



FORUM

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Cover: a photograph
by Erol Akayavas of the
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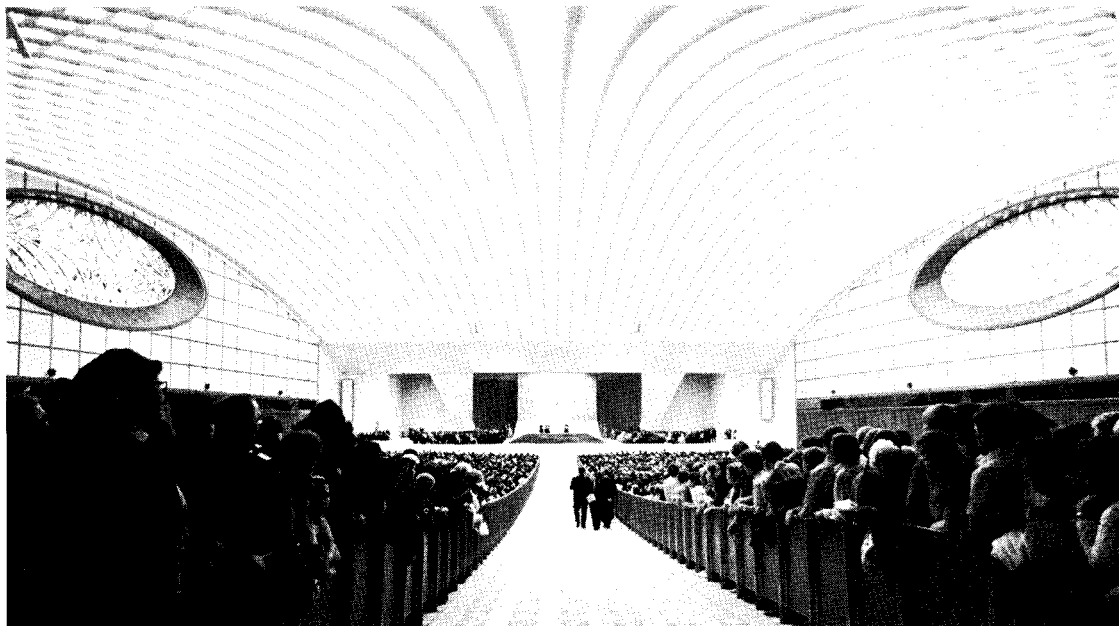
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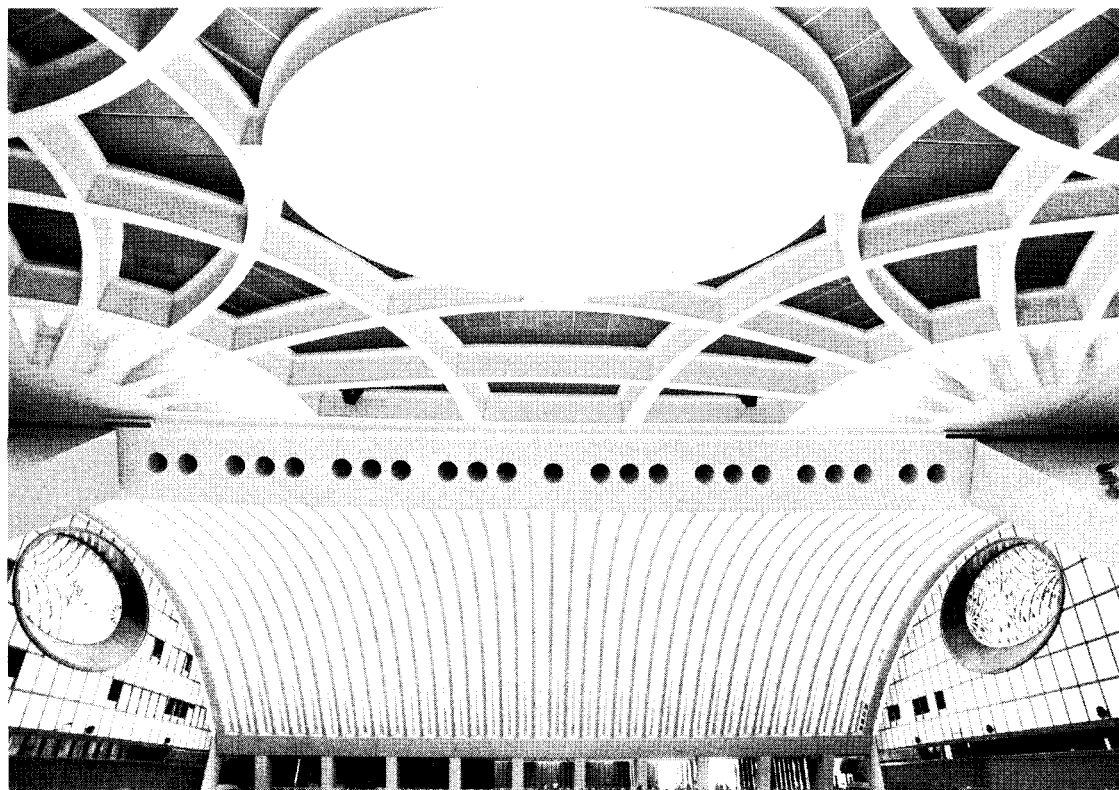
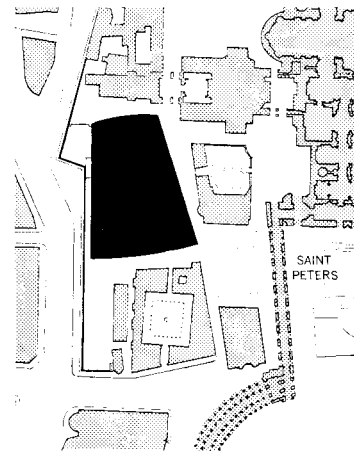
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ACT OF FAITH

Shaped like a giant fan unfolding, with its sides to the ground, the new Papal Audience Hall brings Vatican architecture clearly into the twentieth century. Its architect is octogenarian Pier Luigi Nervi, a pioneer in concrete building design. This building is of stone and concrete, with its great hall supported by concrete ribs and the underside of the roof decorated with golden friezes. The faithful will enter from the open, larger end of the opened fan; the Pope will sit at the smaller,

base end, where he will be bathed in a concentration of light. Formerly, the Pope held public audiences in St. Peter's Basilica; the new hall started construction in 1966 and was just inaugurated by Pope Paul this summer. Costs for the mass audience hall are now estimated at \$9.6 million, with seating for 6,300 persons and room for 20,000 standees. Additional facilities include meeting and assembly rooms for bishops and other ecclesiastical uses. The building is located on the south corner of the Vatican.





SUPER CENTER

On July 10 the Charles Luckman-designed Convention Center opened to much fanfare in Los Angeles. The building contains a columnfree, 213,000 sq. ft. main hall (above)—the largest space of this type in the country. There are also smaller meeting rooms, offices, a cafeteria, a bar and

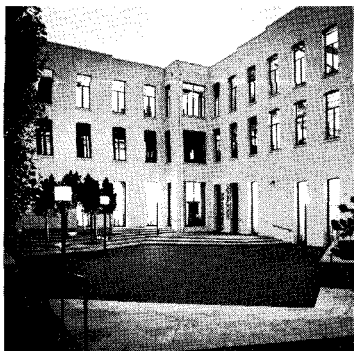
other facilities. The main hall can be subdivided by huge sliding partitions, some of which are visible in the view above. The center sits on top of a 3,000-car parking garage, and is ringed by spacious terraces (below). The cost was \$41.8 million, and its location near downtown L.A. may help revitalize that area.



RENAISSANCE

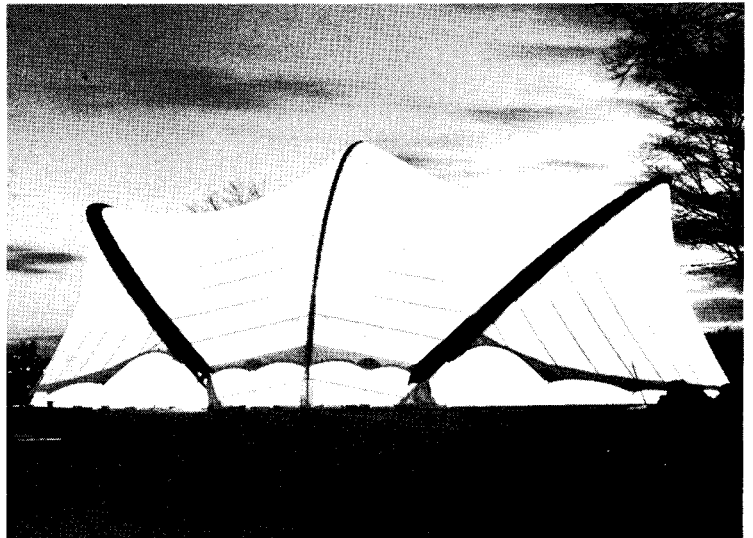
Formerly a dilapidated old warehouse built in 1906, San Francisco's Musto Plaza was created by architects Bull, Field, Volkman & Stockwell for \$500,000. The new office facility contains 34,000 sq. ft. of rentable space and the old masonry walls are accented by bright colors and

supergraphics. Skylights allow natural light to penetrate the interior. The original masonry walls and timber structure was preserved, but the white coat of paint is new, as are the large, dark glass windows. The landscaped plaza was a sunken parking lot before it was raised to the level of the building.



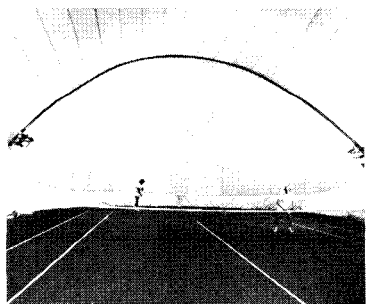
ABOVE IT ALL

Despite its soaring height, this apartment building in Livorno, Italy, manages to echo the scale of the smaller buildings that surround it. The lower floors, which contain commercial and retail space, create a visual pedestal. The upper floors tower above, containing various configurations of residential units. The apartments have balconies. The building was designed by Giovanni Michelucci, the Florence architect who also designed the Church of St. John the Baptist, on the Autostrada (July '64 issue, p. 100).



PLASTIC FOR SPORT

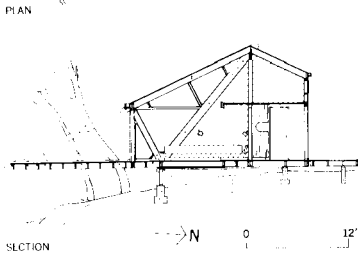
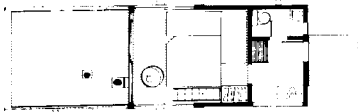
A tension-supported tennis court enclosure, made of lightweight vinyl-coated fiberglass fabric, makes Toronto's Inn on the Park the place to stay for tennis players and fans, say its owners. Constructed by Tension Structures of Canada, Ltd. of materials made by J. P. Stevens & Co., Inc., Owens-Fiberglas Corp., and the Composites Div. of Ferro Corp., the structure is easily taken down and reassem-



bled. The frame is made of steel arches and aircraft cable.

THE PERFECT ESCAPE

A complete change from the urban experience is this weekend cabin on an island off Seattle. Designed by Wendell H. Lovett for his family, it is just 12 ft. wide with 250 sq. ft. of floor space, plus a loft. It sleeps six, has all plumbing essentials and a large outdoor deck. Inverted wood trusses cantilever 18 ft. beyond the foundation to support the roof and suspend the deck. Plywood sheathing helps anchor the trusses to the frame.



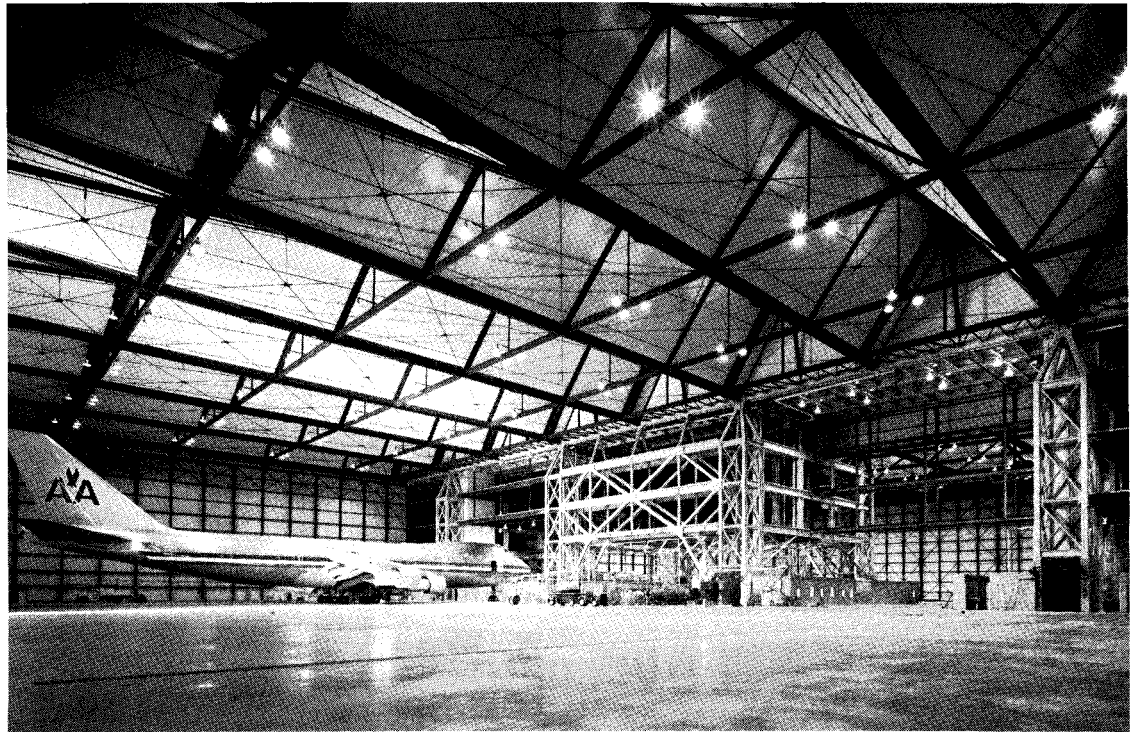
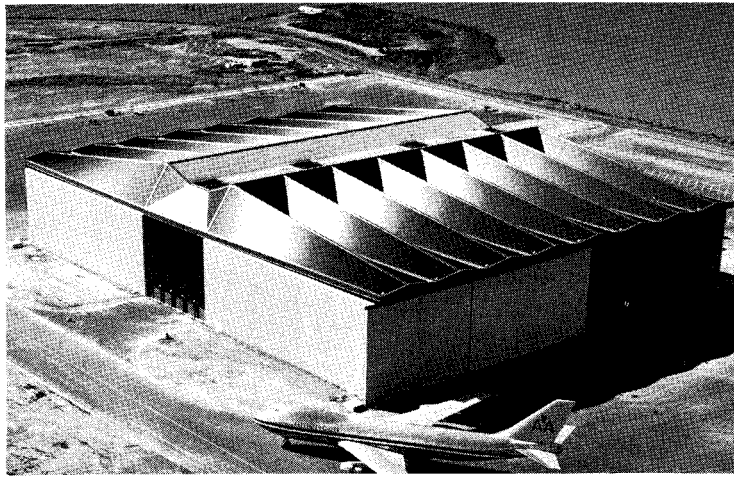
INFORMATION PLEASE

The shiny Bank of Texas booth will not be lost in Houston's SOM Shell Building. Designed by Burdette Keeland of mylar-covered plywood, the booth serves both passersby and those wishing to sit and chat.

PHOTOGRAPHS: Page 5, John Ross. Page 6 (lower left) Jeremiah O. Bragstad; (upper right) Ugo Mulas. Page 7 (upper left) Christian Staub; (lower left) Paul Peters; (upper right) Morley Baer; (right) Hedrich-Blessing.

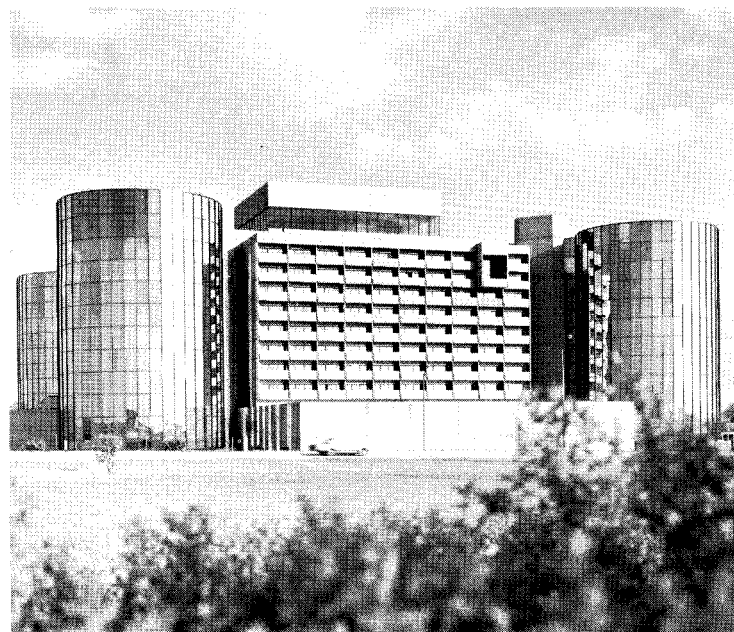
IN OPERATION

Already in use is the huge new American Airlines maintenance hangar at San Francisco International Airport; a twin facility is being finished at Los Angeles. Designed by the engineer/architect joint venture of Lev Zetlin Associates and Conklin & Rossant, the hangars (Jan./Feb. '71 issue, p. 58) feature modular hyperbolic paraboloid roof sections that cantilever 230 ft. from a central core structure, providing clear spans 80 ft. high and 450 ft. wide for maintenance operations. Ribbed aluminum decking covers the roof modules.



TRAVELERS' RESPITE

The new Regency Hyatt House, at Chicago's O'Hare International Airport was completed last spring at a cost of \$30 million. The hotel is designed as a square, with four cylindrical glass towers at each corner. It contains 750 guest rooms, three restaurants, a domed swimming pool, a night club, a health club, a ballroom for 1,200 persons, an exhibition hall and 35 meeting rooms (named for airlines). The central structure features an elevator tower with glass cabs, topped by a revolving lounge. From the tower, walkways lead to open corridors and rooms on the perimeter of the lobby, which rises ten stories and is decorated to look like a Roman atrium. John Portman & Associates, of Atlanta were architects.



donments were forced because owners had no legitimate means under the rent law to increase rents, even where occupants were in a position to pay more. . . . Thus rent control policy that was formulated to deal with the housing shortage created by wartime conditions has only perpetuated that shortage—first by creating excess demand for an artificially cheapened commodity, and second, by causing the destruction of the controlled housing supply by owners whose losses in continued operation are greater than those caused by an outright scrapping of their investment.” (*Agenda for a City: Issues Confronting New York* by L. C. Fitch and A. H. Walsh, 1970, pp. 309-11). Nothing in the Urban League report contradicts these facts.

I also noted that “The areas hardest hit by deterioration and abandonment are those which have the highest concentrations of old . . . structures, the most rapid rate of population turnover and racial transition, and the lowest family incomes. Areas that have been strongest in resisting both neighborhood and housing deterioration are ones in which the population is predominantly white, in which average incomes are higher than the median for the city. . . .” (*Ibid.*, p. 316).

The important contribution of the Urban League study was in its analysis of the anatomy of abandonment across the country. The unending repetitive factors were those of race and poverty. This combination, referred to as “crisis ghettos where social problems are overly concentrated” led to movement of white families from these areas at a rate sufficiently rapid to lead to the eventual collapse of the real estate market. And while landlord exploitation, disinvestment and real estate speculation played a part, these were accentuated by the inability of owners to cope with their new tenants’ attitude toward property, ranging from poor house-keeping practices to destructiveness and vandalism and, worst of all, inability (or unwillingness) to pay rent bills regularly. Adverse neighborhood effects—increased crime, delinquency, and drug addiction—accompanied the influx of poor minority populations. Wholesale abandonments followed. The Urban League report failed in separating out

cause from effect although it probably is impossible to do this given the emotional reactions involved.

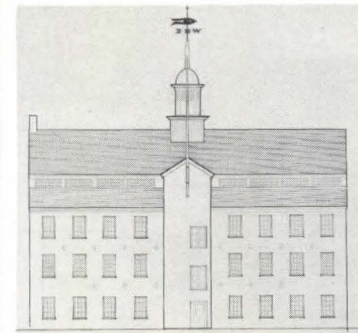
What conclusions do these facts point to? For one thing, it contradicts superficial observations about shortages of low-rent housing in central cities. Obviously slum housing in the nation’s central cities has become an excess commodity to an extent that nearly one million housing units have been abandoned in cities over the past decade. On the other hand, the inability of ghetto residents to afford older housing is a phenomenon of poverty, not of housing. Clearly the problem is one of lack of money, skills, education and job opportunities among ghetto residents. Housing difficulties are only a pale reflection of the larger problem. The last half century has seen the nation’s rural racial poverty shifted to central cities which do not have the resources to cope with the problem. Unquestionably the magnitude and seriousness of this phenomenon can be dealt with only at a national level. Until there is acceptance of this fact by the Congress, the problem of the central cities will continue to drag on unchecked.

FRANK S. KRISTOF
 Director, Housing Development Division
 New York State Urban Development Corporation
 New York, N. Y.

EARLY INDUSTRIAL LANDMARKS

Forum: I am glad to see your article on the Crown and Eagle Mills (July/August issue), and the interest in preservation efforts being expended upon New England’s early industrial landmarks.

The Belknap-Sulloway Mill in Laconia, N.H., built in 1823, is the earliest brick textile mill surviving in its original form in the country. Located along the Winnepesaukee River in a downtown urban renewal project in



Laconia, the building has become the focal point of preservation and local rehabilitation efforts.

The Save the Mills Society, a non-profit corporation, has presented the Laconia Housing and Redevelopment Authority with a plan to turn the mill into a multi-use cultural center under long-term lease from the city. The Society is working against a September 1 deadline to put together an acceptable financial package to undertake the first two stages of rehabilitation worked out by Paul Mirski, architect (exterior restoration and first story adaptive-use preservation as a “drop-in” center and headquarters for the Laconia Council on the Aging).

The Belknap-Sulloway Mill has been placed on the National Register of Historic Places and has been offered \$38,000 towards its restoration through the Department of Interior Grant-in-Aid program. The Save the Mill Society is currently seeking funds to implement its project.

RICHARD M. CANDEE
 Trustee, Save the Mill Society
 Laconia, N. H.

A BANKRUPTCY OF RELIGION?

Forum: I wonder how many readers had misgivings similar to mine when viewing Ralph Rapson’s church in St. Paul Park, (June issue). This church, in spite of or because of its obvious merits—namely economy in cost and structure—seems to me lacking the very essentials of a building which transforms an assembly of people into a spiritual community.

Granted that I had to rely on only two photographs and the plan; but then how few are fortunate enough to see our significant buildings in the reality of their own setting? Relying on the publication, I must conclude that Rapson or his client was anxious to express frugality and worldliness, avoiding the conventional trappings of religious buildings. There is no indication here that the performance of a mass differs from a theatre in the round. The awkwardness of delivering the sermon in two directions cannot be explained by the wish to gather the congregation closely, which has no freedom of seating choice because of fixed pews. And the privacy and sanctity of the chapel is no greater than that of an exhibition booth in a convention hall. Even the at-

continued on page 11

REFLECTION OF LARGER PROBLEM

Forum: Your article on housing abandonment (April issue) was so interesting I have since studied the full Urban League report for new light it might throw on this subject.

For New Yorkers, abandonment has been a serious problem since 1965. I linked an obsolete city rent control system to the unnecessary acceleration of housing abandonment in New York even while noting that “Virtually every large American city and many small areas over the past dozen years have developed patches and stretches of abandoned housing in the oldest sectors, but nowhere in the nation has the New York City experience been duplicated either in magnitude or swiftness of development. . . .”

“In other cities, abandonments were compelled because owners were free to but could not extract additional rents from their low-income tenants. . . . By and large, in New York City, aban-

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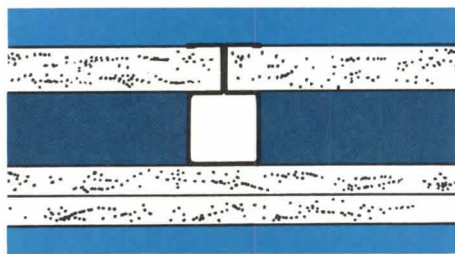
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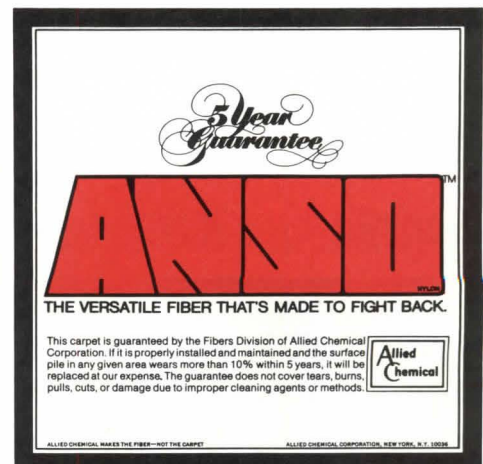
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LETTERS

continued from page 8

tempted unity of the secular interior collapses on the outside where the solidity of a lower floor seems to conflict with an unrelated upper story topped by the impressive and brutal framing of the roof.

My question is briefly this: why build a Catholic church which abandons mysticism for the sake of structural frankness? Corbusier, the non-believer, has I believe convincingly demonstrated in Ronchamps how to express in principle the emotional need of a religious community in spatial terms. If for the sake of economy we are going to build churches to compete with supermarkets we are in effect admitting to a bankruptcy of religion. In short, what in the name of God is going on here?

JOHN H. OSTWALD
Ostwald & Kelly, Architects
Berkeley, Calif.

HOUSING SHORTAGE

Forum: The portion of our population which faces a housing shortage is no longer the "poor". It is now creeping into the middle class as well.

Why don't we quit kidding ourselves. The big problem in producing more low and moderate income housing is money—the lack of it; and the lack of any *real* commitment on anybody's part to trying to solve the problems of rising costs, lack of financing, myriads of codes, unreasonable wage demands, and protectionist practices of industry and labor.

In addition, some of our values in regard to what we *are* doing leave some large questions.

Presently, our "solutions" to the housing problem include:

- a. Mass production technology. Build houses like cars; assembly line procedures.
- b. Novel construction techniques such as precast concrete modules, stacked trailers, etc.
- c. Government purchasing and writing down land or other subsidization.
- d. Combinations of the above.

Our earth environment is a finite thing with a finite supply of material and energy, and finite amount of space in which to dispose of wastes. The general

trend of the solutions above is to make the housing industry a part of the disposable economy.

On the one hand we talk of the terrible degradation of our planet that comes from waste maker thinking; while on the other, we talk of pushing more of our housing production into the disposable "dynamic" obsolescence type of production. Autos are enough of a sore spot.

They are made to wear out to keep the production system going since mass production depends upon a continual mass market. A worn out car is an eyesore and auto junkyards may be necessary. Except for the junkyards, however, worn out cars do not devalue the land they stand on. Worn out buildings do.

Nothing is wrong with industrial production techniques, or more efficient ways of producing. The big problem lies in making things with a very limited useful life, e.g., future slums.

Isn't it better to set a goal of durability rather than expendability; of quality rather than quantity; of intelligent, careful use of resources rather than apparent abundance through wastefulness? Should it be our mission, as professionals, including other professionals, builders and engineers, to stem this drift toward mediocrity and wastefulness and insist that we get back on the road to quality.

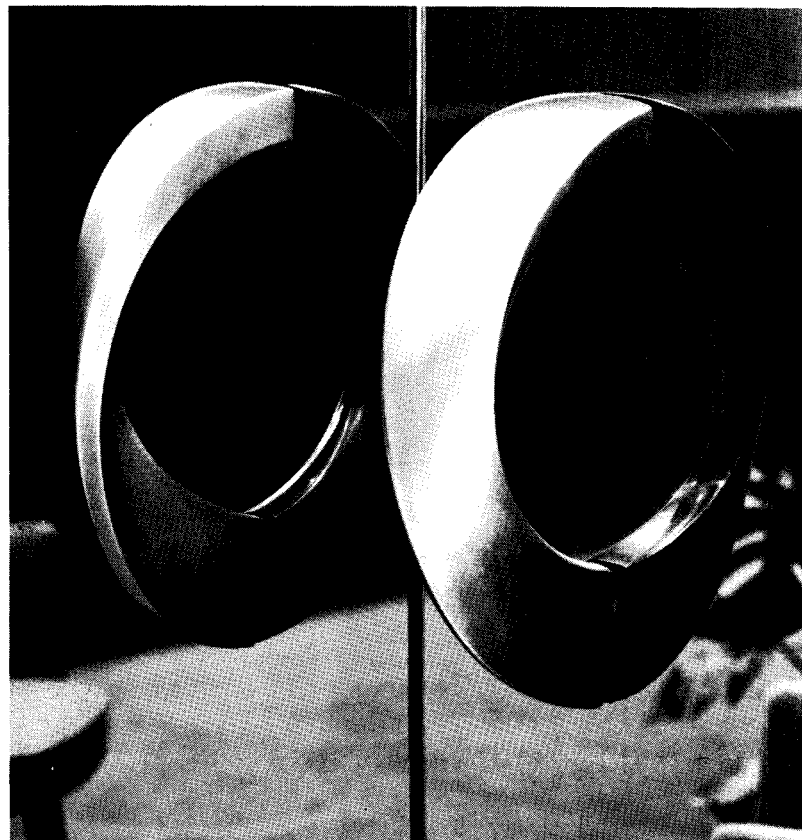
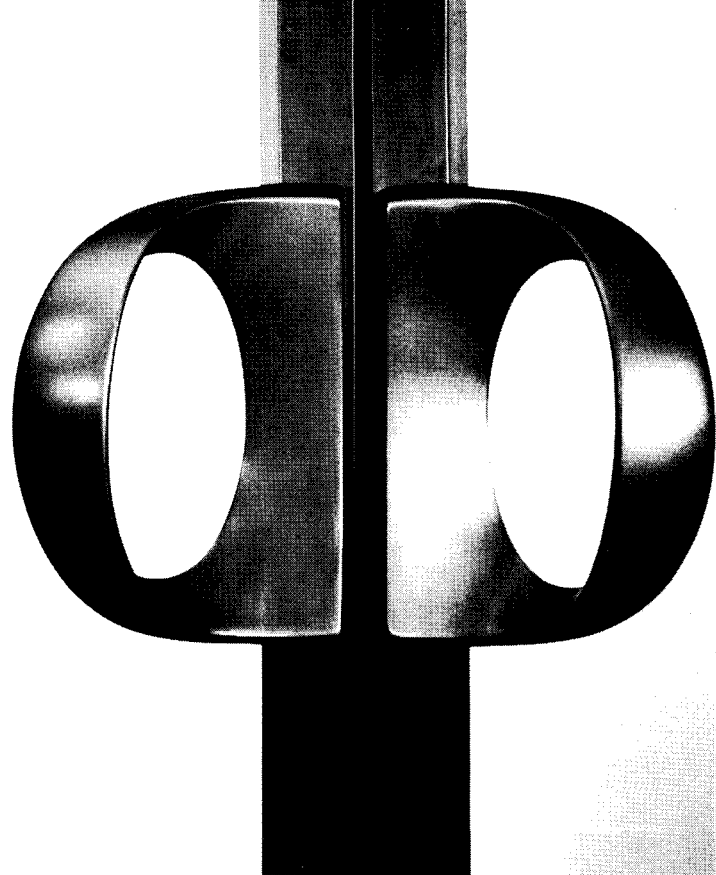
Some of the cheapest buildings, in the long run, have been those whose quality of both design and construction makes them valuable today as houses, offices, or what have you, as they were 200 years ago.

Instead of the "breakthrough" newslum, why not some real attempt at quality—of construction, of design, of land development?

TERENCE R. MOONEY, A.I.A.
Milwaukee, Wis.

ADDENDUM

Design of the City Hall in St. Johns, Newfoundland (July/August issue, p. 7) should have been credited to Parkin Searle Wilbee Rowland, successor to the John B. Parkin Associates firm. The restructured firm has more recently made its final name change to Searle Wilbee Rowland, under which name it was a finalist in the international competition for an arts center at the boundary of Les Halles in Paris.



Sculptured doorpulls by designer Malcolm Leland in bronze, chrome or nickel silver create exciting door architecture. Part of a large collection of handcrafted doorpulls and pushplates, carved wood panels and doors, grilles, Bonded Bronze panels and doors.

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PREVIEW

What was a decayed industrial section of Pawtucket, R. I., is being transformed into an attractive business complex by architect Warren Platner for his client, the Teknor-Apex Co. The new complex will tie together the disparate, primarily nineteenth-century brick buildings on the block and highlight the offices with a mirrored facade, landscaping and brick archways.

Platner's challenge is to create new corporate office space

so the company can expand manufacturing by moving its offices out of the plant. Platner also wants to enhance the street along with the corporate image.

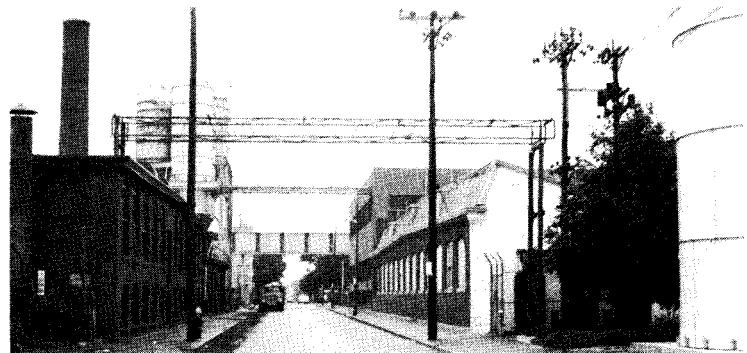
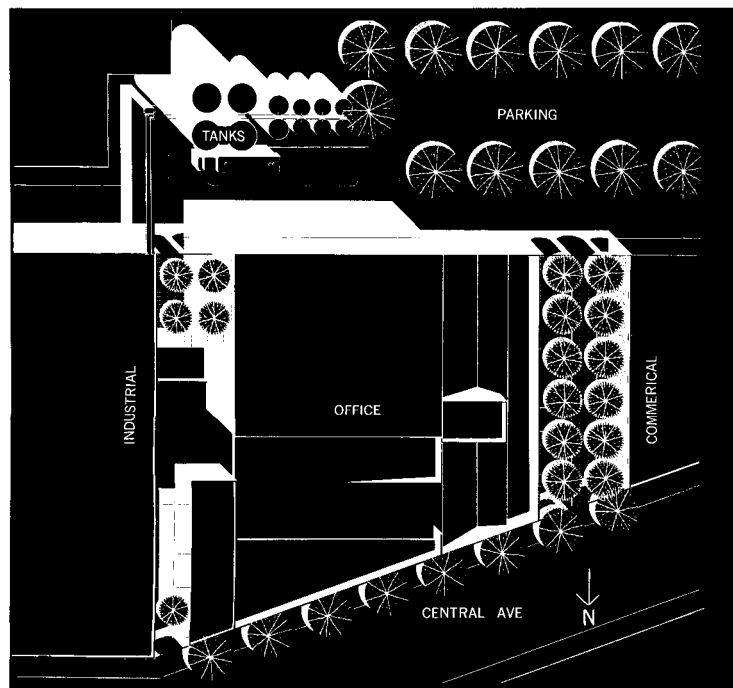
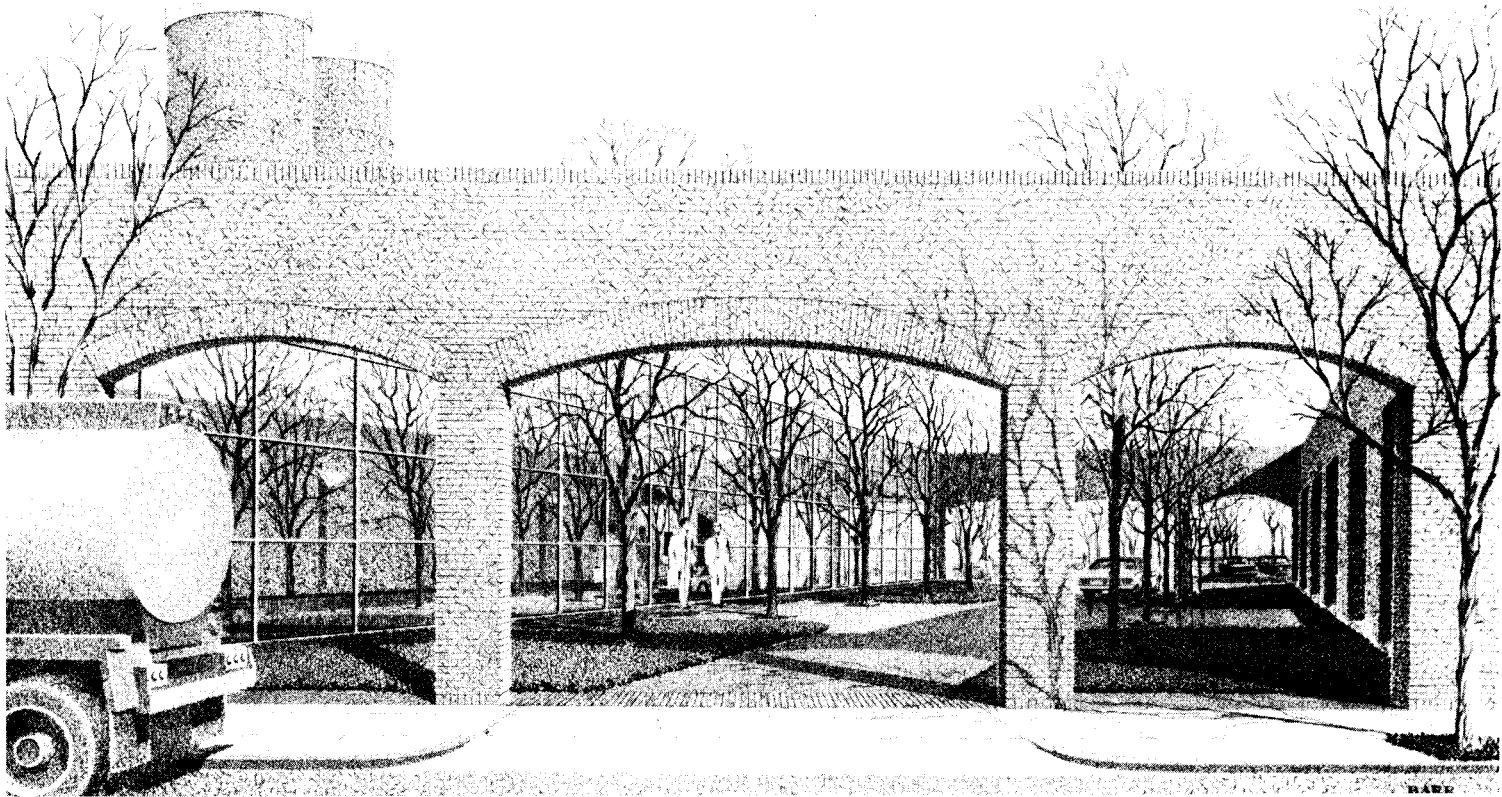
The offices will be relocated into several old brick buildings on the site that had been used by a subsidiary of Teknor-Apex. They will be enclosed in a new shell, but the space remains primarily renovated.

Plazas and parking areas will insulate the new offices from

the adjacent industrial and commercial structures. Entrance to the offices will be through an arcade from the street. A mirror facade on the offices will reflect the arcade landscaping.

Along the street, the brick walls of the offices and adjacent buildings will be unified by extending them. Where they would cross the arcade entrances, the walls will become brick arch entryways for a touch of nineteenth century romanticism.

BUSINESS UPSWING





Twin Towers office building, Dallas, Texas. Owner: Sanders Campbell Development Company. Architect: Neuhaus & Taylor, Houston, Texas. Mechanical Designer: Chenault & Brady, Houston, Texas. Glazing Contractor: Nichols Engineering, Dallas, Texas.

**For the Twin Towers in Dallas,
the glass that cuts building costs.**



Vari-Tran[®] coated insulating glass provides twin benefits for Twin Towers: lower construction costs, lower operating costs.



How Vari-Tran reduced air conditioning equipment.

Chenault & Brady of Houston, who did the mechanical design for Twin Towers, studied glass cost analyses made for similar buildings with this result. Said Charles Chenault, "We had enough faith in the efficiency of Vari-Tran 108 Thermopane to design the building's mechanical system from the beginning based on that glass."

Chenault & Brady specified Thermopane[®] insulating glass having an outboard light with Vari-Tran 108 silvery coating on its airspace surface. Using L-O-F's heat gain calculator, this glass reduced the computed cooling load by 349 tons compared with Parallel-O-Grey[®]. At Mr. Chenault's figure of \$600/ton, this is a saving of \$209,400. Subtracting \$150,000, the approximate additional cost of Thermopane made with Vari-Tran, an initial saving of \$59,400 was achieved.

Vari-Tran justified on construction cost savings alone.

As you can see, Thermopane with Vari-Tran saved on initial air conditioning costs—more than enough to justify its additional cost. But there's more. Vari-Tran's superior heat-reflecting qualities made it economically feasible to design an all-electric building. This, Mr. Chenault estimates, will provide the owners with an additional annual saving of \$15,000 in operating costs.



How Vari-Tran increased rentable area.

The "U" value of this hi-performance glass actually increased the amount of rentable square feet by decreasing space devoted to such things as fan-coil machinery, ductwork, etc. And, of course, with an all-electric building, no boilers. Specific figures are not available yet on Twin Towers, but a similar building enjoyed a 3% increase of rentable space.

The glass that cuts building costs makes a very beautiful building.

Notice how the silvery Vari-Tran units combine with spandrels of Vari-Tran coated Tuf-flex[®] tempered glass to form continuous strips of

reflective glass from ground level to rooftop. In Twin Towers, they contrast with extruded cement-asbestos panels and are designed with a bay window effect to give each office a "balcony" view.

Broad range of reflectivities and aesthetic effects available.

Vari-Tran is available in golden as well as silvery coatings in light transmissions of 8, 14 and 20 percent. Each provides significant reduction in solar heat and glare, as well as the beauty inherent in reflectivity.

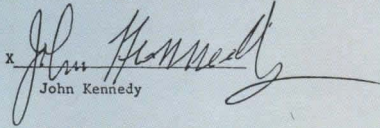


If you would like a computerized cost analysis of the glass wall of a building you're planning, contact your L-O-F Architectural Representative or Architectural Department, Libbey-Owens-Ford Company, Toledo, Ohio 43624.



Hi-Performance Glass
The glass that cuts building costs

"Leisure World wanted a quality faucet that needed a minimum of maintenance. So I got them 50,000 Delta faucets."

x 
John Kennedy

Kennedy Mechanical Contractors

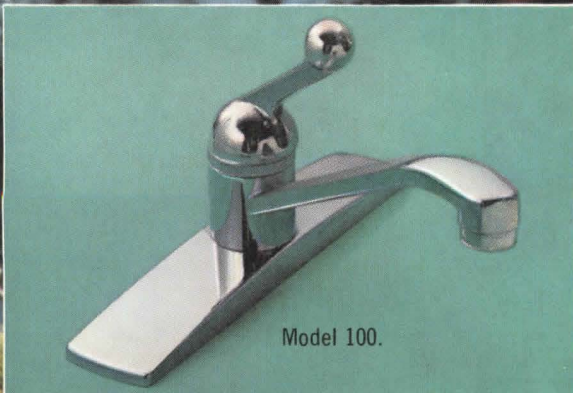
Leisure World is just that. A beautiful retirement community in California that's become a new living concept in America. And for the maintenance crew and the plumbing contractor, it's even more of a leisure world. Because during the 7-year history of Leisure World, they've hardly had to repair or replace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

But beside its great maintenance record, Delta single handle faucets were chosen because of their ease of operation. And because they look as good as they work.

As John Kennedy said, "Seven years ago when Ross Cortese, the developer of Leisure World, awarded me the project, he said he wanted a Class A job. And with Delta faucets that's just what he got."

We can tell you even more about the full line of trouble-free Delta faucets. Just write Delta Faucet Co., a Division of Masco Corporation, Greensburg, Indiana 47240.

**Delta Faucet.
Simply beautiful.**



Model 100.

FORUM

Last month, the *New York Times* published the following editorial under the title "Captive City." It is reproduced here because it deals with a subject that has long concerned us, too, and deals with it well:

"Senator Edward Brooke, Republican of Massachusetts, has formed a National Citizens Committee to arouse support around the country in behalf of democratic self-government for the city of Washington. For nearly a century, the nation's capital has been deprived of home rule. A small breakthrough a few years ago produced an elected school board, but all other municipal affairs are controlled by a Mayor and City Council appointed by the President and tightly supervised by committees of Congress.

"Since members of the Senate quite rightly regard running the city of Washington as a tiresome chore which their own constituents did not elect them to perform, they have six times in the last twenty years passed bills conferring home rule. Another such measure has now cleared the Senate District Committee. But the bills always founder in the House. A clique of parochial Congressmen, most but not all of them rural Southerners, enjoy the power and perquisites of being the unaccountable rulers of a large city.

"It is an ugly fact that many members of the House in both parties have long been reluctant to turn control of Washington's municipal government over to its citizens because two-thirds of those citizens have black skins. The last major drive for home rule was in 1965 when President Johnson made a herculean effort and forced the bill to the floor by a discharge petition, only to be frustrated at the last moment by a parliamentary maneuver managed by Representative B. F. Sisk, a California Democrat fronting for Southern racists.

"Turning sentiment around in the House now is going to be just as difficult as it was then. It cannot be done without the active support of President Nixon and the House Republican leadership. Instead of leading the fight, as his predecessor did, however, Mr. Nixon has kept a deep silence on the subject. Senator Brooke's admirable missionary effort will have to begin at 1600 Pennsylvania Avenue."

In short, with Peking out of the way, perhaps Mr. Nixon might like to take a look at Washington.—PETER BLAKE

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ENVIRONMENT

WHERE THE SALMON WENT

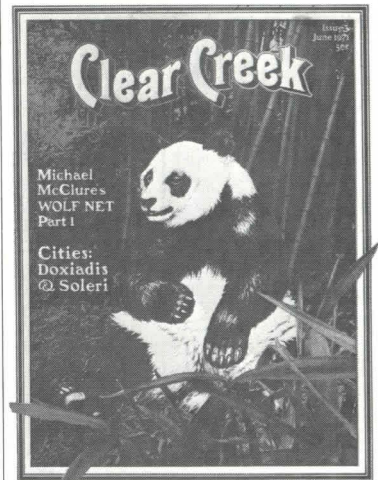
In the June issue of *Clear Creek*, an excellent new environmental monthly published in San Francisco, there are two separate stories involving Washington State salmon. One of them documents a 20-year struggle between the Indian nations of the Medicine Creek Treaty and

the state government over fishing rights. The aforesaid treaty, of 1854, secured for the U. S. most of the land which is now the State of Washington in exchange for which it gave the Indians reservation lands and the right "to fish at usual and accustomed places." That this meant fishing outside as well as within the reservations has been confirmed by both the federal government and the Washington

State Supreme Court. But the state has, nonetheless, passed laws restricting the Indians' fishing "in the interest of conservation."

The Indians say they have been repeatedly harassed and their fishing gear and nets confiscated by state fish and game wardens as well as sportsmen calling themselves the White Citizens Committee to Save Our Salmon. At least one Indian has been shot by vigilantes and an encampment broken up and bulldozed over by police and wardens.

"With laws supposedly made in the 'interest of conserva-



New environmental monthly

tion," the article asks, "whose and what real interests are involved? Who is really a threat to the salmon?" One answer to that is provided by the other, lead story in *Clear Creek*.

The story documents a phenomenon known as "nitrogen supersaturation" caused by two many dams too close together on the Columbia and Snake Rivers in Washington. In the spring of 1970, this phenomenon killed 70 to 80 per cent of the downstream migrant salmon and steelhead trout, the largest single fishkill in the nation. The state's shiny new Department of Ecology said it was "serious enough to threaten the future success of any trout or salmon return to this area." Nitrogen supersaturation means, essentially, that the fish die of what is known to deep sea divers as "the bends."

Under construction but not yet in service is the fourth in a series of dams on the lower Snake, all built by the U. S. Army Corps of Engineers. A fifth is planned.

GAS BOMBS

John S. Kelly, director of the Atomic Energy Commission's Office of Peaceful Nuclear Explosives, outlined in July the long-range program of Project Plowshare, the joint government-industry series of atomic explosions designed to free for commercial use large stores of natural gas trapped in underground rock formations (Jan./Feb. '68 issue, page 45).

The plan calls for five blasts to test a new explosive device said to produce much less radioactive hydrogen (tritium) than former devices. These test blasts would be followed by five or six nuclear shots in commercial gas fields that would put significant quantities of gas into commercial pipelines. The program, said Kelly, might be achieved within four or five years. The cost—about \$85 million—would supposedly be borne jointly by the government and the participating oil and gas companies that would profit from the program. The Congressional Joint Committee on Atomic Energy has, on the basis of the plan, upped the present authorization for the Plowshare budget from the \$5 million recommended by the A. E. C. to \$8.1 million.

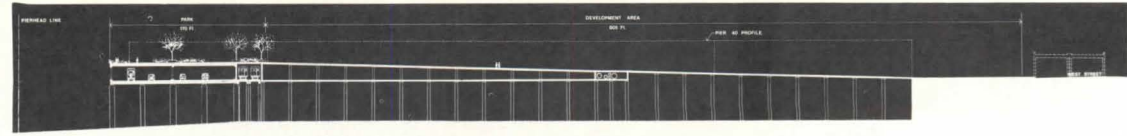
The first of the test blasts was held in Nevada in July and was the largest—80 kilotons—since the resumption of nuclear testing in June. A six-month halt had been called after a test last December leaked a major amount of radioactive particles. The A. E. C. claimed the July test was "clean."

Environmentalists, however, are not convinced. A. E. C. officials concede that gas stimulated by the program will be tainted with tritium but that this can be reduced to levels they consider safe by diluting the atomic-stimulated gas with regular natural gas.

The A. E. C. is one of those government agencies set up to both promote and regulate itself, and independent research that might confirm or rebut their optimistic predictions is virtually nonexistent.

... AND ORGANIZED PROTEST

The Committee on Nuclear Responsibility is a new group "designed to alert the American public to the dangers inherent in our growing commitment to nuclear power for the genera-



tion of electricity and to our reliance on nuclear weapons for national security," according to former Sen. Charles Goodell (Rep., N. Y.) co-chairman with nuclear physicist John W. Gofman, and poet and novelist Lenore Marshall. The group's first action is a suit to block the A. E. C.'s underground nuclear weapon test—code named Canniken—slated for Amchitka Island in Alaska's Aleutian chain next month.

The government-required report on the environmental impact of Canniken, made public by the A. E. C., says that the principal effects would be those resulting from the island's occupation by several hundred workmen. The Committee, joined in its suit by the Sierra Club, Friends of the Earth, the Association of American Indian Affairs, and Sane, Inc., fears the test may trigger earthquakes in this most vulnerable earthquake zone, spread radiation beyond the borders of the U. S. and thus violate the international test ban treaty, contaminate ground water and endanger fish and wildlife.

Dr. Gofman said the A. E. C.'s environmental statement did not reveal enough technical detail to permit assessment of its conclusions. Example: the A. E. C. has never even admitted that the blast will be in the five-megaton range, only that the depth of the chamber "would be compatible" with a blast of that size.

WATERFRONT

HUGGING THE HUDSON

For the past several months, Architect Sam Ratensky (now with New York State's Urban Development Corporation) has been busy on an ingenious proposal to add some 700 acres to the land mass of Manhattan Island. The proposal has wide potential applicability to other cities cut off from their waterfronts by superhighways—i.e., just about every major city in the U. S.

Ratensky's Wateredge Development Study, so-called, be-

gan with the recognition of a situation that is peculiar to the Hudson River frontage of Manhattan: first, many of the existing piers are old, rotting, and no longer in use (container-shipping having made them obsolete); and, second, the existing elevated West Side Highway is so old as to be in real danger of almost immediate collapse. It will have to be replaced very soon, largely with Federal Interstate Highway funds.

Needless to say, most highwaymen felt that the way to replace it was to build either another elevated structure, or to put the new highway directly on grade. Both proposals would have cut the city off from its riverfrontage just about as before—or more so. Idealists felt that a sunken highway, in a bathtub cut, partly or wholly roofed over, would solve the problem; but the cost would have been two to three times as high as the on-grade alternative and, hence, the bathtub cut seemed out.

Wateredge proposes a fourth alternative that would be cheaper to build than the bathtub cut, and save (and add to) the waterfront to boot: why not build the new highway in a kind of rectangular tube that would snake up the West Side out over the water, just inside the present pierhead line? The tube would be vented out toward the water, and its roof (only a few feet higher in elevation than the present Manhattan bulkhead line) could be connected, by means of a huge deck, to the present level of the Manhattan land mass (see plan and section below).

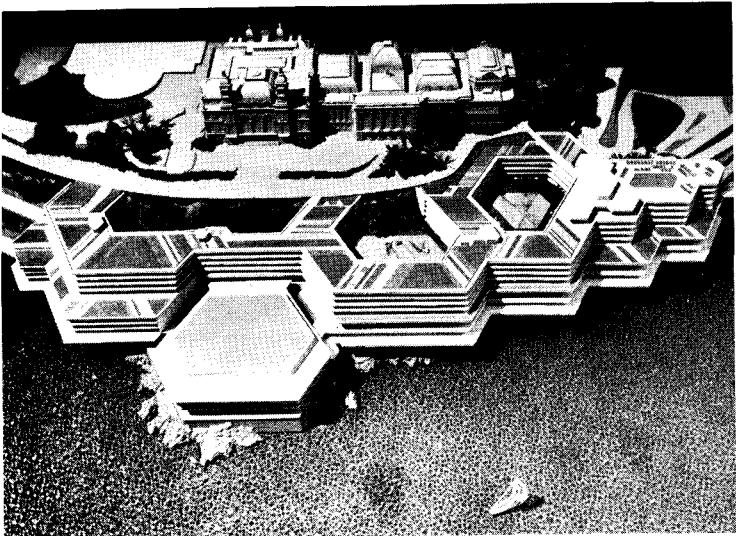
Apart from adding some 700 acres to the surface of Manhattan for housing, recreation, and other uses that could be developed on "land" costing only about \$35 per sq. ft. to build, the far-out highway tube would permit exit and access ramps to be built within the 400 to 500 ft. depth between bulkhead and pierhead—rather than having the ramps torn through existing residential or industrial neighborhoods. Further, the deck (being slightly elevated above existing grades so as to clear

Hudson wateredge. Section above, plan below



the top of the highway tube) could hold thousands of parked cars within its "basement" space—cars that now park in midtown. Finally, that same "basement" could take care of a new subway tunnel long advocated for the West Side, and could accommodate sewers and other utilities in readily accessible, horizontal chases.

If the Wateredge proposal becomes reality—and the City of New York seems decidedly interested—then much of it may be built under Interstate Highway programs (i.e., 90% from the Feds, 10% from the State). The deck, of course, would be extra; but with land costs in Manhattan soaring as they are everywhere else, the cost of building those extra acres seems low indeed.



Monte Carlo: old casino and new hotel

HUGGING THE RIVIERA

The principality of Monaco has agreed to a \$35-million development project of the Loews Corporation and two European partners along the richest 400 yards of Monte Carlo's gold coast. The agreement was reached when the Loews' architects successfully met three major stipulations of the government. One: the development—a 650-room hotel, a convention center, and 150 condominium apartments—must in no way infringe upon the unobstructed Mediterranean view of the famous 105-year-old Monte Carlo Casino, which overlooks the development site. Two: construction must be suspended for a five-week period in each of the three years of construction to make way for the Grand Prix of Monaco auto race on the Lower Corniche roadway, which is under the development site. And three: the new hotel's casino must concentrate on games familiar to Americans, such as craps, leaving the more European diversions, such as baccarat, to the elegant old Monte Carlo gambling house. Having it both ways, the government of Monaco is a principal shareholder in the publicly owned corporation that will operate the new Loews' casino.

The seven-tiered, linear complex—by Architects Herbert Weiskamp (chief architect and a director of one of Loews' co-partners, *Neue Heimat International*), Jean Ginsberg and Jean and Jose Notari—departs from Loews' familiar highrise hotels by hugging the Monaco coastline. The project will bridge over both the Lower Corniche

and an upper roadway, the Boulevard Louis II, once the roadbed of a railway connecting France and Italy. And the reef will be a landscaped terrace.

LANDMARKS

LIFE-STYLE PRECINCT

For about a decade, a group in Seattle called Friends of the Market have been fighting the Pike Plaza Urban Renewal scheme proposed for the well-known Pike Place Market area between the central business district and Seattle's waterfront on Elliott Bay.

Until recently, the Washington State Council on Historic Preservation, conforming with the National Register of Historic Places, listed the Pike Place Market District as covering about seven acres and several city blocks. Then, with the support of Mayor Uhlman,

the business-oriented Central Association, and an investment group (identified as the Central Park Plaza Corp.), the State Council scaled down these boundaries to about 1.7 acres, which includes only the three principal market structures. The new boundary thus precisely conforms to the city's urban renewal plan, which is not to destroy the market, but to dwarf it and restructure its remaining buildings as a kind of antique centerpiece for a highrise hotel-apartment enclave.

Friends of the Market argue that if it is worth preserving it is worth preserving as it is—an open, bustling mix of enterprises and people: farmers hustling their own produce, street people hawking their own craftwork, shops selling everything from antiques to Italian sausage; and customers of every color and persuasion.

"We are saving a people's coming together in the marketplace," says Architect Victor Steinbrueck, president of Friends of the Market. "The district is very interesting as architectural space and townscape—but in a humble way. We are really fighting to conserve and keep a living, human, urban organism—a life-style precinct."

The Friends of the Market also want the surrounding area rehabilitated so as not to disturb its ethnic mix—black, Filipino, Indian, white—or displace its mostly low-income and elderly residents. The urban renewal scheme calls for 1,420 luxury apartments, a 35-story convention hotel, and only 350 units for elderly and/or low-income people.

Either on September 21 or

Market and friends



(continued on page 61)

MUSEUMS FOR LEARNING

A 20-page portfolio of exhibit and teaching facilities for the visual arts



EDUCATION IN THE ARTS

Famed museum acquires
a new wing
designed to serve
its teaching functions

The Cleveland Museum of Art is, of course, one of the most distinguished in the U.S.; it has now joined a \$10 million wing to its stately, neo-classical facades, and this addition should further enhance the Museum's collection by adding a fine piece of architecture to its stock of painting and sculpture.

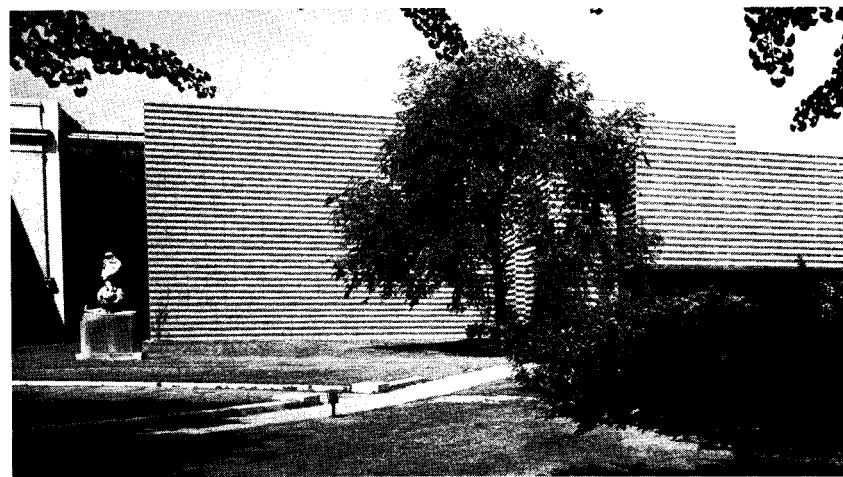
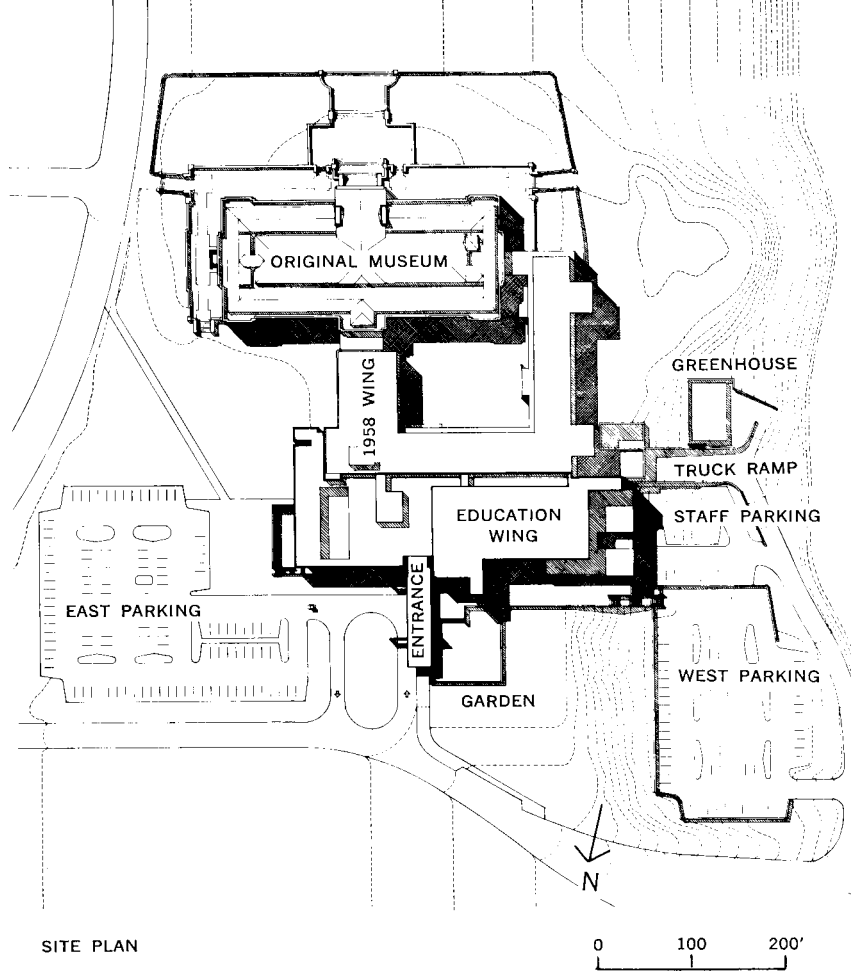
The new wing—a pin-striped complex of alternating bands of light and dark grey granite—houses the country's largest, museum-integrated art education facility. It was designed by Mar-

cel Breuer and one of his younger associates, Hamilton Smith; and, as these pictures show, it looks just dandy.

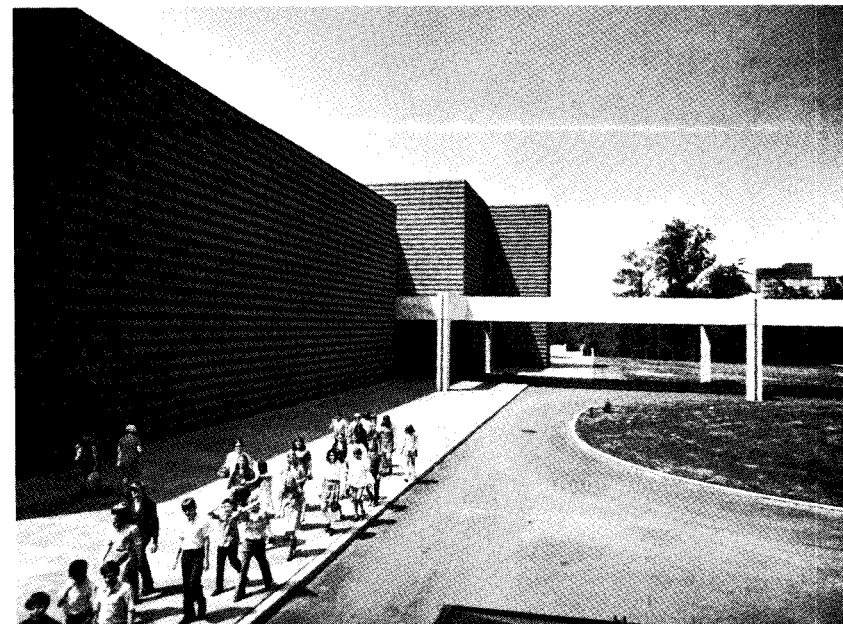
The new wing contains all sorts of facilities that were not even remotely in the cards when the original building was built in 1916: there are film and audio-visual facilities, classrooms, lecture and recital halls, a 740-seat auditorium, a new Music Division, a new Art History and Education Department, and a new Extension Exhibition Department (to serve the Cleve-

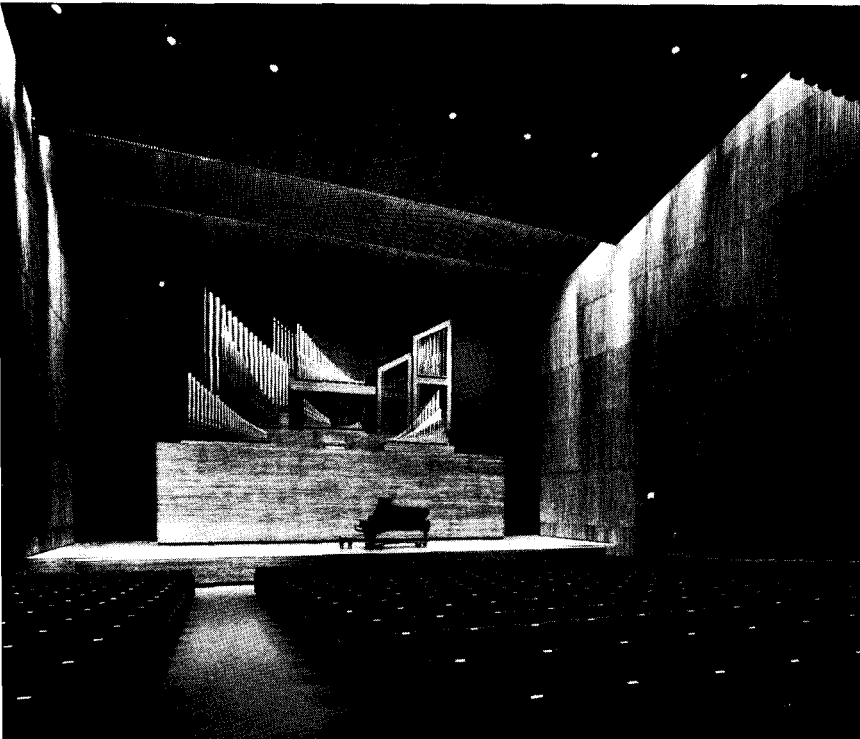
land Library and the region's school system). The total square footage of the wing is 111,500.

What distinguishes so many of Breuer's buildings is their ruggedness, and this one is no exception. To relieve the massive bulk of some of his buildings, Breuer likes to surround them with certain elements like stairs, free-standing screens, terraces, and patios that offer contrast and relate the building to its site. In Breuer's hands, these elements are not merely functional accessories that make the basic



New wing is faced with a mosaic of split granite plaques, made up in concrete-backed sections 6 ft. high and 4 ft. wide, and shipped in these panels from the quarry. This "pre-fabrication" of the wall permitted close control over the stripe pattern of lighter and darker grey granite. The 115 ft. long canopy of exposed concrete signals the entrance to the new wing—which now becomes the main entrance to the rest of the museum complex as well. Above: view from the northwest; at right: close-up of juncture of old and new wings, and view from the east.





building work; they are light and sculptural counterpoints to the bulkier masses of the main structure.

Many architects, less sure of themselves than Marcel Breuer, might have tried to add a wing to this 1916 Museum (and its 1958 extension) that would, in some way, blend in with the neo-classical facades of the original building. Breuer made no such effort, and for two reasons: first, because the site, with its nice trees, tended to separate the old from the new—visually, anyway

—so it seemed unnecessary to make an effort to relate the two; and, secondly, because he rather enjoys the tensions that are created between old and new things. To him, such contrasts enrich rather than deplete the scene.

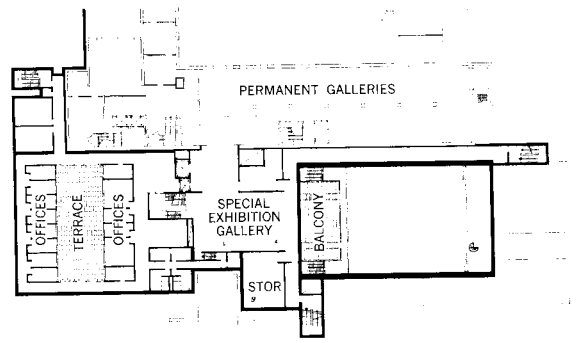
The contrasts between the new galleries and the old ones are striking enough—they are the contrasts between spaces that really work in terms of lighting and in terms of flexible installations, versus traditional “Halls of Fame” that may honor a don-

or rather than an artist. Breuer’s galleries in this new wing are topped with a suspended grid, similar to the one installed in his Whitney Museum in Manhattan (Sept. ’66 issue), but lighter. The grid is designed to supply any kind of lighting and a modular system of partitions. The photographs on these pages show how flexibly the system works.

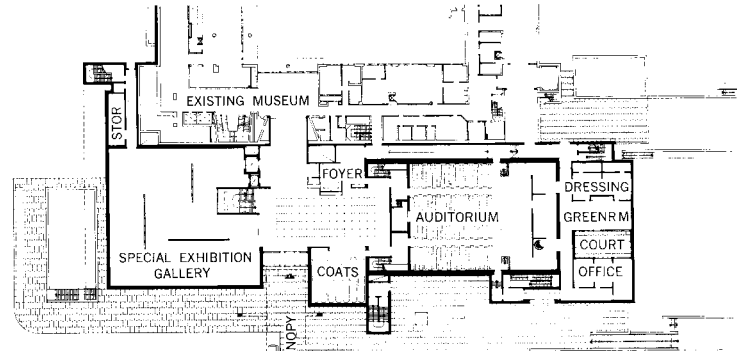
The circulation pattern within the building determined much of the design. Some areas have to remain closed to the public, while, at the same time, others

may be used by students and staff. At other times, when there could be evening openings in the Special Exhibit Gallery on the upper floor level, all the other rooms in the present museum might very well have to remain closed—except for the lobby and its facilities, which would, of course, have to remain open.

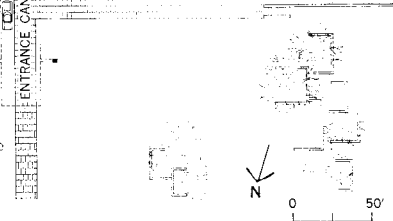
All these complex problems of circulation and scheduling were resolved by letting the lobby space of the new wing serve the *entire* museum—the new wing as well as the earlier buildings. This



UPPER FLOOR



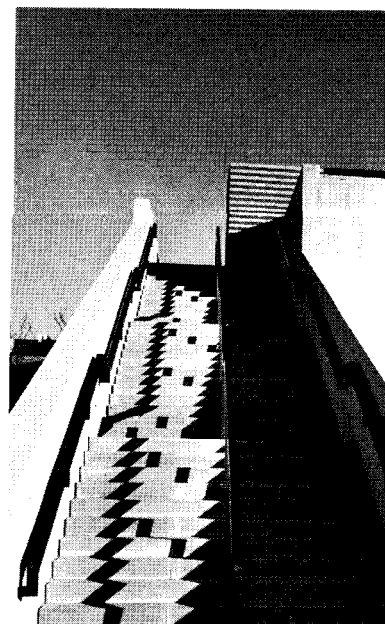
GROUND FLOOR

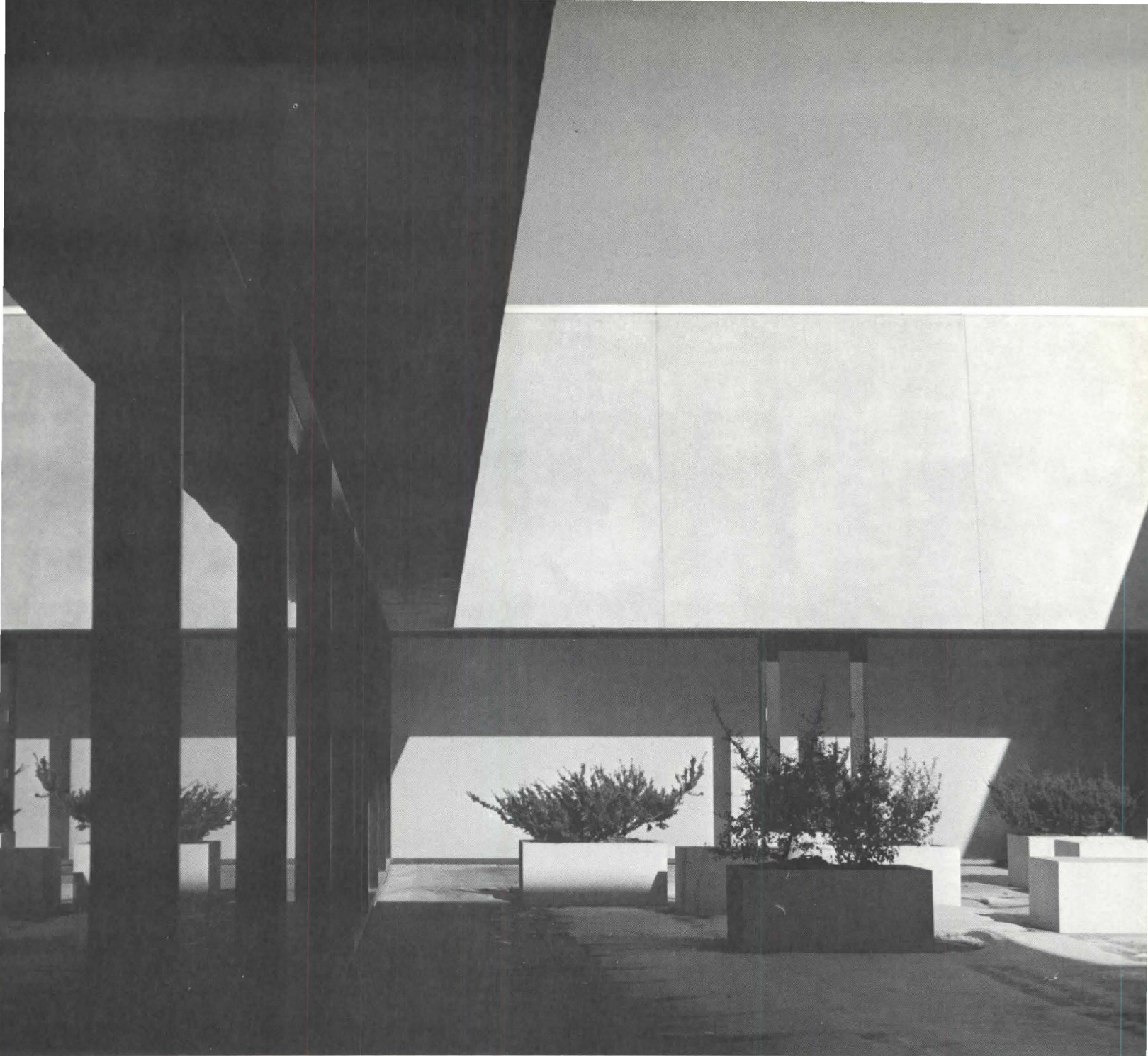


Galleries are organized and made flexible by means of a ceiling-grid that carries all lighting outlets and locks partitions into place. The module of the grid is 4 ft. square. Top left: view of the main lobby, which can double as an exhibition gallery. Bottom left: the 740-seat auditorium, with the famous McMyler Organ, which was moved into this space from the original wing. Above: one of the two Special Exhibition Galleries. Their ceiling height is 15 ft. Right: the main stair connecting the three principal levels of the new wing overlooks Special Exhibition Gallery through an opening at the landing. Plans show the two top floors of the new wing. Bottom floor contains classrooms, audio-visual rooms.



Left: sunken court at east end of new wing illuminates the lunchroom provided for the staff. The lowest floor also contains seven classrooms (with a capacity of 40, each); two classrooms (cap. 60 each); two lecture-rehearsal rooms (cap. 135 each); the extension exhibits department of the museum, and various smaller spaces. The classrooms are windowless for better light control. Below: outside stair leading from one of the parking lots to the main entrance level. Opposite: interior court on the top floor. All the offices of this floor open onto the paved and planted patio.





reorientation of the entire museum complex is signalled by the visual importance given the new main entrance: the entrance canopy—a slab 26 ft. wide and 115 ft. long—is not an architectural conceit, but an unmistakable directional sign.

The most striking aspect of the new wing, aside from its striped granite surfaces, is the absence of windows. Part of this is due to the fact that a large portion of the new wing is occupied by an auditorium; and part of it is due to the conviction that ideal

gallery spaces, in this case, would be lofts in which light could be completely controlled. Actually, the building is not as windowless as it seems: the lunchroom on the lowest floor, and offices on the other two floors, all face inward toward courtyards that offer sun and light, as well as privacy.

But the striped granite "skin" is, of course, the most distinctive aspect of the new wing. It is made up of panels that measure 4 ft. wide by 6 ft. tall, assembled in a precise mosaic in

a granite quarry, and backed with a layer of concrete. The surface color and texture gives the facades a sparkle they would normally lack, since the longest elevation had to face north and thus remain untouched by sunlight and shade. The striped granite veneer is drawn tautly over the plan-elements as they project or recede from the essential mass of the building; and vertical edges where walls change direction have been accented by staggering the striations. It is about the nicest gift

wrapping any building has had for some time, and the spaces within deserve every bit of it.

FACTS AND FIGURES

Education Wing, Cleveland Museum of Art, Cleveland, Ohio. Architects: Marcel Breuer F.A.I.A. & Hamilton Smith A.I.A. Engineers: Paul Weidlinger (structural), H. W. H. Associates Inc. (mechanical and electrical). Landscape Architect: Dan Kiley and Partners. Consultants: Edison Price, Inc. (lighting), L. S. Goodfriend & Associates (acoustics). General Contractor: Turner Construction Co. (For listing of key products see p. 74.) PHOTOGRAPHS: Erol Akyavas except pp. 24 (lower) and 25, Martin Lindsay.

UMBRELLAS FOR CHANDIGARH

The Punjab University teaching museum is a series of small galleries around a courtyard

The newest of Chandigarh's three museums is the Museum of Fine Arts, part of the Punjab University campus. Designed by Bhanu Mathur, who was one of Le Corbusier's teammates on the development of Chandigarh and is one of the master planners for the University, the museum houses contemporary Indian art that ranks among the most important in the country.

The museum is planned as both a teaching and exhibition center, with permanent and changing exhibits. The Punjab University, the largest in northern India, offers a master's degree in the history of art and the museum will be an intrinsic part of the study program.

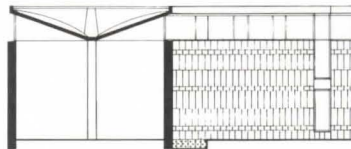
The plan of the museum is designed for the casual visitor and the serious student; a person can move between galleries quickly or enjoy the solitude of a single exhibit area. The ground floor contains sixteen galleries, each 25 ft. sq., arranged almost randomly around a courtyard with pools and ledges for contemplation. Each gallery is interconnected with the next and every third or fourth one is open to the court.

The roof of each gallery is formed by a hyperbolic paraboloid that is supported on a single column in the center of each room. This keeps the walls free of column support, allowing full use of the exhibition space and a continuous clerestory beneath the roof.

A mezzanine level in the museum is used for special and smaller displays that may require close or prolonged study. The variation of these elevated spaces makes an interesting combination of inner volumes that complements the art.

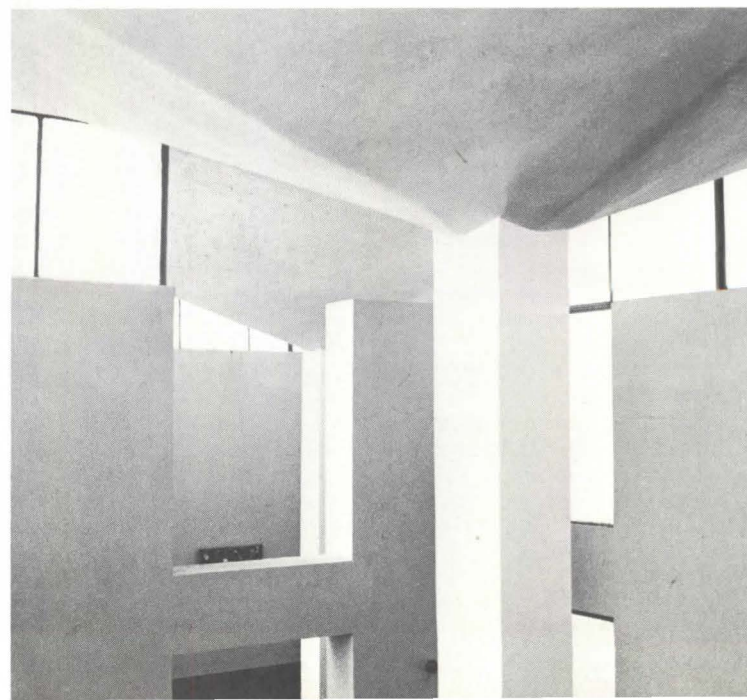
The structure of the museum is of red-stone veneered walls and the same material is used in the courtyard, which also serves as a sculpture garden.

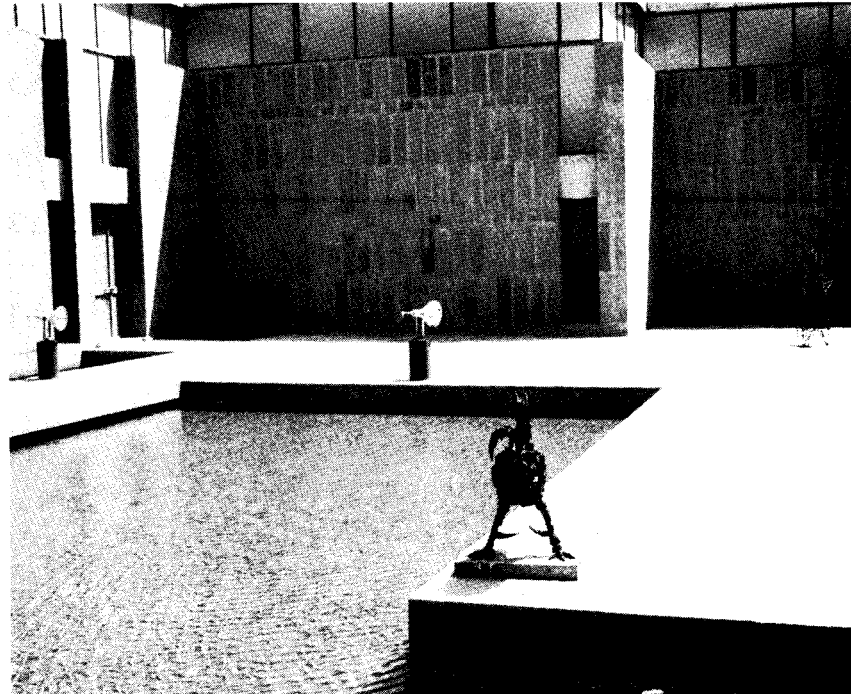
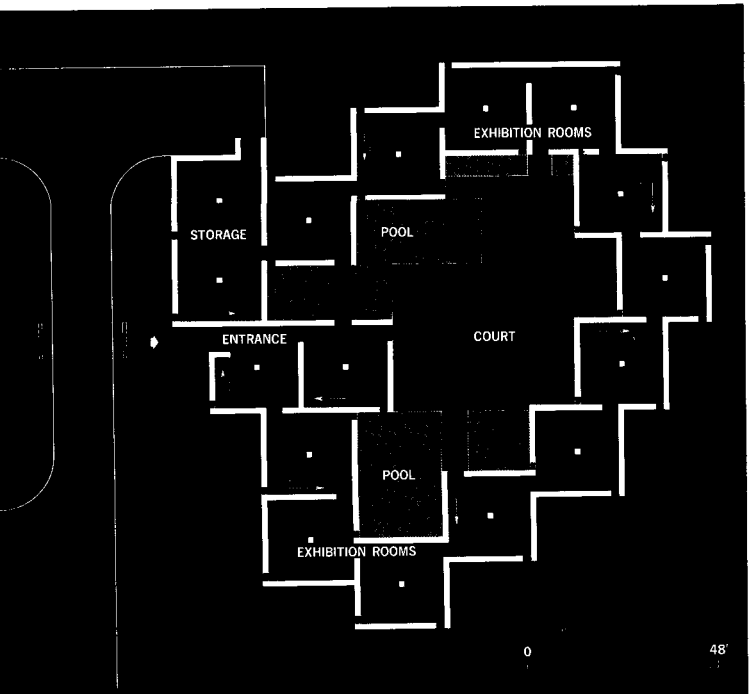
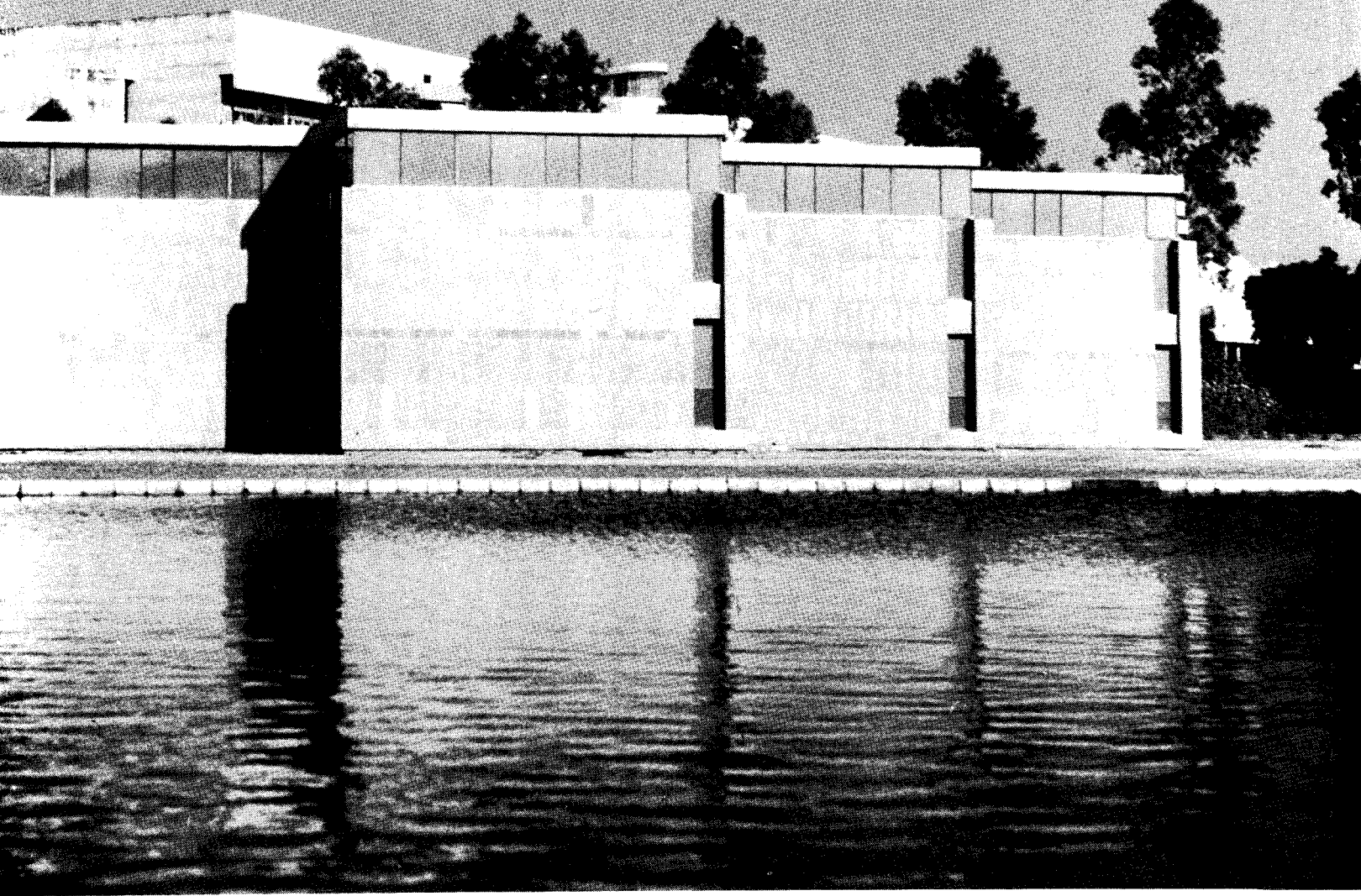
The museum structure comprises gallery sections arranged around an inner court (far right) with sculpture and reflecting pools. Clerestories allow natural lighting in the gallery interiors (photo top). The section illustrates the hyperbolic paraboloid roof support for each gallery area (photo below). The ground floor plan has an entrance hall and store, as well as exhibit areas.



SECTION

0 12'







MIRRORED SKYLIGHT

Natural History Museum
in a Louisiana town
explains the environment
reflected in its walls

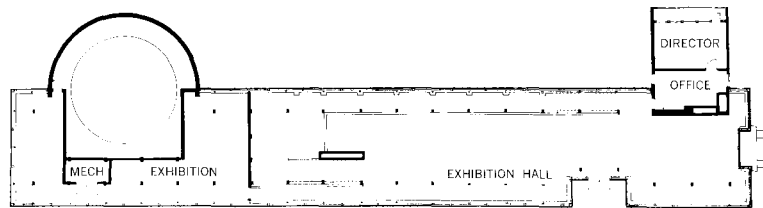
Lafayette, La., is a town in the Mississippi delta, with a population of about 70,000, including one rather courtly gentleman whose name is Neil Nehrbass, and who is an architect, as are his wife, his brother, and his father. Nehrbass' work has been shown in the pages of this magazine before, and will, presumably, be shown in these pages again. For he is, quite clearly, one of the most inventive architects operating in this country today, and one of the most diffi-

cult to classify. Each of his buildings seems to be a very personal solution to a very special problem; and the Natural History Museum (and Planetarium Studies) in Lafayette—a town founded by his mother's family—is no exception.

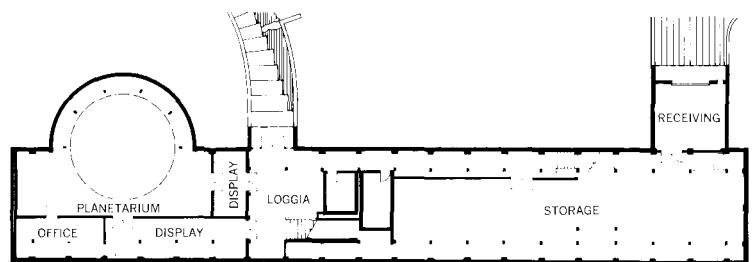
Nehrbass considers himself a "camp follower" of Buckminster Fuller; and while this museum owes little to Fuller in form, it owes much to Bucky in content. And, quite possibly, Bucky Fuller



The 202 ft. long skylight of gold-mirrored glass (left) illuminates two levels of exhibition space. The lower level is largely below grade. Plans show the planetarium at the west end of the building. Inside, the planetarium is topped by a 15 ft.-radius aluminum dome. Photo at bottom of page is of the lower-level approach and entrance to the planetarium.



MAIN LEVEL



LOWER LEVEL



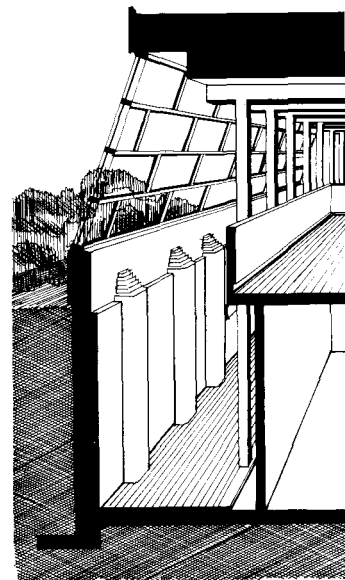
owes something to this museum as well.

For this is not a "museum" in the conventional, cobwebbed sense; it is, in reality, a place in which the extraordinarily haunting, natural environment of the Mississippi delta is made understandable to children and adults alike. (One recent exhibit was entitled "Life at Longitude 92° W, Latitude 30° N, Since 6,000 B.C."—the coordinates that pinpoint Lafayette.)

"The museum was designed to

be a generating machine focused on nature," Nehrbass says. "By its existence it calls attention to various aspects of nature." There are exhibition spaces on two levels, meeting places, research areas, a "Sensatorium" (a place where the visitor's awareness of his innate senses is heightened), and an excellently equipped planetarium. It is also a place of departure from which field trips originate into the swamps, marshes, forests and waterways of the bayou country.

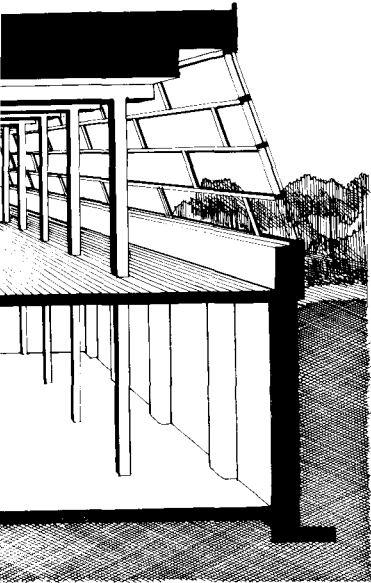




All this is housed in what amounts to a single, rectangular skylight—202 ft. long, 32 ft. wide, and almost 10 ft. high—sitting on top of a long, masonry-lined trench. The skylight is made of $\frac{1}{2}$ in. thick, gold-mirrored vacuum glass, and it both insulates the interior and reflects the clouds and the park-like setting of the building when seen from the outside. "It is a temple to nature," Nehrbaas says. "It is entered from a meadow. Your first view through the building



Section, below, explains the organization of the long, generally rectangular structure. The lower floor (photo left) contains a great deal of storage space that requires no natural light. The upper level (photos right and below) has the principal exhibition galleries. The columns that carry the intermediate floor and the roof are tubular steel, as are the roof girders. Floor is of concrete planks topped with brick pavers, and the roof is framed in open web steel joists.



is into a wooded glade. There is a sense of transition between an open landscape and a close, lush, wooded one."

The section through the building (above) explains it better than its plans. The mirrored skylight illuminates both levels, and open wells in some of the upstairs areas produce a lively interplay of interior spaces. There are entrances on both levels—the one on the lower floor being on the north side of the building, and serving the

planetarium; the one on the upper floor being on the south side, and leading into the main exhibition hall. The grades on the 2-acre site were carefully reworked to bring them up to within a couple of feet of the skylight's sill; but the natural landscape was largely preserved because parking requirements were met on an adjacent site.

The building is very simply framed in light steel (above its reinforced concrete block "trench"), and the finishes are

quite unpretentious. Despite air conditioning, the unit cost was only \$22.50 per sq. ft. All its luxuries, in fact, have to do with light and with space.

FACTS AND FIGURES

Lafayette Natural History Museum and Planetarium Center for Environmental Studies, Lafayette, Louisiana. Architect: Neil Martin Nehrass (In Pok Lee, draftsman). General Contractor: Horace B. Rickey. Building Area: 12,490 sq. ft. Construction Cost: \$280,805.

(For a listing of key products used in this building, see p. 74.)

PHOTOGRAPHS: John Messina.

CHILDREN'S MUSEUM

Boston's unique "do-touch" facility is a new kind of classroom in which all learning is fun

The following communication was received recently at an address on The Jamaicaaway, Boston, Mass.: "Dear Friend of the Turtles," it read in a neat but slightly uncertain hand, "The Children's Museum was a very, very nice place to visit. The floor which had the giant things was my favorite place. The slow motion machine was very fun, too. The movie about the snapping turtle was fun also. Thank you for having so much patience when we got loud. Everything you had we learned from. Thank you for inviting us. (Signed) Your unknown friend." On the back of the ruled sheet of paper, the "unknown friend" had added these thoughts: "That Marvelous Museum. The Museum is very interesting. There is a Gramma's Attic. It has all sorts of cloth and shoes and doll houses. Best of all was a blinking house that was lots of fun. The End."

The nice place to visit is a remarkable teaching facility installed in a complex of old houses in the southwest corner of Boston, opposite Jamaica Pond, and directed by Michael Spock, son of the Baby & Child Care expert. The multi-level "gallery" shown on these pages was installed in a one-time auditorium; this structure is linked to another big house on the property which contains administrative and educational research facilities; and there is a third house on the site that is, as yet, unused. The remodeling of the former auditorium is the first step in a fairly extensive program. It was accomplished by the Cambridge Seven.

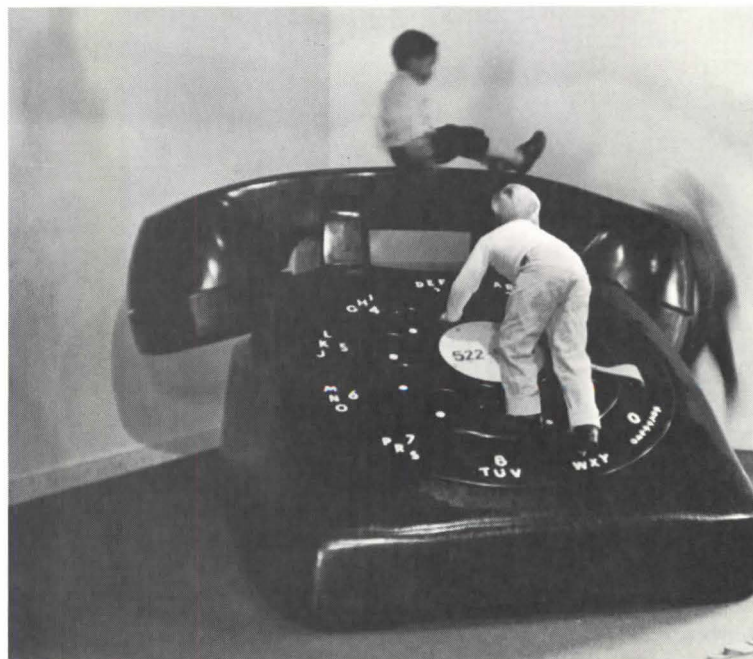
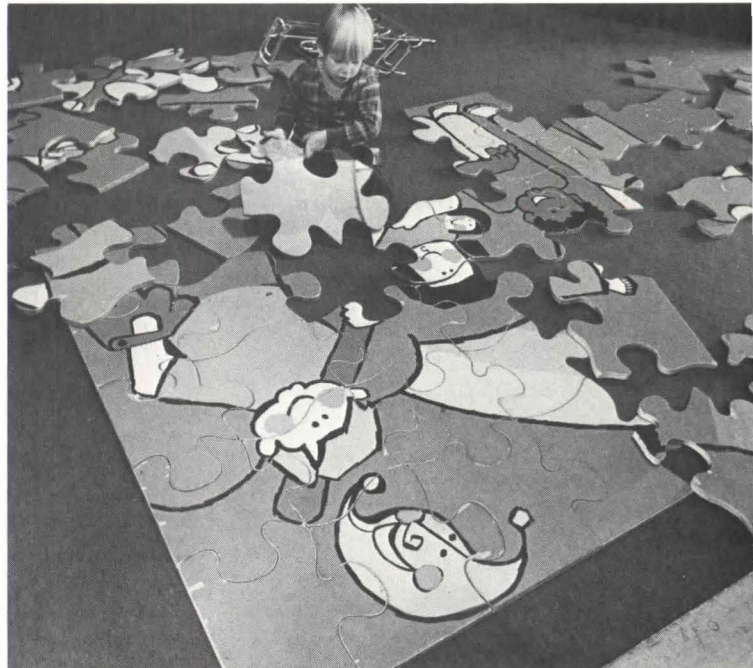
It is, as these pictures show, a highly imaginative job, using

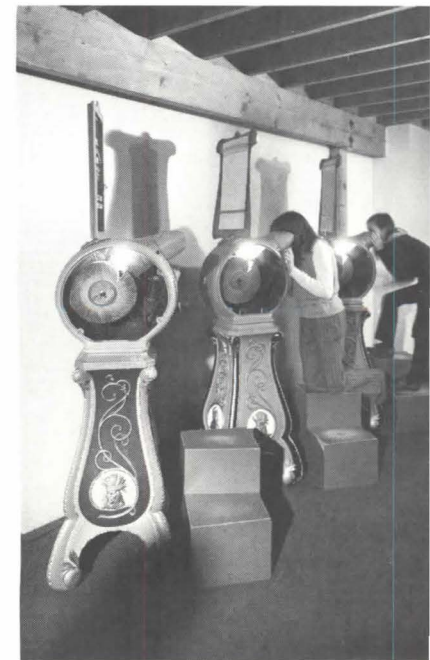
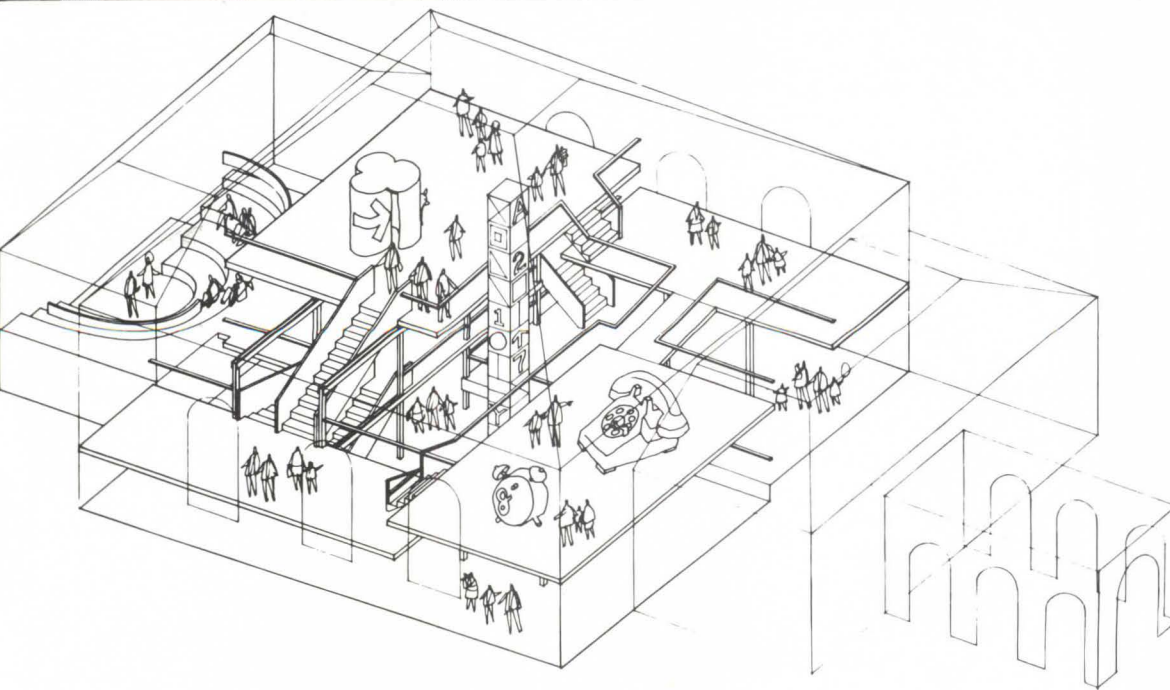
many of the intriguing exhibition devices for which the Cambridge Seven have become famous: different levels connected by stairs, exhibits that directly involve the visitors (in place of the usual, inanimate displays), and distortions of scale (as in the giant puzzle and super telephone at right) which are a special delight to children—and tend to encourage participation even more. There are also machines that enable children to make their own movies, computerized math machines, butter churning machines, and microscopes. An outdoor Exhibit Garden "for noisy, messy, and large-scale facilities" is in the planning stage.

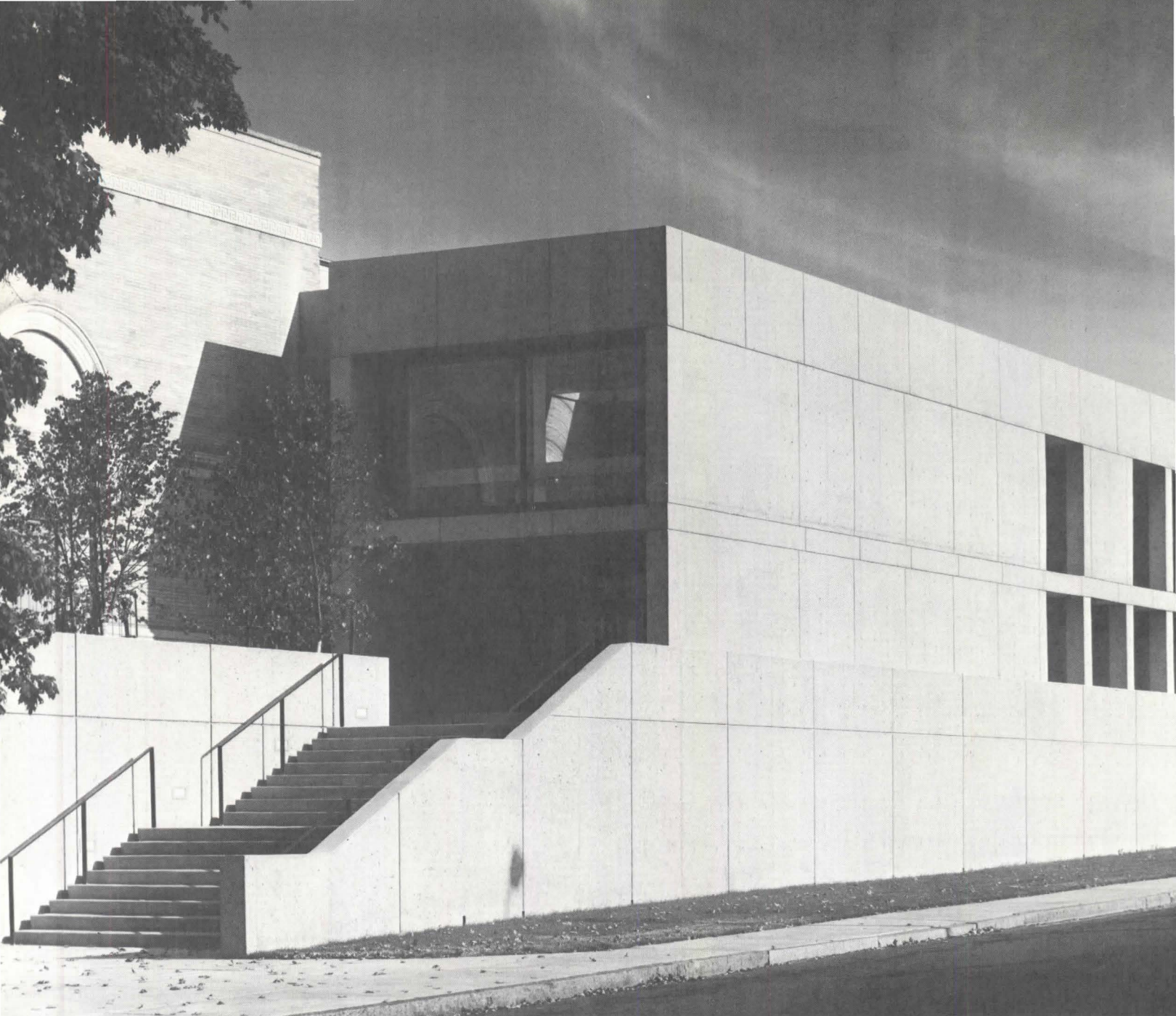
One of Michael Spock's concerns at present is trying to get the Children's Museum more deeply involved in Boston's urban situation, and there has been discussion of moving the facilities to a location closer to the center of Boston. So the present museum may be only an interim solution. Meanwhile it does reach out far beyond the confines of its site, not only by attracting youngsters from all over, but by circulating loan exhibits, all sorts of imaginative teaching kits, and even live animals to schools and homes in the Boston area. It is indeed, as the "unknown friend" wrote, a very, very nice place to visit—and, like youth, it seems something of a shame to waste it on children.

FACTS AND FIGURES

The Children's Museum, The Jamaicaaway, Boston, Massachusetts. Architects: Cambridge Seven Associates, (Paul Dietrich, Principal-in-charge). Exhibits: The Children's Museum Research and Development Department. PHOTOGRAPHS: Stephen F. Rosenthal.







AN ADDITION TO WORCESTER

TAC-designed education wing at the Worcester Art Museum forms a serene enclave in the city

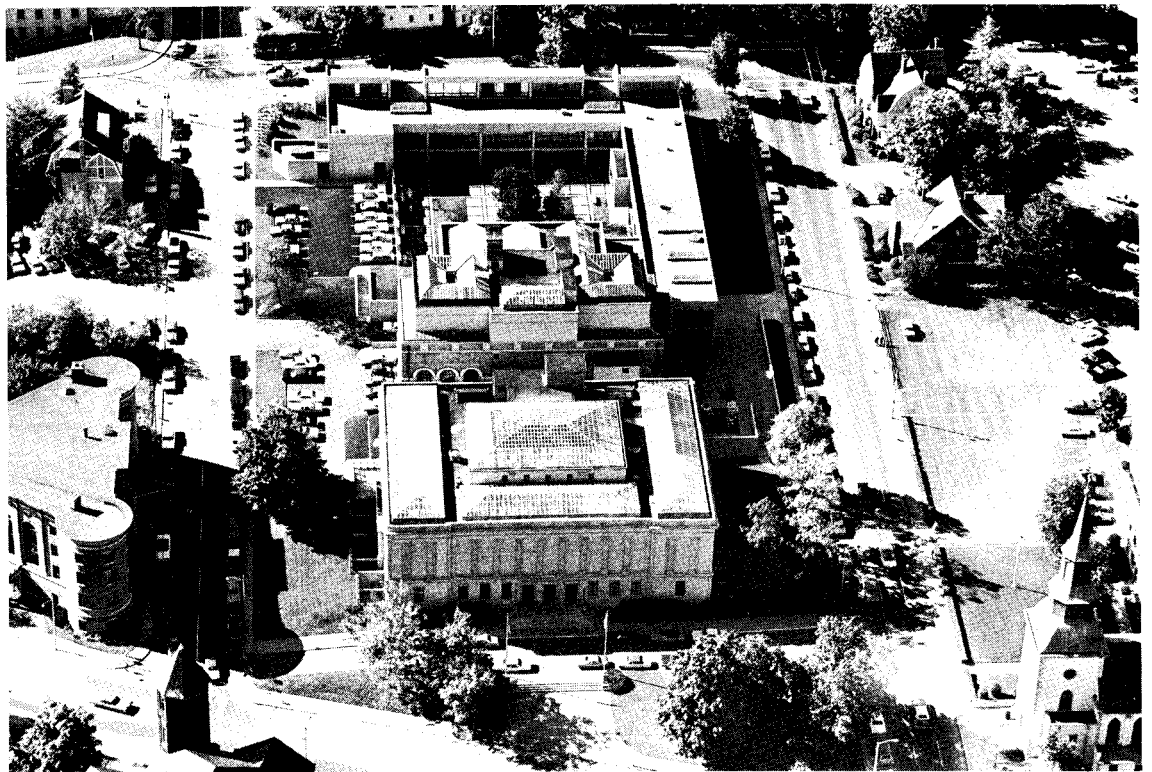
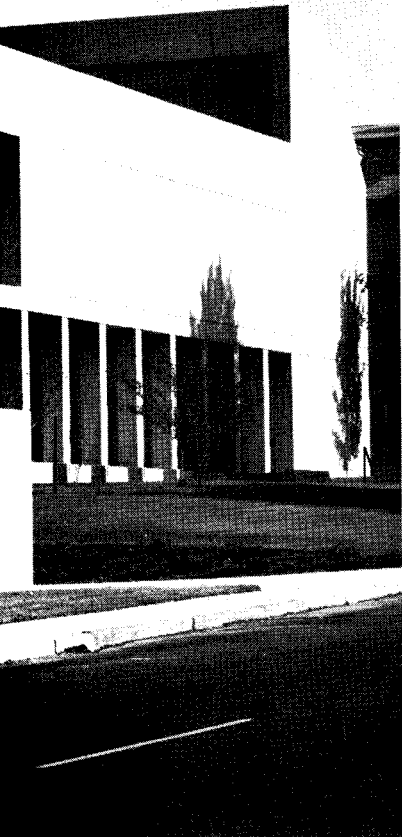
Worcester is a Massachusetts factory town that spilled out over its surrounding hills to form a city of 180,000 people. Here and there in the seemingly haphazard fabric of the city is a little pool of Classical order, one of which is the full-block precinct of the Worcester Art Museum.

This imposing Classical Revival landmark, built in stages starting in 1896, has now been extended by adding an education wing designed by The

Architects Collaborative. The museum itself is organized around a skylighted central court; the new wing reaches out to enclose a new open courtyard (aerial photo), symmetrically placed on the axis of the existing building. (A new exhibition gallery is projected to close the gap on one side of this courtyard.)

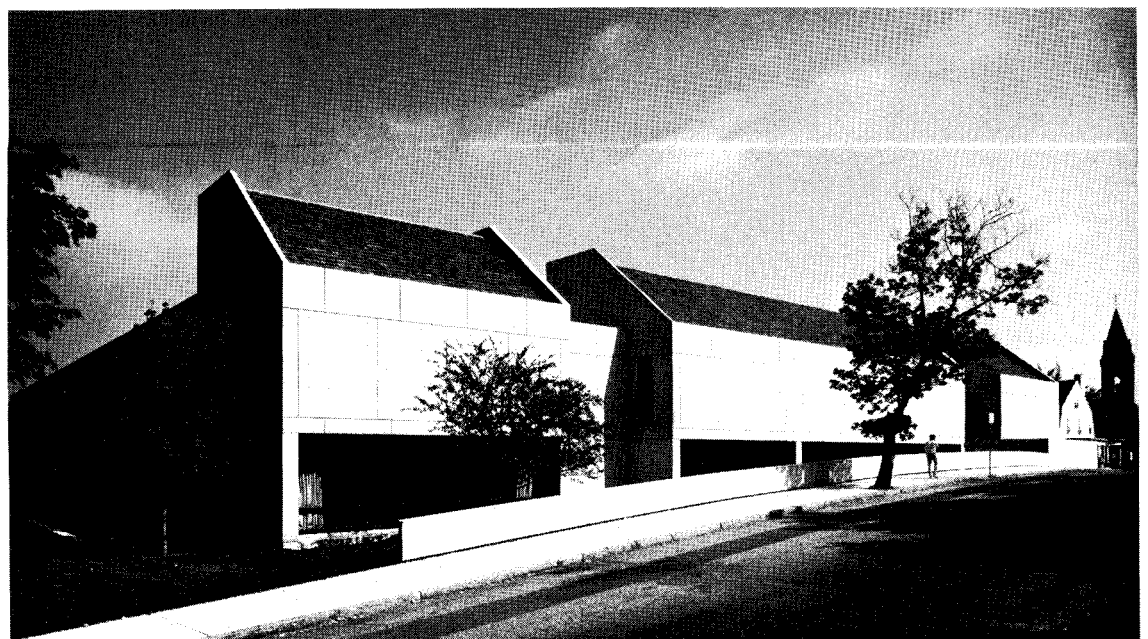
With a little help from sloping terrain, the architects were able to work out a subtle transition in the new wing, from

The new education wing of the Worcester Museum frames a courtyard (aerial photo) on the axis of the elegantly Classical old building. New entrance stair and massive west wall (left) maintain the monumental character; rectangular openings are angled niches, with slit windows to one side. Angular light monitors at the south end of the wing (bottom photo) are more utilitarian in form. A rise in grade keeps their height in scale with surrounding houses.



large-scale, monumental forms where it meets the older building (above) to domestic-looking volumes at the south end (right), where it faces some fine old houses across the street. Yet this smaller-scaled south portion does reflect—quite effectively—the symmetrical organization of the original museum. Consistent details of the precast concrete walls and steel-framed windows unify the diverse parts of the new wing.

Like the museum itself, the





school wing has few openings toward the street, but it does not seem quite so sternly walled in. Niches shading the slit windows in the west wall (above) give an illusion of larger openings, and broad areas of glass appear on the ground-floor children's art studios (right).

The Worcester Museum has been offering art courses—to both professionals and non-professional students—for decades. The new wing brings these school activities out of make-

shift quarters into carefully controlled environments for painting and sculpture—closely linked to the auditorium, library, and exhibition galleries in the existing building. Enrollment, now 120 students, is expected to increase by 50 per cent.

A vital part of the new addition is the entrance lobby at the point where the school wing joins the museum building. This lobby, replacing the entrance in the monumental north front, brings all traffic in at the center

of the overall complex, and it is convenient to the principal parking area, across the street to the west. It was considered essential to have a single, controllable entry point for both the school and the museum—either of which can be closed off independently.

The new courtyard is also shared between the school and the museum. It can be used for exhibitions, receptions, recitals, or simply as an outdoor extension of the museum en-

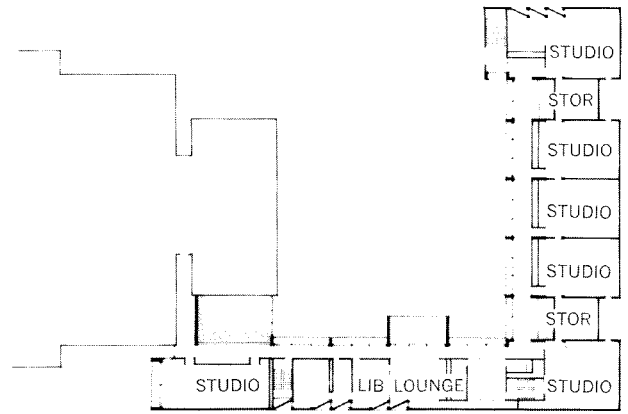
trance lounge (a remodeled portion of the old building adjoining the lobby).

Glass-walled corridors in the school wing face inward toward the courtyard, borrowing light from it for exhibitions mounted on their inner walls. Completely unobstructed views between the courtyard and the cloister-like corridors put all students and faculty into visual contact as they circulate, indoors or outdoors.

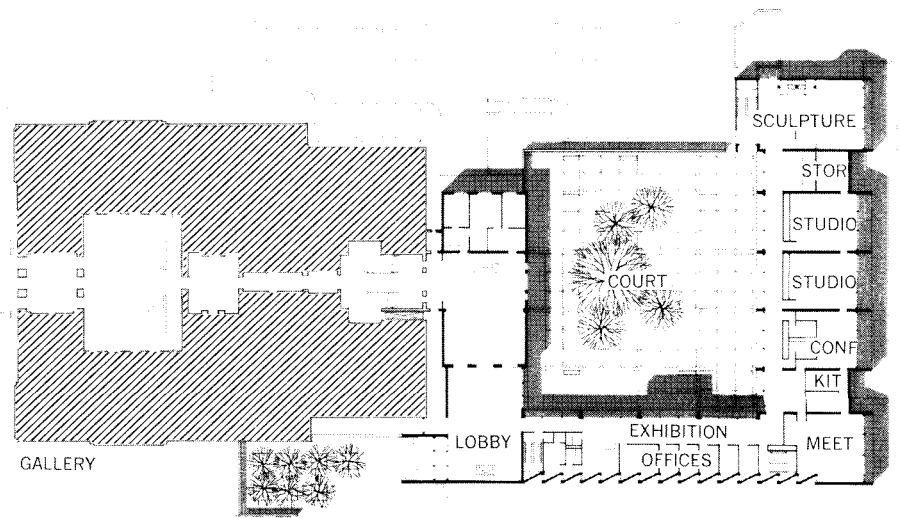
In direct contrast, the studios



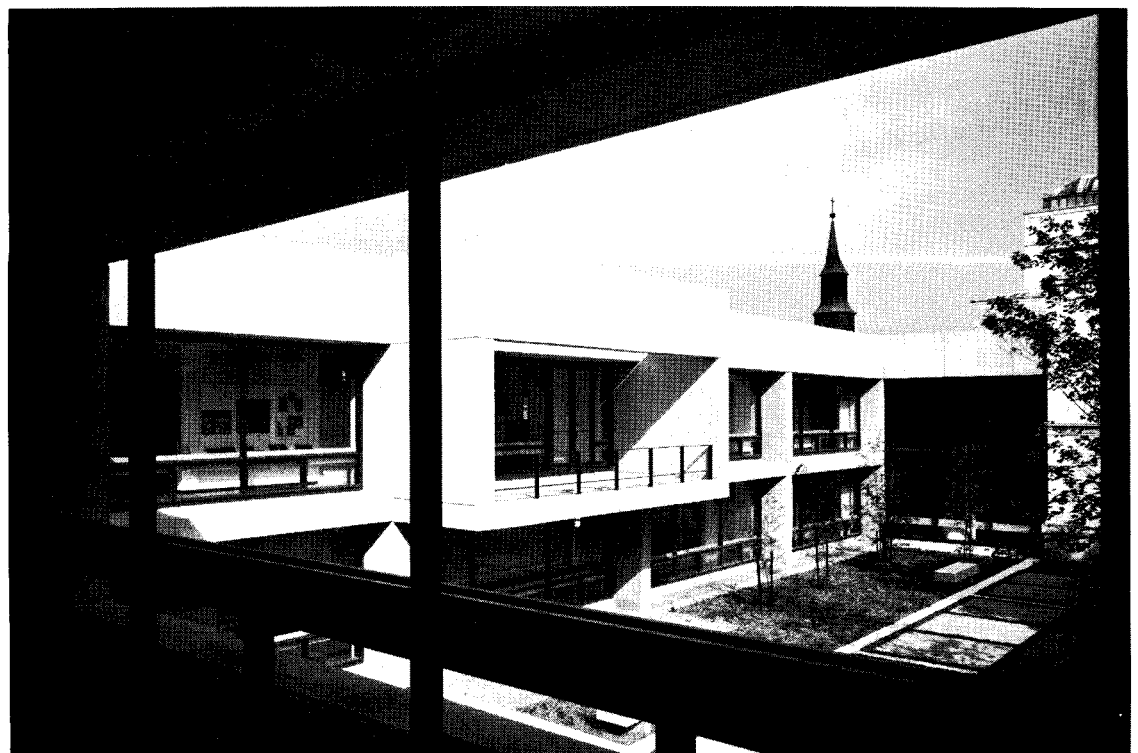
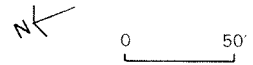
The two-story lobby (left) presents a contrast between the brick relief of the old walls and the flat surfaces of the new construction. A carpeted lounge in a renovated portion of the old building (see plans) leads to the exhibition galleries and lecture hall. The courtyard (below) is largely paved for use as instruction, exhibition, and gathering space; the cantilevered second-floor porch can serve as a platform for musicians.



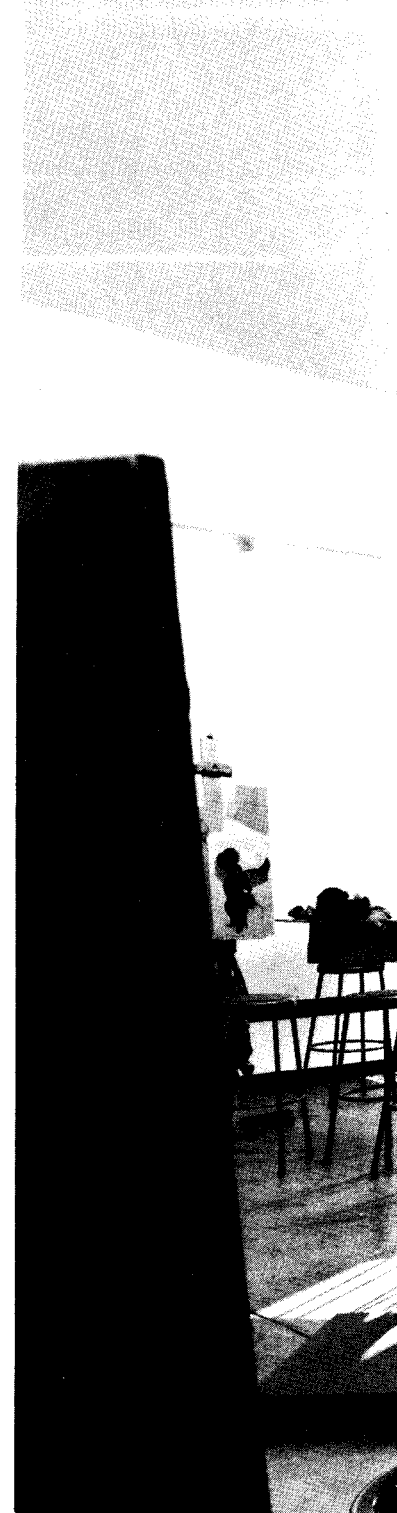
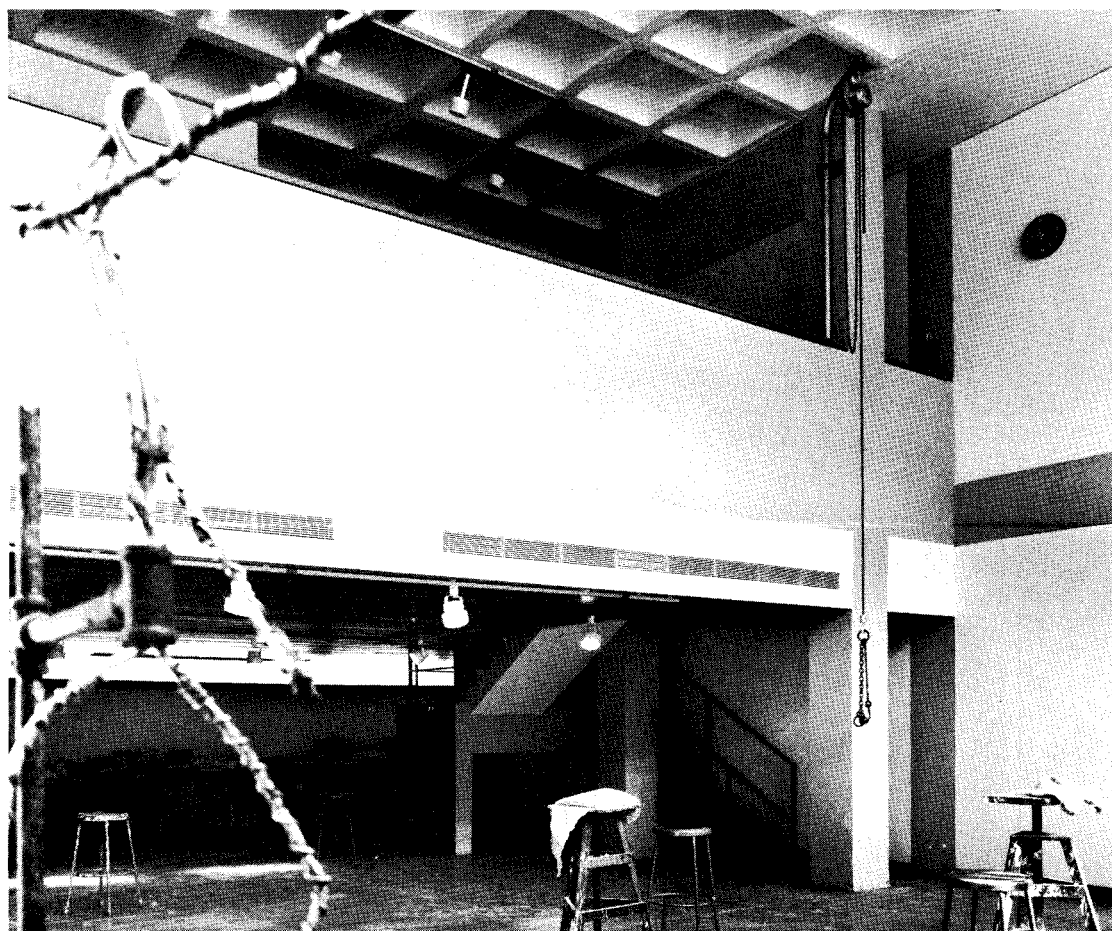
SECOND FLOOR



FIRST FLOOR



The exhibition corridor (below), with the courtyard to one side and offices on the other, is a tile-floored continuation of the lobby. The main sculpture studio (bottom photo) extends down one story into basement space. A top-floor painting studio (right) has north light from an angular monitor and a view window toward the street. Virtually the entire wall is available for tacking up sketches or displaying finished work.





themselves are closed and insulated from outside distractions. Except for the ground-floor children's studios, none of the work spaces has windows larger than mere view slits. The main painting studios on the second floor are flooded with north light, which is dispersed by the angular roofs of the tall light scoops. Studio walls are largely uninterrupted surfaces for displaying student work; they are covered with painted fiberboard panels which can be re-

placed inexpensively.

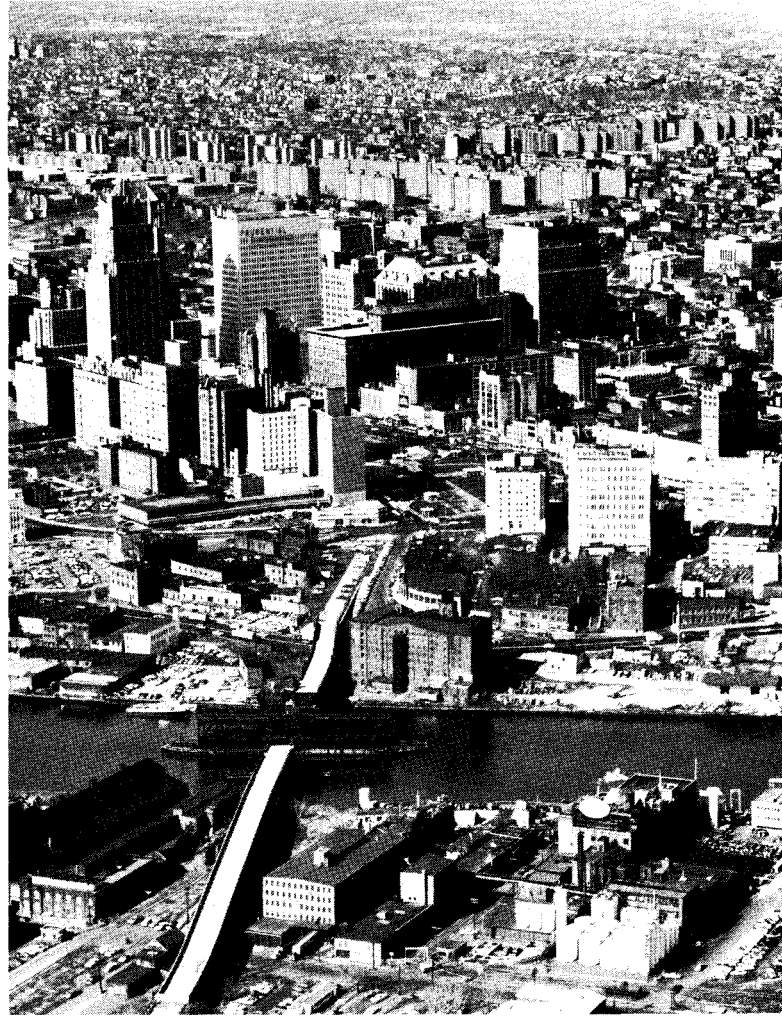
Although natural north light is the primary illumination in these studios, fluorescent lighting and incandescent spots are provided to simulate sky light when it is not available. The clerestories can also be shaded so that students can experiment with various mixtures of artificial lighting, learning about the effect of light color on both execution and exhibition of art.

Construction of the new school wing was supported in

part by a grant of \$474,436 from the Department of Health, Education, and Welfare. The major part of the cost—\$1 million—was contributed by the Aldus C. Higgins Foundation and members of the Higgins family, who have long been associated with the museum. A combination of enlightened Federal policy and local generosity has given Worcester an integrated visual arts center that a city several times its size could be proud of.

FACTS AND FIGURES

Worcester Art Museum School, Worcester, Mass. Architects: The Architects Collaborative (Norman C. Fletcher and Sarah P. Harkness, principals in charge; Howard Elkus, senior associate; Gregory Downes, associate). Engineers: Souza & True (structural); Fitzmeyer & Tocci (mechanical); Verne Norman Associates (electrical). Lighting consultant: William Lam. General contractor: Granger Brothers. Building area: 43,000 sq. ft. Cost (including site development, furnishings, and fees): \$1,665,000. (For listing of key products see p. 74.) PHOTOGRAPHS: Ezra Stoller, except page 34, Robert Denton, and page 35 (middle), Sky Hawk of Worcester.



NEWARK: BELLWETHER CITY

For several years, the name of Newark has been used as a synonym for all that is bad in the urban situation. But recent events in that troubled city suggest a somewhat more hopeful outlook.

The favorite expression of Kenneth Gibson, mayor of Newark, is becoming well known. "Wherever American cities are headed," he says, "Newark will get there first." But where are they headed, and where is Newark along that road? This article will look at some of the signposts. The focus will be on a specific city at a specific point in time, but significant aspects of the Newark situation clearly apply to what Gibson calls "the Newarks of America."

Some signs can only be called ominous. Newark has 14 per cent unemployed and another 25 per cent underemployed, a staggering waste of manpower. The most visible sign of "progress" (the \$50 million Gateway center) "provides no work for Newark residents now, and will provide no work for them when it is finished," says the head of the Urban Coalition, with anger. And when an enclosed walkway links the complex to Newark's Penn

Station, Gateway office workers won't have to set foot on Newark streets, notes a young black planning student, with bitterness. (The Gateway motel is a national pioneer in showing first-run movies on closed-circuit TV, already keeping its guests similarly cocooned.)

Of almost 400,000 residents, 30 per cent are on welfare. The state's welfare "reforms" of 1971 are expected to be particularly tough for Newark residents: the new "flat-grant" method of assistance, with rent paid directly out of this amount, will almost certainly lead to wholesale evictions of welfare tenants as landlords raise rents in this city of critical housing shortage.

The statistics are indeed terrible: school dropouts at 32 per cent, substandard housing at 35 per cent, and the nation's highest per capita rates of crime, VD and infant mortality. One corporate executive believes such figures are deceptive; other cities



have all these problems, he says, but can spread their incidence over a larger area—and larger population—than Newark's 23 square miles.

Like all American cities, Newark has changed radically over the past two decades—200,000 people of upper and middle income have gone, and 100,000 of low income have taken their place. And residents continue to leave, for economic reasons (the owner of a \$20,000 home now pays \$1,838 in property taxes), for racial reasons (the city was 52 per cent black, four years ago, is now more than 60 per cent black), or for any of the reasons comprising each man's search for a greener pasture. It is not only whites who leave; many middle-income blacks depart for those suburbs that will have them, and Newark is "the first major city in the country," according to the *New York Times*, with its suburbs supplying the major por-

tion of its work force (55 per cent).

But at a hint that Newark is caught in a whirlpool of hopelessness, the hackles rise. "I'm sick and tired of hearing this place called the armpit of the East Coast," says a federal official, white, headquartered in Newark. And when WCBS-TV was all set to open its recent documentary on Newark with a shot of a cemetery, "the best section of Newark," a local newspaperman revealed what he had previewed and the documentary was changed before air time.

Gibson is a big part of the new image. "We have rejected the public notices of our city's funeral," he says, and in fact his personal efforts were responsible for the city's getting more bidders for its \$13 million worth of municipal bonds in June than it had received in the two previous bond issues, and for selling them at a more equitable rate.

Some people say that outsiders

are now encouraged by such recent federal actions as the naming of Newark among the 20 cities participating in HUD's Project Rehab. Richard Tager, an attorney (and Skidmore, Owings & Merrill associate) who is the temporary director of the agency set up to monitor Newark's Project Rehab and stimulate new housing, reports "a great deal of interest from the private sector," both inside and outside Newark, showing considerable "faith in the ability of the city to regenerate itself."

The Chamber of Commerce is of course pleased with its city. An article in its *Newark!* magazine calls attention to the city's "billion dollar construction boom" (although the sum turns out to cover 1957 to 1972), and the article speaks glowingly of "a glamorous, space-age city."

Undeniable assets

But the positive aspects of Newark get little attention from the mass media, all operating out of New York, says the Chamber's president. "When we opened Gateway a few months ago, we couldn't get a single TV camera over here." He recalls a recent TV report of community people riding with New York police—"we've been doing that for three years."

Newark does have undeniable assets. It is the state's major business and banking center, home of the world's largest insurance company, Prudential. It is "one of the nation's outstanding industrial cities," as the mayor puts it, a fact responsible for the immigration of thousands of black people over the decades; Gibson's own father was one of these, traveling alone from Alabama in 1940, taking a job in a meat packing plant, and soon arranging for his wife and two small boys to join him for what he envisioned as a temporary stay up north. (Some industry has stayed, some has gone. A vast industrial area is now being prepared on urban renewal land, using federal funds to stabilize the existing marshland; the jewel of this setting will be the large Ideal Toy plant, relocating from New York City. Still, for every two jobs coming into Newark, one goes.)

The Port of Newark is one of the nation's major ports, handling a large part of the cargo coming into New York Harbor. Containerization has moved ahead rapidly in New Jersey, so successfully in fact that in July the bi-state Waterfront Commission reported an increase in New Jersey dockworkers despite a steady decline in the total number of men handling cargo in New York Harbor. By 1975, when a \$400 million expansion is finished, Port Newark (with Elizabeth) will handle two-thirds of New York Harbor's cargo.

The airport is only 15 minutes from downtown, rare for a big city. Called a "major Newark industry" by the Port of New York Authority, the airport is currently being enlarged by the Port Authority at a cost of over \$200 million, to be able to handle larger aircraft and more passengers. (The Urban Coalition is threatening to close down the work because so few minority workers are involved in it.)

Downtown Newark is only 18 minutes from Manhattan by rail, and the immediate access to entertainment and to a vast employment pool is mentioned as a plus even by Newark-boosters jealous of the big city.

Newark isn't shy about blowing its own horn, though. The Newark Housing Authority points to urban renewal covering 2,400 acres, or one-sixth of the city's total land. "These accomplishments surpass the rebuilding activities of most other American cities," states the NHA, although the result can also be considered economically dubious (helping to reduce the city's

Gateway renewal



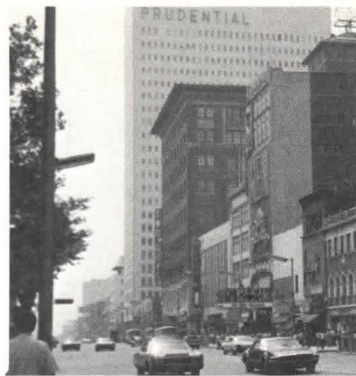
taxable land), architecturally ordinary (except for some of the newer university buildings, the Gateway by Gruen Associates and the Colonnade apartments by Mies van der Rohe), and socially destructive (measured in dislocation and in the inhumanity of the several monster housing projects).

Contrast new Newark with the older city. The Ironbound district in the East Ward, so called because it is ringed by railroads, is one of the very good things in Newark, says planning director Alfred Shapiro. It is a lively and stable community of white and black, Italian, Portuguese, Spanish-speaking. "It's got everything planners say is bad," says Shapiro, "like mixed land use and intrusions of traffic, but it has enormous health." One opinion of the Ironbound area is that it will be "the last to go." The Weequahic section in the South Ward, home of the writer Philip Roth and his Portnoy, has "gone" during the past decade, changing from an area that was almost totally Jewish to one now almost totally black. The one remaining pocket of determined ethnicity is the North Ward with its large Italian population (the Newark branch of the Italian-American Civil Rights League reports 5,000 members).

"Newark has a past but never had a prime," says Malcolm Holzman (of Hardy Holzman Pfeiffer Associates), an architect who spent his early life in the city. He points to the two gracious parks—Weequahic, with its romanticism to rival Central Park, and Branch Brook, with its cherry blossoms "better than Washington's." Many of the old buildings are interesting—masonry warehouses, a splendid Gothic cathedral, the neo-Renaissance City Hall.

Small-town quality

Despite what TV would have us believe, there are pleasant places to live in Newark, with tree-lined streets, comfortable houses, the occasional remains of old brick paving. Even the downtown area, which presents a proper skyline to the turnpike traveler, has a small-town look up close: the skyline disappears and the prospect at busy



Broad Street

Broad and Market Streets is of a few medium-tall buildings and of many others only two and three stories high. (Nevertheless, the magazine *New Jersey Business* calls this intersection "the busiest four corners in the state.")

This small-town quality is a special asset. "People all know each other," says Reginald Hale, partner of Brown & Hale, the city's only black architectural firm; "we know our officials, we can see them, and they know our problems." In terms of results, says Hale, it wouldn't take much money to alleviate things in a city where the announcement of a new five-story building makes a front-page story (as it did this summer). "Anything done here helps. Newark could become a showcase like West Berlin."

Actually there is a great deal being done (or being started)—some of it quite remarkable—although it will take a while to become visible in bricks and mortar or in healthier statistics.

For one thing, the city—as a city—is receiving enormous voluntary aid from its constituents. In July, the mayor signed Newark's first contract with its police and firemen, giving various benefits (holiday pay, added insurance, etc.) but *no salary increases*; the Policemen's Benevolent Association didn't press for a pay raise in 1971, it said, because it "wanted to join Mayor Gibson in his quest to keep the city's financial burden at a minimum."

The business community has been extraordinarily helpful to Gibson's administration. When he took office in June 1970 top executives from major firms took three-month appointments as heads of departments; the per-

sonnel department of a major bank led the search for a business administrator for the city; the Chamber of Commerce financed a study of city organization and management—all without cost to the taxpayers. The most recent effort, successfully concluded in August, was a massive study of the school system—everything but its curriculum—recommending widespread and specific reforms in the business and management operations to avoid facing "continued educational failure" by its students. This study was researched and written by executives and experts from ten of the largest corporations; it was nine months' work for 15 full-time people and dozens of consultants, and was a gift, in effect, of several hundred thousand dollars. It will be interesting to see what comes of this effort made by people who may not all be residents but clearly have a stake in the city. These are not consultants who leave their product on a shelf and move on; they will be actively involved in the public discussion that is certain to develop, and they will be an important on-the-scene pressure group.

Interestingly, and perhaps because Newark is a small city, this response from the business community comes not only from the corporate giants—Prudential, Mutual Benefit Life, Englehard Minerals & Chemicals, New Jersey Bell, the gas and electric companies and several large banks. Kenneth Wheeler, who is president-elect of the New Jersey Society of Architects and a partner in The Grad Partnership (largest architectural firm in the state) says, "There's a strange pride in Newark, you feel you want to help Gibson. We've lent our director of information services to the city. She's over at City Hall a few hours a week." (The firm actually made a bigger commitment to the city by becoming one of the first Gateway tenants—moving out of old quarters but staying in the city.)

Prudential, the city's biggest employer (8,000 persons in its home and regional offices in Newark) leads the rest in its hard-cash contributions to many programs—public and private,

cultural, educational, medical, etc.—serving black groups, Italian-Americans, Puerto Ricans, and such determinedly interracial groups as the Newark Boys Choir. The company also contributes staff time (as in tutorial programs), and Prudential's year-old Department of Community Affairs has launched an experimental program giving employees compensatory time off for community involvement. (In real estate investment, the company has put \$97 million into Newark since the riots—\$47 million in Gateway, \$24 in hospitals, \$14 in housing, \$11 in industry.)

Nor is this the entire voluntary outpouring. During the past year's lengthy and bitter school strike, about 1,000 students and faculty members from the colleges of Newark gave extravagantly of their time as tutors; efforts are now under way to continue the practice (and even give academic credit for it).

A "university center"

Newark's universities are moving together in another direction; all four public institutions are expanding. Ground was finally broken in July on the boiler plant, the first building on the once-controversial site of the Medical and Dental College of New Jersey; a classroom- and -office building by Geddes Brecher Qualls Cunningham is nearing completion at Rutgers, and smaller jobs are also underway at this Newark campus of "the state university"; Newark College of Engineering is in the midst of an 18-acre expansion; and Essex County College is deciding what to do with its plans for a megastructure campus (bids came in at \$30 million—\$6 million over the estimates). Collectively, these four universities will have more than 30,000 students. The president of the Chamber of Commerce believes that within ten years they will be the largest employer of Newark residents; they will also be the state's largest educational operation.

More than construction is proceeding at the universities. The state's first master plan for higher education, adopted in August, calls for the creation

of a "major university center" in Newark, with the merger and sharing, whenever possible, of facilities and faculties of the four institutions; the dual aim is to increase learning opportunity and save operating money. This summer the four colleges created a joint planning group, the Council for Higher Education in Newark, whose first promise was to work for the establishment of a College of Allied Health Professions—giving everything from associate degrees to doctorates in such careers as nursing, radiologic technology, medical computer science, occupational therapy, etc.

And the city is eagerly awaiting the new president of Rutgers University, Edward T. Bloustein (lately president of Bennington), who takes office this fall. He has said that he wants to make Rutgers "a model for urban universities in America," and that he especially wants to be a "good neighbor" in this struggling city. He has already announced that Rutgers will create a drug addiction program jointly with the city, using the university's recently vacated College of Pharmacy, and that he will investigate the possibility of giving money to the city (funneling it from the state, actually) to help pay for what the university costs the city in lost taxes and in services.

Extensive vacant land

Except for the new buildings, though, not much of this is visible. All too visible is a large amount of vacant land. Most of it is renewal land long cleared, although some of it is land prepared for a new leg of highway (stalled and perhaps killed by protest); the least amount of vacant land is a large meadow which had housing on it before the 1967 riots.

Urban renewal clearance came in for special criticism early this year, in a HUD study of the entire Newark Housing Authority, the local agency responsible for renewal and public housing. (The study was officially one of "a series of reviews of major Authorities with serious financial and operating difficulties," and a HUD spokesman explains, "we try not to

call it an investigation, it's a survey.")

Findings on the renewal operation were inexplicably not part of the final report, which covers only the public housing operation (although aspects of renewal were listed in the table of contents), but the major points were set down separately in a brief outline. Concerning cleared land: "Land disposition activities are fragmented; there is no disposition section for the promotion and sale of land. Since Newark's Urban Renewal Projects contain much cleared land, a concerted effort to sell the remaining parcels and work with redevelopers who have not yet begun construction could produce an immediate beneficial impact." In addition, HUD found "a widespread impression of ineptness and unnecessary delays" and gave its own opinion that the program exhibits "a general lack of overall direction." The administrative budget for renewal activities was \$5,960,300 in 1970-71, and HUD gently questioned "the need for this size staff"—478 out of 1,309 employees. HUD recommended removing the top man and abolishing 47 positions in the several levels just under him.

The one renewal operation that got kind words from HUD was the Project Area Committee for the Central Ward project, a 94.6-acre tract in the disaster area that is at Newark's geographical center. Their plan as it now stands has no public housing in its 900 projected units (except for possible high-rises for the elderly), and is a marked change from the plan worked up last year by the Housing Authority. That one was just "out to lunch," says Harold Wilson, PAC administrator. In the new plan are a large shopping center, a medical center for some 30 interested black doctors and dentists, and a cultural center that might include a radio station, cable TV and a convention hotel (Newark has no black hotels bigger than 15 rooms, says Wilson).

The PAC plan would remove a railroad spur that runs trains twice a day through the site to a General Electric lamp factory at one edge. GE is opposed

to this—half its deliveries are by truck, but it wants to keep the rail route open as insurance against a teamster strike. The Housing Authority has its own solution: sell GE another site in the project, then turn the present site (cleared) over to housing. At last word the mayor was reported to be on PAC's side—as were other officials, unofficially—and PAC had mobilized 20 organizations to bring letter-writing pressure on GE.

Criticism from HUD

The HUD report carried the strong "request" that the Housing Authority promptly separate its housing and renewal operations, and the HA acquiesced—in a way. Joseph D. Sivoletta, executive director of the HA, says, "We're not empowered with the authority to separate ourselves," but if state and local enabling legislation can be changed, he says, he will go along. "If they want to change the law, they should do it," he adds. The mayor's proposal to create a separate renewal agency was withdrawn from City Council early in August, when it became known that six of the nine Councilmen opposed it; a week later HUD halted all renewal funds.

HUD was deeply critical of the Housing Authority's public housing program, which comprises one-tenth of the city's housing stock and is the largest per capita program in the nation. The report mentioned employees "performing tasks of dubious value, leading us to believe that the real, basic mission of the Housing Authority has become obscure," and it made substantive recommendations across the board; decentralized management, tenant representation on the Board of Commissioners, conversion of one apartment per project into community space, controlled access to all projects for security—and so on.

Criticism of public housing has not been confined to HUD officials (who found, on a random day, that one elevator of a 12-story building was inoperative and the other "became inoperative" while the investigators were riding in it). Ten-

ants, too, are pressing for more services, protection and repairs; a number of tenants have withheld \$1,300,000 in rent for the past 16 months.

"Mostly, I feel they're dissatisfied with the concept of public housing," says Sivoletta (which is an attitude little inclined to take the specific complaints seriously). One of the specifics is a proposal to reduce the density at a high rise project that houses almost 5,000 persons, almost 20 per cent of them in families of seven or more. A schematic plan worked out between the tenants (99 per cent black), and a retired white architect, David Ludlow, would remove living quarters from the most dangerous ground floor, and would use the space for recreation, child care, meeting rooms, more laundries, a barber shop and simple beauty shop run by tenants, a buying club or co-op store, toilets for children, and a guard station.

Ludlow acknowledges that this will mean even fewer places to live, in a city that is "ready to blow because of the lack of housing." Sivoletta, too, asks where the tenants will go; "you can't move a gas chamber up to the back of the project and start eliminating people." He agrees with the decrease in density but not with the proposed method, which would mean an outlay of money and then less income. He'd prefer reducing unit sizes, and changing occupancy standards from two persons per bedroom to one. But that still leaves the large families—and there are already too few large units and too many families waiting to fill them.

Shortage of housing

A leased housing program by the HA is underway for about 300 units, and the hope is that some of these can serve large families. The HA is also making an effort to acquire foreclosed properties for rehabbing. But it is undeniably an agency having deep trouble with its constituency, its supervising department and its balance sheet.

The housing situation throughout Newark is critical—according to the local Urban Coalition,



Recent new housing

the number of units built since 1967 is less than 4,000 (which is half the number demolished during the same period). But again, although it isn't yet visible, a lot of activity is proceeding, some for rehabilitation and some for new housing.

"We're trying to get the most out of the existing housing," says James P. Sweeney, Acting Director of Newark's year-old HUD Area Office. Newark was one of 20 cities selected by HUD for Project Rehab, and has been allocated interest-subsidy funds under Section 236 for 2,500 units over the next two years; the first 138 units got FHA commitment this August and several hundred more are being processed.

A local firm, Priorities Investment Corporation, will do these first units; they have just finished a state-financed rehab project in the same part of town and ultimately hope to do 1,000 scattered units there. This firm is unusual—it has many blacks in its management and on its construction sites; it is giving \$250,000 for a community center; and it has a tenant education program emphasizing responsibility toward the neighborhood. "We'll be here awhile, 16 $\frac{2}{3}$ years according to our accountant," says their development officer, "and if we want to continue to do business here, it's good business to operate this way." Tenants will have the option of going co-op, after five years, and Priorities is giving management training.

Without relocation problems, Priorities says it could finish 15-20 units a week, but the city's vacancy rate is less than one per cent, and among decent

large apartments it is essentially nil. Total cost of a Priorities unit is about \$19,000 (not a "cosmetic renovation") in a city where construction costs are among the highest in the nation, according to Means' data. Architect for Priorities is Ralph Jefferson from nearby Summit, who is part of a unique arrangement among black architects; Brown, Jefferson, Southern, Taylor, Hale & Associates is a group of architects who went to Howard together in the early '50s and now combine their capabilities for larger projects than they might be able to do—or get—singly. At the same time, they each keep their own separate offices.

Razing and repairing

The city's application for Project Rehab promised a coordinated effort among many existing programs — assistance for home repairs, upgrading of municipal services, demolition of derelict buildings, removal of abandoned cars, improvement of streets, and closing of underutilized streets. The state has just come through with a \$375,000 grant to help raze some 600 abandoned buildings, which add up in Newark at the rate of one a day. And there will hopefully be \$500,000 in combined state and Model Cities money for an emergency repair program; the city planning office has worked with construction people to estimate the typical repair jobs, and they figure that a \$2,000 maximum per house can relieve the worst problems.

The organization charged with monitoring Project Rehab—pinpointing the areas, selecting the

Typical rehab street



developers—hasn't been around long enough to nail down very much, but it has a broad scope of operations and high hopes. An offshoot of Model Cities, the nonprofit Housing Development and Rehabilitation Corporation will also be involved in new housing, will give technical assistance to neighborhood groups (with loans to cover front-end costs), and will itself join in limited partnerships with limited-dividend groups.

A group that has been around long enough to be disillusioned by the slow rate of progress is the Newark Housing Council, which grew out of the highly publicized Medical School controversy and won the right to coordinate development of 63 acres of that territory. Delays from a hostile previous administration, a certain amount of infighting, and "a lot of red tape" from the Housing Authority and the NJ Housing Finance Agency have prevented construction starts on any of the 765 projected units, but a mortgage closing on one rehab project is expected at any time, and three projects of new housing—with schools, commercial facilities and a miniclinic—are in design.

Also struggling through the state Housing Finance Agency (newly conservative, under Governor Cahill's appointees) is the New Community Corporation, which has 120 units of housing awaiting approval in Trenton. This group hopes to regenerate 45 acres of the Central Ward, although it has no hold on the acreage and wants to begin tying it down with a two-acre start. This first housing will be on one of the main roads out to the suburbs, and in fact there is \$100,000 of suburban money in the effort (plus a larger amount from Englehard) since the group sold suburbanites \$5 honorary "shares in the future of Newark." It has been a steady struggle says one of the directors, Father William Linder of the R. C. Queen of Angels church. "The diocese called Governor Hughes and asked him to stop it" (they thought the project should be for profit, "but there's only money in it if you short-change the people," says Father Linder). Then the archdiocese tried

to stop it, by doing rehab on another part of the 45 acres ("it took three years, they're not finished yet, they've lost \$500,000 and from the outside you'd never know the buildings were rehabbed"). It should be mentioned that the Queen of Angels church has been involved in every major national civil rights cause of the past decade; the five priests who accused the archbishop of racism came from this church, and its school has the first lay principal in New Jersey—a black and a non-Catholic to boot.

More from Model Cities

Newark got a tremendous boost last month when it became one of 20 cities to get more money for Model Cities and increased freedom for the mayor in spending it. This first try at revenue-sharing is a two-year program, called "Planned Variations" aimed at making Model Cities a city-wide program. Newark's \$7 million share, this year, more than doubles its Model Cities budget for the year. The added money will be used primarily for neighborhood health care facilities (with training programs to staff them); treatment centers and preventive work for the drug problem; and rehabilitation of abandoned housing. Skidmore, Owings & Merrill has just completed a comprehensive plan for the Model Cities program, including these and other ideas. Most significant in the SOM plan is the notion of staging: achieving what is important to do first, and what can be done first, while also projecting long-range plans. For instance, a "superblock" street-closing designed by Brown & Hale and a series of city-wide street improvements (bus shelters, etc.) are already out to bid, and 55,000 copies of an informative bus map have already been distributed. (The Model Cities efforts are already visible in eight ruggedly built vest-pocket parks designed by M. Paul Friedberg & Associates. There will ultimately be 19 such parks, on city-owned land.)

The Community Development Administration, which runs Model Cities, also includes the city planning department (CDA's ex-

ecutive director is the young black lawyer, Junius Williams, who was a key figure in rolling back the medical school acreage in 1967-68), and various things are happening here. A "new town in town" is in the earliest planning stages, and the quasi-public corporation for its development is being devised. Also in process is a federally-financed study to extend Newark's subway, a four-mile Toonerville Trolley built in the 1930's. Whether DOT will ultimately finance the improvements is anyone's guess. But Alfred Shapiro repeats a thought voiced by many: "If you finance a city like Newark, you get a fantastic impact." When the study is finished in June 1972, "we'll be in there like a shot asking for the money."

The planners are also working with the state Department of Transportation, on an alternative to a controversial north-south route through the Central Ward. They hope to widen the existing Route 21, adjacent to the Penn Central right of way, and reclaim the swath of land already cleared for the halted Route 75. "I'm amazed at the good relations we have with the state," says Shapiro.

Planning for the Watershed

An extremely interesting study coming out of the new (and also very interesting) Office of Newark Studies concerns no fewer than 50 square miles owned by the city out of town. This is the Newark Watershed, with rugged and undeveloped land in five townships. The study will propose a policy for its restrained development and will spell out the mechanism for doing the work. This Office is charged with providing assistance to the city administration, and is funded by four New Jersey foundations. There is no other outfit quite like it, believes Jack Krauskopf, director of the professional staff of five. It gives staff support on a variety of matters; Rutgers provides administrative help, and

PHOTOGRAPHS: Pages 40, 44 top, and 45, courtesy of Greater Newark Chamber of Commerce (aerial photo: Charles E. Rotkin, Photography for Industry). Others by E. P. Berkeley.

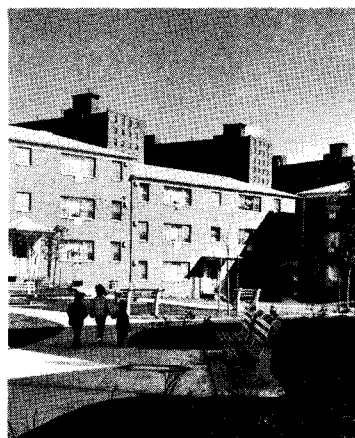
the Office has a good cadre of students who are paid for their work.

(Attempts by the city's architects to start a Community Design Center have been handicapped, in part, by the fact that there are no design students in the city, although the unwillingness of many architects to remain in the city in the evening is also cited. Efforts to rehab a building as a CDC proved too expensive, and the chapter is now thinking of operating a center from its own office, in East Orange. This may not be the best answer—a storefront might be better, says one architect.)

Taxes and tensions

The city's annual budget is already \$198 million—25 per cent larger than a year ago—and could easily be much larger. But as Gibson testified before the House Ways & Means Committee earlier this year, Newark depends on real estate taxes for 65 per cent of its revenue (the national average is 40 per cent), and yet can tax only two-fifths of its 15,085 total acreage. (The Port Authority accounts for almost one-third of the tax-exempt property, paying only a million dollars a year in lieu of taxes for property worth over \$100 million.)

Temporary taxes on payrolls and parking lots were passed



High taxes for homeowners

this year. Gibson had asked the New Jersey legislature for a state income tax but didn't get it; he then asked City Council for the tax package the state would allow, and he didn't get all of that. Thus the ever-higher property taxes—for residents,

business and industry. Gibson hopes to see the property tax stabilized, and in fact he will seek a law exempting home improvements from an increased assessment.

Bravely, in his first anniversary remarks, Gibson said he would seek, from the state legislature, the state assumption of education costs (\$52 million), an increase in the state's urban aid, a commuters tax, a fuel tax at Newark Airport and, again, an income tax. (A state commission is looking into this last item.) "From Congress we will seek: federal assumption of welfare (this action alone would save us a minimum of \$7 million); a general revenue-sharing plan; and a major appropriation for large cities confronted with complex social and physical problems." The \$13 million bond issue sold early this summer will be eaten up by such mundane matters as some school improvements, including fire-detection equipment, some renewal work, and some miscellaneous items like a railroad underpass and new fire engines.

Through it all, trying to deliver the basic services, Gibson is trying to run an inclusive government not an exclusive one, and a government of incorruptible honesty. It was frequently charged during the previous administration that "everything at City Hall is for sale," and Mayor Addonizio was arrested and convicted while in office for conspiring to extort a million dollars from contractors working for the city.

Gibson is not the business community's man, despite what some black people say, says one black man. And he's not in the Council's pocket (nor are they in his). His relationship with LeRoi Jones, the black nationalist poet, is debated: some believe Jones is power-hungry and considers Gibson one of his morsels, some say Gibson is afraid of Jones and avoids a confrontation, and some believe the "struggle" is played up, out of all proportion, by the press (again the New York media) because, in the words of one black man close to Jones, "the power structure doesn't like to think of black people coming together."

There are many tensions in the

city. One black group boycotts the Anheuser-Busch company (for not hiring enough minority workers), and is furious with another group for accepting a tiny grant from the same company for summertime teenage jobs. The Puerto Rican community airs its grievances, and one of the deputy mayors (a Puerto Rican) says their situation is "worse than the Negroes." The Italian-Americans, who have the other deputy mayor, also have the burned-out office of Newark's Italian-American Civil Rights League; the fire, termed "suspicious," came early this summer, a week after the office opened, but no one has yet been apprehended. And one area of Newark—Vailsburg—is talking about seceding, claiming that 90 per cent of its residents do not feel their interests justly represented under the present arrangement.

"The Newarks of America"

What is the future of "the Newarks of America"? One cannot know whether there will be more riots—in this city or others. But terrible as the riots have been (and Newark in 1967 saw 23 people killed), riots do not seem the worst danger, which is an erosion of the spirit, a sense of futility, that could infect everyone in Newark and almost everyone who counts himself lucky enough to have escaped. Gibson says he cannot worry about the "long hot summers"—it is the "long cold winters" he must think about. And it is the long cold winters that the rest of the nation must face.

Undoubtedly the Newarks of the nation are not "doomed," but they are changing. They will have a different culture—some of it vibrant, some of it desperate—and they urgently need a different way to make ends meet and to make a good life for their people. Maybe this can only come about by a political restructuring within the metropolitan areas, and by a profound reshuffling of priorities at the state and federal levels. How long can we pretend that only one end of a boat can sink?

—ELLEN PERRY BERKELEY



LATE CAST IRON

TEXT AND PHOTOS BY CERVIN ROBINSON

Most historians say that cast iron architecture was substantially over by the early 1880s (or even by the early '70s) because of the discovery that iron fronts, originally believed fireproof, collapsed in fires. But evidence in New York suggests that when iron lost popularity in the '70s, the cause was more probably a change of attitude toward materials and toward the composing of facades—that is, a change in Taste. A facade that made efficient use of cast iron contained a relatively high number of repeated elements, which was popular in the 1850s and '60s but unpopular in the '70s and '80s.

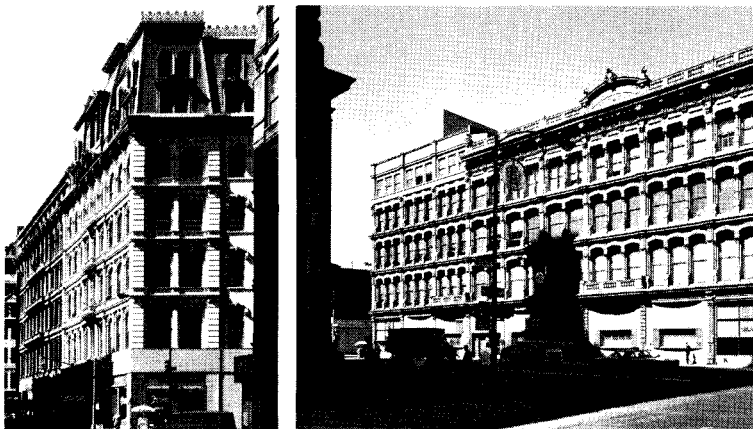
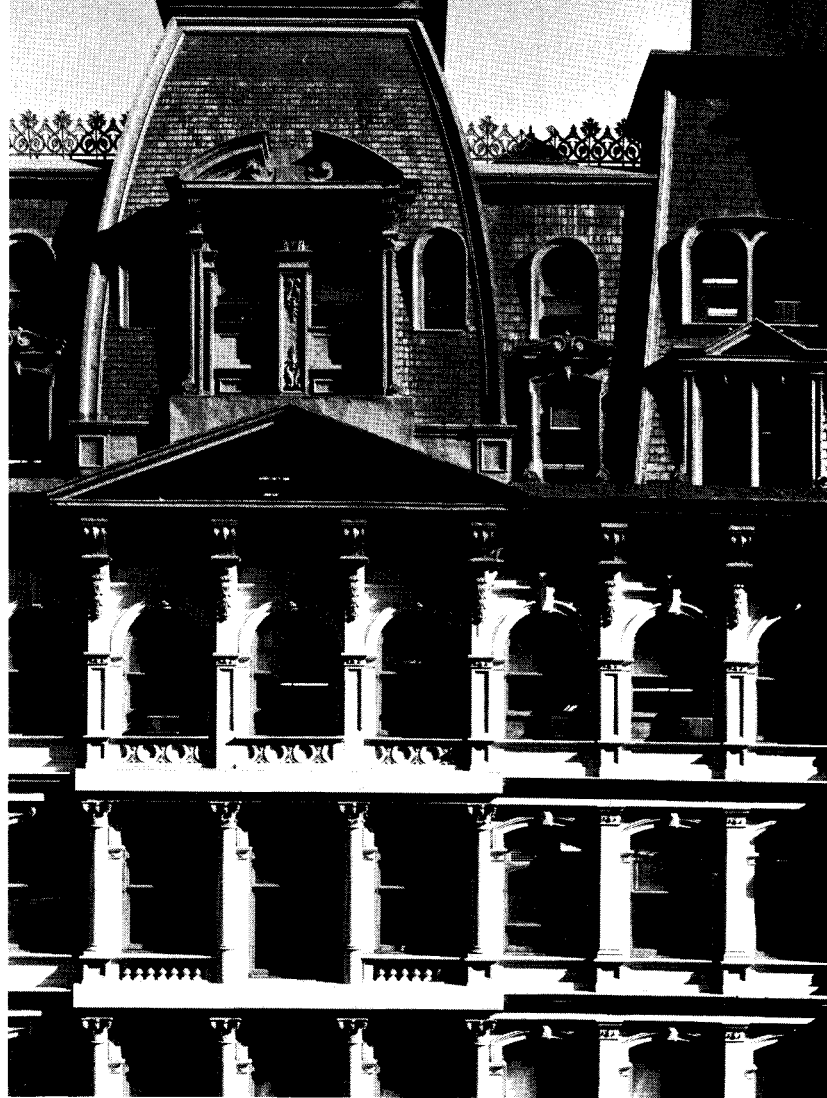
There is also evidence, at least in New York, that cast iron enjoyed a considerable popularity into the '90s, when the argument against it was seemingly that—as manufactured—its quality seemed increasingly flawed and unreliable compared to alternative materials.

But when cast iron of the 1850s and '60s was rediscovered two decades ago, it was by historians of structure, by and large, and they assigned a structural reason to the loss of popularity—namely, the structural failure of the material in fires.

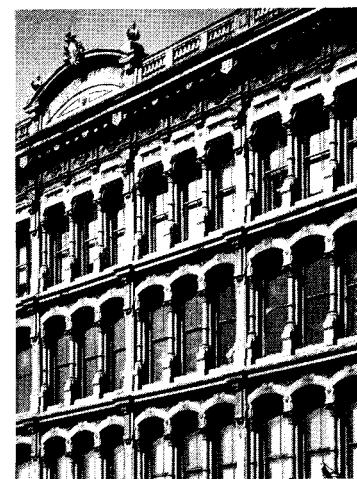
Illustrated on these pages is an extraordinary series of iron-front department stores from an area north of Greenwich Village that was once the city's principal shopping section. Portions of these buildings were built as late as 1910.

By that year, however, the area was dying as a retail district, and by 1913, all these stores had moved uptown.

Below (top) are Arnold, Constable & Co. (designed by Griffith Thomas, 1869), and B. Altman (D. & J. Jardine, 1876); at bottom are Stern Brothers (Henry Fernbach, 1878), and Lord & Taylor (William H. Giles, 1870).



Opposite: the Lord & Taylor store, at Broadway and 20th Street. This single extant fragment shows iron casting used (as a system of reproduction) with great inefficiency. Also, unlike the other stores in this district, an iron front is used (at right) as a bearing wall. When the store expanded in 1894, its facade was taken down and re-erected to match an existing building incorporated into the store—one of the rare examples of cast iron demountability put to use. Above: the Arnold, Constable store. When this store expanded down 19th Street toward Fifth Avenue in 1876, the Broadway facade (marble-faced) was substantially duplicated in cast iron. It was less an out-of-the-catalog item than often described.



Left and above: the B. Altman store, at Broadway and 19th. Fronts were simply extended as stores grew larger. An addition in 1887 adopted castings with two windows per bay instead of three, and in 1910 repeated with cruder castings the early design of 1876. Opposite: the Stern Brothers store, on 23rd Street, between Fifth and Sixth Aves. When this front was painted white last summer, some admirers of cast iron thought it inappropriate, but white was common (if not always approved) for iron in the 19th century.



YORK MERCHANDISE



THE URBAN FIELD SERVICE

BY CHESTER W. HARTMAN

A discussion of accomplishments and problems of the Harvard program, with conclusions important to the many design schools that send students out into the community.

The Urban Field Service at Harvard was one of the first attempts to bring training in "advocacy planning" into the regular planning and design curriculum. It was by no means an unqualified success; while it accomplished a good deal over two years, it also pointed up many of the important, and possibly inherent, limitations of this kind of professional training at the university level. Although I left UFS and Harvard amid considerable controversy, not at all unrelated to my UFS work, the program continues under a new and very promising director; from all indications, UFS will continue along lines similar to those of its first two years.

UFS is designed to permit graduate students in city planning, architecture, urban design, landscape architecture and related disciplines to undertake projects for and with community groups as part of their degree work. It is intended as an alternative or supplement to traditional studios, which, generally speaking, have all too often provided students with a narrow and unsatisfactory simulation of professional work and real-life conditions. Community-based "studios" are an attempt to structure the learning situation around different types of problems and to provide contact with a type of client and professional working relationship and style that can probably be furnished only *in vivo*. (Some people suggest gaming as a more efficient way to provide instruction in community-based planning and design. I personally have doubts about this and have not yet seen any "games" that can adequately reproduce this experience. However, there may prove to be some value in the gaming approach, and I am fully aware of the inefficiencies involved in learning via the real world.)

Mr. Hartman, until mid-1970 an assistant professor of city planning at Harvard's Graduate School of Design, began the Urban Field Service in the academic year 1967-68, and was its director for two years. He was guest editor for the July 1970 issue of the *Journal of the American Institute of Planners*, "Reshaping Planning Education." He is currently at the Center for Planning and Development Research, University of California, Berkeley.

UFS projects are those for which local groups have requested assistance, and the forms of assistance are usually quite specific. In some instances UFS students work through and at the request of official agencies, but only when the actual work is with—and primary commitment is to—a locally based citizens group. (For example, the Boston Parks and Recreation Department wanted to establish neighborhood planning and advisory councils to guide expenditures and operations in each of its local districts and asked UFS to provide staff assistance in a pilot neighborhood.)

In virtually all instances the client groups are low-income, and no fee is charged for UFS assistance. The work is generally confined to the Boston metropolitan area, although in a few instances UFS worked in cities up to two hours away. The students work in teams of about four or five persons (sometimes larger), often interdisciplinary. Their supervisor is occasionally a faculty member, but more often is a professional hired on a per diem basis, or (rarely) a leader or staff member of the client group. Funding for the project originally came from a Stern Family Fund grant (their \$25,000 lasted a year and a half and was allocated primarily for supervisors' salaries); funding has now been picked up, at least temporarily, on the regular budget of the Graduate School of Design.

Over the three school terms and two summers for which I was director of UFS we undertook a total of about 20 projects, some of which ran for several terms; over 100 students participated in the program. Interestingly (and in part a reflection of internal conflicts within the Graduate School of Design), the majority of our students were either from other Harvard graduate schools (law, sociology, business, education), or the MIT School of Architecture and Planning, or other graduate schools in the Boston area (notably, the social work schools of Brandeis, Boston College and Boston University).

With one or two special exceptions, we did not permit un-

dergraduates in the program. Our feeling was that UFS work required concrete technical skills that would only be acquired after some graduate training. We did, however, accept first-year graduate students and found them of great value, particularly the planning students. I'm not sure the policy with regard to undergraduates was correct.

Perhaps the best description, in brief, of the work during those two years is a listing of some of our principal projects:

- Assisting a largely black organization in Boston's South End to thwart an urban renewal project, by studying the impact of the plan on the city's housing stock and on the area's residents, and by developing alternative plans; preparing designs for the rehabilitation of buildings.

- Providing technical backup to the Cambridge Housing Convention, an OEO-sponsored group seeking to halt rising rents and university takeover of low- and moderate-rent housing, and pressuring public agencies and private institutions to provide more housing.

- Working with a suburban Boston group to develop plans for bringing low- and moderate-income families into their community.

- Assessing the impact on residents in Holyoke of the master plan designation of their neighborhood as "industrial"; developing an alternate plan for neighborhood renewal.

- Developing a recreation plan for an East Boston community group.

- Assisting a tenant group in Boston's South End to organize residents and to conclude agreements for collective bargaining between tenant and landlord.

- Developing proposals and designs for a counseling and treatment center for teen-age "street people," in one area of Boston, and a multi-purpose community center in another.

- Assisting on the legal, land development and financial aspects involved in setting up a community development corporation that would own and manage a small section of Roxbury, Boston's black ghetto.

- Developing a physical plan,

with resident control, to modernize an 1,100-unit public housing project in Boston.

- Staffing a nascent state-wide federation of local public housing tenant associations.

Any question of success or failure has to be answered from two vantage points: the assistance provided to the community and the education of the students. As to how much the communities were helped, results were quite mixed. By definition, graduate students generally have lesser skills and experience than full professionals, and although we attempted, in our selection of projects, to choose only those within the skills range of graduate students, we did not always come up with a satisfactory product or with any product at all.

Where we did not succeed in producing satisfactorily, it was often because of insufficient duration and intensity of the students' time. There is an inherent conflict between the students' time schedule (and overall orientation) and the demands of the community's project, and I do not know any easy way to get around this. It is difficult to secure a definite commitment of more than the length of an academic term (although some students remained with their projects for a year and longer), and summers are problematical. Not the least of our problems was how to find the money to pay those students who wanted to remain with a project over the summer (we were fortunate in securing VISTA funds for the first two summers). Many of our students were from the graduating class (in most planning programs half the students will be in this category), and they usually disappear after getting their degrees.

At any given time, the most we could get from a student was a half-time commitment, and the more usual pattern was for UFS to be one of four courses (i.e., a little more than one day a week). The "academic rhythm" also has a life of its own: at the beginning of a term (particularly in the fall), several weeks are needed to "get back into the swing of things"; the middle weeks are usually the most productive; and at the end of the term, when exams, papers and charettes loom, stu-

dents often find little time for their community obligations. Thanksgiving, Christmas, mid-semester break, Easter, and long skiing weekends also tend to take precedence over the community.

The time schedule of the real world is not that of the academy: sometimes it is more intense, requiring greater time commitment than students can make available, sometimes it is dilatory, leading to inefficient use of students' time. Almost never is it predictable. Despite our desire to have students work on concrete, discrete projects of definite duration, this is not usually the nature of most requests (at least in the long run: often what appears to be a narrow issue, upon further work and definition of the task, reveals itself as multifaceted and long range).

The "built-in" inability of students to provide reliable assistance is one of the major sources of the mistrust and ambivalence many communities feel about this source of aid. I don't think there is any point in chastising or exhorting students; the natural competition, academic and non-academic, is simply too great. There are other possibilities as to how a field-work program might be run, which might reduce this conflict; these will be explored below.

The disorganization and weakness of the community group itself is another reason why student groups sometimes fail to produce much. A strict canon of our *modus operandi* was that the community calls the shots. Once we had established the validity of the project and the presumptive viability of the client group, the student team and its supervisor "belonged" to the community and worked under its direction. The strength and direction of the community group, however, often proved illusory. In part, we had adequate opportunity during the "work-up" period just prior to the beginning of the term to ascertain fully the strengths and weaknesses of each neighborhood group requesting assistance. But this unpredictability was also to an extent a characteristic of the types of groups that sought our help. Often we

(unintentionally) exaggerated their strength and potential, out of a desire to help them and their cause, to see them as strong. Then, too, more established community groups tended to have better access to professional assistance, either through formal advocacy planning organizations, or through their own funding sources. Being a free and quite available source of assistance, we tended to serve those groups that were just getting started or just beginning to cope with a particular issue. In many senses groups of this type need even more intensive help—in the form of community organizing (which we were ill-equipped to carry out) and planning and design services. Our inability to provide them with the intensive assistance they needed for their very growth and survival often led to a downward spiral.

Probably the most successful formula for UFS aid was when we "plugged in" to an ongoing operation with a strong community group. Most often, this occurred when we worked in tandem with Urban Planning Aid, Inc., an OEO-funded advocacy planning organization, which was able to provide more long-term, professional assistance. That arrangement took much of the burden for continuity off the student group and permitted them to take on those tasks for which they were best suited. (On the other hand, the professional advocate planners, often with good reason, frequently wished to relegate the students to background "hack work," and this conflicted with one of the major purposes of the program—providing students with direct community experience.)

The limitations and occasional failures I am describing should not mask the genuine and valuable assistance we were often able to provide. UFS fills an important vacuum in offering free planning and design services to groups that otherwise would have no access to this kind of technical assistance. Even with our "successes," however, the real question is whether short-term, discrete victories and achievements have any lasting effect. It becomes increas-

ingly clear from our work that the source of our clients' problems is their powerlessness and lack of organization vis-a-vis the larger system. Small one-shot concessions from a public agency, or capitulations by a single landlord, amount to little. In our approach to assistance and problem-solving we may unintentionally foster the illusion, among ourselves as well as the people for whom we work, that real change can come about through this form of professional help.

This brings up to the other and related test of our work: how helpful is UFS in educating students? This question can be answered only in the context of the purposes of our profession and of professional education. Generally, participating students felt UFS was a highly worthwhile investment of time, in some instances the most useful and interesting part of their academic careers (although this may say more about the quality of alternative curriculum offerings and the students' commitment to them than about our own work). A large portion of the student body did not relate at all to UFS, either because they were not interested in this kind of work or were discouraged from participating by faculty advisors. And the majority of faculty were unenthusiastic about giving UFS a central place in the curriculum, with views ranging from those who didn't object to their students being exposed to a smattering of "good works" sometime during their careers, to those who were highly antagonistic toward the program.

The UFS students were a self-selected group (it was not a mandatory part of the curriculum). Only those students entered who were interested in learning more about this kind of professional role and training themselves for it. Not all students should participate in UFS-type programs, by any means. From the viewpoint of the community I cannot see inflicting incompetent, unwilling or ambivalent students on a group that wants help, and committed help.

I am, however, concerned about how to reach the middle-ground of students, those who

have had little contact with community groups, are unsure about what kind of professional they want to be, and would like to try UFS as a way of helping to make their eventual decision. In general, this will not be a large group, as one suspects that most students coming into professional school nowadays have given sufficient thought to their values and politics to know what role they want to play in the world. It would seem important, however, to make provision for sincere students uncertain about "where they're at," and this can be done by allowing them into UFS-type programs after careful selection and by exercising some control over the extent and nature of their contact with the community until both are sure they will be compatible.

This is not to imply that problems of compatibility do not exist among "committed" students, many of whom, for a variety of reasons, are insensitive to community needs and styles, and function badly in their role. UFS never handled the problem satisfactorily of how to "screen" students to insure a match between clients and technical assistants, and give community groups sufficient control over who comes to work with them. In part this is a question of time: given the brevity of the academic term, it is not feasible to have a lengthy introduction and trial period prior to actual work: to do this would leave the students too short a period for actual work and might also leave students with no satisfactory curriculum alternative if, after a three- or four-week trial period, they and the community find each other incompatible. This over-hasty starting up process, which fortunately did not result in very many mismatches, is one of the compromises necessary in trying simultaneously to achieve the objective of training students in a university setting and providing satisfactory assistance to community groups on terms that do not violate their integrity.

The question of when, in the student's professional training, this kind of experience ought to be introduced is also prob-

lematical. The case may be somewhat different for planners than it is for designers, reflecting the different nature of the professions themselves. Architecture, landscape architecture and urban design would seem to require a higher level of technical skills and tools, in much the same way as do law, medicine and engineering. Thus in order to practice these professions properly, rigorous and protracted training is required (although a great deal of streamlining and shortening could doubtless be accomplished in the training, and much of the severe and exacting quality of the studio and charette, the internship, the bar exam can better be explained in terms of the mystique and trappings of professionalism). Thus, the design student realistically may have less to offer the community during his early years of training, and large amounts of time devoted to the community would take away from the time he needs to acquire technical skills.

Precisely because of this conflict, it was most difficult to work the architecture students into UFS; the faculty sought to keep their students in the traditional design studio and jealously guarded any inroads into what they saw as the central task—learning design. Urban planning, on the other hand, at least in its present form is a far less "technical" profession: its skills and tools are less abstruse, require less training, and are to a greater degree relative to and determined by the role and goals of the planner. This argues more clearly for an earlier and more intensive exposure to community-based planning, with the concomitant development of a different set of skills based on the role the planner wants to play; there is less reason to limit the planning student's involvement until such time as he has developed his "bag of tools."

But it must be recognized that graduate training—and education generally—is a socialization process, in which certain values and styles are consciously inculcated or otherwise transmitted. The elitism of architecture and its peripheral relation to central urban and national

problems are the profession's outstanding defects, and a major part of architectural education must be centered on these questions: what parts of the society does design serve (and not serve)? what does the architect create? what values does he foster? Until some balance is struck during the educational process between technical training and basic philosophical questioning about the role of the architect, the profession will remain stagnant, irrelevant and even destructive.

Since UFS work realistically involves (or can involve) a basic questioning of the traditional professional models and the positioning of what may be a radically different role for the professional, opportunity for contact early in the student's career, probably in the first year, is essential. (While there may be limits on the amount and quality of technical input the first-year student can offer, a team composed of both first-year and advanced students and supervised by a competent professional will be able to offer adequate service on carefully selected projects.) The key educational function of UFS is to illustrate the ways in which technical skills and social-political considerations relate to one another.

UFS tends to attract the more socially aware, politically active and radical students, those who are most critical of the traditional ways of the very professions for which they are training and of the educational system where they are seeking that training. UFS work tends to support their alienation, providing a forum and focus for expressing criticism of the profession and the university. UFS explicitly and implicitly challenges the elitism of the planning and design professions, their values and typical clients, the "track record" of the immediate past. UFS experience also often leads to a critical view of what is being taught in other courses, the tools of the profession, the way in which teaching and learning take place.

A biweekly seminar for all UFS participants in which specific projects were related to more general issues of social analysis and social change served to enhance the critical and political tenor of our work:

through discussion and exchange of individual experiences we were better able to see the broader dimensions of the various projects and the limitations of traditional professional approaches. (But limitations on student time reduced the potential of these seminars and also took time away from direct community involvement.) I do not mean to overstate the subversive character of UFS; participation in the program was not intensive enough to have by itself induced revolutionary changes in consciousness. Yet it did nurture the critical spirit and served as a common meeting ground for those who wanted to bring about fundamental change in the professions and in the training of professionals.

Our lack of integration with the rest of the School was in part situational, but in my view probably represents a difficulty that will arise in almost any university-based professional school where a program of this sort is introduced. Put bluntly, there will be substantial opposition to UFS-type work from a large and often influential group of faculty members who dislike the politics underlying community-based work, who feel it is not a proper role for professionals and who believe that if such involvement is desired it should be extracurricular and not confused with legitimate professional training or the functions of the university.

For traditional practitioners one of the most threatening aspects of community-based planning and design work is the "deprofessionalization" or decentralization of professional skills and power that is its conscious and inevitable accompaniment. One of the aims of UFS is to break down the exaggerated distinctions between "professional" and "client," the notion of the appointed expert proposing and disposing.

Community-based planning and design begins with the proposition that the community is best able to express its own demands, and that it is the task of the trained professional to help translate these needs and desires into reality, relying to the greatest possible extent on the involvement and participation of

local people themselves throughout the entire process of goal articulation, concrete plan and design formulation, and implementation. It requires a humility that most professionals do not have and may not want to have, and it is certainly not the dominant ethic or style in the professions and in the universities. Perhaps more than any other aspect of our work, this different consciousness distinguished us from the rest of the academic environment and was ultimately responsible for our many conflicts therein.

I think we did in fact open up for many students alternative possibilities for professional roles and future work—although the process was not without its frustrations. Because of the internal conflicts about UFS work, students often came into the program against the advice or over the opposition of faculty members in their own departments, had difficulty in securing credit for their work, and found it difficult to relate their field work to more traditional academic courses. Often the student felt as if he were leading two very different and irreconcilable kinds of academic life. We also may have created a far greater desire for positions of this sort than the number currently available with advocacy groups, anti-poverty and other anti-establishment sources.

We are thus left with something of a dilemma: the design and planning professions are sorely in need of fundamental changes, many of which are the kinds of changes embodied in UFS work. Having a program like UFS in a design/planning school serves to crystallize forces for change and make the change process more rapid. On the other hand, it is virtually impossible to do a good job of training students for community-based work and providing low-income groups with a high level of committed technical assistance under the constraints described above, which, as I indicated, will probably characterize any similar program in a university-based professional school.

An alternative approach might involve creating an autonomous institution to train students in

community-based planning and design. Such a training institute ideally should be independent of the university, in order to avoid the constraints that inevitably arise when the student group involves itself in something which is "too political" or which directly counters the narrower corporate interests of the university itself. Students should be drawn in part from community residents (ignoring the usual formal criteria for university admission), in part from persons who might ordinarily go to traditional graduate schools. (Under some conditions, a university might give full degree credit to students who wish to spend a year at the training institute.)

The entire curriculum would be built around community work, with more formal academic study integrally related to and deriving principally from the needs and experiences in the field, and with greater time devoted to seminars in the processes of social change and political analysis. "Courses" would be far more flexible than is possible in the university setting. Intensive courses, lasting only a week or two, might be given in a subject area particularly relevant at a given time to the community project; for example, available government low- and moderate-income housing programs, code enforcement, or landlord-tenant law. Classroom instruction might cover such areas as data analysis and presentation, community organization, power structure analysis, relevant government programs, use of media, organization of militant protest. Considerable stress would be placed on reading, discussing and putting to use relevant political and sociological writings. An institute of this sort would have the freedom to concentrate wholeheartedly on the training of a particular kind of planner, interested in using technical skills of analysis, organization and planning to work with and for locally based groups to bring about fundamental change and redistribution of power and resources in the society.

The assumption underlying this proposal is that planning and design schools cannot be and ought not try to be all things to all men. There are many different kinds of planners

and planning specialties. Planning schools, being as small as they are, cannot hope to cover all types of planning, and, as I have tried to indicate, at least some areas of specialization are in sharp conflict with others and are possibly totally incompatible. There is, for example, no reason why the notion of formalized, structured field training should be limited to low-income, anti-establishment groups. Supervised, carefully analyzed work with public and private agencies and middle- and upper-income citizen groups would also provide valuable training. But we ought not expect that all training of this sort can be done under a single umbrella, or even at a single school. At a minimum, problems of credibility are involved: a program or school that provides internships, for example, with the local renewal agency cannot at the same time expect a low-income group trying to fight a renewal plan to feel it can call upon—and work comfortably with—a student advocate team recruited from the same source.

What this means, of course, is that "planning" and "design" are not neutral skills and tools and that professionals are not mere technicians with an interchangeable bag of tricks applicable to any type of situation or client. Community-based planning and design—at least the kind many of us have in mind—presupposes and demands an orientation that regards the community and its needs as primary; that calls for a non-elitist style and mode of relating as a professional; that seeks to probe for underlying causes of problems and for true, not apparent, solutions; that is, basically political in outlook—i.e., viewing problems and solutions in terms of who has and doesn't have the resources and power and the ways of making systemic changes in present power and resource relationships.

This article is a slightly edited version of one originally prepared for ELEVEN VIEWS: COLLABORATIVE DESIGN IN COMMUNITY DEVELOPMENT, edited by Peter Batchelor, Faculty Coordinator, and Jacob T. Pearce, Student Editor, published by the Student Publication of the School of Design, North Carolina State University, Raleigh, N. C. 27607, available for \$3.

ELASTIC OFFICE BUILDING

BY ROGER MONTGOMERY

Bay Area headquarters adjusted to expansion and contraction before it was completed

The building shown here sits by the freeway near the salt flats in Sunnyvale at the end of San Francisco Bay forty miles south of the city. It houses headquarters for the GRT Corporation. GRT makes pre-recorded magnetic tape.

On several architectural dimensions the project offers problematic but instructive lessons. These include successfully programming a building in an extraordinarily fluid situation, finding a good relationship between the immediate demands for hospitable human workspace and a more generalized need for flexibility and easy expansion, and working out some new possibilities for controlled-weathering sheet steel cladding.

When the architects Brown/McCurdy/Nerrie of San Francisco began working on the building their client was growing like mad. By the time they moved into their new quarters, the recession had hit, radically altering everything including the planned space use. For once, programming a building for flexibility really worked. In this project, coping with institutional expansion, contraction and rearrangement proved far more important planning criteria than careful fitting of spaces to presumed or predicted functions.

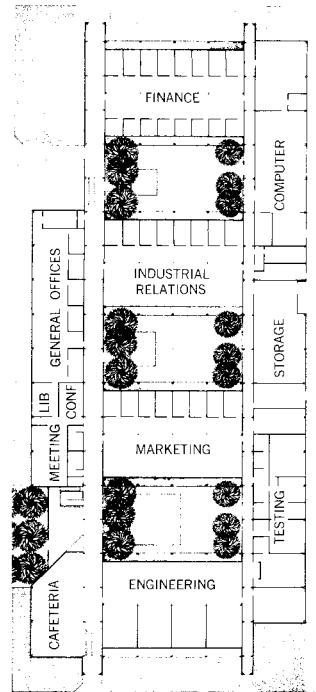
The architects designed for generalized uses. A look at the plans reveals their tactic. Two circulation spines eighty feet apart link major workspace blocks spanning the spines. Up front, in both the social and the physical sense, the big, two-story-high spine serves staff and visitors. It has executive offices, the reception and employee service areas arranged along its length. The other spine forms the backstage service space. It ties together such things as loading dock, storage space and some acoustically isolated studios which would not fit conveniently up front. Between the links, blocks of "department-sized" workspaces house various research, development, engineering, and central office functions.

The plan could not present a more cleanly articulated, textbook form for handling the flexibility-expansion problem. One proof of this came in the middle of working drawing pro-

Mr. Montgomery is professor of urban design at the University of California, Berkeley, and is a member of the Forum's Board of Contributors.



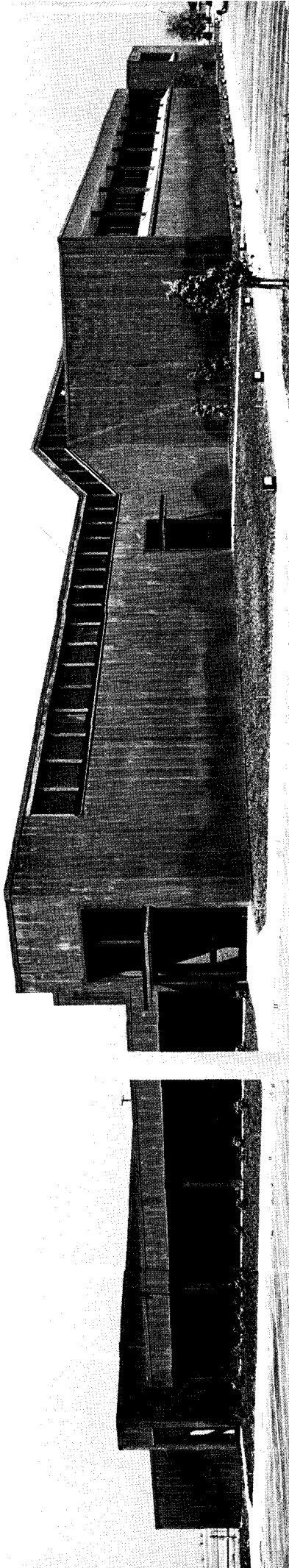
SECOND FLOOR PLAN



FIRST FLOOR PLAN 0 50'

duction. GRT's furious expansion led them to ask the architects to add a fourth unit to the workspaces. Effortlessly the scheme expanded to accommodate the additional area. It works and looks like the completely integrated part of the building that it is. If this fourth unit had not been built the building would have worked as well and probably looked as good, though certainly fixed charges would have raised the unit costs of the space. Due to the current recession, growth has stopped, and some spaces have been emptied. But recent re-





shuffling of departments and functions has verified the design's flexibility.

In realizing this goal so perfectly other aspects of the architecture may have suffered. Before turning to these, constructional aspects of the building deserve mention. Seen from across the flat-as-a-board, car-oriented Sunnyvale landscape, color dominates: the rich brown-rust-purple of weathering steel used for both exposed structural steel framing and exposed sheet steel surfacing. Though this has been done before elsewhere it remains new enough and rare enough to demand attention. Most people still interpret it as rough and unfinished looking. But it grows on people. No other modern, man-made material shows such a subtle, enlivening surface quality.

The architects detailed the building carefully to accentuate the rust. Neoprene gaskets connect the glass directly to the Cor-ten structural tee-shaped mullions. The material forms all of the exposed sheet metal work such as the gravel stops at the roof's edge. One caution, though, from Brown/McCurdy/Nerrie's experience. Somehow the girts and cross bracing behind the wall surface have created a telltale pattern in the weathering layer of rust. The effect is subtle; perhaps most people do not notice it especially close up, but these barely perceptible, fuzzy traces of the supporting structure require the attention of future users. Either the manufacturers must find a way to defeat the effect or the architects must design with it in mind.

Inside the GRT building some nice things happen. Given the bleak location, the courts defined between the workspace blocks and the spines make wonderful amenities for office and lab workers. The spine corridors open generously to the courts so everybody benefits, even the visitors as they enter the building.

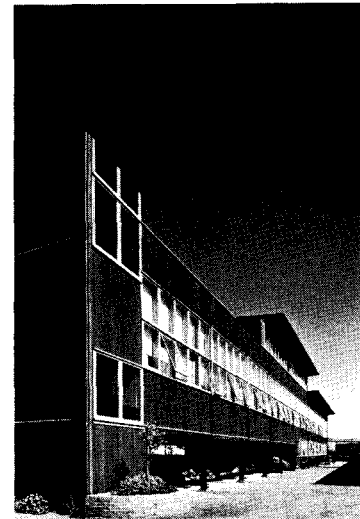
The building interior makes evident some of the costs of the expandable-flexible plan. The cafeteria and employee lounge face out toward the freeway instead of in on one of the courts. This demonstrates that geometric motives have sometimes dominated social ones. In the executive offices which line the front of the building a number of little things combine to

make it a little tight. Whether for privacy reasons or to maintain the architects' form-concept, the windowless first floor seems an unfortunate trade-off. The limited depth dimension leads to rather cramped, narrow spaces in the upstairs offices of the chief officers. But these seem small prices to pay for such an orderly, humane interior, one which has proved to meet so well the overriding needs of growth and change.

The visitor to GRT gets the grandest experience of the building as it stands. He arrives at a little plaza in the parking lot under a squad of soldierly trees. From there he steps inside into a great space, dominated as the photo (opposite page) shows by the big, sloping glass roof and the diagonal wall on the right, with its receptionist's niche cut in at the bottom. The space seems a bit overscaled. Maybe it is just the quietude brought on by the recession.

Looking at this building necessarily invites comparison with William Wilson Wurster's nearby Schuckl Canning Company headquarters (photo right). In size they are about equal, but the Wurster building was built thirty years ago in 1942 when Sunnyvale was still covered with fruit orchards, not subdivisions, shopping centers and freeways. Now its facade lies hidden behind the huge concrete overpass built almost against it. Environmental changes have nearly wrecked this building which appeared in the famous 1944 Museum of Modern Art *Built in USA* exhibit, and which exerted a real influence on the subsequent design of small office buildings.

The climate of architecture has changed immensely in those thirty years. No longer need the MOMA scour the country looking for didactic modern buildings to exhibit. In the welter of ideas available to contemporary architects it is hard to imagine any possibility that GRT could serve such exemplary functions. Its lessons cannot change the course of architecture even in a small way. They can, however, offer some instruction in using new materials and in planning for the growth, decline and change which realistically govern so much current building. And lessons aside, the GRT people have an elegant building to work in.



FACTS AND FIGURES

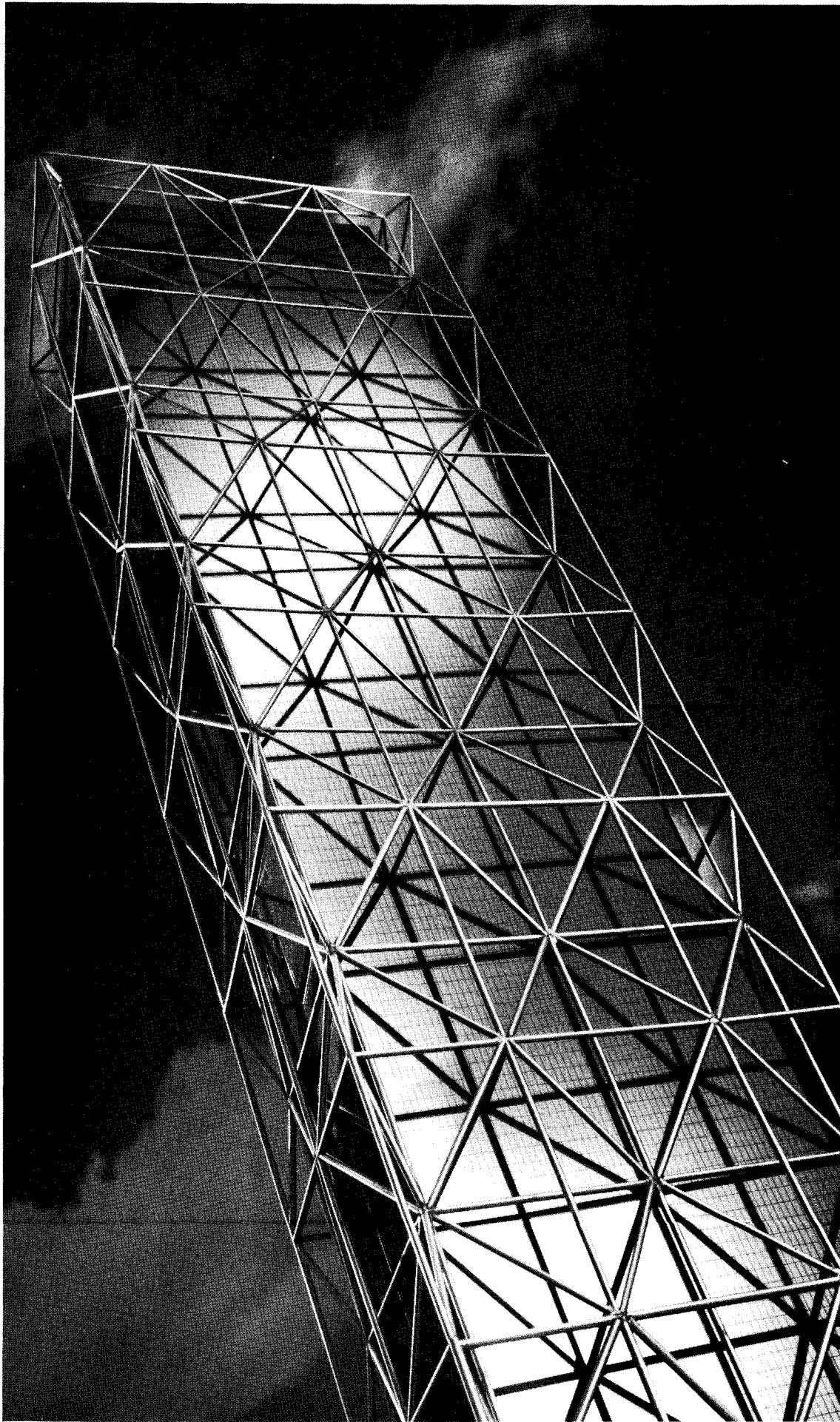
GRT Corporate Headquarters, Sunnyvale, California. Architects: Brown/McCurdy/Nerrie (Robert Nerrie, partner in charge). Engineers: Hirsch and Gray (structural); Conviser Associates (mechanical and electrical). Landscape Architect: Russell Beatty with Lindsay Robertson. Consultants: Richard Peters (lighting); Bolt, Baranek and Newman (acoustic). General Contractors: Johnson and Mape. Building Area: 50,833 sq. ft. Construction Cost: \$1,300,000. (For a listing of key products used in this building, see p. 74.) PHOTOGRAPHS: Jeremiah O. Bragstad except above, Roger Sturtevant.



TECHNOLOGY

A proposal to change the urban landscape by redistributing a city's office space into 150-story superframe towers

BY ALFRED T. SWENSON



Mr. Swenson, an architect, is the architectural research coordinator for the Public Building Commission of Chicago.

Tall office buildings were created in the 1880s to concentrate people. Building technology met this demand by producing the elevator and the steel frame.

Today there is little need for crowded business centers as communications improve. And building technology now allows us to build far taller buildings, containing residential, office and commercial space. How this can affect a city is demonstrated by a study of Chicago's central business district and how the space could be redistributed.

In May, 1969, Chicago had about 37 million sq. ft. of rentable office space in 154 major buildings, with a demand for growth of about 750,000 sq. ft. per year. Equivalent space could be provided by only twelve 150-story towers, each with 3.1 million sq. ft. of rentable area. Employees could live in the towers' upper floors; commercial space could also be provided. Large, landscaped settings could avoid a sense of crowding.

If the towers were spaced throughout residential areas, more people could walk to work, relieving traffic in the central city. The buildings themselves would be located near expressways and transit lines and contain ample parking and commuter facilities.

A more detailed, technical analysis has been made for a 150-story tower prototype. The building is 1,656 ft. high and each floor has 40,000 sq. ft. of floor space, for a gross floor area of about 6 million sq. ft. Offices occupy 80 floors; apartments occupy 47 floors; mechanicals, 18 floors; and lobbies, restaurants and commercial space, 5 floors.

The major structural problem with such a building is to resist wind economically. The two criteria are: To resist overturning, as much load as possible should be at the building's perimeter. And to resist deflection at the top, as much structural material as possible should also be at the perimeter.

A superframe system, consisting of a large-scale steel skeleton (or frame) that contains smaller, suspended subframes, fulfills the criteria. It brings 100 per cent of the load and 65 per cent of the structural steel to the perimeter.

The superframe consists of two elements. The first is a

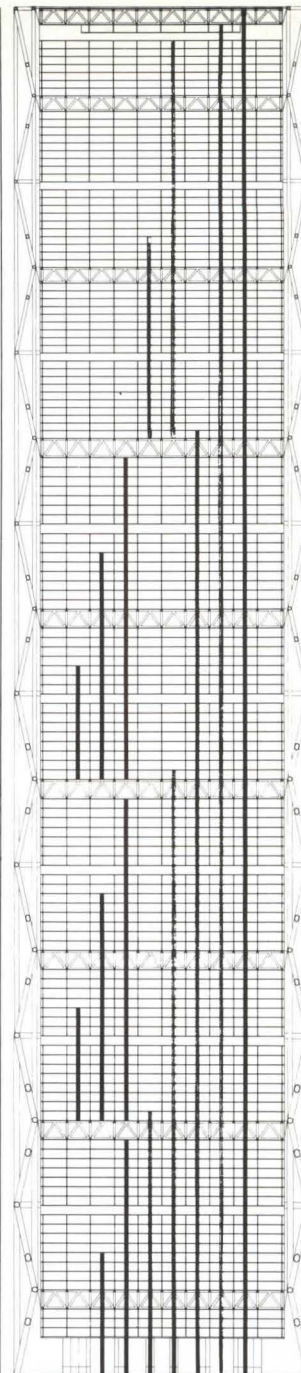
double-layered cage of large steel tubes wrapped around the inside of the building. These may vary from 7 ft. in diameter with a 4-in. wall thickness at the bottom, to 4 ft. in diameter with a 1½-in. wall thickness at the top. (Forces from wind and gravity increase from the top to the bottom of a building.) The diagonal columns resist gravity as well as wind loads. The second element is a series of eight truss floors, set 207 ft. (or one superstory) apart and supported by the superframe cage. (There are 16 office floors or 20 apartment floors in a superstory and these are carried by two subframes.) The superfloor trusses are two stories high, with room for mechanical equipment in the interstitial space.

The subframe skeletons, which carry the occupied floors, have a 28-ft.-sq. bay and are made of rolled steel, wide-flange shapes. The subframe carrying the upper half of a superstory is suspended from the superfloor above. The subframe carrying the lower floors is column-supported from the superfloor below. The floor in the middle of a superstory is thus column-free and suitable for auditorium, exhibit or commercial space.

Fireproofing is accomplished by making the superframe of hollow tubes, filled with water that can be circulated during a fire. The superfloor trusses and subframes may be coated with asbestos plaster. Horizontal expansion joints located at the column-free floors take up differential expansion between the exposed superframe and the insulated subframe system.

The elevators follow the sky lobby principle, with four separate subsystems of local and express elevators. Air conditioning may be centralized, with air handling equipment in the eight lower superfloor trusses and cooling towers and the boiler plant in the superfloor truss at roof level. The entire building is sheathed in tinted, mirrored glass to reduce the cooling load and sky glare.

The superframe introduces a new scale of architectural expression, with the subframes concealed and the windows reduced to vast sheets of mirror that reflect the superframe. A new architectural character emerges for the skyscraper, and a new urban role.

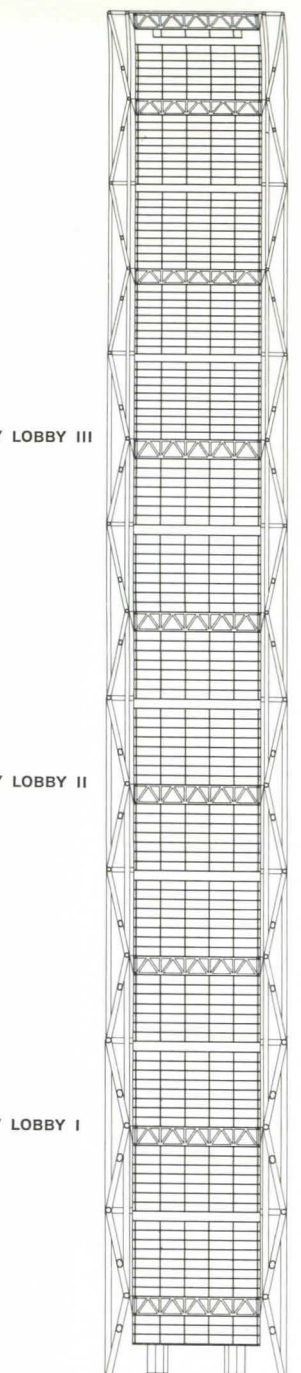


150

97—SKY LOBBY III

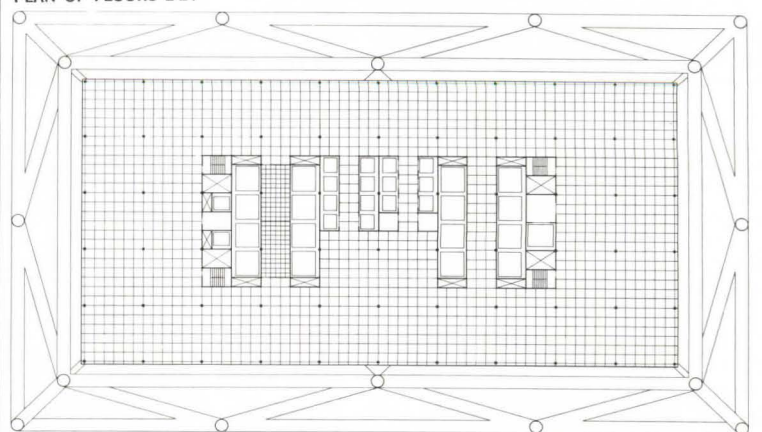
61—SKY LOBBY II

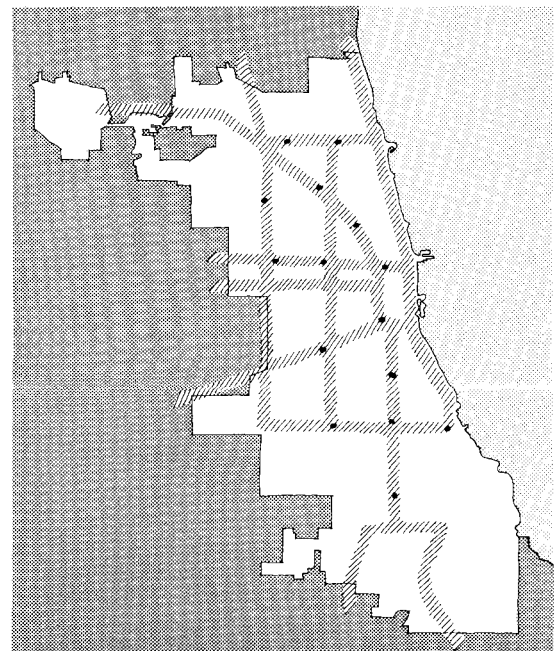
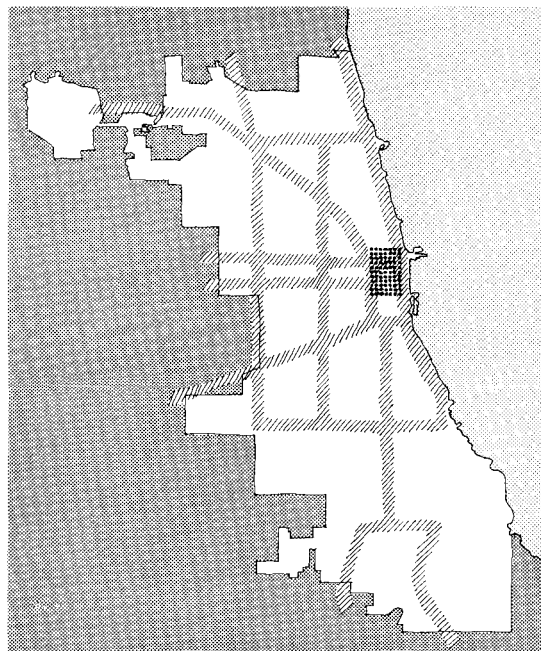
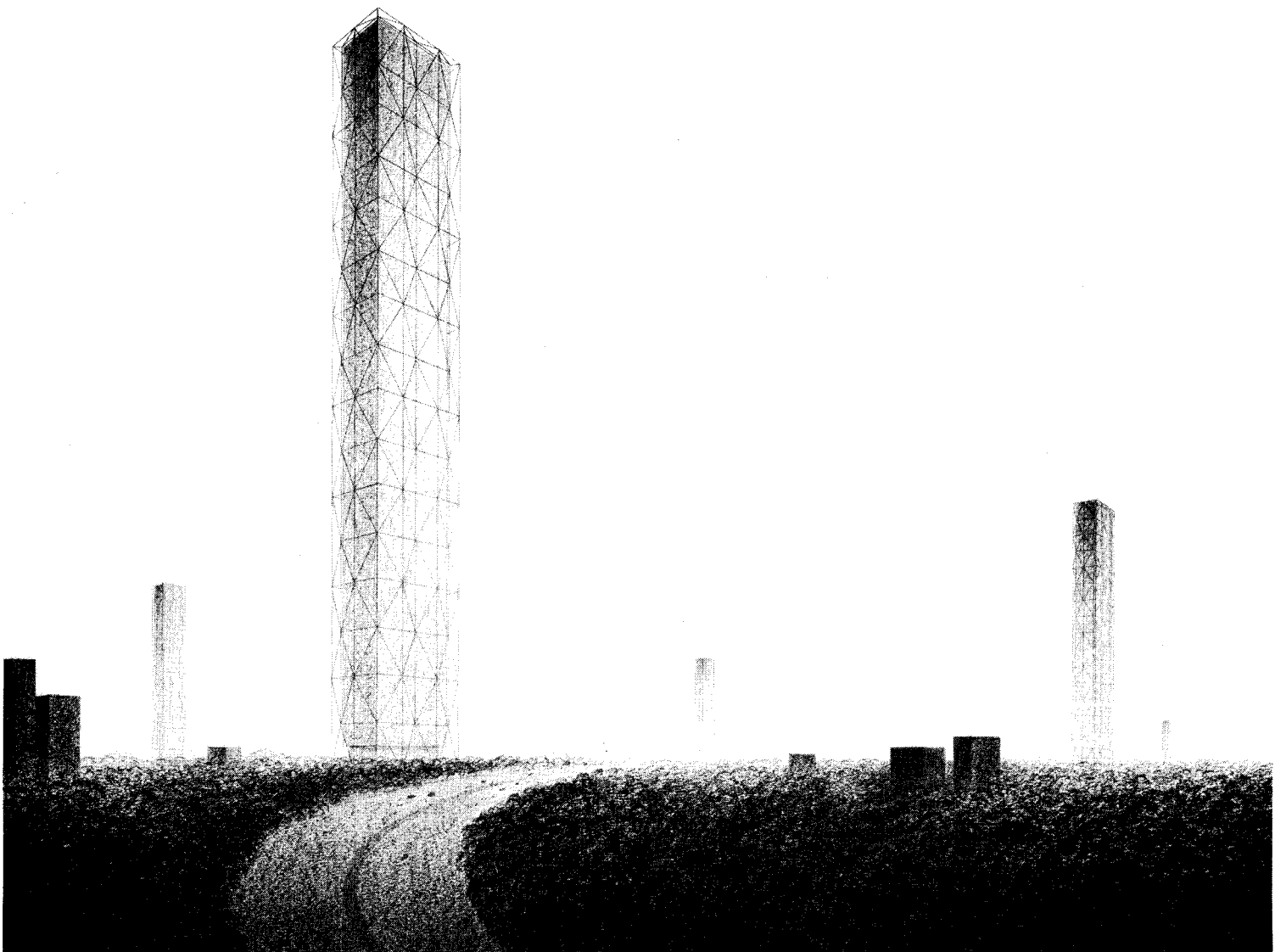
25—SKY LOBBY I



0 100'

PLAN OF FLOORS 2-24





The 1967 comprehensive plan of Chicago shows a 200-mile network of planned or completed high-access corridors that coincide with expressway and rapid transit lines. If the new towers were placed along these corridors at 4-mile intervals, there would be room for 50 buildings—enough to provide for existing office needs and for years of expansion at the present rate.

FORUM

(continued from page 19)

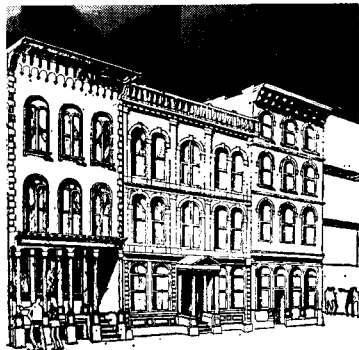
November 2, Seattle voters will have their say. They will vote on whether to restore the original historic district boundaries and set up a commission empowered to pass on all proposed "changes to its buildings, structures and other visible elements. . ." Voting for such an ordinance is perhaps unique in this country. The Pike Place Market, itself, is unique. The threat that it faces, unfortunately, is not.

TRANSPLANTS: PARIS . . .

President Georges Pompidou personally intervened at the beginning of August to save at least one, and possibly more, of the twelve sheds of the old central market of Paris known as Les Halles. The move came even as work had begun on removing the cast iron and glass skylighted pavilions to make way for a subway station that will service the Les Halles quarter and the proposed Centre Beaubourg nearby, a pet project of Pompidou's (see also page 62). It was said that the President's decision to save at least a sampling of Architect Victor Baltard's pavilions for reconstruction elsewhere was greatly influenced by the concern shown for their preservation by the American press (July/Aug. issue, page 72).

. . . RICHMOND . . .

A row of five cast iron-front, ante-bellum buildings in downtown Richmond, Va., part of a much longer row of similar buildings on Main Street, were, at year's beginning, scheduled for demolition by the First & Merchants Bank. The bank was building a \$22 million office complex on the site. Preservationists countered with an alternate proposal that would have retained the cast iron row as a feature of the development. The bank rejected their scheme



Three of the five

but did, eventually, succumb to pressure brought by many Virginia organizations and national critics such as Ada Louise Huxtable of the *New York Times*.

The bank appropriated \$10,000 for the disassembly of the cast iron facades. One plan is to use them for rehabilitating buildings on or near Shakin Square, which is suitably replete with cobblestones and a cast iron fountain.

. . . AND NEW YORK

James Bogardus, who patented pre-fabricated iron architecture around 1848, would not find these dismantlings and reassemblings of cast iron buildings extraordinary. He believed that possibility was the most important aspect of his invention.

Photo: Cervin Robinson



Bogardus detail

This spring, the Bogardus Buildings—five separate buildings forming one structure, and the oldest surviving cast iron facades in the world—were painstakingly disassembled in the Washington Street Urban Renewal area of New York City, climaxing a five-year effort to save them by the city's Landmarks Preservation Commission and others. Through the new historic preservation sections of the Federal Housing Act of 1969, there was substantial reimbursement from HUD and a unique demolition contract specifying that the entire process be thoroughly documented and directly supervised by an architectural historian.

Winston R. Weisman, chairman of the department of art history at Pennsylvania State University, worked on the site throughout the demolition, and eight Columbia University graduate students numbered and catalogued each piece as it was removed to a nearby site for storage. The pieces will be re-

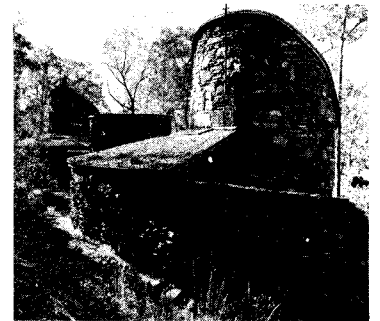
stored and reassembled either into a structure duplicating the original or in some decorative manner on the new campus of the City University of New York, which will occupy part of the urban renewal site. One of the bays has been promised to the Smithsonian Institution.

The business of properly mounting this landmark may take years. In 1849, however, when a single building was a year or two in construction, the five Bogardus Buildings went up in two months.

ON THE MARKET

One of Architect Bruce Goff's recent houses, completed in 1967 for the late Hugh Duncan of Cobden, Ill., is for sale. The unusual house, which seems to be growing out of the surrounding rock outcroppings, hills and woods, was designed by Goff as three attached circles with two towers. It is made of sandstone collected from creek beds in the area, and glass, and has a wood beam construction. Consisting of 11 rooms and basement with separate guest house and study, it is situated on the brow of a high hill overlooking what Mrs. Duncan describes as "116 acres of woods, hills and farmland in the Illinois Ozarks and the Shawnee Forest. . ."

Of particular interest to architects is the fact that the Duncans had imbedded in the walls of their house a ". . . rather extensive collection of artifacts



Goff for sale

gathered from old Sullivan, Wright and other Prairie School architects' buildings. For example, part of the outside arch decorations from Sullivan's Garrick Theater are in the wall over the fireplace in the living room, and the wrought iron gates from the old elevators in the Chicago Stock Exchange are on the doors."

For further information contact: Mrs. Hugh D. Duncan, 1700 E. 56th St., Apt. 3607, Chicago.

COMPETITION

BEAUBOURG . . .

The Centre Beaubourg is a gallery of contemporary art to be built in Paris adjoining the Les Halle site. A competition for its design was won in July by a team of three architects with the London office of Ove Arup & Partners: Renzo Piano, Franchini, and Richard Rogers.

The winning design is a parallelepiped mounted on pilotis and open at the pedestrian level. It is approximately 500 ft. long, 190 ft. high and 125 ft. wide and occupies only one of the two acres in the Plateau Beaubourg. The facade of the parallelepiped will be entirely of glass and will be used in its entirety as a screen for luminous projections—a compromise, says Piano, “between Times Square and the British Museum.”

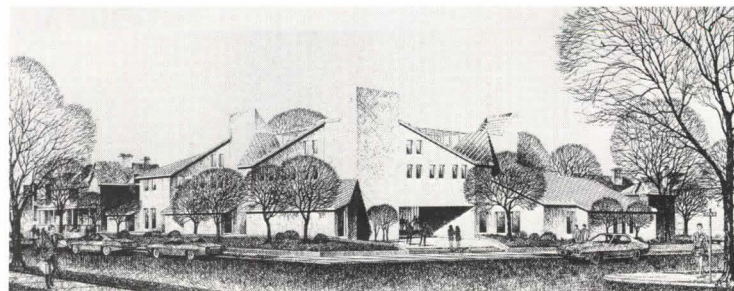
Among the 700 entries, 30 other designs were selected by the jury for commendation and will each receive \$2,500. These included Moshe Safdie of Montreal, Erickson & Massey of Vancouver and nine American entries:

MacDonald Becket of Los Angeles; James E. Stageberg and Thomas H. Hodne of Minneapolis; Andrew and Maria Zdzienicki of New York; Arthur S. Takeuchi and Alexander Corazzo of Chicago; Paul Chu Lin, Bartley Guthrie, Willem Tazeaar and Stanley Boles of Franklin, Mich.; two New York teams, one headed by Jorge Ambrosini, the other by Lien C. Chen; a Providence, R. I. team headed by John M. Thornley; and Giovanni Cosco, Nathaniel East, Richard Galbreath Huffman, Russell Weeks & wives, of Philadelphia.

. . . AND BATTELLE

Naramore, Bain, Brady and Johanson of Seattle have won a limited, Class A architectural competition for their design of

Battelle competition: winning design



buildings to house the Academy for Contemporary Problems in Columbus, Ohio. This new institution, being established jointly by Battelle Memorial Institute and Ohio State University, is for advanced study and development of strategies for contemporary problem solving. The N-B-B-J plan calls for two three-story buildings. One is for administration, conference rooms and offices for researchers; the other will provide lodgings for visiting scholars. The main building presents a gabled, brick masonry facade to the street that is compatible in texture and scale with the large brick homes in the neighborhood, built in the early 1900s. Inside, however, great areas of glass open researchers offices to landscaped terraces and the sky.

BIG PLANS

PROFESSIONAL SLAP?

New York City's design professions view with shock the new Guide for Consultant Architects and Engineers published by the city's Department of Public Works. The published guidelines, which cover city projects from initial design contracts through construction, are intended to apply to all building projects done for New York.

Objections to the guide touch on almost all phases of its contents. Most come down to complaints against multi-layered bureaucratic procedures and what seem to many design professionals as arbitrary design dictums.

The guide's Appendix G is among the most disturbing to the architects. The city calls its contents “suggestions” to improve, hasten and conserve money in design. Architects point out that the suggestions include such words as “never,” “omit,” and other phrases that, printed in black and white, give

them bureaucratic credence over and above mere suggestions.

Appendix G items include:

- Interior courts . . . are to be avoided.
- Precast or modular systems are to be avoided. . . .
- Dome structural and concrete systems are preferable to flat plate design.
- Avoid steel framing on small structures when wall bearing construction can be used.
- Avoid architectural concrete cast-in-place.
- Omit clerestory and skylight openings.
- Entrances should be simple, never utilizing revolving doors.
- Use roof areas for traffic or play areas only where site limitations mandate.

According to the local chapter of AIA, the appendix “reduces to a purely executor service the very concept of creative design by freezing solutions before any program is even known or analyzed.”

Appendix G, however, is only the capstone to the guide's negative impact. Other complaints have concerned the guide's mandate that a critical path method (CPM) be submitted on all projects; many architects feel that this is meaningless except for large, complex projects. The guide calls for consultants to confer with all the various subdivisions of the bureaucratic hierarchy; there are nine such subdivisions and this can only lead to fragmentary and contradictory decisions say some architects, who also think the city should take some responsibility in organizing collective reviews.

Other parts of the guide call for all floor plans in isometric projection; says one architect: “This adds not one whit of understanding and is an unnecessary burden.” The guide calls for floor plans including fixed and moveable furniture and equipment; this should be done only if the architect has the interior design contract, architects point out. A statement that all spaces shall be indicated on sections can result in an endless and needless process on any medium or large-sized project.

Against such examples of negative comment, there are some plus sides to the guide. According to AIA, the principal improvement is the contract

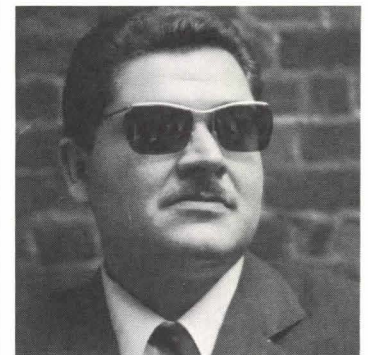
provision for limited increases in fees in the later phases of service proportional to construction cost escalation during an immediately preceding phase. (The AIA's request that such fee increases be retroactive for part of the preceding phase was denied.) Also on the financial side, the AIA notes that compensation for principals' extra time or services must now be negotiated at rates between \$25 and \$35 per hour—an improvement.

Generally, the guide remains unsatisfactory to many practicing design professionals. The preface to the guide acknowledges the contributions of several professional architectural and engineering associations in its preparation; the AIA, for one, has requested its name be removed.

John Horsey, a spokesman for the Department of Public Works, said in a meeting that he would have been surprised if there had been no objections, but that “if the architects cannot design within the budget and limitations set that they should not work for the city and that they must accept this fact.”

PEOPLE

DIED



Joe Cesare Colombo, 41, brilliant architect/designer, died of a heart attack in July. One of the most inventive of the contemporary Italian designers, he has won many awards, including the Compasso D'Oro for his Spida lamp and for his Candy air conditioner. Though principally a painter and sculptor, his best-known design is a plastic executive chair, the Elda, named after his wife. Macy's had a Joe Colombo week in 1965, and Design Research did a one-man show. No major design exhibit in 15 years has been without a Colombo contribution.

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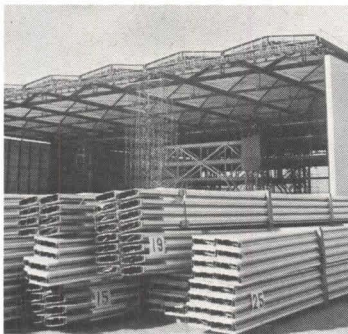
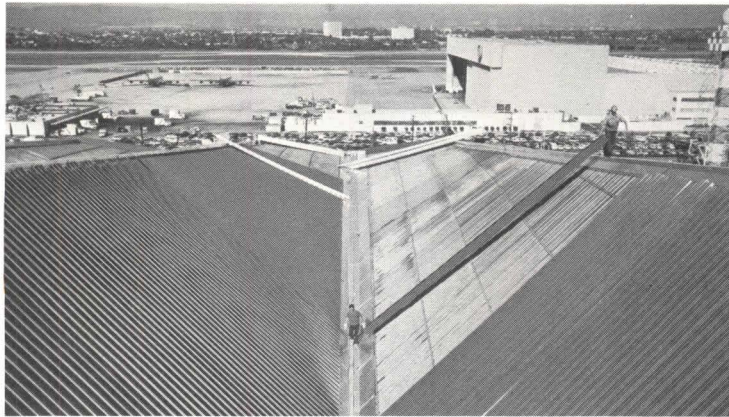
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PRODUCT REVIEW

This month's Product Review concentrates on new developments in roofing, siding and insulation.



ALUMINUM ROOF PANELS

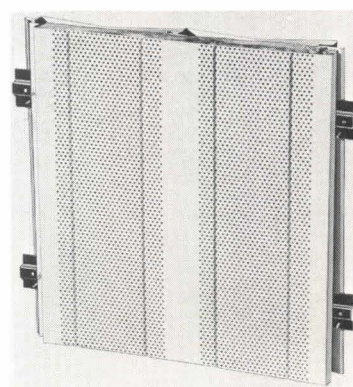
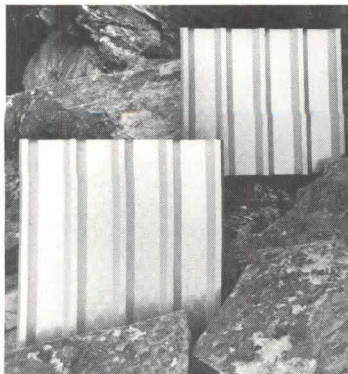
Interlocking aluminum panels, which are zipped together by a self-propelled electric tool to form a hole free roof, are available from Kaiser Aluminum & Chemical Corp. Called the Zip-Rib system, the panels have fastening clips that lock into the standing seams of the panels and eliminate the need for conventional fasteners.

On Readers Service Card, circle 101.

ALUMINUM SIDING

ALCOA Bold Rib is a siding manufactured with a deep, decisive corrugation that combines strength and attractiveness. For additional weathering resistance, ALCOA's Alumalure finish is available. Intended largely for industrial buildings, the wall panels are easily and quickly installed.

On Readers Service Card, circle 102.



ACOUSTICAL WALL PANEL

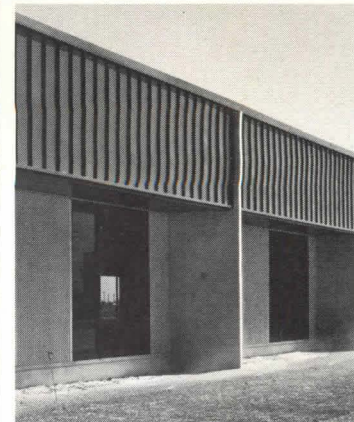
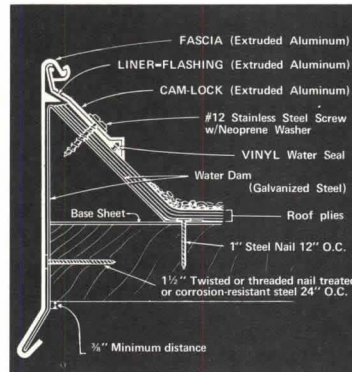
A new acoustical wall panel, Inryco Acoustiwall, has been introduced by Inland-Ryerson Construction Products Co. A sound-absorbing, insulated, prefinished exterior steel wall system, the panels are easily installed and complement a sound-absorbent steel roof deck by the same company.

On Readers Service Card, circle 103.

FASCIA SYSTEM

A new fascia system, by Silbrico Corp., Inc., is made of extruded aluminum and designed for use with galvanized water dams. It controls water and gravel at the roof perimeter and comes in a variety of finishes and colors. The system is designed to withstand high winds, hide building irregularities, and maintain alignment while allowing freedom of movement between trim and roofing components. A special locking device clamps and holds the entire fascia system together.

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MANSARD ROOF

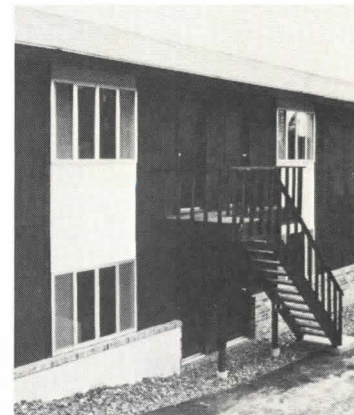
A new mansard roof and fascia panel has been introduced by Childers Manufacturing Co. Called Cop-R-Panl, the panel has a baked-on copper finish guaranteed for 20 years against peeling, checking, cracking or blistering; it is guaranteed ten years against excessive chalking or fading. Available in 17 panel profiles, the panels give the advantages of copper, but at one-third to one-half the cost of copper, says the manufacturer.

On Readers Service Card, circle 105.

INSULATION

Dryvit wall insulation and finish system, manufactured by Dryvit System, Inc., provides a very low U factor, crack resistance and a permanently colored and textured finish that is almost maintenance free, says the company. Application to exterior surfaces equalizes the effects of outside temperatures on the structure and interior surface temperature remains constant at the temperature of the interior space.

On Readers Service Card, circle 106.



INSULATION

New urethane foam insulation panels, custom manufactured in

extra-long lengths, have been introduced by Apache Foam Products. The longer lengths are suitable for larger prefabricated buildings with formed metal panels, etc. The panels are formed by foaming urethane between protective skins and forming an integral bond. The insulation panels, used with metal panels, are inexpensive and can be applied easily and quickly. They are light enough so that a 15-ft. length can be handled by only one man. The panels also eliminate the need for a separate moisture vapor barrier and their large size reduces joint requirements by about two-thirds.

On Readers Service Card, circle 107.
(continued on page 68)

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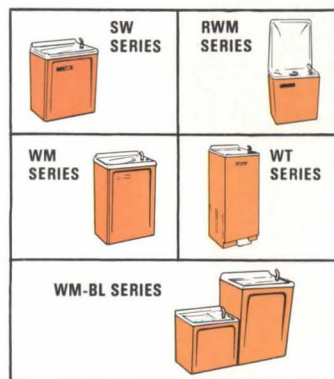


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PRODUCT REVIEW

continued from page 64

FOAM INSULATION

The U. F. Chemical Corp. is marketing a foam insulation, Urea Formaldehyde foam, that is a less expensive thermal and acoustical insulation on an installed price performance basis than poured or matted material. It is impervious to pests and water and widely accepted as a non-combustible insulation. A patented gun is used to insert the foam into wall cavities or any odd-shaped crevice. Once in place, it can be smoothed with a trowel and sheathed over. A typical between-studs void can be completely insulated in less than two minutes.

On Readers Service Card, circle 108.



ROOF COATING

A new decking material made of aggregate and an adhesive has been developed by Western Chemical Mfg. Co. The decking permits any flat roof or deck—wood, concrete or other materials—to take heavy wear from vehicular or pedestrian traffic without cracking. The coating is also unaffected by chemicals and is therefore suitable for floors in industrial and commercial facilities. Only 3/16 in. thick, the coating is lightweight and may be laid in any desired pattern.

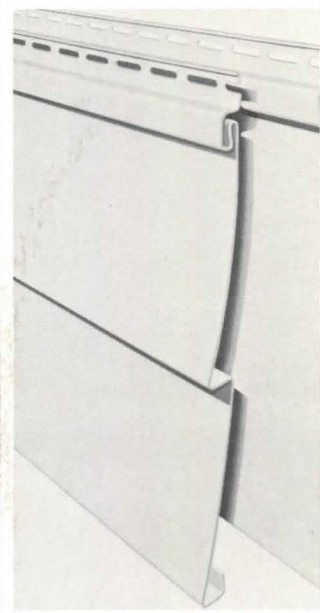
On Readers Service Card, circle 109.

—On Readers Service Card, Circle 311

VINYL SIDING

A new solid vinyl siding product that is easier to install, provides uniform exposure and excellent strength, toughness and ease of maintenance has been developed by Mastic Corp. Called Contour-T-lok, the panel is available in horizontal clapboard, grooved wood, vertical groove, soffit board and batten models, in various sizes. A special manufacturing method eliminates uneven densities that could lead to weak spots. A new butt design allows maximum shock absorption; special design ensures closed vertical joints. Built-in nailing guide and offset joints make installation fast and easy.

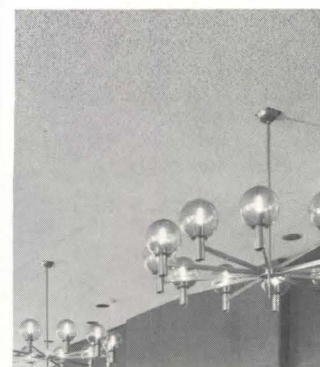
On Readers Service Card, circle 107.



FIBER CEILING

A new mineral fiber ceiling called Sanserra, has been developed by the Armstrong Co. The tile has a sculptured texture and is installed in a concealed suspension system to provide a monolithic effect. It has the two-tone appearance of a customized ceiling, says the company.

On Readers Service Card, circle 106.



continued on page 72

Wasps protect their living communities by building a structure of a closed-cell material around the living cells where life, food, production and community existence depends on the insulation that protects the larvae from violent extremes in temperature.

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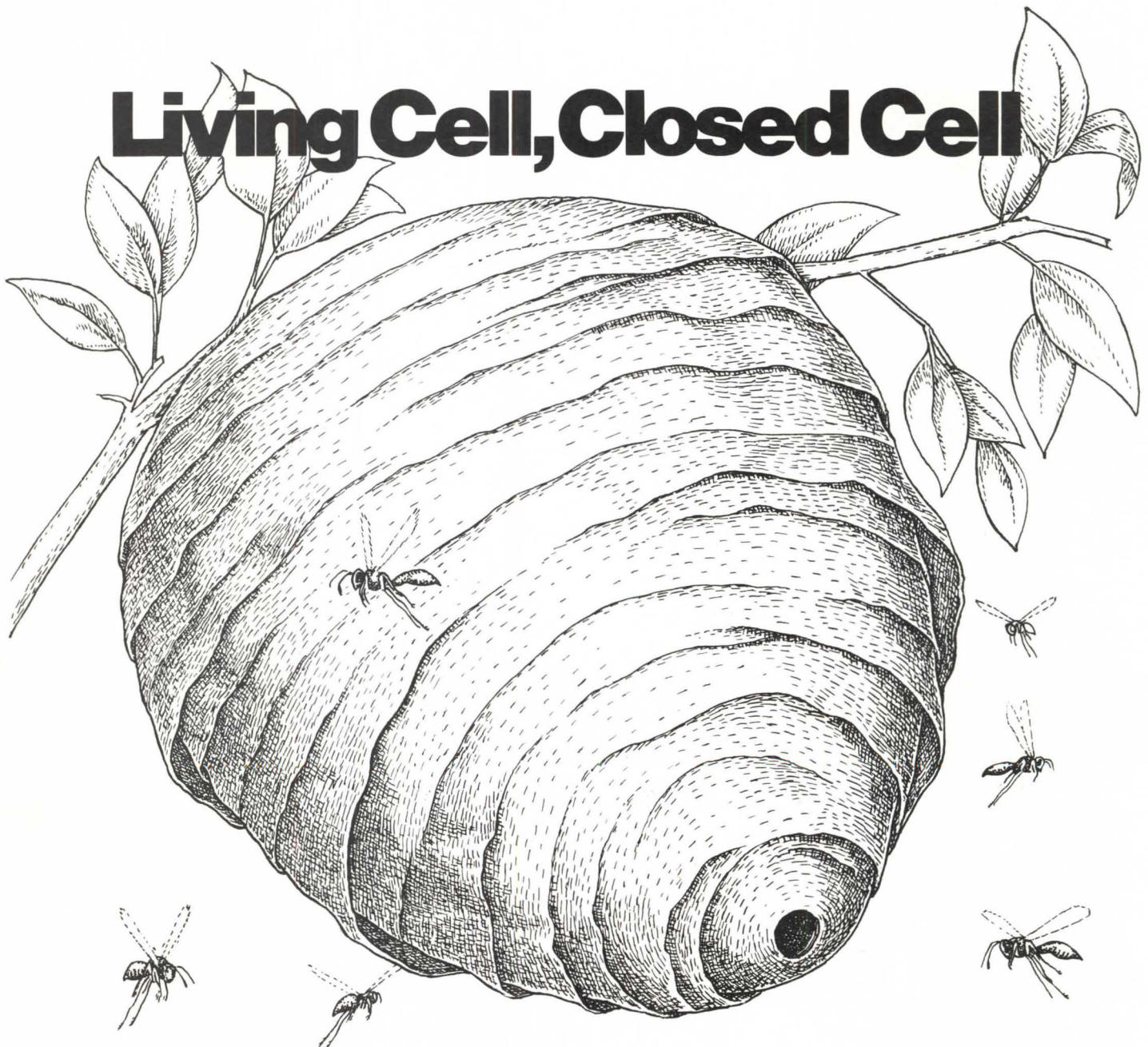
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PRODUCT REVIEW

continued from page 72

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

EDUCATION WING, CLEVELAND MUSEUM OF ART. ARCHITECTS: Marcel Breuer, FAIA and Hamilton Smith, AIA. (Materials and Manufacturers as submitted by the architects.) EXTERIOR GRANITE WALLS, GRANITE FLOORING: Cold Spring Granite Co. ELEVATORS AND CAB: Taylor-Tyler Elevator Co. DOORS: Bronze Ornamental Metal Work, Handcraft Metals Corp. INTERIOR FINISH OF AUDITORIUM AND OTHER MILLWORK: Variety Cabinet Co. WOODBLOCK FLOORING: Jennison-Wright. LIGHTING FIXTURES: Edison Price, Inc. PLUMBING FIXTURES: American Standard. CEILING COFFERS: Tectum. MOVABLE PARTITIONS: U.S. Plywood (from architects' design). ORGAN: Rebuilt by Holtkamp Organ Co.

LAFAYETTE NATURAL HISTORY MUSEUM AND PLANETARIUM, CENTER FOR ENVIRONMENTAL STUDIES. ARCHITECT: Neil Martin Nehrass. (Materials and Manufacturers as sub-

mitted by the architect.) WATER-PROOFING: Cold Mastic (Ext.) Ironite (Int.). CONCRETE AND CEMENT: Lone Star. BLOCK: Eiks Concrete Blocks. STRUCTURAL STEEL: U.S. Steel. CURTAIN-WALL: Volkmer Mfg. Co., Dallas, Texas. FLOOR: Pre-Cast Concrete—La. Concrete Products. ROOF MATERIALS: Johns-Manville, 20 year built up tar and slag. THERMAL INSULATION: Owens Corning. ALUMINUM: Kalcolor Statuary Bronze color on Kaiser KB-45 Aluminum. WINDOW GASKETS: Stanlock Extruded Structural Gaskets. GLASS: Deep Gold Kinney Vacuum Glass 1/2" thick. MARBLE TOILET PARTITIONS: Stallpack-Carthage Marble Co. EXTERIOR MARBLE: Kosata Stone. DOORS: Ext. Kawneer #190; Int. Teak-Perkins Door Co. HARDWARE: Corbin. INTERIOR MATERIALS: Misceramic Tile. PANELING: Teak Plywood-Georgia Pacific. PAINT: Sonneborn; Glidden. ELECTRICAL EQUIPMENT: Hubbell; Square D. LIGHTING FIXTURES: Omega; Smithcraft; Prescolite; McPhibben. PLUMBING FIXTURES: Kohler. PIPING: Crane; Dickey Clay Products; Chase. ROOF VENTILATORS: I.L.G. AIR CONDITIONING COMPRESSOR: G.E. UNIT AIR CONDITIONERS: Zone-line. DIFFUSERS: Tuttle & Bailey. TERMITE PREVENTION: Orkin. SOUND SYSTEMS: Mee Industries. AUDIO VISUAL EQUIPMENT: Spitz Planetarium Model A 3P Prime. FOG MACHINE: Mee Industries. CEILING MATERIALS: Tectum; Perforated Aluminum Dome. WATER COOLERS: Halsey Taylor. KITCHEN, LAUNDRY, LABORATORY EQUIPMENT: Accessory Specialties. FINISH FLOORING AND CARPETING: Brick & Lee's Natural

Color Wool Carpet. PLANETARIUM SEATING: Miller Swivel Seats.

WORCESTER ART MUSEUM SCHOOL. ARCHITECTS: The Architects Collaborative Inc. (Materials and Manufacturers as submitted by the architects.) FOUNDATION WATERPROOFING: Western Waterproofing Co. CONCRETE AND CEMENT: DeFalco Concrete Corporation, Keystone Cement. BRICK, BLOCK, AND STONE: Henry Camosse & Son. FLOOR AND DECK SYSTEMS: Concrete poured in place—DeFalco Concrete Corporation. ROOFING: Koppers. THERMAL INSULATION: Owens-Corning Fiberglass. ACOUSTICAL MATERIALS: Simpson (Travertine "Bold"). FENESTRATION: Hope's Windows. GLASS: American St. Gobain and Mississippi. INTERIOR WALL FINISHES: Columbus Coated Fabric Vinyl on Homasote. DOORS: Alumiline Corporation & E. H. Friedrich Co. HARDWARE: Sargent Master Key System. INTERIOR MATERIALS: American Olean. PAINT: California Products & Sherwin Williams. ELECTRICAL DUCTS, WIRING AND LIGHTING FIXTURES: Graybar Electric. ELECTRICAL EQUIPMENT: Square D. PLUMBING FIXTURES, TOILET SEATS: Crane, Beneke. PIPING: Revere Copper. TOILET COMPARTMENTS: Global Steel. UNIT VENTILATORS, RADIATORS: Dunham Bush. HEATING VALVES, PIPING, CONTROLS: Sarco, Johnson Service Co. AIR CONDITIONING COMPRESSOR, FAN UNIT: Trane Co. COOLING TOWER: Marley Co. DIFFUSERS, DUCTS, PUMPS, ETC.: Air Guide, Dunham Bush. SPECIAL FANS AND VENTILATORS: Davidson Fan Co. INTERCOM SYSTEMS: Tele-Comm.

CEILING MATERIALS: Acoustic plaster, Birch slats. WATER COOLERS: Westinghouse Electric. VENETIAN BLINDS AND SHADES: Airline Lewis Venetian Blind Co. FINISH FLOORING AND CARPETING: Kentile; Mohawk. AUDITORIUM SEATING: Stendig Inc.

GRT CORPORATE HEADQUARTERS BUILDING. ARCHITECTS: Brown/McCurdy/Nerrie. (Materials and Manufacturers as submitted by the architects.) BRICK: Richmond Brick. STRUCTURAL STEEL: Bethlehem. GLAZING SYSTEM: Maloney Structural Gaskets. FLOOR AND DECK SYSTEM: Ceco Corp. FENESTRATION: H. H. Robertson. GLASS: LOF & PPG. DOORS: Minton Co.; Forderer. HARDWARE: Schlage. INTERIOR MATERIALS: Mosaic Tile Co. PAINT: Kelly-Moore. ELECTRICAL DUCTS AND WIRING: Jones & Laughlin. ELECTRICAL EQUIPMENT: Zinsco. LIGHTING FIXTURES, LAMPS: Duallite, Columbia, Lightolier, Holophane, Daybrite, Peerless, Prescolite, McPhibben. PLUMBING FIXTURES: American Standard. HEATING BOILERS: Bryan. HEATING VALVES, PIPING, CONTROLS: Johnson Service. AIR CONDITIONING COMPRESSOR, FAN UNIT: Air Temp, McQuay. DIFFUSERS, DUCTS, PUMPS, ETC.: Anemostat, Waterloo, Genflex, Bell & Gossett. SPECIAL FANS AND VENTILATORS: I.L.G. SPRINKLER SYSTEM AND FIRE PROTECTION EQUIPMENT: Viking Sprinklers. FINISH FLOORING AND CARPETING: Stratton, Flintkote. FURNITURE AND SEATING: Herman Miller, Stendig, Metropolitan, Sunar, Dubarry, Knoll, General Fireproofing, Hiebert, Harpers, Intrex.

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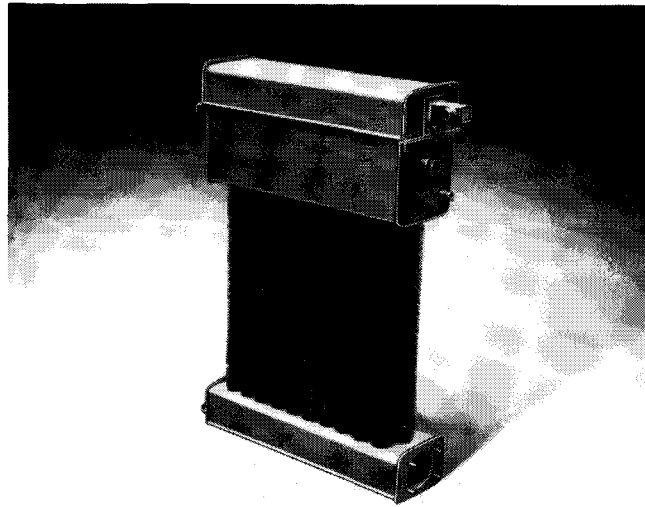


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THE MODERN CITY: PLANNING IN THE 19TH CENTURY. By Françoise Choay. 128 pp. 81 plates. **TONY GARNIER: THE CITE INDUSTRIELLE.** By Dora Wiebenson, 127 pp. 81 plates. George Braziller, Inc., New York, N. Y. Price ea. vol. cloth \$5.95, paper \$2.95.

REVIEWED BY H. H. WAECHTER

These two volumes belong to the "Planning and Cities" series under the general editorship of Professor George R. Collins of Columbia University and may be considered companion books. Both authors write in an engaging style to the accompaniment of well printed plates. It is impressive to see how they manage within a few pages to not only describe their subject but to offer considerable critical content.

Françoise Choay's book offers a broad outlook particularly of city development during the second half of the 19th century. Beginning with Cerda's contention that "urbanization" as a result of the Industrial Revolution is something novel, the author briefly traces preceding urban history to show the contrast between the modern and the pre-industrial city that bears the stamp of clergy, feudal lord or merchant. As Mr. Collins rightly points out in his preface, the book is dealing with many familiar issues, but has also a "novelty about it" that allows us to look differently at planning in the 19th century from which our present cities have inherited many of their "strengths and weaknesses".

Much of the novelty of the book centers around the way in which the author looks at urban development through the eyes of Baron Georges Haussmann (1809-1891) who called his efforts to systematize the city layout "Regularization". It is maintained throughout the book that Haussmann was more than an executioner of dictatorial will; he was an inventive thinker who with a "clinical eye" set the

Mr. Waechter was educated in Germany and came to the U. S. in 1940. He has held professorships in various universities and is a practicing architect in Creswell, Oregon. He has contributed to several books and professional journals.

mode for modern planning.

The originality of Haussmann's planning is ascribed to the dual concept of a "circulatory and respiratory" system. His demolitions in Paris created "voids" that formed a "hierarchy of planted areas". It is true, as the author points out, that this pattern served as a model for the majority of Western cities, but no real evidence is offered that this influential method proved to be beneficial. For a while wide avenues were considered to have been anticipatory of extensive motor traffic, but now we look at such progress with a jaundiced eye. In fact, it is some kind of an admission when engineer Henard is praised for not allowing "cultural obstacles" to stand in the way of widening and straightening streets. The argument that Haussmann's removal of unsanitary conditions was badly needed does not do away with the fact that the result favored the ruling classes. To have professional ability to research and plan with imagination can never bring relief from the responsibility of becoming identified with the social results of planning. It was not only a matter of providing avenues for police guns to slash the ancient belly of revolution. As Werner Hegemann pointed out, Napoleon financed his slum clearance by piling additional stories upon already overbuilt areas of Paris. Although Professor Choay lists Engels' work as background material, she overlooked that Engels traced the origin of Napoleon's war to the chauvinism of the building proletariat that had arisen from the peasant class.

With broad strokes we see painted the many and varied phenomena of late 19th century city development, including Fourier's and Owen's "socialistic" model towns and other reform ideas. The panorama ends with comments on the revolutionary visions of "Progressist Urbanism" with the work of Soria's linear city and the industrial city of Garnier. Many little scholarly references to historical incidentals tend to flatten the plastic quality of the panoramic picture. We would understand better the interplay between socio-political events and esthetic accomplishments if the dialectic of historical events were clearly exposed.

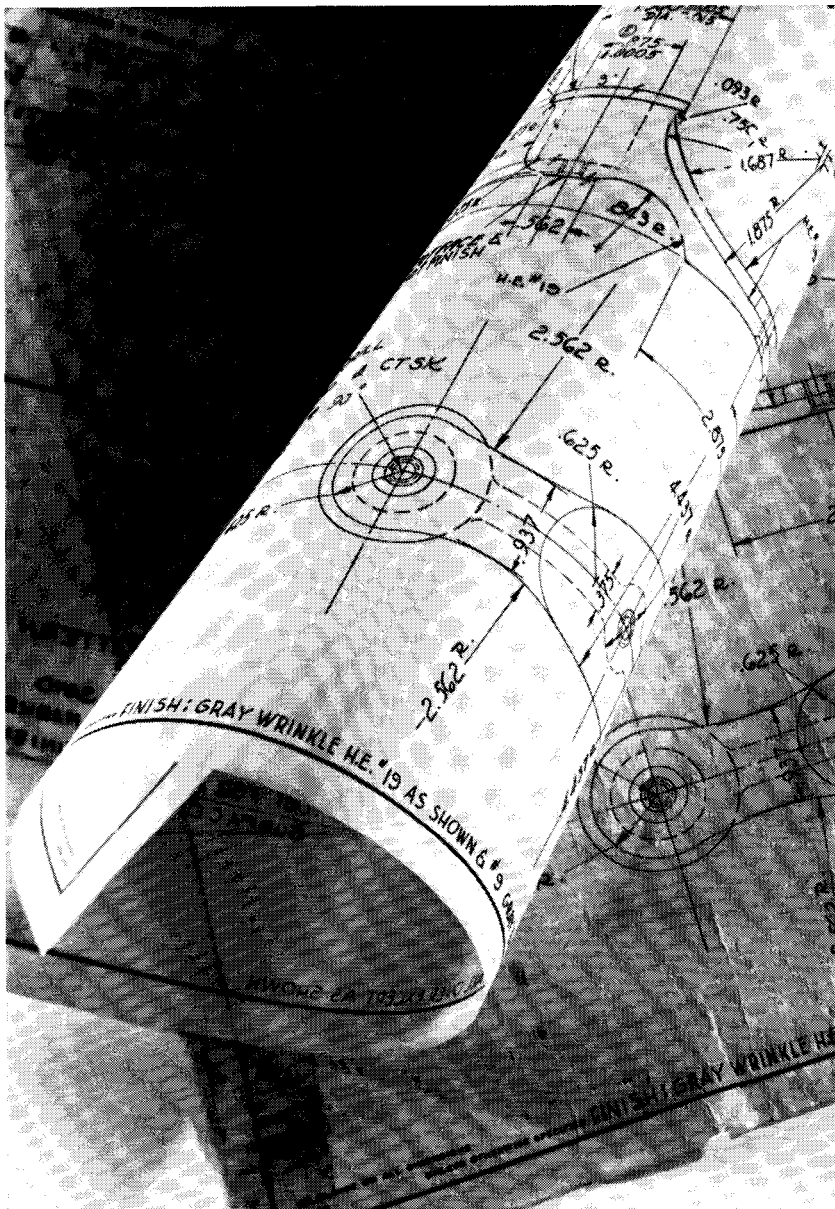
Professor Wiebenson's book, though having only 24 pages of text, appears detailed because she is dealing with one man's work only, and particularly with his Cite Industrielle. Also, Tony Garnier's own beautiful preface in the translation of Miss Wiebenson has been added.

The author makes it clear that Garnier followed with great persistence the boldly conceived bases for the construction of whole towns in the manner we know from Otto Wagner. His documentation of an industrial city, which occupied him from his student days to the end of his career with unerring consistency, shows inspiring brilliance and imagination. His clearly zoned blocks, his definite land use scheme with separated functions, his orientation of buildings to the sun, the technically practical and hygienic provisions, all that made the Cite Industrielle a remarkable statement. While the author can point to influences of utopian socialism, Garnier's version of environment and structure was definitely reaching far into this century. His stripped classicistic design gave the planning scheme an abstract quality. However, Miss Wiebenson is pointing rightly to Garnier's warm social feelings. He did emphasize various kinds of public buildings, including a "People's Palace". His frank use of reinforced concrete adds particularly the flavor of modern architecture.

The author's comparison of Garnier's planning concepts with those of Camillo Sitte is doing no more than juxtaposing similarities and dissimilarities of classical and romantic approaches. Although later modernists like Le Corbusier drew inspiration from Garnier, their ideas were rather different. The call for re-examination of Garnier's contribution to 20th century architecture and planning could only add to historical pigeon-holing.

The plates are very fine and bespeak Garnier's beautiful and restrained draftsmanship. The feeling for well-composed open spaces and the expression of steel and reinforced concrete were epoch making. The service he rendered to his contemporaries has become history. But we still feast on his creative imagination that speaks so loudly from this little volume.

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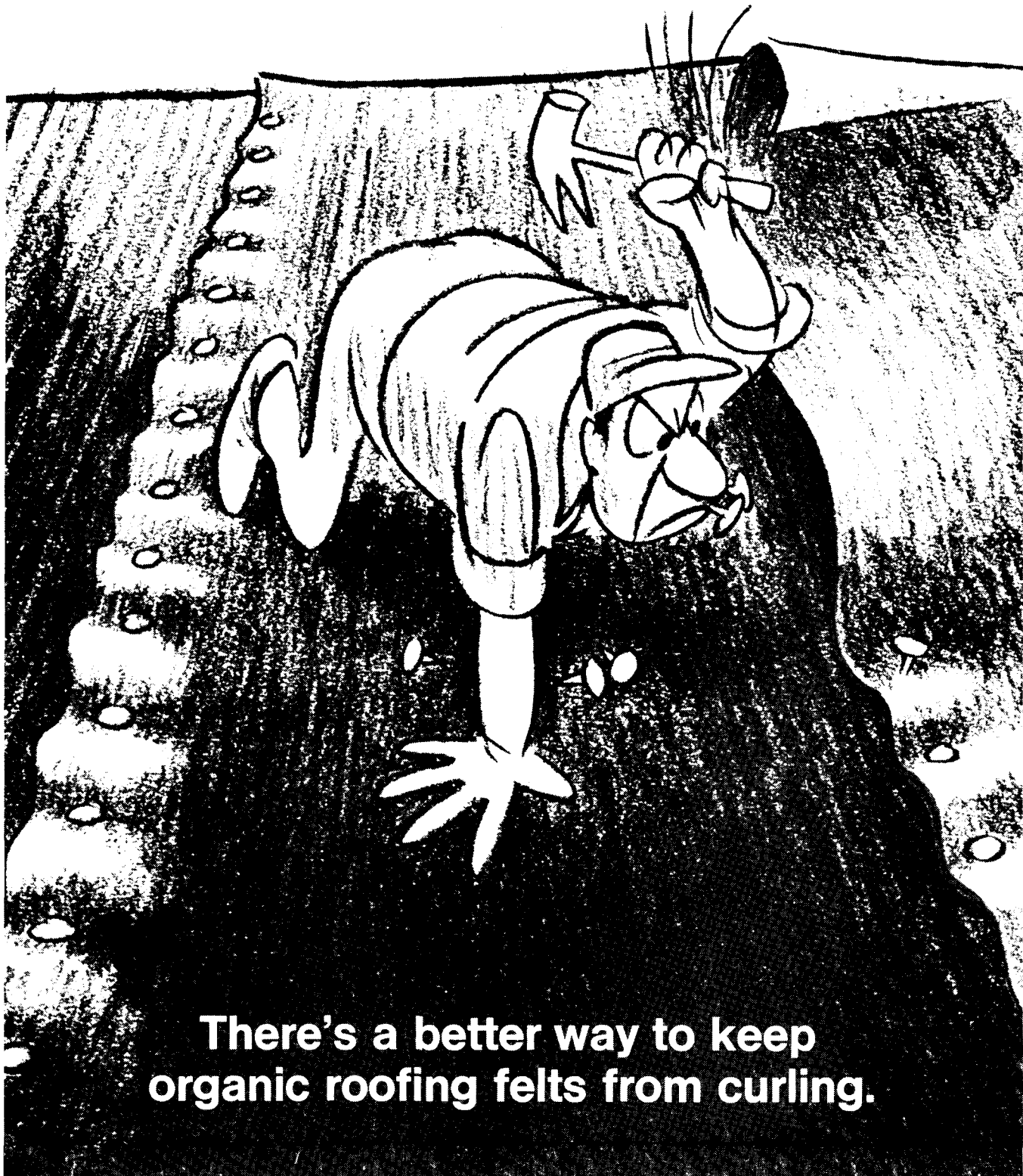
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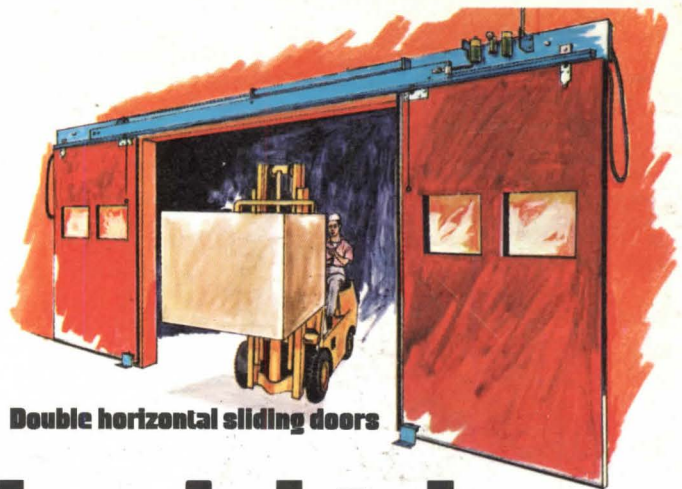
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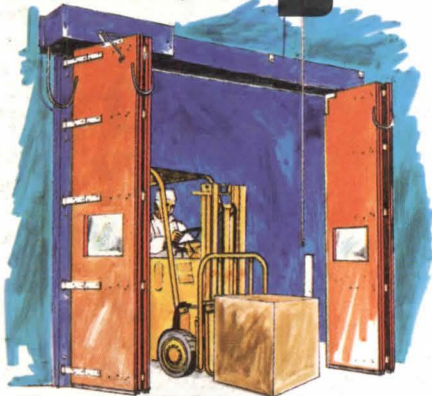


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