon to ecology as well. Designed by Haskell & Conner, it has a pulverizer to reduce waste, a heating system in the lighting, malls, and a sunken garden.



TOLEDO RAMPARTS

Locally dubbed the ramparts or castle, the new Community Services Building, in Toledo, houses offices and agencies of the greater Toledo Community Chest. According to its designers, Sarnborn, Steketee, Otis & Evans, Inc., there is a method to the building's seemingly mad plan

and form. The exterior zigzag wall eliminated the need for steel in the building core; the basement and attic are used fully; a false front on top of the building conceals mechanical equipment. The floor plan includes meeting and conference rooms and parking is below ground.



KENZO TANGE, 1946-1969, Architecture and Urban Design. Edited by Udo Kultermann. Praeger Publishers, 304 pp., illustrated. \$29.50.

REVIEWED BY ROBIN BOYD

Kenzo Tange is a wonderful, thriving, 3-D denial of the prophecies of architectural doom. Not for him the tortured introspection of the guilt-ridden escapees from the ivory tower, gnawing at their now soggy ideological bones. Never for him a moment of doubt about where he stands when established architectural values confront the supposed visual tastes of the silent majority. Never for him more than a sideways glance of contempt at the various attempts to seduce the functional tradition during the last two decades: mod-classic, mod-gothic, mediterranean, mod-barnyard.

For twenty years he has just kept on building in the great tradition of the Modern Movement, the capital Ms magnificently intact, as if nothing had ever happened to it. He uses the old ingredients—concept, structure, space (plus a soupçon of tradition)—and makes them look as new now as they were in 1950, or 1920, or ever.

He is proud to admit that he follows Le Corbusier, but he does this in his own way, which is unique. He continues to develop and mould the tradition into his own style of creative realism: a painfully personal style that is giantistic, sensitive, superfunctionalist.

His works are as monumental as buildings can be: grandly architectural, artistic, contributive, high culture. So that should put them beyond the pale in the socially responsible eyes of 1971, shouldn't it? But the Japanese people love it! He is a national celebrity and something of a national hero. The outcome of his elitism is popular. He proves that architecture doesn't have to make all the concessions and compromises in order to achieve the necessary rapport. Or, in Japan it doesn't, anyway.

Tange is of course as world famous as any architect now living, holding international

Mr. Boyd is a member of Forum's board of contributors and is the author of "New Directions in Japanese Architecture" and "The Puzzle of Architecture." He practices architecture in Melbourne, Australia.

awards galore including the Gold Medals of the RIBA (1965) and the AIA (1966). Yet this is the first full-scale non-Japanese collection in book form of his buildings, and of some of his philosophical writings about them, and such a book is overdue.

This volume also has a slightly frozen look—as if nothing had happened to architectural book publishing in the last twenty years. It is literally square (11 x 11 inches), richly illustrated, very handsome in a conventional way, with a slipcover and all that. And it is printed in Switzerland in the Corbu trilingual technique with three parallel columns per page—English, German, French. As an alternative to three separate books this device may have benefits for an international publisher, but it has done for a reader outside a language school or a gymnasium.

It is presented as the first volume in a series: Tange's "Oeuvres Completes". It is compiled from two earlier, smaller collections published only in Japanese, and has some inscrutable qualities which make the precise intent obscure. The title gives the time range covered as 1946 to 1969 but Udo Kultermann in his brief introduction says the range is from 1950 to 1970. He also mentions that a number of buildings of the last few years "have been intentionally omitted since they are so extensive in plan that they fit better in a projected second volume." Yet what could be more extensive than the Expo plan and its central structures, or the plan for Skopje, Yugoslavia — both of which are included? On the other hand there are some frustrating gaps in the early years: four completed buildings of Tange's transitional period, including the Rikkyo Library and the Dentsu Building in Tokyo, are missing. The overall result is a gallery of beautiful, familiar photographs. Only three or four of the 35 buildings or projects illustrated will not be immediately recognized by Japanophiles.

Udo Kultermann's text is largely explanatory and makes little attempt to appraise or distinguish between the merits of Tange's buildings—as between, for instance, the all-glass oven of the children's library at Hiroshima, the antic single - shaft office building of the Shizuoka

newspaper corporation in the Ginza (Mar. '68 issue), and one of the greatest achievements of this century: the Olympic arenas in Tokyo (Aug./Sept. '64 issue.)

When one has to cope with three languages at a time it is no doubt difficult to keep each one completely under control. Thus we learn that the plan of the massive, blind concrete cultural center at Nichinan is "meaningfully reflected in the transparently plastic, stereometric external structure."

All the above criticism of this worthy book may seem petty, yet a definitive and truly complete collection was required and this is not quite it. Also, the translator's turgidity is not inevitable. It is not present, for instance, in Kenzo Tange's own words in the few essays of his which are given in the book. These are as simple and crystal clear as his building concepts. Here he is in 1966 speaking on function, structure and symbol:

"The problem may be generalized like this. Can modern technology restore humanity? Can modern civilization find the channel linking itself and a human being? Can modern architecture and urban space be again the place for building up human character? . . . we can say 'yes' only when modern technology has succeeded in creating in a space a symbol of the spirit of the times."

Standing in some of Tange's spaces it is not at all difficult to say "yes". He is a great and lucky man who has been blessed with the vision, competence, and opportunities to create what he wanted: spaces symbolic of these times—these times in Japan.

CIVILIZING AMERICAN CITIES, A selection of Frederick Law Olmsted's Writings on City Landscapes. Edited by S. B. Sutton. The MIT Press, Cambridge, Massachusetts, 1971. 310 pp. Illustrated. \$12.50.

REVIEWED BY HENRY HOPE REED

Publishing books about Frederick Law Olmsted is on its way to being a major industry. At least three biographies are in prepara-

Mr. Reed is Curator of Parks, New York City. His *Golden City* was recently reprinted in paperback and his *Central Park: A History and A Guide* will be issued in paperback this fall.

(continued on page 10)

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(continued from page 8)

tion, as well as an edition of his letters. Benjamin Blum has reprinted Frederick Law Olmsted, Jr., and Theodore Kimball's *Frederick Law Olmsted: Landscape Architect*, a basic text for anyone interested in Central Park. The University of Massachusetts Press has produced a useful volume of his major designs. Many of his published writings have been edited and reprinted by several university presses; the book under review is one of these.

The industry has already become hagiolatrous. "As my admiration for Olmsted's work and my affection for his character grew, I simply gave up all efforts at impartiality," writes Miss Sutton. Inevitably the reader murmurs "careful," as he sees the myth abuilding, another saint for the American hagiology. Our confidence in her worship is hardly sustained by learning that the new saint grappled "with the Establishment." Olmsted was a "Establishment," and it was just as well that he was or his plans would never have left the drafting board.

It is a pity that Miss Sutton turns to fashionable cant. For example, she tells us that city administrators throughout the country "woke up to the advantage of open spaces," thanks to the success of Central Park. It was not just to "open spaces," it was to the value of an *urban park*, which is a good deal more than any "open space." And it might be admitted that civic leaders, businessmen, editors and the public generally did the waking and prodded such city administrators as there were in those days. Also the reference to "the gaudy, eclectic concoctions of D. H. Burnham and R. M. Hunt," at the World's Columbian Exposition of 1893 seems naïf; for more than a decade now the Chicago Fair has been acknowledged, as it was in its time, one of the triumphs of American art not to be dismissed out of hand.

We are very much in Miss Sutton's debt in assembling the several texts long since out of print. We will comment only on two of the ten offered. The first is "Public Parks and the Enlargement of Towns," published just over a century ago. It is his famous discussion of the urban park as a civilizing force as seen in New York's Central Park. One very interesting fact revealed

was the importance given to public discipline in the park's management. "The difficulty of preventing ruffianism and disorder in a park to be frequented indiscriminately by such a population as that of New York," he wrote, "was from the first regarded as the greatest of all of those which the commission had to meet, and the means of overcoming it cost more study than all other things." The Park Commissioners were rewarded for their efforts because "not the slightest injury from wantonness, carelessness or ruffianism has occurred."

The second is his report on Montreal's Mount Royal Park, first published in 1881. Here he argued for the park as a work of art and for the kind of art needed. Nature could not be left alone, as some would believe. This meant taking full advantage of the site in terms of the various perspectives, of forcing nature where necessary, of laying out drives and paths to achieve the "poetic charms of scenery."

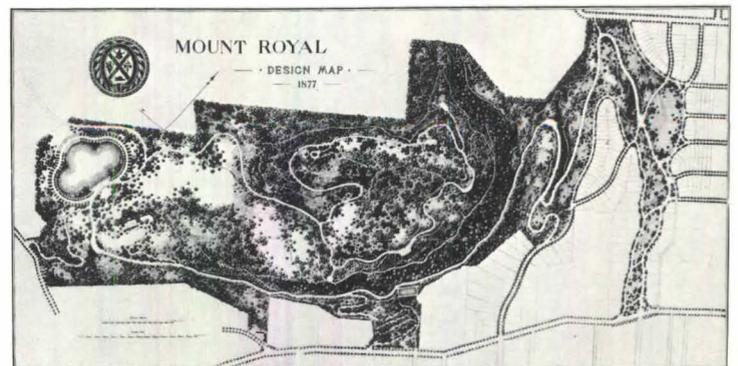
He also wanted his client to be very careful about admitting special kinds of recreation, of the kind which appealed to relatively small numbers, to the neglect of the park as a whole and as a unit or the general public would suffer. "In the New York park," he wrote in a footnote referring to Central Park, "the number of people who come to it in summer for special forms of recreation is not one in several hundred of those who come for walking, riding, driving, and the enjoyment of the scenery in a broad way, and this, I believe, is true of all well-ordered parks." Unfortunately the tendency in this century has been to emphasize "special forms of recreation" usually by furnishing elaborate

recreational equipment, expensive to install and expensive to maintain, to the neglect of the particular park as a whole. The general interest has been lost to the particular interest as the Olmsted vision has receded.

Comment on this recession is what is absent in Miss Sutton's book. A few additional paragraphs in her brief introductions to the several essays would have filled the gap. As it is she only hints as to what has happened to that portion of the Boston Park System, Olmsted's pride, which goes from the Common to Franklin Park. The Fenway has been eroded and Franklin Park is now occupied in large part by a dilapidated zoo and a golf course.

With the essential texts in print and with several biographies and an edition of letters in the offing, another aspect of Olmsted should be dealt with, and that is, how he and Calvert Vaux or he alone went about designing a park, their use of water, what trees and shrubs they had planted and why. Miss Sutton, who is an Honorary Research Fellow at the Arnold Arboretum, would be eminently equipped to explore this fascinating aspect of her hero. It would command a wide public, one by no means confined to the landscape architect. This has been abundantly proven by the success of Mrs. M. M. Graff's *Tree Trails in Central Park*, now being distributed through the Friends of Central Park. Thanks to the preoccupation with ecology, there is a fresh awareness of planting, so important to the park as a work of art.

Just a footnote on the volume's appearance. Miss Sutton was not well served by the MIT Press. Her book is a very ordinary production.



Mount Royal Design Map, Montreal, 1877.

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Total Vision Systems offer you the freedom to design, for the first time, true wall-to-wall transparency. The systems' glass walls give your installation openness, elegance and unre-

stricted views. The costs compare favorably with other monumental constructions of similar prestigious character.

PPG's Total Vision Systems rely on three-quarter-inch-thick clear annealed float glass mullions as the major supporting element. The width and thickness of the large lights of clear float glass forming the vision areas are governed by glass and silicone design requirements at the design windload. Unobtrusive PPG Architectural Metals aluminum sections frame the system at head, jambs and sill.

An infinite variety of designs and configurations may be achieved within

the engineering parameters of TVS. (We have successfully tested Total Vision Systems as high as 30 feet with windloads of 30 psf—nearly 100-mph wind velocity.) Complete information on glass recommendations, installation techniques, glazing details and other data on TVS are contained in the technical bulletin: *Total Vision Systems PDS t-1*. Contact your PPG Architectural Representative or write PPG Industries, Inc., Technical Services Department, One Gateway Center, Pittsburgh, Pa. 15222.

PPG: a Concern for the Future

Shown at left, mullion detail of TVS installation at Dollar Savings Bank office, Pittsburgh, Pennsylvania.
Architect: Ingham Kaffka Marcu, Pittsburgh, Pennsylvania.

At right, Visitors' Information Pavilion in Founder's Square, Louisville, Kentucky. The architect employed a variation of PPG's Total Vision Systems to provide "see-throughability" or transparency in his design, as well as to provide a strong visual symbol visitors to this park could identify. Owner and operator: City of Louisville. Architect: Lawrence Melillo, Louisville, Kentucky.





Natural beauty.



This audio-tape manufacturing plant for Columbia Broadcasting System, Inc. in Terre Haute, Indiana, owes its natural beauty to an exterior of bare USS COR-TEN Steel.

A costly choice? Definitely not. USS COR-TEN Steel is one of the more economical materials you can use for industrial exteriors. Maintenance? COR-TEN takes care of itself. No painting, no cleaning...and if it's scratched or marred, it heals itself.

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USS Cor-Ten Steel

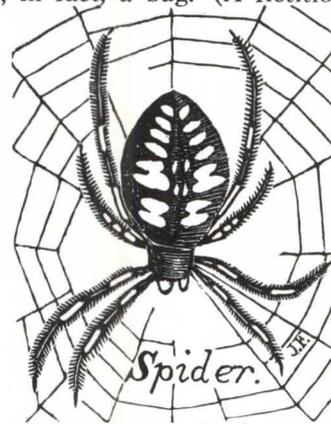


FORUM

Several years ago, I suggested that that year's Gold Medal of the AIA be awarded to Petula Clark, who had just then issued her smashing record, *Downtown*. Like all my better ideas, this one was turned down flat by the AIA; and so I hold out no very strong hopes for my next candidate for the AIA's highest honor: he, she, or it plays the romantic (or, perhaps, demonic) lead in a movie called *The Hellstrom Chronicle*, and my candidate is, in fact, a bug. (A fictitious Dr. Hellstrom, who is also featured rather tiresomely to supply the unnecessary narration, isn't really the star of this flick; the bug is.)

What *The Hellstrom Chronicle* is all about is what all of us have been talking to death these past few years—right, The Environment, and how to learn to live or, for that matter, die with it. Once you've seen *The Hellstrom Chronicle*, you'll never have to attend any of those pretentious Schools of Environmental Design; in a matter of about 90 minutes you can find out all about what it takes to survive hereabouts, and how we haven't got it, but how bugs have.

The bug is not nearly as pretty as Petula Clark, and I suppose there may be some audio-visual problems with the traditional acceptance speech. But I cannot think of a more deserving candidate except for Buckminster Fuller, and he got it last time (though there really is no reason why he shouldn't get it again). But since Bucky may not be touching ground around convention time, I think a beetle or a driver ant or one of those Giacometti-type praying mantises would do very nicely.—PETER BLAKE



SURVIVAL

AUTOSTOPPERS

Action in the continuing war between man and machine was limited to a few skirmishes this past summer, with the outcome inconclusive. Here are the highlights:

- In Toronto, construction was halted on the controversial \$237-million Spadina Expressway. The road is about one third complete, but a subway will now be built in its place. As a result of this switch, some 700 houses in the path of the planned highway will be saved.
- In San Francisco, the Em-

barcadero Freeway (on which construction was similarly halted a dozen years ago) will never be torn down, according to local chronicler Herb Caen. "Only old and beautiful buildings are torn down these days," a planner told Caen. So San Francisco may yet build a couple of exit ramps at the end of the truncated Freeway to keep trucks from falling off the edge.

- In Sacramento, Calif., a bicycle parking lot was dedicated near the State Capitol. The lot will accommodate 150 bikes in the same space that once housed exactly four automobiles!
- In San Antonio, Tex., Wanda Ford, wife of Architect O'Neil

Ford, and leader of the San Antonio Conservation Society, continues in her two-year fight, determined to halt construction of the elevated six-lane interstate highway which would run through the most beautiful part of San Antonio. The group won a court victory recently, but the final outcome of the battle is yet to be seen. Mrs. Ford has threatened to lie down in front of the bulldozers should construction resume.

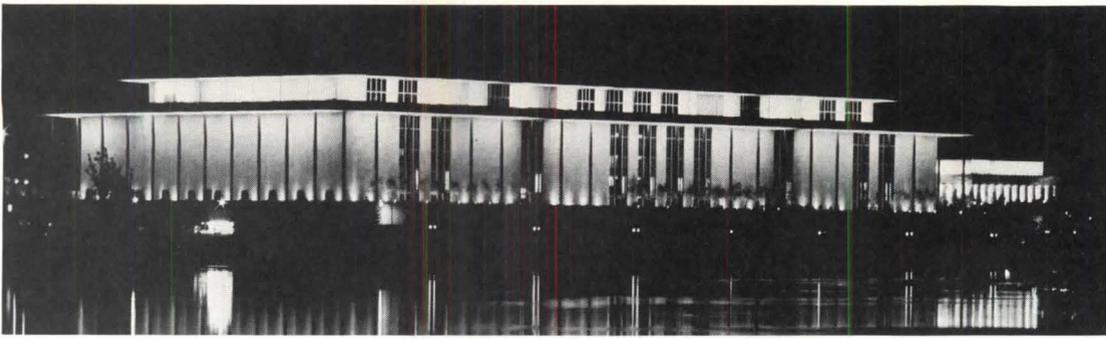
• And in Pittsburgh, Pa. the Fifth International Conference on Urban Transportation on Sept. 8-10 was addressed by both R. Buckminster Fuller (who uses only spaceships) and Vice President Spiro Agnew (who uses only golfcars). Either way, the conference will be bad news for Detroit.

Meanwhile the Nixon Administration's 10 per cent extra duty on such things as little cars from Germany and Japan, and little bikes from Britain, France and Italy, is likely to mean not only more jobs at GM, Ford, et al., but also more jobs to build more highways to accommodate more and bigger US-made cars—and incidentally more jobs to build more houses for people kicked out of their homes to make room for more highways. Good news, for the construction industry — though not, perhaps, for US man-, woman-, or child-kind.

SUPERTREE

A couple of months ago, we reported that a lawn of jungle-green plastic grass had been unrolled in front of Edward Durell Stone's General Motors Building in Manhattan. Now comes the news that scientists in the Department of Agriculture and elsewhere are working on the development of a "perfect tree." So much for Joyce Kilmer. The target date for Model A is five years from now, to coincide with the nation's Bicentennial. Model A won't be made of plastics—it will be a kind of thoroughbred, produced by plant geneticists by crossing different strains. Model A will be an urban tree that can survive air pollution, salt crystals (in winter), and dogs. It will be tall enough to provide shade, but not so tall as to mess up overhead telephone or electric lines.

It's an admirable effort, of course; but might it not be



John F. Kennedy Center for the Performing Arts, Washington, D. C. Edward Durell Stone, Architect.

cheaper and better and certainly less troublesome to eliminate air pollution, overhead wires, and urban dogs — and leave the making of trees to God?

GLORIES

PALACE OF CULTURE

Last month's opening of the \$70-million Kennedy Cultural Center in Washington was accompanied by even more criticism than we expected.

Even while the chandeliers were being hung, nationally-syndicated columnist Jack Anderson (successor to Drew Pearson) was hurling some rather serious accusations at center chairman Roger Stevens and his staff. Anderson made allegations of hanky-panky in the award of contracts for parking, food service, and maintenance; he condemned the lack of black waiters or busboys at the center's posh Grand Scene restaurant; and he even claimed to have turned up a scandal involving architectural criticism. According to Anderson, critic Wolf Von Eckhardt—long-time architectural writer of the *Washington Post*,

had had one of his regular contributions to the *Saturday Review* suppressed. The story, said Anderson, was mildly critical of the center, and *SR* has a lucrative contract to publish the center's glossy programs. *SR* not only suppressed the Von Eckhardt story, says Anderson, but replaced it with a laudatory "puff piece" by music critic Irving Kolodin.

Anderson, with no background in architecture himself, let his own opinions be known, calling the center "a huge marble palace shaped like a low-rise boxcar." Most of the recognized architecture critics seemed to be on his side. Writing in *Life*, *Fortune* Editor Walter McQuade had earlier described the interiors as "an amalgam of popular taste and remembered royalist glitter" known in the decorating trade as "Stouffers Uptown." Ada Louise Huxtable of the *New York Times* used up a whole year's supply of vitriol in one grand barrage of quotable put-downs: She called the interiors "gemutlich Speer." The Opera House chandeliers, she observed "suggest nothing so much as department store Christ-

mas displays."

Mrs. Huxtable goes on to say that the general public got just what it likes in the Kennedy Center. "They are awed by the scale and admiring of the decoration, which is a safe, familiar blend of theatrical glamor and showroom Castro Convertible." Like a good fireworks display, her barrage ends with a big blast: ". . . The building is a national tragedy. It is a cross between a concrete candy box and a marble sarcophagus in which the art of architecture lies buried."

We hope she has made at least one little mistake. We'd like to think it is the Cult of Cultural Centers, instead, that was laid to rest in that sarcophagus.

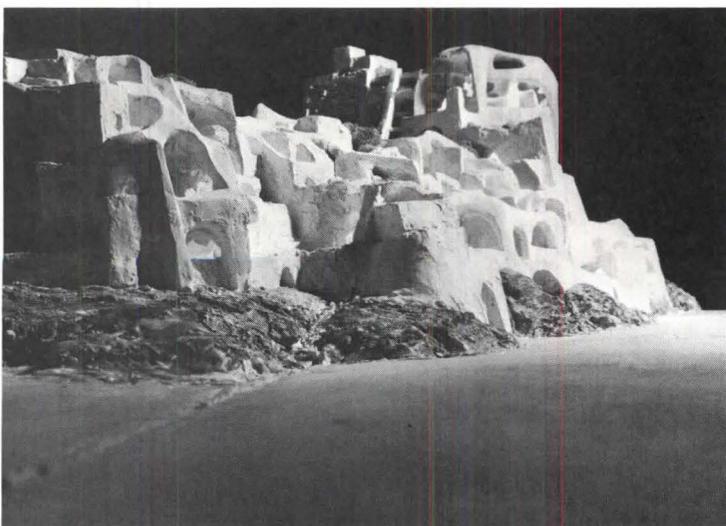
BLACK VILLA MEDICI

The poet-President of the African Republic of Senegal, Leopold Senghor, has commissioned the French architect, Jacques Couelle, to design an ambitious marine village and cultural complex for the island of Goree, which is off the coast of Senegal at Dakar.

Couelle, founder of the Research Center of Natural Structures, designs what he calls "habitable sculptures," a sophisticated term as applicable to his project at Goree as it is to those of the American Indian pueblo builders and cliff-dwellers, or the remarkable artisans of the ancient Greek island of Mykonos who so inspired Le Corbusier (Feb. '59 issue).

The cultural complex on Goree will be a kind of "Villa Medici" for The Foundation of the Arts of the Black World, which was created by President Senghor for well-known black artists now dispersed throughout the world. It was this island off the coast of Africa from which convoys of slave ships left for destinations in the Americas.

Senegalese cultural center



ARCHITECTURE, ANYONE?

A slim leaflet called "Why Not Be an Urban Planner?" crossed our desk recently, part of a series issued by the U. S. Department of Labor (Women's Bureau) entitled *Careers for Women*.

"Why Not Be an Engineer?" launched the series in 1967 and was followed, in overdue time, by the challenge to be an Optometrist, Pharmacist, Medical technologist, Mathematician, Public relations worker, Technical writer, and Personnel specialist.

Apparently the Women's Bureau isn't up to architecture yet, and at the rate they're going—six leaflets in the best year, no leaflets in the worst—it could be a few decades before they get around to it.

INFO ON THE RUN

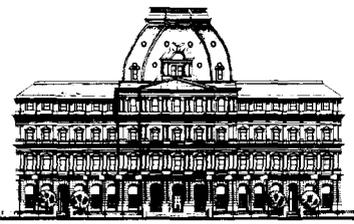
For the architect who wants some advice without having to master rapid reading, Guidelines Publications has issued three more in its series of informative "manuals": *Breakthroughs in Architectural Practice*, *Environmental Control Failures*, and *The Architectural Promotion Directory*.

As Guidelines describes it, the reason for starting the manuals in 1968 was to provide "a new kind of information service . . . to identify the main problems of architectural practice, find those who have solutions, and publish those solutions." Not exactly encyclopedic, the 20-page manuals are nevertheless well worth the \$2 (sorry, no billing order for less than \$6, says Guidelines, but "immediate refund if not satisfied."). Guidelines is at 2813 Telegraph Ave., Berkeley, Calif. 94705.

LANDMARKS

SPECIAL HANDLING

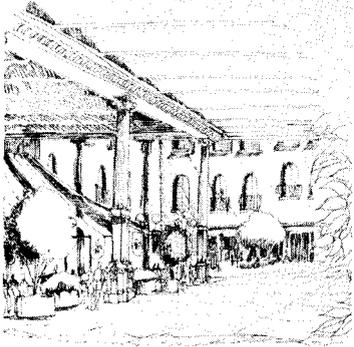
Holiday Inns take notice! The latest in a long series of plans to save the Old Post Office in St. Louis promises 104 luxury hotel rooms—16 ft. high, with sleeping balconies above generous sitting areas. Besides offering this luxury of space, the rooms would be right above a new in-town air terminal, where guests could check their baggage



St. Louis' Old Post Office

and be whisked off to the plane by rapid rail.

Hotel, terminal, cafes, shops, and steam baths would all be around a skylighted central court (right), inside the ample carcass of the 89-year-old landmark. The \$5-million conversion scheme, by Architects Peckham - G u y t o n, would capitalize on the building's



Central court

Late Victorian character. It would also capitalize on its location, directly above a planned subway link to the airport (as well as a possible future site across the river). There is even a chance that the Federal Government can be persuaded to give the building to the Bi-State Development Agency, sponsors of the multi-use terminal, as an adjunct to the city's airport-transit system.

OLD STAMPING GROUNDS

New stamps commemorating four of the National Trusts will be issued on October 29 during the conference of the National

Trust for Historic Preservation. Two buildings are among the four—the Decatur House, at 152 years of age the oldest edifice on Lafayette Square, facing the White House; and the San Xavier del Bac Mission in Tucson, dating from 1797 and regarded as the finest surviving colonial mission in the U. S.

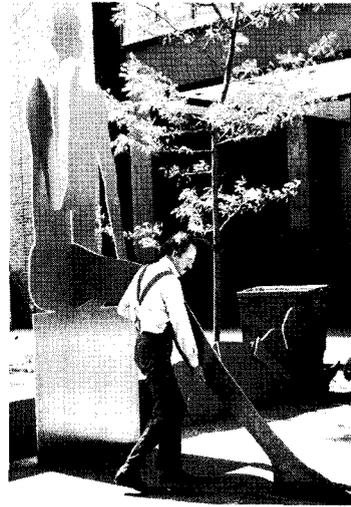
The other two stamps (all are eight-centers) depict the Charles W. Morgan whaling ship, which is berthed at the Mystic Seaport in Connecticut, and (to balance the ticket) Cable Car No. 506, which survived the San Francisco earthquake and fire and is still clanging away along Hyde Street.

A slight controversy attended the Charles W. Morgan stamp—it seems that the artist put only two small boats on the port side, when there should have been three (the starboard side has two, leaving room to hoist the whales aboard). The buildings are apparently accurate, but knowing how an artist can take liberties between port and starboard, architectural historians may want to check for sure. Write to: Historic Preservation Stamps, Postmaster, San Diego, Calif., 92101 for first-day cancellations; send self-addressed envelope and money order or certified bank check to cover cost of stamps.

ARTS

SUPERPEOPLE

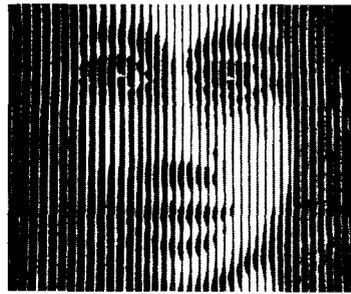
William King, figure sculptor, is currently having an exhibition of his giant "paper dolls" in the Hammarskjold Plaza's new sculpture garden, near the UN in Manhattan. Bill King's "paper dolls" are neither dolls nor paper—they are giant people cut out



King creates man

of sheet aluminum, sitting and standing around in the plaza, and making everybody else (and the building) look out of scale. The only trouble with them is that they probably ought to be walking as well.

TAPESTRY BIENNIAL



Superface

The fifth International Tapestry exhibit held last summer in Lausanne, Switzerland showed diverse examples of the fiber arts. The 83 pieces exhibited were selected from 734 entries, invited this year from Europe and North and South America. Experimental and architectural-scale tapestries and freestanding sisal sculptures dominated the show. Shown here is a tapestry by Evelyn Anselevicius, an American, teaching at the Instituto Allende in Mexico.

BARGAINS

CAMPUS FOR SALE

Hey, psst, wanna buy a university? The Ellendale branch of the University of North Dakota is for sale—library (with 60,000 volumes), cafeteria, gym, new heating plant, two-year-old dormitory, all the trimmings. Some \$3.3 million worth of real

(continued on page 56)



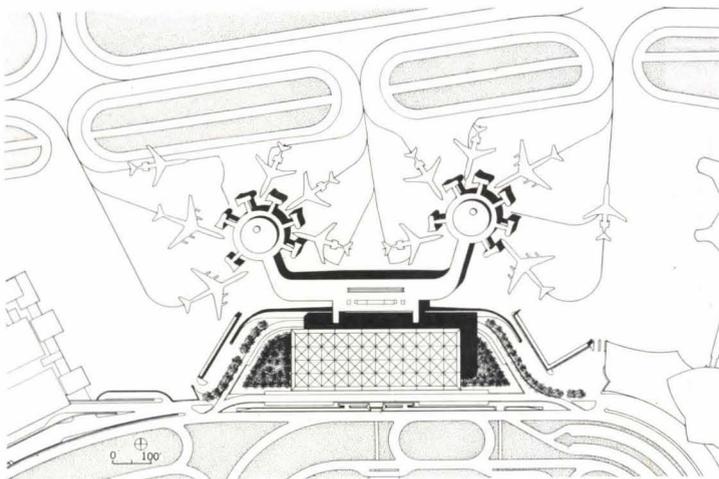
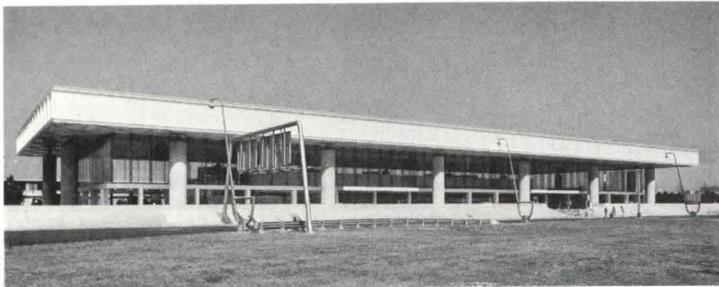
TRANSPORTATION

A 36-page survey of structures, systems, and issues related to travel



PAVILION AT KENNEDY

The National Airlines Terminal at New York's JFK Airport, has crystal clear walls under a broad, hovering roof



New York's Kennedy Airport is a notorious cluster of unrelated, assertive buildings, caught in a visual tangle of road signs, light standards, and airplane tailfins. Dropped into the middle of all this, I. M. Pei & Partners' new National Airlines Terminal is an island of conspicuous serenity.

When Pei first considered the site, back in 1960, he decided that the setting called for "a building of classic simplicity and geometry," and that conviction still seems valid over a decade later. A few other terminals at the airport have shown architectural restraint (SOM's United-Delta Terminal is the best example), but National is both restrained and highly visible; the long white line of its fascia can be seen and enjoyed from half a mile away, across the airport's enormous cloverleaf core.

The completed terminal is remarkably true in form to Pei's initial scheme for the site, which won a limited competition (Sept. '60 issue, p. 5). Soon after, the project was shelved by the original sponsor, the Port of New York Authority (when the many small carriers it was intended for failed to sign up), only to be revived a few years later by National Airlines (which had no obligation to use Pei's design, but liked it). Since then, the basic scheme has survived a drastic cut in size, to meet National's lighter demands, numerous delays and modifications, then a major expansion during construction, when the advent of 747's upset all previous estimates of passenger and baggage capacity. ("What is so interesting about airport design," says Pei half seriously, "is how quickly your plans become obsolete.")

Pei attributes the staying power of the original scheme to its simplicity. The big space under the canopy was so non-specialized that functions could be shuffled around inside it up to the day the counters went in.

Another feature that gave the competition-winning design survival value was its innovative approach to automobile circulation—innovative by 1960 standards, at least. By that time, automobile congestion had become the most critical problem in air terminal planning, and Pei's design team attacked that first. Automobile access had tradition-

ally been limited to the "front" of the building, with the rear reserved for transfer of baggage to and from the planes. (Passenger connections to the planes were already being made through second-level bridges.) The need to expand the crowded curbsides in front of the terminal had led to double-decking of automobile approaches at several terminals, including a few at Kennedy, but frontages for individual terminals there were short, so that ramps had to be steep and cramped, leaving only short straightaways for passenger handling.

By splitting the access roads—with a drop-off platform on the front of the terminal and a pick-up platform on the field side (plan, left)—Pei's designers were able to double the available "curbside" without resorting to clumsy ramp arrangements. Baggage movement just had to be lowered into a tunnel under the field-side roadway.

The design produced for the competition was very clear-cut in its organization. The big room had a long counter down the middle and a mezzanine behind it, linked by bridges to the boarding gates. Deplaning passengers were to come down from the mezzanine, pick up their baggage from carousels in the ends of the main room, and go out the rear exits.

Construction was already underway when changes in airline operation forced a shift of functions. When domestic baggage restrictions were lifted and 747's were introduced (an obvious choice for National's heavy, seasonal Florida traffic), the required peak-hour baggage capacity more than doubled. There simply wasn't room under the main canopy for expanded baggage claim facilities—especially since check-in counters there also had to be lengthened.

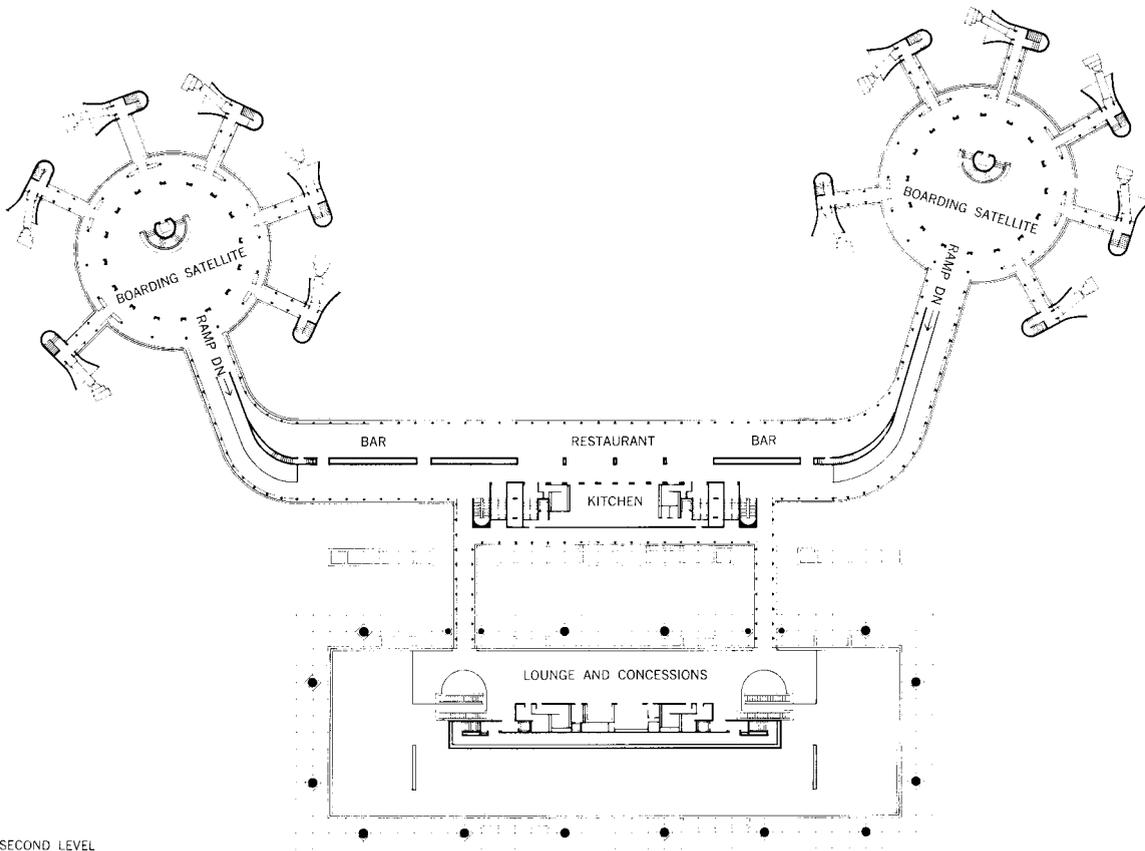
At this point, an unforeseen virtue of the original scheme came to light: it left an almost natural location for a baggage-claim area next to the field. Here, in a 100,000-sq.-ft. addition, the architects were able to provide 300 linear feet of baggage-claim platform practically under the wingtips of the planes—thus eliminating the need to deliver incoming baggage to the main building.

The inbound passenger need

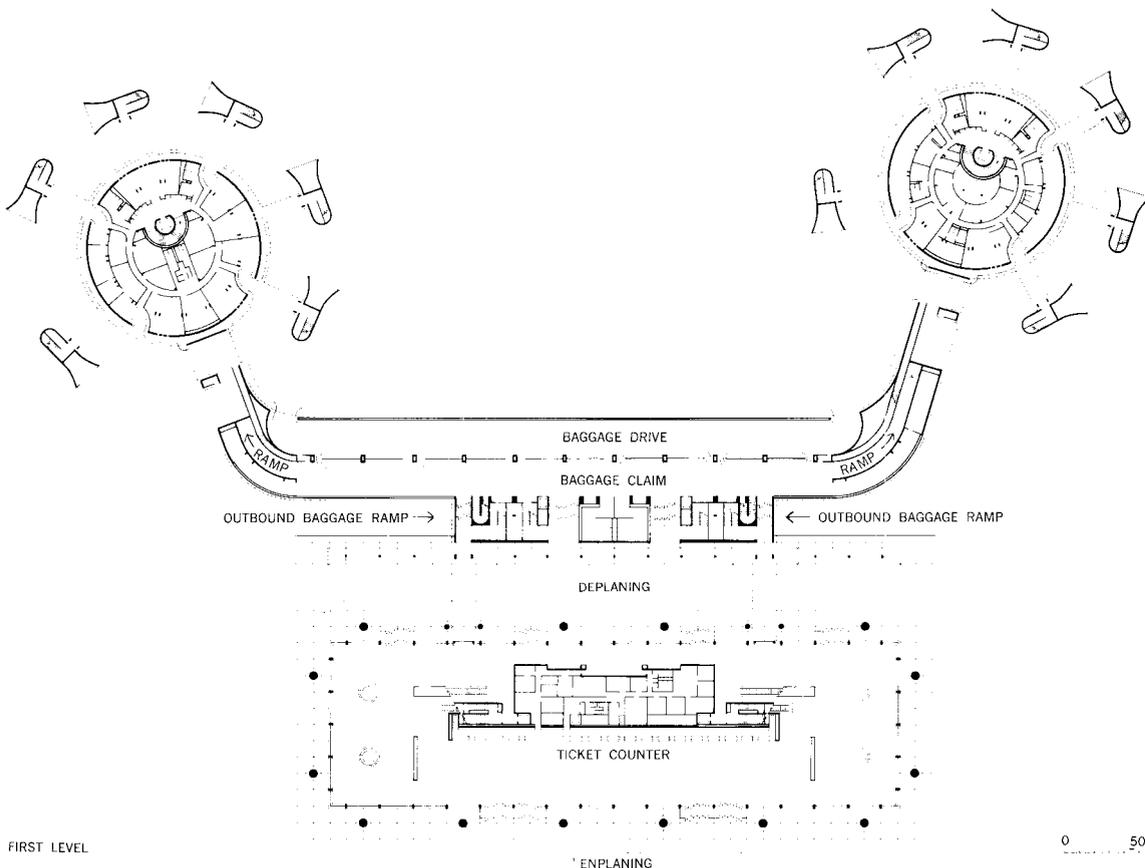




The terminal's white-painted fascia, which extends 430 ft. along the front, is an integral part of its steel roof framing. Roof loads are transferred to the cast-in-place concrete columns through 21-inch ball joints. Mullionless upper walls are braced with glass stiffeners. Lower walls and entry vestibules are framed in hollow, white-coated aluminum members that contain perimeter air ducts. Views into and through the interior are virtually uninterrupted.



SECOND LEVEL



FIRST LEVEL

ENPLANING

walk only about 200 ft. from deplaning gate to baggage claim, and another 60 ft. to the curbside for pickup. He may miss the symbolic satisfaction of actually entering the big room, but that is small sacrifice for the absolutely minimal distance he has to walk.

Once the field-side wing was needed, it was logical to move the restaurant and bar out of the mezzanine of the main building to a location above baggage claim, right along the apron. Except for a few shops, mezzanine space has been left open as a lounge, offering essential overflow space for the travelers and greeters at times of peak travel.

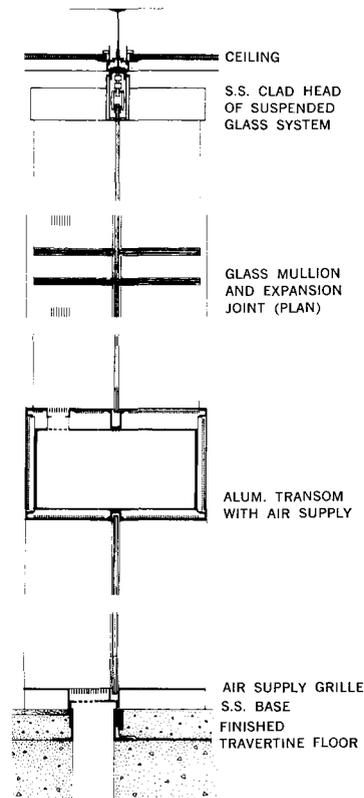
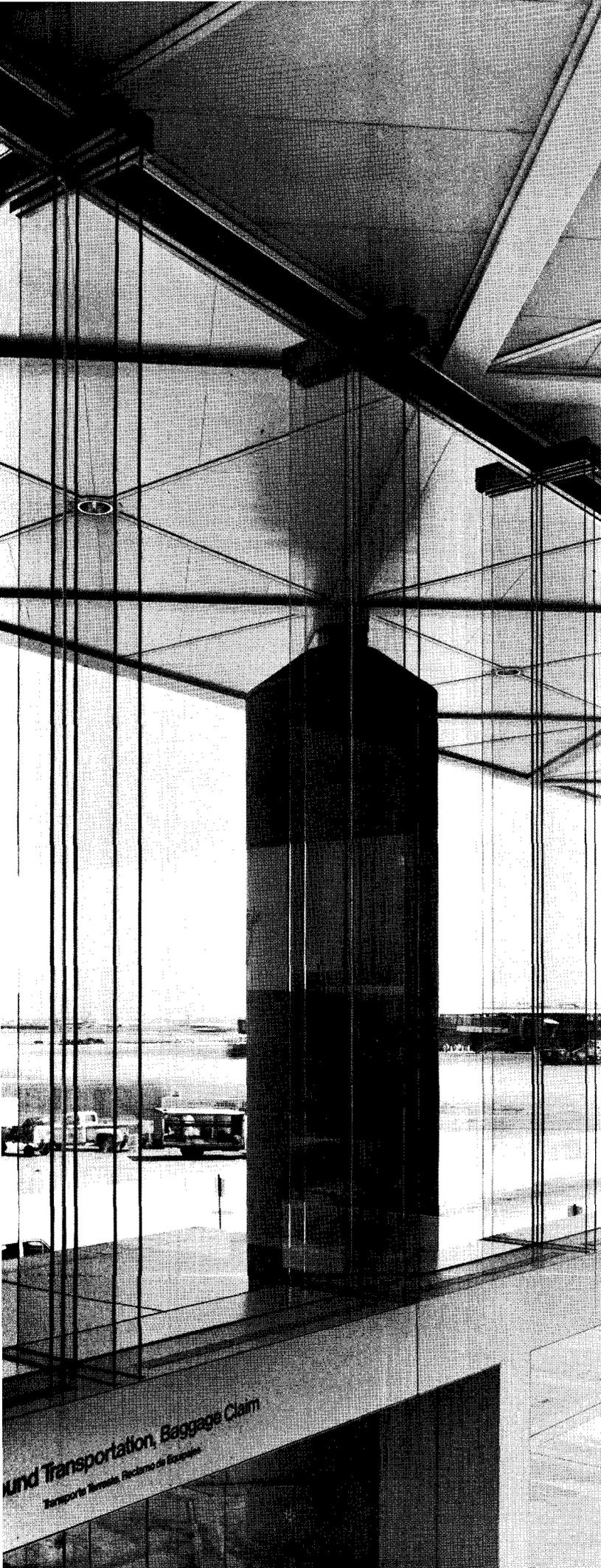
The visual image of the terminal was that of a glass-walled pavilion, and the Pei office was determined to keep the walls light and transparent. Pei looked around at other glass-walled buildings — including Saarinen's TWA Terminal, next to this one — and realized that "when the mullions were strong enough to take the wind, they looked strong enough to support the building." The answer was to brace the glass with glass, a system already used in Europe. "If the mullions are glass, there is no doubt about what is holding up the roof."

The architects had to prove to the Port Authority (which controls all construction on its property) that such a system could withstand the rigors of weather and jet-blast at Kennedy. The European system was modified to include two sets of stiffeners at each joint (detail, p. 24) instead of just one. Then a full scale mock-up was tested against 140 mph winds. In all, the system went through three cycles of adjustment and full-scale testing.

The gigantic roof canopy—430 ft. by 160 ft.—is supported

The main pavilion is bounded by two roadways (plans, left), one for enplaning passengers along the front and one for deplaning passengers at the rear. The field-side wing has a baggage claim area along the deplaning roadway and boarding gates on the upper level, radiating from circular satellites. In the main hall (right) travertine floors and white, perforated metal ceilings reinforce high light levels. Enplaning passengers take escalators (top right) to the red-carpeted mezzanine. Bridges from there to the boarding areas (top, far right) pass through concrete portals which are substituted for columns at two points.





The all-glass pavilion wall (left) is suspended from the roof (details above), braced with glass stiffeners and sealed with transparent silicones. The hollow cross-members at door-head height carry conditioned air, which is directed up the glass to prevent condensation. Boarding wings (facing page) have similar glass-stiffened walls, protected on the inside by low concrete parapets or steel railings. Exposed concrete appears prominently here in the walls and ceilings of ramped passages (top left photo), in turrets that support boarding bridges (top right), and in the umbrella-like framing of boarding lounges (lower photo).

on just 16 concrete columns. Conical column caps, carrying 21-inch spherical bearings, give an effect of almost effortless support. Actually, the joint is by no means as simple as it looks: cylindrical chases running up through columns, sockets, and ball-bearings are needed to accommodate rain leaders, electrical conduits, and plumbing vents (the latter passing through the basement to reach the columns).

In the original design, the roof itself was to be a space-frame with the layout of its bottom members visible as a criss-cross pattern in the ceiling. A more conventional steel girder-and-beam system turned out to be less expensive, but the architects kept the appealing criss-cross pattern anyway.

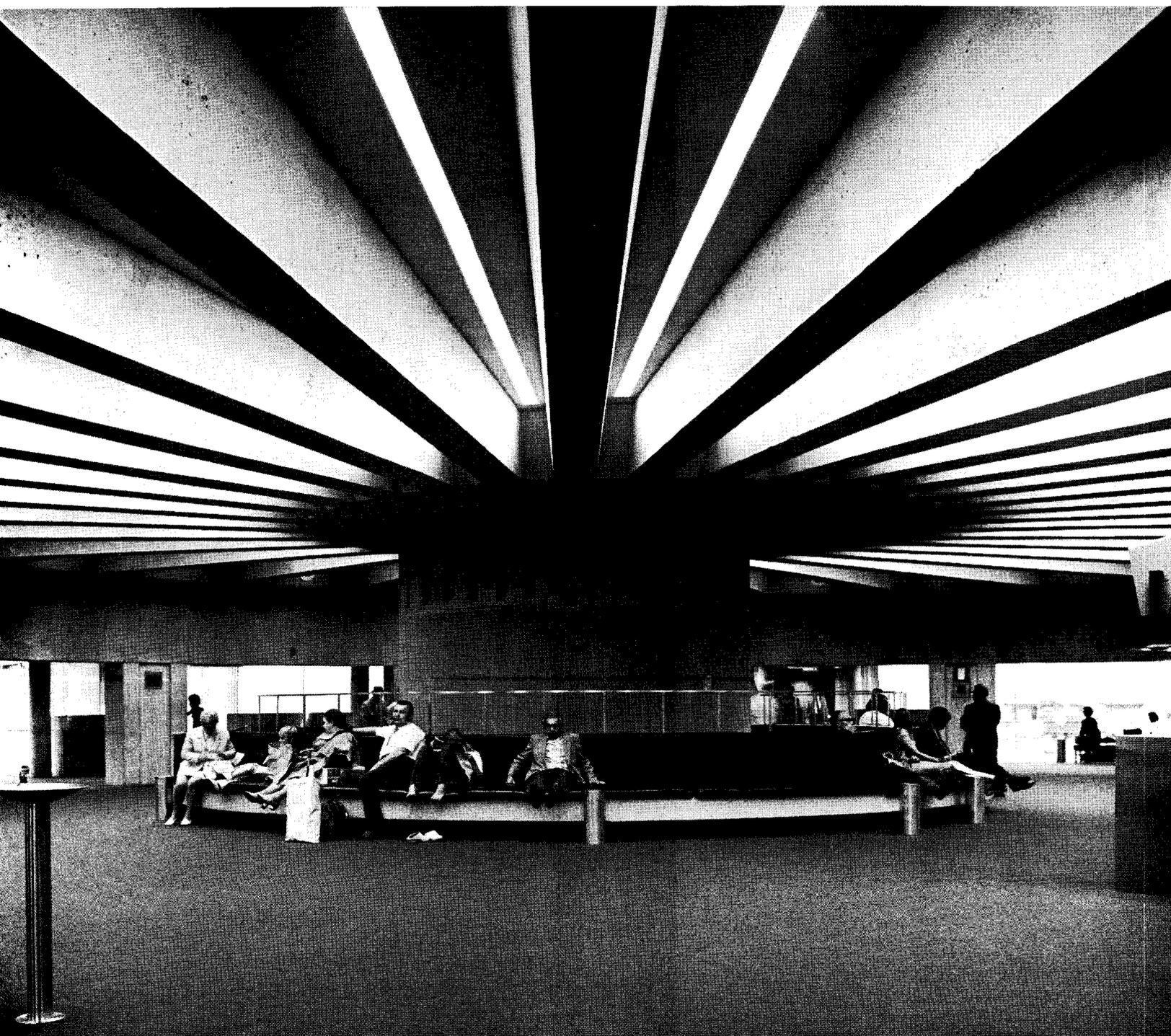
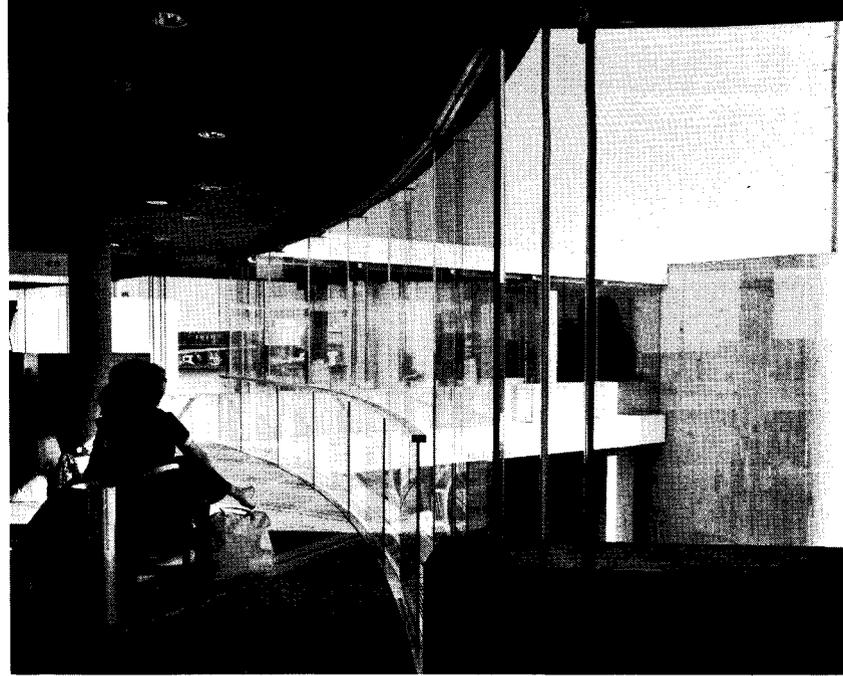
The fascia, which had originally been a mere enclosure, became a structural edge beam in the revised framing system. Exposed and painted white, this built-up beam has become an important visual asset.

Throughout the building, almost every surface that is not clear glass is white or near-white in color. Travertine is used for the main floor and the walls of the core and white-coated aluminum is used for framing of the lower walls, for partitions, for freestanding signs, etc. (Only at mezzanine level does deep color appear over a large area—in red carpet which is not visible from outside.)

One objective of the light-colored, reflective surfaces is to keep light levels inside as close as possible to outdoor conditions, so that the activities of people inside—and National Airlines' lively orange and yellow sun symbols—will show up clearly from outside. "After all," says Pei, "that's what a glass pavilion is all about."

FACTS AND FIGURES

National Airlines Terminal, Kennedy International Airport, New York, N. Y. Architects: I. M. Pei & Partners (Eason H. Leonard, partner-in-charge; Kenneth D. B. Carruthers and William J. Jakabek, associates-in-charge; Paul L. Veeder II, resident architect). Engineers: Ammann & Whitney (structural) Seelye, Stevenson, Value & Knecht (mechanical and electrical). Consultants: Bolt, Beranek & Newman, Inc. (sound); Edison Price, Inc. (lighting); Warren Travers & Assoc. (traffic). General Contractor: John Lowry, Inc. Building Area: 349,719 sq. ft. Construction costs: \$37,000,000. (For a listing of key products used in this building, see p. 69.) PHOTOGRAPHS: George Cserna.



ZIGZAG GARAGE

Canadian parking structure puts pedestrians on top

Most parking garages tend to be gigantic eyesores; moreover, since they are frequently the largest structure in their neighborhood, parking garages are an ever-present affront to the human consciousness: temples to Detroit where once men built cathedrals to the spirit.

What makes this 1,287-car garage at the University of Montreal so interesting is not its bulk but its relative invisibility. Because Montreal is blessed with dramatic changes in grade, it was possible, in this case, to bury all those hundreds of cars (on half a dozen levels) in the side of a mountain; from the campus, uphill, the garage seems more like a spacious terrace, a pedestrian overlook, than like a building. Only from the downhill side is the building visible—and from that vantage point its serrated configuration seems to reinforce the drama of the mountain instead of destroying it. (Unhappily, some additional parking spaces had to be provided on too much of the roof level—see photo at right; and the university authorities should, perhaps, reconsider.)

In the half-invisible portion of this garage there are some intriguing innovations. "The underground pedestrian circulation network is a major component in the University of Montreal campus substructure," the architects say. The garage becomes a sort of underground vestibule for a large part of the campus,

and the architects have provided pedestrian connections at every other floor level to link up with that substructure. The parking space arrangement, angled at 60°, effectively reduces the depth required for two rows of cars plus a service road from about 60 ft. (with 90° parking) to 50 ft. There are two entrances to the garage—one at the highest, the other at the lowest level; and the circulation system is such that all floors can be reached from either entrance. The floors are arranged on a split level, and linked by ramps. The structure is of reinforced concrete, with open walls to facilitate snow removal.

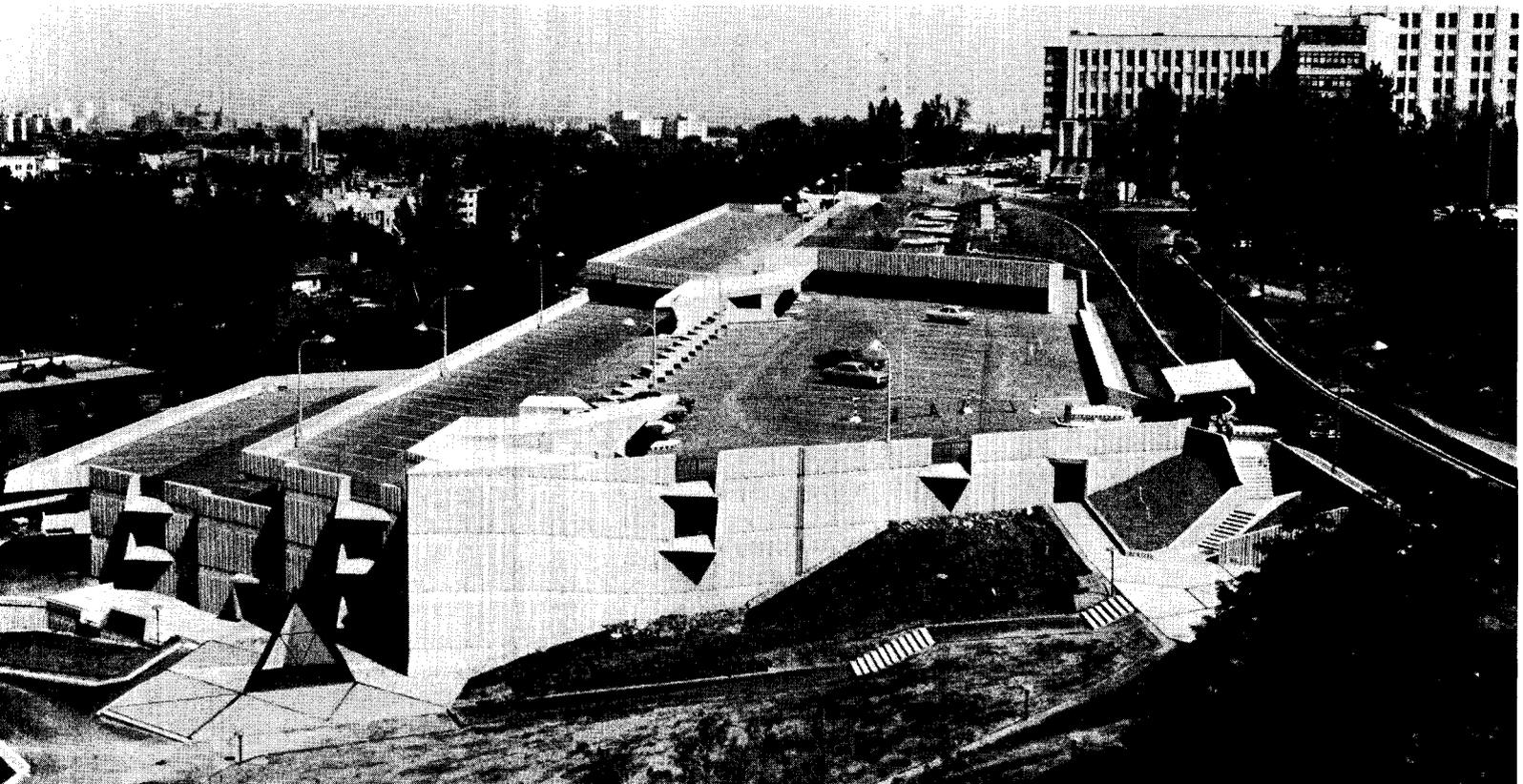
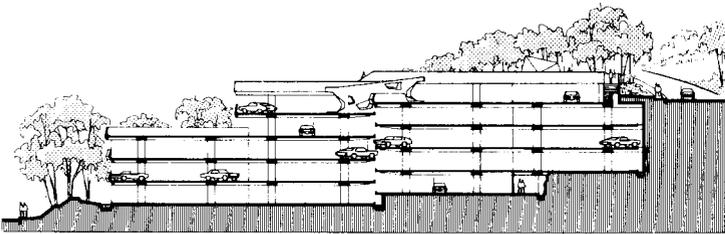
The architects—Ouellet, Reeves, Alain, with Jacques Reeves in charge—tend to explain this building primarily in functional terms. But it is really, above all, an achievement in urban design—a part of the landscape, and an effective gateway to the campus as a whole.

FACTS AND FIGURES

Garage Louis-Colin, Montreal, Canada. Owner: Universite de Montreal. Architects: Ouellet, Reeves, Alain (Jacques Reeves, partner in charge); Alexandar Resanovic, Benoit DeMontigny, collaborating architects. Engineers: Martineau, Vallee et Associes (structural); Pierre Deguise et Associes (mechanical and electrical). Interior designer: Hanscomb Roy & Associes. Consultants: Desourdy Construction. General Contractor: G. Famery Inc. Building Area: 414,000 sq. ft. Construction Cost: \$2,600,600.

(For a listing of key products used in this building, see p. 70.)

PHOTOGRAPHS: Omer Bourret.







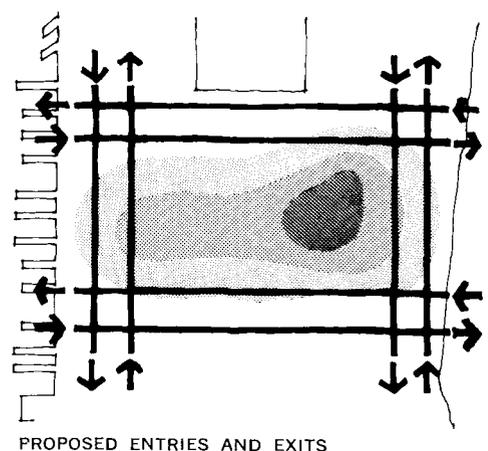
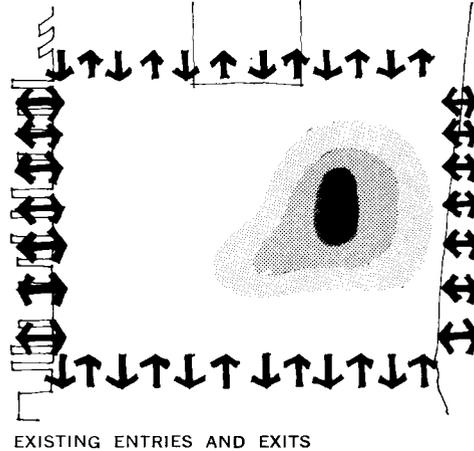
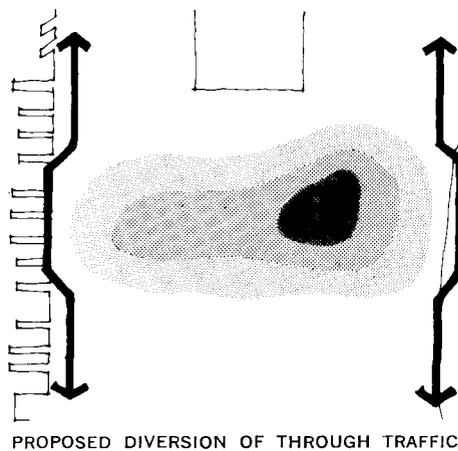
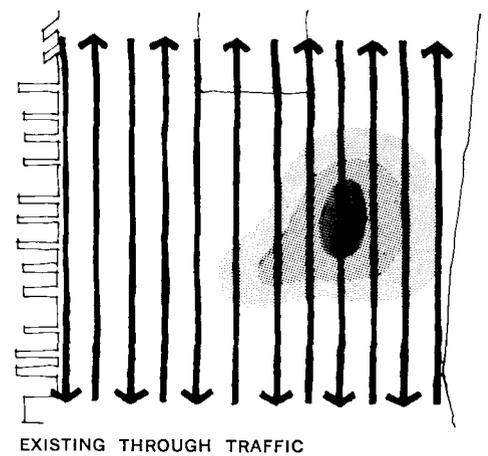
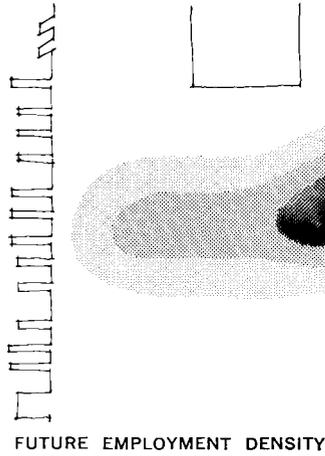
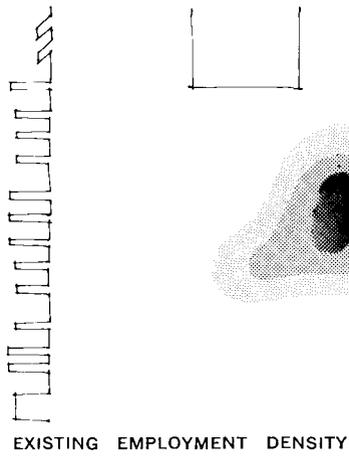
NEW PATTERNS FOR A METROPOLIS

A study by the team that helped sort out traffic in Downtown Montreal offers an alternative plan for Manhattan's traffic jams

In early 1970, Sandy and Blanche van Ginkel, the Montreal-based planners, were requested to assist Manhattan's Office of Midtown Planning and Development (OMPD) in delineating specific programs and policies for improving circulation in Midtown—the area of Manhattan roughly defined by 30th and 60th Streets, the Hudson and East Rivers.

This is the location of the Pennsylvania and Grand Central Stations, Park Avenue and Fifth Avenue, Lincoln Tunnel, Times Square and Broadway—some of the legendary elements in the history of urban circulation. It is one of the densest and richest agglomerations of man-made environment, and includes Rockefeller Center, the Chrysler and Empire State Buildings, and the United Nations.

Congestion in Midtown is legend. Solution of the problems of circulation in Midtown could have great implications for other urban areas.



During their first meeting, Jaquelin Robertson, Director of OMPD, and the van Ginkels agreed that lengthy analysis, data collection and feasibility studies were neither available nor desirable. Midtown for a long time had suffered from overanalysis without a reasonable framework of plans and objectives within which to direct analysis and utilize results. Midtown, it seemed, had definite boundaries, functions and limits which demanded that regional considerations could in this instance be treated mainly as inputs and outputs. What was necessary was a generalized review of circulation problems, existing use of roads and transportation facilities, regulations and programs and prospects for development for the purpose of *formulating* long range objectives and proposals for immediate implementation. Furthermore it was agreed that this should be done as quickly as possible—in four to six months—and for a minimal fee.

Any real accomplishment in such a short time would have been impossible under normal client/consultant relationships. Fortunately, all city agencies involved with Midtown circulation participated in defining the ultimate recommendations. Creative inputs came both from the client and consultant and frequent reviews of each other's work ensured that proposed policies and programs were oriented toward the immediate future while remaining consistent with long term objectives.

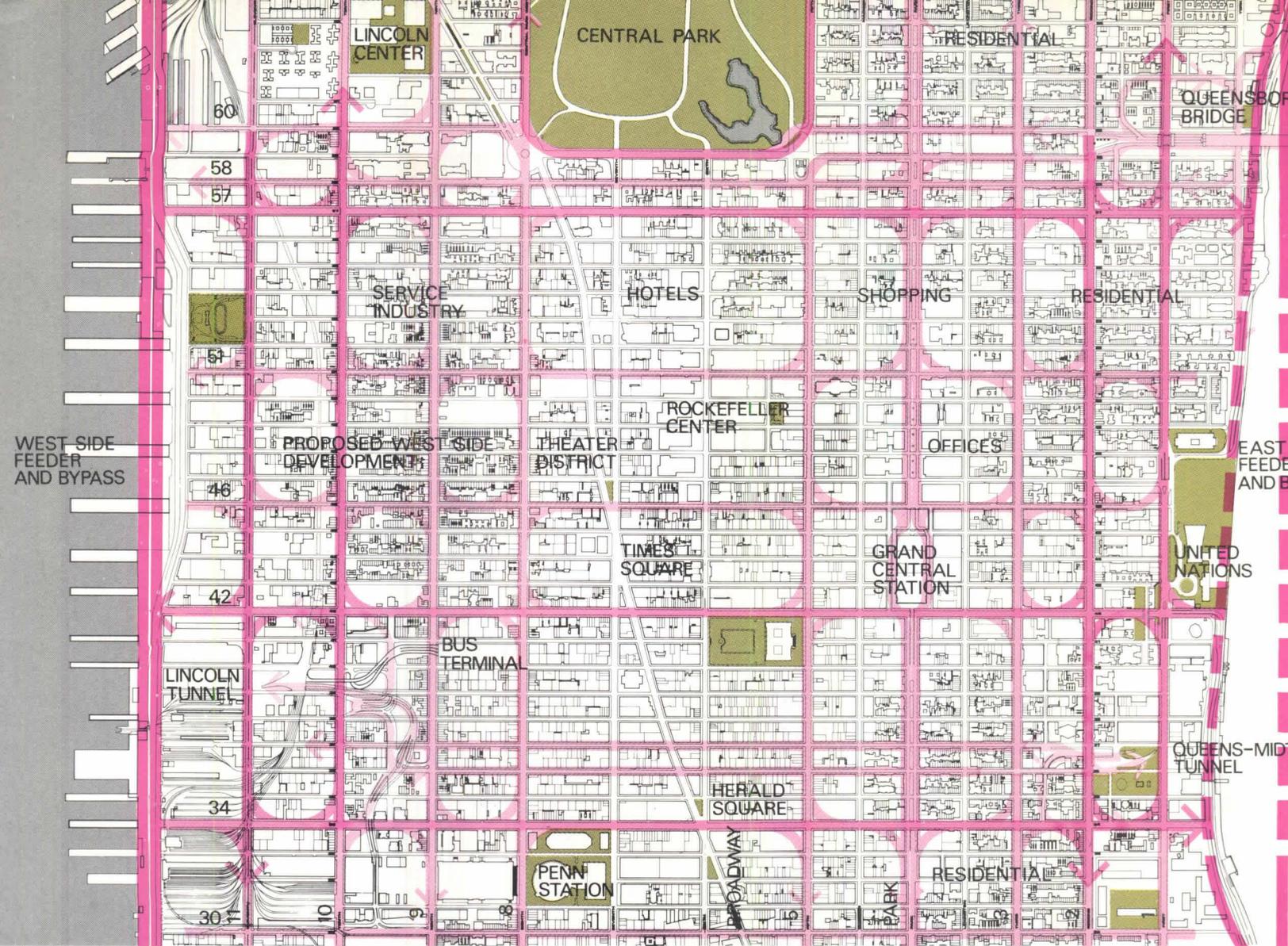
MIDTOWN MANHATTAN

BY SANDY AND BLANCHE VAN GINKEL

Some problems . . .

The grid system of Midtown streets and avenues was designed many years ago for an entirely different scale of development than has since occurred. As buildings have risen higher the number of employees and residents has increased, as has the number of cars and trucks to serve them. But the streets and sidewalks have remained the same. The result is unbearable congestion, noise and stress—and massive costs to the city and its inhabitants.

Circulation can be improved, congestion can, in large part, be eliminated and Midtown can be made more livable. However, automobiles cannot be totally eliminated — no realistic substitute will be available for a long time to come. On the other hand, the capacity of the grid cannot be increased to meet the continually increasing demands of the automobile. But we can



- EXPRESSWAYS
- MAJOR ARTERIALS
- MINOR ARTERIALS
- BRIDGE/TUNNEL CONNECTIONS
- EXISTING GREENSPACE
- WATER

clarify which traffic is and which is not essential to Midtown; delineate the routes for traffic flowing through the area; optimize the use of streets and avenues; and reconcile the many demands placed on them.

Through Traffic

Because there are no routes around Midtown that are significantly faster than the internal avenues, traffic fights its way through Midtown. At peak periods both the expressways and the avenues are overloaded and between peaks the situation is only slightly improved. A great deal of through traffic uses routes at the center of Midtown—the area of the highest concentration of local traffic. Consequently through traffic is slowed and local traffic is hampered.

Because there are no routes that afford clear crosstown movement, traffic tends to zig-

zag across the island seeking out those streets that are momentarily less congested, causing more turning movements and conflict with delivery vehicles and pedestrians.

Through traffic should be diverted to the periphery. This means reorganizing expressway movement. The expressways must be redesigned as two-part routes—a bypass with no connections to Midtown and a feeder route with connections to major crosstown arterials, linked to the bypass north and south.

Traffic Leaving and Entering

The point of entry of a vehicle to Midtown should be as close as possible to its destination and its exit should be as close as possible to its origin. Trips to and from entries and exits should be made on streets and avenues specifically designed and regulated to handle this traffic

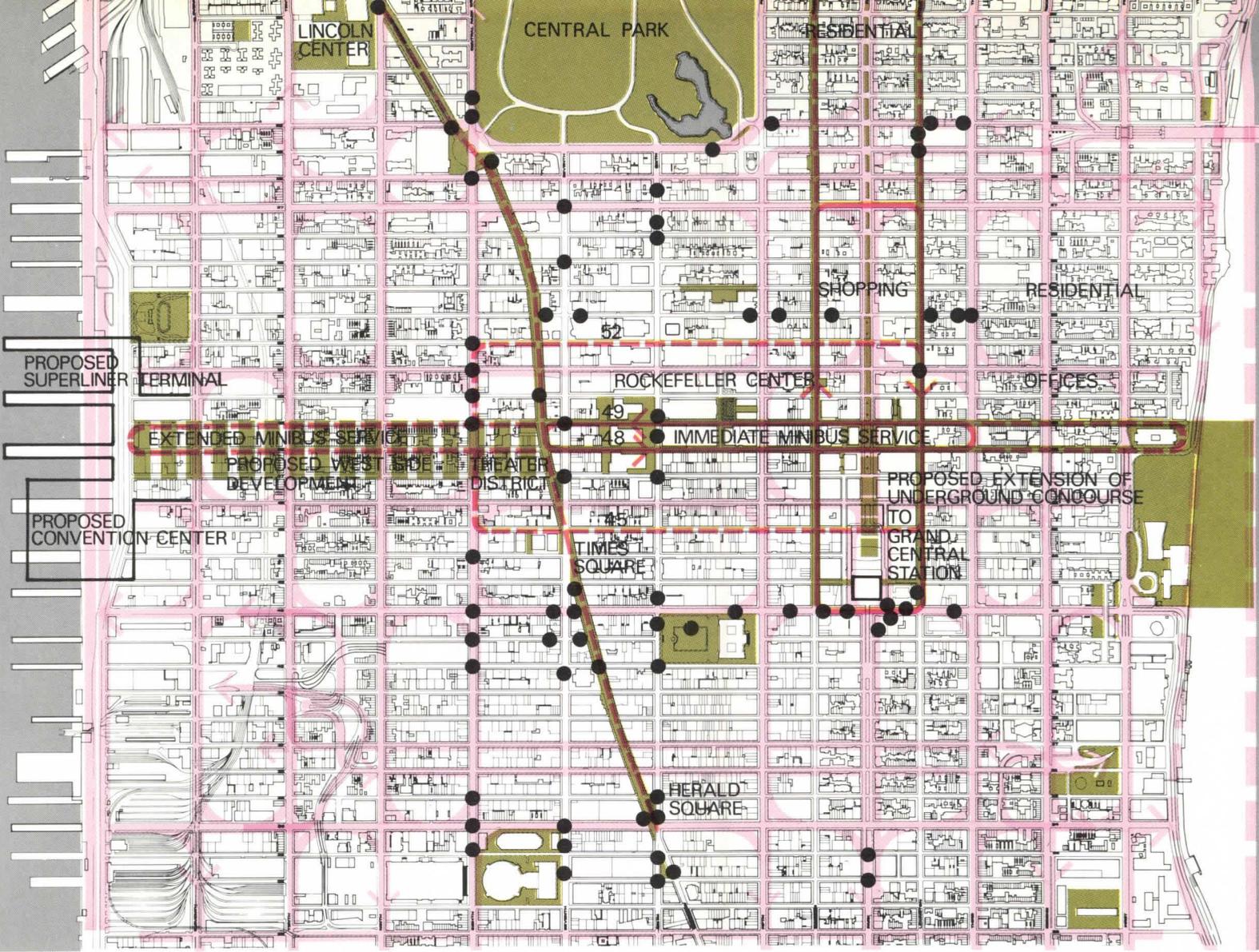
rather than by filtering through the grid. This requires relating entry and exit points to an arterial network of streets and avenues.

Street Classification

The existing streets and avenues form a system. Within this system a hierarchy of use has developed defining the demands on traffic regulation, street or sidewalk widening, stopping requirements, etc. In broad terms, streets and avenues now function as major arterials, minor arterials or local streets.

The problems of the existing system result from deficiencies in the hierarchy:

- the hierarchy as it exists is not as clear as it should be. This gives rise to the overlapping of functions (arteries serving also as local streets, for example), with a reduction of efficiency for both functions.



- EXPRESSWAYS
- MAJOR ARTERIALS
- MINOR ARTERIALS
- BRIDGE/TUNNEL CONNECTIONS
- EXISTING GREENSPACE
- WATER
- PROPOSED GREENSPACE
- MINIBUS SERVICE ROUTES
- SUBWAY ACCESS POINTS

● there is an imbalance between the categories in the system, for example a shortage of collector/distributor streets. So, other streets carry a function to which they are not suited.

● circulation routes are heavily imbalanced in favor of north-south movement. Only three of the east-west streets are as wide as any of the avenues and the north-south public transit lines greatly outnumber the east-west ones. This is logical in terms of the geography of Manhattan, but not in terms of Midtown. More traffic is drawn onto the avenues than the adjacent streets can handle.

These deficiencies can be corrected by creating a clear, balanced hierarchy of streets and avenues related to the pattern of land use in Midtown—by strengthening or altering the function of existing streets and avenues.

... and some remedies

Major Traffic Circulation

We defined an arterial network as shown diagrammatically above to divert traffic traveling between north and south Manhattan around Midtown; to connect the bridge and tunnels directly with the expressways in order to avoid unnecessary loading of the grid and to distribute traffic from one part of Midtown to another by means of express arterials. The major streets—34th, 42nd and 57th were made one-way in order to smooth flows and more than double their capacity.

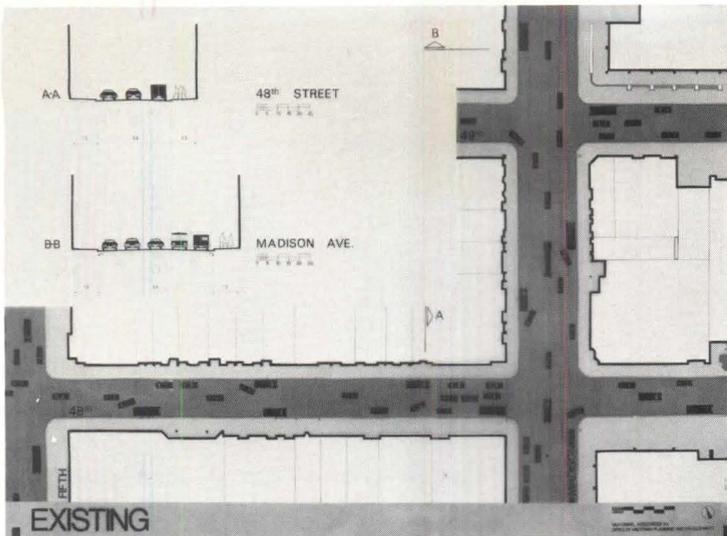
Central Park drives were closed permanently in order to discour-

age through traffic from using Sixth and Seventh Avenues. Central Park South and Central Park West were made one-way, forming a loop to carry traffic around the park and simplifying flows at Grand Army Plaza and Columbus Circle.

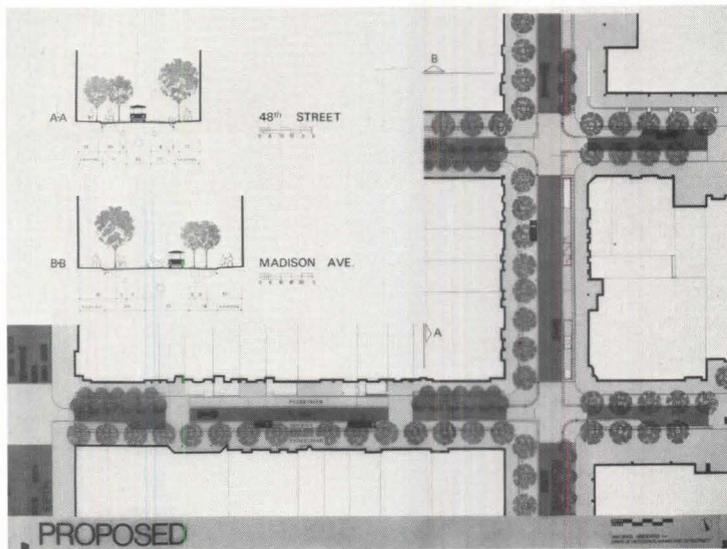
All exits and entries on F.D.R. Drive were closed, except those connecting with the arterial network. A new bypass expressway to carry through traffic would be constructed on landfill in the East River, which can be developed for parkland and residential use. Revenues from this development can pay for construction of the expressway.

First and Second Avenues and Tenth and Eleventh Avenues act as the major north-south arterials in the first stage, diverting traffic to the periphery prior to construction of the new expressways.

Traffic lights on Third, Fifth,



48th Street presently consists of 3 lanes of traffic and 12-13 foot wind-blown sidewalks. On Madison there are 5 lanes of traffic and sidewalks are also 12-13 feet wide. Intersections are for cars.



On Madison two lanes were reserved for minibus and long haul buses. As buses stop on one side of the street only, the design is asymmetric. This allows truck parking on the opposite side during the mornings.

On 48th Street the pedestrian area would be increased by 11 feet either side, leaving one lane for minibus operation. One of the pedestrian extension areas, defined by bollards, would be used by service vehicles for deliveries up until 10:30 a.m. each day. A zone on the other side of the street is designed for store extensions—cafes, marquees, displays, etc. Intersections were designed as pedestrian squares, the surface continuous with the sidewalks, with the minibus lane ramping up to them.



Eighth and Ninth Avenues are timed to discourage through traffic.

These avenues along with certain designated streets form a minor arterial network which interlocks with the major arteries, distributing traffic to and from the areas of high density use. 46th and 51st streets provide fast crosstown movement, compensating for removal of pedestrian streets from the circulation system. 36th and 37th streets provide direct connection between the tunnels, keeping the rest of the grid free from this heavy through traffic and distributing delivery trucks to the appropriate avenues. 58th, 59th and 60th streets serve a similar function for Queensborough Bridge.

The majority of these changes involve little or no expenditure, and all but the new expressway can be implemented immediately.

Pedestrian Network

The stress created by levels of noise, constant activity and movement (which are particularly intense in Midtown) must be offset by areas of low-level activity, places to walk and relax, vehicle-free precincts and trees and grass.

In Midtown the function of open pedestrian space must be not only to provide for physical relief, but to provide structure. In an area so densely built up it is the voids rather than the buildings which give orientation—the reverse of the situation in less dense urban areas.

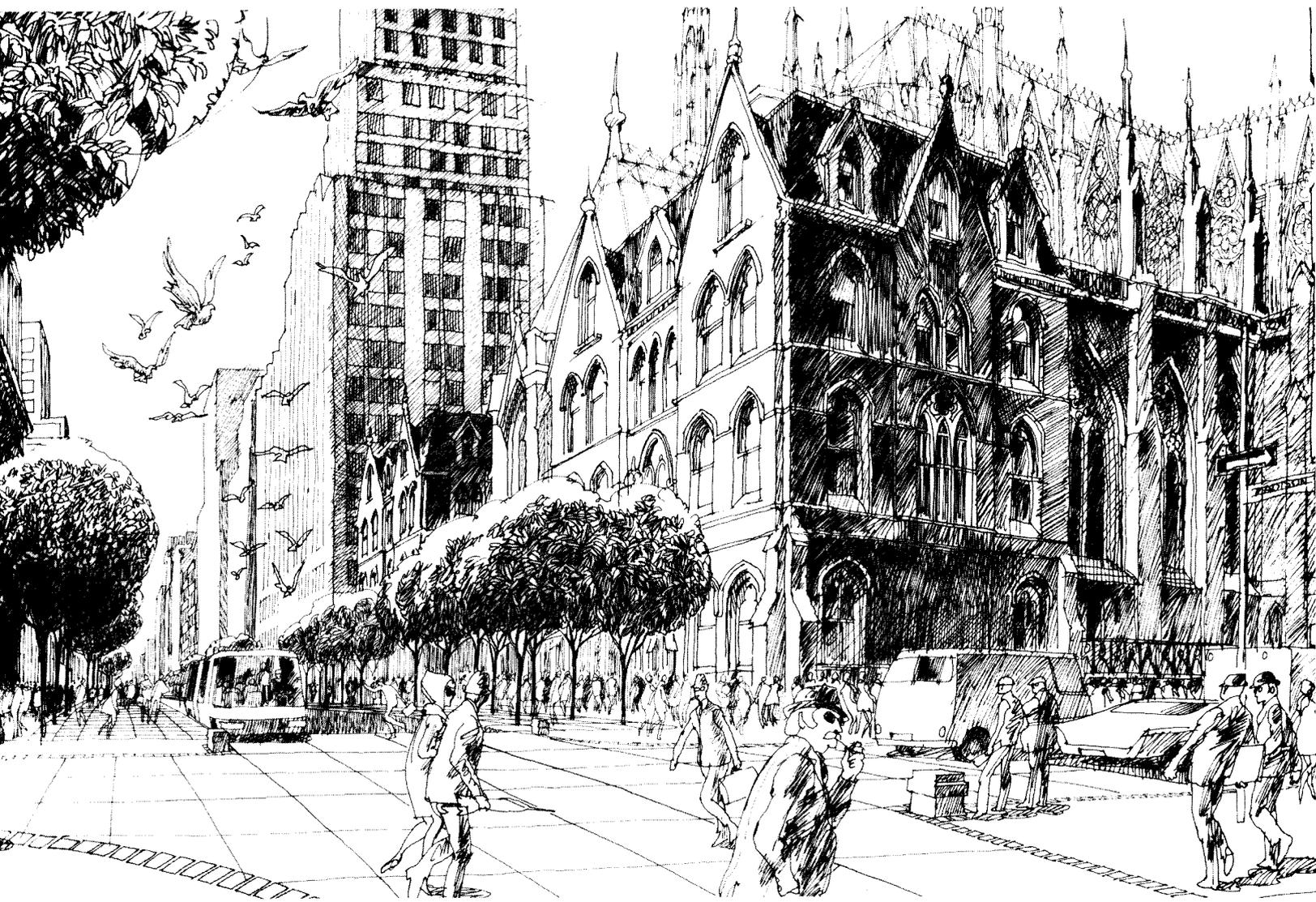
The area of most intensive land use and highest employment density in Midtown (from the Grand Central complex to Rockefeller Center) has virtually the same ratio of pedestrian space as any other part of Manhattan; but the concentration of people is ten times or more

that found in most parts of the city. The result is not only overcrowding, but disorientation, lack of identity and, consequently, inhumanity.

Existing pedestrian space is deficient in quality as well as quantity. It consists mostly of sidewalks—narrow, dirty and dark, and plazas—open, windy, too hot or too cold. Subway stations and their underground concourses are by far the worst pedestrian spaces, but they are the only alternative to sidewalks. Bryant Park, Central Park and the U.N. Plaza are located near the high job-density area but they are too far from the highest job concentrations for lunch-hour trips. The construction of mid-block arcades which is being encouraged by OMPD, will aid movement and provide useful and pleasant pedestrian space. There is however a crucial need for more pedestrian space im-

mediately, especially in the area of highest density. The redesign of Madison and Lexington north of 42nd Street; of 48th and 49th Streets between Lexington and Eighth Avenues; and Broadway between Herald Square and Lincoln Center would answer this need. With such a network, every point in east Midtown (between Second and Eighth Avenues, 40th to 60th Street) would be within a four-minute walking distance from either a park or a pedestrian street.

Creation of network of pedestrian streets provides an opportunity to solve many of the problems of circulation and movement in Midtown which have until now been pre-empted by demands of the automobile. The streets forming this network are ideally located for minibus service. Minibuses provide assistance to the pedestrian for trips which are longer than desired or en-



joyed on foot, yet which require the convenience and economy of walking. Consequently, minibuses should follow the major pedestrian routes, the desired lines being the same, and be available at the places where pedestrians congregate.

Two one-way loops have been proposed by us, one on 48th and 49th streets, the other on Madison and Lexington. An additional two-way loop would run on Broadway. Routing could be flexible as demands become apparent; and no doubt this basic network would be expanded.

The character and quality of the minibus itself, and of minibus service, should be consistent with that of the pedestrian street—casual, restrained and convenient. The minibuses should be comfortable, easy to enter and leave, with ample seating and standing space for twenty to thirty passengers. Since the

buses are inexpensive to operate, fares can be low—five or ten cents—or transportation can be free. On a fare system, transfers between regular buses or subway and the minibus should be allowed. Minibuses have been successfully operated in other cities on this basis.

No appropriate vehicle now exists which could fulfill the short range distribution function in built up downtown areas. Consequently, we designed one ourselves. A prototype is now being manufactured and should be ready for testing in early 1972. In the second stage of the project we prepared detailed design drawings for 48th and 49th Streets and Madison and Lexington Avenues, with cost estimates and critical path scheduling. Partial closure of Madison Avenue during Earth Week of this year demonstrated the real demand and value of pedestrian streets

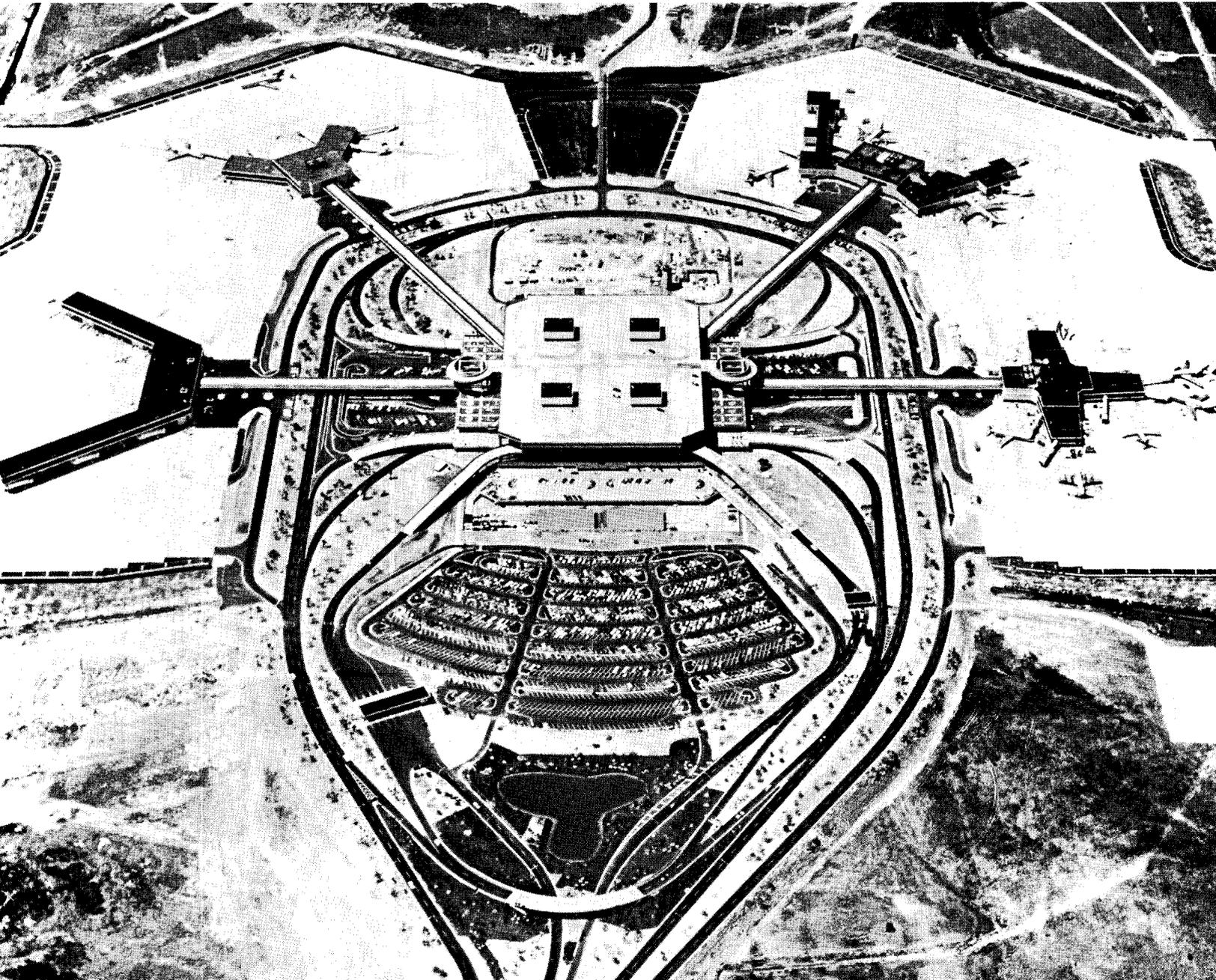
in Midtown; and Mayor Lindsay subsequently announced that Madison would be developed as a permanent pedestrian transit street. Working drawings for the 42nd to 57th Streets stretch are currently being prepared. It is hoped that construction of this first phase of the pedestrian network will be substantially complete within a year.

Delivery and Parking

Recommendations were also made on delivery and supply, on emergency systems and on parking. Various modes of delivery were studied. Although no modes presently exist which could replace trucks on a large scale, it is possible to reduce adverse effects on street use through restriction of delivery to specific periods of the day; through the use of smaller vehicles; and through post-office style sorting and dispatching.

Parking was analyzed in great detail. We recommended that the amount of curbside parking allowed be drastically reduced. Detailed recommendations for off-street parking were aimed at a net reduction in the number of spaces and closer coordination of these remaining spaces with the essential parking functions—hotels, residences, as well as for salesmen and shoppers.

The project was only possible by virtue of the extraordinary client/consultant relationship, which included access to all the many relevant resources and agencies of the city. Full day working sessions were held at regular intervals, and these proved extremely fruitful: they considerably broadened the technical base of the work while at the same time provoking discussion of overall Midtown planning objectives among the various agencies.



TRANSFER AT TAMPA

Florida airport terminal is a mechanism for switching from aircraft to surface vehicles

At the center of Tampa Airport is an intricate interchange—involving aircraft, automobiles, and automated transit—which is called, for want of a better name, a “terminal.” But James A. Meehan, airport consultant for Architects Reynolds, Smith & Hills, reminds us that no air terminal is ever the end of the trip, just a place to transfer from one mode of transportation to another.

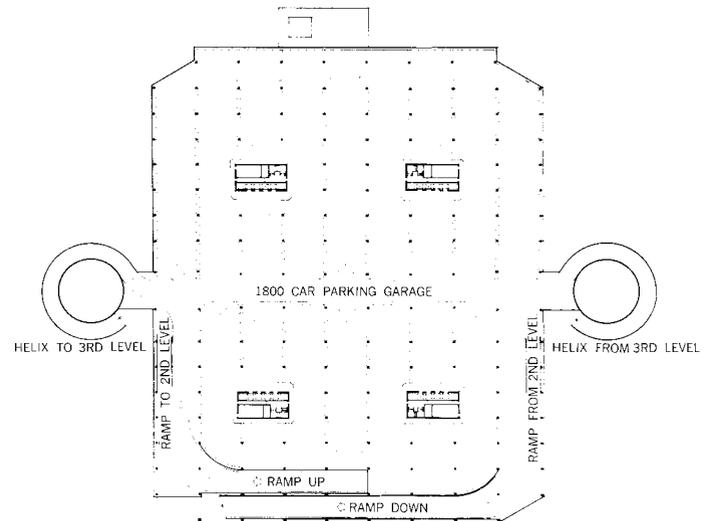
At Tampa, the traveler is always aware that he is just passing through. In fact, he is never sure precisely when he has “arrived” at the terminal. He goes through the central “Landside” building, where he may park his car, then takes an automated shuttle to one of four “Airside” buildings, where he boards his plane. In the process, he will take two escalators (plus an elevator, if he parks his own car), but he will walk no more than 700 feet.

The Landside/Airside scheme originated back in 1962 as a means of eliminating the long treks demanded by existing airports. (It is no coincidence that about half of this airport’s traffic originates in the retirement meccas of St. Petersburg and Clearwater.) Airport consultants Leigh Fisher Associates studied all existing schemes. Then, working with engineers of the J. E. Greiner Company, they came up with the Landside/Airside concept, based on automated transit links.

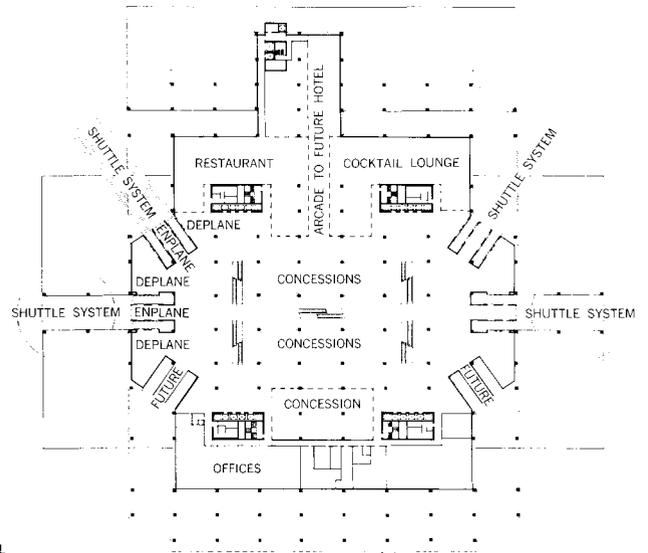
This scheme avoided the pitfalls of other walk-reducing schemes: the clumsy passenger-loading operations of the mobile lounge, and its dependence on specially-trained drivers; the redundant ground connections and passenger services of decentralized schemes. And it allowed for future expansion of all parts without disturbing operations.

At the time the Landside/Airside scheme was adopted, however, it was not certain that a suitable shuttle vehicle even existed. As the sole way of getting from Landside to Airside (except in emergency), it had to be safe, foolproof, and easy to board—with no attendants present. Its capacity was based on the unlikely event that four DC-8’s would arrive at one Airside at the same time; that called for moving 840 people to the Landside building in 10 minutes. For enplaning passengers, frequency of service was critical; a two-

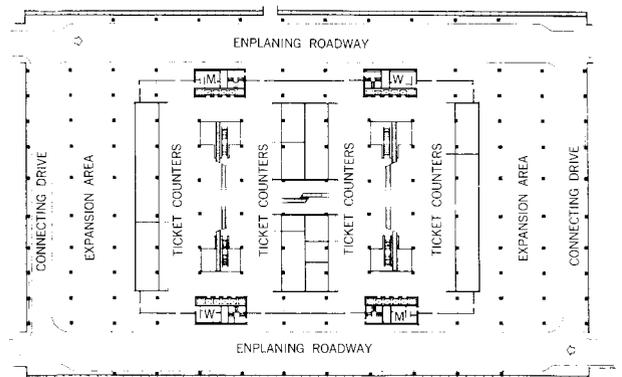
The 1 million-sq. ft. Landside building at the center of the terminal (top left) is penetrated by roads at several levels and has three decks of parking at the top. Elevated transit lines link Landside to four Airside buildings (aerial, left). To the south of Landside (foreground in aerial) are long-term surface parking and a two-deck rental car terminal; just to the north, a 300-room hotel and a control tower are under construction. Two more Airsides will be added, to the south, and the road loop will have a second outlet, to the north.



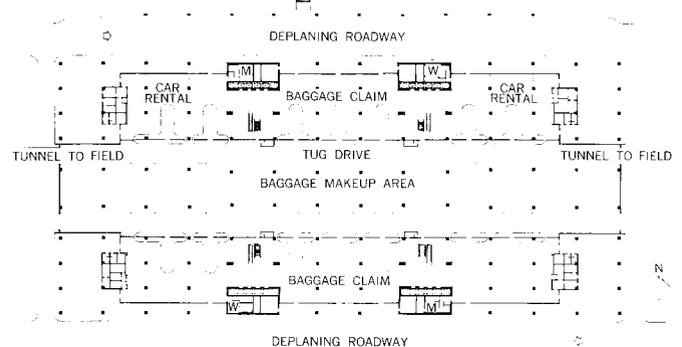
PARKING LEVEL 1



SHUTTLE LEVEL

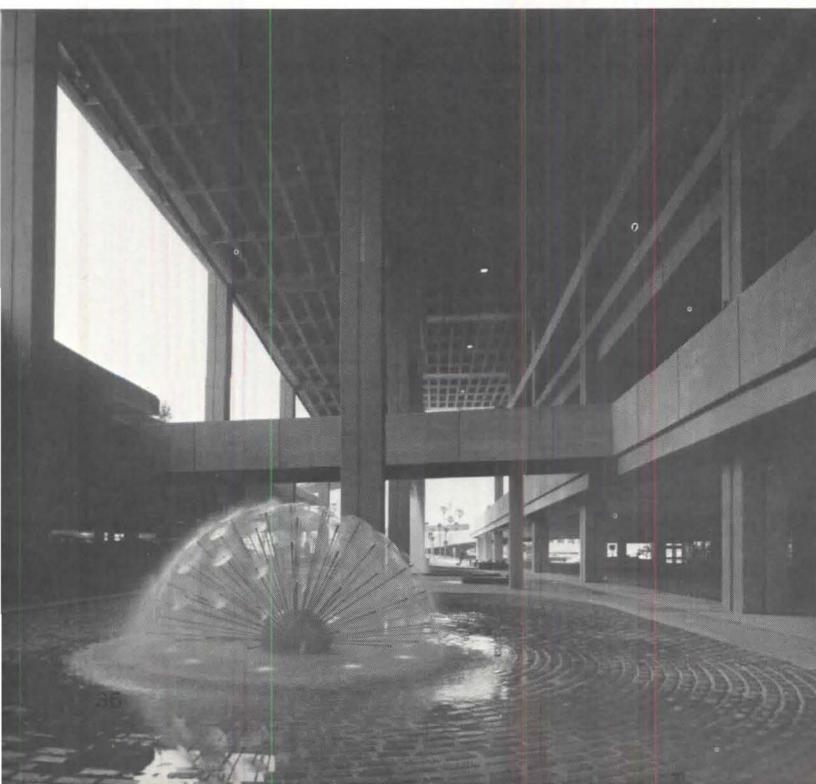


TICKETING LEVEL



BAGGAGE CLAIM LEVEL

0 50 100



Interiors (above left) are subdued, unified by gray-brown carpet and split stone veneer on structural members. Light is more intense over counters, escalators, and baggage conveyors. Fountains (bottom left) liven the shaded court between Landside and the car rental structure. Of the four Airside buildings, only National's (above) has boarding lounges at shuttle level, allowing planes to nose in under structure. Pairs of automated shuttle cars (top right) pass at mid-course; concrete median strip could be converted to pedestrian concourse. Passengers enter shuttle through elevator-like doors (near right), after those on board exit through opposite doors; they remain standing (far right) for 40-second trip.

FACTS AND FIGURES

Landside/Airside Terminal Complex, Tampa International Airport, Tampa, Fla. Architects: Reynolds, Smith & Hills (Ivan H. Smith, officer-in-charge). Aviation Advisor: Peat, Marwick, Mitchell & Co. (Leigh Fisher Associates). General Engineering Consultant: J. E. Greiner Co. General contractors: McDevitt & Street Co., J. A. Jones Construction Co., C. A. Fielland, Inc. Building areas: Landside terminal, 409,500 sq. ft.; Landside parking, 741,200 sq. ft.; Airside terminals, 652,700 sq. ft. Project cost: \$79,858,000.

(For a listing of key products used in this building, see p. 69.)

PHOTOGRAPHS: Pages 34 (top) and 37 (top), Sandy Gandy; page 36 (left), Kurt Waldmann; aerial photo, Selbypic.

minute wait is too long when you are rushing for a plane.

The system that best met these needs is an adaptation of a Westinghouse transit car (already proven for mechanical dependability at their Pittsburgh test installation). Each shuttle link has two cars, of 100-passenger capacity, making the 1,000-ft. trip in 40 seconds. Allowing about 60 seconds at the end of the line for unloading and re-loading, one car should leave either end every 100 seconds.

The shuttle cars have no seats, since the passengers spend barely a minute on board. Running in the open, over highways and groves of palms, the shuttle makes a very appealing trip. (Airport authorities, aware of its amusement value, let the public ride the shuttle for weeks before the terminal opened.)

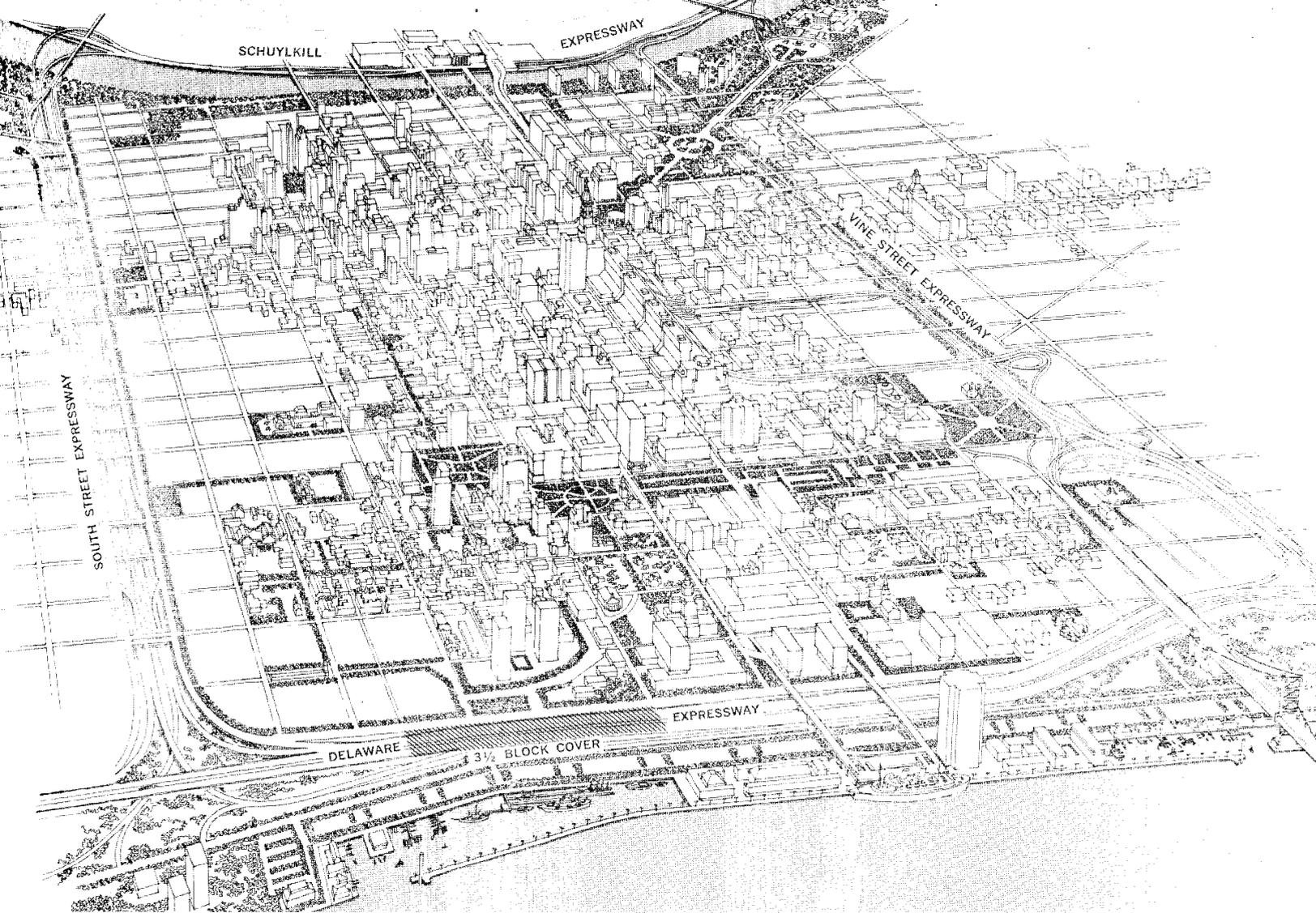
The architects, brought in at the point when the overall scheme was accepted, realized that there was no place in this multidirectional complex for a monumental gateway. They tried to pull together all of the parts—buildings, ramps, and trestles—with similar exposed concrete framing and the same dark glass in all windows. The dominant image of the Landside building is based on the bold crisscross of ramps on its south face, the tall columns and visible trusses that frame roadway and shuttle entrances, and the broad lid of the parking garage at the top.

Much of the open space within Landside's matter-of-fact structural frame is used for sheltered dropoff and pickup platforms. And some of it may eventually be enclosed, when ticketing and baggage-claim areas are expanded by 50 per cent.

Expansion plans—which involve adding two more Airside buildings and three more decks of parking on top of Landside—are based on projected needs of the year 2,000, when 12 to 15 million passengers per year are expected. Present facilities will handle up to about 8.5 million, more than double the current volume of 3.1 million.

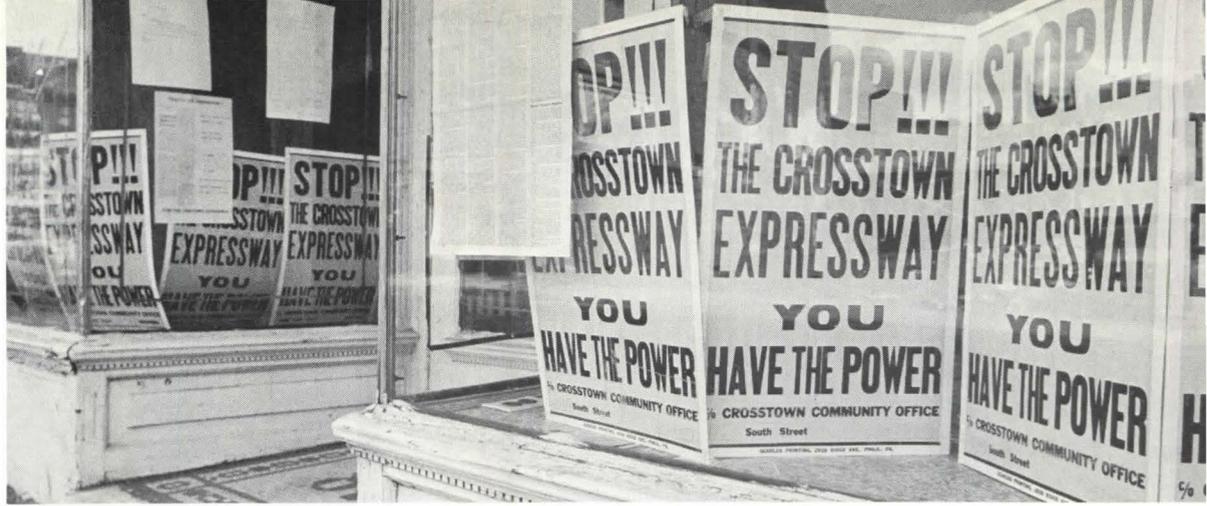
With so much reserve capacity, Tampa is functioning rather effortlessly at the moment. Increasing traffic, as it approaches the capacity of the present complex, should provide an interesting test of the road network, escalators, elevators, and transit on which travelers here depend.





THE CROSSTOWN IS DEAD LONG LIVE THE CROSSTOWN?

Philadelphia's controversial Crosstown expressway has been turned back, after a long and intense struggle by the Crosstown community. In this three-part presentation, a reporter gives the political background of the saga, and two architects give the philosophies and programs behind their different alternate proposals



A history of the political ups and downs that finally resulted in the defeat of the expressway

BY MICHELLE OSBORN

South Street was the southern border of William Penn's Philadelphia as it was mapped by Penn's surveyor in 1682. Almost three centuries later, the street appeared on City Planning Commission maps as the southern link in the city's inner loop geometry, and the southern border of a preciously protected downtown area.

During the 1950's, Philadelphia bristled with grandiose downtown projects. The renewal of Penn Center and Historic Philadelphia—the Society Hill area—were signs of the exuberant political and business climate. Downtown redevelopment began spreading new white middle and upper class settlements southward. Partly because of redevelopment's success, the proposed southern highway link (now named the Crosstown Expressway) was moved two blocks to South Street, where it was finally fixed around 1960. South Street was then a decaying but still lively shopping street, catering for much of its length to lower-income blacks.

When the Expressway left the realm of the abstract in the early 1960's, it began to impinge seriously on people's lives. Merchants and landlords stopped maintaining properties in the highway corridor. Opposition to the Crosstown project began out of fear that the project would drive the tide of low-income blacks being shoved out of center city by the redevelopment into stable middle class Negro

Mrs. Osborn frequently wrote about the Crosstown controversy both as architecture critic and editorial writer for the Philadelphia Bulletin. At present, she is a free lance writer and consultant to the U.S. Commission on Civil Rights.

neighborhoods. At the same time, the urban proletariat was becoming restless. In 1964, the year when public hearings were held on the highway, Philadelphia experienced one of the nation's first riots.

The city's mood, described as "lively and confident" by Lewis Mumford in 1958, was declining to dank and demoralized. In 1964, the city's first Irish-American mayor, James H. J. Tate, took office, and the glamorous reform days of mayors Joseph Clark and Richardson Dilworth soon receded into lambent memories. Tate's political style was old-fashioned and non-elitist, shaped by personal loyalties and deals rather than ideas or ideals. He returned the city to the political pros. Though he was termed the city's "most powerful mayor" by one of the major newspapers, he leaned more and more heavily on his flamboyant police commissioner—who is now the Democratic mayoralty candidate—as racial tensions mounted. The nightmare of civil disorders seems to have been uppermost in the mayor's mind during much of his tenure. Fear of a riot influenced the outcome of the Crosstown project.

By 1967, when Tate was up for reelection to his second and last term, the Crosstown had become a raging battleground. Planned as a 2.8-mile, eight-lane depressed ditch, it attracted constellations of conflicting interest groups. The balance of power lay with the proponents. The Chamber of Commerce, the city's Streets Department, and the State Highways Department stoutly defended the Crosstown as vital to the region's transportation and essential to the economic well-being of the city (meaning downtown). The two

leading newspapers echoed these sentiments.

But the road's opponents, led by George Dukes, an easygoing black community leader who directed the personnel department of a local hospital, and Alice Lipscomb, an articulate spokesman for low-income blacks in the highway corridor, were concerned over the project's social effects. They formed a committee to oppose the highway and "hired" Robert Sugarman, a brilliant 29-year-old lawyer with the prestigious firm of Dechert, Price and Rhoads. Coordinated and masterminded by Sugarman, the anti-highway forces launched a sophisticated campaign to swing public opinion their way. The group attracted the support of talented planners, architects and urban experts, all of them volunteers.

Lack of relocation housing was the chief rallying point. Official documents fixed the city's low-income housing shortage at 45,000 units, and the public housing waiting list numbered 6,000 households. The Crosstown would uproot more than 5,000 persons, 90 per cent black, 65 per cent tenants, and 80 per cent eligible for public housing. The project would also erect a barrier between affluent white and poor black neighborhoods. George Dukes dubbed it Philadelphia's "Mason-Dixon line."

An obvious solution was to make the Crosstown an urban "seam" through joint public-private development and air rights construction. First publicly promoted by architect Marvin Verman, the idea had enough strength to rally public opinion and eventually be placed under the microscope of a task force appointed by the mayor.

Shortly after the mayor's re-



election, though, the task force decided that air rights construction was economically infeasible. Meanwhile, the mayor said he was against the road, and ordered a housing survey for the corridor. The mayor's waffling inclined no one to take his anti-Crosstown decision very seriously, and the Chamber of Commerce began to gear up to re-sell the road.

The anti-Crosstown group began to probe the road's technical underpinnings, and they soon felt they had found its real Achilles heel. In December 1967, University of Pennsylvania professor Robert Mitchell, who was the City Planning Commission's first executive director from 1945-47, recommended to the mayor that the Crosstown be abandoned, or moved to another location and its design completely restudied. "Psychologically," Mitchell wrote the mayor, "the City cannot afford at this time one more symbol of separation between the black community and City Hall."

Mitchell went on to recapitulate the history of the road. As City Planning Director, he said, "we conceived the idea of an expressway loop. . . . Intuitively we suggested a closure of a loop around the CBD. . . . In those days planners tended to think almost entirely in terms of physical form. . . . In 1953-55 [when Mitchell headed the Urban Traffic and Transportation Board] we proposed a future transportation network for the City and region. . . . Again we were planning only for the transportation function, neglecting the social aspects, except that a goal was to strengthen and enhance the central business district. . . ."

The inner loop was first promoted on the grounds that it would reduce traffic congestion

in the city's streets. Mitchell himself worked on the creation of a mathematical model tying traffic to land use.

He was perfectly willing to admit later that forecasting tools were primitive, but by then institutional respectability had buried any such doubts. In 1962, however, federal regulations required regional planning as a condition to highway funding, and the Delaware Valley Regional Planning Commission (DVRPC) was born with the silver spoon of computers in its mouth. Since DVRPC funding and personnel were heavily tipped toward highways, DVRPC bias should have been obvious, but the "garbage-in, gospel-out" principle made it hard to prove.

According to the first law of institutional inertia, the weight of official agencies and experts was now heavily pro-Crosstown. As a highways department spokesman later put it: "The DVRPC plans indicate there is a need for an expressway south of the CBD. We have a consultant, Simpson & Curtin, who have also made studies and their studies show that without this kind of an improvement, the Schuylkill Expressway, the Delaware Expressway and/or arterials are going to be greatly overloaded within a few years; that access to the Philadelphia downtown will be impossible; that Philadelphia will therefore as an economic area not be able to compete with Chicago, Boston, New York, etc." The highways department's chief article of faith was termed by opponents "the domino theory:" without the Crosstown, the department said, other proposed regional highway projects would collapse. Boiled down, the position taken by the Chamber of Commerce and the

highway agencies was simply that more highways were better.

The anti-Crosstown group's countervailing experts questioned the rationality of this position. In the early phases, planners Janet Reiner and Harriet Johnson did yeoman service; later, Penn graduate planning student Lou Rosenberg and the local AIA Architects Workshop's Allen Hinckey and Mitchell Smith also contributed their expertise.

In mid-1968, Thomas Reiner, an associate professor of planning at the University of Pennsylvania, termed the Crosstown a "boondoggle." He said that the estimated cost of \$66 million was about half what the Crosstown would actually cost. (1970 estimates were \$130 million.) He pointed out that the Crosstown might dump 90,000 cars a day on existing streets and asked who would bear that cost as well as air and noise pollution costs. (The city's Public Works Department later estimated that each additional car on the road cost the city \$50 a year in service not reimbursed by the gasoline tax.)

The national climate also favored the anti-highway forces in the late '60's. The Kerner Commission had introduced institutional racism to the national vocabulary. The transportation avant-garde was beginning to preach the need for "community participation" in transportation planning. The highway bureaucracy was suffering from a credibility gap: the urban links in the 41,000-mile interstate system had consistently been routed through areas of least resistance—run-down historic areas, along waterfronts, through parks and in low-income or black neighborhoods. City after city was erupting in

anti-highway fights. The interdisciplinary urban design concept team approach was launched in Baltimore in 1968 and other cities began to follow suit. Architects, long dismissed by highway departments as exterior decorators, were beginning at last to take on the highway engineers.

None of this moved the pro-highway people. The dapper and politically ambitious state highways secretary, Robert Bartlett, seemed to sum up their philosophy when he said, "The automobile is proof that we are advanced." The Chamber of Commerce launched its own so-called "plan"—a pure public relations cream puff cooked up by its technically unqualified staff to downgrade the relocation problem and sway the mayor and the public. As Kenneth R. Geiser, Jr. has pointed out in his recent *Urban Transportation Decision-Making: One* for MIT's Urban Systems Laboratory, the "highly successful symbiotic government-business relationship, plus the narrow, isolated ethos of the highway planner and his profession, leads to a condition in which it is almost totally impossible for government agencies or officials to respond to the growing 'no-road' protests. . . ."

By then, the highway corridor and its neighboring turf had been designated an urban renewal area, and the anti-highway group "hired" volunteer "advocate" planners to assist the corridor neighborhoods with revitalization. A non-profit community development corporation was formed, capitalized with \$35,000 in borrowed money. (It now owns seven properties in the highway corridor.) The architecture and planning firm of Venturi & Rauch, in the person of Denise Scott Brown, aided by



the firm of Ueland & Junker, drew up a preliminary plan emphasizing incremental rehabilitation, revival of the South Street commercial strip through select infusions of public and private investment, and community control of development. Denise Scott Brown describes it as giving South Street "the Society Hill treatment with verve."

Then the mayor wavered. He had vetoed the highway for a mishmash of reasons. He was out of sorts with the business community, which had opposed his reelection bid, and was irritated with the autocratic highways department, which ignored him; he was heeding anti-highway liberals within his cabinet, and was contemplating the rumored possibility of summer riots on South Street. The Chamber of Commerce, whose new president was a Democrat and Tate supporter, began to bend him their way. The mayor needed Chamber support for his business tax package. A Chamber staff member confidently predicted to a highway opponent that the Crosstown would go through, because of the taxes, and because of Chamber pipelines to the new HUD Secretary, George Romney.

In March 1969, the mayor caved in to pro-highway forces. Under his direction, the city's Managing Director formed an 11-member Crosstown committee, which split six to five in favor of the road. Extensive hearings were held, but the battle lines held firm. HUD froze renewal funds for the south-central area pending an official decision on the Crosstown, which put the heat on. The Crosstown committee voted in December 1969 to support a new study by a prestigious consultant team

headed by Alan M. Voorhees & Associates.* The study was to start with the question of the need for the expressway, and it was the nation's first such clean-slate study of an urban highway project undertaken by a design concept team.

The anti-Crosstown group saw nothing to be gained by compromise and opposed the study. They found an ally in the U. S. Justice Department's Community Relations Service, whose field staff also feared riots if the Crosstown were built on South Street. Apparently as the result of meeting with CRS representatives, the U. S. Department of Transportation bowed out of funding the Voorhees team on the grounds that the "federal presence" in areas of high racial tension was inadvisable. In addition, according to a reliable source, the Bureau of Public Roads was reluctant to fund a study when there was no assurance that a highway would be the outcome. After some months' delay, the state highways department, then at least nominally in the process of becoming a transportation department, decided to pick up the consultants' tab.

In December 1970, the Voorhees team reported to the mayor's committee that the Crosstown would be an underutilized and overpriced facility, not responsive in cost-benefit terms to the city's transportation needs.

The Voorhees team recommended a grade-separated "spur"

*The interdisciplinary team also included Michael Baker, Jr., Inc., Consulting Engineers; David A. Crane & Associates, Urban Planning and Design; Eshbach Pullinger Stevens & Bruder, Architects and Planners; Gladstone & Associates, Economic Planning; Dr. Paul L. Niebanck, Housing and Planning Consultant; and George Schermer Associates, Consultants in Human Relations.

connecting the Schuylkill Expressway to major arterials giving access to downtown and South Philadelphia — thus handling the major traffic demand and minimizing the impact on local communities.

Technical appraisals by the consultant team had revealed that the Crosstown was predicated on anticipated downtown growth that was hugely optimistic. Projections had been for a 14 per cent population increase in the city for instance, and 63 per cent increase in retail employment. In fact, according to the 1970 census, Philadelphia lost population. Retail and manufacturing employment similarly declined.

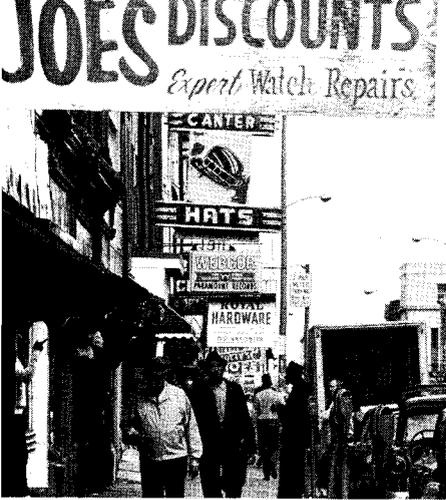
Architect-planner Stephen A. Lockwood, technical director of the consultant team, comments that the DVRPC planning process meant testing whole networks without evaluating single links. "The process has proceeded from broad regional analysis straight to project design," Lockwood says. "And each decision at the regional scale constrained flexibility at the local scale. There wasn't any 'intermediate planning.' It also aggregated benefits and costs rather than their distribution, so you got the white-man's-road-through-the-black-man's-bedroom syndrome. Third, there's the modal bias: there's not much money for transit, and not only that but money for highways is a ten-cent dollar (in the Crosstown's case, a fifty-cent dollar), which is money everybody wants to spend. Fourth, the closed-shop appearance of transportation planning means that technicians are making technical decisions which seem abstract and irrelevant to communities." Lockwood con-

cludes, "You've got to change the planning process," and points out that the Voorhees office hopes to do just that in its forthcoming study of several controversial projects in the Boston area.

After the Voorhees presentation, the mayor's committee voted 10-1 to scrap the Crosstown. The state highways representative joined in the vote against the road; the only hold-out was a property owner in the corridor.

But is the highway really dead? Only a short time ago, a former state highways secretary confidently pronounced that the project was merely lying low, waiting for better times. "Until a satisfactory substitute emerges, a good idea or a good project never dies," he said. Furthermore, since the highway was last vetoed, there has been a new realignment of the Crosstown forces. Pro-highway individuals have regrouped to oppose urban renewal for the south-central area. Objections are based on black predominance in the local planning effort (the anti-Crosstown group forms the nucleus of the pro-renewal citizens committee) and on a fear that the low-income housing priorities legislated by the 1968 Housing Act might halt the rising real estate market at the eastern end of South Street. This new faction carried its case to the courts in February, and the case is now pending.

So, although the official shoe now seems to be on the "community" foot, the racial and class passions which always lurked in the Crosstown's shadows have been resurrected in a new but equally virulent form. The Crosstown is dead, long live the Crosstown?



An alternate proposal that builds on the character and population of South Street

BY DENISE SCOTT BROWN

For all its decay and for all the evidence of social and individual distress, South Street is a lively, lovely piece of city, more capable of endearing itself to the imagination than the more famous but less vital Society Hill area bordering it.

South Street is a commercial strip at the scale of Main Street. It could, in fact, be called the main street of Philadelphia's center city black community. At the turn of the century and in the 1920's it was a fashionable street, but early suburbanization, the Depression and World War II took their toll, and in the 1950's, when South Street was named the last segment of a proposed expressway ring around the Philadelphia CBD, a 20-year decline set in. Much of South Street stood empty; fine, turn-of-the-century store-fronts, preserved by a lack of pressure for change in the decaying economy, were badly deteriorated.

But by the late 1960's a new spirit was abroad; "The Citizens Committee to Preserve and Develop the Crosstown Community" (CCPDCC) was formed, headed by Mrs. Alice Lipscomb. Pickets appeared at City Hall, and city government, eager for peace in the long hot summer ahead, temporarily stopped the expressway. South Central Philadelphia was scheduled as an NDP area.

At this point (early 1968) Venturi & Rauch were brought in by an advisor to the committee who said, "If you can like the Las Vegas Strip we trust you not to try to neaten up South Street at the expense of its occupants." We were to

Denise Scott Brown, who is partner-in-charge for this project in the firm of Venturi & Rauch, is an architect, planner and educator.

be under contract but without fee, to present the interests of the Crosstown Community (as represented by the Committee)*.

The counterplan was based on committee members' detailed knowledge of the area and on such data as was available from local agencies. The primary focus was on rehabilitation of housing for low-income owners and renters, with minimum relocation. Second came economic and social advancement through increases in local employment, business ownership and home ownership.

The plan proposed that governmental and institutional facilities be provided locally and coordinated; that control of local planning be placed in community hands; that income and profits from land development be allowed to accrue to the community; and that South Street be rehabilitated as the "strip center" of a vital commercial, cultural and civic life. We proposed a short-run transportation plan relying on a reorganization of local roads for in-town traffic, and we pressed for further study of transportation alternatives by local and regional agencies.

We recommended that the community make the most of the unique character and reputation of South Street by imaginatively restoring its shop fronts; by refurbishing at once two buildings as neighborhood services centers and as nuclei for community regeneration; by improving streets, sidewalks, parking and signing; and by devising an historical-cultural promenade linking important locations on and off South Street, as done in Society Hill.

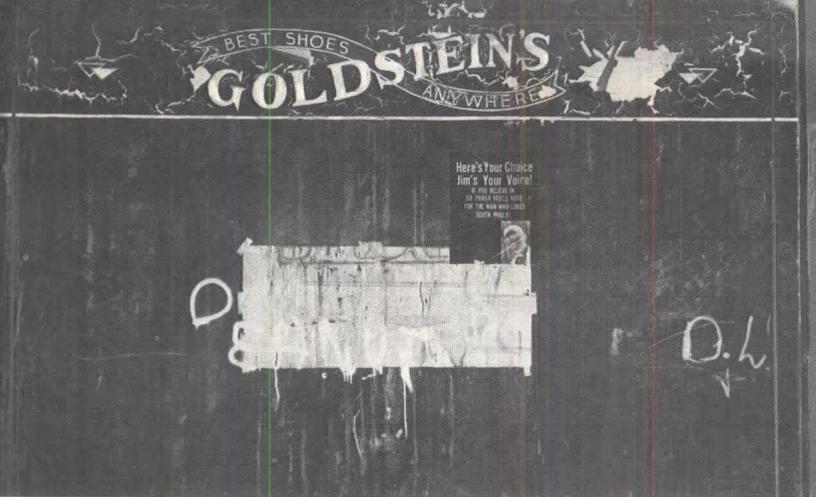
"The strip quality of South Street," we said, "makes it

unique and helps it best serve the communities it links since it can deliver immediate services to a large area of non-mobile people. If, as the Planning Commission believes, there should be a buildup of commercial nodes on South Street, this should not be accompanied by an attrition in the interstices but should be planned to allow the new building to revitalize the whole strip, and to maintain the continuity of commercial and civic uses along its length."

The community, we believed, should get in first in the interstices with its service centers and civic nuclei.

The committee in general approved the plan. It was, indeed, their plan; their detailed knowledge and their dreams gave it life. It, in turn, helped them focus their ideas and gave a context for their many different undertakings. They suggested that the transportation plans be omitted; they felt that transportation planning, with the political issues it develops, belongs rightly with government. Also vetoed were plans to involve the community in decorative wall painting: "If we had people with the time and ability to organize wall painting, we'd use them to organize something more important." The architecturally fashionable mobile facilities were also frowned upon: "Anything that can drive up can drive away again." New, built facilities would symbolize a faith in the community and a perma-

*Other professionals employed by the Citizens Committee were Robert Sugarman, lawyer; Janet Reiner, Tom Reiner and Louis Rosenburg, planners; and short-term services were given by various architects, transportation planners and economic consultants. Within the last year the committee has had the full-time help of Al Hinckey of the AIA Architects Workshop and Mitch Smith, an architectural VISTA volunteer, and more recently of Mrs. Julia Robinson, housing and community consultant.



ment block to the expressway.

The second phase of our professional activity for the CCPDCC consisted mainly of meetings with city and neighborhood groups, making the case for the community and against the expressway. Our value to the committee now was that, as professionals, we could say with authority that the area had architectural value and potential and deserved preservation. Our drawings and maps, although meager because of lack of funds, proved evocative; they were perhaps better than more explicit drawings since people could fill them with their own dreams.

The committee became adept at using the mass media—getting on TV, or alerting the young reporter who would cover the Highway Department's latest move. At one point, the CCPDCC got good political coverage in the art section of a local daily, when no other section was sympathetic.

We were not the "value-free technicians" of the planning texts of the 1950's. Rather we shared a set of moral values with our clients and tried to apply rational skills and professional expertise to their value position. Our work was "political" in that we were employed by, and advocated for, a recognizable constituency—although not one well backed or endorsed by the city. It is interesting that the Consortium finally hired to make a four-month study of transportation alternatives was allotted \$400,000, while the CCPDCC was unable to fund its professionals at all. We were unable to find other funds for our work—in one ironic week we were turned down on a funding request for

the Las Vegas study because we were "not socially concerned" and on the Crosstown Community because we were "too political." The Consortium ultimately recommended against the expressway and in favor of a transportation plan similar to ours.

What did we learn in Las Vegas that we could apply on South Street? Certainly not that the Crosstown Community should become a place of gambling high life and neon high readers. Rather that beauty could emerge from the existing fabric and that a not-too-apparent order should be sought from within instead of an easy one imposed from above. That piecemeal development need not spell disunity.

We learned from the problems of South Street that, in a zone of small, incremental changes during a time of political uncertainty, general physical plans should not be too specific; and that no one decision is big enough to warrant holding up the development process if this jeopardizes the opportunity to do the job at all.

We came to see urban design on the grand scale as part of the enemy. Megastructural fantasies were used in fact by "the other side"—the Chamber of Commerce and the State Highway Department—to sell the expressway. One such plan was presented to the Mayor's Committee on the Crosstown by a self-styled city father, a local realtor. It contained everything we had advocated to that Committee the week before—housing for local residents, community facilities, small stores—but set on a cover over the expressway. When I demurred that this might be the world's most ex-

pensive highway, that the cover would not be built and that, if built, it would surely not be for low-income residents, he replied, "Where is your faith in America, Mrs. Venturi? Philadelphia will do it! Remember the Bauhaus!"

Architects who make such proposals should ask themselves seriously who will benefit from them and who will suffer; or, more precisely, whether "global" architecture, when it depends for its social largesse and architectural quality on the social conscience and design sensitivity of the Highway Department, won't disrupt the urban poor and deaden the urb, even if it pleases the business community.

"Total design," Bauhaus-style, was intended to be accompanied by governmental and societal commitment to social programs. In America today this is not so, and the Bauhaus ideals, as well as our more recent large-scale architectural urbanistic dreams, will be used as they were on South Street to betray rather than support the social concerns from which they sprang.

And finally, in this work, we learned what most planners and many architects find hard to accept: that there is a strong relation in architecture and urbanism between social concern and esthetic concern and that neither can be ignored. Indeed, the architect or planner cannot work "from the inside" in the city unless he first learns to love it—for the life of its people and for the messy vitality of its body. Without this second love the first will be theoretical indeed. Weren't the worst devastations of Urban Renewal accomplished within a rhetoric that proclaimed "the good of the people"?

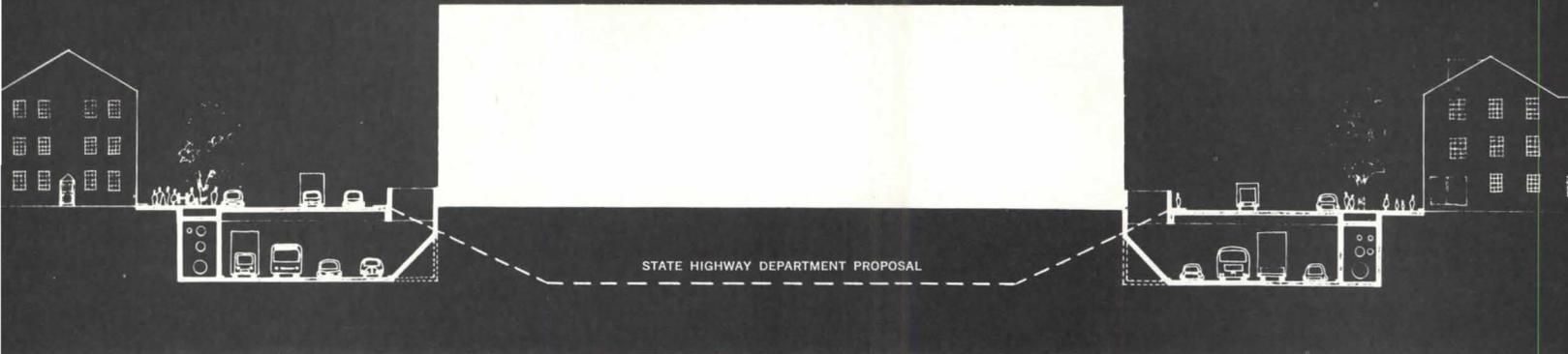
PHOTOGRAPHS: Steve Izenour

A proposal to use existing federal mechanisms to make this expressway a seam in the city's fabric

BY MARVIN VERMAN

As now proposed, Philadelphia's South Street Expressway deserves the rejection it is receiving; it is a relic from the late 1950's when an eight-lane single-use facility was the common solution to the urban expressway. But with the absorption of the Federal Highway Administration into the new Department of Transportation in 1966, new policy mechanisms became available that can make the urban expressway an ideal marriage of the highway and the city, conferring broad benefits on an area's inhabitants (benefits completely unobtainable without its construction). Therefore a clear choice is presented:

Mr. Verman is an architect living half a block from the right of way. He is in practice in Philadelphia; last year, in association with Yves Lepere and Paul Petit, he was a runner-up in the Yale Mathematics Building competition.



Employ the expressway with its new mechanisms as a catalyst to deal with a multitude of human and planning problems, or reject the road, leave the problems unresolved, and create new difficulties where no mechanisms exist to alleviate them.

The second and third sections of the loop around the historic core of Philadelphia each represented an improvement over the preceding one. The first and western segment, the Schuylkill, was typical of highway planning in the 1950's. It provided efficient vehicular movement with little attention to environmental and other concerns. The second or northern section, along Vine Street, achieved a minimum degree of integration with the city by being depressed and bridged by a number of cross streets.

Experience with the Vine Street Expressway led to the decision to depress and cover three and one half blocks of the third (riverfront) link as it passes Society Hill. It is with the fourth and final link, however, that the highway could show its great promise as a renewer and not a destroyer of the city.

Directly to the north of South Street is Center City, the scene of one of America's greatest efforts in urban renewal, which not only revitalized Philadelphia's commercial and cultural core but resulted in widespread rehabilitation of housing. One byproduct of the program, however, was the erasure of the historic center of Philadelphia's black population, primarily as a result of the purchase and rehabilitation of their homes by middle and upper income individuals. This dislocation by private enterprise is occurring in the South Street area. The very

specter of the expressway as a standard open-cut facility acts as a barrier to rehabilitation on and beyond South Street.

Instead of turning South Street into a poisonous gash, the expressway could be a seam in the city's fabric, maintaining and renewing the local communities, some of which have century-old roots in the area. The South Street Expressway should be divided, eastbound traffic running under Bainbridge Street and westbound traffic under South Street, a design approved by the federal Department of Transportation. These conduits would be ventilated to grade level by light and air wells running the length of the expressway. Exhaust fumes can be cleansed below ground in purifying chambers to eliminate contaminants. And most important, after construction of the facility, the entire block from South to Bainbridge Streets will become available for community needs.

This approach would be an excellent example of joint development, an imaginative policy of DOT to encourage multiple use of the highway corridor. Previous efforts to implement this approach in other cities have involved air rights depending upon a partnership between highway construction and public and private enterprise. Failure of these efforts seems to indicate that such a partnership has not sufficiently developed in this country. The costs of constructing the section proposed here would be treated entirely as a legitimate highway expense. When the expressway is completed, the land would be returned for public use. Thus there would be a clear separation of the responsibility between highway work and the

public and private enterprise that would follow.

The entire area that would be devoted to an open-cut expressway is therefore given back to the city and its people. With the passage of the 1970 Federal Highway Act, the costs of relocation—including replacement housing—as well as the actual building of the expressway constitute legitimate construction expenses. As such they can be financed by the Highway Trust Fund, the greatest continually replenishing source of public development money.

The area between South and Bainbridge Streets has been under a death sentence for nearly 15 years. It has now become a haven for the poor, the black and the aged who can afford to pay rents no higher than those charged for standard housing held in expectation of condemnation.

This haven will remain only so long as the possibility exists that the South Street Expressway will be built. If plans for it are abandoned, the rehabilitation now occurring in Center City would edge into and then past South Street—forcing out the present inhabitants to make room for upper- and middle-income residents. Abandonment of the expressway would be as effective a notice of eviction as would its construction under current proposals, and no public mechanisms would be available for relocation assistance.

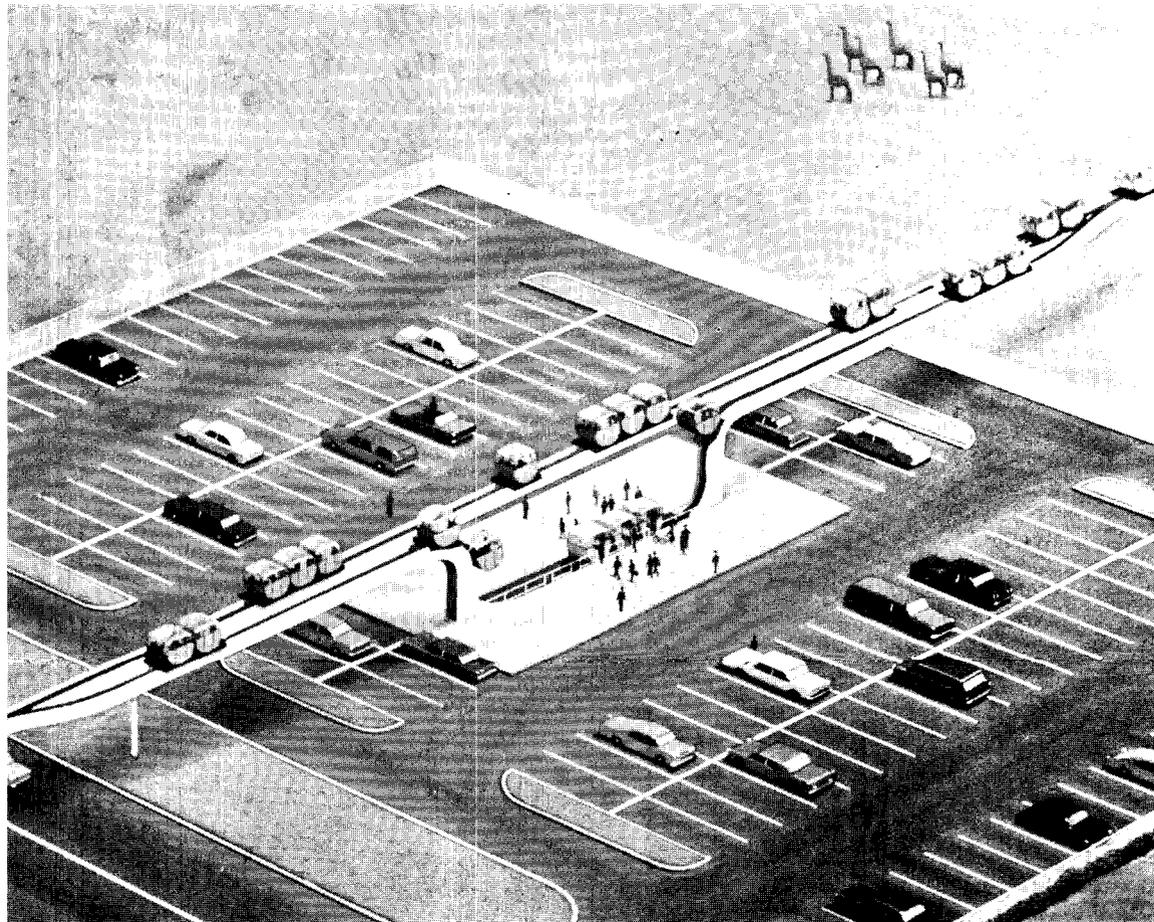
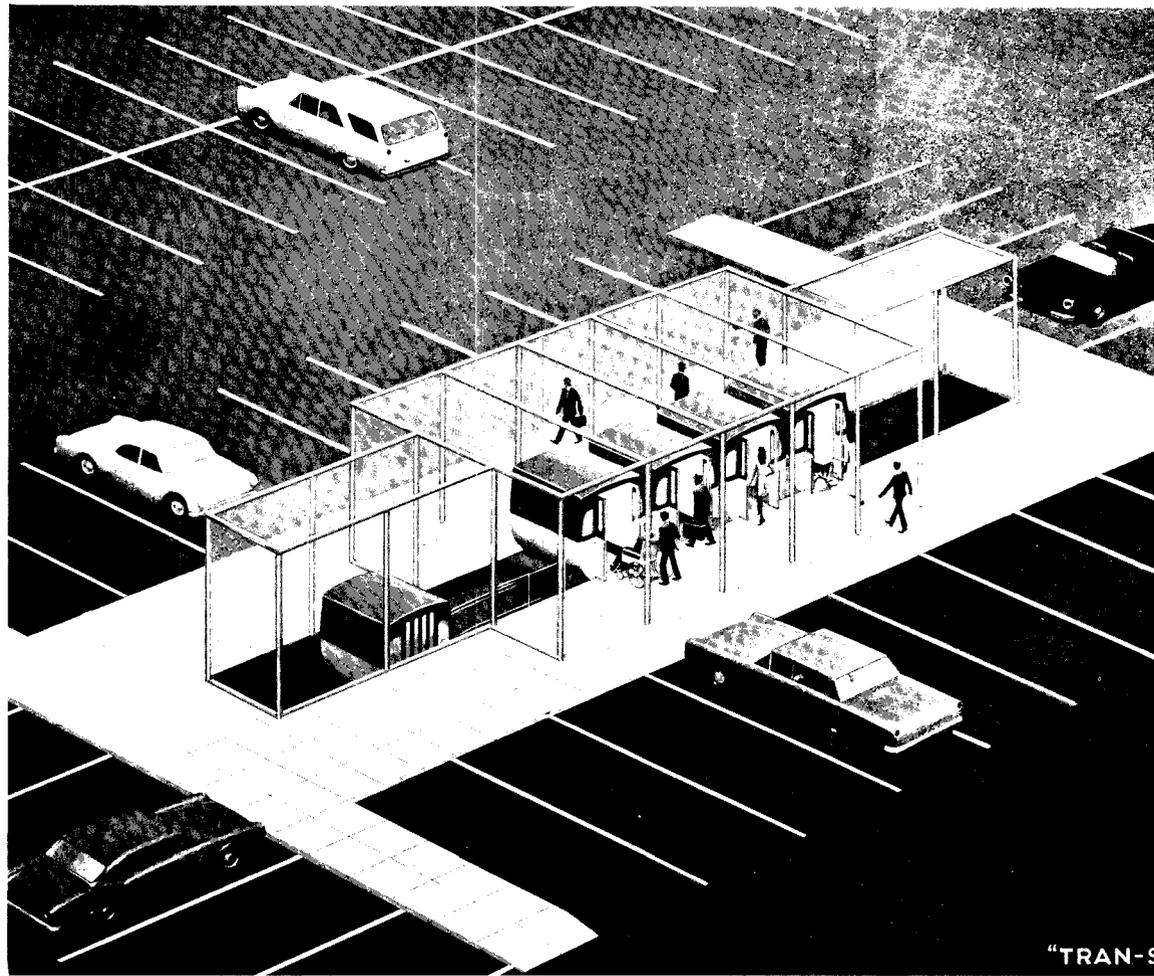
The only feasible way to allow present residents to remain in the area is to build the expressway as described here. Construction of the conduits under South and Bainbridge Streets would necessitate the removal of most of the buildings between them. Existing residents can be

relocated into housing in adjacent areas with federal funds available under the 1970 legislation. Directly to the south of Bainbridge Street lie several hundred residential units capable of rehabilitation, and great areas of underutilized land able to support housing for thousands more. This approach to relocation is the only chance to restrain in any meaningful way the forced removal made inevitable by the expansion of Center City. In addition, the cleared land between South and Bainbridge, almost 40 acres, can be claimed at no cost by the Redevelopment Authority under state condemnation law and instructional memorandums from the federal DOT. This new free land would be available for needed facilities common to the diverse communities bordering the right-of-way: housing, shopping, parking, open space, recreation and public buildings. The highway would then serve as a bridge between communities.

It is misleading to pretend that a city built in the 18th and 19th century can accommodate today's traffic with simplistic palliatives such as restrictions on street parking during peak hours—the main recommendation of the consultants who suggest not building the expressway. It is even more misleading to turn our backs on a solution to our housing and other urban needs on the emotional grounds that we have enough highways. The highway can be used to help the city, only if we harness a transformed highway building program into the great new public enterprise system that is necessary for responding to our urban problems on the scale they require.

TECHNOLOGY

A proposed transit system would combine the assets of elevator and taxi service



Imagine a subway where you can always get a seat, where your car arrives on call and stops only at your individual destination, where you can enter without descending into the foul depths of tunnel stations to board and exit into the (relatively) fresh air of the street without fighting hordes of humanity bullying its way onto a few overcrowded stairs or, with luck, escalators.

Mihai Alimanestianu, engineer and inventor, has imagined just such a system. He calls it Transeat and estimates it will cost one-third less to build than conventional subways. Prototype engineering is being done by the Swiss firm Habegger A. G., which made the people movers for Expo '67. Alimanestianu hopes that a prototype can follow soon—if not at the urban scale, perhaps at airport scale.

What distinguishes his system from others proposed, says Alimanestianu, is that the passenger cars have both horizontal and vertical travel facility, allowing entry and exit at street level for both elevated and subway systems (drawings, left). Not only is this convenient for all passengers, but essential for some, including the disabled, mothers with baby carriages, and shoppers pushing carts. The vertical capacity also allows the system to scale or pass through buildings.

Transeat works on a demand basis. Stations have storage areas for cars (above or below ground); a passenger entering a station inserts a coin or token into a slot corresponding to his destination and a computer directs the nearest car to pick him up. A car will seat six persons, three on each of two benches.

The cars will move only 20 mph (perhaps 30 mph), but may be termed rapid transit because each car gives express service. A conventional subway in New York, by contrast, moves much faster, but because each rider must generally make several stops, he averages only 17 mph.

The design of the cars is not unusual and Alimanestianu considers this important in terms of cost and marketing. Each car is made of standard manufactured components. They may be heated and airconditioned by conventional small units: each measures only 5 ft. wide and 6 ft. long. The cars are powered

by two standard electric rotary motors, each connected to an axle. Acceleration and deceleration is controlled by frequency variations in a third rail. The tracks are conventional narrow-gauge railroad tracks and the car wheels are flanged and soundproofed.

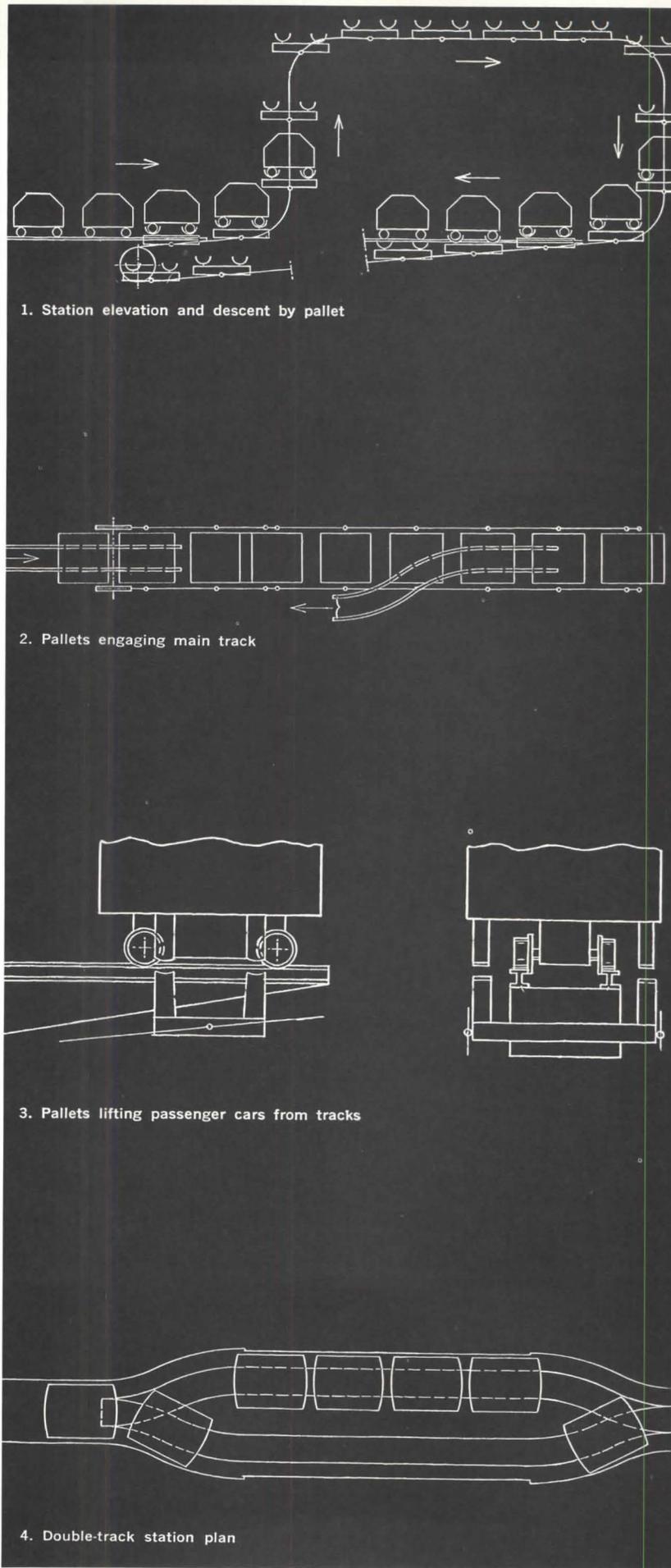
For safety, each car has an electronic speedometer that will cut the power in a section of rail if the speed varies beyond a predetermined tolerance (one mph, for example). This would trigger the emergency mechanical brakes and stop all cars on that section of track. Should all mechanical and electronic systems fail, the vehicle has a shock-absorbing bumper that will prevent passenger injury even if two vehicles should collide at full speed. In case of prolonged power failure, passengers may be led to safety on tunnel catwalks or escape ladders.

Moving horizontally, the cars travel at constant speed on a main track. When it approaches its station destination, the car is switched to a spur by an in-car (not track) mechanism, such as an extra set of wheels that can drop down to engage tracks to the left or right. On the spur, the car is slowed and fed onto the vertical system.

The vertical system is similar to an escalator. The drawings at right illustrate a preliminary subway version: In Figures 1 and 2, pallets lift the cars to station level from the spur tracks, then return them (direction is inverted in the drawing to save space). As Figures 3 and 4 indicate, the pallets, which are stored in the station area, engage the sides of the cars from below, taking over from the main track, which is terminated.

The station configurations may vary. A one-way, one-rail station can serve 7,200 passengers per hour with one car at three-second intervals. Passengers would board from one side, exit from the other. A two-rail station (Figure 4) could double car capacity, although passengers would have to exit and enter from one side.

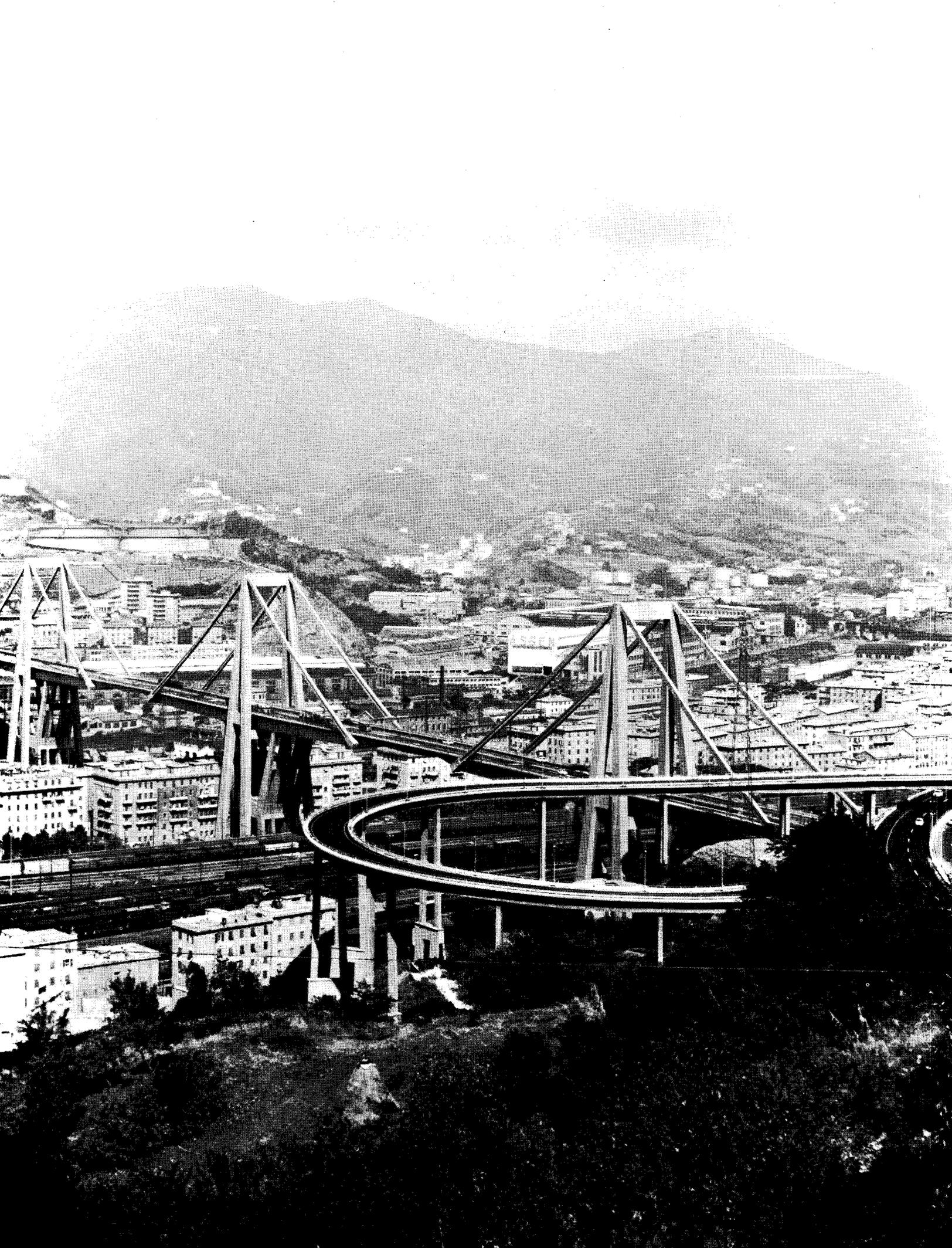
The system remains a concept at this point, but one that merits thorough examination. Unlike many other new transit proposals, it seeks to bring a new dimension to transportation service, not simply increase the speed and capacity of the old.

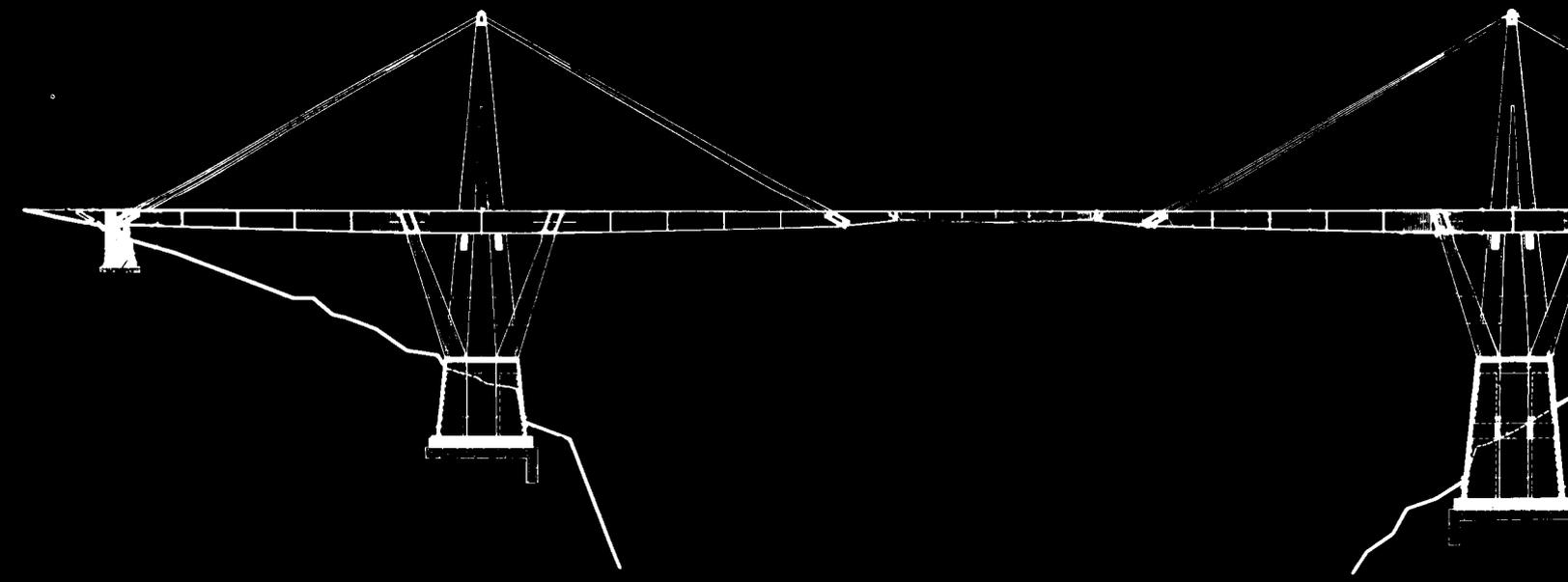
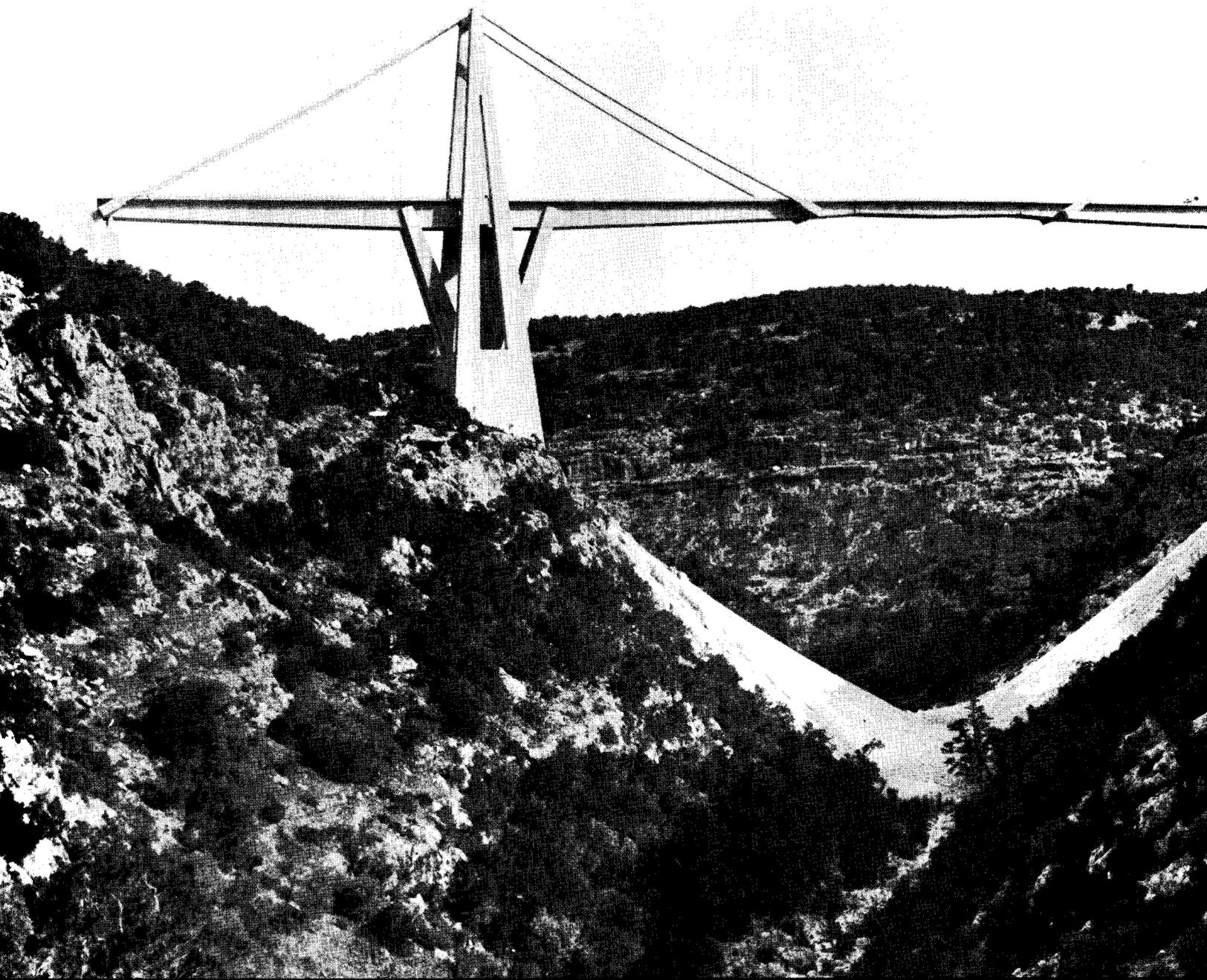


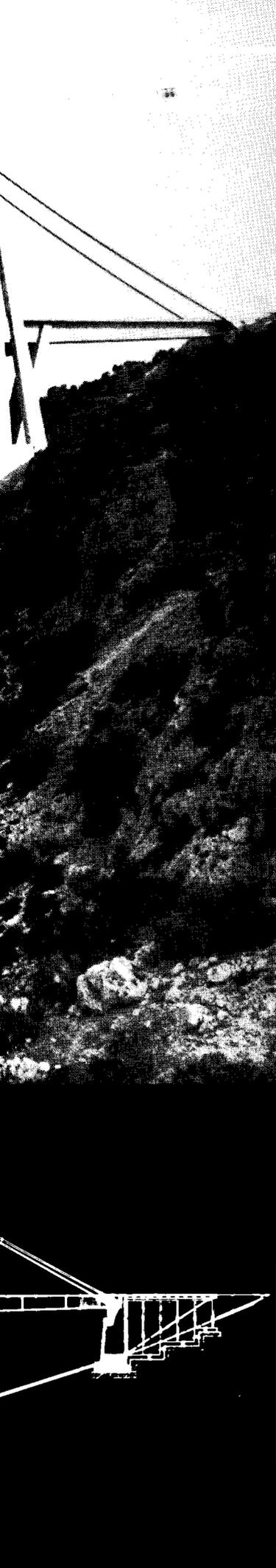
MORANDI'S BRIDGES

Riccardo Morandi, although little known in the U. S., stands as one of the great concrete designers in the world—a master in the old world sense of individual control and inspiration. His career began in 1927, after he graduated from civil engineering school in Rome, but did not mature until after World War II. Before the war, he was considered a pure technologist, a material expert in reinforced concrete and an advanced student of the new art of prestressed concrete. The forays he made into more creative design, which included some churches and movie houses, were considered too daring and complicated by a society that failed to see his forms in terms of functional solutions. As a result, Morandi withdrew professionally into calculative work, living in what he has since called “the midst of suspicion.” He felt caught between engineers, who were too conservative and academic, and architects, who concerned themselves only with style and decorative expression. After the war, he suddenly became a man of his time as he joined the national reconstruction effort in his native Italy and started to design bridges. Here his techniques found a perfect blend of function and form, creating structures uniquely his own. The bridges became his most sincere expression and he has since built scores of them all over the world. In its September 1961 issue, the FORUM published Morandi’s Pavilion for Turin’s Annual Automobile Exhibition, which has been compared to a bridge in structure. Publication of the bridges themselves is long overdue.

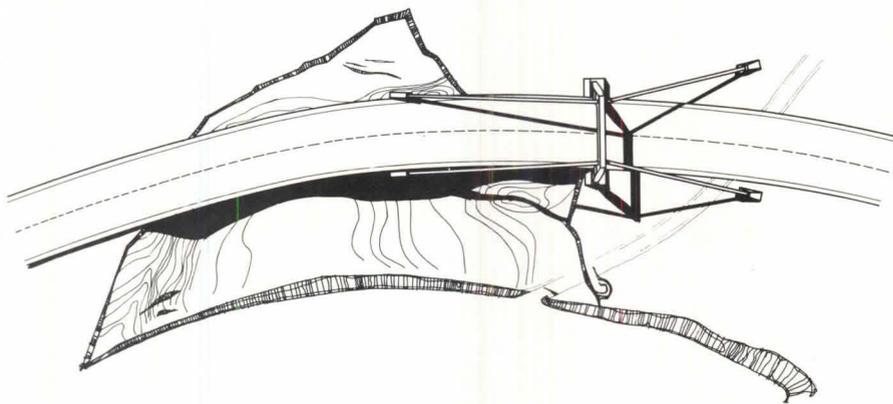




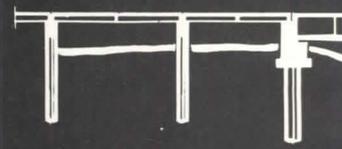
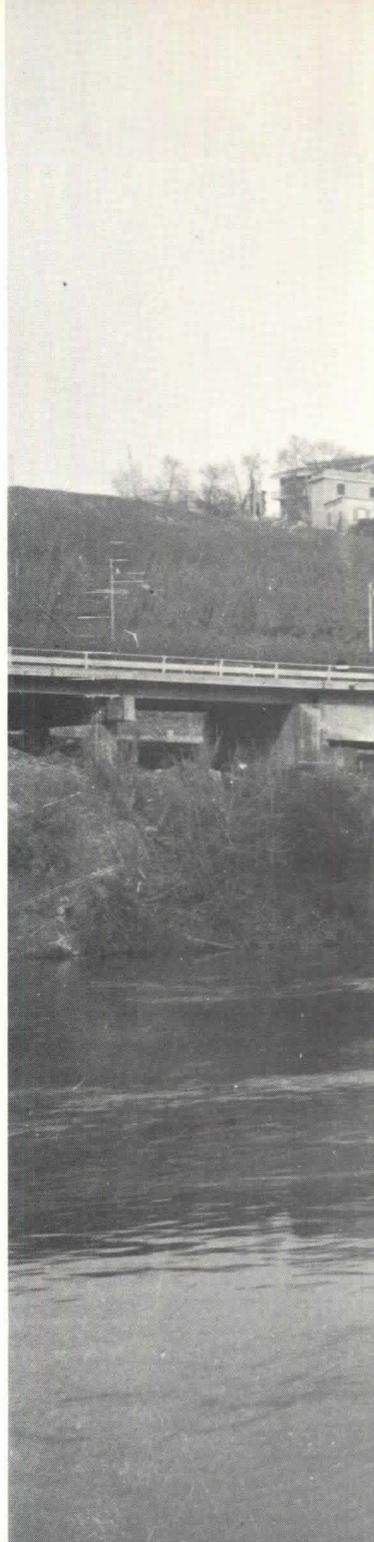


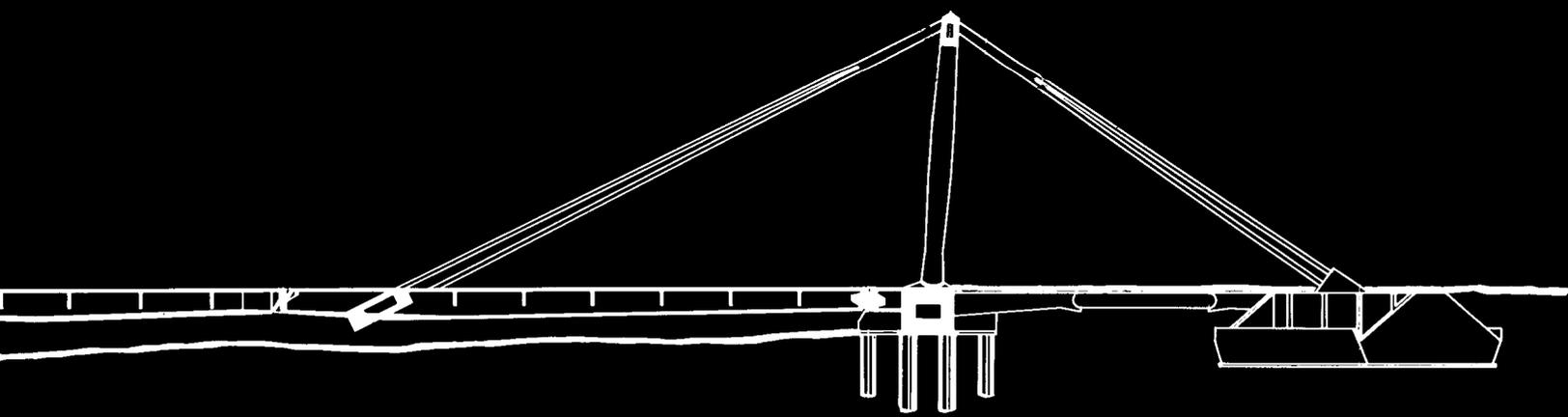


Some critics find the architectural scale of the mast and pier structures on the Genoa bridge to be disturbing, but the same forms are sheer majesty on a new bridge in Libya that spans high above a rock-strewn valley. The scene and the structure here match each other in scale and raw power. The bridge, which is part of a highway linking Tunis with Egypt, is the longest concrete cable-stayed bridge in the world, with a central span of 940 ft. and a total span of nearly 1,600 ft. Morandi designed the bridge for S.I.P.A.C. Consulting Engineers, of Rome, which engineered the entire highway project under the authority of the Libyan Ministry of Communication. Morandi was the natural choice for designer just as the site was a natural candidate for concrete construction: there is a temperature variation of almost 75 deg. F. between day and night, and the site is also prone to seismic disturbances; concrete is the most stable material in such circumstances.



The view of this tower structure is almost startling to anyone driving along the highway between Rome and the Fiumicino Airport. The road is flat and the tower sculpture so high it seems to come from nowhere—but not without reason. The roadbed lies along a narrow stretch of land bounded by railroad tracks on one side and water on the other. The area has a sandy section almost 500 ft. long that was too fragile for conventional road construction, so Morandi was called in to bridge it. Here his familiar mast construction is modified to carry cables that are anchored on one side into solid ground; these cables help counteract the forces on the opposite set of cables, which tie directly into the bridge span they help support. The concrete-sheathed cables are designed to reduce bending moment in the center of the span. The bridge was completed in 1967 by S.A.G.I., general contractor, in collaboration with Strutture Precomprese.







INDOOR-OUTDOOR MESS HALL

Porch-like dining hall serves
girl scouts in summer and winter

This pleasant shingled retreat is basically a large screened porch, built as a dining hall for 250 girl scouts.

"To alleviate problems of scale and acoustic control in one large dining space," says architect Frank Schlesinger, the required area was divided into two wings (these were supposed to focus on a central amphitheater, but this was unfortunately never built). The two wings are like screened porches, closed off from the weather during the off-season by side-coiling partitions. (A portion of the dining hall is capable of year-round use by campers; folding doors can partition off one dining wing and its adjoining toilet facilities from the rest of the building.)

Framing the roof into the upper and lower members of the truss that runs the length of the dining room allows a continuous glass jalousie clerestory to be placed along the truss. Light and ventilation thus enter the dining area at all times, even when the space is shut against the winter by the rollaway door.

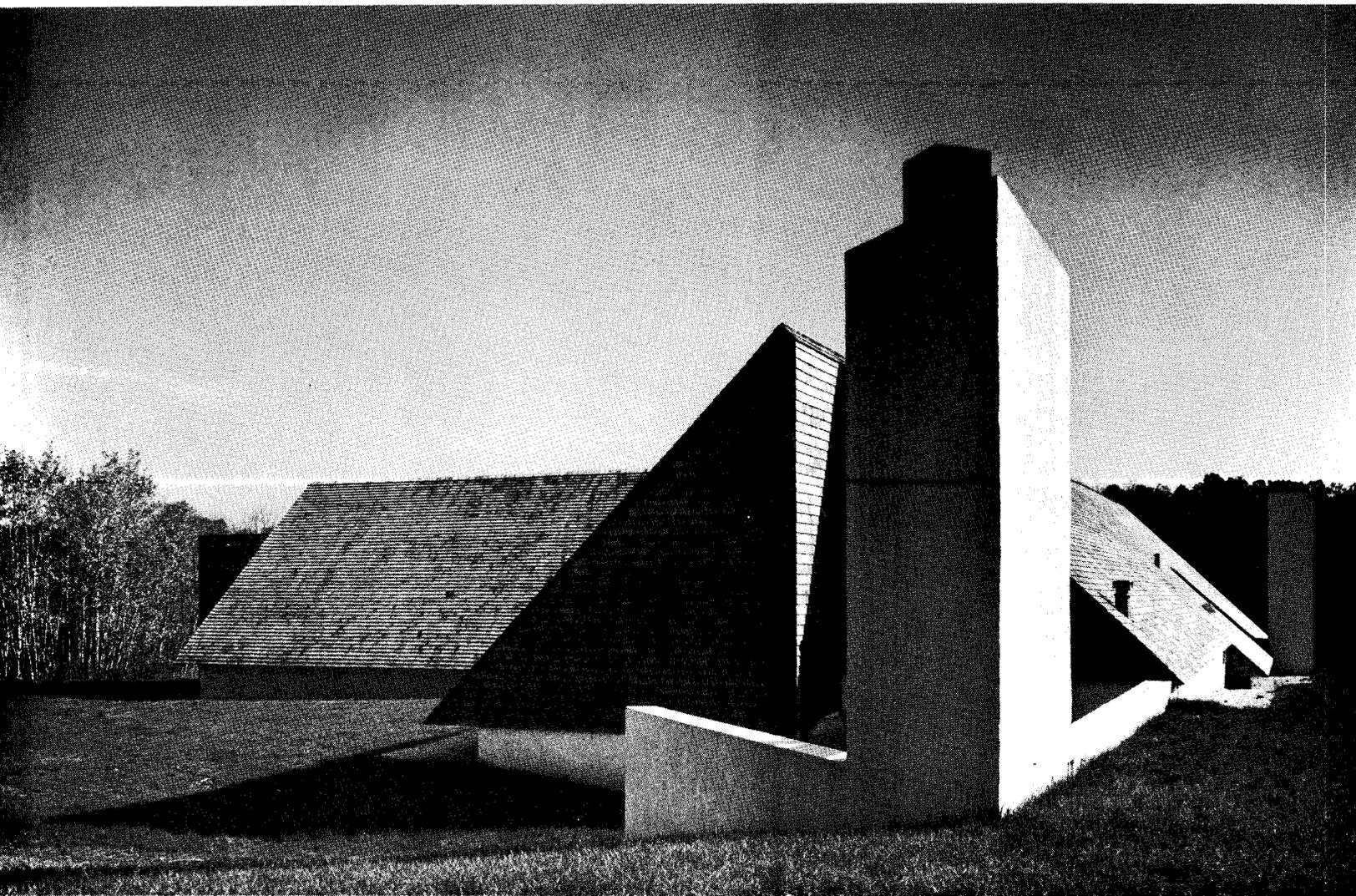
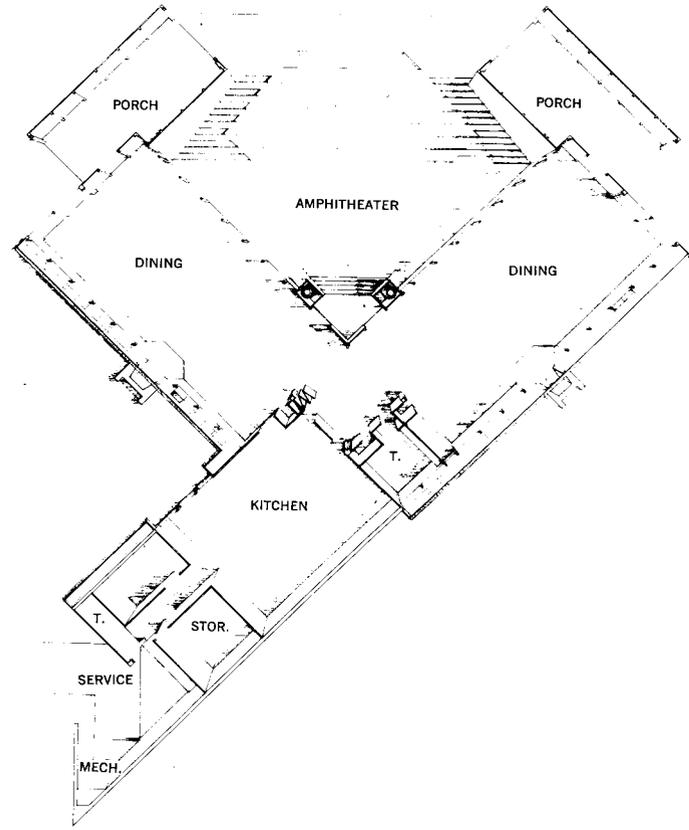
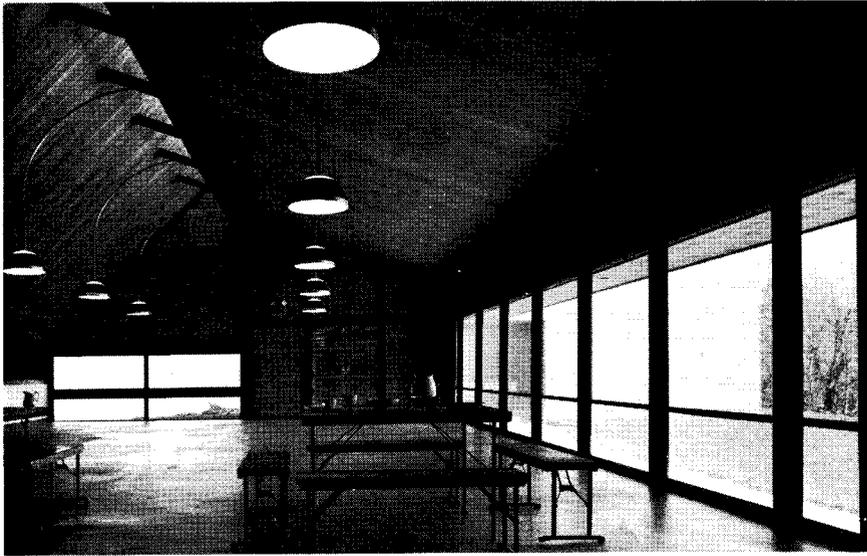
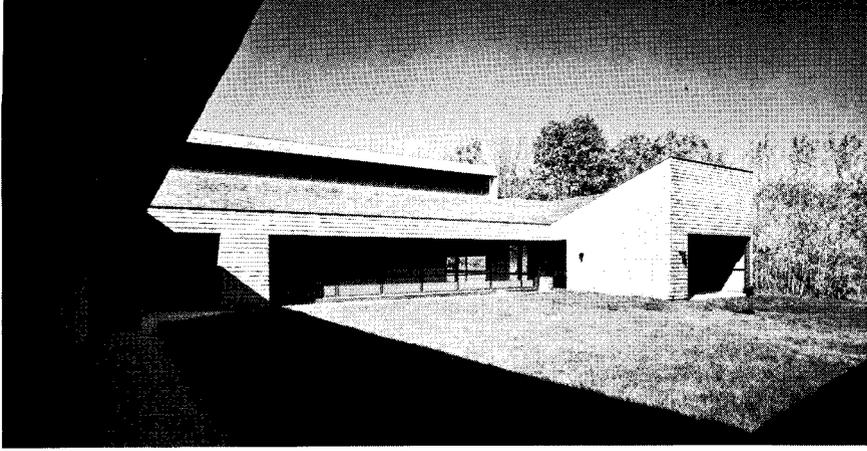
In addition to this continuous industrial window, there is a series of hinged panels under the overhangs of the outer wall, for through ventilation. The windows have fixed screening, but for economy and for openness are not glazed.

The 4 in. T and G wood-plank decking provides roof structure, insulation and clean interior surface that is intended to resist cobwebs and beehives.

This is the latest in a series of handsome and maintenance-free structures that Schlesinger has designed for the camp over the last ten years. The girl scouts have grown accustomed to architect-designed tent platforms, kitchen shelters and latrines.

FACTS AND FIGURES

Dining Hall, Camp Tohikane, Quakerstown, Pa. Owner: Freedom Valley Girl Scout Council. Architect: Frank Schlesinger. Engineers: Joseph Hoffmann (structural); Vinokur & Pace (mechanical/electrical). Building area: 6,760 sq. ft. Construction cost: \$148,000 (excluding kitchen equipment). (For a listing of key products used in this building, see p. 70.) PHOTOGRAPHS: Lawrence S. Williams, Inc.



FORUM

(continued from page 17)

estate, 20 buildings, 40 acres, is up for grabs. The price starts at \$1.

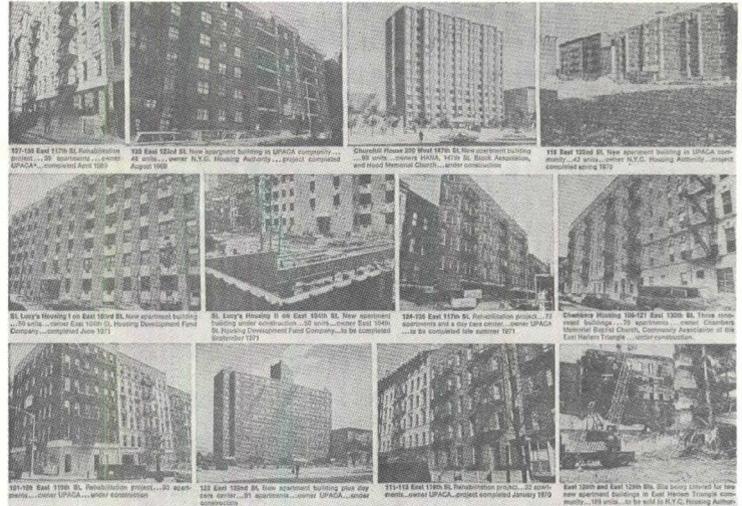
Apparently North Dakota just had "too many universities," and for economic reasons is closing this branch. The state says it would indeed sell for \$1 if the right group came along—a school, bible society, or even a commercial concern. The setting is said to be very beautiful; Ellendale is in the southeast edge of the state, reportedly the warmest spot in North Dakota. The town has a population of about 1,800, down from its previous 2,000. When pressed for further information on the campus, a spokesman described the buildings as "just plain university style." Inquiries should be directed to The North Dakota Legislative Council, State Capitol, Bismarck, N. D. 58501 (c/o Jack McDonald).

HOMES

BLAME IT ON THE FEDS

A report from the National Committee against Discrimination in Housing (NCDH) discusses "one of this country's most extreme examples of the racially-restricted 'white' suburb"—San Leandro, Calif. The 20-page mimeographed document is part of a demonstration program that NCDH is carrying out in the San Francisco Bay Area under contract with HUD. Objective of the three-year demonstration, says NCDH, is a nationally adaptable model for achieving open housing and open communities.

Major findings of the current study, one of several to be done by NCDH, are these: "San Leandro is not 99.9 per cent 'white' by accident. For 25 years, Federal monies and powers, municipal policies, practices of the real estate and home finance industries, and pressures by property owners' associations have operated to exclude black and other minority residents." The Federal Government bears "major responsibility for the creation of this all-white community," says NCDH (with the FHA and VA-sponsored subdivisions of the 1950's), but Federal support of residential discrimination continues today. For example: "The Defense Department requires its contractors to provide equal opportunity in employment; there is no evidence



Savings bank's first steps

that it requires its contractors to insure the equal access to housing essential to fulfillment of the equal employment commitment." The results of discrimination are far-reaching—blacks and other minorities are denied equal access to 36,200 jobs in San Leandro; and a school system has developed with only 21 blacks to 9,752 whites.

Almost half the report concerns recommendations. "In compliance with Title VI of the 1964 Civil Rights Act," says NCDH, "the President should immediately direct all Federal departments and agencies to withhold all financial assistance by way of grants, loans or contracts from any recipient (community, corporation, or individual) whose activities serve to support and extend residential discrimination and segregation." The President should also compel all Federal agencies "to administer their programs and activities relating to housing and urban development affirmatively to insure open housing and open communities." This would be in compliance with Title VIII of the 1968 Civil Rights Act, and would include, among other departments, those of Justice, HEW, Transportation, HUD, Defense, GSA, VA, Civil Service, and Post Office.

Well, that's the way NCDH sees it, anyway. At latest word, the President remained unmoved by those exhortations.

GOOD DEED

"The road to Hell still appears to be solidly paved with good intentions," Architect and Industrial Designer George Nelson reported a few weeks ago. What prompted his note of despair was

a full-page ad in the New York Times, inserted by the New York Bank for Savings, and headed WE GAVE MORE THAN A DAMN!

Well, the NYBfS is a real, nifty bank; but the evidence it presented to demonstrate its concern (for better ghetto housing) was, to put it mildly, unconvincing. What NYBfS was saying in its full-page ad was that it had developed and financed a number of ghetto housing projects for concerned neighborhood groups—and here, in a dozen snapshots, were the projects that grew out of NYBfS' concern.

Oh where are you, Jane Jacobs, now that we really need you? Those NYBfS projects make Moscow's housing look like Colonial Williamsburg by comparison. "We at The New York Bank for Savings are proud to be a part of these first steps in the right direction," the ad said. Won't somebody, please, help these nice, benighted people take the second steps?

EXHIBITS

WE OWN HALF THE CITY

City/2, pronounced "city over two," is an energetic, visually exciting and provocative show running until Jan. 2 at the Philadelphia Museum of Art. Its point is that the land taken up by roads, utilities, parking, public buildings, rivers, sidewalks and parks adds up to more than half a city's acreage. Any city. We own half the city. We bought it with our taxes. We can make something of it, and we must take responsibility for it.

Richard Saul Wurman (of the

architectural firm of Murphy Levy Wurman) originated and developed the show. It is not about urban design, he says; it is about public ownership. And indeed, by the time John Q. Public has been through the show, he may be well on the way to a sense of ownership. To clinch it, there are telephone numbers and informational tidbits about, among other things, how to get a street closed, show a film outdoors, have an abandoned car removed, report rats, and complain to public officials.

Wurman leaves the visitor with a number of things to chew on. We don't really need more, he says—more signs, more big plazas, more policemen. We need better. "Perhaps we should use our community rooms more like community rooms, for block



parties and street theater and playrooms. . . . Perhaps the way to get more people on the streets is to keep the ground level of every store or building in town brightly lit 24 hours of the day. . . . If our schools are not performing, the answer may not be more schools and teachers. Why not take advantage of the fact that the city itself is a school—and schoolhouse—with unlimited classrooms, infinite curriculum, and citizen faculty."

The show reaches out and grabs people—with bold graphics and compelling sound, with a

Transpo '72



three-part movie screen bigger than the screen at Radio City Music Hall, and with a nine-screen orchestration of simultaneous films and slides.

On the indoor balcony surrounding the show, rather like squatters, are the exhibits of community groups and city agencies. If the City/2 show travels, the plug-in would be different in each city.

During the show's stay in Philadelphia, the museum's Department of Urban Outreach will run a mobile program to encourage interest in the City/2 message, and to feed back into the exhibit with videotapes and other statements.

Funds were contributed by the Graham Foundation for Advanced Studies in the Fine Arts, the National Endowment for the Arts, and various local sources including the Philadelphia chapter of the AIA.

DULLES A GO-GO

For nine days, from May 27 to June 4, 1972, Dulles Airport near Washington is expected to spring into unaccustomed activity. That's when the U. S. Department of Transportation is going to hold its first International Transportation Exposition (Transpo '72), which it hopes to make a biennial event.

On a 300-acre strip of land between Dulles' parking lots and its runways (below), there will be 320,000 sq. ft. of exhibition buildings and an enormous collection of trains, planes, cars, and missiles from the U. S. and abroad. Architects Welton Becket & Associates have laid out the whole show along a mile-long people-mover spine.

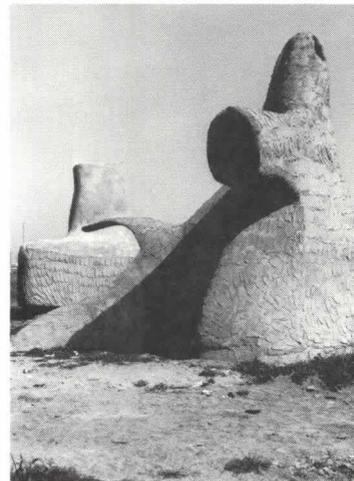
According to the Becket office, "bold, colorful graphics . . . will be used to reinforce the circulation patterns while providing thematic integration for a



Transpo's main line

visually exciting environment." We can't help wondering whether the whole show wouldn't be more exciting—and more comprehensible—if the central people-mover were lifted out of its trench and into the air.

CURIOSITIES



QUIZ

Q. What are these structures?
A. Restrooms at the Little League Ball Park, East Palo Alto, Calif. Architect Bill Logan claims that the choreographic building forms allow for natural ventilation, while assuring privacy and discouraging vandalism. The two reinforced concrete privies were put up by inexperienced volunteers.

ACADEME

FELLOWSHIPS

The Foreign Area Fellowship Program is offering postdoctoral grants for research in the field of urban and regional planning. Also, dissertation research fellowships and professional internships are available. The purpose of this program is to further study the urban problems of Latin America and the Caribbean

and to contribute solutions to these problems.

Postdoctoral grants are available to holders of the Ph. D. degree in urban and regional planning whose competence for research has been demonstrated by their previous work.

Dissertation Research fellowships are offered to U. S. citizens, permanent residents, or British or Canadian citizens enrolled in U. S. universities, not over 35 years old, who plan to complete Ph. D. requirements (except dissertation) prior to January 1973. Fellowships are for one to two years of field research on urban problems.

Professional internships are offered to qualified urbanologists who wish to work as regular staff members of local organizations. Eligibility is the same as for dissertation research fellowships, except applicant must have or plan to acquire a professional degree by June 1972.

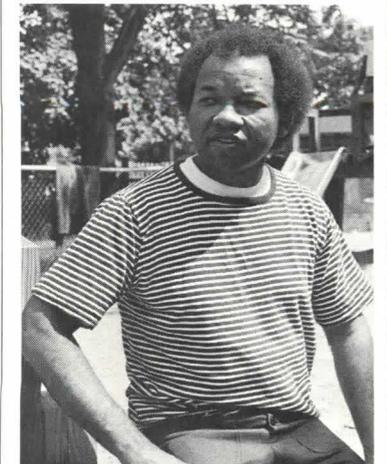
Write for application forms to Foreign Area Fellowships Program, 110 East 59th St., New York, N. Y. 10022. Applications must be returned before November 30, 1971. When requesting application, state academic status, age, and site and nature of proposed activity.

HIGH DEGREE

Two years ago, the University of Michigan became the first university to offer a professional Doctor of Architecture degree. In August, James A. Chaffers became the first to receive that degree.

Chaffers is a 29-year-old black from Louisiana who based his doctoral research on the struggle of a Detroit ghetto to gain control of its own destiny. In 1963 the city decided to build

D. Arch. Chaffers



a major freeway through the area, and as Chaffers describes it, the freeway became a "rallying point" for the neighborhood's 15,000 black residents, who formed Grass Roots Organization of Workers (GROW) to try to halt it. They failed in this attempt, but later turned their attention to the development of an alternate master plan for the neighborhood (redevelopment plans had already been approved by the city). With the help of Chaffers, who served as "resident architect" and community organizer, GROW succeeded in convincing the city last year that the plan by GROW was more suitable than the one developed by the city's planners. GROW's struggle, and the human factors involved in the development of a cohesive inner-city citizens' group, became the subject of the doctoral dissertation by Chaffers: "Design and the Urban Core—Creating a Relevant Milieu."

The new D. Arch. degree is a professional degree, as distinguished from a Ph.D. in the history of architecture, notes Prof. Walter B. Sanders, who was instrumental in establishing the program at Michigan. Recipients of the professional doctorate, says Sanders, will be equipped for a career in teaching, as well as careers as practicing architects, government consultants and researchers for architectural firms.

Chaffers, who received his B. Arch. from Southern University in Baton Rouge, La., is returning there this fall as an associate professor in the department of architecture and urban planning. Southern University is a predominantly black school located in the heart of Baton Rouge's black community.

TRANSPORT

PRATTAXI

It's yellow outside, black inside, roomier than a Checker, only 2 in. longer than a Volkswagen and it's called Prattaxi after its designers, the students and faculty of Pratt's Department of Industrial Design. The vehicle's design, now in full-scale mock-up stage, comes after three years of research under the direction of Pratt's Joseph Parriott.

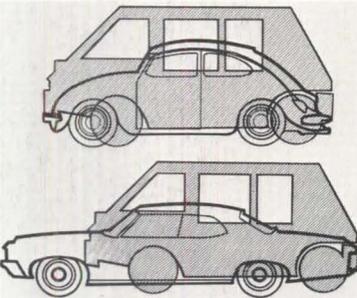
A passenger in Prattaxi will enjoy the comfort of chair-height

seats, 45 in. of headroom and 64 in. of legroom. The four-passenger vehicle also includes special luggage racks, easily readable fare meters and driver identification and rider-controlled air conditioning. The doors are 32 in. wide and 60 in. high so that a wheelchair could roll right in (via built-in ramps).

The driver will enjoy individually air-conditioned seclusion in a private compartment surrounded by safety glass, with a special hatch for passing money. His chair-height seat will be ad-



Prattaxi mockup . . .



compared to bug and biggie

justable and he will have a 360-deg. view.

Since the car is small, it may be powered by a smaller conventional engine or by one of the low-pollution varieties expected on the market soon. The mockup features an engine package in the rear that is demountable for servicing.

A new Prattaxi will probably cost about \$3,000, but should last five years. The market is apparently large: New York City alone has 12,000 cabs, the country has 100,000 and the vehicle may also be used for delivery.

Pratt Institute, along with the City of New York, has applied for a grant from DOT to get a prototype by 1973.

PEOPLE

NEW ASSIGNMENTS

• Our friend, Thomas P. F. Hoving, Director of New York's Metropolitan Museum, and one of New York City's perennial "Neediest Cases" (he gets himself into more trouble than Mayor John Lindsay), was re-

ported last month to be looking for even worse trouble: the directorship of Philadelphia's 1976 Bicentennial Corporation—not to be confused with the American Revolution Bicentennial Commission headed by Nixon-appointed David J. Mahoney, President of Norton Simon, Inc.

Philadelphia wants to host a World's Fair that year, and it's got everything except the money and the site. Those two considerations could, of course, be crucial.

• Our only other friend, Max Sullivan, former Director of the I. M. Pei-designed Everson Museum of Art in Syracuse, N. Y. (June '69 issue), has been appointed Program Director for Fort Worth's Kimbell Art Museum, which was designed by Louis Kahn and is now under construction. Dr. Sullivan has chosen wisely: his new venture is endowed not only with money and with a site (on Will Rogers Road West, in Ft. Worth), but with a really wonderful building as well.

• Bill Pereira, the architect of Transamerica Tower in San Francisco (Jan./Feb. '70 issue), has been chosen by the China Tourism Development Corporation of the Republic of China to masterplan 30 city blocks in downtown Taipei. Mr. Pereira is, among other impressive things, a member of the board of Nancy Hanks' National Foundation on the Arts and the Humanities which has long been supported by such men as Senator J. William Fulbright, who is believed to harbor some ill will toward down- as well as uptown Taipei.

DU TEMPS PERDU

New York lost a 96-year-old architectural treasure in August, when Julian Clarence Levi died. Even in his last years, Levi had a way of turning AIA dinners and such into real occasions just by being there—saying graceful things, kissing ladies' hands, and wearing his ever present Legion of Honor ribbon. Asked whether he was made a Commander of the Legion of Honor for serving in World War I, Levi replied that he was too old to fight even then, but won his French decorations as a captain in the Red Cross.

From Columbia University (Class of '96), Levi had gone on to the Ecole des Beaux Arts in Paris, where he received his di-



Levi at home

ploma in 1904. Back in New York, he became as well known for his water colors as for his architecture. During the Depression, he organized the Architects Emergency Committee in New York, which found jobs for 7,400 architects and draftsmen. After World War II, he gave his time without pay to direct the AIA-sponsored restoration of windows at Chartres cathedral.

Levi's apartment at the old Osborne, across the street from Carnegie Hall, was a lived-in museum—packed to the lofty ceilings with antique furniture, paintings, and rugs (Aug. '62 issue). Local museums are looking over his collection, but they could never recreate the atmosphere, which depended on Levi's own presence.

PUBLIC SERVANT

M. Justin Herman, director of the San Francisco Redevelopment Agency for the past 12 years, died in August. Herman, 62, was deeply committed to urban renewal and was responsible for some of the largest redevelopment projects in the country, including Golden Gateway, where he lived: projects in the Western Addition; Hunters Point; Diamond Heights; and the vast Yerba Buena project. Said San Francisco Mayor Joseph L. Alioto, ". . . Justin Herman was the best public servant I have ever known."

PHOTOGRAPHS: page 16 (bottom) Claude Bestel. Page 58 (top, right) George Cserna.



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Shatterproof Sound Control Glass doesn't look different, it just sounds different. Quiet, peaceful, relaxed.

Take a good look. Sound Control is serious business. Without it . . . health is endangered, productivity falls off, vacancies occur, and businesses are forced to re-locate.

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In clear and tones of bronze and gray as well as subdued reflective tones of bronze, gold, gray, and chrome . . . in the largest quality sizes in the industry.

For a deeper look at Sound Control write for our Sound Control Brochure. Shatterproof Glass Corporation, Dept. 101B, 4815 Cabot Ave., Detroit, Michigan 48210. Phone: 313/582-6200.

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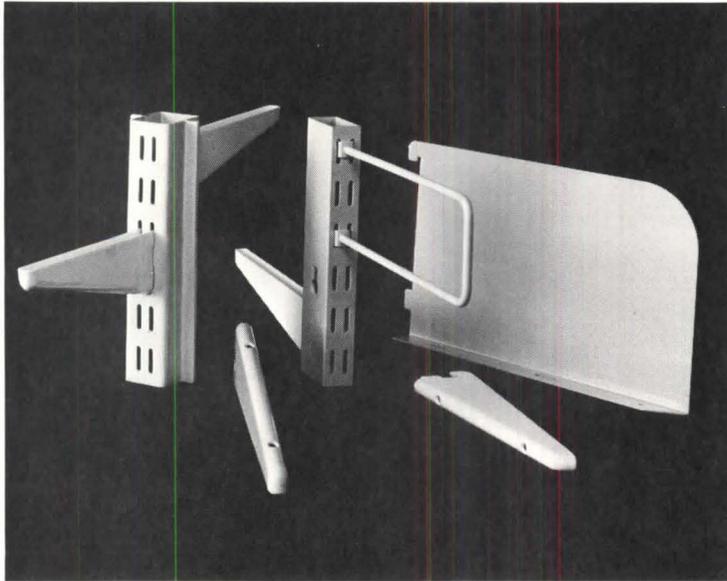
SHEETROCK is the highest quality gypsum panel made. The overwhelming acceptance of drywall for all types of construction would not be possible were not SHEETROCK a product of completely consistent quality. SHEETROCK is the first and is now the most widely used brand because its performance is predictable. It is the heart of a wealth of new systems, matching the growing sophisticated needs of building today. SHEETROCK makes them work. It's that simple.

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PRODUCT REVIEW

This month's Product Review concentrates on a variety of hardware items for home, office and street facilities.

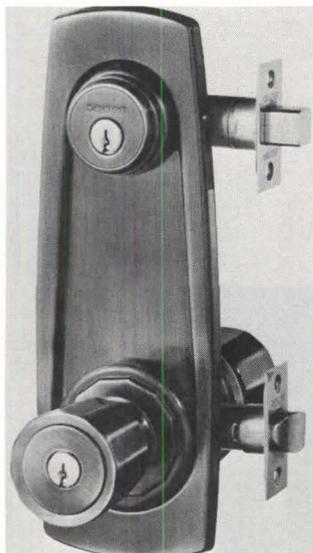


STEEL STANDARDS AND BRACKETS

The Sparrings system of double-slotted steel standards and brackets is being introduced by Productsources Inc. The system is particularly suitable for installations requiring sturdiness and a high degree of finish and multiple fittings. The brackets clip into double slots and are screwed from below to shelving, which fixes the bracket location.

Standards may be freestanding, screwed to the floor and ceiling or to the walls. Fittings include clips for hanging cabinets or wall panels, a lighting rail, chrome-plated baskets, steel shelving, glass shelf holders and book supports. Finishes include baked enamel standard colors, chrome or stainless steel.

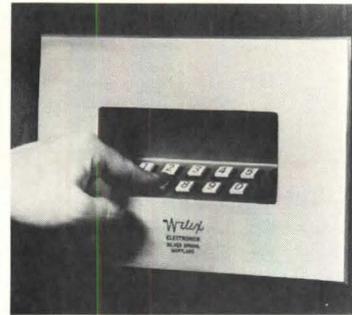
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DOUBLE LOCK

Dexter Lock has made a double cylinder locking system, shown here with a Florian knob. The system offers the double security of a solid brass pin tumbler cylinder with $\frac{5}{8}$ -in. deadbolt, plus a key-locked knob. One-inch throw deadbolts are also available, with a hardened steel $\frac{1}{4}$ -in. pin insert in the bolt. The deadbolt is thumb-turn-operated from the inside and the lower lock may be locked from the inside with a choice of turn button or pushbutton operation. The Escutcheon (#69) for which the system is designed is available in a variety of finishes and measures $3\frac{1}{2}$ in. by $9\frac{3}{4}$ in.

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LOCK SYSTEM

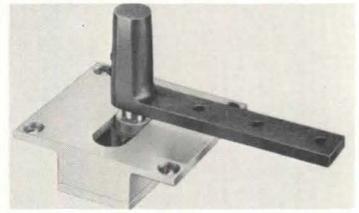
Welex Electronics has introduced a new access control system that uses existing door locks to permit entry by combination lock, while restricting unauthorized entry. Called Sentry System, the solid-state electronic unit requires no keys or cards and operates from a standard 115-volt a-c wall outlet. There is a broad selection of equipment and optional features so that the system may be almost custom-designed for a particular installation; the options include alarm systems for erroneous entry, standby batteries, etc. The only change required in existing locks is to replace the standard door jamba with an electric strike. A pushbutton panel is mounted outside with a control unit mounted in the area to be controlled.

On Readers Service Card, circle 103.

PIVOT HINGE

A new heavy-duty Raconteur rack and pivot hinge has been introduced by Hager Hinge Co. Called model #550, it follows closely the introduction of the lighter Raconteur model #500. The new hinge model is structured to support doors up to 150 lb. Heavy-gauge metals and a flanged support for the bottom pivot gives extra floor anchorage. This principle is that the door is moved laterally, edging the axis so that the door moves away from the jamb as it opens. When the door is closed, Raconteur is completely hidden.

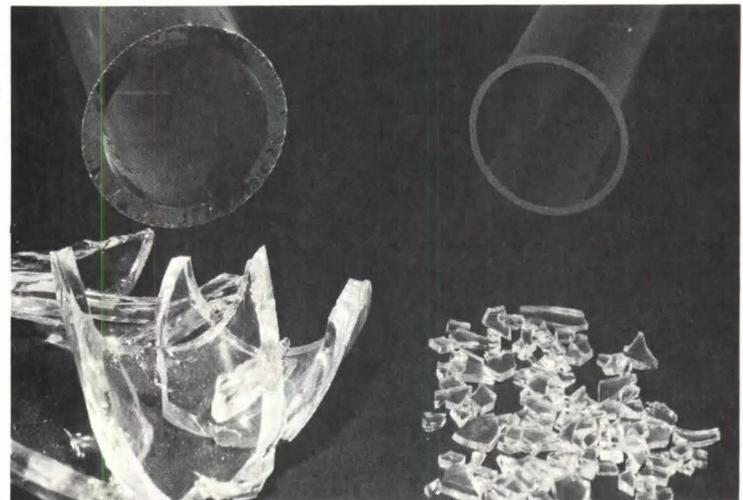
On Readers Service Card, circle 104.



NOISE-CONTROL GLASS

The Amerada Glass Co. is producing a new noise-controlling glass called Acousta-Pane. Suitable for installation near high-noise areas, such as airports, high-traffic zones and industrial sites, the product is made of laminated glass.

On Readers Service Card, circle 105.



GLASS TUBING

Corning Glass Works has announced a chemically strengthened glass tubing for the jacketing material in tunnel lighting units. Only one-third as thick as the borosilicate glass tubing presently used, the new Chemcor brand tunnel tubing enables designers to place lighting units directly above roadways without fear of broken units, says the

manufacturer. The tubing, designed primarily to protect fragile fluorescent lighting elements from the high-pressure spray of tunnel cleaning equipment, is made to disintegrate into particles weighing no more than 4 grams if broken; these particles will not harm windshields or tires.

On Readers Service Card, circle 106.

(continued on page 66)

Sunrise Medical Center in Las Vegas, Nevada, refused to gamble.
They chose carpet of Antron.[®]



Hospitals have to look immaculate, no matter how complex their cleaning problems. Carpet in the Sunrise Medical Center had to withstand spills and stains, people on the go day and night, carts and wheelchairs, and even seepage of desert sand during storms.

They chose carpet with pile of Antron* nylon because of its outstanding ability to hide spots and soil. Through heavy traffic and repeated clean-ups, "Antron" stays looking like new. "Antron" hides soil between cleanings, and the spots which do show can be easily removed. With proper care, "Antron" can cut maintenance costs up to 50% over hard-surface floors; Sunrise has reduced its maintenance staff and equipment, after changing from hard-surface.

Morale soared with the clean, luxurious surroundings. Patients' complaints dropped, and nurses reported less fatigue.

Because it's nylon, "Antron" is tough, durable, and crush resistant. It resists abrasion, controls noise, and creates a pleasant atmosphere.

Sunrise was so pleased with "Antron", they doubled the original carpet order. With success like this, shouldn't you consider "Antron"?

Contact your mill, or Contract Specialist, Room 207,
Du Pont, Centre Road Bldg., Wilmington, Del. 19898.



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**WHEN CARPET DOES IT, CARPET OF
SOIL-HIDING ANTRON[®] DOES IT BEST.**

Announcing the carpet fiber that's so beautifully engineered, it even hides dirt.

We've perfected a soil-hiding carpet fiber that's so effective, it will cut the maintenance cost of any hard floor right down to rock bottom. And we stand on that claim, whether you're interested in carpeting for a school, office building, housing complex, or an arena for dancing elephants.

We accomplished this soil-hiding feat with a unique multilobal cross-section, two solid years in the making, which hides dirt particles beneath a surface of rich, reflected color.

It works this way.

Instead of being built with deeply grooved surfaces that trap dirt, as is conventional carpet nylon, each fiber of Enkalure® II soil-hiding nylon has smooth, gently curving surfaces. No deep grooves means less fiber surface to collect soil, and no voids or holes that allow dirt to enter and become permanently trapped.

Meanwhile, these specially modified fibers act as reflectors that intensify carpet color and give it the illusion of depth.

This brightness-stamina has been extensively tested in our laboratories, using visual observation and photorefectance methods. We'll gladly send you our complete record of technical reports. Contact Enka's Marketing Technical Department for this information. Data on the excellent wearability of our fiber is also available on request.

All Enkalure II carpet types are tested and certified by Nationwide Consumer Testing Institute and bear

a five-year wear guarantee against a loss of more than an average of 10% pile fiber.

Enkalure II soil-hiding nylon. It's the colorful carpet fiber that can stand up to the pressures of public life. Contact American Enka for additional specifications. We're at 530 Fifth Avenue, N. Y., N. Y. 10036 (212) 661-6600.

Carpets made of Enkalure II must meet the following minimum specifications:

1. Pile yarn: One hundred per cent Enkalure II Nylon.

2. Pile weight: Minimum of 20 ounces per square yard.

3. Pile density: Minimum 5,000.

Formula: $D = \frac{36W}{T}$

W = average pile weight (oz. per square yard)

T = average pile yarn thickness in inches

4. Tuftbind: Nine pounds, minimum.

5. Wear: Minimum—10,000 revolutions (NBS. modified using #320 Aloxite cloth with a torque of 60 inch pounds.)

6. Flammability: Must pass Flammable Fabric Act Standard DOC FF 1-70 Methenamine Tablet Test. Must not propagate a flame.

7. Pilling: Must resist pilling after 10 hours in abrasive tumble-drum tester with a rating of 2.5 or less.

8. Resiliency: Must recover at least 80 per cent of its pile height after 48 hours of pressure at 50 psi.

9. Crocking: AATCC 8-1964 rating 4 or better.

10. Colorfastness: AATCC 16 A-1964 minimum of 20 SFH with no color change.

**By the time
you read this,
the number has
already gone up.**



Day by day, more and more U.S. carpet makers incorporate Brunslon® Static-Control Yarn into more and more of their carpet lines. If you're an architect or specifier, this already tells you a lot.

For years, carpet manufacturers have been watching and waiting for a static control system that really works. They've seen plenty that didn't.

Then, in June 1970, Brunswick introduced Brunslon—a static-control yarn blended of nylon and Brunsmet® stainless steel textile fiber. Immediately 12 carpet makers incorporated it into their carpet lines. Six months later, the number was 44. Today, 61 manufacturers are using Brunslon, offering a virtually unlimited choice of static-control carpet lines. And the number keeps multiplying.

Point: when you specify Brunslon Static Control Yarn in carpeting, you get the most widely accepted static control system in the industry. The best system in the widest choice of carpet lines.

Brunslon. 61 carpet makers make it Number One.

BRUNSLON® static control yarns		TECHNICAL PRODUCTS DIVISION
Brunswick		
69 West Washington Street, Chicago, Illinois 60602		
<input type="checkbox"/> Please tell me who makes carpeting with Brunslon Static Control Yarn.	<input type="checkbox"/> Please send me technical data for information. AF-10	
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the forberg chair.

A total office seating system executed in mirror chrome tubing, ABS shells and urethane plastics. Available with or without arms in multiple function pedestals. Forberg. By InterRoyal.



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On Readers Service Card, Circle 312

PRODUCT REVIEW

(continued from page 66)

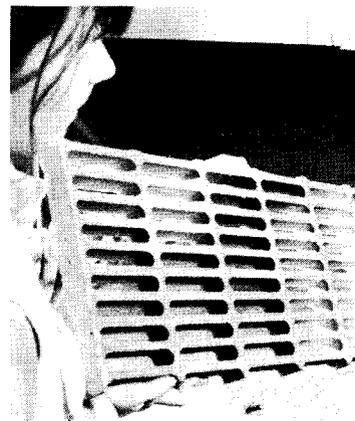
SECURITY LOCK

The 1422 Security Locking Unit, produced by Yale Locktronic Products (of Eaton, Yale & Towne Inc.), is a surface-mounted electronic lock suitable for restricted areas with limited access. It is ideal for bank doors, professional buildings, or any other heavy-security area and is designed for outswinging doors only. The lock works with a solenoid that projects the bolt and another that retracts the bolt. The door remains closed and locked until the retracting solenoid is energized; a built-in emergency system is available. *On Readers Service Card, circle 111.*



LIGHTWEIGHT GRATING

A new lightweight grating of reinforced fiberglass has been designed for high-corrosion-risk installations by the Kenner Industrial Products Division of A. J. Industries, Inc. Called Polygrate, the unit is made from continuous strands of fiberglass, impregnated with polyester resin; this makes the grating fire-retardant, electrically nonconductive and corrosion-resistant. A molded-in abrasive provides an anti-skid surface. *On Readers Service Card, circle 112.*



ROAD LIGHTING

Wellmade Metal Products has originated a roadway lighting system that consists of a row of fluorescent lights recessed into the concrete rails on either side of a road. These lay down a soft light that allows motorists to navigate difficult interchange mazes smoothly and easily. The rail lighting installations may vary in foot-candle power and design. It is particularly safe in rainy weather because the wet pavement will not diffuse overhead lighting, but cause glare instead. This system helps to eliminate glare, will not blind drivers at different road levels, and provides an even spread of light. *On Readers Service Card, circle 114.*



DOOR RELEASE

A new door release called the Smok-Chek is a fail-safe system with integral closing power that eliminates the need for separate electromagnetic release and door closer installations on smoke barrier doors. It combines the door holding and closing function in a single, economical unit. The surface-mounted unit will allow doors to remain open until it is actuated by a remote smoke or combustion detector. This new door release can also be incorporated into a fire alarm system. The manufacturer is Rixon Inc.'s Firemark division. *On Readers Service Card, circle 113.*



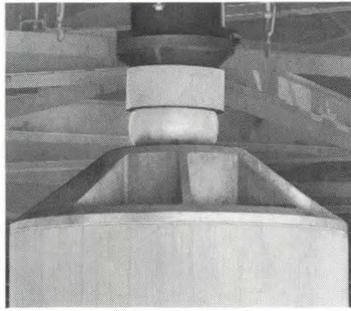
CONCEALED SPRINKLER

The Star Sprinkler Corp. announces what it says is the first and only concealed automatic sprinkler. Called the Unspoiler, the sprinkler is completely recessed in the ceiling and covered by a 4-in.-dia. cover plate that fits flush against the ceiling and is pointed to match the ceiling tile. In operation, the plate falls away when exposed to heat from a fire. At a designated temperature, a deflector assembly drops from the ceiling line and releases a piston that unseals the water supply.

On Readers Service Card, circle 115.

STAINLESS STRUCTURAL JOINT

Spheres of cast stainless steel, 21 inches in diameter, support the roof of the new National Airlines Terminal at New York's Kennedy Airport (page 18). These bearing spheres rest on 6-ft.-diameter conical column caps, cast in type CF-8 stainless. According to spokesman of Cooper Alloy Corporation, which cast the joint components, only stainless steel could have carried the required load, resisted weathering on the outside and corrosion from roof drainage inside the hollow, tubular core, and produced no staining on the concrete columns below. Casting these components was far less expensive than assembling them.



The following is a listing of the key products incorporated in some of the buildings featured in this issue:

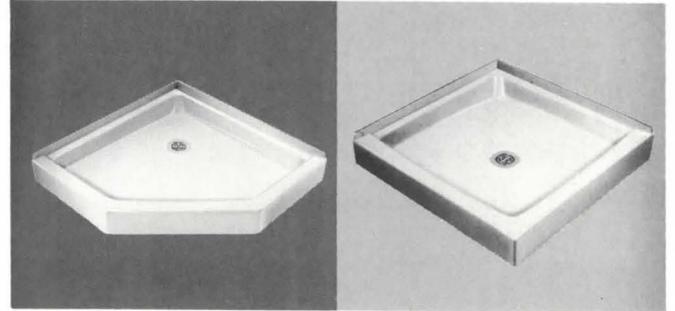
NATIONAL AIRLINES TERMINAL-J.F.K. INTERNATIONAL AIRPORT. ARCHITECTS: I.M. Pei & Partners. (Materials & Manufacturers as submitted by the architects). CONCRETE & CEMENT: Coplay Cement Mfg. Co. BRICK, BLOCK & STONE: Port Morris Tile & Terrazzo Corp., Sal Picone & Sons. STRUCTURAL STEEL: Schacht Steel & Construction Inc., Cooper Alloy Corp. for stainless steel castings. FLOOR & DECK SYSTEMS: Inland-Ryerson Const. Prod. Co. ROOF MATERIALS: Phillip Carey Corp. THERMAL INSULATION: Johns-Manville. ACOUSTICAL MATERIALS: Simplices Ceiling Corp., Johns-Manville, Armstrong. SUSPENDED GLASS CURTAIN: LOF, Collyer-Sparks Co. ELEVATORS & ELECTRIC STAIRWAYS: Burlington Elevators, Inc., Westinghouse Electric. HARDWARE: Stanley Door Operating Equip., P. F. Corbin, Rixson Closers, Von Duprin. INTERIOR MATERIALS: American Olean Tile Co., U.S. Ceramic Tile Co., Cambridge Tile Mfg. Co., Armstrong Cork Co., Albro Metal Prods. PAINT: Pittsburgh Plate Glass Ind., Inc. ELECTRICAL WIRING: Square D, General Cable, Simplex. STANDBY EMERGENCY POWER: Kohler. LIGHTING FIXTURES: Edison Price, Inc., Eastern Lighting, Westinghouse, Gotham, McPhilben. PLUMBING FIXTURES: American Standard. TOILET PARTITIONS: Sanymetal Products Co.

HEAT EXCHANGERS: Bell & Gosset. UNIT HEATERS: Westinghouse. FILTERS: American Air Filter Co. HEATING VALVES: Honeywell, Homestead. FAN UNIT: Westinghouse, Swartout. UNIT AIR CONDITIONERS: Marlo Coil Co. DIFFUSERS, DUCTS, PUMPS: Anemostat Diffusers, Waterloo Grilles & Registers, Triangle Sheet Metal Co., Worthington. SPECIAL FANS: Westinghouse. INTERCOM SYSTEMS: Executone, Sound Systems, Inc. RADIO & TV SYSTEMS: Ferranti-Packard Electric, Ltd. PNEUMATIC TUBES, CONVEYORS: Powers Regulator Co., Mathews Conveyer Co., The Novak Co., Stearns Mfg. Co. SPRINKLER SYSTEM: National Sprinkler Corp., Acme, Crocker Fire Prevention. WATER COOLERS: Filtrine. MAIL BOXES: Capitol Mail Chute Corp. FURNITURE: Herman Miller.

TAMPA INTERNATIONAL AIRPORT, CENTRAL BUILDING. ARCHITECTS: Reynolds, Smith and Hills. (Materials and Manufacturers as submitted by the architects). FOUNDATION WATER-PROOFING: Western Waterproofing Co. CONCRETE & CEMENT: Gulf Concrete Corp. BRICK & TILE: Taylor Clay Prod. Co., Glen-Gery Corp., Boren Clay Prod. Co. STRUCTURAL STEEL: Bristol Steel & Iron Wks. INSULATED METAL WALL PANEL: H. H. Robertson Co. ROOF MATERIALS: Ruberoid, Barret. THERMAL INSULATION: Celotex Corp. ACOUSTICAL MATERIALS, FENESTRATION, GLASS & STORE FRONT DOORS: Armstrong, Keene, Owens-Corning, PPG, Door-O-Matic. INTERIOR PARTITIONS: U.S. Gypsum. PASSENGER SHUTTLE SYSTEM, ELEVATORS &

(continued on page 70)

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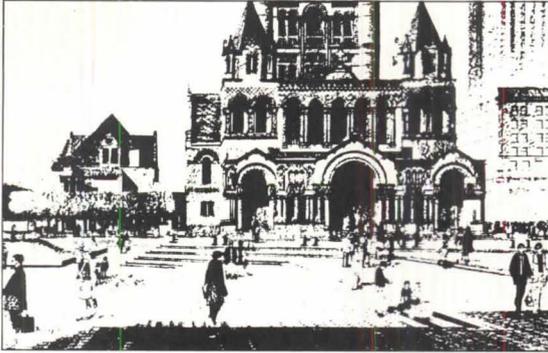


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On Readers Service Card, Circle 313

Courtesy Sasaki, Dawson, DeMay Assoc.



Design on the Land

The Development of Landscape Architecture

Norman T. Newton

The first comprehensive survey of the art and practice of landscape architecture, *Design on the Land* also talks about landscape architects, who they are and what they do. But it is more than a chronicle of people, events and historical sights. In a style which captures the grace and beauty of some of history's finest (and not so fine) examples of landscape architecture, Norman T. Newton writes about "the art of arranging land, together with the spaces and objects upon it, for safe, efficient, healthful, pleasant human use." And he includes a discussion of the landscape architect's role in the conservation of natural resources and in the protection of the environment, a topic more important today than ever before. Over 400 illustrations. \$25.00

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Cambridge, Massachusetts 02138

PRODUCT REVIEW

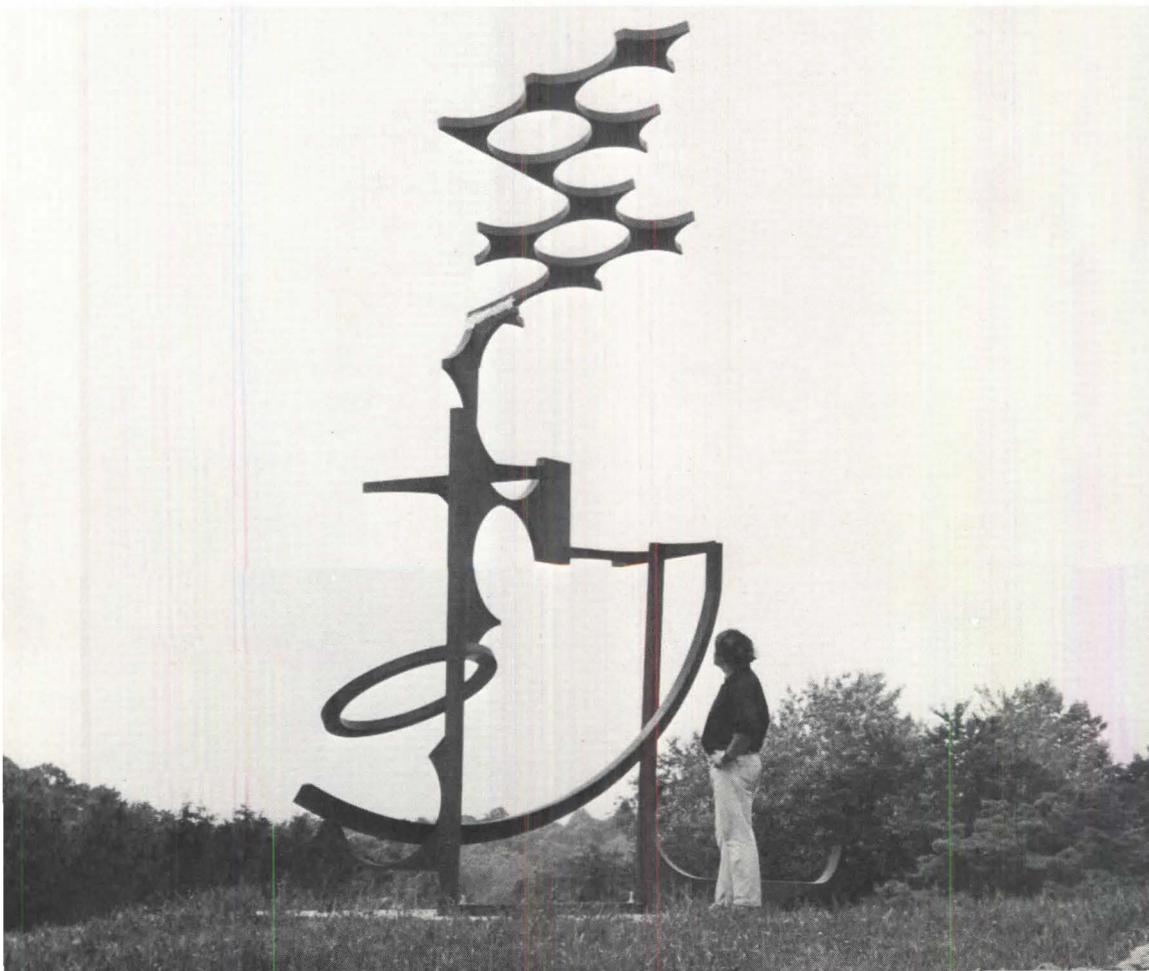
(continued from page 69)

ELECTRIC STAIRWAYS: Westinghouse Electric Corp. DOORS: G.E. Textolite, J. G. Wilson Corp., Steelcraft, Amer. Steel Prods. Corp. HARDWARE: Russwin. INTERIOR MATERIALS: American Olean, Structural Stoneware. PANELING: Textolite, Micarta. PAINT: Harris. STANDBY EMERGENCY POWER: Fairbanks-Morse. LIGHTING FIXTURES: Daybrite, Infanor, Marco. PLUMBING FIXTURES: American Standard, Beneke. ELECTRICAL DUCTS: Square D, Bus Duct. PIPING: Grinnell, Anaconda American Brass Co. HEATING VALVES: Barber Coleman, Honeywell, Johnson. AIR CONDITIONING: Carrier, McQuay, Trane. DIFFUSERS, DUCTS & PUMPS: T&B, Titus, Kruegen, Worthington & Weil, Aurora, B&G. SPECIAL FANS: Joy, Cook. PNEUMATIC TUBES & CONVEYORS: Lamson, Stearns Mfg. Co. SPRINKLER SYSTEM: Sierra, W. D. Allen, Rain-Bird. CEILING MATERIALS: Armstrong, Keene Corp., Gold Bond, Owens-Corning. WATER COOLERS: Oasis. MOVABLE PARTITIONS: International Glass. MAIL BOXES: Cutler Mail Chute Co. KITCHEN: Dwyer Kitchens. FINISH FLOORING & CARPETING: Armstrong, Bigelow. FURNITURE: Knoll, Herman Miller, Westin-Neilsen, Stow Davis, Steelcase. FABRICS: Souveran Fabrics. DRAPERY HARDWARE: Kirsch. TOILET PARTI-

TIONS: Sanymetal. VAULT DOORS: Gary Safe Co.

GARAGE LOUIS-COLIN. ARCHITECTS: Ouellet, Reeves, Alain. (Materials & Manufacturers as submitted by the architects). CONCRETE & CEMENT: Francon. BRICK, BLOCK & STONE: Montco. STRUCTURAL STEEL: Quebec Reinforcing Steel. ROOF MATERIALS: Miner Rubber Co. Ltd. THERMAL INSULATION: Styrofoam, Dow Chemicals. GLASS: Canadian Pittsburgh. HARDWARE: Russwin. PAINT: Peinture Sico. LIGHTING FIXTURES: Electrolite, Revel Prescolite. PLUMBING FIXTURES: Crane. HEATING BOILERS: Ricwill. HEATING VALVES: Darling, Armstrong. SPECIAL FANS & VENTILATORS: Nutone, Trane. SPRINKLER SYSTEM: Vogel Ltd., Unelco. FINISH FLOORING: Duronite Compagnie Duron.

DINING HALL-CAMP TOHIKANEE. ARCHITECT: Frank Schlesinger. (Materials & Manufacturers as submitted by the architect). FENESTRATION: William Bayley Co. GLASS: LOF. PAINT: Cabot, Pratt & Lambert. PLUMBING FIXTURES: American Standard. ELECTRIC UNIT HEATERS: Nesbitt Co. SPECIAL FANS & VENTILATORS: Penn Ventilator. DOORS: Cookson.



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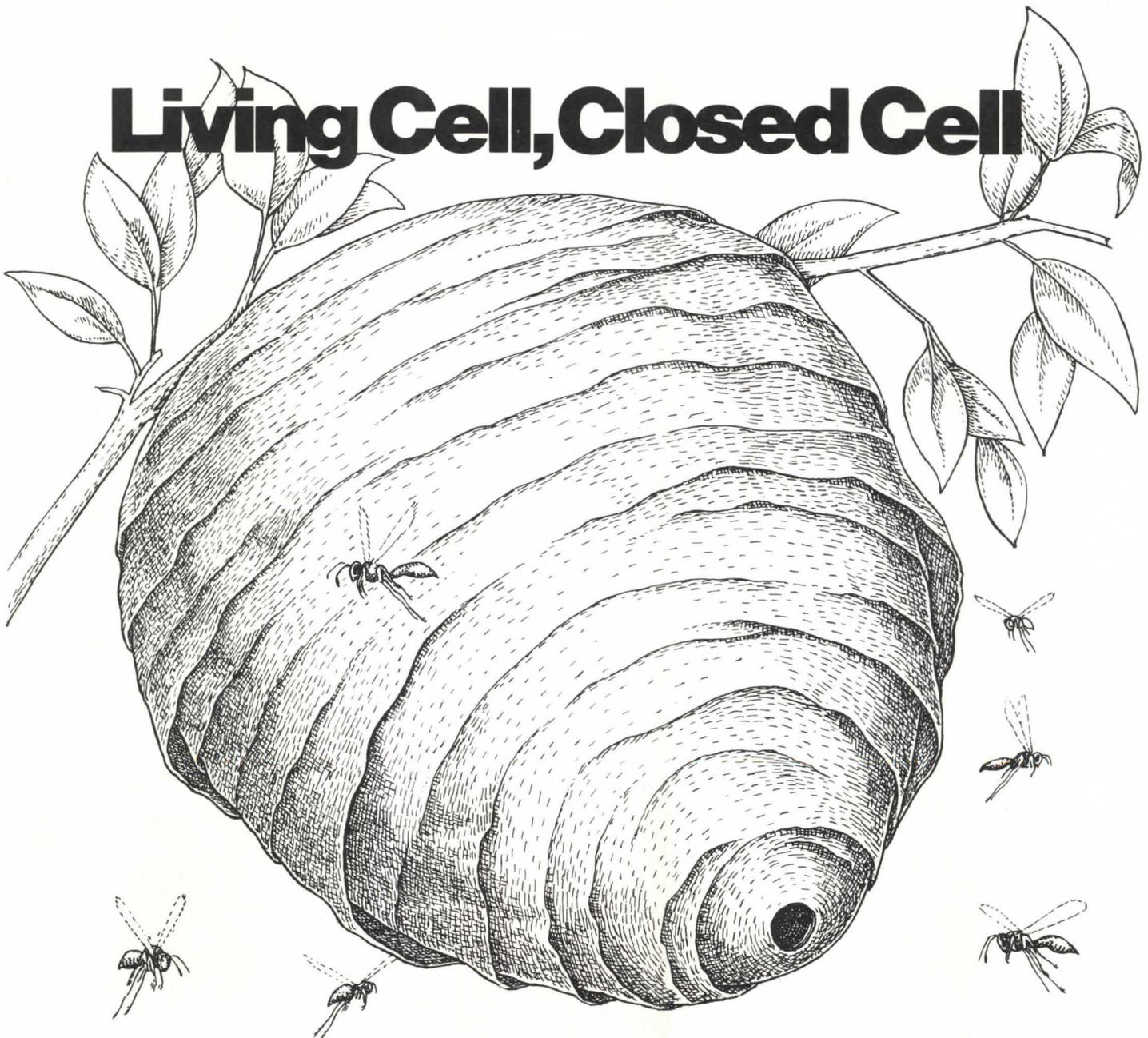
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READERS SERVICE FILE

PRODUCT LITERATURE

To order material described, circle indicated number on self-addressed Reader Service Card, facing page 66.

CEILINGS

"Armstrong's Fire-Resistive Ceilings," a 20-page brochure filled with information designed specifically to help architects. On Readers Service Card, circle 200.

CENTRALIZED DISPOSAL

Chutes for the disposal of rubbish, soiled linens, paper, dust, etc., are detailed in a brochure from Wilkinson Chutes, Inc. Typical hospital, apartment, hotel and institutional installations are shown. On Readers Service Card, circle 201.

COATINGS/SEALANTS

Handsomely illustrated full-color booklet is a guide to stains and staining. Answers basic questions on types of stains, interior & exterior. Application techniques, hints for better results. Concise, easy to read and well illustrated. Samuel Cabot, Inc. On Readers Service Card, circle 202.

CONTROLLED DISPOSAL

A waste control system has been developed by Wascon Inc. which pulps trash and waste and reduces volume by up to 80%. The system has been designed specially for schools, hospitals and commercial buildings. On Readers Service Card, circle 203.

CONTROLLED ENVIRONMENT

A planning guide to controlled interior environments. The special construction of these rooms with vapor-tight barrier joints, etc. is shown in a detailed brochure from the Forma Scientific Company. On Readers Service Card, circle 204.

DISPLAY SYSTEMS

All you need to know to build tubular display structures is contained in a brochure from Abstracta Structures. Module sizes and connector components along with applications and actual installations are shown. On Readers Service Card, circle 205.

DOORS/WINDOWS

The Overhead Door Company has released a brochure of their complete line of automatic doors and windows. Detailed drawings show typical entrance problems and recommended solutions. On Readers Service Card, circle 206.

Industrial and cold-storage doors, manual and power-operated, with galvanized steel, aluminum or Kayon (TR) plastic skins, over urethane cores. Clark Door Co. On Readers Service Card, circle 207.

ELEVATORS

Series of six color brochures showing elevators for many different building types. Cab designs, dimensions, freight elevator information are all part of the package. Dover Elevator Division. On Readers Service Card, circle 208.

FIREPLACES

A new gas-burning fireplace, model #2028 has been added to the

Heatilator line of fireplaces. This new model is remarkably easy to install. On Readers Service Card, circle 209.

FLOOR COVERINGS

"Antron II the no-show carpet fiber fights dirt not profits." A three-color brochure to guide specifiers in selection of carpet. E. I. du Pont de Nemours Co. On Readers Service Card, circle 210.

Complete catalog file in true color reproduction is available for LATCO featuring specialty and popular mosaic tile such as: Venezico, Valencia, Granada, Candysticks, many others. Latco Products. On Readers Service Card, circle 211.

FLOORING

Resilient flooring. A mid-year edition of the 1971 Azrock catalog of resilient flooring products is now available. A new line of colors and textures has been added. On Readers Service Card, circle 212.

FURNISHINGS

Special 16-page catalog with information on LCN Door Closers. Includes surface-mounted, overhead, concealed, and floor models. LCN Closers. On Readers Service Card, circle 213.

1971 condensed catalog. 20-page catalog describes full line of advanced architectural hardware including specifications and function charts. Sargent & Co. On Readers Service Card, circle 214.

FURNITURE

Desks. A new line of wooden office furniture. The series "100" is shown in a brochure from the High Point Desk Company. On Readers Service Card, circle 215.

The new Openscape office is attractively described in a 32-page color booklet from InterRoyal. A selection of landscaped office arrangements and possibilities within given areas are shown. On Readers Service Card, circle 216.

Krueger Metal Products offers catalogs of chairs designed by G. C. Pirretti. Full-color catalogs introduce a new modular dimension for wherever people come together. Krueger Metal Products. On Readers Service Card, circle 217.

GLASS

Useful information on Pilkington Bros. Ltd., Glass Products is contained in an informative, interesting brochure. On Readers Service Card, circle 218.

HARDWARE

Electrically operated door-opening systems are described in a brochure from the Trine Manufacturing Corporation. Nine different models are available. Schematic drawings of typical installations are shown. On Readers Service Card, circle 219.

A new twelve page, four/color Architectural catalog from Grant, Pulley & Hardware Company showing installation details for Sliding Door Hardware, Drawer Slides, Drapery Hardware, Hospital Hardware and Shelf Hardware. On Readers Service Card, circle 237.

HEATING/COOLING

The new Rebel Heater is designed as an add-on heater in apartments, mobile homes and recreation buildings. The uses and advantages are shown in a colorful four-page booklet from the Chromalox Comfort Conditioning Div., Emerson Electric Co. On Readers Service Card, circle 220.

Variable volume in air conditioning equipment with special air diffusion subsystems, is detailed in a brochure from the Mitco Corporation. The brochure covers both primary air control equipment as well as air diffusion subsystems. On Readers Service Card, circle 221.

METALS IN BUILDINGS

The 1971 edition of standard specification and load tables has been issued by the Steel Joist Institute. On Readers Service Card, circle 222.

A new wall panel system for residential, commercial buildings has been announced by the Phelps Dodge Cable and Wire Company. The system is explained in a colorful brochure. On Readers Service Card, circle 223.

OFFICE EQUIPMENT

A colorful brochure is available from the Plan Hold Corporation which shows the semi-automatic features of the new Designer II Drawing Table. On Readers Service Card, circle 224.

ROOFING

AllianceWall Corporation announces a supplementary roofing system which provides dominant visibility on highway locations through the use of porcelain enamel. This surface is self cleaning and requires no maintenance. Has extra long life. On Readers Service Card, circle 225.

WALLS/LAMINATES

Spec information on all panels. Includes Marlite Plank and block, Korelock and firetest panels. Marlite Div., Masonite Corp. On Readers Service Card, circle 226.

A four-page brochure lists performance of 15 typical sound-barrier systems using thermafiber sound attenuation. Included with description of dry wall and plaster assemblies are fire rating tests, and relative cost index. Four systems are illustrated. FHA standards for partition forms are listed. U.S. Gypsum Co. On Readers Service Card, circle 227.

A new line of structural ceramic glazed tile is detailed in a brochure from Glen-Gery. Installation techniques are shown along with technical data on load-bearing and sound

attenuation. On Readers Service Card, circle 228.

A new eight-page brochure on Fiberglass sound absorbent insulation for wall treatments may be obtained from Owens/Corning Fiberglas. Thermal conductivity is also listed along with other specification tables and cutaway drawings. On Readers Service Card, circle 229.

Decorative wall panels in 27 colors in many textures are illustrated in a brochure from Textone Div., U.S. Gypsum Co. A complete line of moldings to match the panels is now available and shown. On Readers Service Card, circle 230.

New marble and granite selector guide. This booklet contains accurate color reproductions with suggested uses for each type of material together with installation instructions. The booklet is available from the Vermont Marble Company. On Readers Service Card, circle 231.

WOOD IN CONSTRUCTION

New information on Plywood construction of commercial buildings is offered in a 56-page guide from the American Plywood Association. Special sections discuss roofing systems and subflooring. On Readers Service Card, circle 232.

A handy pocket size computer to help architects determine the requirements for lumber, joists, rafters, and beams, etc., is available from Western Wood Products Association. On Readers Service Card, circle 233.

MISCELLANEOUS

A planning guide for engineers and architects which details the many services offered free by the Edison Electric Institute. On Readers Service Card, circle 234.

A six-page brochure describing air-supported structures is available from Air-Tech Industries Inc. Large areas such as ice rinks, tennis courts, etc. may be enclosed by this system. On Readers Service Card, circle 235.

Fly-Catcher. A totally safe, extremely effective outdoor electric fly catcher is offered by the Hub States Corporation. It is claimed the black light which lures the flies is many times more effective than regular fluorescent or incandescent lamps. On Readers Service Card, circle 236.

A new comprehensive guide to the Design/Planning/Furnishing of commercial institutional interiors has been announced by Contract Book. On Readers Service Card, circle 238.

PROFESSIONAL SERVICES

Lippincott—fabricators of sculptures for many leading artists offers an illustrated folder showing completed sculptures and work in progress. Lippincott. On Readers Service Card, circle 239.

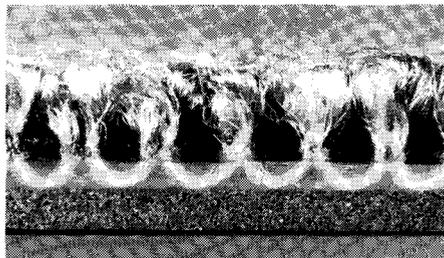
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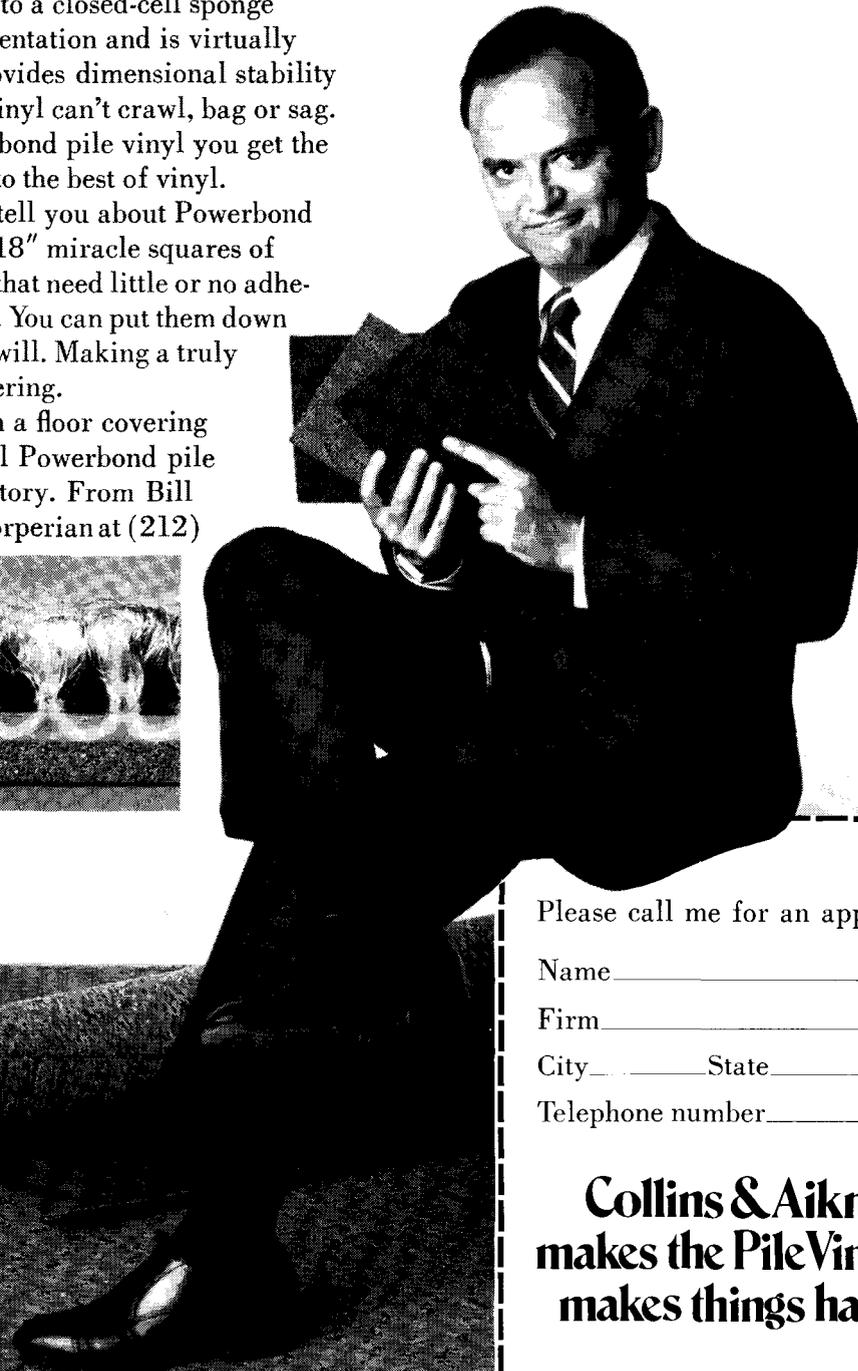
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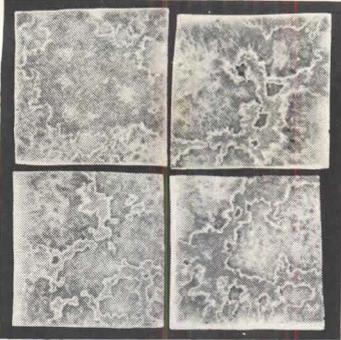
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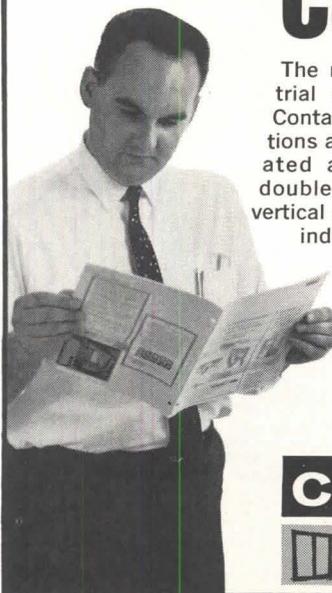
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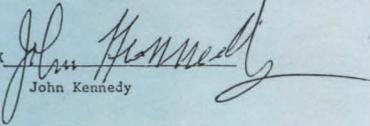
Cole, Sweeney & Anthony
582 Market Street
San Francisco, Calif. 94104
415-986-6342

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3009 Lookout Place, N.E.
Box 11957
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404-261-6002

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5995 S.W. 71st St.
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x 
John Kennedy

Kennedy Mechanical Contractors

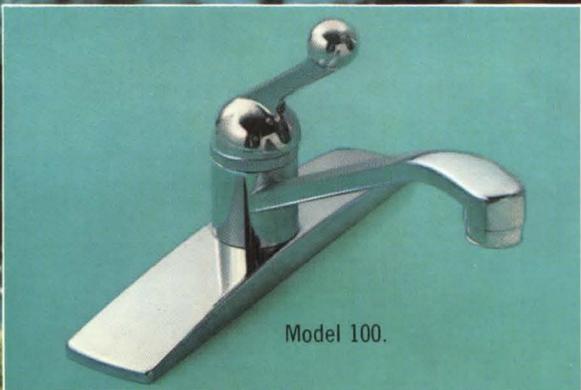
Leisure World is just that. A beautiful retirement community in California that's become a new living concept in America. And for the maintenance crew and the plumbing contractor, it's even more of a leisure world. Because during the 7-year history of Leisure World, they've hardly had to repair or replace any of the community's 50,000 Delta faucets.

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